

PROGRAM

16th Annual Meeting, May 13-18, 2016 St. Pete Beach, Florida

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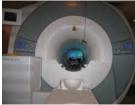
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VISION SCIENCES SOCIETY

16th Annual Meeting, May 13-18, 2016 TradeWinds Island Resorts, St. Pete Beach, Florida

PROGRAM

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Program and Abstracts cover designs by **Michael Barnett**, Stanford University T-shirt, mug, and tote design by **Rain Jirui Li**, York University

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PRESIDENT'S WELCOME

On behalf of the Vision Sciences Society Board of Directors,

I'm delighted to welcome you to our 16th annual meeting, the third to be held in St. Pete Beach. The meeting will feature 1460 scheduled talks/posters. The official program starts off on Friday afternoon with six Symposia, including the semi-annual ARVO at VSS session. This year's topic is high-precision analyses of retinal and thalamic circuits, featuring outstanding investigators from the ARVO community. In addition to this series of joint symposia that alternates between the ARVO and VSS meeting, the two organizations have introduced the ARVO/ VSS Summer Research Fellowship. This program will financially support a trainee from each society to work with a counterpart mentor from the other society on a summer research project. The intent of these two joint programs is to keep members of the respective societies informed of the latest research of mutual interest and to foster an exchange of knowledge and expertise.

A highlight of the meeting will be the Keynote Address on Saturday evening. This year's speaker is Sabine Kastner. Professor Kastner has made numerous contributions to our understanding of the neural basis of visual perception, attention, and awareness through her multi-pronged approach that uses neuroimaging in humans and monkeys, monkey physiology and studies in patients with brain lesions. We look forward to her summary of results from this wide-ranging research program. The Keynote Address is sponsored this year by VPixx Technologies.

Another highlight of the meeting is the Awards Ceremony on Monday afternoon. This year we will

present three major awards. The 2016 Young Investigator Award goes to Nick Turk-Browne for his work on visual perception and cognition, learning and memory. This award is sponsored by Elsevier Limited and Vision Research who are also sponsoring 20 Student Travel Awards. We will be presenting the Davida Teller Award, established in memory of Davida Teller, to honor outstanding women scientists. This year's awardee is Janette Atkinson, a pioneer in the fields of normal and abnormal visual development. Finally, a new award, the Ken Nakayama Medal for Excellence in Vision Science will be presented for the first time. The Medal is being awarded to Horace Barlow for his seminal contributions to our understanding of visual coding. Please join us for the Awards Ceremony and it's accompanying lectures.

New this year is "Meet the Professors", an opportunity to meet with professors and VSS board members to discuss any topic you like. This event will be held beachside on Monday afternoon, before Demo Night. Be sure to pre-register on the VSS website.

I also encourage you to attend the Business Meeting on Tuesday afternoon. We have several significant items on the agenda for this year, including discussions of a potential new role for VSS in advocacy for science and a discussion of the Board's effort to promote diversity in all aspects of the organization. As always, the Board is keenly interested in your suggestions for ways in which we can improve the meeting and our Society.

Tony Norcia President, Vision Sciences Society 2016

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Sponsors

We thank our 2016 sponsors for their generous support.

Jenny Read





MEETING SCHEDULE

Wednesday, May 11

9:00 am - 6:00 pm Computational and Mathematical Models

in Vision (MODVIS) (VSS Satellite)

Dolphin Beach Resort, 4900 Gulf Blvd. (Cypress Room) Offsite

Grand Palm Colonnade, Courtyard and Pavilion

Thursday, May 12

9:00 am - 6:00 pm Computational and Mathematical Models

Coffee Break

in Vision (MODVIS) (VSS Satellite)

Horizons

Friday, May 13

7:00 am - 6:00 pm Registration Open Grand Palm Colonnade

8:30 am Coffee Service Grand Palm Colonnade and Courtyard

9:00 am - 12:00 pm Computational and Mathematical Models Horizons

in Vision (MODVIS) (VSS Satellite)

11:30 am – 12:00 pm Coffee Break Grand Palm Colonnade, Courtyard and Pavilion

12:00 - 2:00 pm Symposium Session 1 Talk Room 1-2 and Pavilion

2:00 - 2:30 pm Coffee Break Grand Palm Colonnade, Courtyard and Pavilion

2:30 - 4:30 pm Symposium Session 2 Talk Room 1-2 and Pavilion

5:00 - 7:00 pm Symposium Session 3 Talk Room 1-2 and Pavilion

7:00 - 9:30 pm Opening Night Reception Beachside Sun Decks

Saturday, May 14

4:30 - 5:00 pm

7:30 am - 6:45 pm Registration Open Grand Palm Colonnade
7:30 am - 9:30 pm Cyber Lounge / Social Lounge Blue Heron / Jacaranda Hall

7:45 – 8:15 am Continental Breakfast Grand Palm Colonnade and Courtyard

8:00 am – 6:45 pm Exhibits Open Banyan Breezeway

8:15 – 9:45 am Morning Talk Session 1 Talk Room 1 and Talk Room 2
8:30 am – 12:30 pm Morning Poster Session Banyan Breezeway and Pavilion

9:45 – 10:30 am Coffee Break Grand Palm Colonnade, Courtyard, and Pavilion

10:45 am - 12:30 pm Morning Talk Session 2 Talk Room 1 and Talk Room 2

11:00 am – 1:00 pm Public Lecture - Patrick Cavanagh Museum of Fine Arts *Offsite*

12:30 - 2:30 pm Lunch Break (on your own)

12:45 - 2:00 pm WorldViz Virtual Reality Workshop (VSS Satellite) Talk Room 2
1:00 - 2:00 pm Funding Workshop Snowy Egret

2:30 - 4:15 pm Afternoon Talk Session 1 Talk Room 1 and Talk Room 2
2:45 - 6:45 pm Afternoon Poster Session Banyan Breezeway and Pavilion

4:15 – 5:00 pm Coffee Break Grand Palm Colonnade, Courtyard and Pavilion

5:15 - 6:45 pm Afternoon Talk Session 2 Talk Room 1 and Talk Room 2

7:15 - 8:15 pm Keynote Address - Sabine Kastner, Ph.D. Talk Room 1-2

Meeting Schedule VSS 2016 Program

Sunday, May 15

7:30 am – 6:45 pm	Registration Open	Grand Palm Colonnade
7:30 am – 9:30 pm	Cyber Lounge / Social Lounge	Blue Heron / Jacaranda Hall
7:45 – 8:15 am	Continental Breakfast	Grand Palm Colonnade and Courtyard
8:00 am – 6:45 pm	Exhibits Open	Banyan Breezeway
8:15 – 9:45 am	Morning Talk Session 1	Talk Room 1 and Talk Room 2
8:30 am – 12:30 pm	Morning Poster Session	Banyan Breezeway and Pavilion
9:45 – 10:30 am	Coffee Break	Grand Palm Colonnade, Courtyard and Pavilion
10:45 am - 12:30 pm	Morning Talk Session 2	Talk Room 1 and Talk Room 2
12:30 - 2:30 pm	Lunch Break (on your own)	
12:45 - 2:00 pm	"Individual Differences in Vision" Brown Bag Lunch (VSS Satellite)	Talk Room 2
1:00 - 2:00 pm	VSS Workshop for PhD Students and Postdocs: Faculty Careers at Primarily Undergraduate Institutions (PUIs)	Glades/Jasmine (Jacaranda Hall)
1:00 - 2:00 pm	VSS Workshop for PhD Students and Postdocs: So you want to start a lab?	Sabal/Sawgrass (Jacaranda Hall)
2:30 - 4:15 pm	Afternoon Talk Session 1	Talk Room 1 and Talk Room 2
2:45 - 6:45 pm	Afternoon Poster Session	Banyan Breezeway and Pavilion
4:15 – 5:00 pm	Coffee Break	Grand Palm Colonnade, Courtyard and Pavilion
5:15 - 7:15 pm	Afternoon Talk Session 2	Talk Room 1 and Talk Room 2

Monday, May 16 7:30 am. 0:30 pm. Cyber Leunge (Social Lou

7:30 am – 9:30 pm	Cyber Lounge / Social Lounge	Blue Heron / Jacaranda Hall
7:45 am - 1:30 pm	Registration Open	Grand Palm Colonnade
7:45 – 8:15 am	Continental Breakfast	Grand Palm Colonnade and Courtyard
8:00 am – 12:30 pm	Exhibits Open	Banyan Breezeway
8:15 am – 9:45 am	Morning Talk Session 1	Talk Room 1 and Talk Room 2
8:30 am – 12:30 pm	Morning Poster Session	Banyan Breezeway and Pavilion
9:45 – 10:30 am	Coffee Break	Grand Palm Colonnade, Courtyard and Pavilion
10:45 am - 12:15 pm	Morning Talk Session 2	Talk Room 1 and Talk Room 2
12:30 - 1:30 pm	VSS Awards Session Young Investigator Award Davida Teller Award Ken Nakayama Medal for Excellence in Vision Science	Talk Room 2
1:30 - 6:00 pm	Afternoon Off	Go have fun!
2:00 – 4:00 pm	Are there donuts in vision? Neural computation of global image configuration by a circular receptive field. (VSS Satellite)	Sawgrass (Jacaranda Hall)
5:00 – 6:00 pm	Meet the Professors	Breck Deck North
5:00 – 6:00 pm	Females of Vision et al (FoVea) Meeting (VSS Satellite)	Breck Deck North
6:00 - 8:00 pm	Demo Night Beach BBQ	Beachside Sun Decks
7:00 - 10:00 pm	Demo Night Demos	Talk Room 1-2 Jacaranda Hall, Royal Tern, Snowy Egret, Compass, Spotted Curlew

VSS 2016 Program Meeting Schedule

Tuesday, May 17

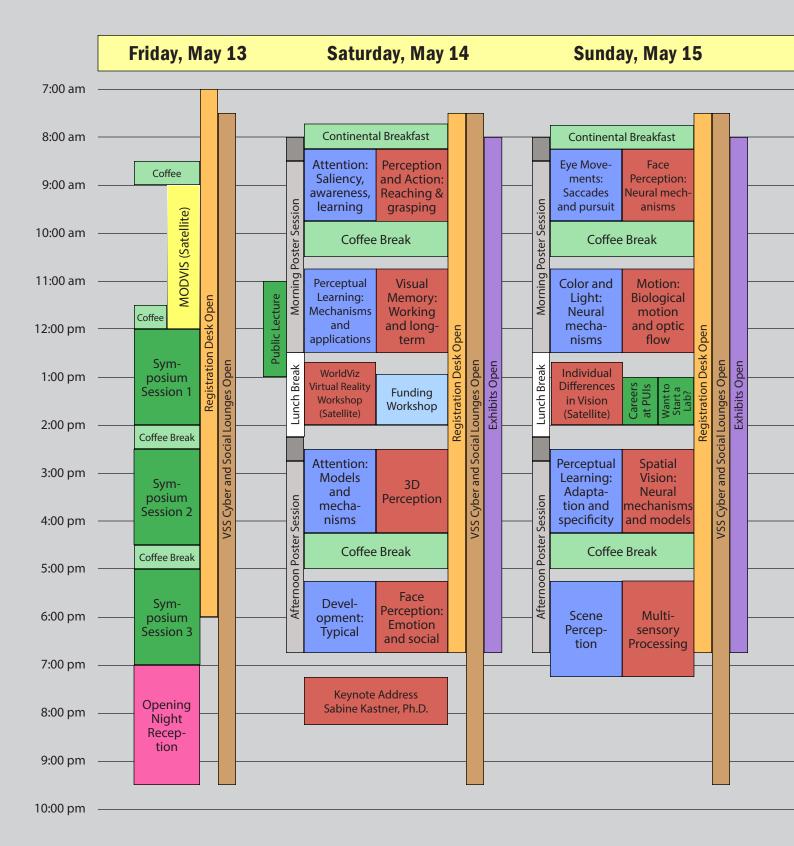
7:30 am - 9:30 pm Cyber Lounge / Social Lounge Blue Heron / Jacaranda Hall 7:45 am - 6:45 pm Registration Open Grand Palm Colonnade Grand Palm Colonnade and Courtyard 7:45 - 8:15 am Continental Breakfast 8:00 am - 6:45 pm **Exhibits Open** Banyan Breezeway 8:30 am - 12:30 pm **Morning Poster Session** Banyan Breezeway and Pavilion 8:15 am - 9:45 am Morning Talk Session 1 Talk Room 1 and Talk Room 2 9:45 - 10:30 am Coffee Break Grand Palm Colonnade, Courtyard and Pavilion Talk Room 1 and Talk Room 2 10:45 am - 12:30 pm Morning Talk Session 2 12:30 - 1:45 pm Lunch Break (on your own) 12:30 - 1:45 pm **VSS Committees Lunch** Horizons Royal 1:45 - 2:15 pm **VSS Business Meeting** Talk Room 2 Afternoon Talk Session 1 2:30 - 4:15 pm Talk Room 1 and Talk Room 2 Afternoon Poster Session 2:45-6:45 pm Banyan Breezeway and Pavilion Grand Palm Colonnade, Courtyard and Pavilion Coffee Break 4:15 - 5:00 pm Afternoon Talk Session 2 Talk Room 1 and Talk Room 2 5:15 - 7:15 pm 10:00 pm - 2:00 am Club Vision Talk Room 1

Wednesday, May 18

7:30 am - 12:45 pm Cyber Lounge / Social Lounge Blue Heron / Jacaranda Hall 7:45 am - 8:15 am Continental Breakfast Grand Palm Colonnade and Courtyard 7:45 - 12:45 pm **Registration Open Grand Palm Colonnade** 8:15 - 10:00 am Morning Talk Session 1 Talk Room 1 and Talk Room 2 8:30 am - 12:30 pm **Morning Poster Session Pavilion** 10:00 - 10:45 am Coffee Break Grand Palm Colonnade, Courtyard and Pavilion Talk Room 1 and Talk Room 2 11:00 am - 12:45 pm Morning Talk Session 2



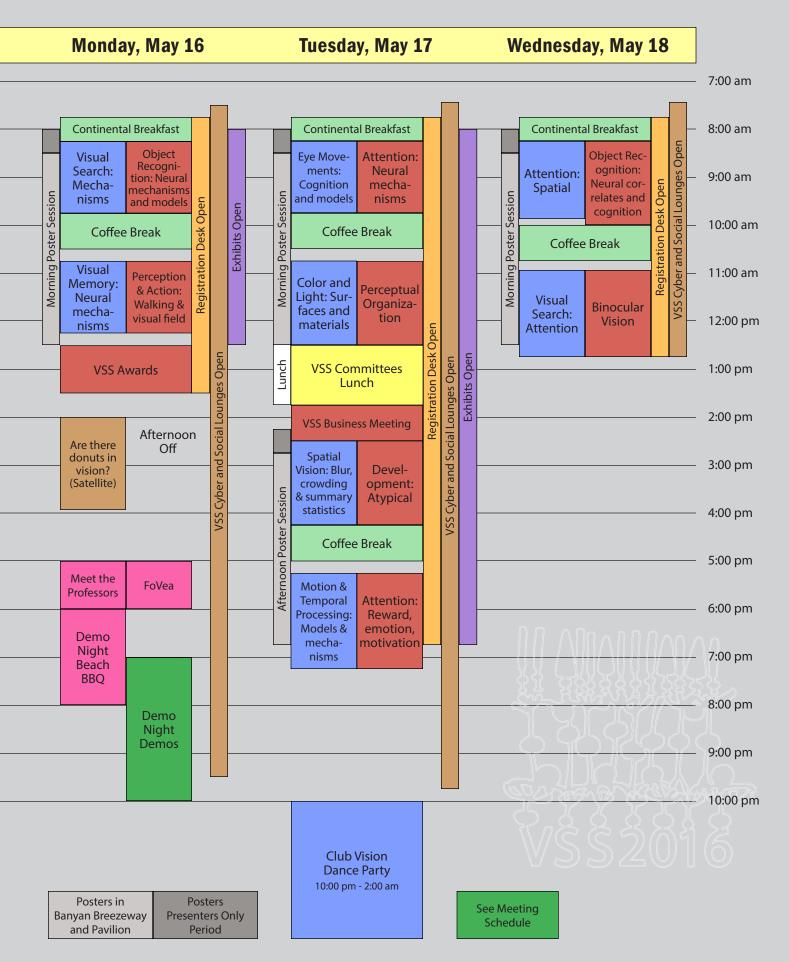
Schedule-at-a-Glance VSS 2016 Program



Color Key:

Blue Heron, Talk Talk **Grand Palm** Garden Beachside Banyan Snowy Horizons Jacaranda Colonnade Room 1 Room 2 Breezeway Egret Courtyard **Decks** Hall

VSS 2016 Program Schedule-at-a-Glance



POSTER SCHEDULE

Poster Setup and Takedown

All poster sessions are held in Banyan Breezeway and the Pavilion. The last three digits of your poster number indicate the number of your poster board.

Posters should be put up at the beginning of a session and taken down at the end. Authors of even numbered posters are expected to be present at their posters during the entire "Even Authors Present" time; and authors of odd numbered posters during the entire "Odd Authors Present" time. Authors may be present longer if desired.

Prior to each poster session is a "Presenters Only" period (8:00 – 8:30 am and 2:15 – 2:.45 pm). This period is for poster presenters to see other posters in their session before the start of the session.

Please be courteous and take down your poster promptly at the end of the session so that the board is empty when the next presenter arrives to put up his or her poster. Push pins are available for your use and are located at the Meeting Registration Desk in the Grand Palm Colonnade.

Morning Poster Schedule

Setup: 7:30 - 8:00 am

Presenters Only: 8:00 - 8:30 am Session: 8:30 am - 12:30 pm

Even Authors Present: 9:30 – 10:30 am Odd Authors Present: 10:30 – 11:30 am

Take down: 12:30 - 1:00 pm

Saturday Morning, May 14

Banyan Breezeway

Attention: Inattention

Perceptual Organization: Ensemble perception

Development: Infancy

Face Perception: Individual differences

Pavilion

Attention: Reward

Eye Movements: Neural mechanisms and remapping

Eye Movements: Localization and stability

Eye Movements: Cognition

Perceptual Organization: Neural mechanisms

Multisensory Processing: Clinical

Multisensory Processing: Vision and hearing, cognition and

neural correlates

Face Perception: Emotion 1

Objects: Mechanisms and models 1

Motion: Depth and form

Saturday Afternoon, May 14

Banyan Breezeway

Color and Light: Adaptation and constancy Spatial Vision: Crowding and periphery Spatial Vision: Optics, contrast, and shape

Object Recognition: Categories, models & neural correlates

Pavilion

Perception and Action: Action influences perception

Motion: Biological motion

3D Perception: Space and mechanisms

Perceptual Organization: Grouping, contours and surfaces

Scene Perception: Categorization and memory Scene Perception: Gaze, models, and mechanisms Visual Search: Eye movements and memory

Visual Memory: Encoding, retrieval

Afternoon Poster Schedule

Setup: 1:45 – 2:15 pm

Presenters Only: 2:15 - 2:45 pm

Session: 2:45 – 6:45 pm

Even Authors Present: 3:45 – 4:45 pm Odd Authors Present: 4:45 – 5:45 pm

Take down: 6:45-7:00 pm

Sunday Morning, May 15

Banyan Breezeway

Object Recognition: Categories, perception and learning

Object Recognition: Features and parts Attention: Individual differences

Binocular Vision: Mechanisms and models

Pavilion

Motion: Interactions with motion processing

Perception and Action: Grasping and tracking Multisensory Processing: Vision, speech and music

Development: Disorders

Face Perception: Social cognition 1

Object Recognition: Mechanisms and models 2

Scene Perception: Neural mechanisms Perceptual Learning: Adaptation

Perceptual Learning: Models, mechanisms, and clinical

Sunday Afternoon, May 15

Banyan Breezeway

Attention: Temporal

Attention: Neural mechanisms Color and Light: Cognition

Pavilion

Color and Light: Surfaces and materials 3D Perception: Shape and cue combination

Motion: Mechanisms and psychophysics

Perception and Action: Learning, feedback and neural basis

Attention: Features and objects
Visual Memory: Neural mechanisms
Face Perception: Mechanisms and models 1

Face Perception: Wholes, parts, configurations

VSS 2016 Program POSTER SCHEDULE

Monday Morning, May 16

Banyan Breezeway

Development: Lifespan and neural mechanisms Perceptual Organization: Shapes and objects Perceptual Organization: Mechanisms and models

Color and Light: Lightness and brightness

Binocular Vision: Stereopsist

Eye Movements: Saccade kinematics and dynamics Eye Movements: Saccade mapping and timing

Multisensory Processing: Vision and hearing, perceptual

processes

Spatial Vision: Neural mechanisms

Motion: Optic flow

Attention: Spatial selection and modulation 1

Faces Perception: Experience, learning, and expertise

Tuesday Morning, May 17

Banyan Breezeway

Spatial Vision: Models

Perception and Action: Timing, interception and online

Perception and Action: Methods, theories and models

Visual Search: Models and mechanisms

Pavilion

Attention: Capture, salience, reward

Attention: Priming, cueing, guiding, and dividing

Eye Movements: Saccades and perception Visual Memory: Capacity and resolution Visual Memory: Objects and features

Temporal Processing: Timing and time perception

Perceptual Learning: Neural mechanisms Perceptual Learning: Training and expertise

Tuesday Afternoon, May 17

Banyan Breezeway

Color and light: Neural mechanisms Eye Movements: Visual search

Objects: Learning, top-down effects, unconscious processes

Motion: Neural mechanisms

Pavilion

Multisensory Processing: Vision, touch and balance

Binocular Vision: Rivalry and bistability Temporal Processing: Neural mechanisms Face Perception: Mechanisms and models 2

Face Perception: Disorders

Attention: Tracking

Attention: Spatial selection and modulation 2

Visual Search: Attention

Wednesday Morning, May 18

Pavilion

Eye Movements: Applications Eve Movements: Pursuit

Perception and Action: Locomotion and navigation

Face Perception: Emotion 2 Faces Perception: Social cognition 2 Object Recognition: Real world Object Recognition: Reading

Visual memory: Long-term memory, models, and integrative

processes

Abstract Numbering System

Each abstract is assigned a unique 4 or 6 digit number based on when and where it is to be presented. The format of the abstract numbering is DT.RN (where D is the Day, T is the Time, R is the Room and N is the presentation Number).

First Digit - Day **Second Digit - Time**

- Saturday 1 Early AM talk session 3 Sunday 2 Late AM talk session Monday 3 AM poster session
- 5 Tuesday 4 Early PM talk session 5 Late PM talk session 6 Wednesday
 - 6 PM poster session

Third Digit - Room

- **Fourth-Sixth Digits Number** 1 Talk Room 1 1, 2, 3... For talks 001, 002...
- 3 Banyan Breezeway
- 4 Pavilion

2 Talk Room 2

Examples:

21.16 Saturday, early AM talk in Talk Room 1, 6th talk

36.3013 Sunday, PM poster in Banyan Breezeway, poster board 13

53.4106 Tuesday, AM poster in the Pavilion, poster board 106

Note: Two digits after the period indicates a talk, four digits indicates a poster (the last three digits are the board number).

For posters

TALK SCHEDULE

Saturday, May 14

Time	Talk Room 1	Talk Room 2
8:15 - 9:45 am	Attention: Saliency, awareness, learning	Perception and Action: Reaching and grasping
10:45 am - 12:30 pm	Perceptual Learning: Mechanisms and applications	Visual Memory: Working and long-term
2:30 – 4:15 pm	Attention: Models and mechanism	3D Perception
5:15 - 6:45 pm	Development: Typical	Face Perception: Emotion and social

Sunday, May 15

Time	Talk Room 1	Talk Room 2
8:15 - 9:45 am	Eye Movements: Saccades and pursuit	Face Perception: Neural mechanisms
10:45 am - 12:30 pm	Color and Light: Neural mechanisms	Motion: Biological motion and optic flow
2:30 – 4:15 pm	Perceptual Learning: Adaptation and specificity	Spatial Vision: Neural mechanisms and models
5:15 – 7:15 pm	Scene Perception	Multisensory Processing

Monday, May 16

Time	Talk Room 1	Talk Room 2
8:15 - 9:45 am	Visual Search: Mechanisms	Object Recognition: Neural mechanisms & models
10:45 am - 12:15 pm	Visual Memory: Neural mechanisms	Perception and Action: Walking & the visual field

Tuesday, May 17

Time	Talk Room 1	Talk Room 2
8:15 - 9:45 am	Eye Movements: Cognition and models	Attention: Neural mechanisms
10:45 am - 12:30 pm	Color and Light: Surfaces and materials	Perceptual Organization
2:30 – 4:15 pm	Spatial Vision: Blur, crowding and summary statistics	Development: Atypical
5:15 – 7:15 pm	Motion and Temporal Processing: Models and mechanisms	Attention: Reward, emotion, motivation

Wednesday, May 18

Time	Talk Room 1	Talk Room 2
8:15 – 10:00 am	Attention: Spatial (ends 9:45 am)	Object Recognition: Neural correlates & cognition
11:00 am – 12:45 pm	Visual Search: Attention	Binocular Vision

Speaker Information

Please arrive at the Talk Room no less than 30 minutes before the start of your session. Presenters are welcome to test their presentations between talk sessions. Please give priority to presenters whose talk is scheduled for the subsequent session. The meeting rooms are equipped with a data/video projector and a projection screen. Presentations can be made from your Mac or PC laptop. A technician will be present in each room to handle any technical problems that may arise.

KEYNOTE ADDRESS

Sabine Kastner, Ph.D.

Professor of Neuroscience and Psychology in the Princeton Neuroscience Institute and Department of Psychology



Sabine Kastner is a Professor of Neuroscience and Psychology in the Princeton Neuroscience Institute and Department of Psychology. She also serves as the Scientific Director of Princeton's neuroimaging facility and heads the Neuroscience of Attention and Perception Laboratory. Kastner earned an M.D. (1993) and PhD (1994) degree and received postdoctoral training at the Max-Planck-Institute

for Biophysical Chemistry and NIMH before joining the faculty at Princeton University in 2000.

Dr. Kastner studies the neural basis of visual perception, attention, and awareness in the primate brain and has published more than 100 articles in journals and books and has co-edited the 'Handbook of Attention' (OUP), published in 2013. Kastner serves on several editorial boards and is currently an editor at eLife. Kastner enjoys a number of outreach activities such as fostering the career of young women in science (Young Women's Science Fair, Synapse project), promoting neuroscience in schools (Saturday Science lectures, science projects in elementary schools, chief editor for Frontiers of young minds' understanding neuroscience section) and exploring intersections of neuroscience and art (events at Kitchen, Rubin museum in NYC).

Neural dynamics of the primate attention network

Saturday, May 14, 7:15 pm, Talk Room 1-2

The selection of information from our cluttered sensory environments is one of the most fundamental cognitive operations performed by the primate brain. In the visual domain, the selection process is thought to be mediated by a static spatial mechanism – a 'spotlight' that can be flexibly shifted around the visual scene. This spatial search mechanism has been associated with a large-scale network that consists of multiple nodes distributed across all major cortical lobes and includes also subcortical regions. To identify the specific functions of each network node and their functional interactions is a major goal for the field of cognitive neuroscience. In my lecture, I will challenge two common notions of attention research. First, I will show behavioral and neural evidence that the attentional spotlight is neither stationary or unitary. In the appropriate behavioral context, even when spatial attention is sustained at a given location, additional spatial mechanisms operate flexibly and automatically in parallel to monitor the visual environment. Second, spatial attention is assumed to be under 'top-down' control of higher order cortex. In contrast, I will provide neural evidence indicating that attentional control is exerted through thalamo-cortical interactions. Together, this evidence indicates the need for major revisions of traditional attention accounts.



Keynote Address is sponsored by VPixx Technologies, Inc. Visit www.vpixx.com.

Opening Night Reception

Friday, May 13, 7:00 - 9:30 pm

Save Friday evening for the spectacular VSS Opening Night Reception! The reception will take place on the beach and beachside sundecks from 7:00 – 9:30 pm. Featuring live Calypso music.

Don't forget your drink tickets, which can be found in the back of your badge! Your drink tickets are also good at Demo Night and Club Vision.

Prepare to sink your toes into the sand and enjoy this fantastic event! Please remember to wear your badge.

ELSEVIER/VSS Young Investigator Award

Nicholas Turk-Browne

Associate Professor, Associate Chair, Department of Psychology, Princeton University



Nicholas Turk-Browne is the 2016 winner of the Elsevier/VSS Young Investigator Award. Trained at the University of Toronto and then at Yale University, Nicholas Turk-Browne was awarded a PhD in Cognitive Psychology in 2009 under the supervision of Marvin Chun and Brian Scholl. Following his PhD, Nick took up a position at Princeton University,

where he is currently an associate professor.

In the past 7 years following his PhD, Nick has established an active and dynamic lab that uses multidisciplinary methodologies to advance our understanding of the neural circuits that mediate visual cognition. Nick combines behavior, brain imaging, and computational modeling to bridge across key areas in the field of visual cognition: visual learning, memory and attention. His pioneering work on visual statistical learning has demonstrated that our ability to extract perceptual regularities relies on interactions between the hippocampus and the visual cortex. Nick has shown that this circuit supports predictive representations based on implicitly learned associations. Further, his work shows that — although implicit — statistical learning can be modulated by task demands and, in turn, learned regularities automatically draw attention. Nick's contributions extend to groundbreaking methodological developments that combine neuroimaging and machine learning to understand the brain dynamics that support visual cognition. Finally, Nick's recent work using neural fluctuations as feedback during real-time fMRI to train attention has strong potential for translational clinical applications.

Attention and perception in memory systems

Monday, May 16, 12:30 pm, Talk Room 2

The labeling of brain structures by function, such as the "visual" system, "attention" networks, and "memory" systems, reinforces an appealing division of cognitive labor over the brain. At the same time, neural representations can be widely distributed and real-world behaviors require the coordination of much of the brain. An alternative way to think about brain function is in terms of the computations that different brain regions and networks perform and to try to understand when and how these computations participate in different cognitive processes. In this presentation, I will discuss some recent findings from my lab that illustrate this perspective, particularly about the involvement of memory systems in attention and perception. First, I will show that goal-directed attention modulates the state of the hippocampus — the canonical memory system in the brain — and through this, determines what aspects of visual experience we remember. Second, I will show that pattern completion, a core computation of the hippocampus, supports predictive coding in early visual cortex. These and other studies highlight the broad reach of vision science in the mind and brain.



Young Investigator Award is sponsored by Elsevier and VSS. Visit www.elsevier.com.

DAVIDA TELLER AWARD

VSS established the Davida Teller Award in 2013. Davida was an exceptional scientist, mentor and colleague, who for many years led the field of visual development. The award is therefore given to an outstanding woman vision scientist with a strong history of mentoring.

Vision Sciences Society is honored to present Dr. Janette Atkinson with the 2016 Davida Teller Award.

Janette Atkinson

Emeritus Professor of Psychology and Developmental Cognitive Neuroscience, University College London Visiting Professor, University of Oxford

Visual Development Unit, London and Oxford



Janette Atkinson is a worldwide leader in research on human visual development. She has made major advances in an extraordinarily wide range of basic and clinical areas, collaborating throughout her career, with vision scientists, ophthalmologists, optometrists and pediatric neurologists. Her impact on the field has been immense, both directly through innovative research, and indi-

rectly through her mentorship and personal support to her students and collaborators.

Dr. Atkinson's career began in Cambridge University where she set up and led one of the first 'baby labs', the Visual Development Unit at Cambridge and subsequently at University College London (UCL, University of London) and Oxford. She was the first to use Davida Teller's method of forced-choice preferential looking to measure contrast sensitivity, initially in the first months of life of her own child (Nature 1974), and subsequently with novel VEP measures in newborns. Using newly devised behavioral and VEP/ERP methods, she demonstrated the onset of binocularity, orientation sensitivity, OKN, and fixation shift control of attention, leading to her pioneering neural model of cortical/subcortical interaction in early human development. Janette originated the use of photorefraction and videorefraction with infants, and led two unique population screening studies showing that spectacle correction of infants' refractive errors could improve visual outcome, reducing strabismus and amblyopia by 4 years of age.

Having used her methods of assessing cortical development with at-risk groups, particularly infants born preterm and children with Williams syndrome, she has moved on to studying global processing, leading to her influential idea of 'Dorsal Stream Vulnerability' in many children with genetic developmental disorders, perinatal brain injury and CVI (Cerebral Visual Impairment). She argues for the continuity and associations in dorsal stream development between global motion and attentional, spatial, visuo-cognitive, and visuomotor development, and has devised assessments for this whole area in both typical and atypically developing children.

Dr. Atkinson has been a mentor and advisor, giving generous support to many students, colleagues and collaborators, both scientists and clinicians, and a role model showing young female scientists that the highest levels can be reached while sustaining close family life with her four children. More widely, she has been a tireless advocate for women's scientific careers, as a member of ARVO's Equality and Diversity Committee and through the UK's Athena SWAN scheme for advancing women's careers in science. She led UCL's successful bid for a SWAN Charter Award, one of the first 12 UK universities to achieve this award.

In recognition of her internationally acclaimed research record, she has been elected as a Fellow of the British Academy, the Academy of Medical Sciences and the Academia Europaea.

Visual science as a key to typical and atypical development

Monday, May 16, 2016, 12:30, Talk Room 2

My research on vision development has always been inspired by the prospect of understanding and helping the development of vision in infants and children with clinical problems, including developmental disorders such as autism, Downs syndrome and cerebral palsy. Initial advances in the basic science of human visual development, since the first measurements of infants' acuity and contrast sensitivity, have led directly into applications for identifying and assessing paediatric ophthalmological and neurodevelopmental visual disorders.

I will briefly review a few diverse highlights of our own translational work in the Visual Development Unit, and suggest unanswered questions arising from our current knowledge:

• Indicators of the onset of visual cortical function, based on our model of cortical/subcortical interactions, allowed us to identify infants with perinatal brain injury (some with very preterm birth) resulting in CVI (Cerebral Visual Impairment) and predict subsequent neurocognitive outcome.

Davida Teller Award VSS 2016 Program

• Measurements of infants' accommodation and refraction using photorefractive instruments designed in the VDU, made it possible to carry out population screening programmes of 8000+ typically developing 9- month old infants identifying those at risk of strabismus and amblyopia. We demonstrated that early spectacle correction of infants with significant hyperopic refractive errors could reduce the number of children who develop these common disorders.

• Tests of children's global form and motion processing in extra-striate visual areas identified 'dorsal stream vulnerability' as a feature of many diverse neurodevelopmental disorders e.g. Williams syndrome, autism, hemiplegia. Recently we have found that global motion sensitivity is associated with MRI surface area structural measures in parietal lobe in typically developing children. Good motion sensitivity is correlated with good visuo-motor ability and good early mathematical ability. Poor global motion sensitivity, relative to static form sensitivity, in children with developmental disorders, is associated with spatial, visuo-motor and attention deficits.

 Child-friendly tests of visual attention (the Early Child Attention Battery devised in the VDU) enable an individual child's attention profile of abilities across different components of attention, to be measured rapidly in both typically developing preschool children and in children with genetic developmental disorders with low mental age.

My research has started to answer questions about both the typical and atypical developing visual brain, but it has raised many more unanswered ones. For example, we still do not know the critical period of plasticity for many of the visual networks which develop in the first few years of life. If we understood the epigenetic factors controlling early visual brain growth and plasticity, then this might lead to success in future treatment of paediatric visual disorders. My hope is that some of these questions will be answered by future vision researchers (both women and men!) coming into the 'developmental arena' from a wide range of different disciplines.



KEN NAKAYAMA MEDAL FOR EXCELLENCE IN VISION SCIENCE

The Vision Sciences Society is honored to present Horace Barlow with the 2016 Ken Nakayama Medal for Excellence in Vision Science.

The Ken Nakayama Medal is in honor of Professor Ken Nakayama's contributions to the Vision Sciences Society, as well as his innovations and excellence to the domain of vision sciences.

The winner of the Ken Nakayama Medal receives this honor for high-impact work that has made a lasting contribution in vision science in the broadest sense. The nature of this work can be fundamental, clinical or applied. The Medal is not a lifetime career award and is open to all career stages.

The medal will be presented during the VSS Awards session Monday, May 16, 12:30 pm, Talk Room 2

Horace Barlow

Fellow, Trinity College, Cambridge



Perhaps more than any other vision scientist, Horace Barlow has shaped the way we think about how seeing depends on the underlying machinery of vision. His articulation of the single neuron doctrine – that the activity of a single neuron is significant for seeing - and the corollary idea that the visual stimuli to which a neuron is most sensitive tell us about

the neuron's perceptual role, are now taken so much for granted that it is hard to appreciate how primitive were notions of the relationship between visual physiology and perception before him. His unfailing concentration on the act of seeing drove his efforts to use psychophysical and physiological insight to drive experimental measurement, and brought a clarity and incisiveness that was unlike anything that preceded it. The approaches he pioneered provide the foundation for much of contemporary visual neuroscience.

An important conceptual theme that runs through his career is information. In early work, this was evident in his rigorous application of statistical theory to understanding psychophysical and physiological thresholds. Later he applied it to higher-level perceptual decisions such as pattern recognition, symmetry perception, and perception of random dot motion. The interplay of information and efficiency underlies his work in encoding and entropy, and forms the basis of many of his theoretical contributions, notably his work on redundancy reduction and efficient coding. Information theory is now a standard part of the tool set of vision science, but it was Barlow who brought it to vision science and taught us to use it.

His profound influence on the way we think about vision should not overshadow the importance of his particular contributions, including: characterizing the nature of eye movements during fixation; establishing the quantum efficiency of vision both psychophysically and physiologically; learning the spatio-temporal organization of visual adaptation; discovering and deducing the behavioral significance of retinal ganglion cells with highly specific response properties; elucidating directional movement selectivity in retina; analyzing binocular disparity selectivity in cortex; and many more.

Barlow trained in medicine at Harvard and University College Hospital before his graduate studies with E D Adrian in Cambridge. He held faculty positions at Cambridge and at the University of California, Berkeley. He has received many honors, among them elected Fellowship, the Ferrier Lectureship, and the Royal Medal of the Royal Society of London, the Australia Prize, the Tillyer Award of the Optical Society of America, the Karl Spencer Lashley Prize of the American Philosophical Society, and the Swartz Prize of the Society for Neuroscience.

Barlow feels happiest, and proudest, about having worked in a community of scientists who are leaping towards a deeper understanding of the relation between brain and mind. This goal once seemed utterly unreachable, and was openly mocked until quite recently. And in the end what he feels most grateful for is his own long association with Trinity College, where he learned the importance of arguing fiercely for strongly held beliefs.

STUDENT AND POSTDOC WORKSHOPS

VSS Workshop for PhD Students and Postdocs: Faculty Careers at Primarily Undergraduate Institutions (PUIs)

No registration required. First come, first served, until full. Sunday, May 15, 1:00 - 2:00 pm, Glades/Jasmine (Jacaranda Hall)

Moderator: Frank Tong

Panelists: Eriko Self, Katherine Moore, Nestor Matthews,

Cathy Reed

Are you curious about what faculty careers are like at Primarily Undergraduate Institutions but don't know where to go to find out more about them? If like many graduate students and postdocs, you are at a research university and may know little about what kinds of PUIs there are and what academic life is like for faculty there. In this workshop, we will discuss the academic culture at PUIs, the balance between teaching and research, and the rewards and challenges of working primarily with undergraduate students. Next, we will discuss what it takes to position yourself competitively for a faculty position at PUIs, including goals for teaching experience, the importance of research, and tips for a strong cover letter, CV, research and teaching statements. Finally, we will discuss how to navigate the early years as a faculty member, including how to manage time, establish and keep up with an active research program, and submit a strong portfolio for tenure review. The four expert panelists come with a diverse set of experiences, including current and prior faculty positions that range from small, private, elite liberal arts colleges to large, public, comprehensive universities and everything in between. We will discuss both the similarities and differences across these distinct institution types, in terms of campus culture, what search committees look for in applicants, and what the expectations are for faculty.



Eriko Self

Eriko is a Professor and the Department Chair of Psychology at California State University, Fullerton. She is interested in the mechanisms governing visual perception and attention. Her recent projects include various factors that influence attentional control such as aging, motivation, and personality traits using psychophysical methods. As the chair of a department that holds 2,200 undergrad-

uate majors, 100 master's program students, and 80 full-time and part-time faculty members, she enjoys taking care of everyone in the department.



Katherine Moore

Katherine Moore is an Assistant Professor at Arcadia University, a comprehensive university in greater Philadelphia. Prior to Arcadia, she spent three years as a tenure-track professor at Elmhurst College. Katherine performs research collaboratively with undergraduates in her Attention, Memory, and Cognition laboratory, focusing on studies of visual attention, as well as music cognition and synesthesia.

Prior to her faculty appointments, Katherine received her PhD from the University of Michigan and completed postdoctoral research at Yale University



Nestor Matthews

Nestor is an Associate Professor of Psychology and the Neuroscience Program Coordinator at Denison University. His psychophysical research program addresses issues in the spatial and temporal resolution of vision and attention, often probed by perceptual learning experiments. He has served on Denison's tenure committee, tenure-appeals committee, and as Chair of the Denison University Faculty. He received his PhD in 1997 at Brown

University and completed postdoctoral research at Columbia University before joining the Denison faculty in 2001.



Cathy Reed

Cathy is a Professor of Psychology and Neuroscience at Claremont McKenna College. Using behavioral and electrophysiological measures, she investigates how vision, touch, and body position are integrated to influence perception, attention, object recognition, and emotional processing. Prior to joining the faculty at CMC in 2008, she spent 14 years as a member of the Psychology Department at the University of Denver.



Frank Tong

Frank Tong is a Professor of Psychology at Vanderbilt University. He is interested in understanding the fundamental mechanisms underlying visual perception, attentional selection, object processing, and visual working memory. He has received multiple awards for his research advances (including the VSS YIA award), for his work on fMRI decoding of visual and cognitive states. He particularly enjoys working with students and postdocs as

they carve their path towards scientific discovery and independence, and currently serves as a VSS board member.

VSS Workshop for PhD Students and Postdocs: So you want to start a lab?

No registration required. First come, first served, until full.

Sunday, May 15, 1:00 - 2:00 pm, Sabal/Sawgrass (Jacaranda Hall)

Moderator: Jeremy Wolfe

Panelists: Kalanit Grill-Spector, Nick Turk-Browne, Andrew

Welchman, Ione Fine

OK, you got the job. Maybe it is the first job. Maybe it is the next job. In any case, you are moving and you are going to need to set up a new lab. How should you do that? What do you need to ask for? Where can you get help or advice? What are the biggest factors that go into the creation of a lab. Besides you and the ideas churning in your brain, you will need right people, projects, plans and backup plans if you are going to build a thriving lab culture. There will be mistakes and setbacks. How can those experiences be helpful, not discouraging? In this workshop, we will hear from four people with established labs. Bring your questions about negotiating the details with your new department, finding the right people for the new lab family, finding the funding to feed them and more.



Kalanit Grill-Spector

Kalanit is a Professor in the Department of Psychology and the Stanford Neurosciences Institute at Stanford University. She is interested in understanding the functional, structural, and computational neural mechanisms underlying high-level vision. She has received multiple awards for her research including the Sloan Research Fellowship in Neuroscience and the Klingenstein Fellowship in Neuro-

science. She strongly believes in hands-on mentorship and in instilling computational habits. She will share perspectives from her own experience, starting a lab as a foreigner with two young children.



Nick Turk-Browne

Nick is Associate Professor and Associate Chair in the Department of Psychology at Princeton University. He studies perception, attention, learning, and memory, and especially how all of these processes interact, using a combination of behavioral, neuroimaging, neuropsychological, and computational approaches. He has received the APA Distinguished Scientific Award for Early Career Contribution to

Psychology and grant support from NİH, NSF, the Templeton Foundation, and Intel Labs. He feels like he is still building his lab, and looks forward to insights from the other panelists about how to do so.



Andrew Welchman

Andrew holds a Wellcome Trust Senior Fellowship and heads the Adaptive Brain Lab at the University of Cambridge. He works on 3D vision, perceptual learning and multisensory perception using behavior, modeling and imaging. He has a longstanding interest in facilitating individuals to develop their research careers from graduate students to fellows and

junior faculty. He has established two new labs during his career and coordinated a European training network across labs. He has made plenty of mistakes and had lots of fun along the way.



Ione Fine

Dr. Fine obtained her undergraduate degree from Merton College Oxford and her PhD from the Department of Brain and Cognitive Sciences at the University of Rochester. She is currently a professor in the Department of Psychology and a co-Director of the Neuroimaging Center at the University of Washington. Her research focuses on the role of experience in sensory processing, including measur-

ing performance in patients who were implanted with electrode retinal prostheses and examining the effects of long term blindness on the brain using a combination of behavioral measurements and magnetic resonance imaging. She is an elected Fellow of the Optical Society of America.



Jeremy Wolfe

Jeremy Wolfe is Professor of Ophthalmology and Professor of Radiology at Harvard Medical School. He is Director of the Visual Attention Lab at Brigham and Women's Hospital. His research focuses on visual search and visual attention with a particular interest in socially important search tasks in areas such as medical image perception (e.g. cancer screening), security (e.g. baggage screening), and

intelligence. He serves on the Board of VSS and recently arranged to have the sink in his lab repaired – but he is merely moderating this session.



ELSEVIER/VISION RESEARCH STUDENT TRAVEL AWARDS



VSS congratulates this year's recipients of the 2016 Elsevier/ Vision Research Travel Awards.

Martin Bossard

Aix-Marseille University Advisor: Daniel R. Mestre

Jolande Fooken

University of British Columbia Advisor: Miriam Spering

Yaelan Jung

University of Toronto Advisor: Dirk Bernhardt-Walther

Erin Koch

SUNY College of Optometry Advisor: Oasim Zaidi

Alina Liberman

University of California, Berkeley Advisor: David Whitney

Sorato Minami

Osaka University Advisor: Kaoru Amano

Vivian Paulun

Justus-Liebig University Giessen Advisors: Roland W. Fleming, Karl R. Gegenfurtner

Rosanne Rademaker

University of California San Diego Advisors: Alexander T. Sack, Sam Ling, John Serences

Samantha Strong

University of Bradford Advisor: Declan McKeefry

Kedarnath Vilankar

Cornell University Advisor: David J. Field

Ben Deen

MIT

Advisors: Rebecca Saxe, Nancy Kan-

wisher

Kamila Jozwik

University of Cambridge Advisors: Marieke Mur, Nikolaus Kriegeskorte

Minjung Kim

York University, Toronto, New York University

Advisors: Richard Murray, Laurence Maloney

Matthew Leavitt

McGill University Advisor: Julio C. Martinez-Trujillo

Michael Melnick

University of Rochester Advisor: Krystel Huxlin

Scott Mooney

University of Sydney Advisor: Barton Anderson

Andrew Persichetti

Emory University Advisor: Daniel D. Dilks

Yulia Revina

University of Glasgow Advisor: Lars Muckli

Daan van Es

Vrije Universiteit Amsterdam Advisor: Tomas Knapen

Aspen Yoo

New York University Advisor: Wei Ji Ma

Club Vision Dance Party

Tuesday, May 19, 10:00 pm - 2:00 am, Talk Room 1

Club Vision, held on the last night of the meeting, is the final social event of VSS. The dance party will feature DJ Randy, one of the area's most talented and requested DJs.

The wearing of glowing or flashing accessories is a tradition for the party and we will again be distributing free glow-in-the-dark necklaces and bracelets. Feel free to also bring your own creative accessories.

Don't miss the highlight of the VSS social calendar. We'll see you at Club Vision!

Computational and Mathematical Models in Vision (MODVIS)

Wednesday, May 11 - Friday, May 13

9:00 am – 6:00 pm, Wednesday, Dolphin Beach Resort, 4900 Gulf Blvd., Cypress Room Offsite

9:00 am - 6:00 pm, Thursday, Horizons

9:00 am - 12:00 pm Friday, Horizons

Organizers: Jeff Mulligan, NASA Ames Research Center; Zyg Pizlo, Purdue University; Anne Sereno, U. Texas Health Science Center at Houston; Qasim Zaidi, SUNY College of Optometry

The 5th VSS satellite workshop on Computational and Mathematical Models in Vision (MODVIS) will feature extended oral presentations on quantitative modeling of a variety of visual processes. A keynote address will be given by Prof. Steve Zucker (Yale) on Thursday afternoon.

The registration fee is \$100 for regular participants, \$50 for students. More information can be found on the workshop's website: http://www.conf.purdue.edu/modvis/

WorldViz Virtual Reality Workshop

Saturday, May 14, 12:45 - 2:00 pm, Talk Room 2

Organizer: Matthias Pusch, WorldViz

Virtual Reality gets a lot of press lately, and releases about new hardware and software are coming out pretty much daily. This session will give an overview of recent trends and new technologies and discuss their use cases and limitations for research applications.

"Individual Differences in Vision" Brown Bag Lunch

Sunday, May 15, 12:45 - 2:00 pm, Talk Room 2

Organizer: Hrag Pailian and Jeremy Wilmer, Harvard University

Third annual IDV Brown Bag: A whirlwind tour of the breadth of individual differences related work currently being conducted by VSS members. The event features a series of "micro-talks" where speakers give 2-minute presentations on cutting edge research that ranges across a wide variety of content areas. Bring your lunch, meet fellow researchers, and experience the power of the individual differences approach to vision.

Are there donuts in vision? Neural computation of global image configuration by a circular receptive field

Monday, May 16, 2:00 - 4:00 pm, Sawgrass

Organizers: Naoki Kogo¹, Bart Machilsen¹, Michele Cox², Vicky Froyen¹; ¹Laboratory of Experimental Psychology, University of Leuven, Leuven, Belgium, ²Department of Psychology, Vanderbilt University, USA

SATELLITE EVENTS

Discussants: Rüdiger von der Heydt, Johns Hopkins University; Anitha Pasupathy, University of Washington; James Elder, York University; Michele Cox, Vanderbilt University; Naoki Kogo, University of Leuven; Bart Machilsen, University of Leuven; Vicky Froyen, University of Leuven

The global visual context influences the processing of local image information in the visual system. Ample evidence for this claim comes from neurophysiological and psychophysical studies. This special interest/discussion meeting will explore plausible neural mechanisms that reflect the global configuration of an image, and the role of such a mechanism in Gestalt-like phenomena of figure-ground organization and shape representation. These phenomena demonstrate that long-range neuronal interactions modulate the coding of local image features in early visual areas. Border-ownership selective neurons, for instance, modulate their firing rate in response to the figural side of a boundary, which can only be derived from the global image context (1). To explain this mechanism, the existence of a "grouping cell" in a recurrent neural circuit has been suggested (2). From their functional role in the computation of border ownership some structural properties of these putative grouping cells have been proposed, such as a donut-shaped receptive field. The concept of a grouping cell has relevance for various lines of research: computational neuroscience, neurophysiology, and experimental psychology. This satellite event wants to facilitate cross-talk between these disciplines by approaching this putative grouping cell from different angles. For instance, the collective activities of grouping cells can result in a "medial axis" representation, similar to the skeleton-type of shape coding developed in computer vision science (3). Also, the pattern of oriented edges in natural images has revealed a co-circular organization of luminance boundaries (4), likely due to the presence of object boundaries (5). Neurophysiological data further hint at the existence of computational mechanisms to encode global configurations: Skeleton-like neural signals have been measured in V4 (6), an area where donutshaped receptive fields have been found (7). Grouping-cell activity has also been reported for neurons aligned to the center of an illusory surface (8). This finding is in line with a recent computational model linking the coding of border-ownership to illusory surface perception (9). In this context, the neural representation of occluded shapes can help understand the neural coding of shape and depth order (10).

Taken together, the integration of approximately iso-distant edge information appears sensible given the co-circular pattern of edges in natural images and given the neurophysiological measurements and models described above. It remains to be seen whether this integrative mechanism could indeed be embedded in grouping cells with a donut-shaped receptive field. In this satellite event, the discussants from multidisciplinary backgrounds will examine the biological plausibility of this idea and discuss possible alternatives for the neural computation of global configurations in images.

Females of Vision et al (FoVea) Meeting

Monday May 16, 5:00 - 6:00 pm, Breck Deck North

Organizers: Diane Beck, University of Illinois; Mary Peterson, University of Arizona; Karen Schloss, Brown University; Allison Sekuler, McMaster University.

VSS women and men of all ages and stages are invited to join us for the founding gathering of Females of Vision et al. (FoVea). We'll discuss how, collectively, we can address issues to enhance participation in and success of women in vision science. Beverages will be provided on a first-come first-served basis until our \$ runs out.

ATTENDEE RESOURCES

Abstract Book

A printed Abstract book is no longer provided to each attendee. Printed Abstract books are available for purchase for \$12, or you can download an electronic copy in PDF format from the VSS website. See the Registration Desk.

ATM

An ATM is located in the main lobby of the hotel. A second ATM can be found in the lobby of the Breckenridge Building.

Audiovisual Equipment for Talks

LCD projectors (e.g., for PowerPoint presentations) will be provided in the talk rooms; however, computers will NOT be provided. Presenters must bring their own computers and set them up BEFORE the start of the session in which they are presenting. We recommend that you test your presentation before your session.

A loaner PC is available for speakers. Please see the Registration Desk to make arrangements.

Baggage Check

Bags can be checked with the Bell Hop in the main lobby.

Business Center

The Business Center is located in the lobby. Computer terminals and a printer are available in the VSS Cyber Lounge, located in the Blue Heron meeting room on the second floor.

Business Meeting

The VSS Business Meeting is Tuesday, May 17, at 1:45 pm in Talk Room 2. All VSS members are encouraged to attend. This is your opportunity to hear about VSS, ask questions, and give feedback.

Certificates of Attendance

To receive a Certificate of Attendance, please visit the Registration Desk. If you require any changes, we will be happy to email/mail a copy after the meeting.

Children's Programs/Childcare

Both the TradeWinds Island Grand and Guy Harvey hotels feature an extensive array of programs and activities for children and families. From special events, games, and crafts designed for families, to childcare and camps just for kids, the resort has a program to fit every family's needs. For more information on the wide variety of kids programs, call the Adventure Center at (727) 363-2294 or check the TradeWinds Island Resorts website www. tradewindsresort.com.

Activities Overview:

https://www.tradewindsresort.com/resort-activities/kids

Daily Kid's Activities Calendar:

https://www.tradewindsresort.com/events-calendar

Code of Conduct

The Vision Sciences Society is committed to providing a safe and professional environment during our annual meeting. All VSS members are expected to conduct themselves in a business-like and professional manner. It is unlawful to harass a person or employee because of that person's sex or race. Harassment is prohibited when it creates a hostile or offensive work environment.

Contact Us

If you need to reach VSS meeting personnel while at the meeting, call extension 7814 from a house phone. From outside the hotel, call (727) 367-6461, extension 7814.

Copying and Printing

Copy and fax services, as well as general use of printers, is available at the Business Center for a fee. Boarding passes may be printed free of charge. Language translation and general secretarial services are also available for a fee.

A printer will be available in the VSS Cyber Lounge, located in the Blue Heron meeting room.

Cyber Lounge

The VSS Cyber Lounge is located in the Blue Heron room, upstairs from the VSS Registration Desk in the Grand Palm Colonnade. This room provides tables and chairs, plus computers and a printer for your use. Also see Social Lounge and Internet Access.

Disclaimer

The Program Committee reserves the right to change the meeting program at any time without notice. Please note that this program was correct at time of printing.

Drink Tickets

Each attendee will receive two "free drink" tickets which may be redeemed at the Opening Night Reception (May 13), Demo Night (May 16) or Club Vision (May 17).

Exhibits

All exhibits are located in the Banyan Breezeway.

Exhibit Hours

Saturday, May 14, 8:00 am – 6:45 pm Sunday, May 15, 8:00 am – 6:45 pm Monday, May 16, 8:00 am – 12:30 pm Tuesday, May 17, 8:00 am – 6:45 pm

Exhibitor Setup and Teardown

Setup: Friday, May 13, 4:00 – 7:00 pm and Saturday, May 14, 7:00 – 8:00 am Teardown: Tuesday, May 17, 6:45 – 8:30 pm

Fitness Center

The Island Grand fitness center is open daily from 6 a.m. – 10 p.m. The Center is available to attendees staying at either of the TradeWinds hotels. The Guy Harvey Outpost fitness center is open 24/7 with a room key.

VSS 2016 Program Attendee Resources

Food Service/Catering

Complimentary coffee and tea, and a light continental breakfast is available each morning in the Grand Palm Colonnade and Courtyard. Coffee, tea, and refreshments will also be served each afternoon between afternoon talk sessions.

Your VSS registration includes a reception and a dinner. The Opening Night Reception is held Friday night and the Demo Night dinner is held Monday night. Both events are held on the beach. Each attendee will be given two free drink tickets, good on either night or at Club Vision.

The VSS schedule gives a generous two-hour lunch period to take advantage of the beautiful surroundings and amenities of the TradeWinds Island Grand Hotel and the Guy Harvey Outpost.

Note: All VSS meeting attendees will receive a 20% discount on all food and beverage purchases in ALL TradeWinds Islands Resorts restaurants and bars. You must present your VSS badge to receive a discount.

The 20% discount does not apply to food or drink at VSS events, such as the Opening Night Reception, Demo Night, and Club Vision, as discounted pricing has already been applied.

Guests

Guests are allowed complimentary entry into one VSS session to see the poster or talk of the person they are guests of at the meeting.

Guests must register at the VSS Registration Desk upon arrival and must be accompanied by a VSS attendee. Guests must wear their guest badge for entrance into the session they attend, and for social events as well.

Guests are welcome at all social functions (Club Vision, Opening Night Reception, and Demo Night). Fees for guests to eat at Demo Night Beach Barbecue: Adults \$25; Youth 6-12 \$10; Children under 6 are free.

Internet Access

VSS provides free wireless Internet access in the meeting areas, guest rooms, and VSS lounges. Connect to twgroup; password is group5500.

If you did not bring your own computer, a limited number of laptop computers with free Internet access are available for your use in the Cyber Lounge, located in the Blue Heron meeting room. A printer is also available in the Blue Heron meeting room.

Lost and Found

Lost and found is located at the Registration Desk in the Grand Palm Colonnade.

Message Center

Messages for registrants can be left and retrieved at the Registration Desk. A bulletin board will be available in the Grand Palm Colonnade for announcements and job postings.

Moderators

Please arrive at the meeting room 30 minutes prior to the start of your session to allow time for setup and to check in with your speakers. Please see the Moderator instructions given to you when you checked in. Copies are available at the Registration desk.

Parking

Complimentary self-parking is available to all meeting attendees. Valet parking is available at the TradeWinds Island Grand lobby for an additional fee.

In addition to the original parking at the Island Grand Resort, the property directly to the north of the Island Grand has been purchased by the TradeWinds and will be utilized for additional parking. The project is still under construction (but nearing completion), but it will add at least 150 additional parking spaces. Access will be through the Island Grand guard gate.

Phone Charging Station

Phone charging stations will be located at the Registration Desk & The VSS Social Lounge.

Photographing/Videotaping Presentations

Unless otherwise noted, photographing and videotaping of posters and talks is permitted at VSS. Presenters who do NOT wish to be photographed or videotaped should indicate this by displaying our "No videos and photos" image on their poster or on their title slide at the beginning of their talk. The image can be downloaded from the VSS website or you can pick up a printed version at the Registration desk.

Public Transportation

Suncoast Beach Trolley

The Suncoast Beach Trolley connects St. Pete Beach with Passa-Grill, Treasure Island, Clearwater and other beach communities along the coast. The trolley runs every 20 minutes from 5:00 am to 10:00 pm Monday through Thursday and 5:00 am to midnight Friday and Saturday. A bus stop is located directly outside the TradeWinds Resort.

Fare: \$2.00/ride

Central Avenue Trolley

The Central Avenue Trolley serves Central Avenue from The Pier in downtown St. Petersburg to Pass-A-Grille on St. Pete Beach.

Fare: \$2.00/ride

The Downtown Looper

Hop aboard the St. Petersburg Trolley Downtown Looper route to connect you to all the city's major museums and attractions. Runs every 15 minutes. Look for the bright red and yellow trolleys.

Fare: \$0.50/ride, Seniors & disabled: \$0.25/ride

Registration

The Registration desk is located in the Grand Palm Colonnade. The Registration desk will be open at the following times:

Friday, May 13, 7:00 am – 6:00 pm Saturday, May 14, 7:30 am – 6:45 pm Sunday, May 15, 7:30 am – 6:45 pm Monday, May 16, 7:45 am – 1:30 pm Tuesday, May 17, 7:45 am – 6:45 pm Wednesday, May 18, 7:45 am – 12:45 pm Attendee Resources VSS 2016 Program

Restaurants and Bars at TradeWinds Island Grand

Cash and Go Lunches

The TradeWinds will offer a selection of reasonably-priced lunch items just for VSS attendees, Saturday through Tuesday, 12:00 – 2:30 pm. Located in the Courtyard.

Palm Court Italian Grill

Located in the Courtyard area, the Palm Court features a fine dining experience with an extensive collection of wines, including many by the glass. Guests may eat indoors or under the stars on the courtyard patio. Dinner reservations are suggested.

Lunch: Monday - Saturday, 11:30 am - 2:00 pm

Brunch: Sunday, 10:00 am - 2:00 pm

Dinner: Monday - Saturday, 5:30 - 10:00 pm (closed Sunday)

Bermudas Steak & Seafood

Bermudas offers a casual setting with a beach view for dinner. Enjoy aged beef, fresh seafood, and regional specialties. Open every day. Kids eat dinner FREE with a dining adult Sunday-Thursday between 5-7 pm.

Breakfast: 7:00 – 11:00 am Dinner: 5:00 – 10:00 pm

Beef 'O' Brady's

A casual restaurant and poolside sports pub, Beef 'O' Brady's has a fun atmosphere with salads, burgers, and wraps, as well as tasty desserts and frosty island concoctions. Open every day.

Sunday – Thursday, 11:00 am – 11:00 pm Friday and Saturday, 11:00 am – midnight

Bar Hours: 11:00 - 2:00 am

Flying Bridge

This authentic floating Florida cracker cottage is permanently docked over the meandering Island Grand waterway and features a beachfront deck with a full bar. Dress is casual and many guests dine in beach attire. The fare includes nachos, wings, salads, burgers, wraps, sandwiches, and grilled entrees. Open daily from $11:00~\rm am-10:00~\rm pm$.

RedBeard's Sharktooth Tavern

Enjoy nightly live entertainment along with a nice selection of imported bottled beer, full bar, and specialty drinks. Monday is karaoke night. Open afternoons and evenings until 11:00 pm (closed Tuesdays).

Salty's

Located beside the adult pool, Salty's is a beachfront tiki bar, which features quick sandwiches and burgers, as well as frozen drinks. Open every day.

Food: 11:00 am - 11:00 pm Cocktails: 11:00 - 2:00 am

Room Service at the TradeWinds Island Grand

Available daily from 6:00 am to 11:00 pm.

Awakenings Lobby Bar

An elegant lobby bar in the afternoon and evenings, Awakenings also offers morning coffee by Starbucks. Open from 6:30 am – closing varies daily.

Pizza Hut Express

Located onsite at the TradeWinds, Pizza Hut Express offers small, medium, and personal pan pizzas, as well as spicy chicken wings. Room delivery is available at the TradeWinds. Open daily from 8:00 am to 10:00 pm. Breakfast 8:0am-11:00am.

Working Cow Ice Cream Shoppe

Featuring gourmet ice cream and decadent sundaes, the Ice Cream Shoppe is open daily from 11:00 am to 10:00 pm.

Deli

Located just off the Grand Palm Colonnade, the Deli offers Grab and Go breakfasts, made-to-order sandwiches, salads, snacks and other foods to go. The Deli also features a selection of beverages, including wines. The Deli is open daily from 7:00 am. Closing times vary.

Restaurants at Guy Harvey Outpost

Guy Harvey RumFish Grill

Guy Harvey RumFish Grill showcases a 33,500 gallon aquarium featured on Animal Planet's hit series, "Tanked." Dine on cutting edge seafood, explore the tanks and enjoy nightly live entertainment with indoor and outdoor bars. Serving breakfast, lunch, dinner, a late night menu and Sunday brunch buffet. Reservations are recommended.

Perks Up

Perks Up offers morning pastries, on-the-go breakfast items, and Starbucks coffee. In the afternoon, guests can stop by for ice cream or enjoy a cocktail. Open daily from 6:00 am to 6:00 pm.

Guys Grill

Enjoy casual all-day dining with outdoor beachfront seating for breakfasts, casual lunches and dinners. Open daily 7:00~am – 10:00~pm.

Sand Bar

The Sand Bar is a beachfront oasis where guests can indulge in tall, cool drinks. Light snacks, appetizers and sandwiches are also served. Open daily from 11:00 am – 12:00am.

Room Service at the Guy Harvey Outpost

Available daily from 7:00 am to 10:00 pm.

Social Lounge

The VSS Social Lounge provides comfortable seating for relaxing and visiting with your colleagues. Also see Cyber Lounge and Internet Access.

Shipping

To ship your poster or other items home from the meeting, ask for the Concierge at the front desk of the TradeWinds Island Grand.





Monday, May 16, 6:00 - 10:00 pm

Beach BBQ: 6:00 - 8:00 pm, Beachside Sun Decks

Demos: 7:00 – 10:00 pm, Talk Room 1-2, Royal Tern, Snowy Egret, Compass, Spotted Curlew and Jacaranda Hall

Please join us Monday evening for the 14th Annual VSS Dinner and Demo Night, a spectacular night of imaginative demos solicited from VSS members. The demos highlight the important role of visual displays in vision research and education. This year's Demo Night will be organized and curated by Gideon Caplovitz, University of Nevada Reno; Arthur Shapiro, American University; Dejan Todorovic, University of Belgrade and Karen Schloss, Brown University.

Demos are free for all registered VSS attendees and their families and guests. The Beach BBQ is free for attendees, but **YOU MUST WEAR YOUR BADGE** to receive dinner. Guests and family members must purchase a ticket for the Beach BBQ. You can register your guests at any time at the VSS Registration Desk, located in the Grand Palm Colonnade. A desk will also be set up on the Seabreeze Terrace at 6:30 pm.

Guest prices

Adults: \$25 Youth (6-12 years old): \$10 Children under 6: free

Action Adaptation Demo

Stephan de la Rosa, Laura Fademrecht, Max Planck Institute for Biological Cybernetics

It is often assumed that visual action recognition is robust and hence the same action is always perceived in the same way. Contrary to this assumption, this demonstration will show that action recognition is malleable and can be transiently changed by the prolonged exposure to an action.

Audiovisual Rabbit Illusion

Monica Li, Noelle Stiles, Shinsuke Shimojo, Caltech

In general, vision dominates perception in the spatial domain, and audition in the temporal. What does one perceive when conflicting stimuli are presented in the spatial and temporal domain? We have found that audition can "postdictively" (i.e. retroactively) produce or suppress a visual flash. Stop by to view the audiovisual illusory and invisible rabbit, as well as the double flash illusion and an augmented color phi phenomenon.

Biological Motion

Andre Gouws, Tim Andrews, Rob Stone, University of York A real-time demonstration of biological motion. Walk, jump, dance in front of the sensor and your actions are turned into a point light display, Using an X-box Kinect sensor and our free software, you can produce this effect for yourself.

Blink-Induced-Blindness During Multiple Object Tracking

Deborah J. Aks, Zenon Pylyshyn, Rutgers University; Jiye Shen, SR Research Ltd.

Your eye-blinks will trigger changes during multiple-object-tracking. Can you distinguish whether objects halt or continue to move during eye-blinks, or which objects have changed surface properties? Perceptual suppression may render you less aware than you might expect.

Contour Camouflage

Zhiheng Zhou, Lars Strother, University of Nevada, Reno We show three types of perceptual hysteresis in which a contour either appears or disappears. First, a camouflaged contour becomes visible as the density of a background becomes insufficiently dense to maintain camouflage. Second, a contour becomes invisible as the density of a camouflaging background becomes sufficiently dense to conceal the contour. Third, a contour becomes visible against a camouflaging background and remains visible for up to several seconds and eventually fades. Interestingly, the smoothness of the contour modulates the duration of visibility or camouflage similarly in all three cases.

Co-Presence Experience with Wide Area Tracked System

Matthias Pusch, WorldViz

An interactive Virtual Reality experience will be shown in a large area tracked space.

The system will utilize Oculus hardware for one participant and HTV VIVE hardware for the other participant. The participants will be able to see representations of each other in the Virtual Space, experience interactivity and collaboration and will even be able to give each other a virtual 'high five', which will match the real reality 'high five'.

Estimating Human Colour Sensors from Simple Colour Ranking

Dr. Maryam Darrodi, University of East Anglia

Let's find out how your cones respond to a certain colour category say red. The task is to simply rank some colour pairs in terms of redness. Through "Rank-Based Spectral Estimation" technique the result will be a transformation from your cone spectral sensitivities to the hypothetical internal representations of red.

The Ever-Popular Beuchet Chair

Peter Thompson, Rob Stone, Tim Andrews, University of York A favorite at demo Night for the past few years, the Beuchet chair is back with yet another modification. The two parts of the chair are at different distances and the visual system fails to apply size constancy appropriately. The result is people can be shrunk or made giants.

Eye Movement Induced Apparent Movement

Frédéric Gosselin, Université de Montréal

While you eye track the tip of a moving pencil, sparse bright dots flashed periodically appear to move in the direction opposite to that of the pencil at a speed inversely proportional to the flash rate

Illusory Drifting Within a Window

Stuart Anstis, University of California San Diego; Sae Kaneko, Tohoku University

When a striped disk moves across a flickering background, the stripes paradoxically seem to move faster than the disk itself. We attribute this illusion to reverse-phi motion, which slows down the disk rim but does not affect the stripes.

An Inconsistency Between Different Ways of Matching Seen and Felt Positions

Eli Brenner, Cristina de la Malla, Irene Kuling, Vrije Universiteit Amsterdam

If you try to move your hidden right hand to a visible target you will end up slightly off the target. The same will happen if you do this with your left hand. Will the two hands feel aligned after they have both been matched to the same visual target?

The Money Business Illusion

Anthony Barnhart, Carthage College

The Money Business Illusion demonstrates how time-tested techniques from the theatre can be fused with standard psychophysical tasks from the laboratory to create ecologically valid stimuli for empirical research in attention and perception.

Motion Aftereffects and Grating Induction in a Blank Field

Christopher Tyler, Smith Kettlewell Eye Research Institute
Motion aftereffects are generally understood to require a patterned test field for their induction. Following fixation an induction field of eccentricity-scaled moving bands, however, this demo exhibits strong bands of motion in a blank test field, perhaps thus corresponding to Wertheimer's (1912) concept of "pure phi".

Orbiting Black/White Rays Produce an 'Illusory' Grey Disk

Sae Kaneko, Tohoku University; Stuart Anstis, Neal Dykmans, University of California San Diego; Patrick Cavanagh, Dartmouth College; Mark Mitton, Magician

A black and white sectored pattern is moved in a circular orbit at 3–4Hz, without rotating. Result: an illusory smaller uniform gray disk centred within the sectored pattern, with diameter about equal to the orbit. Disk looks larger during dark adaptation. Explanation: Time averaging plus motion deblurring.

Perceived 3D Shape Toggles Perceived Glow

Minjung Kim, New York University, York University; Laurie M. Wilcox, Richard F. Murray, York University

What makes an object appear to emit light, or glow? We show that perceived 3D shape is critical to the appearance of glow, and that we can toggle the perceived glow on and off when motion or binocular disparity information is used to invert a surface's perceived 3D shape.

Point-Light Motion Materials: Shattering and Splattering, Can You Guess the Substance?

Alexandra C. Schmid, Katja Doerschner, University of Giessen Image motion in point-light walkers provides a powerful cue to biological motion. We will present simulations of point-light materials that shatter, splatter, squish, tear and flop. Can you guess what substance each object is made of? When the optical properties of the materials are revealed, find out how they interact with motion cues to alter your perception of each substance.

Real-Time Removal of Low-Spatial-Frequency Content

Laysa Hedjar, Erica Dixon, Arthur Shapiro, American University We remove low spatial frequency content from a video camera's real time feed. The resultant image can account for many brightness illusions and shows invariance to changes in the color of the global illumination.

Reversing Active Visual Experience: Vivid Perception During Saccades

Martin Rolfs, Humboldt Universität zu Berlin; Eric Castet, CNRS & Aix-Marseille University; Sven Ohl, Humboldt Universität zu Berlin Active vision relies on information reaching the eyes during fixation. Motion, blur, and temporal gaps introduced by saccadic eye movements escape our experience. Using a high-speed projection system, we will induce vivid motion perception during saccades—revealing the gaps between fixations—and explore factors that disguise it in normal vision.

Self-Luminosity Perception in a Reverspective

Alan Gilchrist, Rutgers Newark

Use of a 3D canvas, as in the delightful "reverspective" paintings of Patrick Hughes, allows a larger luminance range than normal, because different facets of the canvas receive different amounts of illumination. Viewed monocularly the observer sees a hallway (concave) with a white ceiling and glowing ceiling lights. Seen with two eyes, the display is convex, lit from above, the "ceiling" is black, and the "lights" are merely white trapezoids.

SMI Demonstrates Eye Tracking for Immersive Perception Research Based on Samsung Gear VR Headset

Lisa Richardson, SensoMotoric Instruments, Inc.

SensoMotoric Instruments (SMI) will demonstrate their proven Eye Tracking HMD technology for immersive perception research. The new product, based on a Samsung GearVR headset, supports instant live observation of eye movements in the virtual scene and brings undeniable benefits to spatial cognition research and similar projects

Stimulus Induced Nystagmus and Dynamic Pupil Demonstrations

Greg Perryman, Kurt Debono, SR Research Ltd.

Experience immediate feedback based on your pupil-size as you observe simple stimuli or undertake a simple cognitive load task. In another demonstration, experience nystagmus eye-movements generated from a moving sin-wave grating.

The Stolen Voice Illusion

David Brang, Satoru Suzuki, Marcia Grabowecky, Northwestern University

Male and female faces articulating phonemes are presented sequentially with increasing delay. Although speakers' voices are always mismatched (e.g., male-face/female-voice), individuals fail to notice the gender-mismatch even at delays of ~500 ms. This novel illusion reveals that visual identity information overrides auditory temporal cues about when a voice is heard

StroboPong

Brought to you by VSS and the Demo Night Committee Back by popular demand. Strobe lights and ping pong!

Suppression of Saccadic Suppression

Peter April, Jean-Francois Hamelin, Stephanie-Ann Seguin, Danny Michaud, VPIXX Technologies

This demo uses the PROPixx high refresh rate DLP projector to show stimuli which are invisible during your fixations, and which magically appear only during your saccades.

The Synoptic Art Experience

Maarten Wijntjes, Fan Zhang, Delft University of Technology The synopter gives both eyes similar perspectives, thus annihilating binocular disparities and removing the flatness cue of the picture surface. We found that it is very interesting an enjoyable to specifically use the synopter for viewing artworks. You will be able to synoptically view a large variety of paintings.

Thatcherize Your Face

Andre Gouws, Peter Thompson, University of York

The Margaret Thatcher illusion is one of the best-loved perceptual phenomena. Here you will have the opportunity to see yourself 'thatcherized' in real time and we print you a copy of the image to take away.

Vision Scientists Still Love Drifting Gabors

Matthew Harrison, Gennady Erlikhman, Gideon Caplovitz, University of Nevada, Reno

Building off our demonstration from last year, we present several novel configurations of drifting Gabors that result in surprising global motion percepts.

ARVO/VSS Summer Research Fellowship

VSS is pleased to announce the two recipients of this year's ARVO/VSS Summer Research Fellowship:

Kavitha Ratnam

ARVO, UC Berkeley

Mentors: Austin Roorda, VSS, UC Berkeley; Michele Rucci, VSS, Boston University

Area of Study: Dynamics of fixation

Shao-Min Hung

VSS, Duke-NUS Medical School

Mentor: Dan Milea, ARVO, Singapore Eye Research Institute

Area of Study: Neural correlates of ganglion cell photoreception

The purpose of the ARVO/VSS Summer Research Fellowship is to encourage and foster new collaborations between clinical and basic vision researchers to better train young scientists in the area of translational research. These fellowships will provide summer research funds to support students who wish to acquire training in a cross-disciplinary lab to promote their ability to perform translational research and compete for research funding as their career matures. In concept, trainees working in a clinical environment but desiring a career in translational research would benefit from a mentored program in a more basic science lab and a trainee in a basic research environment would benefit from a mentored program in a lab conducting translational research in a clinical environment.

Each year two \$5,000 ARVO/VSS Summer Research Fellowships will be offered. The goal is to fund one fellowship for an ARVO member-in-training who would benefit from training with a VSS member and one for a VSS member-in-training who would benefit from training with an ARVO member.

EXHIBITORS

VSS recognizes the following companies who are exhibiting at VSS 2015 and we thank them for their participation and support.

Exhibit Hours

Saturday, May 16, 8:00 am – 6:45 pm Sunday, May 17, 8:00 am – 6:45 pm Monday, May 18, 8:00 am – 12:30 pm Tuesday, May 19, 8:00 am – 6:45 pm

Brain Vision, LLC

Booth 11

Brain Vision is the leader for EEG in Vision Science. We offer full integration of EEG with many leading eye tracking systems. We provide flexible and robust solutions for high density, active EEG, wireless EEG, dry EEG, and a wide range of bio-sensors like GSR, EKG, Respiration, and EMG. We integrate eye tracking and EEG with other modalities such as fMRI, TMS, fNIRS, tDCS/HDtDCS and MEG. If you want to know how EEG improves Vision Science and how eye-tracking improves EEG, please talk to us. Let us help you push the edge of what research is possible.

Cambridge Research Systems Ltd.

Booth 8

Display++ is our LCD display that makes it simple to display calibrated visual stimuli with precision timing, and provides robust and reliable synchronization of the stimulus presentation with external data collection equipment, at an affordable price.

The MR-Safe version of our LCD display is BOLDscreen32. It offers the same features as Display++, for fMRI at up to 7T. We also provide MR-Safe eye tracking, a range of response devices (e.g. button boxes and joysticks), plus accessories like MR-Safe spectacles.

If you have a ViSaGe of any vintage talk to us about how you can add the Bits# functionality to your existing equipment, and make it compatible with Display++.

AudioFile is an ideal companion to Display++, it makes it easy to present synchronous auditory stimuli with low latency, deterministic timing on any computer. We also provide spectroradiometric display calibration equipment, cost-effective eye tracking, response boxes and laboratory furniture like chinrests and motorized tables.

Cortech Solutions

Booth 9

Your source for vision science and functional neuroimaging tools, including research-grade LCD displays, eye-tracking, transcranial magnetic stimulation (TMS), EEG and evoked potentials (EP), near-infrared spectroscopy (NIRS) and more. We are your sales and support contact in the US for leading brands from around the world, including Cambridge Research Systems tools for vision science, Mag & More / PowerMAG TMS, Biosemi ActiveTwo EEG / EP, Artinis Oxymon NIRS, and more. We intend to exceed your expectations!

Oxford University Press

Booth 7

Visit the Oxford University Press booth for discounts on all new and backlist titles including: Pizlo Making a Machine That Sees Like Us, Shimamura, Experiencing Art, Goodale, Sight Unseen, 2nd edition, and much more!

The MIT Press

Booth 4

The MIT Press publishes books in vision science and related fields. Please come by our booth to receive a 30% discount on new and classic titles.

Rogue Research/Rogue Resolutions

Booth 3

Roque Resolutions

provides you with fully integrated solutions for neuroscience. A comprehensive and fl

exible range of products for brain stimulation and brain imaging including: Brainsight TMS Navigation; DuoMAG TMS; TMS / tDCS compatible EEG; neuroConn tDCS; Brainsight NIRS and Smarteye eye tracking.

Rogue Research

develops the Brainsight family of products including Brainsight TMS and NIRS for human neuroscience as well as Brainsight Vet, a complete neuronavigation system and suite of neurosurgical tools for a variety of applications. We also offer design and manufacturing services for custom surgical tool or implants.

VSS 2016 Program Exhibitors

SensoMotoric Instruments, Inc.

Booth 10

SMI designs advanced eye tracking systems that combine ease of use and flexibility with advanced technology. SMI products offer the ability to measure gaze position, saccades, fixations, pupil size, etc. This includes fully remote systems, high-speed/high precision, glasses-based, and fMRI/MEG compatible systems Experiment Center 360° continues to serve researchers worldwide by offering a powerful solution to stimulus presentation, data acquisition, and analysis.

SR Research Ltd.

Booth 1

SR Research welcomes you to VSS 2016! The EyeLink 1000 Plus provides a uniform, cutting-edge eye-tracking solution for the behavioral lab, MRI/MEG, or EEG. A single EyeLink 1000 Plus is so versatile that it can be used in several unique ways and in every situation outperforms every model of eye-tracker by the competition, with the lowest noise and the highest accuracy around! Start with a high-precision, high-speed eye-tracker in the behavioral laboratory and add binocular head free-to-move tracking. Include fiber optic extensions and the same hardware seamlessly becomes the world's leading MRI or MEG eye-tracker. With outstanding technical specifications, portable options, flexible experiment delivery software, and incredible customer support, SR Research enables academics to achieve their goals. Drop by and discuss our latest hardware and software additions.

Tucker-Davis Technologies

Booth 2

New Frontiers in Neuroscience

Tucker-Davis Technologies (TDT) provides products for basic and applied research in the neurophysiology, hearing, and speech sciences as well as for general data acquisition applications. We offer a complete line of modular DSP-based data acquisition and stimulus generation systems.

VPixx Technologies Inc.

Booths 5 & 6

VPixx Technologies welcomes the vision community to VSS 2016, and is excited to demonstrate our TRACKPixx 2000Hz binocular eye tracker, alongside the PROPixx DLP LED video projector, now supporting refresh rates up to 1440Hz. The TRACKPixx

uses dual cameras to support 3D remote operation. The PROPixx has been designed specifically for the generation of precise high refresh rate stimuli for gaze-contingent, stereoscopic, and other dynamic applications. The PROPixx is the most flexible display possible for vision research, featuring resolutions up to 1920x1080, and a perfectly linear gamma. The solid state LED light engine has 30x the lifetime of halogen projectors, a wider colour gamut, and zero image ghosting for stereo vision applications. Our high speed circular polarizer can project 400Hz stereoscopic stimuli for passive polarizing glasses into MRI and MEG environments.

Come and see the SHIELDPixx Faraday cage for installing the PROPixx inside an MRI/MEG room. In addition, the PROPixx includes an embedded data acquisition system, permitting micro-second synchronization between visual stimulation and other types of I/O including eye tracking, audio stimulation, button box input, TTL trigger output, analog acquisition, and more! VPixx Technologies will be demonstrating an exciting gaze-contingent combination of the TRACKPixx and PROPixx, showing you how well you can read without your fovea!

WorldViz

Booth 12

WorldViz is the industry leader in immersion-ready virtual reality (VR) solutions. WorldViz's patent-pending interactive visualization and simulation technologies are deployed across 1500+ Fortune 500 companies, academic institutions and government agencies. WorldViz's core products are Vizard, the premier development platform for professional VR application design, and VizMove, the world's only enterprise-class VR software and hardware solution. WorldViz also offers PPT, a high-precision wide-area motion tracking system, as well as professional consulting and content creation services. WorldViz technology enables users to replace physical processes with immersive virtual methods. Applications range from design visualization and industrial training to interactive education and scientific research.



VSS 2017
May 19-24, 2017

TradeWinds Island Resorts St. Pete Beach, Florida

VSS PUBLIC LECTURE

Patrick Cavanagh

Université Paris Descartes



Patrick Cavanagh is the head of the Centre of Attention and Vision at the Université Paris Descartes and a Distinguished Research Professor at Dartmouth College. He received a undergraduate degree in Electrical Engineering from McGill University in 1968 and a PhD in Cognitive Psychology from Carnegie-Mellon University in 1972. He taught at the Université de Montréal from 1972

to 1989 and then at Harvard University from 1989 to 2008. Current projects study the roles of visual attention in selecting and creating visual representations, and the properties and strategies of visual attention in normal and brain damaged subjects. He has also explored the contribution of various features such as shadow, color, motion, and texture to representations of visual form and these experiments led to his interest in art as a source of data for neuroscience.

Attending the Public Lecture

The lecture is free to the public with admission to the museum. (Museum members: Free; Adults \$17; Seniors 65 and older \$15; Military with Id \$15; College Students \$10; Students 7-18 \$10; Children 6 and under Free)

As a VSS attendee, you will receive free admission to the Museum May 13-18 by showing your meeting badge.

About the VSS Public Lecture

The annual public lecture represents the mission and commitment of the Vision Sciences Society to promote progress in understanding vision, and its relation to cognition, action and the brain. Education is basic to our science, and as scientists we are obliged to communicate the results of our work, not only to our professional colleagues but to the broader public. This lecture is part of our effort to give back to the community that supports us.

The Artist as Neuroscientist

Saturday, May 14, 11:00 am, Museum of Fine Arts, Marly Room, St. Petersburg, Florida

A piece of art can trigger many emotions and impressions, many of them just as the artist intended. However, the same painting may also reveal, unintentionally, much about the workings of the brain: how the brain recovers the light and space and surfaces that we see. Painters often stray from photorealistic styles, taking liberties with the rules of physics to achieve a more effective painting. Critically, some of these transgressions of physics such as impossible shadows, shapes, or reflections go unnoticed by viewers - these undetected errors are the ones that tell us which rules of physics actually count for visual perception. As artists find the rules they can break without penalty, they act as neuroscientists and we have only to look at their paintings to uncover and appreciate their discoveries. Which means that 40,000 years of art also counts as 40,000 years of documented, neuroscience research, a record unmatched in any other discipline. We will survey art from cave paintings to the modern era and show how to do "science by looking", unlocking the discoveries in art every time you give it a painting a second, knowing look.

Cavanagh, P. (2005) The artist as neuroscientist. Nature, 434, 301-307.

Cavanagh, P., Chao, J., & Wang, D. (2008). Reflections in art. Spatial Vision, 21, 261-270.

Perdreau, F. & Cavanagh, P. (2011). Do artists see their retinas? Frontiers in Human Neuroscience, 5:171.

Sayim, B., & Cavanagh P. (2011). The art of transparency. i-Perception, 2, 679-696.

Sayim, B., & Cavanagh P. (2011). What line drawings reveal about the visual brain. Frontiers in Human Neuroscience, 5:118, 1-4



FUNDING WORKSHOP

VSS Workshop on Grantsmanship and Funding Agencies

No registration required. First come, first served, until full.

Saturday, May 14, 2016, 1:00 – 2:00 pm, Snowy Egret

Discussants: Michael Steinmetz, Todd Horowitz and Aude
Oliva

You have a great research idea, but you need money to make it happen. You need to write a grant. But where can you apply to get money for vision research? What do you need to know before you write a grant? How does the granting process work? Writing grants to support your research is as critical to a scientific career as data analysis and scientific writing. In this session, Mike Steinmetz (National Eye Institute) and Todd Horowitz (National Cancer Institute) will give you insight into the inner workings of the extramural program at the National Institutes of Health. Additionally, Aude Oliva will present information on funding opportunities for vision science at the National Science Foundation, and on collaborative programs between NSF and NIH.



Michael Steinmetz

Michael is the Acting Director, Division of Extramural Research at the National Eye Institute (NEI). Dr. Steinmetz was a faculty member in the Department of Neuroscience and the Zanvyl Krieger Mind-Brain Institute at Johns Hopkins University for twenty years. His research program studied the neurophysiological mechanisms of selective attention and spatial perception by combining behavioral studies with single-unit

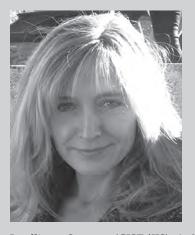
electrophysiology in awake monkeys and fMRI experiments in humans. Dr. Steinmetz has extensive experience at NIH, both as a Scientific Review Administrator and as a program officer. He also represents the NEI on many inter-agency and trans-NIH committees, including the NIH Blueprint; the NIH/NSF Collaborative Research in Computational Neuroscience (CRCNS) program; the BRAIN project; and the DOD vision research group. Dr. Steinmetz also serves as the NEI spokesperson for numerous topics in visual neuroscience.



Todd Horowitz

Todd is Program Director in the Basic Biobehavioral and Psychological Sciences Branch at the National Cancer Institute (NCI). He came to this position after spending 12 years as Principal Investigator at Brigham & Women's Hospital and Harvard Medical School in Boston, where he studied visual search and multiple object tracking. At NCI, he is responsible for promoting basic research in

attention, perception, and cognition, as well as serving on the trans-NIH Sleep Research coordinating committee



Aude Oliva

Aude is a Principal Research Scientist in the Computer Science and Artificial Intelligence laboratory (CSAIL), MIT, leading the Computational Perception and Cognition group in multi-disciplinary research ventures. She has been appointed as an Expert at the National Science Foundation for 2016, in the Directorate for Computer and Information Science and Engineering, Information and

Intelligent Systems (CISE/IIS). At NSF, she participates to the CRCNS (Collaborative Research in Computational Neuroscience) program, in partnership with NIH and international research funding agencies. She is also involved with the Integrative Strategies for Understanding Neural and Cognitive Systems (NCS) program, a novel BRAIN-related multi-disciplinary solicitation across four NSF directorates (Computer & Information Science & Engineering, Education & Human Resources, Engineering and Social, Behavioral & Economic Sciences).



MEET THE PROFESSORS

Monday May 16, 5:00 - 6:00 pm, Breck Deck North

Students and postdocs are invited to the first VSS "Meet the Professors" event. This will be an opportunity for a free-wheeling, open-ended discussion with members of the VSS Board and a number of other professors. You might chat about science, the meeting, building a career, or whatever comes up.

You will select a specific professor (so that people can be evenly distributed). After 30 minutes, we will give everyone the option of staying put or moving to another table of their choice.

Pre-registration is required. Register on the Meet the Professors page of the VSS website. See the Registration desk for information.

Derek Arnold

The University of Queensland

Studies links between neural processing and conscious perceptual experience, with specific interests in human time perception, cross modal perception, and perceptual rivalry.

Jan Atkinson

University College - London

Studies typical and atypical visual development (including visual attention) in infants and children e.g. Williams syndrome, autism.

Marty Banks

Berkeley

Studies depth perception in humans with an emphasis on stereopsis and visual optics. He also works on display development and evaluation and thus has quite a bit of experience with industry.

Eli Brenner (VSS board member)

Free University, Amsterdam

Studies how visual information is used to guide our actions

Angela Brown

Ohio State

Studies visual sensory development in human infants (basic and clinical), and color vision and color naming in world languages

Marisa Carrasco

NYU

Uses human psychophysics, neuroimaging, and computational modeling to investigate the relation between the psychological and neural mechanisms involved in visual perception and attention.

Andrew Glennerster

U. Reading, UK

Studies 3D vision in freely moving observers

Mary Hayhoe (VSS board member)

UT-Austin

Studies eye movements, visuo-motor control, attention, and memory, especially in natural behaviors.

Steve Most

U New South Wales, Sydney

Studies visual attention and awareness, with special interests in the role of emotion and in building bridges between visual cognition and social- and clinical- psychology

Shin'ya Nishida

NTT, Kyoto

Studies how we perceive visual movements, time, and object materials.

Jeff Schall (VSS board member)

Vanderbilt

Studies the neural and computational mechanisms that guide, control and monitor visually-guided gaze behavior.

Jan Theeuwes

Free University, Amsterdam Studies the control of attention and eye movements

Frank Tong (VSS board member)

Vanderbilt

Studies mechanisms of visual perception, attention, object recognition and working memory by applying psychophysical, computational and neuroimaging approaches.

Preeti Verghese (VSS board member)

Smith-Kettlewell Eye Research Institute Studies spatial vision, visual search and attention, as well as eye and hand movements in normal vision and in individuals with central field loss

Andrew Watson (VSS board member)

NASA

Studies human spatial, temporal and motion processing, computational modeling of vision, and applications of vision science to imaging technology.

Jeremy Wolfe (VSS board member)

Harvard Med & Brigham and Women's Hospital Studies visual attention and visual search with a special interest in socially important tasks like cancer screening in radiology.

Yaoda Xu

Harvard

Studies the neural mechanisms mediating mid- to highlevel visual object representations in the human brain and the interactions of these representations with attention, visual short-term memory and task performance.

MEMBER-INITIATED SYMPOSIA

Schedule Overview

Friday, May 13, 12:00 - 2:00 pm

S1 - Artifice versus realism as an experimental methodology $\, {\rm Talk} \, Room \, 1\text{--}2$

S2 - Boundaries in Spatial Navigation and Visual Scene Perception Pavilion

Friday, May 13, 2:30 - 4:30 pm

S3 - What do deep neural networks tell us about biological vision? Talk Room 1-2

S4 - What can we learn from #TheDress – in search for an explanation Pavilion

Friday, May 13, 5:00 - 7:00 pm

S5 - ARVO@VSS: Information processing in a simple network: What the humble retina tells the brain. $\rm Talk\ Room\ 1-2$

S6 - The parietal cortex in vision, cognition, and action Pavilion

S1 - Artifice versus realism as an experimental methodology

Friday, May 13, 12:00 - 2:00 pm, Talk Room 1-2

Organizer: Peter Scarfe, Department of Psychology, University of Reading, UK

Presenters: Tony Movshon, David Brainard, Roland Fleming, Johannes Burge, Jenny Read, Wendy Adams

How do we make valid inferences about brain and behavior based on experiments using stimuli and tasks that are extremely well characterized, but bare little resemblance to the real world? Is this even a problem? This symposium will bring together leading researchers who have taken differing approaches to striking a balance between the experimental control of "artifice" and the ecological validity of "realism". The aim is to provoke debate about how best to study perception and action, and ask whether a fundamental shift is needed for us to truly understand the brain.

Using artifice to understand nature

Speaker: Tony Movshon, NYU

The use of graphics simulations in the study of object color appearance

Speaker: David Brainard; University of Pennsylvania Additional Authors: Ana Radonjić, Department of Psychology, University of Pennsylvania

Confessions of a reluctant photorealist

Speaker: Roland Fleming, Dept. of Experimental Psychology, University of Giessen

Predicting human performance in fundamental visual tasks with natural stimuli

Speaker: Johannes Burge, Department of Psychology, Neuroscience Graduate Group, University of Pennsylvania

Natural behaviour with artificial stimuli: probing praying mantis vision

Speaker: Jenny Read; Newcastle University, Institute of Neuroscience

Additional Authors: Dr Vivek Nityananda, Dr Ghaith Tarawneh, Dr Ronny Rosner, Ms Lisa Jones, Newcastle University, Institute of Neuroscience

Natural scene statistics and estimation of shape and reflectance

Speaker: Wendy Adams; University of Southampton Additional Authors: Erich W. Graf, University of Southampton, Southampton, UK; James H. Elder, York University, Canada

S2 - Boundaries in Spatial Navigation and Visual Scene Perception

Friday, May 13, 12:00 - 2:00 pm, Pavilion

Organizers: Soojin Park, Johns Hopkins University and Sang Ah Lee, University of Trento

Presenters: Sang Ah Lee, Joshua B Julian, Nathaniel J. Killian, Tom Hartley, Soojin Park, Katrina Ferrara

Humans and nonhuman animals compute locations in navigation and scene perception by using a spontaneously encoded geometry of the 3D environmental boundary layouts. The aim of this symposium is to bridge research from various subfields to discuss the specific role of boundaries in the processing of spatial information and to converge on a coherent theoretical framework for studying visual representations of boundaries. To achieve this, our interdisciplinary group of speakers will discuss research on a broad range of subject populations, from rodents, to primates, to individuals with genetic disorders, using various experimental methods (developmental, behavioral, fMRI, TMS, single-cell and population coding).

Boundaries in space: A comparative approach

Speaker: Sang Ah Lee; Center for Mind/Brain Sciences, University of Trento

Mechanisms for encoding navigational boundaries in the mammalian brain

Speaker: Joshua B Julian; Department of Psychology, University of Pennsylvania

Authors: Alex T Keinath, Department of Psychology, University of Pennsylvania; Jack Ryan, Department of Psychology, University of Pennsylvania; Roy H Hamilton, Department of Neurology, University of Pennsylvania; Isabel A Muzzio, Department of Biology, University of Texas: San Antonio; Russell A Epstein, Department of Psychology, University of Pennsylvania

Neuronal representation of visual borders in the primate entorhinal cortex

Speaker: Nathaniel J. Killian; Department of Neurosurgery, Massachusetts General Hospital-Harvard Medical School Authors: Elizabeth A Buffalo, Department of Physiology and Biophysics, University of Washington Member-Initiated Symposia VSS 2016 Program

Investigating cortical encoding of visual parameters relevant to spatial cognition and environmental geometry in humans.

Speaker: Tom Hartley; Department of Psychology, University of York, UK

Authors: David Watson, Department of Psychology, University of York, UK; Tim Andrews, Department of Psychology, University of York, UK

Complementary neural representation of scene boundaries

Speaker: Soojin Park; Department of Cognitive Science, Johns Hopkins University

Authors: Katrina Ferrara, Center for Brain Plasticity and Recovery, Georgetown University

Neural and behavioral sensitivity to boundary cues in Williams syndrome

Speaker: Katrina Ferrara; Center for Brain Plasticity and Recovery, Georgetown University

Authors: Barbara Landau, Department of Cognitive Science, Johns Hopkins University; Soojin Park, Department of Cognitive Science, Johns Hopkins University

S3 - What do deep neural networks tell us about biological vision?

Friday, May 13, 2:30 - 4:30 pm, Talk Room 1-2

Organizer: Radoslaw Martin Cichy, Department of Psychology and Education, Free University Berlin, Berlin, Germany Presenters: Kendrick Kay, Seyed-Mahdi Khaligh-Razavi, Daniel Yamins, Radoslaw Martin Cichy, Tomoyasu Horikawa, Kandan Ramakrishnan

To understand visual cognition we ultimately need an explicit and predictive model of neural processing. In recent years deep neural networks—brain-inspired computer vision models—have emerged as a promising model for visual capacities in the neurosciences. This symposium delivers the first results regarding how DNNs help us to understand visual processing in the human brain and provides a forum for critical discussion of DNNs: what have we gained, what are we missing, and what are the next steps?

What are deep neural networks and what are they good for?

Speaker: Kendrick Kay; Center for Magnetic Resonance Research, University of Minnesota, Twin Cities

Mixing deep neural network features to explain brain representations

Speaker: Seyed-Mahdi Khaligh-Razavi; CSAIL, MIT, MA, USA Authors: Linda Henriksson, Department of Neuroscience and Biomedical Engineering, Aalto University, Aalto, Finland Kendrick Kay, Center for Magnetic Resonance Research, University of Minnesota, Twin Cities Nikolaus Kriegeskorte, MRC-CBU, University of Cambridge, UK

Using DNNs To Compare Visual and Auditory Cortex

Speaker: Daniel Yamins; Department of Brain and Cognitive Sciences, MIT, MA, USA

Authors: Alex Kell, Department of Brain and Cognitive Sciences, MIT, MA, USA

Deep Neural Networks explain spatio-temporal dynamics of visual scene and object processing

Speaker: Radoslaw Martin Cichy; Department of Psychology and Education, Free University Berlin, Berlin, Germany

Authors: Aditya Khosla, CSAIL, MIT, MA, USA Dimitrios Pantazis, McGovern Institute of Brain and Cognitive Sciences, MIT, MA, USA Antonio Torralba, CSAIL, MIT, MA, USA Aude Oliva, CSAIL, MIT, MA, USA

Generic decoding of seen and imagined objects using features of deep neural networks

Speaker: Tomoyasu Horikawa; Computational Neuroscience Laboratories, ATR, Kyoto, Japan

Authors: Yukiyasu Kamitani; Graduate School of Informatics, Kyoto University, Kyoto, Japan

Mapping human visual representations by deep neural networks

Speaker: Kandan Ramakrishnan; Intelligent Sensory Information Systems, UvA, Netherlands

Authors: H.Steven Scholte; Department of Psychology, Brain and Cognition, UvA, Netherlands, Arnold Smeulders, Intelligent Sensory Information Systems, UvA, Netherlands, Sennay Ghebreab; Intelligent Sensory Information Systems, UvA, Netherlands

S4 - What can we learn from #TheDress - in search for an explanation

Friday, May 13, 2:30 - 4:30 pm, Pavilion

Organizer: Annette Werner, Institute for Ophthalmic Research, Tübingen University

Presenters: Annette Werner, Anya Hurlbert, Christoph Witzel, Keiji Uchikawa, Bevil Conway, Lara Schlaffke

Few topics in colour research have generated so much interest in the science community and public alike, as the recent phenomenon #TheDress. The Symposium shall gather the actual experimental evidence and provide a profound basis for a discussion and evaluation of the hypotheses regarding the origin of the phenomenon. Furthermore, #TheDress is a chance for further insight into the nature of human colour perception, in particular with respect to individual differences, and cognitive influences, including memory, colour preferences and the interaction between peception and language.

The #Dress phenomenon – an empirical investigation into the role of the background

Speaker: Annette Werner; Institute for Ophthalmic Research, Tübingen University, Germany

Authors: Alisa Schmidt, Institute for Ophthalmic Research, Tübingen University, Germany

Is that really #thedress? Individual variations in colour constancy for real illuminations and objects

Speaker: Anya Hurlbert; Institute of Neuroscience, University of Newcastle upon Tyne, UK

Authors: Stacey Aston, Bradley Pearce: Institute of Neuroscience, University of Newcastle upon Tyne, UK

Variation of subjective white-points along the daylight axis and the colour of the dress

Speaker: Christoph Witzel; Laboratoire Psychologie de la Perception, University Paris Descartes, France

Authors: Sophie Wuerger, University of Liverpool, UK, Anya Hurlbert, Institute of Neuroscience, University of Newcastle upon Tyne, UK

Prediction for individual differences in appearance of the "dress" by the optimal color hypothesis

Speaker: Keiji Uchikawa; Department of Information Processing, Tokyo Institute of Technology, Japan

Authors: Takuma Morimoto, Tomohisa Matsumoto; Department of Information Processing, Tokyo Institute of Technology, Japan

Mechanisms of color perception and cognition covered by #thedress

Speaker: Bevil Conway; Department of Brain and Cognitive Sciences, MIT, Cambridge MA, USA

Authors: Rosa Lafer-Sousa, Katherine Hermann

The Brain's Dress Code: How The Dress allows to decode the neuronal pathway of an optical illusion

Speaker: Lara Schlaffke; Department of Neurology, BG University Hospital Bergmannsheil, Bochum, Germany

Authors: Anne Golisch, Lauren M. Haag, Melanie Lenz, Stefanie Heba, Silke Lissek, Tobias Schmidt-Wilcke, Ulf T. Eysel, Martin Tegenthoff

S5 - ARVO@VSS: Information processing in a simple network: What the humble retina tells the brain.

Friday, May 13, 5:00 - 7:00 pm, Talk Room 1-2

Organizers: Scott Nawy, PhD, University of Nebraska Medical Center and Anthony Norcia, Stanford University

Presenters: Greg Field, Michael Crair, William Guido, Wei Wei

This year's biennial ARVO at VSS symposium features a selection of recent work on circuit-level analyses of retinal, thalamic and collicular systems that are relevant to understanding of cortical mechanisms of vision. The speakers deploy a range of state-of-the art methods that bring an unprecedented level of precision to dissecting these important visual circuits.

Circuitry and computation in the mammalian retina

Speaker: Greg Field; USC

Retinal activity guides visual circuit development prior to sensory experience

Speaker: Michael C. Crair; Yale

Dissecting circuits in the mouse visual thalamus

Speaker: William Guido; University of Louisville

Neural mechanisms of direction selectivity in the retina

Speaker: Wei Wei; Department of Neurobiology, The University of Chicago

Authors: Qiang Chen, David Koren and Wei Wei, Department of Neurobiology, The University of Chicago

S6 - The parietal cortex in vision, cognition, and action

Friday, May 13, 5:00 - 7:00 pm, Pavilion

Organizers: Yaoda Xu, Harvard University and David Freedman, University of Chicago

Presenters: Sabine Kastner, Yaoda Xu, Jacqueline Gottlieb, David Freedman, Peter Janssen, Melvyn Goodale

The parietal cortex has been associated with a diverse set of functions, such as visual spatial processing, attention, motor planning, object representation, short-term memory, categorization and decision making. By bringing together researchers from monkey neurophysiology and human brain imaging, this symposium will integrate recent findings to update our current understanding of the role of parietal cortex in vision, cognition and action. By bridging different experimental approaches and diverse perceptual, cognitive, and motor functions, this symposium will also attempt to address whether it is possible to form a unified view of parietal functions.

Comparative studies of posterior parietal cortex in human and non-human primates

Speaker: Sabine Kastner; Department of Psychology and The Princeton Neuroscience Institute, Princeton University

Decoding Visual Representations in the Human Parietal Cortex

Speaker: Yaoda Xu; Psychology Department, Harvard University

Multi-dimensional parietal signals for coordinating attention and decision making

Speaker: Jacqueline Gottlieb; Department of Neuroscience, Kavli Institute for Brain Science, Columbia University

Categorical Decision Making and Category Learning in Parietal and Prefrontal Cortices

Speaker: David Freedman; Department of Neurobiology and Grossman Institute for Neuroscience, Quantitative Biology, and Human Behavior, The University of Chicago

The functional organization of the intraparietal sulcus in the macague monkey

Speaker: Peter Janssen; Laboratory for Neuro- and Psychophysiology, Department of Neurosciences, KU Leuven

The role of the posterior parietal cortex in the control of action

Speaker: Melvyn Goodale; The Brain and Mind Institute, The University of Western Ontario



SATURDAY MORNING TALKS

Attention: Saliency, awareness, learning

Saturday, May 14, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Marc Zirnsak

21.11, 8:15 am Representation of visual salience within the frontal eye field following reversible inactivation of parietal cortex Marc Zirnsak, Xiaomo Chen, Stephen Lomber, Tirin Moore

21.12, 8:30 am Frontal eye field sources of attentional suppression during visual search Joshua Cosman, Jeffrey Schall, Geoffrey Woodman

21.13, 8:45 am Peripheral Distracting Information That Does Not Reach Consciousness Can Capture Attention and Prime Categorization Colin Flowers, Mary Peterson

21.14, 9:00 am Context-given benefits: Saliency-based selection as a function of autism and psychosis traits Ahmad Abu-Akel, Ian Apperly, Mayra Spaniol, Joy Geng, Carmel Mevorach

21.15, 9:15 am Attention and consciousness exhibit different gain functions in afterimage experiments Jeroen van Boxtel

21.16, 9:30~am Learning to search for two targets with unequal occurrence rates: The role of short-term versus long-term learning Sha Li, Yuhong V. Jiang

Perceptual Learning: Mechanisms and applications

Saturday, May 14, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Cong Yu

22.11, 10:45 am Reward reactivates and facilitates visual perceptual learning during REM sleep Aaron Berard, Masako Tamaki, Tyler Barnes-Diana, Jose Nañez, Takeo Watanabe, Yuka Sasaki

22.12, 11:00 am Response mode specificity of perceptual learning Lukasz Grzeczkowski, Fred Mast, Michael Herzog

22.13, $11:15\,am$ Statistical learning creates novel object associations via transitive relations Yu Luo, Jiaying Zhao

22.14, 11:30 am The role of rule-based learning in featural generalization of visual perceptual learning (VPL) revealed in the effects of category learning on VPL Qingleng Tan, Takeo Watanabe

22.15, 11:45 am What is learnt when learning to point at 'invisible' visual targets? Derek Arnold, Vivien Yuen

22.16, 12:00 pm Dichoptic perceptual training in juvenile amblyopes with or without patching history JunYun Zhang, XiangYun Liu, Cong

22.17, 12:15 pm Visual discrimination training shrinks cortically blind fields and improves quality of life in chronic stroke patients Matthew Cavanaugh, Selena Lilley, MIchael Melnick, Adin Reisner, Krystel Huxlin

Perception and Action: Reaching and grasping

Saturday, May 14, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Katja Fiehler

21.21, 8:15 am Differential cortical responses to salience during perception and goal-directed action J. Daniel McCarthy, Christine Gamble, Joo-Hyun Song

21.22, 8:30 am One-shot correction of sensory prediction errors produces illusion-resistant grasping without multiple object representations Evan Cesanek, Carlo Campagnoli, Fulvio Domini

21.23, 8:45 am Allocentric coding of reach targets in naturalistic visual scenes Katja Fiehler, Mathias Klinghammer, Immo Schütz, Gunnar Blohm

21.24, 9:00 am 3 Dimensional Binocular Eye and Hand Coordination in Normal Vision and with Simulated Visual Impairments Guido Maiello, MiYoung Kwon, Peter Bex

21.25, 9:15 am Neural coding of action planning: visual processing or visual memory? Simona Monaco, Elisa Pellencin, Malfatti Giulia, Turella Luca

21.26, 9:30 am Hierarchical Organization of Action Encoding Within The Human Brain Luca Turella, Raffaella Rumiati, Angelika Lingnau

Visual Memory: Working and long-term

Saturday, May 14, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Daryl Fougnie

22.21, 10:45 am Visual working memory relies on separate view-point-specific ensemble and viewpoint-invariant object representations Timothy Brady

22.22, 11:00 am Lapses of sustained attention cause later forgetting in visual long-term memory Megan deBettencourt, Kenneth Norman, Nicholas Turk-Browne

22.23, 11:15 am Asymmetric confidence intervals reveal hidden information in working memory Daryl Fougnie, Anish Kanabar, Timothy Brady, George Alvarez

22.24, 11:30 am The limitations of visual working memory in prioritizing visual stimuli for conscious access Dirk van Moorselaar, Jan Theeuwes, Christian Olivers

22.25, 11:45 am Neural and behavioral evidence for an online resetting process in visual working memory Halely Balaban, Roy Luria

22.26, 12:00 pm Oscillatory correlates of visual working memories uploaded from long-term memory Keisuke Fukuda, Geoffrey Woodman

22.27, 12:15 pm Temporal dynamics of memorability: an intrinsic brain signal distinct from memory Seyed-Mahdi Khaligh-Razavi, Wilma Bainbridge, Dimitrios Pantazis, Aude Oliva

SATURDAY MORNING POSTERS

Attention: Inattention

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.3001 The role of perceptual similarity in visual search for multiple targets Elena Gorbunova

23.3002 Inattentional blindness to absent stimuli: The role of expectation Muge Erol, Arien Mack, Jason Clarke, John Bert

23.3003 Making the covert overt: Eye-movements reveal the misdirection of gaze and attention Anthony Barnhart, Francisco Costela, Michael McCamy, Susana Martinez-Conde, Stephen Macknik, Stephen Goldinger

23.3004 Are Threatening Unexpected Objects More Likely to Capture Awareness? Cary Stothart, Daniel Simons, Walter Boot, Timothy Wright

23.3005 Why don't we see the gorilla? Looking in the wrong places, attending to the wrong stuff, or doing the wrong task? Ruth Rosenholtz, Lavanya Sharan, Emily Park

23.3006 Effects of Media Multitasking on Inattentional Blindness during Multiple Object Tracking Adam Kimbler, D. Alexander Varakin, Matt Moran, Josh Back, Jason Hays, Brian Huybers

23.3007 Change detection and recognition memory for objects Katherine Wood, Daniel Simons

23.3008 Exploring moderators of the relationship between working memory capacity and inattentional blindness Timothy Wright, Nelson Roque, Walter Boot, Cary Stothart

23.3009 Which way is up? Global and local change detection in the hemispheres. Bonnie Angelone, Jessica Marcoux

23.3010 Comparison of 3 intervention approaches into the rehabilitation of hemispatial neglect: an evaluation of short and long term recovery Monika Harvey, Michael Opolka, Georg Kerkhoff, Hendrik Niemann

Perceptual Organization: Ensemble perception

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.3011 **Is there a general "statistical module" in visual perception?** Anastasia Belinskaia, Igor Utochkin

23.3012 Ensemble perception omits spatial information about features Dian Yu, Steve Haroz, Steven Franconeri

23.3013 Ensemble perception under rapid serial visual presentation Roman Vakhrushev, Igor Utochkin

23.3014 **Training Ensemble Perception** Kelly Chang, Allison Yamanashi Leib, David Whitney

23.3015 **Inattentional blindness to color ensemble statistics** Michael Pitts, Michael Cohen, Molly Jackson-Nielsen

23.3016 **Texture Properties Bias Ensemble Size Judgments** Sasen Cain, Karen Dobkins, Edward Vul

23.3017 **The Neural Representation of Outliers in Object-Ensemble Perception** Jonathan Cant, Yaoda Xu

23.3018 Size averaging is based on distal, not proximal object sizes Natalia Tiurina, Igor Utochkin

23.3019 The capacity and fidelity of visual short-term memory for objects and ensembles Maria Yurevich, Igor Utochkin, Maria Bulatova

23.3020 Seeing the mood of the crowd: Ensemble expressions for groups of different identities Markus Neumann, Sarah Griffiths, Romina Palermo, Linda Jeffery, Gillian Rhodes

23.3021 **Positive affect worsens ensemble coding performance** Kirsten Ziman, Ariana Familiar, Won Mok Shim

Development: Infancy

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.3022 Brief postnatal visual deprivation triggers longstanding structural reorganization of the visual cortex Xiaoqing Gao, Olivier Collignon, Adélaïde de Heering, Terri Lewis, Hugh Wilson, Daphne Maurer

23.3023 Infants' Dynamic Accommodation and Vergence Tracking of an Unpredictable Stimulus T. Rowan Candy, Eric Seemiller, Colin Downey, Lawrence Cormack

23.3024 Emergence of implied motion perception in human infants Nobu Shirai, Tomoko Imura

23.3025 Infants can recognize the lightness change in cast shadows Kazuki Sato, So Kanazawa, Masami Yamaguchi

23.3026 The specificity of labels differentially impacts infants' attention-related visual strategies and neural responses Charisse Pickron, Arjun Iyer, Eswen Fava, Lisa Scott

23.3027 Developmental changes in infants' attention to naturalistic faces and visual saliency Jennifer Haensel, Irati Saez de Urabain, Atsushi Senju, Tim Smith

23.3028 Infants' recognition of caricature of mother's face Megumi Kobayashi, So Kanazawa, Masami Yamaguchi, Ryusuke Kakigi

23.3029 Accounting for cognitive effort in a visual working memory task in 13- and 15-month old infants Chen Cheng, Zsuzsa Kaldy, Erik Blaser

Face Perception: Individual differences

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.3030 The diversity, prevalence, and stability of idiosyncratic eye-movement patterns to faces Joseph Arizpe, Galit Yovel, Chris Baker

23.3031 **Fixation sequence consistency during face identification** Yuliy Tsank, Miguel Eckstein

23.3032 Eye movements during challenging cultural group identification of faces Puneeth Chakravarthula, Miguel Eckstein

23.3033 Gaze behavior provides a gender fingerprint Antoine Coutrot, Nicola Binetti, Charlotte Harrison, Isabelle Mareschal, Alan Johnston

23.3034 Why do better face recognizers use the left eye more? Simon Faghel-Soubeyrand, Nicolas Dupuis-Roy, Frédéric Gosselin

23.3035 Individual differences in creation of forensic composite faces: A comparison of multiple systems Rachel Bennetts, Shobonna Akhter, Kayleigh Ziegler, Charlie Frowd

23.3036 Broadly Superior: Many, but not all, visual and non-visual abilities are strong in face super-recognizers Sarah Cohan, Ken Nakayama, Brad Duchaine

23.3037 A common factor may underlie personality traits and both neural and perceptual responses to emotional faces Katie Gray, Freya Lygo, Miaomiao Yu, Daniel Baker

23.3038 Individual differences in the contribution of shape and texture to the recognition of personally familiar faces Jürgen Kaufmann, Marlena Itz, Stefan Schweinberger

23.3039 For best results, use the eyes: Individual differences and diagnostic features in face recognition Jessica Royer, Caroline Blais, Karine Déry, Daniel Fiset

23.3040 Perceptual challenges for inverted icons: The Face Inversion Effect does not extend to complex objects Carrie Melia, Michael Hout

23.3041 Attachment Avoidance and Visual Attention for Emotional Faces over Time Shayne Sanscartier, Jessica Maxwell, Eric Taylor, Penelope Lockwood

Attention: Reward

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4001 Pavlovian reward learning underlies value driven attentional capture Berno Bucker, Jan Theeuwes

23.4002 Oculomotor properties associated with the enhanced feature representation of reward-signaling distractors Brónagh McCoy, Jan Theeuwes

23.4003 Direct and Indirect Mechanisms of Value-Driven Attentional Guidance Jaap Munneke, Artem Belopolsky, Jan Theeuwes

23.4004 Was that a threat? A cueing study on attentional guidance by threat signals Daniel Preciado, Jaap Munneke, Jan Theeuwes

23.4005 Reward captures attention independent of the current focus of attention $Xin\ Xue, Sheng\ Li,\ Jan\ Theeuwes$

23.4006 Through the eyes, fast and slow: behaviourally relevant pupil responses on separate timescales Joanne Van Slooten, Tomas Knapen, Jan Theeuwes

23.4007 Pupil dilation indexes effort exertion during the configuration of attentional control setting Jessica Irons, Andrew Leber

23.4008 What Constitutes "Value" in Value-driven Attentional Capture Mark Becker, Samuel Hemsteger, Taosheng Liu

23.4009 Object-based effects (and their absence) reveal parallel mechanisms of emotional disruption of perception Jenna Zhao, Briana Kennedy, Steven Most

23.4010 **Can value learning modulate early visual processing?** Constanza de Dios, Carlene Horner, Rebecca Martinez, Jennifer O'Brien

23.4011 Value-associated stimuli can modulate cognitive control settings. Daniel Dodgson, Jane Raymond

23.4012 Motivational salience produces hemispheric asymmetries in visual processing Rashmi Gupta, Jane Raymond, Patrik Vuilleumier

23.4013 Exploring the limits of the "self-relevance" effect on performance Gregory Wade, Timothy Vickery

23.4014 Value associations of irrelevant visual features are neurally tracked during reward-based decision-making Timothy Vickery

23.4015 Reward prediction is necessary for value-driven attentional capture Chisato Mine, Jun Saiki

23.4016 Loss Aversion affects Inhibitory Processes for Reward as Indicated by Inhibition of Return Summer Clay, Alison Harris, Danielle Green, Catherine Reed

23.4017 Beauty requires thought: The experience of beauty is selectively impaired by a demanding cognitive task Aenne Brielmann, Denis Pelli

Eye Movements: Neural mechanisms and remapping

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4018 Presaccadic changes in local field potential-derived receptive fields within the frontal eye field Xiaomo Chen, Marc Zirnsak, Tirin Moore

23.4019 Does the saccade-related burst in the superior colliculus convey commands related to the future location of a moving target? Laurent Goffart, Aaron Cecala, Neeraj Gandhi

23.4020 Role of the human parietal cortex in predictive remapping across eye movements: an online rTMS study. Delphine Lévy-Bencheton, Marc Kamke, Jason Mattingley

23.4021 Ipsilateral positivity as neurophysiological evidence for predictive remapping in humans Viola Störmer, Patrick Cavanagh

23.4022 A recurrent convolutional neural network model for visual feature integration in memory and across saccades Yalda Mohsenzadeh, J. Douglas Crawford

23.4023 Cerebral hemodynamics during scene viewing: Hemispheric lateralization predicts temporal gaze behavior associated with distinct modes of visual processing Mark Mills, Mohammed Alwatban, Benjamin Hage, Erin Barney, Edward Truemper, Gregory Bashford, Michael Dodd

23.4024 Characteristics of eye-position gain field populations in AIT and LIP determined through genetic algorithm modeling of monkey data Sidney Lehky, Margaret Sereno, Anne Sereno

23.4025 **Eye-position signals in the local field potentials of area V1** Steffen Klingenhoefer, Bart Krekelberg

23.4026 Eye movements towards or away from faces elicit different fMRI activity in the insula. Marie-Helene Grosbras, Emilie Salvia, Bruno Nazarian

23.4027 Allocentric vs. Egocentric Coding of Remembered Saccade Targets in Human Cortex Ying Chen, J. Douglas Crawford

23.4028 Oscillatory neural interactions in the alpha-gamma range predict successful eye-movements in a visual search task Nina Thigpen, Andreas Keil

23.4029 Spatial and temporal features of the lambda response in fixation-related potentials Anthony Ries, Jon Touryan, Patrick Connolly

Eye Movements: Localization and stability

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4030 Visual stability across saccades: Do the number and spatial location of non-targets influence target location processing? Xiaoli Zhang, Julie Golomb

23.4031 Mislocalizations in saccadic and mask-induced suppression of displacement Sabine Born

23.4032 Monocular visual localization during eye movements Stefan Dowiasch, Frank Bremmer

23.4033 Does memory affect perisaccadic compression? Maria Matziridi, Karl Gegenfurtner

23.4034 **Pre-saccadic remapping is an attentional process** Martin Szinte, Dragan Rangelov, Donatas Jonikaitis, Heiner Deubel

23.4035 Perisaccadic remapping of visual information is predictive, attention-based, and spatially precise Melchi Michel, James Wilmott

23.4036 Maintaining a stable world across eye movements: Object and location information can operate independently in corrective saccades. Martiin Schut, Jasper Fabius, Stefan Van der Stigchel

Eye Movements: Cognition

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4037 Modeling the Task Control of Gaze Dana Ballard, Leif Johnson, Mary Hayhoe

23.4039 Neural Correlates and Saccadic Eye Movements Involved during Letter Naming Speed Tasks Noor Al Dahhan, Donald Brien, John Kirby, Douglas Munoz

23.4040 **Failure in inhibiting eye movements in a cued probe-matching task** Min-Suk Kang, Sori Kim, Kyoung-Min Lee

23.4041 Fixation stability during the performance of a high-precision manipulation task Ewa Niechwiej-Szwedo, Dave Gonzalez

23.4042 **Oculomotor Measures of Learning Attentional Templates** Christian Olivers, Artem Belopolsky

23.4043 **Associative learning in peripheral perception of shape** Céline Paeye, Patrick Cavanagh, Thérèse Collins, Arvid Herwig

23.4044 Predicting the Number You Will Think of Based on Your Eye Scan Pattern Bhavin Sheth, Alma Tijiboy

23.4045 Can you see me? Eye fixations of the face are modulated by perception of a bidirectional social interaction Michael Kleiman, Elan Barenholtz

23.4046 Attentional synchrony during narrative film viewing: Turning off the "tyranny of film" through a task manipulation at odds with narrative comprehension John Hutson, Thomas Hinkel, Clarissa Boberg, Mauricio Caldera, Cheyenne Menzies, Kaydee Tran, Joseph Magliano, Timothy Smith, Lester Loschky

Perceptual Organization: Neural mechanisms

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4047 A song of scenes & sentences: signatures of shared cortical resources between visual perception and language revealed by representational similarity analysis Peer Herholz, Verena Schuster, Melissa Vo, Andreas Jansen

23.4048 Ensemble perception of size in chimpanzees and humans. Tomoko Imura, Fumito Kawakami, Nobu Shirai, Masaki Tomonaga

23.4049 Imagery receptive fields Jesse Breedlove, Ghislain St-Yves, Cheryl Olman, Thomas Naselaris

23.4050 **Neural correlates of configural superiority and emergent features: an ERP study** Thiago Costa, Kimberley Orsten-Hooge, Gabriel Rêgo, James Pomerantz, Paulo Boggio

23.4051 Cortical Areas Involved in the Coding of Relative-Motion and Relative-Disparity Cues Yiran Duan, Peter Kohler, Anthony Norcia

23.4052 Identifying cortical areas involved in perceptual decisions about symmetry Peter Kohler, Anthony Norcia

23.4053 Orientation discrimination depends on co-activation of onand off-centre visual channels Alan Freeman, Gloria Luo-Li, David Alais

23.4054 Mapping out the Representational Space for Decisions using EEG Delta Oscillations Atsushi Kikumoto, Theo Schäfer, Tessafay Sameshima, Dagger Anderson, William McGuirk, Ulrich Mayr

23.4055 Perceptual Organization in Parkinson's disease: The Role of the Basal ganglia in Shape-Based Object Recognition and Emotion Perception Padmapriya Muralidharan, Anthony Cate

23.4056 LSD alters eyes-closed functional connectivity within the early visual cortex in a retinotopic fashion Leor Roseman, Martin Sereno, Robert Leech, Mendel Kaelen, Csaba Orban, John McGonigle, Amanda Feilding, David Nutt, Robin Carhart-Harris

23.4057 **Organization of orientation selectivity in V1 of the nine-banded armadillo (Dasypus novemcinctus)** Benjamin Scholl, Nicholas Priebe, Jeffrey Padberg

23.4058 Illusory and Real Contour Processing: Findings from a Joint Event-related Potential – Functional MRI Analysis Jonathan Wynn, Amy Jimenez, William Horan, Junghee Lee, Gabrielle Pascual, Eric Reavis, Michael Green

23.4059 Template fitting to automatically derive V1-V3 retinotopy from inter-areal functional correlations Andrew Bock, Noah Benson, Marcelo Mattar, Geoffrey Aguirre

23.4060 Rejecting a perceptual hypothesis: Evoked potentials of perceptual completion and completion breaking Matt Oxner, Stuart McGill, William Hayward, Paul Corballis

Multisensory Processing: Clinical

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4061 Multisensory Enhancements with Unconscious Visual Stimuli in Posterior Cortical Atrophy Ayla Barutchu, Glyn Humphreys

23.4062 Modality independent recruitment in the occipital lobe: A meta-analysis of early-blind and sighted fMRI and PET studies. William Brixius, Jessica Green

23.4063 Multisensory Redundancy Gains for Audiovisual Stimuli after Early Visual Deprivation Adelaide de Heering, Giulia Dormal, Terri Lewis, Daphne Maurer, Olivier Collignon

23.4064 Frequency-tuned auditory motion responses within hMT+ in early blind individuals Elizabeth Huber, Fang Jiang, Ione Fine

23.4065 Adapted use of audiovisual information for person and object recognition in people with one eye Stefania Moro, Adria Hoover, Jennifer Steeves

23.4066 The audiovisual temporal binding window in unilateral amblyopia: monocular and binocular effects Michael Richards, Herbert Goltz, Agnes Wong

23.4067 **Top-Down Knowledge Improves Recognition of Noisy Haptic Patterns in the Blind and Sighted** Amy Kalia, Linday Yazzolino, Lotfi Merabet, Pawan Sinha

Multisensory Processing: Vision and hearing, cognition and neural correlates

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4068 A novel paradigm to examine how multisensory integration, perceptual learning, and statistical learning jointly contribute to perceptual performance Brett Bays, Denton DeLoss, Kristina Visscher, Aaron Seitz

23.4069 Task irrelevant visual input reduces accuracy of echolocation in a size discrimination task Lore Thaler, Megan Cutts, Denise Foresteire, Alison Wilkinson, Charlotte Atkin

23.4070 Auditory Pitch Influences Time-to-Contact Judgments for Visual Stimuli Carly King, Thomas Qiao, Steven Prime

23.4071 The multisensory integration of auditory distractors and visuospatial attention Nicole Thomas, Alexandra Flew

23.4072 Crossmodal Attentional Blink Induced by Executive Working Memory Haechan Jun, Min-Shik Kim

23.4073 Temporal Expectation Weights Visual Signals Over Auditory Signals Melisa Menceloglu, Marcia Grabowecky, Satoru Suzuki

23.4074 Seeing is Hearing: Integration of attended visual stimuli influence ambiguous auditory rhythm perception Leslie Kwakye, Khalid Taylor, Mathew DiBiase, Juan Rodriguez

23.4075 Gluing Memories via Oscillations: Theta phase synchronization drives associative memory formation in humans Andrew Clouter, Kimron Shapiro, Simon Hanslmayr

23.4076 Changes in audiovisual cue utilization strategy when cues become unreliable Ryo Kyung Lee, Kanji Tanaka, Masaru Kakizaki, Katsumi Watanabe

23.4077 An Investigation of Sound Content in Early Visual Areas Angus Paton, Lucy Petro, Lars Muckli

23.4078 Individual Variability in Real-Time Multisensory Integration Benjamin Rowland, John Vaughan, Barry Stein

23.4079 Visual and Tactile Enumeration and the Effect of Numerosity Range on Enumeration Zahira Cohen, Avishai Henik

Face Perception: Emotion 1

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4080 Amodal completion in facial expression aftereffect: an **EEG study** Chengwen Luo, Xiaohong Lin, Edwin Burns, Zhen Yuan, Hong Xu

23.4081 Rapid Serial Visual Presentation (RSVP) of Emotional Faces Generates Substantial Emotion Aftereffect as the Average Face of the RSVP Sequence Haojiang Ying, Hong Xu

23.4082 Face Inversion Disrupts Holistic Processing of Duchenne Emotions during Binocular Rivalry Nour Malek, Andy Yuan Lee Gao, Daniel Messinger, Eva Krumhuber, Ridha Joober, Karim Tabbane, Julio Martinez-Trujillo

23.4083 When do subliminally presented expressive bodies enhance vs. inhibit facial expression processing? Daniel Albohn, Kestutis Kveraga, Reginald Adams

23.4084 Neurodynamics of facial threat cue perception modulated by anxiety: A MEG study Cody Cushing, Reginald Adams, Jr., Hee Yeon Im, Noreen Ward, Kestutis Kveraga

23.4085 Facial expressions modulate visual features utilization in unfamiliar face identification Daniel Fiset, Josiane Leclerc, Jessica Royer, Valérie Plouffe, Caroline Blais

23.4086 The left side superiority effect for facial expression perception is not a left visual field superiority effect Chieh-An Yang, Chien-Chung Chen

23.4087 The development of facial identity and expression perception Kirsten Dalrymple, Matteo Visconti di Oleggio Castello, Jed Elison, Ida Gobbini

23.4088 Anger superiority effect with lines primed as faces Nicolas Burra, Dirk Kerzel

23.4089 Are mechanisms for processing the gender and emotion of a face interdependent? Not for angry male faces. Daniel Harris, Vivian Ciaramitaro

23.4090 **Domain Specificity in the Effect of Emotion on Face and Object Discrimination** Elite Mardo, Bat Sheva Hadad, Galia Avidan

23.4091 Happiness Detection in Periphery Less Difficult than Anger Detection Hayley Lambert, Andrew Mienaltowski, J. Farley Norman

23.4092 Does early processing of low-spatial frequency fearful facial expressions vary as a function of autistic tendency? Laila Hugrass, Adelaide Burt, Tasha Firth-Belvedere, David Crewther

23.4093 Distinct roles of the anterior temporal lobe and the inferior frontal gyrus in recognition of dynamic emotional body expressions in patients with frontotemporal dementia Jan Jastorff, François De Winter, Martin Giese, Mathieu Vandenbulcke

Objects: Mechanisms and models 1

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion

23.4094 The medial axis as a robust model of object representation Vladislav Ayzenberg, Sami Yousif, Stella Lourenco

23.4095 Target detection within a two-dimensional shape: A test of the medial axis model of object recognition Samoni Nag, Vladislav Ayzenberg, Sami Yousif, Stella Lourenco

23.4096 Letters, faces, and dots--oh my! A connectionist account of lateralization in vision. Benjamin Cipollini, Vishaal Prasad, Garrison Cottrell

23.4097 The picture morphing task – an efficient and quick means to measure updating Elisabeth Stöttinger, Eva Rafetseder, Britt Anderson, James Danckert

23.4098 Crowding area sets a lower bound on the neural noise that limits letter identification Hörmet Yiltiz, Xiuyun Wu, Denis Pelli

23.4099 The time course of structure-based and function-based action representation activation during object recognition Wenyuan Yu, Ye Liu, Xiaolan Fu

23.4100 Feature representations in networks trained with image sets of animate, inanimate or scenes differ in terms of computational filters but not in location in the brain Max Losch, Noor Seijdel, Kandan Ramakrishnan, Cees Snoek, H.Steven Scholte

23.4101 How well do Deep Neural Networks model Human Vision? John Clevenger, Diane Beck

23.4102 Learning Deep Representations of Objects and Materials for Material Recognition Xing Liu, Mete Ozay, Yan Zhang, Takayuki Okatani

23.4103 Biologically plausible Hebbian learning in deep neural networks: being more close to the nature than CNNs. Michael Teichmann, Fred Hamker

23.4104 Macroanatomical alignment improves the intersubject consistency of cytoarchitectonic regions in the human ventral stream Mona Rosenke, Kevin Weiner, Martin Frost, Michael Barnett, Karl Zilles, Katrin Amunts, Rainer Goebel, Kalanit Grill-Spector

23.4105 Surfaces are factored out of patterns by monkey IT neurons N. Apurva Ratan Murty, S.P. Arun

Motion: Depth and form

Saturday, May 14, 8:30 am - 12:30 pm Poster Session, Pavilion0

23.4106 **Decoding direction of binocular motion from human visual cortex** Andrew Haun, Jacqueline Fulvio, Martijn Barendregt, Bas Rokers

23.4107 Global eye-specific motion signal for three-dimensional motion processing revealed through adaptation Devon Greer, Sung Jun Joo, Lawrence Cormack, Alexander Huk

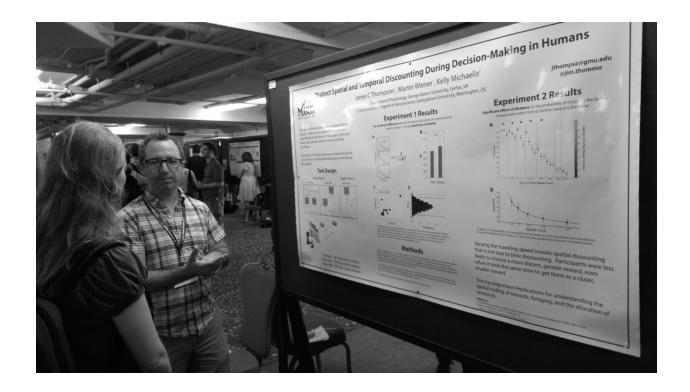
23.4108 The perception of depth vs. frontoparallel motion assessed by continuous target tracking Kathryn Bonnen, Alexander Huk, Lawrence Cormack

23.4109 The effect of frame rate and motion blur on vection Yoshitaka Fujii, Robert Allison, Pearl Guterman, Laurie Wilcox

23.4111 How independent are global form and global motion processings? Simon Clavagnier, Vanessa Polito, Robert Hess

23.4112 Motion-from-Form perception in Scotopic and in Photopic light conditions Mariagrazia Benassi, Tony Pansell, Roberto Bolzani, Kerstin Hellgren, Luca Mandolesi, Sara Giovagnoli

23.4113 Typical development of Motion perception and Form discrimination abilities in children Luca Mandolesi, Kerstin Hellgren, Sara Giovagnoli, Tony Pansell, Mariagrazia Benassi



SATURDAY AFTERNOON TALKS

Attention: Models and mechanisms

Saturday, May 14, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Joseph MacInnes

24.11, 2:30 pm Applying Impressionist Painterly Techniques to Data Visualization Pavel Kozik, Laura Tateosian, Christopher Healey, James Enns

24.12, 2:45 pm Suppression of Covert and Overt Attentional Capture Nicholas Gaspelin, Carly Leonard, Steven Luck

24.13, 3:00 pm Conjunction search is guided by the relative, context-dependent features of the target. Stefanie Becker, Aimée Martin

24.14, 3:15 pm Evidence for successful transfer of information between the hemifields during focal, but not divided attention Roger Strong, George Alvarez

24.15, 3:30 pm Temporal Onset Diffusion Model for spatial attention Joseph MacInnes

24.16, 3:45 pm A Computational Biased Competition Model of Visual Attention using Deep Neural Networks Hossein Adeli, Gregory Zelinsky

24.17, 4:00 pm The self survives extinction: Self-association biases attention in patients with visual extinction Glyn Humphreys, Jie Sui

Development: Typical

Saturday, May 14, 5:15 - 6:45 pm Talk Session, Talk Room 1 Moderator: Lisa Scott

25.11, 5:15 pm Tract-Based Spatial Statistics from Diffusion-Weighted Mri Reveal Specific White Matter Correlates of Global Motion Sensitivity in Typically Developing Children Oliver Braddick, Janette Atkinson, Akshoomoff Natacha, Erik Newman, Lauren Curley, Anders Dale, Terry Jernigan

25.12, 5:30 pm The Stability of Fixation in Depth in 5-10-Week-Old Infants Eric Seemiller, Nicholas Port, T. Candy

25.13, *5:45* pm **Category-sensitive visual regions in human infants** Ben Deen, Hilary Richardson, Daniel Dilks, Atsushi Takahashi, Boris Keil, Lawrence Wald, Nancy Kanwisher, Rebecca Saxe

25.14, 6:00 pm Connectivity precedes function in the development of the visual word form area Nancy Kanwisher, David Osher, Elizabeth Norton, Deanna Youssoufian, Sara Beach, Jenelle Feather, John Gabrieli, Zeynep Saygin

25.15, 6:15 pm The development of population receptive field size in visual cortex during childhood Tessa Dekker, Samuel Schwarzkopf, Aisha McLean, Catherine Manning, John Greenwood, Marko Nardini, Martin Sereno

25.16, 6:30 pm Gender differences in visual perception Albulena Shaqiri, Andreas Brand, Maya Roinishvili, Marina Kunchulia, Guillaume Sierro, Julie Willemin, Eka Chkonia, Luisa Iannantuoni, Karin Pilz, Christine Mohr, Michael Herzog

3D Perception

Saturday, May 14, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: Jennie Read

24.21, 2:30 pm How Natural Distributions of Blur Affect 3D Percepts Martin Banks, William Sprague, Emily Cooper, Sylvain Reissier

24.22, 2:45 pm Local Estimation of Global Surface Orientation from Texture and Disparity Wilson Geisler

24.23, 3:00 pm Depth perception and segmentation: A common dependence on texture sparseness and local phase structure Athena Buckthought, Curtis Baker

24.24, 3:15 pm Depth discrimination from occlusions in 3D clutter scenes Michael Langer, Haomin Zheng, Shayan Rezvankhah

24.25, 3:30 pm Integration of perspective and disparity cues in the neural representation of 3D object orientation Ari Rosenberg, Dora Angelaki

24.26, 3:45 pm Coupled computations of defocus, 3D shape, and illumination direction Scott Mooney, Barton Anderson

24.27, 4:00 pm Recovering stereo vision by squashing virtual bugs in a VR environment. Dennis Levi, Indu Vedamurthy, David Knill, Jian Ding, Oh-Sang Kwon, Daphne Bavelier

Face Perception: Emotion and social

Saturday, May 14, 5:15 - 6:45 pm Talk Session, Talk Room 2 Moderator: Ipek Oruc

25.21, 5:15 pm Efficiency and equivalent internal noise for own- and other-race face recognition suggest qualitatively similar processing Ipek Oruc, Fakhri Shafai

25.22, 5:30 pm Interactions between dynamic facial features are phase-dependent Ben Brown, Alan Johnston

25.23, 5:45 pm Facial Expressions of Pain and Pleasure are Highly Distinct Chaona Chen, Carlos Crivelli, Oliver Garrod, Jose-Miguel Fernandez-Dols, Philippe Schyns, Rachael Jack

25.24, 6:00 pm Visualizing the Information Content of 3D Face Memory in Individual Participants Jiayu Zhan, Nicola Van Rijsbergen, Oliver Garrod, Philippe Schyns

25.25, 6:15 pm The Intrinsic Memorability of Face Identities Wilma Bainbridge

25.26, 6:30 pm Cultural Diversity in Eye Movements is Shaped by Nurture not Nature Roberto Caldara, Junpeng Lao, Anne-Raphaelle Richoz, Yingdi Liu

SATURDAY AFTERNOON POSTERS

Color and Light: Adaptation and constancy

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.3001 Colour constancy as a product of dynamic centre-surround adaptation. C. Alejandro Parraga, Arash Akbarinia

26.3002 Estimating illuminant by optimal color hypothesis model for scenes with various chromaticity-luminance distributions Takuma Morimoto, Takahiro Kusuyama, Kazuho Fukuda, Tomohisa Matsumoto, Keiji Uchikawa

26.3003 **Stable colorfulness perception of scene through haze** Yoko Mizokami, Yuki Takahashi, Hirohisa Yaguchi

26.3004 **Sequential attraction in color perception** Zhehao Huang, Oasim Zaidi

26.3005 **Separating surface changes from illumination changes** Robert Ennis, Katja Dörschner

26.3006 Illumination discrimination in the absence of a fixed surface reflectance layout Xiaomao Ding, Avery Krieger, Bradley Pearce, Stacey Aston, Anya Hurlbert, David Brainard, Ana Radonjić

26.3007 Estimation of illuminant in the white/gold and blue/black "dress" image Tomohisa Matsumoto, Takuma Morimoto, Keiji Uchikawa

26.3008 Can high-pass filters remove the effects of illumination? A filter-based approach to understanding #theDress and other demonstrations of color constancy Erica Dixon, Arthur Shapiro

26.3009 Your Brain Doesn't Know: A Visual P300 Experiment of "The Dress" Scott Bressler, Damian Liu, William Cunningham, Barbara Shinn-Cunningham, Abigail Noyce

26.3010 Perceived colors of the color-switching dress depend on implicit assumptions about the illumination Christoph Witzel, Chris Racey, J. O'Regan

26.3011 **Correcting for induction phenomena on displays of different size** Marcelo Bertalmío, Thomas Batard, Jihyun Kim

Spatial Vision: Crowding and periphery

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.3012 **Visual Performance Fields in Motion** Leslie Krause, Jennifer Anderson, Michael Levine, E. Leslie Cameron

26.3013 Contrast Sensitivity Across the Nasal and Temporal Peripheral Visual Fields: Measurements with Gabor Sinusoids Russell Adams, Michele Mercer, James Drover

26.3014 The effect of task and target size on the north effect E. Cameron, Michael Levine, Jennifer Anderson

26.3015 **Detection of occluding targets across the visual field** Stephen Sebastian, R. Walshe, Wilson Geisler

26.3016 Assessing the invisibility of spatial disarray in peripheral **vision** Matteo Valsecchi, Jan Koenderink, Andrea van Doorn, Karl Gegenfurtner

26.3017 Seeking summary statistics that match peripheral visual appearance using naturalistic textures generated by Deep Neural Networks Thomas Wallis, Alexander Ecker, Leon Gatys, Christina Funke, Felix Wichmann, Matthias Bethge

26.3018 Effects of Stimulus Category and Task Difficulty in the Temporal Window of Crowding Nilsu Atilgan, Sheng He

26.3019 Sparse Coding under Saccade-Confounded Statistics David Brown, Bosco Tjan

26.3020 Myopic Eyes See Better in a Crowd Sara Carroll, Guido Maiello, William Harrison, Peter Bex

26.3021 Dissociable effects of crowding for judgements of colour and motion John Greenwood, Michael Parsons

26.3022 Visual field shape influences critical spacing in visual crowding Adeola Harewood, Francesca Fortenbaugh, Lynn Robertson, Michael Silver

26.3023 Behavioral and neurophysiological characterization of visual crowding in macaques Christopher Henry, Adam Kohn

26.3024 The perceptual effects of crowding in amblyopic and peripheral vision Alexandra Kalpadakis-Smith, Vijay Tailor, Annegret Dahlmann-Noor, John Greenwood

26.3025 **The serial dependence of perception in crowds** Mauro Manassi, Alina Liberman, Wesley Chaney, David Whitney

26.3026 **Crowding beyond Bouma's bound** Jeffrey Nador, Adam Reeves

26.3027 Does an experimentally induced preferred retinal locus alter crowding? Kilho Shin, Bosco Tjan

Spatial Vision: Optics, contrast, and shape

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.3028 Optically correcting visual acuity beyond 20/20 improves visual perception: A cautionary tale for studies of special populations Lisa Cruz, Brian Keane, Sabine Kastner, Thomas Papathomas, Steven Silverstein

26.3029 **Retinal Image Statistics During Real-World Visual Experience** Matthew Peterson, Jing Lin, Nancy Kanwisher

26.3030 The independent components of binocular images reflect the spatial distribution of horizontal and vertical disparities David Hunter, Paul Hibbrad

26.3031 Brief presentation enhances various simultaneous contrast effects Sae Kaneko, Stuart Anstis, Ichiro Kuriki

26.3032 Luminance-contrast properties of texture-shape and of texture-surround suppression of contour-shape Elena Gheorghiu, Frederick Kingdom

26.3033 **Visual analysis of shape assayed with synthetic textures** Jonathan Victor, Syed Rizvi, Mary Conte

26.3034 Mental rotation performance with and without eye movements Bernard Gee, Maura Gissen

26.3035 Identifying separate components of surround suppression during contrast perception in human subjects Michael-Paul Schallmo, Scott Murray

26.3036 Correcting the spatial non-uniformity and viewing angle dependency of an LCD monitor Jakob Thomassen, Caterina Ripamonti

Object Recognition: Categories, models and neural correlates

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.3037 Object categorization performance modeled using multidimensional scaling and category-consistent features Michael Hout, Justin Maxfield, Arryn Robbins, Gregory Zelinsky

26.3038 Generating the features for category representation using a deep convolutional neural network Chen-Ping Yu, Justin Maxfield, Gregory Zelinsky

26.3039 Dichotomy Versus Continuum: Evidence for a More Complex Agency Model of Visual Object Categorisation Erika Contini, Mark Williams, Tijl Grootswagers, Erin Goddard, Thomas Carlson

26.3040 Probabilistic Atlas of Category-Selective Regions of Ventral Temporal Cortex Michael Barnett, Kevin Weiner, Jyothi Guntupalli, Jesse Gomez, Vaidehi Natu, Anthony Stigliani, Kalanit Grill-Spector

26.3041 Information processing dynamics in human category-selective fusiform gyrus Avniel Ghuman, Yuanning Li, Elizabeth Hirshorn, Michael Ward, Julie Fiez, Mark Richardson

26.3042 Representational similarity analysis of category-related recognition-memory signals in the human medial temporal lobe Anna Blumenthal, Bobby Stojanoski, Chris Martin, Rhodri Cusack, Stefan Köhler

26.3043 Differential representation of category and task information across high level visual cortex and ventro-lateral prefrontal cortex Lior Bugatus, Kevin Weiner, Kalanit Grill-Spector

26.3044 Category learning causes a stable advantage for category-relevant shape dimensions during a task requiring attention to all dimensions: ERP evidence Michael Dieciuc, Nelson Roque, Jonathan Folstein

26.3045 The effect of category learning on attentional feature selection: Selection negativity and N250 likely reflect different processes Jonathan Folstein, Shamsi Monfared, Trevor Maravel

26.3046 **Decoding the informative value of early and late visual evoked potentials in scene categorization** Bruce Hansen, Michelle Greene, Catherine Walsh, Rachel Goldberg, Yanchang Zhang

26.3047 Representational dynamics: the temporal evolution of neural population coding in nonhuman primate inferior temporal **cortex** Marieke Mur, Andrew Bell, Nicholas Malecek, Elyse Morin, John Duncan, Nikolaus Kriegeskorte

26.3048 Observing Prefrontal Cortex Activity During Rule-Based and Information-Integration Category Learning Pooja Patel, Audrey Hill, Urvashi Nayee, Denise Garcia, Corey Bohil

Perception and Action: Action influences perception

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4001 Temporal-generality and viewpoint-specificity of sensory predictions during action Daniel Yon, Clare Press

26.4002 Contextualizing action-specific effects: How much influence does action information have on perceived speed? $Zach\ King$, $Jessica\ Witt$

26.4003 That's so far! Experienced hikers also overestimate distances on a hill Marcos Janzen, Nate Tenhundfeld, Jessica Witt

26.4004 Three's Company: Energetics' Effect on Perception as Shown with Blind Walking, Visual Matching, and Verbal Estimates Nathan Tenhundfeld, Jessica Witt

26.4005 Ease of action toward a target enhances orientation discrimination during motor preparation Jianfei Guo, Joo-Hyun Song

26.4006 The influence of action production kinematics on identification of others' affective states Rosaana Edey, Iroise Dumontheil, Jennifer Cook, Clare Press

26.4007 **Does the motor system contribute to action recognition in social interactions?** Stephan de la Rosa, Ylva Ferstl, Heinrich Bülthoff

26.4008 Action experience drives visual processing biases near the hands Laura Thomas

26.4009 Action-Based Compression of Spatial Memory for Individual and Nested Environments Andrew Clement, James Brockmole

26.4010 Action potentiates conceptual links between words and pictures Blaire Weidler, Richard Abrams

26.4011 **The effects of action on continuous flash suppression** Wolfgang Einhäuser, Peter Veto, Immo Schütz

Motion: Biological motion

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4012 An integrated model for the shading and silhouette cues in the perception of biological motion. Leonid Fedorov, Martin Giese

26.4013 **Serial dependence in perception of biological motion** Wesley Chaney, Alina Liberman, David Whitney

26.4014 Is the motor contagion effect an artifact of eye movements? Merryn Constable, Tiffany Lung, John de Grosbois, Luc Tremblay, Jay Pratt, Timothy Welsh

26.4015 Effects of movement-shape inconsistencies on perceived weight of lifted boxes. Sophie Kenny, Nikolaus Troje

26.4016 **Negative Affect Impairs the Working Memory Capacity of Biological Motion** Zaifeng Gao, Fangfang Qiu, Rende Shui, Shulin Chen, Mowei Shen

26.4017 **Spatiotemporal dissimilarity influences the perceptual discriminability of deceptive and non-deceptive throwing** Fabian Helm, Séamas Weech, Jörn Munzert, Nikolaus Troje

26.4018 The Frozen Body Effect: Bodies in motion are more flattering than bodies frozen in time Malerie McDowell, Yoonkeong Chi, Iason Haberman

26.4019 **Does action recognition suffer in a crowded environment?** Laura Fademrecht, Judith Nieuwenhuis, Isabelle Bülthoff, Nick Barraclough, Stephan de la Rosa

26.4020 Two Equals One: Social Interaction Groups Two Biological Movements as One Unit Xiaowei Ding, Rende Shui, Shulin Chen, Mowei Shen, Zaifeng Gao

26.4021 **Biological motion distorts size perception** Peter Veto, Wolfgang Einhäuser, Nikolaus Troje

3D Perception: Space and mechanisms

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4022 Implied motion does not generate an internal motion signal for the perception of depth from motion parallax Shanda Lauer, Jessica Holmin, Mark Nawrot

26.4023 The influence of viewing distance, depth range and inter-camera distance on depth perception and preference judgments in complex natural scenes Rebecca Hornsey, Paul Hibbard, Peter Scarfe

26.4024 **Sensory cues used to determine 3D world stability** Peter Scarfe, Andrew Glennerster

26.4025 Field of view restriction has response-specific effects on distance judgments John Philbeck, Daniel Gajewski, Courtney Wallin, Sandra Mihelic

26.4026 **Can spatial biases be eliminated through learning?** Zhi Li, Yongchun Cai, Ci Wang

26.4027 Are 2D and 3D location equally prioritized in object processing? Nonie Finlayson, Julie Golomb

26.4028 **A 3D database of everyday objects for vision research** Paul Hibbard, Peter Scarfe, Rebecca Hornsey, David Hunter

26.4029 Local Cues for Half-Occlusion Detection in Stereo-Images of Natural Scenes Johannes Burge

26.4030 **Estimating local surface attitude from 3D point cloud data.** Alexander Muryy, Wendy Adams, Erich Graf, James Elder

26.4031 **Rich-cue virtual environments can be disadvantageous when discriminating navigation models** Ellis Gootjes-Dreesbach, Lyndsey Pickup, Andrew Fitzgibbon, Andrew Glennerster

26.4033 The large-scale horizontal-vertical illusion produced with small objects Frank Durgin, Zhi Li

26.4034 Holistic and analytic observation of the vertical-horizontal illusion: the way of looking at things alters percept of line length Masahiro Ishii

26.4035 Size constancy is not accomplished in the early stage of visual processing Juan Chen, Melyvn Goodale, Irene Sperandio

26.4036 **Size-distance Paradox in an Optical Tunnel** Seokhun Kim, Michael Turvey

26.4037 A real-life size perception paradox Dejan Todorovic

26.4038 **Visual discovery of peripersonal space** Amitabha Mukerjee, M. Ramaiah

26.4039 The Role of Parietal-Occipital Junction in the Interaction between Dorsal and Ventral Stream in Near and Far Space Processing Aijun Wang, You Li, Ming Zhang, Qi Chen

26.4040 Reconstructing 3D stimuli using BOLD activation patterns recovers hierarchical depth processing in human visual and parietal cortex Margaret Henderson, Chaipat Chunharas, Vy Vo, Thomas Sprague, John Serences

Perceptual Organization: Grouping, contours and surfaces

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4041 Reinterpreting Entropy: An edge-region grouping account of entropy effects on figure-ground organization Joseph Brooks, Hilda Danielsdóttir

26.4042 **Overweighting of outliers in the summary statistics of localization** James Moreland, Geoffrey Boynton

26.4043 Perceptual size for local elements varies with the size of global arrangement Taiichiro Uechi, Makoto Ichikawa

26.4044 Reduced convexity context effects in elderly not attributable to reduced presumption of depth Jordan Lass, Patrick Bennett, Mary Peterson, Allison Sekuler

26.4045 **Measuring the visual salience of smooth paths by their non-accidentalness** Samy Blusseau, Alejandra Carboni, Alejandro Maiche, Jean-Michel Morel, Rafael Grompone von Gioi

26.4046 Measuring Selective Responses to Coherent Plaids Using the Intermodulation Term Darren Cunningham, Daniel Baker, Jonathan Peirce

26.4047 Gestalt grouping facilitates perceptual averaging to increase the efficiency of memory representations Jennifer Corbett

26.4048 LabelMeSymmetry: a tool for human symmetry perception Chris Funk, Yanxi Liu

26.4049 **Do these lines look continuous?** William Harrison, Katherine Storrs

26.4050 Extraction Dissonance: Not All Ensembles are Created Equal Madison Elliott, Ronald Rensink

26.4051 **3-D amodal surface integration affected by real world knowledge of natural surfaces** Zijiang He, Teng-Leng Ooi, Yong Su

26.4052 Differentiating Local and Global Processes in Amodal Completion: Dot Localization with Familiar Logos Susan Carrigan, Philip Kellman

26.4053 Is There a Common Mechanism for Path Integration and Illusory Contour Formation? Philip Kellman, Gennady Erlikhman, Susan Carrigan

26.4054 Contour constraints on the perception of surfaces and occlusions Juno Kim, Stuart Anstis

26.4055 Average size estimation of dots completing behind an illusory surface is precise Swati Pandita, Sneha Suresh, Jason Haberman

26.4056 Dissociating the effects of contour smoothness and task-specific bias on the association field mechanism of contour integration Zhiheng Zhou, Lars Strother

26.4057 **Does Event Perception Depend on IQ, Expertise, and Repetition?** Tandra Ghose, Katharina Sebastian, Markus Huff

Scene Perception: Categorization and memory

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4058 **Co-registration of eye movements and EEG to study semantic congruency during scene perception** Hélène Devillez, Randall O'Reilly, Tim Curran

26.4059 The 'Gist' of the Abnormal in Radiology Scenes: Where is the Signal? Karla Evans, Julie Cooper, Tamara Haygood, Jeremy Wolfe

26.4060 Classification images of multispectral and fused natural scenes Jennifer Bittner

26.4061 Visual statistical learning at basic and subordinate category levels in real-world images Jihyang Jun, Sang Chul Chong

26.4062 Effect of Viewpoint Change in Implicit Learning of a Scene: Evidence from Contextual Cueing Paradigm Shiyi Li, Chao Wang, Xuejun Bai, Hong-Jin Sun

26.4063 **Does Scene Perception Involve an Active Schema?** Trang Nguyen, John Defant, Steven Schultz, Thomas Sanocki

26.4064 Exploring scene categorization based on the orientation distribution of natural images April Schweinhart, Baxter Eaves, Patrick Shafto

26.4065 **Panoramic Memory Shapes Visual Representations of Scenes** Caroline Robertson, Katherine Hermann, Anna Mynick, Dwight Kravitz, Nancy Kanwisher

26.4066 Effects of prior tasks on priming for distance judgments in scenes Carmela Gottesman

26.4067 More than meets the eye: Raw scanpath replay is an insufficient memory cue for static and dynamic scenes. Tim Smith, Sofia Ciccarone

Scene Perception: Gaze, models, and mechanisms

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4068 A Neural Algorithm of Artistic Style Leon Gatys, Alexander Ecker, Matthias Bethge

26.4069 Ensemble perception involves more than means and standard deviations: Mapping internal probabilities density functions with priming of pop-out Andrey Chetverikov, Gianluca Campana, Árni Kristjánsson

26.4070 How temporal context predicts eye gaze for dynamic stimuli Cameron Ellis, Patrick Harding, Judith Fan, Nicholas Turk-Browne

26.4071 Eye movement patterns during scene viewing predict individual differences Taylor Hayes, John Henderson

26.4072 DeepGaze II: A big step towards explaining all information in image-based saliency Matthias Kümmerer, Matthias Bethge

26.4073 **Reducing the central fixation bias: The influence of scene preview** Lars Rothkegel, Hans Trukenbrod, Heiko Schütt, Felix Wichmann, Ralf Engbert

26.4074 A Bayesian Model of Visual Question Answering Christopher Kanan, Kushal Kafle

26.4075 Retinotopic adaptation reveals multiple distinct categories of causal perception Jonathan Kominsky, Brian Scholl

26.4076 Binocular and monocular perception of 3D indoor scenes in a virtual environment Eric Palmer, TaeKyu Kwon, Zygmunt Pizlo

26.4077 Change detection: the role of low-level versus high-level image representations Wietske Zuiderbaan, Jonathan van Leeuwen, Serge Dumoulin

26.4078 Where to Draw the Line: Effect of Artistic Expertise on Line Drawings of Natural Scenes Heping Sheng, Dirk Walther

Visual Search: Eye movements and memory

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4079 How you use it matters: Object Function Guides Attention during Visual Search in Scenes Monica Castelhano, Qian Shi, Richelle Witherspoon

26.4080 People with Schizophrenia Demonstrate More Optimal Feature-Guided Visual Search in a Probabilistic Search Task Valerie Beck, Carly Leonard, Benjamin Robinson, Britta Hahn, Andrew Hollingworth, James Gold, Steven Luck

26.4081 **Simple actions influence eye movements** Jihyun Suh, Blaire Weidler, Richard Abrams

26.4082 Neither Ideal behaviour nor Bounded Rationality Account for Human Visual Search Performance Alasdair Clarke, Anna Nowakowska, Amelia Hunt

26.4083 **Exploring the nature of mental representations in hybrid visual and memory search** Jessica Madrid, Corbin Cunningham, Arryn Robbins, Hayward Godwin, Jeremy Wolfe, Michael Hout

26.4084 Paradoxical speeding of visual search by the inclusion of WM and LTM lures Beatriz Gil-Gómez de Liaño, Trafton Drew, Daniel Rin, Jeremy Wolfe

26.4085 Long-Term Priming Prevails Against the Passage of Time and Countermanding Instructions Wouter Kruijne, Martijn Meeter

26.4086 Working Memory Capacity Predicts Two Causes of Increased Accuracy in Visual Search Chad Peltier, Mark Becker

26.4087 Visual search for changes in scenes creates long-term, incidental memory traces Igor Utochkin, Jeremy Wolfe

26.4088 Does attention look to visual working memory for guidance when we are about to search for something new? Travis Weaver, Geoffrey Woodman

26.4089 Contrasting Gist-based and Feature-based Guidance during Real-world Search Brett Bahle, Andrew Hollingworth

26.4090 **Rapid resumption of interrupted visual search in autism** Owen Parsons, Jan Freyberg, Simon Baron-Cohen

Visual Memory: Encoding, retrieval

Saturday, May 14, 2:45 - 6:45 pm Poster Session, Pavilion

26.4091 **Is encoding into visual working memory a serial process?** Edwin Dalmaijer, Masud Husain

26.4092 Distinct roles of eye movements during memory encoding and retrieval Claudia Damiano, Dirk Walther

26.4093 Changes in task-irrelevant context invoke updating of task-relevant representations in working memory Emma Wu Dowd, Eren Gunseli, Martijn Meeter, Christian Olivers, Tobias Egner

26.4094 Of "What" and "Where" in a natural search task: Active object handling supports object location memory beyond the objects' identity Dejan Draschkow, Melissa Vo

26.4095 Acquisition and persistence of location information over the time course of natural actions. M Pilar Aivar, Chia-Ling Li, Matthew Tong, Dmitry Kit, Mary Hayhoe

26.4096 Investigating human memory of self-position using a virtual 3-dimensional visual environment Celia Gagliardi, Arash Yazdanbakhsh

26.4097 Attending and Inhibiting Stimuli That Match the Contents of Visual Working Memory: Evidence from Eye Movements and Pupillometry Sebastiaan Mathôt, Elle Van Heusden, Stefan Van der Stigchel

26.4098 **Constraints on Information Compression in Visual Working Memory** Hrag Pailian, Elizabeth Tran, George Alvarez

26.4099 Episodic short-term recognition presupposes visual working memory: Findings from combined probe recognition and letter report Christian Poth, Werner Schneider

26.4100 **To OBE or Not To OBE? Revisiting Object-based Encoding (OBE) in in Visual Working Memory** Rende Shui, Shixian Yu, Ying Zhou, Mowei Shen, Peng Li, Zaifeng Gao

26.4101 **Signal to source assignment as a fundamental constraint on visual working memory** Jonathan Flombaum, Zheng Ma

26.4102 Interplay between the Ebbinghaus illusion and hierarchical coding in visual working memory Vladislav Khvostov, Igor Utochkin, Hee Yeon Im

26.4103 Making a categorical decision does not modify the stimulus representation in working memory Long Luu, Alan Stocker

26.4104 Hungry, hungry singletons: Unique items eat up visual working memory resources Jason Rajsic, Sol Sun, Lauren Huxtable, Susanne Ferber, Jay Pratt

26.4105 Electrophysiology reveals different mechanisms of attentional filtering during visual working memory encoding and retention Hiroyuki Tsubomi, Keisuke Fukuda, Atsushi Kikumoto, Edward Vogel

26.4106 The pupillary light response reflects encoding, but not maintenance, in visual working memory Stefan Van der Stigchel, Tessel Blom, Christiaan Olivers, Sebastiaan Mathot

26.4107 **Inhibition of Return in Visual Working Memory** Benchi Wang, Chuyao Yan, Zhiguo Wang, Jan Theeuwes, Christian Olivers

26.4108 **Search for targets in visual working memory is biased by statistical learning** Bo-Yeong Won, Andrew Leber

26.4109 Effects of Familiarity on Visual Short-Term Memory for **Pokémon** Weizhen Xie, Weiwei Zhang

26.4110 When you know it was there - you remember how it looked: effects of semantic context on memory for 'gist' and for visual details. Nurit Gronau, Anna Izoutcheev, Inbal Ravreby, Elia Barkai





SUNDAY MORNING TALKS

Eye Movements: Saccades and pursuit

Sunday, May 15, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Miriam Spering

31.11, 8:15 am When hand movements improve eye movement performance Jolande Fooken, Kathryn Lalonde, Miriam Spering

31.12, 8:30 am A tight coupling between finger and oculomotor commands Jing Chen, Matteo Valsecchi, Karl Gegenfurtner

31.13, 8:45 am Target color and shape can control contextual saccadic adaptation Sohir Rahmouni, Jéremie Jozefowiez, Laurent Madelain

31.14, 9:00 am Prior knowledge of the locations of potentially relevant objects reduces effects of visual salience Mieke Donk, Jeroen Silvis, Jan Theeuwes

31.15, *9:15 am* **Spatiotopic integration facilitates post-saccadic perception.** Jasper Fabius, Alessio Fracasso, Stefan Van der Stigchel

31.16, 9:30 am Oculomotor entraining and persistent baseline drift in saccadic adaptation to a sinusoidal disturbance Carlos Cassanello, Florian Ostendorf, Martin Rolfs

Color and Light: Neural mechanisms

Sunday, May 15, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Michael Rudd

32.11, 10:45 am Brightness in human rod vision depends on neural adaptation to the quantum statistics of light Michael Rudd, Fred Ricke

32.12, 11:00 am Light adaptation and the human temporal response revisited Andrew Rider, Bruce Henning, Andrew Stockman

32.13, 11:15 am Contrast gain control before and after cataract surgery: a case study Donald MacLeod, Stuart Anstis

32.14, *11:30 am* **Estimating human colour sensors from rankings** Maryam Darrodi, Andrew Rider, Graham Finlayson, Andrew Stockman

32.15, 11:45 am Labeling the Lines: Asymmetric Color Matches Compared to a Six Mechanism Chromatic Detection Model Timothy Shepard, Safiya Lahlaf, Comfrey McCarthy, Rhea Eskew Jr.

32.16, 12:00 pm Non-linear Dynamics of Cortical Responses to Color in the cVEP Robert Shapley, Valerie Nunez, Peter Schuette, Aneliya Hanineva, Afsana Amir, James Gordon

32.17, 12:15 pm **Decoding color constancy in fMRI** Elisabeth Baumgartner, David Weiss, Karl Gegenfurtner

Face Perception: Neural mechanisms

Sunday, May 15, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Kendrick Kay

31.21, 8:15 am Hemispheric Organization in Congenital Prosopagnosia: The N170 in Words and Faces Elliot Collins, Eva Dundas, Marlene Behrmann

31.22, 8:30 am Network-level interactions drive response properties in word- and face-selective cortex Jason Yeatman, Kendrick Kay

31.23, 8:45 am A Neural Basis of Facial Action Recognition in **Humans** Ramprakash Srinivasan, Julie Golomb, Aleix Martinez

31.24, 9:00 am Macromolecular proliferation in human high-level visual cortex constrains development of function and behavior Jesse Gomez, Michael Barnett, Vaidehi Natu, Aviv Mezer, Kevin Weiner, Katrin Amunts, Karl Zilles, Kalanit Grill-Spector

31.25, 9:15 am Facial image reconstruction: a multimodal neuroimaging and behavioral investigation Adrian Nestor, Dan Nemrodov, David Plaut, Marlene Behrmann

31.26, 9:30 am Beyond the core face-processing network: intracerebral stimulation of a face-selective area in the right anterior fusiform gyrus elicits transient prosopagnosia Jacques Jonas, Bruno Rossion

Motion: Biological motion and optic flow

Sunday, May 15, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Gerrit Maus

32.21, 10:45 am People perception: Attractiveness from shape and motion Nikolaus Troje, Andreas Bieg, Naureen Mahmood, Betty Mohler, Michael Black

32.22, 11:00 am What are the underlying units of perceived animacy?: Chasing detection is intrinsically object-based Benjamin van Buren, Tao Gao, Brian Scholl

32.23, *11:15 am* **Phenomenal Causality in Biological Motion Perception** Yujia Peng, Steven Thurman, Hongjing Lu

32.24, 11:30 am Constraint-based hierarchical motion analysis for biological movements Hongjing Lu

32.25, *11:45 am* **Adaptation to human locomotion speed** George Mather, Rebecca Sharman

32.26, 12:00 pm The interaction between local and global noise for optic-flow patterns Alan Lee, Chu Ning Ann, Gerrit Maus

32.27, 12:15 pm A neural model of MST and MT explains perceived object motion during self-motion Oliver Layton, Brett Fajen

SUNDAY MORNING POSTERS

Object Recognition: Categories, perception and learning

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

33.3001 Rapid category learning: Naturalized images to abstract categories Alison Campbell, James Tanaka

33.3002 A Subjective Measure of Explicit and Implicit Category Rule Learning Audrey Hill, Andrew Wismer, Corey Bohil

33.3003 Improving Categorization Training with Structure-Sensitive Scheduling Brett Roads, Michael Mozer

33.3004 The role of category-specific global orientation statistics for scene categorization Heeyoung Choo, Dirk Walther

33.3005 Predicting categorical search behavior on individual trials using category-consistent features Justin Maxfield, Chen-Ping Yu, Gregory Zelinsky

33.3006 Ecologically Valid Categorization and Best-Classifer Feedback Sarah Williams, Andrew Wismer, Troy Schiebel, Corey Bohil

33.3007 The Vanderbilt Car Memory Test (VCMT) Mackenzie Sunday, Jennifer Richler, Isabel Gauthier

33.3008 **Sudden emergence of categoricality at the lateral-oc-cipital stage of ventral visual processing** Alexander Walther, Joern Diedrichsen, Marieke Mur, Seyed-Mahdi Khaligh-Razavi, Nikolaus Kriegeskorte

Object Recognition: Features and parts

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

33.3009 An Empirical Examination of Perceptual Integrality with both Non-parametric and Parametric Methods Yanjun Liu, Mohammad Abdolvahab, James Townsend, Michael Wenger, Lisa De Stefano

33.3010 **Object-location binding: Does spatial location influence high-level judgments of face images?** Michela Paradiso, Anna Shafer-Skelton, Aleix Martinez, Julie Golomb

33.3011 Learning the 3D structure of objects from 2D views depends on shape, not format Moqian Tian, Daniel Yamins, Kalanit Grill-Spector

33.3012 A deep neural net trained for person categorization develops both detailed local features and broad contextual specificities Stella Yu, Karl Zipser

33.3013 How to Look Taller in Dressing: The Effect of Split Ratio in Height Perception Hui-Ning Wu, Yi-Yun Sun, Shu-Guang Kuai

33.3014 Feature-location binding, the "spatial congruency bias", and object-based attention Marina Barboza, Nonie Finlayson, Xiaoli Zhang, Julie Golomb

33.3015 Response Time Evidence for Perceptual Separability of Stimulus Dimensions Mohammad Abdolvahab, Yanjun Liu, James Townsend, Michael Wenger, Lisa De Stefano

33.3016 Vertices are Effective in Perceptual Grouping (and Ungrouping) in Object Recognition Isabel Irawan, Eshed Margalit, Sarah Herald, Irving Biederman

33.3017 **The effects of motion dynamics on the Ebbinghaus and Corridor illusions** Ryan Mruczek, Christopher Blair, Kyle Cullen, Kyle Killebrew, Annie Aguizzi, Gideon Caplovitz

33.3018 Identifying Distinctive Features in Object Recognition Stephanie Roldan, Anthony Cate

33.3019 Nothing more than a curve: a common mechanism for the detection of radial and non-radial frequency patterns? Gunnar Schmidtmann, Frederick Kingdom

33.3020 **Sensitivity to shape differences along morph spaces** Nathan Destler, Manish Singh, Jacob Feldman

Attention: Individual differences

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

33.3021 We aren't playing: No performance benefit for expert gamers in visual search for camouflaged targets Alyssa Hess, Mark Neider

33.3022 The role of local attentional variations during eccentric view on the development of the preferred retinal locus of fixation Maria Barraza Bernal, Svenja Nill, Katharina Rifai, Susanne Trauzettel-Klosinski, Siegfried Wahl

33.3023 Sensitivity to perceptual similarity is associated with greater sustained attention ability David Rothlein, Joseph DeGutis, Michael Esterman

33.3024 Multiple object tracking predicts math potential Jeremy Wilmer, Paolo Martini, Laura Germine, Ken Nakayama

33.3025 Individual differences in subitizing range predict visual detection ability. Joshua Eayrs, Nilli Lavie

33.3026 **Visual and cognitive flexibility in artists** Rebecca Chamberlain, Johan Wagemans

33.3027 Increased influence of previously attended features in people with schizophrenia Carly Leonard, Benjamin Robinson, Britta Hahn, James Gold, Steven Luck

33.3028 Anxious eyes: Does one's degree of social anxiety predict scene viewing behavior? Gerald McDonnell, Michael Dodd

33.3029 Can attentional control settings explain differences in attentional bias to threat in anxious and non-anxious individuals? Benedikt Wirth, Dirk Wentura

Binocular Vision: Mechanisms and models

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

33.3030 Human short-latency ocular vergence responses in the absence of the binocular disparity signal. Boris Sheliga, Christian Quaia, Edmond FitzGibbon, Bruce Cumming

33.3031 Monocular gain control explains dichoptic benefit in binocular global motion perception Lanya Tianhao Cai, Alexander Yuan, Benjamin Backus

33.3032 Perceptual thresholds are better in individuals with lower trial-by-trial neural variability Ayelet Arazi, Nitzan Censor, Ilan Dinstein

33.3033 **Short-term ocular dominance plasticity: no role for color?** Kathy Mullen, Jiawei Zhou, Yeon Jin Kim, Alexandre Reynaud, Robert Hess

33.3034 Active stereo fixation: developmental influence on the binocular visual system Agostino Gibaldi, Andrea Canessa, Silvio Sabatini

- 33.3035 Dichoptic imbalance of luminance and its effects on the phase component of steady-state EEG signals Bruno Richard, Eva Chadnova, Daniel Baker
- 33.3036 Ocular dominance plasticity tested with non-contrast based (kaleidoscopic) monocular deprivation Mahalakshmi Ramamurthy, Erik Blaser
- 33.3037 Dichoptic imbalance of luminance affects the phase component of steady-state MEG signals Eva Chadnova, Alexandre Reynaud, Simon Clavagnier, Robert Hess
- 33.3038 Suppression causes a complete breakdown in contrast constancy in amblyopes Alexandre Reynaud, Robert Hess
- 33.3039 Amblyopic suppression is not explained by signal attenuation Jiawei Zhou, Alexandre Reynaud, Rong Liu, Yifeng Zhou, Robert Hoss
- 33.3040 **2-D coordinate frames for optic flow and disparity** Andrew Glennerster, Jenny Read
- 33.3041 **Testing the binocular energy model with response variability** Sid Henriksen, Jenny Read, Bruce Cumming
- **33.3042 The neural basis of stereomotion scotomas** Martijn Barendregt, Serge Dumoulin, Bas Rokers
- 33.3043 Using dichoptic moving-window presentation techniques to investigate binocular advantages during reading Mirela Nikolova, Stephanie Jainta, Hazel Blythe, Simon Liversedge
- 33.3044 Without informative cues, little can be learned to discriminate eye of origin of visual inputs after multiple weeks of training Li Zhaoping, Zihao Xiao
- 33.3045 Unconscious affective feedback modulates behavioral choice Xiulling Zhang, Xue Zhang, Qiyang Nie, Sheng He, Jing Luo, Yi Jiang
- 33.3046 Eyes Still Off the Prize: Impact of Visual Discomfort in College Population Alison Hochman, Jasmine Awad, Taravat Gorji, Daniel Larranaga, Stefanie Drew

Motion: Interactions with motion processing

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4001 Response-related differences in the biases of perceived motion direction Elisa Zamboni, Timothy Ledgeway, Paul McGraw, Denis Schluppeck
- ${\bf 33.4002~Motion~shifts~number-line~location~} {\bf Leslie~Welch,~Chloe~Kliman-Silver}$
- **33.4003 Video Quality Assessment Using Motion Silencing** Lark Kwon Choi, Alan Bovik
- 33.4004 The "Bendy Bars" Illusion: Shape deformation of dynamically occluded stationary columns due to misbinding of motion signals. Gennadiy Gurariy, Gideon Caplovitz
- 33.4005 Moral Psychophysics Julian De Freitas, George Alvarez
- 33.4006 Attention is necessary for flicker-induced hallucinations Yeseul Kim, Chai-Youn Kim, Joel Pearson
- 33.4007 Using internet search engines to probe for human perceptual biases: Preferences for object poses in time Thomas Langlois, Alexei Efros

Perception and Action: Grasping and tracking

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4008 Conscious perception and grasping rely on a shared depth encoding Carlo Campagnoli, Fulvio Domini
- 33.4009 Manual estimation: Feedback affects bias but not precision Karl Kopiske, Alexander Gornik, Volker Franz
- 33.4010 Visual information about object size and object position are retained differently in the visual brain: Evidence from grasping studies. Constanze Hesse, Louisa Miller, Gavin Buckingham
- 33.4011 Weber's law in bimanual grasping and perceptual estimations Tzvi Ganel, Gal Namdar
- 33.4012 The effects of magnitude on visually guided action and perception. Gal Namdar, Tzvi Ganel
- 33.4013 Moving Targets: Effects of Occlusion on Eye and Grasp Movements Ryan Langridge, Jonathan Marotta
- 33.4014 Affordance perception in socially contracted peripersonal space Elizabeth Saccone, Owen Churches, Ancret Szpak, Michael Nicholls
- 33.4015 A Double Dissociation Between Perception and Action Using Sander's Parallelogram: Demand Characteristics Come Up Short Robert Whitwell, Sina Safabakhsh, Carmen Wong, James Enns
- 33.4016 Similar effects of visual context dynamics on eye and hand movements Philipp Kreyenmeier, Jolande Fooken, Miriam Spering
- 33.4017 **Action videogame play improves eye-hand coordination** Rongrong Chen, Li Li
- 33.4018 "There's something about offsets": Offset events cannot be associated with reaching movements Emma Yoxon, Meera Sunny, Timothy Welsh

Multisensory Processing: Vision, speech and music

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4019 Gradual consolidation of synesthesia during adolescence: a case study Thomas Sørensen, Maria Nordfang, Árni Ásgeirsson
- **33.4020 The Stolen Voice Illusion** David Brang, Satoru Suzuki, Marcia Grabowecky
- 33.4021 **Re-Inventing Reading: Rapid multi-channel processing of language accelerates reading.** Matthew Schneps, Chen Chen, Marc Pomplun, Jiahui Wang, Anne Crosby, Kevin Kent
- 33.4022 **Silent lip reading generates speech signals in auditory cortex** L. Jacob Zweig, Marcia Grabowecky, Satoru Suzuki, Vernon Towle, James Tao, Shasha Wu, David Brang
- 33.4023 Emotionally mediated crossmodal correspondence and human information processing Joshua Peterson, Stephen Palmer
- 33.4024 **How vertical stripes affect recognition of Chinese characters** Ye Hur Cheong, Richard H.Y. So, Arnold Wilkins
- 33.4025 When Colors Spell Words: A Study on the Bidirectionality Effect in Synesthesia Jeannette Buenrostro, Daniel Del Cid, Brandon Hackney, Jasmine Awad, Taravat Gorji, Stefanie Drew
- 33.4026 Are Synesthetic Perceptions a 2 Way Street?: A Study On The Bidirectionality of Grapheme-Color Synesthesia. Daniel Del Cid, Jasmine Awad, Brandon Hackney, Jeannette Buenrostro, Stefanie Drew

- **33.4027 Regularities in Grapheme-Color Synesthesia** Nathan Witthoft, David Eagleman, Jonathan Winawer
- 33.4028 Can a word sound sharp before you have seen it? Soundshape mapping prior to conscious awareness Po-Jang Hsieh, Shao-Min Hung, Suzy Styles
- 33.4029 Audiovisual association between consonants and colors in non-synesthetes Hyun-Woong Kim, Hosung Nam, Chai-Youn Kim
- 33.4030 Influence of visual complexity on synesthetic color choice for Japanese Kanji characters Kazuhiko Yokosawa, Soichiro Takahashi, Michiko Asano
- 33.4031 Fundamental anti-symmetries in the brain organization of conceptual knowledge representation help resolve long-standing controversies Lora Likova, Christopher Tyler, Kristyo Mineff, Spero Nicholas
- 33.4032 **Decoding emotional valence of sounds in early visual cortex** Petra Vetter, Karin Petrini, Lukasz Piwek, Fraser Smith, Vijay Solanki, Matthew Bennett, Frank Pollick, Lars Muckli
- 33.4033 Population receptive field mapping and tractography in people with absolute pitch. Larissa McKetton, Kevin DeSimone, Keith Schneider
- 33.4034 Moving to Music: Saccadic and Motor Entrainment to a Musical Beat Jonathan Batten, Fred Dick, Tim Smith

Development: Disorders

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4035 **CRT-based Dark Adaptometry in Adults with Autism.** Rebecca Lawson, Ainslie Johnstone, Jeremiah Kelly, Geraint Rees
- 33.4036 Ensemble perception in autism spectrum disorder: dissociating between member identification and mean discrimination Ruth Van der Hallen, Bart Machilsen, Jean Steyaert, Ilse Noens, Johan Wagemans
- 33.4037 **Selective impairment of perceptual closure in autism** Mohammad-Reza A. Dehaqani, Mehdi Alizadeh Zarei, Abdol-Hossein Vahabie, Hossein Esteky
- 33.4038 **Reduced Habituation to Naturalistic Stimuli in Autism** Anne Cardinaux, Hossein Nejati, Christy Rogers, Kleovoulos Tsourides, Tapan Gandhi, Margaret Kjelgaard, Pawan Sinha
- 33.4039 How does configuration affect the allocation of visual attention in autism? A change detection study. Jacalyn Guy, Jacob Burack, Laurent Mottron, Armando Bertone
- 33.4040 Visuospatial Attention and Autism Spectrum Quotient: A Cued Line Bisection Study Benjamin Stettler, Lynnette Leone, Mark McCourt
- 33.4041 Motor Ability and Oculomotor Function in Children with an Autism Spectrum Disorder Emma Sumner, Elisabeth Hill
- 33.4042 Autism Spectrum Disorder traits predict reduced attentional priority for faces: Fact or fiction? Sheila Crewther, Andrea Wright, Melvyn Goodale, Robin Laycock
- 33.4043 Intact holistic processing of faces and pseudo-words in Developmental Prosopagnosia Federica Biotti, Richard Cook
- 33.4044 Emotional influences on the identity composite effect in Autism Spectrum Disorder Rebecca Brewer, Katie Gray, Geoffrey Bird, Richard Cook
- 33.4045 Children with Autism Spectrum Disorders rely on head rotation to perceive gaze direction Diana Mihalache, Michelle Salvador, Sophia Silver, Mohammad Mahoor, Tim Sweeny

- 33.4046 Do children with Autism Spectrum Disorder perceive emotional faces differently? Sandra Utz, Claus Carbon
- 33.4047 Association between face-specific visual abilities and social competence in autism spectrum disorders Fakhri Shafai, Kimberly Armstrong, Grace Iarocci, Ipek Oruc
- 33.4048 Social Scene Manipulation through Gaze-Contingent Interfaces: Towards Automated Gaze Strategy Instruction for young children with ASD Frederick Shic, Quan Wang, Elizabeth Kim, Carla Wall, Erin Barney, Yeojin Ahn, Claire Foster, Marilena Mademtzi, Michael Perlmutter, Suzanne Macari, Katarzyna Chawarska
- 33.4049 Visual Backward masking: a comparison between schizophrenia, depressive, schizoaffective, and bipolar patients Maya Roinishvili, Eka Chkonia, Liza Reichard, Wenke Wurch, Hendrik Puhlmann, Cathleen Grimsen, Michael Herzog, Andreas Brand
- 33.4050 Using a three-dimensional multiple object tracking paradigm to train attention in students with a learning disability Domenico Tullo, Jacalyn Guy, Jocelyn Faubert, Armando Bertone
- 33.4051 **Dyslexia prevention by action video game training: behavioural and neurophysiological evidence** Simone Gori, Sara
 Bertoni, Maria Sali, Milena Ruffino, Sandro Franceschini, Luca Ronconi,
 Massimo Molteni, Andrea Facoetti

Face Perception: Social cognition 1

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- **33.4052 The Role of the Eyes and Makeup in Attractiveness** Jessie Peissig, Amanda Killian, Maedeh Mousavi
- 33.4053 A group's facial attractiveness is the average attractiveness of its members Kangyong Eo, Sang Chul Chong
- 33.4054 The effect of variance in group members' attractiveness on the perceived facial attractiveness of small groups Jun Kawahara, Yuka Kobayashi, Michiteru Kitazaki
- 33.4055 Understanding the social dimensions of facial attractivenss Amanda Song, Linjie Li, Vicente Malave, Angela Yu, Garrison Cottrell
- **33.4056 Are we looking for love in all the wrong faces?** Jessica Taubert, Erik Van der Burg, David Alais
- 33.4057 Facial contrast affects the perception of skin homogeneity and wrinkles Richard Russell, Alex Jones, Aurélie Porcheron
- 33.4058 **An other-age effect in facial trustworthiness perception** Corey Grant, Benjamin Balas
- **33.4059 Dominance Elicits the Own-Gender Bias in Males** Natalie Motta-Mena, Giorgia Picci, K. Suzanne Scherf
- 33.4060 The Longer I See You, the Angrier You Look: The Time Course of Other-Race Effects in Expression Recognition Cindy Bukach, Lauren Nagasugi, Melanie Cooke, Jessie Peissig
- 33.4061 **Summary Statistics for Gaze and Head Direction over Time** Joseph Florey, Steven Dakin, Colin Clifford, Isabelle Mareschal
- 33.4062 You not me: others' emotional facial expressions capture attention automatically but only for empathic people. Christian Wallraven, June Kang

Object Recognition: Mechanisms and models 2

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4063 Overlap in performance of CNN's, human behavior and EEG classification Noor Seijdel, Kandan Ramakrishnan, Max Losch, Steven Scholte
- 33.4064 **Probing human intracranial visual responses with commercial movies** Leyla Isik, Jedediah Singer, Joseph Madsen, Nancy Kanwisher, Gabriel Kreiman
- 33.4065 Visual and Semantic Neural Representations For Animate and Inanimate Object Manoj Kumar, Kara Federmeier, Li Fei-Fei, Diane Beck
- **33.4066 Semantic object grouping in the visual cortex seen through MVPA** Daniel Leeds, David Shutov
- 33.4067 Visual object responses of the ventral stream reflect both size and motor-relevance Caterina Magri, Talia Konkle, Alfonso Caramazza
- 33.4068 Investigating functional organization with Grouping by Response Similarity Jason Webster, Ione Fine
- 33.4069 Multivariate patterns of fMRI activity in human V2 predict the misbinding of color and motion Yanyu Zhang, Xilin Zhang, Fang Fang
- 33.4070 Probing bimodal neural mechanisms in human ventral visual cortex Job van den Hurk, Hans Op de Beeck
- 33.4071 A fully computable model of bottom-up and top-down processing in high-level visual cortex Kendrick Kay, Jason Yeatman
- 33.4072 Neural evidence for visual routines: transforming object representations across physical changes Emily Ward, Marvin Chun
- 33.4073 Visual features versus categories: Explaining object representations in primate IT and deep neural networks with weighted representational modeling Kamila Jozwik, Nikolaus Kriegeskorte, Radoslaw Cichy, Marieke Mur
- 33.4074 fMRI reveals different activation patterns for real objects vs. photographs of objects Jacqueline Snow, Scott Squires, Kevin Stubbs, Jody Culham
- 33.4075 Effect of Attention on Object Responses in Human Parietal and Occipital-temporal Cortices: Similarities and Differences Maryam Vaziri-Pashkam, Yaoda Xu
- 33.4076 Lateral occipito-temporal cortex involvement in haptic object recognition: evidence against mere visual imagery Lars Strother, Zhiheng Zhou, Tutis Vilis, Jacqueline Snow
- 33.4077 **Perceptual Experience and the Perirhinal Cortex** D. Merika Wilson, David Ross, Lok Kin Yeung, Morgan Barense, Rosemary Cowell

Scene Perception: Neural mechanisms

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4078 A Data Driven Analysis Reveals the Importance of Image Properties in the Neural Representation of Scenes Timothy Andrews, David Watson, Tom Hartley
- 33.4079 Depth preferences of category-selective regions in human visual cortex Daniel Berman, Nonie Finlayson, Julie Golomb
- 33.4080 Anchoring predictions in scenes: Electrophysiological evidence for a hierarchical structure in scenes. Sage Boettcher, Melissa Vo

- 33.4081 **Neural Representation of the Horizontal Extent of Spatial Boundary Cues** Ruu Harn Cheng, Katrina Ferrara, Soojin Park
- 33.4082 Neural Sensitivity to Boundary Cues Across Different Scene Geometries Katrina Ferrara, Ruu Harn Cheng, Soojin Park
- 33.4083 Neural Substrates of Camouflage-Breaking Jay Hegdé, Donatello Arienzo
- 33.4084 Understanding visual scenes: a combined MEG and eye-tracking study Linda Henriksson, Kaisu Ölander, Riitta Hari
- 33.4085 Context-Based Predictions and Errors in Scene-Selective Cortex Robert Wiley, Soojin Park
- 33.4086 Semantic inconsistencies without semantics? Semantically inconsistent objects elicit N400 responses on both realworld and apparently meaningless synthesized scenes Tim Lauer, Tim Cornelissen, Melissa Vo
- 33.4087 Distinct neural and cognitive systems selectively involved in navigation and categorization of scenes Andrew Persichetti, Samuel Weiller, Alex Zorn, Kevin Williams, Daniel Dilks
- 33.4088 Exploring spatio-temporal neural basis of scene processing with MEG/EEG using a convolutional neural network Ying Yang, Robert Kass, Michael Tarr, Elissa Aminoff
- 33.4089 Continuity fields revealed by attention-based serial dependence in fMRI BOLD responses $\rm Ye~Xia,~Karl~Zipser,~David~Whitney$
- 33.4090 Scene selectivity and retinotopy in medial parietal cortex Edward Silson, Adam Steel, Chris Baker
- 33.4091 Cortical feedback to V1 and V2 contains unique information about high-level scene structure Andrew Morgan, Lucy Petro, Lars Muckli
- 33.4092 Using SSVEPs to measure brain responses of chronic cannabis users and nonusers to during a visual recognition task Brandi Emerick, Tom Busey, Brian O'Donnell

Perceptual Learning: Adaptation

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.4093 Event-related potential measurements of long-term orientation specific adaptation Yihwa Baek, Stephen Engel
- 33.4094 Long-term face aftereffects are more robust following distributed adaptation Thomas Ditye, Barbara Hiess, Marit Petzka, Claus-Christian Carbon, Ulrich Ansorge
- 33.4095 Visual Adaptation to Temporal Sequences Nilufar Razmi
- **33.4096 Habituation of visual adaptation** Xue Dong, Yi Gao, Lili Lv, Min Bao
- 33.4097 **Still seeing straight: No role for ocular proprioception in prism adaptation?** Therese Gilligan, Filipe Cristino, Robert Rafal, Janet Bultitude
- 33.4098 Repeated adaptation to natural images with biased orientation statistics does not alter adaptation dynamics Juraj Mesik, Akshay Patke, Stephen Engel
- 33.4099 Changes in confidence judgments with perceptual aftereffects Baptiste Caziot, Pascal Mamassian
- 33.4100 Effects of adaptation on orientation tuning in excitatory and inhibitory neurons in macaque V1 and V2 Daniel Thengone, Yunguo Yu, Jonathan Victor
- 33.4101 Auditory Crossmodal Plasticity Can Activate Visual Regions Automatically and Mildly Deactivate Natural Vision Noelle Stiles, Vikram Chib, Shinsuke Shimojo

Perceptual Learning: Models, mechanisms, and clinical

Sunday, May 15, 8:30 am - 12:30 pm Poster Session, Pavilion

33.4102 Improving visual functions in amblyopia and mild myopia with perceptual learning and concurrent transcranial random noise stimulation Rebecca Camilleri, Giuseppe Lo Giudice, Antonella Veronese, Andrea Pavan, Gianluca Campana

33.4103 **Dyslexics show deficiencies in visual statistical learning: Evidence for a high-level visual processing deficit in dyslexia** Árni Kristjánsson, Hilda Danielsdottir, Margret Gudmundsdottir, Kristjan Hjartarson, Elin Thorarinsdottir, Heida Sigurdardottir

33.4104 Improving collision detection in older adults using perceptual learning Carissa Lemon, Denton DeLoss, George Andersen

33.4105 Discrimination training enhances the fidelity of visual working memory Ke Jia, Sheng Li

33.4106 Eye movements determine which of multiple regularities are acquired during statistical learning Yoko Higuchi, Nicholas Turk-Browne

33.4107 **Feature conjunction learning is an enduring form of visual learning** Sebastian Frank, Mark Greenlee, Peter Tse

33.4108 Attention is necessary for the learning of visual feature conjunctions, but a small amount is as good as a lot Liwei Sun, Sebastian Frank, Peter Tse

33.4109 Perceptual Learning of Motion Direction Discrimination Induced by True and False Feedback ${\rm Qi}~{\rm Zhang}, {\rm Sheng}~{\rm Li}$

33.4110 **Properties of exposure-based motion direction learning** Gong-Liang Zhang, Cong Yu

33.4111 Sequential Effect on Visual Classification: The Citrus Classification Paradigm Taeyang Yang, Oh-Sang Kwon

33.4112 Dynamic estimation of prior probabilities in an orientation-discrimination task Elyse Norton, Michael Landy

33.4113 Modulating acetylcholine during consolidation of sleep-dependent perceptual learning Elizabeth McDevitt, Maryam Ahmadi, Michael Silver, Sara Mednick

33.4114 Biases in human sequential predictions as a consequence of incorrect world models, noise and limited memory Devika Narain, Robert van Beers, Jeroen Smeets

33.4115 Perceptual learning with minimal V1 plasticity $Xinyu\ Xie$, $Cong\ Yu$

33.4116 Perceptual learning of contrast detection strengthens the response of the magnocellular layers of the human LGN $Qinlin\ Yu$, $Peng\ Zhang$, $Fang\ Fang$



SUNDAY AFTERNOON TALKS

Perceptual Learning: Adaptation and spec- Spatial Vision: Neural mechanisms and ificity

Sunday, May 15, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Steve Engel

34.11, 2:30 pm Long-term adaptation to ocular aberrations alters visual processing of spatial frequency information Antoine Barbot, Krystel Huxlin, Duje Tadin, Geunyoung Yoon

34.12, 2:45 pm Habitual wearers of colored lenses adapt more rapidly to the color changes they produce Stephen Engel, Arnold Wilkins, Shivraj Mand, Peter Allen

34.13, 3:00 pm Spontaneous recovery of effects of contrast adaptation without awareness Gaoxing Mei, Xue Dong, Bo Dong, Min Bao

34.14, 3:15 pm Creation of no-aftereffect-based associative learning of color and orientation without presenting color by decoded fMRI neurofeedback. Kaoru Amano, Kazuhisa Shibata, Mitsuo Kawato, Yuka Sasaki, Takoe Watanabe

34.15, 3:30 pm Perceptual learning and the spatial frequency tuning of the perceptual template Barbara Dosher, Zhong-Lin Lu,

34.16, 3:45 pm Implicit updating of object representation via temporal regularities Ru Qi Yu, Jiaying Zhao

34.17, 4:00 pm Brief episodes of memory reactivation enable perceptual learning Nitzan Censor, Shlomi Nemni, Rotem Amar

Scene Perception

Sunday, May 15, 5:15 - 7:15 pm Talk Session, Talk Room 1 Moderator: Russell Epstein

35.11, 5:15 pm Investigating cortical feedback of objects and background scene to foveal and peripheral V1 using fMRI Matthew Bennett, Lucy Petro, Lars Muckli

35.12, 5:30 pm Neural coding of navigational affordances in visual scenes Michael Bonner, Jack Ryan, Russell Epstein

35.13, 5:45 pm Conceptual representations of scene categories in prefrontal cortex transcend sensory modalities Yaelan Jung, Bart Larson, Dirk Walther

35.14, 6:00 pm Neurodynamics of visual and auditory scene size representations Santani Teng, Radoslaw Cichy, Dimitrios Pantazis, Verena Sommer, Aude Oliva

35.15, 6:15 pm Meaningful feedback to occluded V1 is improved by increasing local information in the surround Yulia Revina, Lucy Petro, Cristina Denk-Florea, Sebastian Blum, Nikolaus Kriegeskorte, Lars Muckli

35.16, 6:30 pm Perception of dynamic scenes: What is your Heider capacity? Farahnaz Ahmed Wick, Sahaj Garg, Abla Soce, Jeremy Wolfe

35.17, 6:45 pm Change-related weighting of statistical information in visual decision making Jozsef Fiser, Jozsef Arato, Abbas Khani, Gregor Rainer

35.18, 7:00 pm Did you see the milk in the bathroom? The developmental trajectory of eye movement control by scene semantics in preschoolers Sabine Öhlschläger, Melissa Vo

models

Sunday, May 15, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: Martina Poletti

34.21, 2:30 pm Toad lights up the prince of brightness illusions. David Crewther, Nina Riddell, Laila Hugrass, Jude Jayasuriya, Sheila

34.22, 2:45 pm Predictive position percepts mediated by parietal areas: TMS evidence Grace Edwards, Philippe Marque, Rufin VanRullen, Patrick Cavanagh

34.23, 3:00 pm Functional implications of orientation maps in visual cortex Erin Koch, Jianzhong Jin, Jose-Manuel Alonso, Qasim Zaidi

34.24, 3:15 pm Why do the response properties of magnocellular and parvocellular neurons differ both in space and time? Michele Rucci, Martina Poletti, Jonathan Victor, Marco Boi

34.25, 3:30 pm Perceptual and neural deficits in processing naturalistic image structure in amblyopia Lynne Kiorpes, Angela Voyles, Corey Ziemba, J. Anthony Movshon

34.26, 3:45 pm An Image-Based Multi-Channel Model for Light Adaptation Felix Wichmann, Nicole Eichert, Heiko Schütt

34.27, 4:00 pm The pyramid of visibilty Andrew Watson, Albert Ahu-

Multisensory Processing

Sunday, May 15, 5:15 - 7:15 pm Talk Session, Talk Room 2 Moderator: Lore Thaler

35.21, 5:15 pm Young Children Can Combine Audio-Visual Cues **Near-Optimally After Training** James Negen, Hannah Roome, Marko

35.22, 5:30 pm Is a newly learnt sense immediately combined with vision? Marko Nardini, James Negen, Hannah Roome, Lore Thaler

35.23, 5:45 pm The Sight-Audition Farness Effect (SAFE): Observation Distance Systematically Changes Umpire versus Fan Judgments about Baseball Runners Being Out or Safe Michael McBeath, R. Krynen

35.24, 6:00 pm Lip Movements Amplify Correlated Spectral Contours in Speech John Plass, Marcia Grabowecky, Satoru Suzuki

35.25, 6:15 pm A causal inference model of multisensory speech perception provides an explanation for why some audiovisual syllables but not others produce the McGurk Effect John Magnotti, Michael Beauchamp

35.26, 6:30 pm Low-level auditory and visual features can be decoded across early sensory cortices. Joo Huang Tan, Po-Jang Hsieh

35.27, 6:45 pm Dependence of visual-vestibular conflict detection on temporal synchrony Paul MacNeilage, Isabelle Garzorz

35.28, 7:00 pm Humans implement nonlinear computations to achieve near optimality in the face of scalar variability. Seth Egger, Mehrdad Jazayeri

SUNDAY AFTERNOON POSTERS

Attention: Temporal

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

36.3001 The half-time groove of divided attention: differences in **EEG** and decoding power spectra when attending to one vs. two **items** Sébastien Crouzet, Rufin VanRullen

36.3002 Orientation selective responses as measured with EEG track both featural and temporal attention enhancements $\rm Vy~Vo$, Eduardo Herrera, John Serences

36.3003 **Processing speed modulation in rhythmic entrainment paradigms** Chiron Oderkerk, Signe Vangkilde, Anders Petersen, Claus Bundesen

36.3004 A Poisson Random Walk Model for Response Time and Pure Accuracy Tasks Steven Blurton, Carsten Nielsen, Søren Kyllingsbæk, Claus Bundesen

36.3005 **Dynamics of voluntary and involuntary temporal attention** Rachel Denison, David Heeger, Marisa Carrasco

36.3006 The speed of Voluntary Shifts of Attention Michael Jenkins, Anna Grubert, Martin Eimer

36.3008 Perceived time fluctuates at around theta rhythm Shuhei Shima, Yuki Murai, Kenichi Yuasa, Yuki Hashimoto, Yuko Yotsumoto

36.3009 Time course of distractor suppression revealed by chronometry Hsin-Mei Sun, Preeti Verghese, Joo-Hyun Song

36.3010 **Super-fast endogenous allocation of temporal attention** Yaffa Yeshurun, Shira Tkacz-Domb

36.3011 Change detection and visual classification: two sides of the same coin Bo Chen, Ming Jiang, Mason McGill, Qi Zhao, Pietro Perona

36.3012 Separate process for perceptual and numerical estimation of temporal average Hiromi Sato, Isamu Motoyoshi, Takao Sato

36.3013 **Lag-1** sparing in accuracy and reaction time: The importance of masking Hayley Lagroix, Vincent Di Lollo, Thomas Spalek

36.3014 Temporal attention selects compound representations in a strategic manner: Evidence from the attentional blink Guy Snir, Yaffa Yeshurun

36.3015 Implicitly learned temporal association between targets attenuates AB effect Jeongho Park, Kristen Johannes, Matt Levine, Soojin Park

36.3016 Pre-stimulus inhibition of microsaccades in adults with and without ADHD as an index for temporal expectations Yarden Dankner, Lilach Shalev-Mevorach, Marisa Carrasco, Shlomit Yuval-Greenberg

Attention: Neural mechanisms

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

36.3017 The interaction of the self and executive control in neuro-psychological patients Jie Sui, Glyn Humphreys

36.3018 **Feature-selective coding is attenuated during sustained attention** Tom Bullock, James Elliott, Priscilla Rosila Mares, Lena Nalbandian, Barry Giesbrecht

36.3019 Attentional enhancement of stimulus activation domains in Macque V4. Yufeng Zhang, Hisashi Tanigawa, Soo Yang, Robert Friedman, Anna Roe

36.3020 Attention alters the orientation tuning for multiple-stimulus displays in human extrastriate visual areas $Nihong\ Chen$, $Bosco\ Tjan$

36.3021 **Engagement of reafferent circuitry facilitates feedforward processing in V1** Ashley Royston, Jaime Napan, Kira Anderson, Steven Luck, Steven Hillyard, George Mangun

36.3022 Attentional gain modulation relies on local feature-tuned normalization. ${\rm Ilona\ Bloem}, {\rm Sam\ Ling}$

36.3023 Multiple Objects of Attentional Selection in Human Visual Cortex Xilin Zhang, Nicole Mlynaryk, Shruti Japee, Leslie Ungerleider

36.3024 Task-Irrelevant Semantic Relationships of Real-World Objects Bias Visual Attention Joseph Nah, George Malcolm, Summer Sheremata, Sarah Shomstein

36.3025 Uncertainty Modulates Object Representations in LOC and Spatial Representations in IPS Andrew Collegio, Joseph Nah, Summer Sheremata, Dwight Kravitz, Sarah Shomstein

36.3026 The unique representational similarity structure of face morphs predicts performance in an independent visual search task Jeongmi Lee, Joy Geng

36.3027 Visual attention modulates feature-specific representations in human frontoparietal cortex. Edward Ester, David Sutterer, Edward Awh, John Serences

36.3028 Local Immediate Versus Long-Range Delayed Impact Of rTMS On The Visual Attention Network Lorella Battelli, Ela Plow, Emily Grossman

36.3029 The Contribution of the Left Posterior Parietal Cortex to Proactive and Reactive Cognitive Control Brandon Ashinoff, Joy Geng, Foyzul Rahman, Caitlin Carruthers, Diana Maler, Carmel Mevorach

36.3030 A unique Go/No-go task reveals specific inhibition-related activation in the right IPS Tamar Kolodny, Pnina Stern, Maya Ankaoua, Natalie Kataev, Carmel Mevorach, Lilach Shalev

36.3031 **Dissociation of spatial and feature-based attention in visual working memory: a TMS study** Anna Heuer, Anna Schubö, John Crawford

36.3032 Effects of neural ensemble size and composition on the decoding of attention in primate lateral prefrontal cortex Lyndon Duong, Matthew Leavitt, Sebastien Tremblay, Adam Sachs, Julio Martinez-Trujillo

36.3033 **Decoding visual salience and behavioral relevance from neuronal oscillations in the superior colliculus** Brian White, Thilo Womelsdorf, Laurent Itti, Douglas Munoz

36.3034 Using Temporally Aligned Event-Related Potentials to Investigate Attention Shifts Before and During Eye Movements Christoph Huber-Huber, Thomas Ditye, Maria Marchante, Ulrich Ansorge

36.3035 A Standardized Methodology for Co-Registering Eye-Tracking and EEG Data Joshua Zosky, Carly Molloy, Mark Mills, Arthur Maerlender

36.3036 Auditory alerting enhances visual attentional processing: Evidence from computational modeling and event-related lateralizations Iris Wiegand, Anders Petersen, Jon Lansner, Kathrin Finke, Thomas Habekost

36.3037 Visual Tasks Lead to Unique Sequences of Cyclic Attentional Signals John Tsotsos, Thilo Womelsdorf

36.3038 Neural circuit activity manipulation in the striatum influences decision process for visual detection in mice Lupeng Wang, Richard Krauzlis

36.3039 Occasional awareness of a tree with no forest: Deriving PPC perceptual role from a simultanagnosia case study Marina Pavlovskaya, Yoram Bonneh, Shaul Hochstein, Nachum Soroker

Color and Light: Cognition

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

36.3040 **Color language reflects usefulness of color** Bevil Conway, Julian Jara-Ettinger, Kyle Mahowald, Steven Piantadosi, Leon Bergen, Richard Futrell, Edward Gibson

36.3041 **How does color naming interact with color memory?** Maryam Hassantash, Arash Afraz

36.3042 **Study of the Japanese color lexicon using cluster analysis** Ichiro Kuriki, Yumiko Muto, Kazuho Fukuda, Rumi Tokunaga, Angela Brown, Delwin Lindsey, Keiji Uchikawa, Satoshi Shioiri

36.3043 Ad hoc color concept mapping and interpreting visual representations Yun-hsuan Lai, Leslie Welch, Karen Schloss

36.3044 English and Somali differences in understanding of "yellow" Delwin Lindsey, Angela Brown, Ryan Lange

36.3045 Yellow is no happier than blue when lightness and chroma are controlled Karen Schloss, Yun-hsuan Lai, Christoph Witzel

36.3046 Multilevel analysis reveals individual differences and the regularity of grapheme-colors associations in synesthesia Daisuke Hamada, Hiroki Yamamoto, Jun Saiki

36.3047 Color perception in ASD Bat Sheva Hadad

36.3048 **Chromatic blur perception in simple and complex stimul** Ben Jennings, Katrina Li, Frederick Kingdom

36.3049 The dark is more (Dark+) bias in colormap data visualizations with legends Allison Silverman, Connor Gramazio, Karen Schloss

36.3050 **Eye-movement patterns betray the task at hand in colour judgements** Simon Cropper, Jason Forte, Ruirong Mao

Color and Light: Surfaces and materials

Sunday, May 15, 2:45 - 6:45 pm

Poster Session, Pavilion

36.4001 Estimating material properties of cloth from dynamic silhouettes Luis Bermudez, Bei Xiao

36.4002 Effects of stimulus duration on surface quality perception Naozumi Yamada, Yuki Kawashima, Yasuki Yamauchi, Takehiro Nagai

36.4003 **Visual communication of haptic material properties** Maarten Wijntjes, Bei Xiao

36.4004 **Probing the illumination on #The Dress** Matteo Toscani, Katja Dörschner, Karl Gegenfurtner

36.4005 Perceptual segregation between mirror and glass material under natural and unnatural illumination Hideki Tamura, Maki Tsukuda, Hiroshi Higashi, Shigeki Nakauchi

36.4006 Simultaneous Representation of Shape and Material --Adaptation to Material Alters the Perception of Depth --- Ko Sakai,
Takeshi Oyakawa

36.4007 Color and material trade-off in object identification Ana Radonjić, Nicolas Cottaris, David Brainard

36.4008 **Visual cues to stiffness of elastic objects** Vivian Paulun, Jan Jaap van Assen, Roland Fleming

36.4009 Perceived chromatic diversity in dichromacy benefits from the color distributions of natural scenes Sérgio Nascimento, João Linhares, Ruben Pastilha, Jorge Santos, Vasco de Almeida

36.4010 Effects of specular highlight on color constancy: appearance setting vs paper setting Takehiro Nagai, Ryota Suto, Yosuke Machida, Yuki Kawashima, Yasuki Yamauchi

36.4011 **Joint estimation of surface gloss and 3D shape** Gizem Kucukoglu, Michael Landy, Wendy Adams

36.4012 **Peripheral material perception** Shaiyan Keshvari, Maarten Wijntjes

36.4013 Can people match optically mixed canonical lighting modes? Fan Zhang, Huib de Ridder, Sylvia Pont

36.4014 The sensitivity of the human visual system to subtle skin tone changes Sophie Wuerger, Tushar Chauhan, Ali Sohaib, Julian Yates, Kaida Xaio

36.4015 Toddlers' Discrimination of Shadow and Reflectance Rebecca Woods

36.4016 Image statistics and the affective responses to visual surfaces Isamu Motoyoshi, Shiori Mori

36.4017 **The chromatic diversity of art paintings** João Linhares, Sérgio Nascimento, Cristina Montagner

3D Perception: Shape and cue combination

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4018 Can presenting images behind the screen plane generate a sense of stereoscopic scene depth? Paul Hands, Jenny Read

36.4019 Depth Constancy in the Apparently Circular Curvature Task with 3D Printed Stimuli Mark Nawrot, Shanda Lauer, Jessica Holmin, Trevor Bartlett, Timothy Breider

36.4020 The Visual Aesthetics of Snowflakes and Solid Objects Olivia Adkins, J. Farley Norman

36.4021 Large individual differences in the weighting of perspective and stereoscopic information in slant perception; implications for cue combination approaches. Barbara Gillam

36.4022 Projectively inconsistent occluding contours have surprisingly little influence on SFM percepts Xiaoli He, Jacob Feldman, Manish Singh

36.4023 Fast integration of depth from motion parallax and the effect of dynamic perspective cues Vanessa Li, Athena Buckthought, Curtis Baker

36.4024 Distortions of Perceived Metric Structure of a Symmetric Planar Object Rotating in Depth Ying Yu, Alexander Petrov

36.4025 Inhomogeneity of Perceived Slants With Different Motion-Based Visual Information Xiaoye Wang, Aaron Fath, Winona Snapp-Childs, Mats Lind, Geoffrey Bingham

36.4026 Using the kinetic-depth effect to decouple convexity bias and face-specific knowledge in the hollow-face illusion Attila Farkas, Thomas Papathomas, Steven Silverstein, John Papayanopoulos

36.4027 The perception of 3D shape from shading based entirely on transmitted light Christopher Kallie, James Todd

36.4028 The effects of illumination on the perception of 3D shape from shading Makaela Nartker, Christopher Kallie, James Todd

36.4029 Shape discrimination for 3D objects with conflicting stereo and shading cues Jeffrey Saunders, Young Lee

Motion: Mechanisms and psychophysics

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4030 Motion discrimination is impaired when coarse and finescale patterns move together at the same speed Raúl Luna, Ignacio Serrano-Pedraza

36.4031 First and second order transformational apparent motion have similar temporal dynamics Kevin Hartstein, Peter Tse

36.4032 Frequency and temporal dynamics of motion pareidolia. Nicolas Davidenko

36.4033 Internal vs. external determinants of human speed discrimination with natural image movies Benjamin Chin, Johannes Burge

36.4034 The double-drift illusion is isotropic across visual field locations and directions Sirui Liu, Patrick Cavanagh

36.4035 **A Comparison of Radial and Rotational Plaid Speed Judgments** Nestor Matthews, Leslie Welch, Allison Murphy, Megan Puritz

36.4036 Illusory rotation and motion capture depend upon common fate factor among elements. Makoto Ichikawa, Yuko Masakura

36.4037 Rotating squares made out of drifting Gabors: the contributions of velocity and position based motion information to the perceived speed of a rotating object. Matthew Harrison, Gennady Erlikhman, Gideon Caplovitz

36.4038 An anisotropic model of visual motion perception and perceptual learning Émilien Tlapale, Barbara Dosher, Zhong-Lin Lu

36.4039 Reverse-Phi Experiments Support the Counterchange Model of Motion Detection Harald Ruda, Guillaume Riesen, Howard Hock

36.4040 The adaptive psiprdm method: optimizing psychophysical measurement using response times and accuracy. Nicolaas Prins, James Gaska, Marc Winterbottom

36.4041 **Position-based vs energy-based motion processing** Rémy Allard, Angelo Arleo

Perception and Action: Learning, feedback and neural basis

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4042 Utilizing interference to investigate a prediction model of visuomotor learning. Tony Wang, Nadira Yusif Rodridguez, Joo-Hyun Song

36.4043 Vision for guidance and vision for feedback: A study of throwing Abbey Deckard, Luiza Santos, Frank Durgin

36.4044 **Dynamic visual feedback is sufficient to improve drawing** Judith Fan, Daniel Yamins, Nicholas Turk-Browne

36.4045 Masked Priming: The Roles of RT Carry-Over and Congruence Sequence Effects Ulrich Ansorge, Christoph Huber-Huber

36.4046 A comparative study of common coding for observed and executed actions in human and non-human primates. Prosper Agbesi Fiave, Jan Jastorff, Koen Nelissen

36.4047 **Do dorsolateral and dorsomedial pathways interact? Investigating parieto-frontal connectivity during a prehension task: a TMS-fMRI study.** Giulia Malfatti, Simona Monaco, Guido Barchiesi, Luigi Cattaneo, Luca Turella

36.4048 Target localization errors across the visual field of humans with long-standing V1 damage Elizabeth Saionz, Matthew Cavanaugh, Adin Reisner, Krystel Huxlin

36.4049 Perceptual and Motor Effects of Letter Writing on Brain Regions Associated with Letter Perception Sophia Vinci-Booher, Neha Sehgal, Felipe Munoz-Rubke, Karin James

36.4050 Disentangling aspects of vision-guided motor coordination with pupillometry and choline supplementation Marnix Naber, Peter Murphy, Bernhard Hommel, Lorenza Colzato

Attention: Features and objects

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4051 **Feature-based attentional influences on the accommodation response** Hamed Bahmani, Wolfgang Fuhl, Esteban Gutierrez, Enkelejda Kasneci, Siegfried Wahl

36.4052 Complex Attention Filters for Low Contrast Items Howard Yang, Peng Sun, Charles Chubb, George Sperling

36.4053 **Feature Redundancy Benefits in Different Attentional Modes** Christine Nothelfer, Steven Franconeri

36.4054 Relational or optimal tuning of visual attention Josef Schönhammer, Dirk Kerzel, Stefanie Becker

36.4055 Distractor probability modulates tuning of target representations. Joy Geng, Nicholas DiQuattro

36.4056 SSVEP captures predictive feature-based attentional tuning for point-light biological walker detection in unattended spatial locations Rakibul Hasan, Ramesh Srinivasan, Emily Grossman

36.4057 Visual features for perception, attention, and working memory: Toward a three-factor framework Liqiang Huang

36.4058 Tuning perception: the content of visual working memory biases the quality of visual awareness Christine Salahub, Stephen

36.4059 Perceptual completion alters the cortical level at which object-based attentional selection is evident Shahd Al-Janabi, Nofar Strommer-Davidovich, Shai Gabay, Adam Greenberg

36.4060 Seeing stability: Intuitive physics automatically guides selective attention Chaz Firestone, Brian Scholl

36.4061 Changes in object salience influences overt attentional prioritization in natural scenes. Nicola Anderson, Mieke Donk

36.4062 Task relevance modulates the representation of feature dimensions in the target template Reshanne Reeder, Michael Hanke, Stefan Pollmann

36.4063 Real objects elicit stronger affordance compatibility effects than images Michael Gomez, Jacqueline Snow

36.4064 Task-Defined Requirements of Attention and Global-Local Processing Monica Rosen, Mark Mills, Michael Dodd

36.4065 Attentional priority signals in human frontoparietal cortex correlate with performance in a feature-based attention task Michael Jigo, Taosheng Liu

36.4066 How is visual search guided by shape? Using features from deep learning to understand preattentive "shape space" Krista Ehinger, Jeremy Wolfe

36.4067 Role of simple primitive shapes in complex distractors: Do shared features affect search times? Ruggero Micheletto, Krista Ehinger, Jeremy Wolfe

36.4068 **Statistical processing of perceptual groups under working memory load** Michael Epstein, Tatiana Emmanouil

36.4069 Measuring attentional deployment and sampling of multiple dynamic features within the same object Chloe Callahan-Flintoft, Brad Wyble

36.4070 Object-Based Attention Shift Direction Efficiency: Behavior and a Model Adam Barnas, Adam Greenberg

36.4071 Reality vs. Simplicity: The Effects of Real-World Objects on Attentional Selection Paul Scotti, George Malcolm, Mary Peterson, Sarah Shomstein

Visual Memory: Neural mechanisms

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4072 Two ways to remember: Properties of visual representations in Active and Passive Working Memory Gi-Yeul Bae, Steven Luck

36.4073 Visual and parietal spatial working memory representations are robust to brief irrelevant distracters Thomas Sprague, Edward Ester, John Serences

36.4074 **Effects of distractors on visual working memory representations** Elizabeth Lorenc, Kartik Sreenivasan, Annelinde Vandenbroucke, Mark D'Esposito

36.4075 Plasticity of prefrontal cortical responses during learning in a working memory task Mitchell Riley, Xue-Lian Qi, Hua Tang, David Blake, Christos Constantinidis

36.4076 **Visual working memory enhances neural representations of matching visual input** Surya Gayet, Matthias Guggenmos, Thomas Christophel, John-Dylan Haynes, Chris Paffen, Stefan Van der Stigchel, Philipp Sterzer

36.4077 Transcranial Direct Current Stimulation Modulates
Pattern Separation Marcus Cappiello, Weizhen Xie, Alexander David,
Marom Bikson, Weiwei Zhang

36.4078 Event-related contralateral delay activity: A measure of working memory maintenance or the allocation of spatial attention? Nick Berggren, Martin Eimer

36.4079 What to do with Low-Priority Items: an ERP study of Resources Allocation in Visual Working Memory Holly Lockhart, Stephen Emrich

36.4080 Local and interregional alpha oscillatory dynamics are sensitive to different levels of working memory-guided visual search Joram van Driel, Eren Gunseli, Martijn Meeter, Christian Olivers

36.4081 Tracking the dynamics of visual working memory representations using steady-state-visual-evoked potentials Anouk van Loon, Constantina Archeo, Chris Olivers

36.4082 Alpha-band and raw EEG reflect distinct maintenance mechanisms during working memory Johannes Fahrenfort, Jonathan van Leeuwen, Joshua Foster, Edward Awh, Chris Olivers

36.4083 Alpha-Band Power and the Maintenance of Information in Visual Short-Term Memory. Andrew Heinz, Jeffery Johnson

36.4084 Contralateral delay activity predicts the affective consequences of ignoring items in visual working memory David De Vito, Mark Fenske, Naseem Al-Aidroos

Face Perception: Mechanisms and models 1

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4085 Coding facial identity: Evidence for a channel tuned to the average (norm) face Linda Jeffery, Nichola Burton, Stephen Pond, Colin Clifford, Gillian Rhodes

36.4086 The Relative Role of Viewpoint and Identity in the Neural Representation of Faces in Fusiform Gyrus Katja Weibert, Timothy Andrews

36.4087 Brain Regions Selective for Face Recognition and Memory Processing Can Predict Performance on the Taiwanese Face Memory Test (TFMT) Gary Shyi, Peter Cheng, Varden Hung, Emily Lin, Tina Huang

36.4088 Predicting and categorizing online video success from a computational model of face personality judgments Samuel Anthony, Ken Nakayama

36.4089 Verifying Face Selectivity in the Human Prefrontal Cortex: Data from ~500 Participants Annie Chan, Aaron Trefler, Abbas Babaiani-Feremi

36.4090 Extracting Human Face Similarity Judgments: Pairs or Triplets? Linjie Li, Amanda Song, Vicente Malave, Garrison Cottrell, Angela Yu

36.4092 rTMS to the OFA shows increased correlation to right and left FFA Francisco Parreira, Sara Rafique, Lily Solomon-Harris, Jennifer Steeves

36.4093 What is the division of labor between the two face pathways? Michal Bernstein, Yaara Erez, Galit Yovel

36.4094 Comparing the specialization for facial motion in macaques and humans Molly Flessert, Hui Zhang, Shruti Japee, Leslie Ungerleider

36.4095 Predictability does not generate or modulate category-selective processes in fast periodic visual stimulation streams Genevieve Quek, Bruno Rossion

36.4096 **Cortical arousal signals are actively read out by a face processing system to evaluate the duration of gaze** Nicola Binetti, Charlotte Harrison, Isabelle Mareschal, Alan Johnston

36.4097 **The Mechanism of Lateral Gaze Bias for Faces** Bruce Bridgeman, Hema Kopalle, Lisa Clark, Nicolas Davidenko

Face Perception: Wholes, parts, configurations

Sunday, May 15, 2:45 - 6:45 pm Poster Session, Pavilion

36.4098 The Influence of Facial-Feature Correlations on Face Perception Carl Gaspar

36.4099 Making Spatially Distorted Faces Right: The Effects of Familiarity and Orientation. Nick Donnelly, Natalie Mestry

36.4100 Misperceived emotion increases the holistic representation of ostensibly neutral faces Richard Cook, Katie Gray

36.4101 **Does Holistic Crowding of Faces Depend on Task Demands?** Alex Dayer, Kassandra Lee, Stephen Chow, Eli Flynn, Amrita Puri

36.4102 The Benefits and Costs of Holistic Processing in Familiarity-Based Associative Recognition for Faces. Mitchell Meltzer, Gowtham Ganesan, Michelle Min, James Bartlett

36.4103 The holistic processing of emotional faces in a single and multiple faces $\rm Jisoo~Sun, Sang~Chul~Chong$

36.4104 Holistic Processing of Unfamiliar Line Patterns Mintao Zhao, Isabelle Bülthoff

36.4105 How Perceptual Similarity Modulates Holistic Processing of Face Composites: Evidence from the Complete Design. Chao-Chih Wang, Gary Shyi*

36.4106 Does shrinking the perceptual field of view affect horizontal tuning in upright face identification? Vincent Barnabé-Lortie, Gabrielle Dugas, Jessica Royer, Justin Duncan, Caroline Blais, Daniel Fiset

36.4107 Interaction between social categories in the face composite task Wenfeng Chen, Naixin Ren, Andrew Young, Chang Hong Liu

36.4108 A parametric approach to face drawing studies Jennifer Day, Nicolas Davidenko

36.4109 Attending to race (or gender) does not enhance adaptation to race (or gender) Chan Vu, Nathan Heller, John Collins, Nicolas Davidenko

36.4110 Global perception of gaze direction across time Timothy Sweeny, Diana Mihalache

36.4111 Perceived size of the face and arm depends on visual orientation Sarah D'Amour, Laurence Harris

36.4112 Telling people apart and telling people together with face and body information Hannah Pearson, Benjamin Balas

36.4113 Looking eye to eye: Face context and featural fixation modulate early neural markers of face perception Karisa Parkington, Roxane Itier

36.4114 **The face inversion effect in rhesus macaques** Olivia Tomeo, Ning Liu, Leslie Ungerleider



MONDAY MORNING TALKS

Visual Search: Mechanisms

Monday, May 16, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Krista Ehinger

41.11, 8:15 am The role of crowding on feature singleton search Anna Madison, Alejandro Lleras, Simona Buetti

41.12, 8:30 am Attentional deployment during feature and conjunction searches Laura Dugué, Alice Xue, Marisa Carrasco

41.13, 8:45 am Conjunctive Targets are Hard in Visual Search but Easy in Centroid Judgments A. Nicole Winter, Charles Wright, Charles Chubb, George Sperling

41.14, 9.00 am Stochastic noise decreases the accuracy of distractor rejection in dual - compared to single-target search Doug Barrett, Oliver Zobay

41.15, 9:15 am How did you hide my bunny? Using a genetic algorithm to investigate preattentive processing of shape in visual search Jeremy Wolfe, Avigael Aizenman, Jungyeon Park, Lucas Jurgensen, Krista Ehinger

41.16, 9:30 am Do Mutations Effects Reveal the Time-Course of Distractor Suppression or Target Processing? Ricardo Max, Hayley Lagroix, Vincent Di Lollo, Yehoshua Tsal, Thomas Spalek

Visual Memory: Neural mechanisms

Monday, May 16, 10:45 am - 12:15 pm Talk Session, Talk Room 1 Moderator: Abigail Noyce

42.11, 10:45 am Visual working memory training with non-invasive neurostimulation increases low frequency phase synchrony Kara Blacker, Dwight Peterson, Kevin Jones, Marian Berryhill

42.12, 11:00 am Posterior alpha EEG dynamics dissociate visual search template from accessory memory items. Ingmar de Vries, Joram van Driel, Christian Olivers

42.13, $11:15\,am$ Occipital, parietal, and frontal cortices maintain only task-relevant features of multi-feature objects in visual working memory ${\rm Qing}\ {\rm Yu}, {\rm Won}\ {\rm Mok}\ {\rm Shim}$

42.14, 11:30 am Heterogeneous effects of neuronal ensemble size, tuning, and correlation structure on the decoding of spatial working memory in dorsolateral prefrontal cortex Matthew Leavitt, Adam Sachs, Julio Martinez-Trujillo

42.15, 11:45 am Divergence and convergence in parietal activity during visual attention and short-term memory Summer Sheremata, David Somers, Sarah Shomstein

42.16, 12:00 pm Frontal lobe contributions to auditory and visual working memory Abigail Noyce, Samantha Michalka, Nishmar Cestero, Barbara Shinn-Cunningham, David Somers

Object Recognition: Neural mechanisms and models

Monday, May 16, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Irving Biederman

41.21, 8:15 am What is actually affected by the scrambling of objects when localizing LOC? Irving Biederman, Eshed Margalit, Bosco Tjan, Manan Shah

41.22, 8:30 am Feature-coding transitions to conjunction-coding with progression through visual cortex Rosemary Cowell, John Serences

41.23, 8:45 am Both convolutional neural networks and voxel-wise encoding models of brain activity derived from ConvNets represent boundary-and surface-related features Mark Lescroart, Pulkit Agrawal, Jack Gallant

41.24, 9:00 am What is unique in computational models of object recognition? Kandan Ramakrishnan, H.Steven Scholte, Sennay Ghebreab

41.25, 9:15 am CNNs trained on places and animacy explain different patterns of variance for the same dataset. H.Steven Scholte, Max Losch, Noor Seijdel, Kandan Ramakrishnan, Cees Snoek

41.26, 9:30 am Deep Neural Networks as a Computational Model for Human Shape Sensitivity Jonas Kubilius, Stefania Bracci, Hans Op de Beeck

Perception and Action: Walking and the visual field

Monday, May 16, 10:45 am - 12:15 pm Talk Session, Talk Room 2 Moderator: Richard van Wezel

42.21, 10:45 am The functional coupling of gaze and gait when walking over real-world rough terrain Jonathan Matthis, Mary Hayhoe

42.22, 11:00 am Biomechanical and visual constraints on rapid adjustments to foot placement during continuous locomotion Sean Barton, Jonathan Matthis, Evelyn Hinojosa, Dylan Brion, Brett Fajen

42.23, 11:15 am Oscillatory Optical Flows Improve the Perception of Travelled Distance in Static Observers Martin Bossard, Jean-Claude Lepecq, Daniel Mestre

42.24, 11:30 am Visual information for the joint control of speed and direction in pedestrian following Gregory Dachner, William Warren

42.25, 11:45 am Visual cues from augmented reality glasses to improve gait of Parkinson's disease patients Richard van Wezel, Ciska Heida, Jorik Nonnekes, Yan Zhao

42.26, 12:00 pm Sharper, stronger, faster upper visual field representation in primate superior colliculus Ziad Hafed, Chih-Yang Chen

MONDAY MORNING POSTERS

Development: Lifespan and neural mechanisms

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

43.3001 **Abnormal Visual System Connectivity in Human Albinism** Anahit Grigorian, Larissa McKetton, Keith Schneider

43.3002 DTI reveals asymmetry in the optic radiations following early monocular enucleation Nikita Wong, Sara Rafique, Krista Kelly, Stefania Moro, Jennifer Steeves

43.3003 Vernier stimuli reveal fellow eye deficits in both early- and higher-level cortex in human strabismic amblyopia Chuan Hou, Preeti Verghese

43.3004 Functional Re-Organization in the Face-Processing Network Across Development Daniel Elbich, Giorgia Picci, Xiaoxiao Bai, Suzy Scherf

43.3005 Object 3D structure representation is immature in late childhood Erez Freud, Marlene Behrmann

43.3006 Common representational structures across the ventral visual pathway of children and adults Michael Cohen, Daniel Dilks, Jenelle Feather, Kami Koldewyn, Sarah Weigelt, Nancy Kanwisher

43.3007 Age-related differences of perceptual decisions in binocular rivalry Elahe Arani, Raymond Ee, Hil Meijer, Richard Wezel

43.3008 Do children demonstrate biases in space perception consistent with angular expansion? Anna Scheibmeir, Abigail Dean, Stella Christie, Frank Durgin

43.3009 The hemifield independence in multiple object tracking is preserved in healthy ageing Eugenie Roudaia, Simon Lacoste, Jocelyn Eaubort

43.3010 **Haptic-visual solid shape matching with variable numbers of fingers** J. Farley Norman, Olivia Adkins, Catherine Dowell, Stevie Hoyng, Ashley Gilliam, Lauren Pedersen

43.3011 **Reduced attention suppression in old age may explain decline in motor control** Carmel Mevorach, Mayra Muller Spaniol, Joseph Galea

43.3012 Aging Affects Temporal Processing of Motion and Depth from Motion Parallax Jessica Holmin, Mark Nawrot

43.3013 Foveal centre surround contrast suppression reveals differential effect of ageing on binocular and interocular suppression Kabilan Pitchaimuthu, Bao Nguyen, Allison McKendrick

43.3014 **Turn up the noise: Increased visual noise in the M-pathway in older adults** David Chan, Liza igochine, Lynn Hasher, Jay Pratt

43.3015 **Saccadic adaptation is preserved across adult lifespan** Jutta Billino, Sabine Margolf-Hackl, Karl Gegenfurtner

43.3016 Attention training in normal aging: Role of implicit learning Yuhong Jiang, Wilma Koustaal, Emily Twedell

43.3017 **Changes in Visual Attention with Normal Aging** Eriko Self, Sam Handelman, Alexander Le, Moire Sigler

Perceptual Organization: Shapes and objects

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

43.3018 Slant-induced shape distortion in the Distorted Curve Illusion Methma Udawatta, Francesca Fortenbaugh, Karen Schloss

43.3019 Temporal Properties of Abstract Shape Representation Nicholas Baker, Philip Kellman

43.3020 Percepts from noise patterns: The role of fractal dimension in object pareidolia Alexander Bies, Atsushi Kikumoto, Cooper Boydston, Aaron Greeenfield, Kristen Chauvin, Richard Taylor, Margaret Sereno

43.3021 Does form-cue invariance hold at the individual contour or the integrated object level of representation? Sarah Elliott, Steven Shevell

43.3022 Finding a face on Mars: a study on the priors for illusory objects David Field, Kedarnath Vilankar

43.3023 **Spatial memory demands modulate shape representations** Sami Yousif, Vladislav Ayzenberg, Stella Lourenco

43.3024 On the mystery of fractals in Arts – why are Pollock's drip paintings valued so highly? Johannes Zanker, Jade Jackson, Jasmina Stevanov

43.3025 **Perceived Beauty and Polygon Shape Regularity** Jay Friedenberg, Veena Cherian, Jillian Enyart

43.3026 Evaluating Temporal Interactions Between Pairs of Shapes Michael Slugocki, Catherine Duong, Allison Sekuler, Patrick Bennett

43.3027 Perceiving order: Visual working memory encoding as a basis for judgment Justin Reed, Ru Qi Yu, Jiaying Zhao

43.3028 Semantic Priming Facilitates Figure Assignment For Both Intact Familiar Objects And Their Parts (Despite Predictive Coding Error) Kimberley Orsten-Hooge, Rachel Skocypec, Mary Peterson

43.3029 Empty space is less crowded: stereo-defined 3D letters exhibit less crowding when they are concave than when they are convex. Anthony Cate, Michael Hartman

Perceptual Organization: Mechanisms and models

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

43.3030 An Underadditivity of the Cellular Mechanisms Responsible for the Orientation Contrast Effects of the Rod-and-Frame Illusion David Adams, Scott Reed, Paul Dassonville

43.3031 Stereoscopic information disrupts the closure grouping effect in discrimination task but not in detection task Junjun Zhang

43.3032 **MIB as noisy excitable system** Mikhail Katkov, Noya Meital-Kfir, Alexander Cooperman, Dov Sagi

43.3033 Interactions between figure-ground organization and contrast perception: a neurocomputational model tested by White's illusion Naoki Kogo, Jan Knopp, Hartwin Ghekiere, Vicky Froyen

43.3034 Local Contrast Gain Control Determines Global Form

Percept in Glass Pattern Yih-Shiuan Lin, Pao-Chou Cho, Chien-Chung
Chen

- 43.3035 Temporal dynamics of global/local processing Ling Liu, Huan Luo
- 43.3036 **Two Centroid Mechanisms in Vision** Jordan Rashid, Charles Chubb
- 43.3037 The contrast-dependence of the intermingled numerosity illusion explained Adam Reeves, Quan Lei
- 43.3038 Adaptation to Symmetry Axis Yui Sakata, Ko Sakai
- 43.3039 A Bayesian model for the interaction of accretion/deletion and occluding-contour geometry in determining relative depth Ö. Dağlar Tanrıkulu, Jacob Feldman, Manish Singh
- 43.3040 Highly correlated internal noise across three perceptual and cognitive modalities Greta Vilidaite, Miaomiao Yu, Daniel Baker
- 43.3041 Exploring the effects of decisional bias on perceptual process characteristics in the context of a visual illusion Michael Wenger, Lisa De Stefano, James Townsend, Mohammad Abdolvahab, Yanjun Liu
- 43.3042 An Entropy Theory of Correlation Perception Ronald Rensink
- 43.3043 What is Perceptual Curvature? Hao Wu, James Elder
- 43.3044 Capacity limit of ensemble perception Anna Luo, Jiaying Zhao
- 43.3045 We Need Closure: Inequality in Perceptual Grouping for Visual Working Memory Sofia Neira, Joanna Lewis, Mark Neider
- 43.3046 No effect of unitization (connectedness) on the adaptation of perceived number Emilie Shepherd, Frank Durgin

Color and Light: Lightness and brightness

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

- 43.4001 Presence of a veiling luminance revealed by higher order variables involving luminance, saturation, and contrast. Alan Gilchrist, Cristhian Altamirano
- 43.4002 Measuring perceptual scales of perceived surface lightness: a comparison between MLDS and matching Christiane Wiebel, Guillermo Aguilar, Marianne Maertens
- 43.4003 **Perceived illumination anchored by the highest luminance.** Cristhian Altamirano, Alessandro Soranzo, Alan Gilchrist
- 43.4004 Mismatch between perception and neural response in glare illusion Yuta Suzuki, Takahiro Shinkai, Hiroshi Higashi, Tetsuto Minami, Shigeki Nakauchi
- 43.4005 Contextual effects and the contrast asynchrony: a new phenomenon shows a cancellation of contrast responses Arthur Shapiro, Venice Cowardin, Angel Wen
- 43.4006 Context-dependent Brightness Affects Perceived Contrast at Threshold and Suprathreshold Levels Zahide Pamir, Hüseyin Boyacı
- 43.4007 The Maximum Differentiation competition depends on the Viewing Conditions Jesús Malo, David Kane, Marcelo Bertalmío
- 43.4008 A quick display characterization method within local and limited input ranges of high color depth display systems for vision experiments Hiroshi Ban, Hiroyuki Yamashiro, Hiroki Yamamoto
- 43.4009 Color Name Distances Scaled by Thurstone's Ranking Order Psychophysical Method Marcelo Costa, Carlo Gaddi

Binocular Vision: Stereopsis

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

- 43.4010 **Binocular Integration for Behavior in Mice** Veronica Choi, Sung Jun Joo, Alexander Huk, Nicholas Priebe
- **43.**4011 **The precision of stereopsis in the lower visual field.** Saeideh Ghahghaei, Suzanne McKee, Preeti Verghese
- 43.4012 Perceived depth from disparity depends on luminance contrast Pei-Yin Chen, Chien-Chung Chen, Christopher Tyler
- 43.4013 Sensory eye dominance due to interocular imbalances of inhibition and integration Chao Han, Teng-Leng Ooi, Zijiang He
- 43.4014 Effect of sensory eye dominance and unequal binocular contrast stimuli on stereopsis Teng-Leng Ooi, Chao Han, Zijiang He
- 43.4015 Disparity thresholds Dmin and Dmax both depend on interocular contrast difference Jian Ding, Dennis Levi
- 43.4016 **Short-term monocular deprivation increases stereoacuity** Cherlyn Ng, Bart Farell
- 43.4017 Perceiving the stereo depth of simple stimuli isn't simple: The case of gratings. Bart Farell, Cherlyn ${\rm Ng}$
- 43.4018 Sensitivity to horizontal and vertical sine-wave corrugations defined by binocular disparity: factor analysis of individual differences reveals discrete processes with broad orientation and spatial frequency tuning Jenny Read, Ignacio Serrano-Pedraza, Michael Widdall, David Peterzell
- 43.4019 The effect of grouping by common fate on stereoscopic depth estimates Michael Marianovski, Laurie Wilcox
- 43.4020 Masking Effects in Cyclopean Surface Perception Ross Goutcher, Paul Hibbard
- 43.4021 The impact of disparity-based grouping on 3D slant perception Aishwarya Sudhama, Lesley Deas, Laurie Wilcox
- 43.4022 **Illusory occlusion can trump binocular disparity** Gerrit Maus, Zhimin Chen, Rachel Denison
- 43.4023 **Determination of the slope of the psychometric function for different stereoacuity tasks** Ignacio Serrano-Pedraza, Kathleen Vancleef, Will Herbert, Maeve Woodhouse, Jenny Read
- 43.4024 Stereo-curvature Aftereffect at Multiple Processing Levels: an fMRI study Hiroaki Shigemasu, Pengfei Yan
- 43.4025 Manual target tracking reveals a perceptual asymmetry between crossed and uncrossed disparities Jasmine Stone, Kathryn Bonnen, Alexander Huk, Lawrence Cormack
- 43.4026 Vergence responses to fine and coarse disparities: Adultlike tuning functions at 5 years of age Kimberly Meier, Deborah Giaschi, Laurie Wilcox, Eric Seemiller, T. Candy
- 43.4027 **Development of relative disparity processing in human infants** Holly Gerhard, Andrea McCall, Francesca Pei, Anthony Norcia
- 43.4028 Forced-choice disparity detection: are two or four alternatives most efficient in children? Kathleen Vancleef, Jenny Read, William Herbert, Nicola Goodship, Maeve Woodhouse, Ignacio Serrano-Pedraza
- 43.4029 Factors that influence depth from Panum's limiting case: An ERP analysis Huayun Li, Dongchuan Yu, Laipeng Jin, Xin Gao
- 43.4030 Event-related potentials (ERPs) at the onset of disparity gratings Zoltán Derzsi, Ghaith Tarawneh, Kai Alter, Jenny Read

Eye Movements: Saccade kinematics and dynamics

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4031 Characterization and Calibration of Eye Tracking Data from Head Mounted Displays Kamran Binaee, Rakshit Kothari, Flip Phillips, Gabriel Diaz

43.4032 Viewing-position effects in meaningless object viewing Lotje van der Linden, Gregory Zelinsky, Françoise Vitu

43.4033 Contextual saccade adaptation as a tool to investigate sequential saccades. Rakesh Nanjappa, Reza Azadi, Robert McPeek

43.4034 Gain-increase saccadic adaptation is enhanced by the use of constant retinal error feedback Rana Arham Raashid, Herbert Goltz, Alan Blakeman, Agnes Wong

43.4035 **Quantifying the Spatiotemporal Properties of Saccade Averaging** Shane Kelly, Weiwei Zhou, Sonia Bansal, Matthew Peterson, Laurence Bray, Wilsaan Joiner

43.4036 Saccade trajectories deviate away from spatial, and not retinal, location of nearby tactile distractors David Aagten-Murphy, Luca Wollenberg, Martin Szinte, Heiner Deubel

43.4037 Curvature is a Characteristic of Saccades in Planned Sequences Kevin Willeford, Reza Azadi, Robert McPeek

Eye Movements: Saccade mapping and timing

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4038 A new approach to double step saccades: random stimulus displays and 2D vector analysis. Paul Zerr, Katharine Thakkar, Siarhei Uzunbajakau, Stefan Van der Stigchel

43.4039 Bimodal latency distribution and distractor effects in **Express Saccades in humans.** Jessica Heeman, Stefan Van der Stigchel, Ian Theeuwes

43.4040 Saccadic latency and choice in a concurrent random interval reinforcement schedule. Cécile Vullings, Laurent Madelain

43.4041 Perception of Saccadic Reaction Time in humans Valentina Vencato, Laurent Madelain

43.4042 Phase-locking of behavioral fluctuations to microsaccade generation Joachim Bellet, Ziad Hafed

43.4043 Microsaccades during reading Norick Bowers, Michele Rucci, Martina Poletti

43.4044 Sensorimotor transformation for antisaccades requires dissociable facilitatory and inhibitory components Donatas Jonikaitis, Saurabh Dhawan, Nina Hanning, Heiner Deubel

43.4045 Effect of allocentric cues on primate gaze behaviour in a cue conflict task Jirui Li, Amir Sajad, Robert Marino, Xiaogang Yan, Saihong Sun, Hongying Wang, Douglas Crawford

Multisensory Processing: Vision and hearing, perceptual processes

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4046 ON and OFF channels in auditory-visual integration Cesare Parise, Martin Banks, Marc Ernst

43.4047 Recalibration to audiovisual simultaneity: Insights from a temporal bisection task Ljubica Jovanovic, Pascal Mamassian

43.4048 Cross-modal motion aftereffects induced by complex auditory stimuli Katherine Tregillus, Alissa Winkler, Fang Jiang

43.4049 Audiovisual Rate-Discrimination Depends on Both Spatial and Temporal Cues for Integration Shannon Locke, Michael Landy

43.4050 Audiovisual integration and spatial alignment in azimuth and depth. Nathan Van der Stoep, Tanja Nijboer, Stefan Van der Stigchel

43.4051 A Crossmodal Roelofs Effect Reveals a Shared Frame of Reference for Visual and Auditory Localization Jeffrey Peterson, Paul Dassonville

43.4052 Disappearance of co-occurring biases among multiple features for contrast judgments Erika KUMAKURA, Kazuhiko YOKOSAWA

43.4053 Audiovisual "Invisible Rabbit": Auditory Suppression of Visual Flashes in Spatiotemporal Stimuli Monica Li, Noelle Stiles, Carmel Levitan, Yukiyasu Kamitani, Shinsuke Shimojo

43.4054 Audiovisual "Illusory Rabbit": The Role of Postdiction in Crossmodal Spatiotemporal Dynamics Shinsuke Shimojo, Noelle Stiles, Monica Li, Carmel Levitan, Yukiyasu Kamitani

43.4055 Hierarchical Structure in Visual and Auditory Rhythms as Revealed by Cross-modal Synchrony Stephen Palmer, Joshua Peterson

Spatial Vision: Neural mechanisms

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4056 Visualizing allocation of attention in naturalistic scenes: an fMRI p-imaging study of human early visual cortex Karl Zipser, Kendrick Kay, Amrita Puri

43.4057 Response variability is shared between similarly tuned neural populations Ruben van Bergen, Janneke Jehee

43.4058 Problems associated with a nonlinear relationship between neural and fMRI BOLD responses and a solution Bosco Tjan, Pinglei Bao, Christopher Purington

43.4059 **Decoding of visual stimulus location in the human hippocampus** Anna Shafer-Skelton, Julie Golomb

43.4060 fMRI Pattern Similarity Analysis Reveals Oblique Effects Throughout The Human Visual Cortex Michael Pratte, Sam Ling, Frank Tong

43.4061 **Orientation-Tuned Surround Suppression in the Human LGN** Sonia Poltoratski, Devin McCormack, Frank Tong

43.4062 A deep convolutional energy model of V4 responses to natural movies Michael Oliver, Jack Gallant

43.4063 **A Generalized Tilt After-Effect** Ahamed Miflah Hussain Ismail, Joshua Solomon, Miles Hansard, Isabelle Mareschal

43.4064 Analysis of individual and spatiotemporal variability in human cortical contrast response functions: further evaluation of separable high and low contrast processes Russell Hamer, Givago Souza, Thiago Costa, David Peterzell, Ana Milioni, Bruno Gomes, Luiz Silveira, Dora Ventura

43.4065 Temporal characteristics of luminance noise affect the pathway mediating contrast sensitivity Cierra Hall, J. Jason McAnany

43.4066 Prolonged exposure to image skews of dynamic natural scenes facilitates future adaptation performance Selam Habtegiorgis, Katharina Rifai, Siegfried Wahl

43.4067 Concordance of Resting-State vs Task-Based FMRI Maps of Human Visual Cortex Edgar DeYoe, Ryan Raut, David Ritchie, Jed Mathis

43.4068 A network of topographic numerosity maps in human occipital, parietal and frontal lobes Ben Harvey, Serge Dumoulin

Motion: Optic flow

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4069 **Signatures of egocentric location and speed processing in early visual cortex** Elizabeth Chrastil, Michael Hasselmo, Chantal Stern, Sam Ling

43.4070 Center bias in perceived heading from optic flow Xing Xing, Jeffrey Saunders

43.4071 Biological Motion Perception Improves Heading Estimation For Self-Motion Through Crowds Hugh Riddell, Markus Lappe

43.4072 Effects of global form information on heading perception in central vs. peripheral vision ${\rm Long}\ {\rm Ni}, {\rm Li}\ {\rm Li}$

43.4073 Introducing the Head-Mounted Rotating Drum Ramy Kirollos, Olivia Longo, Matthew Brown, Chris Herdman

43.4074 Seeing the world as it is: veridical motion perception in schizophrenia and effects of non-invasive transcranial electric stimulation Gorana Pobric, Johan Hulleman, Michal Lavidor, Daniel Javitt

43.4075 Processing of visually simulated self-motion – an EEG-study Constanze Schmitt, Frank Bremmer

43.4076 Dissociable processing of radial motion direction and focus of expansion in human cortical areas V3A and V5/MT+ Samantha Strong, Edward Silson, André Gouws, Antony Morland, Declan McKeefry

43.4077 Is optic flow sufficient for biphasic steering movements typified by lane-changing? $Xin\ Xu$, $Guy\ Wallis$

Attention: Spatial selection and modulation 1

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4078 The Spatial Borders of Search Resumption Nir Shalev, Nele Demeyere, Glyn Humphreys

43.4079 Investigating the persistence of location probability learning in different reference frames Douglas Addleman, Yuhong Jiang

43.4080 **Spatial Probability Improves Detection, Orientation Probability Improves Precision: Modelling as Neural Gain versus Tuning** Syaheed Jabar, Britt Anderson

43.4081 Predictive cues narrow the window of spatial attention in crowded visual displays: Evidence from ERPs Joel Robitaille, Rachel Vonk, Holly Lockhart, Stephen Emrich

43.4082 Brief visual events look briefer at locations suffering inhibition of return Takayuki Osugi, Yuji Takeda, Ikuya Murakami

43.4083 **Combining attention networks increases visual awareness** Mathieu Landry, Joshua Laxer, Amir Raz

43.4084 How do Endogenous Attention, Exogenous Attention and Metacontrast Masking Operate in Controlling Stimulus Visibility? Haluk Ogmen, Sevda Agaoglu, Bruno Breitmeyer

43.4085 **Sequence effects of symbolic cueing by gaze and arrow cues** Qian Qian, Jingsong Li, Zhenhong Shang, Yong Feng, Feng Wang

43.4086 **Segregation and integration processes in inhibition of return** Yang Zhang, YueJia Luo, Ming Zhang

43.4087 Does the size of the attentional window influence encoding of hierarchical stimuli? Steven Schultz, Thomas Sanocki

43.4088 The emergence of the costs and benefits of grouping during visual search Rachel Wu, Gaia Scerif, Richard Aslin

43.4089 Examining attention allocation during a proceduralized visual task Theodros Haile, Mahalakshimi Ramamurthy, Erik Blaser

43.4090 Involuntary attention in the absence of visual awareness Cheng Qian, Taosheng Liu

43.4091 Evaluating Spatial-Based Attention Exclusivity for Hemifield Independence: Accounting for Effects of Salience, Distractor Preview, and Spatial Certainty Joanna Lewis, Mark Neider

43.4092 A viewing time account for robust spatial cueing effects in all attentional paradigms Christie Haskell, Britt Anderson

43.4094 Time-resolved fMRI tracks attention through the visual field Paige Scalf, Elexa St. John-Saaltink, Markus Barth, Hakwan Lau, Floris De Lange

Faces Perception: Experience, learning, and expertise

Monday, May 16, 8:30 am - 12:30 pm Poster Session, Pavilion

43.4095 Exploring Brain Mechanisms Underlying Individual Differences in the Effect of Acquired Familiarity on Face Learning and Generalization Peter Cheng, Varden Hung, Emily Lin, Gary Shyi, S.-T. Huang

43.4096 The reverse caricature effect for faces caricatured in shape or texture Marlena Itz, Stefan Schweinberger, Jürgen Kaufmann

43.4097 Scanning Faces During Encoding and Retrieval: Age and Race Effects Gizelle Anzures, Frank Haist

43.4098 Dustin Hoffman Then and Now: The Age Invariance of Familiar Face Representations is Dependent on Experience. Sarah Laurence, Valentina Proietti, Catherine Mondloch

43.4099 Personal familiarity enhances sensitivity to horizontal structure during face identification Matthew Pachai, Allison Sekuler, Patrick Bennett, Philippe Schyns, Meike Ramon

43.4100 **How does a newly encountered face become familiar?** Kristen Baker, Sarah Laurence, Catherine Mondloch

43.4101 **FFA activity predicts face recognition performance** Kaitlin Ryan, Rankin McGugin, Benjamin Tamber-Rosenau, Isabel Gauthier

43.4102 The influence of hometown population on the relationship between face memory and holistic processing Alyson Saville, Benjamin Balas

43.4103 Learning to Recognize Faces Following Perceptual and Conceptual Judgments Linoy Schwartz, Galit Yovel

43.4104 The role of motion in familiar and unfamiliar recognition of the whole person Noa Simhi, Galit Yovel

43.4105 Rapid category learning in high-level vision: From face instances to person categories James Tanaka, Alison Campbell

43.4106 Face and body recognition in dancers and non-dancers Larissa Vingilis-Jaremko, Victoria Guida, Karolina Beben, Grace Gabriel, Joseph DeSouza

43.4107 The Own-Race Recognition Advantage is Attributable to Visual Working Memory: Evidence from a continuous-response paradigm Xiaomei Zhou, Catherine Mondloch, Stephen Emrich

43.4108 Improving other-race face recognition: Modifying representations in multi-dimensional face space. Claire Matthews, Catherine Mondloch

43.4109 Older adult faces in the young adults' eyes: attention towards identity cues eliminates the recognition advantage for young adult faces Valentina Proietti, Sarah Laurence, Catherine Mondloch

 $43.4110\,\text{The Inversed Affective Learning and Its Cause}\ \mathrm{Naixin}\ \mathrm{Ren},$ Wenfeng Chen, Xiaolan Fu

43.4111 **Measuring capacity for template precision in dual-target search for faces** Tamaryn Menneer, Natalie Mestry, Hayward Godwin, Kyle Cave, Nick Donnelly

43.4112 Deliberate disguise in facial image comparison Eilidh Noyes, Rob Jenkins

43.4113 Optimal integration of facial form and motion during face recognition Katharina Dobs, Isabelle Bülthoff, Leila Reddy



TUESDAY MORNING TALKS

Eye Movements: Cognition and models

Tuesday, May 17, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Melissa Vo

51.11, 8:15 am Stuck on semantics: Irrelevant object-scene inconsistencies modulate ongoing eye movement behavior during letter search Tim Cornelissen, Melissa Vo

51.12, 8:30 am Perceptual and motor strategies for integrating information across graphs and accompanying text Jason Rubinstein, Cordelia Aitkin, Eileen Kowler

51.13, 8:45 am Using CRISP to model saccade parameters and error rates in the antisaccade task Ryan Hope, Wayne Gray

51.14, 9:00 am Reading without a lexicon: An illiterate model of saccade programming in the superior colliculus predicts where readers move their eyes! Françoise Vitu, Hossein Adeli, Gregory Zelinsky

51.15, 9:15 am A dissociation between the perceptual and saccadic localization of moving objects for reactive saccades but not for memory-guided saccades Delphine Massendari, Matteo Lisi, Thérèse Collins, Patrick Cavanagh

51.16, 9:30 am The buildup of temporal anticipation revealed by microsaccades and eye-blinks Yoram Bonneh, Uri Polat, Yael Adini

Color and Light: Surfaces and materials

Tuesday, May 17, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Roland Fleming

52.11, *10:45 am* **Specular kurtosis and the perception of hazy gloss** Pascal Barla, Peter Vangorp, Carlos Zubiaga, Roland Fleming

52.12, 11:00 am Simultaneous gloss contrast: Conjoint measurements of lightness and gloss Sabrina Hansmann-Roth, Pascal Mamassian

52.13, 11:15 am Perceived 3D Shape Toggles Perceived Glow Minjung Kim, Laurie Wilcox, Richard Murray

52.14, 11:30 am Perceived bumpiness of 3D-rotating objects are affected by surface reflectance and motion characteristics Dicle Dovencioglu, Maarten Wijntjes, Ohad Ben-Shahar, Katja Doerschner

52.15, 11:45 am Cues Underlying Liquid Constancy Jan Jaap van Assen, Pascal Barla, Roland Fleming

52.16, 12:00 pm Coupled computations of 3D shape and translucency Phillip Marlow, Juno Kim, Barton Anderson

52.17, 12:15 pm Perception of super-fine structures based on image intensity statistics Masataka Sawayama, Mikio Shinya, Shin'ya Nishida

Attention: Neural mechanisms

Tuesday, May 17, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Fred Hamker

51.21, 8:15 am Attentional modulation of pupillary light responses by microstimulation of the superior colliculus Chin-An Wang, Douglas Munoz

51.22, 8:30 am Transcranial alternating current stimulation (tACS) reveals causal role of brain oscillations in visual attention Daniel Baldauf, Nir Grossman, An-Ming Hu, Ed Boyden, Robert Desimone

51.23, 8:45 am The Impact of Noise Correlations in Visual Cortex on Perceptual Performance Depends on their Origin Adrian Bondy, Bruce Cumming

51.24, 9:00 am A quantitative neuro-computational model of attentive receptive field changes in area MT Fred Hamker, Alex Schwarz

51.25, 9:15 am Understanding the impact of different sources of variability on IT performance during target search Noam Roth, Nicole Rust

51.26, 9:30 am The Neural Bases of Mental Operations in Visual Working Memory Peter Tse, Prescott Alexander, Alex Schlegel

Perceptual Organization

Tuesday, May 17, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Gary Lupyan

52.21, 10:45 am Perceiving Biological Growth and Other Non-Rigid Transformations Filipp Schmidt, Roland Fleming

52.22, 11:00 am Human Visual Perception of the 17 Wallpaper-Group Patterns using Timed Trials yanxi liu, Jeremy cole, david reitter

52.23, 11:15 am The role of contour length, convex hull, and density in early versus late visual number encoding Darko Odic

52.24, 11:30 am Face processing interferes with word identification during rapid serial visual presentation Amanda Robinson, David Plaut, Marlene Behrmann

52.25, 11:45 am Objective effects of knowledge on visual perception Gary Lupyan

52.26, 12:00 pm Facilitatory lateral interactions in patients with age-related macular degeneration Marcello Maniglia, Benoit Cottereau, Vincent Soler, Yves Trotter

52.27, 12:15 pm Visual shape completion deficits arise in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker Brian Keane, Danielle Paterno, Sabine Kastner, Steven Silverstein

TUESDAY MORNING POSTERS

Spatial Vision: Models

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

53.3001 **Visual discrimination is a two-stage process** Peng Sun, Michael Landy

53.3002 Contrast sensitivity: Measuring late internal noise across spatial frequencies Daphne Silvestre, Angelo Arleo, Remy Allard

53.3003 Emulating and predicting physiological results of neurons in the primary visual cortex (V1) based on the divisive normalization model Tadamasa Sawada, Alexander Petrov

53.3004 **Revealing the hidden responses of a sparse coding network** Kedarnath Vilankar, James Golden, David Field

53.3005 An Image-Based Model for Early Visual Processing Heiko Schütt, Felix Wichmann

53.3006 A model of V1 metamer can explain perceived deformation of a static object induced by light projection. Taiki Fukiage, Takahiro Kawabe, Shin'ya Nishida

53.3007 Estimating and comparing models of neural encoding and decoding using psychophysical experiments Christopher DiMattina

53.3008 Some observations on the psychophysics of Deep Neural Networks David Janssen, Heiko Schuett, Felix Wichmann

53.3009 Brightness Illusions and the Benary Cross: A Modified ODOG Explanation Aaron Clarke, Mark Vergeer

53.3010 **Psychophysical evaluation of a novel visual noise metric for renderings** Thomas Maier, Fran González García, Roland Fleming

53.3011 **Measuring the Contrast Sensitivity Function in just three clicks** Jessica Tardif, Marcus Watson, Deborah Giaschi, Frédéric Gosselin

53.3012 **Testing a novel tool for vision experiments over the internet** Kenchi Hosokawa, Kazushi Maruya, Shi'nya Nishida

Perception and Action: Timing, interception and online control

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

53.3013 Increased variability in a temporal-coincidence task after adaptation to delays: a possible explanation Elisabeth Knelange, Joan López-Moliner

53.3014 Neural Correlates of Adaptation to Visuo-Motor Delays Clara Cámara, Josep Marco-Pallarés, Joan López-Moliner

53.3015 Internal timing adjustments in interception revealed by Kalman filtering and diffusion processes Joan López-Moliner, Matthias Keil

53.3016 Humans integrate both speed and elapsed time cues for object interception Chia-Jung Chang, Mehrdad Jazayeri

53.3017 **Eye movement and steering control in locomotor interception** Huaiyong Zhao, David Hoppe, Constantin Rothkopf

53.3018 Automatic shape processing and visuomotor corrections during grasping Zhongting Chen, Jeffrey Saunders

53.3019 Proprioceptive contributions to online limb-target regulation processes? Valentin Crainic, Stephen Bested, John de Grosbois, Rachel Goodman, Luc Tremblay

53.3020 Limb and target vision differentially contribute to the multiple processes of online control John de Grosbois, Luc Tremblay

53.3021 **Judging endpoint accuracy with brief monocular visual cues** Tristan Loria, Damian Manzone, Valentin Crainic, Luc Tremblay

Perception and Action: Methods, theories and models

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

53.3022 About measuring reaction times Eli Brenner, Jeroen Smeets

53.3023 Visual but not proprioceptive signals contribute to detection of sensory-motor perturbation Elon Gaffin-Cahn, Todd Hudson, Michael Landy

53.3024 Humans exhibit discrete confidence levels in perceptual decision-making Matteo Lisi, Gianluigi Mongillo, Andrei Gorea

53.3025 Biophysically plausible neural model for the interaction between action observation and action execution Mohammad Hovaidi Ardestani, Martin Giese

53.3026 Both Perception and Action Are Biased by Local Motion When Reporting the Location of a Moving Target Daryn Blanc-Goldhammer, Maria-Alejandra De Araujo Sanchez, Paul Dassonville

53.3027 The visual neighborhood in human crowds: Metric vs. Topological Hypotheses

Trenton Wirth, William Warren

53.3028 Impact of tool function knowledge on visually-informed mechanical problem solving Felipe Munoz-Rubke, Devon Olson, Russell Will, Karin James

53.3029 Executive Control in Manual Affordances Nikolay Dagaev, Yury Shtyrov, Andriy Myachykov

53.3030 **Perceiving one's own invisible body through subjective completion of body parts with vision–action contingency** Ryota Kondo, Masahiko Inami, Michiteru Kitazaki

53.3031 Body size estimations: the role of visual information from a first-person and mirror perspective Michael Geuss, Simone Mölbert, Anne Thaler, Betty Mohler

Visual Search: Models and mechanisms

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

53.3032 **Peripheral vision contributions to contextual cueing** Stefan Pollmann, Jonathan Napp, Klaus Toennies, Franziska Geringswald

53.3033 **Visual Search for Multiple Targets in Probabilistic Environments** Yelda Semizer, Kimele Persaud, Xiaoli He, Nicholas Kleene, Omer Tanrikulu

53.3034 Examining Confirmatory Strategies in Visual Search: People are more flexible than you think Stephen Walenchok, Stephen Goldinger, Michael Hout

53.3035 Adding a Dimension to Visual Search Dawn Sarno, Joanna Lewis, Mark Neider

53.3036 **The role of contextual cuing in general improvement** Anna Vaskevich, Roy Luria

53.3037 Why are the Batteries in the Microwave?: Use of Semantic Information Under Uncertainty in a Search Task Gwendolyn Rehrig, Michelle Cheng, Brian McMahan, Rahul Shome

53.3038 The size congruity effect in visual search for digits involves both facilitation and interference Amrita Puri, Kenith Sobel, Nikolas Sieg, Zachery Stillman

53.3039 The Effects of Blur/Clarity Contrast on Visual Selective Attention Jared Peterson, Ryan Ringer, Michele Riter, Elizabeth Sisco, Maria De La Torre, Shobha Subedi, Lester Loschky

53.3040 The role of reinforcement in "optimal" search strategies Bobby Stuijfzand, Roland Baddeley, William Browne

53.3041 The new best model of visual search can be found in the brain Gregory Zelinsky, Hossein Adeli, Françoise Vitu

53.3042 Visual saliency response in the superficial and intermediate superior colliculus and the pupil. Janis Kan, Brian White, Chin-An Wang, Laurent Itti, Douglas Munoz

53.3043 Attending to Multiple Objects Relies on Both Feature- and Dimension-based Control Mechanisms: Evidence from Human Electrophysiology Thomas Töllner, Markus Conci, Hermann Müller, Veronica Mazza

53.3044 Real time electroencephalography analysis of brainwaves during perception of visual illusions Sun Zhe, Zhu Li, Ruggero Micheletto, Andrzej Cichocki

53.3045 Does Hand Position Enhance Target Detection in a Complex, Real-World Search? Ronald Andringa, Sadhana Ponnaluri, Jason McCarley, Walter Boot

53.3046 Find one fast, or find them all slow: Do collaborative visual searchers search more quickly or more thoroughly? Alexis Lopez, Garrett Bennett, Arryn Robbins, Hayward Godwin, Michael Hout

53.3047 Solid field of visibility Sergei Gepshtein

Attention: Capture, salience, reward

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

53.4001 Timmy, Lassie, Clyde, Daffy, Hedwig, and Polly: Joint attention effects between human and nonhuman animals Anna McPhee, Joseph Manzone, Timothy Welsh

53.4002 Active suppression of salient-but-irrelevant inputs takes time and does not underlie resistance to interference Dirk Kerzel, Caroline Barras

53.4003 Interference from salient-but-irrelevent stimuli is stronger with perceptual ambiguity: Evidence for biased competition Caroline Barras, Dirk Kerzel

53.4004 Looking for color while searching for onsets: The efficiency of top-down search sets is influenced by task context Florian Goller, Ulrich Ansorge

53.4005 Is prefrontal cortex susceptible to odd visual stimuli? Seiichiro Naito, Eimi Asakura

53.4006 A novel singleton color captures attention on a surprise trial Gernot Horstmann, Daniel Ernst

53.4007 **Reliability of eye movements and reaction times measuring attention capture** Hanna Weichselbaum, Christoph Huber-Huber, Ulrich Ansorge

53.4008 Do Different Attention Capture Paradigms Measure Different Types of Capture? Nelson Roque, Timothy Wright, Walter Boot

53.4009 Attentional capture by non-biologically relevant stimuli: an illustration with car stimuli Ana Júlia Moreira, Nathalie Herbeth, Nathalie Le Hir, Laurent Sparrow

53.4010 **Object contextual knowledge alters visual attention** Wei Chen, Olivia Cheung

53.4011 **Task-irrelevant contextual expectation impairs orientation discrimination performance** Nuttida Rungratsameetaweemana, Sirawaj Itthipuripat, John Serences

53.4012 Episodic Long-Term Memories Capture Attention Disproportionately in the Presence of Retrieval Cues Allison Nickel, Lauren Hopkins, Deborah Hannula

53.4013 Can visual working memory capture result in long-term memory representations of irrelevant features? Rebecca Goldstein, W. Joseph Delaune, Melissa Beck

53.4014 Active visual working memory representations are insufficient to control spatial attentional capture. Blaire Dube, Krista Miller, Maria Giammarco, Naseem Al-Aidroos

53.4015 Attentional disengagement suppresses visual long-term memory Yoolim Hong, Andrew Leber

53.4016 Don't Let It Distract You: Availability of Reward Affects Attentional Selection Michel Failing, Jan Theeuwes

53.4017 **Do high-reward distractors capture attention? It is all about the context!** Tobias Feldmann-Wüstefeld, Ruben Brandhofer, Anna Schubö

53.4018 Contingency Awareness is not required for Fear Conditioned Capture of Attention Lauren Hopkins, Nicholas Christopher-Hayes, Fred Helmstetter, Deborah Hannula

Attention: Priming, cueing, guiding, and dividing

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

53.4019 Explaining the action effect Greg Huffman, Jay Pratt

53.4020 **Arousing Brute Force and Alerting Selectivity** Árni Ásgeirsson, Sander Nieuwenhuis

53.4021 Interference Control in Adolescents with ADHD - A Different Point of View Orly Azulai, Carmel Mevorach, Lilach Shalev

53.4022 Visual attention around invisible hands Satoshi Shioiri, Ryota Nishikawa, Kazumichi Matsumiya, Ichiro Kuriki

53.4023 Evidence for the Redundant Signals Effect in Detection of Categorical Targets Ada Mishler, Mark Neider

53.4024 **Dual Task Costs in Surround Motion Integration** Jessica Cali, Jiali Song, Allison Sekuler, Patrick Bennett

53.4025 The Effects of Foveal Versus Auditory Working Memory Dual-Task Loads on Covert and Overt Attention Ryan Ringer, Zac Throneburg, Aaron Johnson, Arthur Kramer, Lester Loschky

53.4026 Associative activation and its relation to mental exploration Shira Baror. Moshe Bar

53.4027 Stroop together: No evidence for shared representations of response-set in conflict resolution Wieske van Zoest, Daniel Saunders, David Melcher

53.4028 The spatiotemporal neural dynamics of attentional failures during sustained dual-task performance. James Elliott, Barry Giesbrecht

53.4029 **A gradient for the target template in feature-based attention** Hannah Wyland, Shaun Vecera

53.4030 Limits on the contribution of priming to attentional control settings: Evidence from long-term memory control sets. Maria Giammarco, Jackson Hryciw, Blaire Dube, Naseem Al-Aidroos

53.4031 Associative learning undermines top-down control of visual attention Hanna Kadel, Tobias Feldmann-Wüstefeld, Anna Schubö

- 53.4032 Using the texture-centroid method to analyze the mechanisms sensitive to higher-order image statistics Kier Groulx, Charles Chubb, Jonathan Victor, Mary Conte
- 53.4033 Attentional competition between reach target and saccade target selection Nina Hanning, David Aagten-Murphy, Heiner Deubel
- 53.4034 Simultaneous allocation of attention to perceptual and saccade goals in a same-different matching task: Effects on discrimination and saccade performance. Tobias Moehler, Katja Fiehler
- 53.4035 Task-irrelevant expectation violations in well-practiced sequential manual actions: Evidence for a "check-after-surprise" mode of visual attention and eye-hand decoupling Rebecca Foerster, Werner Schneider
- 53.4036 Context matters: Driving perceptual breakthrough through contextual priming Alexia Zoumpoulaki, Luise Gootjes-Dreesbach, Zara Bergström, Abdulmajeed Alsufyani, Howard Bowman
- **53.4037 Attentional trade-offs driven by resource scarcity** Brandon Tomm, Jiaying Zhao
- 53.4038 Attending to multiple ensembles across visual domains imposes no cost relative to multiple ensembles within a single visual domain. Hayden Schill, Jason Haberman

Eye Movements: Saccades and perception

- Tuesday, May 17, 8:30 am 12:30 pm Poster Session, Pavilion
- 53.4039 The effect of stimulus contrast on pre-saccadic orientation discrimination Mehmet Agaoglu, Susana Chung
- 53.4040 Saccades and the perceptual organization of surface structure Nicole Jardine, Cathleen Moore
- 53.4041 **Saccade preparation reshapes perceptual tuning** Hsin-Hung Li, Antoine Barbot, Marisa Carrasco
- 53.4042 Where You Look Matters for Body Perception: Preferred Gaze Location Causally Contributes to the Body Inversion Effect Danielle McKean, Joseph Arizpe, Annie Chan
- 53.4043 **Temporal dynamics of attention before anti-saccades** Laura Mikula, Marilyn Jacob, Laure Pisella, Aarlenne Khan
- 53.4044 What do the Eyes Reveal? Visual Attention Strategies During Mental Rotation Katherine Moen, Melissa Beck
- 53.4045 Malleable pre-saccadic shift of attention Michael Puntiroli, Dirk Kerzel, Sabine Born, Heiner Deubel, Martin Szinte
- 53.4046 Evolutionary-based threat modulates infants' predictive tracking of visual stimuli Adi Rosenthal, Vladislav Ayzenberg, Samuel Hunley, Stella Lourenco
- 53.4047 **Feature prediction across eye movements is location specific** Arvid Herwig, Katharina Weiß, Werner Schneider
- 53.4048 Tracking choices before they are made: Saccadic decisions bias perceptual selection Anna Klapetek, Donatas Jonikaitis

Visual Memory: Capacity and resolution

- Tuesday, May 17, 8:30 am 12:30 pm Poster Session, Pavilion
- 53.4049 Competitive interactions occur during working memory encoding and iconic memory but not during working memory maintenance. Jumana Ahmad, Garrett Swan, Howard Bowman, Brad Wyble, Anna Nobre, Kimron Shapiro, Fiona McNab
- 53.4050 Working memory capacity predicts the efficiency of transfer into long-term memory Kirsten Adam, Edward Vogel

- 53.4051 Inter-item distortions in visual working memory Christoph Bledowski, Benjamin Rahm, Victoria Anschütz, Benjamin Peters, Jochen Kaiser, Stefan Czoschke
- 53.4052 **Objects held in visual working memory compete for access to resources.** Oakyoon Cha, Sang Chul Chong
- 53.4053 **Probabilistic Information in Visual Working Memory** Maija Honig, Daryl Fougnie, Wei Ji Ma
- 53.4054 Focusing on memory: Attentional focusing increases the effective capacity of visual working memory Lisa Jefferies
- 53.4055 Memory capacity is further limited when sensory modality and task are mismatched James Lynch, Abigail Noyce, Barbara Shinn-Cunningham, David Somers
- **53.4056 Alpha band fluctuations in iconic memory recall** Stephanie Nelli, Rachel Chen, John Serences
- 53.4057 Rapid Access to Visual and Semantic Representations in Iconic Memory Jasmina Vrankovic, Veronika Coltheart, Nicholas Badcock
- 53.4058 **Visual working memory capacity for orientation depends on stimulus form** Young Eun Park, Alejandra Patino, Frank Tong
- 53.4059 **The origin of the visual working memory capacity limitations** Marjan Persuh, Emmanuel Delgado, Aharon Zarzar
- 53.4060 Evidence for the modulation of visual working memory during exercise. Lindsey Purpura, Tom Bullock, Barry Giesbrecht
- 53.4061 Visual Working Memory Has Greater Tolerance Than Visual Long-Term Memory Mark Schurgin, Jonathan Flombaum
- 53.4062 **How many trials contribute to statistical representation over time?** Ke Tong, Chad Dubé, Robert Sekuler
- 53.4063 **A stimulus biased contralateral bias in intraparietal sulcus.** Kyle Killebrew, Ryan Mruczek, Marian Berryhill
- 53.4064 How Should Observers Allocate Limited Transsaccadic Memory in a Visual Search Task? Nicholas Kleene, Melchi Michel
- 53.4065 A Comparison of Haptic and Visual Memory Suggests

 Domain General Principles in Perceptual Working Memory Rachel
 Lerch, Chris Sims
- 53.4066 Quantifying the effect of a distractor on the fidelity of visual working memory representations in 4-7-year-old children and adults Sylvia Guillory, Zsuzsa Kaldy

Visual Memory: Objects and features

- Tuesday, May 17, 8:30 am 12:30 pm Poster Session, Pavilion
- 53.4067 The sum is no more than its parts: No evidence for bound features during multi-feature visual change detection Alex Burmester, Daryl Fougnie
- 53.4068 Feature binding in visual working memory is disrupted by task-irrelevant changes in object features. Andrea Bocincova, Amanda van Lamsweerde, Jeffrey Johnson
- 53.4069 **Shifting feature-based attention in visual short-term memory** Zampeta Kalogeropoulou, Akshay Jagadeesh, Sven Ohl, Martin Rolfs
- 53.4070 The compression of bound features in visual short-term memory Yuri Markov, Igor Utochkin
- 53.4071 MVPA reveals specialization and generality of sensory-biased regions of frontal cortex Nishmar Cestero, Abigail Noyce, Barbara Shinn-Cunningham, David Somers
- 53.4072 **Object Representations Guide Visual Short-Term Memory** Breana Carter, Joseph Nah, Sarah Shomstein

53.4073 Multi-part objects yield no change detection benefit for color and orientation even when parts are unambiguously integrated in the display Benjamin McDunn, James Brown, Ralph Hale, Richard Plummer

53.4074 Effects of previewing intrinsic color-shape conjunction on temporal illusory conjunctions Jun Saiki, Meiko Shibata

53.4076 Role of Attention in the Temporal Dynamics of Visual Working Memory Processing Jane Jacob, Christianne Jacobs, Bruno Breitmeyer, Juha Silvanto

53.4077 The influence of object rotation on visual serial dependence Patience Stevens, Jason Fischer

53.4078 **Perceptual stability without working memory** Kathy Zhang, Alina Liberman, David Whitney

53.4079 Statistical learning of movement Joan Ongchoco, Stefan Uddenberg, Marvin Chun

53.4080 Interactions Between Visual Working Memory and Selective Attention in Adults, Control Children, and Survivors of Pediatric Cancer Melissa Trevino, Bruno Breitmeyer

53.4081 Perceptual averaging of scientific data: Implications of ensemble representations for the perception of patterns in graphs Stefan Uddenberg, George Newman, Brian Scholl

Temporal Processing: Timing and time perception

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

53.4083 Measurement and manipulation of temporal weighting in perceptual decision-making Aaron Levi, Leor Katz, Jacob Yates, Alexander Huk

53.4084 The perceived duration of global motion in random dot kinematogram (RDK) displays Doga Gulhan, Inci Ayhan

53.4085 Please wait while this abstract finishes loading: Subjective time dilation while viewing progress bars is influenced by perceived event structure Yi-Chia Chen, Brian Scholl

53.4086 Modality-dependent and modality-independent nature of central tendency in time perception Yuki Murai, Yuki Hashimoto, Yuko Yotsumoto

53.4087 **Time dilation in a jittering motion perceived in a stationary stimulus** Ikuya Murakami, Shunsuke Aoki, Akitoshi Kawano, Masahiko Terao

53.4088 **Neural correlates of illusory discrete perception: an EEG study** Ryohei Nakayama, Isamu Motoyoshi, Takao Sato

53.4089 Flickering task-irrelevant distractors dilate the perceived duration of a target not on the retinotopic coordinate but on the cortical coordinate Miku Okajima, Yuko Yotsumoto

53.4090 Time Perception and Stimulus Response Compatibility ${\rm D.}$ Alexander Varakin, Amanda Renfro, Jason Hays

53.4091 Time in the eyes: Covariant temporal compression and pupil constriction to impending collision Tao Zhang, Yang Wang, Peijun Yuan, Shenbing Kuang, Yi Jiang

Perceptual Learning: Neural mechanisms

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

53.4092 Visual BOLD response in late-blind subjects with Argus II retinal prosthesis Elisa Castaldi, Marco Cicchini, Laura Cinelli, Michela Tosetti, Stanislao Rizzo, Maria Morrone

53.4093 Perceptual learning modifies the functional specializations of visual cortical areas Fang Fang, Nihong Chen, Peng Cai, Tiangang Zhou, Benjamin Thompson

53.4094 Participants with central vision loss show stronger resting state functional connectivity between V1 and frontal and parietal regions Kristina Visscher, Wesley Burge, Matthew Defenderfer, Rodolphe Nenert, Dawn DeCarlo, Lesley Ross

53.4095 The distributed neural basis of visual expertise in different expert groups Farah Martens, Christine van Vliet, Hans Op de Beeck

53.4096 Neurophysiological mechanisms of experience-dependent perceptual biases using concurrent EEG-fMRI recordings Nathan Petro, L. Forest Gruss, Siyang Yin, Haiqing Huang, Vladimir Miskovic, Mingzhou Ding, Andreas Keil

53.4097 The role of the perirhinal cortex in tactile perception and memory in the blind Laura Cacciamani, Lora Likova

53.4098 The mechanism of the facilitation of visual perceptual learning by reward is not the same as that by response feedback alone. Dongho Kim, Dong-Wha Kang, Shigeaki Nishina, Yuka Sasaki, Takeo Watanabe

53.4099 Perceptual Learning Increases the Contrast Gain of the N1 Component Jie Xi, Chang-Bing Huang

53.4100 Overlearning of a visual task makes the learning rapidly hyper-stabilized to protect it from being overwritten by training on a new task – A new role of overlearning since 1885 – Kazuhisa Shibata, Maro Machizawa, Edward Walsh, Ji-Won Bang, Yuka Sasaki, Takeo Watanabe

53.4101 The effect of tDCS on task relevant and irrelevant perceptual learning of complex objects Chayenne Van Meel, Nicky Daniels, Hans Op de Beeck, Annelies Baeck

53.4102 EEG frequency tagging reveals a neural signature of learning holistic shape representations Mark Vergeer, Naoki Kogo, Andrey Nikolaev, Nihan Alp, Johan Wagemans

Perceptual Learning: Training and expertise

Tuesday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

53.4103 Moderate levels of physical activity enhance short-term visual plasticity in adult humans Claudia Lunghi, Alessandro Sale

53.4104 Training melanoma detection in photographs using the perceptual expertise training approach Buyun Xu, Liam Rourke, June Robinson, James Tanaka

53.4105 Exploring the gaze strategies of expert object recognition by the means of eye-tracking. Simen Hagen, Quoc Vuong, Lisa Scott, Tim Curran, James Tanaka

53.4106 Training-induced attentional bias alters the appearance of both trained and untrained stimuli Sirawaj Itthipuripat, Kai-Yu Chang, Isabel Asp, John Serences

53.4107 The relation between initial thresholds, learning, and generalization in three perceptual learning paradigms Gabor Lengyel, Jozsef Fiser

53.4108 Examining the utility of visual and tactile information for fitting objects through openings Shaziela Ishak, Emily Boyle, Kelsie Decker, Alexis Tine

53.4109 **Visual and numerical representations of dynamic systems** Yu Wang, Yu Luo, Alejandra Echeverri, Jiaying Zhao

53.4110 Location and direction specificity in motion direction learning associated with a single-level method of constant stimuli Ying-Zi Xiong, Xin-Yu Xie, Cong Yu

53.4111 The complete transfer of learning between component and pattern motion: psychophysical evidence for training-induced plasticity in MT Ruyuan Zhang, Duje Tadin

53.4112 The importance of color and spatial frequency information after laboratory-trained perceptual expertise Hillary Hadley, Erik Arnold, Andrea Cataldo, James Tanaka, Tim Curran, Lisa Scott

53.4113 **Reward Enhances Perceptual Learning and Transfer** Pan Zhang, Fang Hou, Jie Xi, Meng-yuan Zhang, Qing He, Zhong-Lin Lu, Chang-Bing Huang

53.4114 Learning to generalize stimulus-specific learning across contexts Ali Hashemi, Matthew Pachai, Allison Sekuler, Patrick Bennett 53.4115 Learning with reduced adaptation is eccentricity specific Hila Harris, Dov Sagi

53.4116 Can perceptual learning alleviate the global motion direction discrimination deficit in amblyopia? Yi Gao, Alexander Baldwin, Robert Hess



TUESDAY AFTERNOON TALKS

Spatial Vision: Blur, crowding and summary statistics

Tuesday, May 17, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Michael Webster

54.11, 2:30 pm A new law defining the relationship between perceptual bias and discrimination threshold Xue-Xin Wei, Alan Stocker

54.12, 2:45 pm Can crowded letter recognition predict word recognition? Jean-Baptiste Bernard, Françoise Vitu-thibault, Eric Castet

54.13, *3:00 pm* **Cortical Dynamics of Perceptual Grouping and Segmentation: Crowding** Gregory Francis, Mauro Manassi, Michael Herzog

54.14, 3:15 pm Development of crowding: A new chart to measure crowding without requiring good fixation Denis Pelli, Hormet Yiltiz

54.15, 3:30 pm Seeing number through the lens of texture: Summary statistics and reduced peripheral numerosity. Benjamin Balas

54.16, 3:45 pm The power of populations: How the brain represents features and summary statistics Shaul Hochstein

54.17, *4:00 pm* **Blur and sharpness discrimination and adaptation** Siddhart Srivatsav, Michael Webster

Development: Atypical

Tuesday, May 17, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: Sheila Crewther

54.21, 2:30 pm Plasticity and functional connectivity in foveal and peripheral V1 of congenitally blind individuals Shipra Kanjlia, Connor Lane, Lisa Feigenson, Marina Bedny

54.22, 2:45 pm A possible account of impairments in configural face processing following early visual deprivation Sharon Gilad-Gutnick, Evan Ehrenberg, Sidney Diamond, Richard Held, Amy Kalia, Tapan Gandhi, Kleovoulos Tsourides, Margaret Kjelgaard, Pawan Sinha

54.23, 3:00 pm Early Visual Experience is Important for Audiovisual but not for Visuotactile Integration Terri Lewis, Yi-Chuan Chen, David Shore, Brendan Stanley, Daphne Maurer

54.24, 3:15 pm The developing ventral visual pathway in a young patient following right posterior hemispherectomy Tina Liu, Adrian Nestor, Mark Vida, John Pyles, Christina Patterson, Marlene Behrmann

54.25, 3:30 pm Altered balance between excitation and suppression in visual cortex of amblyopic macaques Luke Hallum, Christopher Shooner, Romesh Kumbhani, Najib Majaj, J. Anthony Movshon, Lynne Kiorpes

54.26, 3:45 pm Specific Vulnerability of Components of Visual Attention and Global Motion Following Perinatal Brain Injury Janette Atkinson, Oliver Braddick, Christine Monague-Johnson, Morag Andrew, Bonny Baker, Jeremy Parr, Peter Sullivan

54.27, 4:00 pm Evidence for elevated internal noise in Autism Spectrum Disorder Woon Ju Park, Kimberly Schauder, Loisa Bennetto, Duje Tadin



Motion and Temporal Processing: Models and mechanisms

Tuesday, May 17, 5:15 - 7:15 pm Talk Session, Talk Room 1 Moderator: Kaoru Amano

55.11, 5:15 pm Temporal modulations enhance spatial resolution for dynamic stimuli Jonathan Patrick, Neil Roach, Paul McGraw

55.12, 5:30 pm Illusory jitter perceived at the frequency of intrinsic alpha oscillation Sorato Minami, Kaoru Amano

55.13, 5:45 pm Something out of nothing: The role of alpha-frequency reverberation in the triple-flash illusion Rasa Gulbinaite, Barkin Ilhan, Rufin VanRullen

55.14, *6:00 pm* **Duration adaptation is position-invariant** Jim Maarseveen, Hinze Hogendoorn, Frans Verstraten, Chris Paffen

55.15, 6:15 pm Speed-Size Illusion Explained by Empirical Ranking Theory Zixin Yong, Po-Jang Hsieh

55.16, 6:30 pm **Speed channel interactions in naturalistic motion stimuli** Nikos Gekas, Andrew Meso, Guillaume Masson, Pascal Mamassian

55.17, 6:45 pm Representations along the path of apparent motion in visual cortex Gennady Erlikhman, Gideon Caplovitz

55.18, 7:00 pm Training alters the causal contribution of area MT to visual motion perception Liu Liu, Christopher Pack

Attention: Reward, emotion, motivation

Tuesday, May 17, 5:15 - 7:15 pm Talk Session, Talk Room 2 Moderator: Andrew Leber

55.21, 5:15 pm Relating value-driven attentional capture to striatal dopamine: A positron emission tomography study Brian Anderson, Hiroto Kuwabara, Dean Wong, Emily Gean, Arman Rahmim, James Brašić, Noble George, Boris Frolov, Susan Courtney, Steven Yantis

55.22, 5:30 pm Arousal state enhances contrast sensitivity under conditions of exogenous attention Rosanne Rademaker, Sam Ling, Alexander Sack

55.23, 5:45 pm Real World Goals Are Fickle and Volatile: Consuming High Fat Foods Reduces Distraction from Entirely Irrelevant High-Fat Foods Corbin Cunningham, Howard Egeth

55.24, 6:00 pm Are visual threats prioritised in the absence of awareness? Evidence from a meta analysis and attentional cueing experiment. Nicholas Hedger, Katie Gray, Matthew Garner, Wendy Adams

55.25, 6:15 pm Affective penetration of vision: Behavioral and eye-tracking evidence that emotion helps shape perception Briana Kennedy, Daniel Pearson, David Sutton, Tom Beesley, Steven Most

55.26, 6:30 pm **Spatial reward guides choice**, **not visual search** Andrew Leber, Bo-Yeong Won

55.27, 6:45 pm If you see something, say something: Event monitoring capacity is low. Chia-Chien Wu, Abla Soce, Jeremy Wolfe

55.28, 7:00 pm Irrational vision: Behavioural and fMRI studies of economic framing in naturalistic visual search Clayton Hickey, Ludwig Barbaro, Marius Peelen



TUESDAY AFTERNOON POSTERS

Color and light: Neural mechanisms

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.3001 Phosphene perception from transcranial magnetic stimulation (TMS) over the vertex Kelly Webster, Tony Ro

56.3002 Blue-yellow biases in early visual cortex assessed by VEP's John Erik Vanston, Alissa Winkler, Michael Webster, Michael Crognale

56.3003 In search of a melanopsin contribution to the ERG: Reconceptualizing the source of the a-wave? Christopher Tyler, Lora Likova, spero Nicholas

56.3004 Influences of sunrise and morning light on visual behavior of four sympatric New World primates (Alouatta, Ateles, Callicebus, Lagothrix) Max Snodderly, Kelsey Ellis, Sarina Lieberman, Andrés Link, Eduardo Fernandez-Duque, Sara Alvarez, Laura Abondano, Anthony Di Fiore

56.3005 Afterimages and Induced Colors Have the Same Hue: Implications for Discounting Illuminants Gennady Livitz, Guillaume Riesen, Tim Shepard, Ennio Mingolla, Rhea Eskew

56.3006 Suprathreshold interactions between color and luminance contrast: the effect of cross-oriented luminance contrast on perceived color contrast under dichoptic, monocular and binocular viewing conditions Yeon Jin Kim, Kathy Mullen

56.3007 Attentional modulation of color representation in human lateral geniculate nucleus Sang Wook Hong, QIng Yu, Won Mok Shim

56.3008 **Factors underlying individual differences in hue scaling** Kara Emery, David Peterzell, Vicki Volbrecht, Michael Webster

56.3009 Hue and slew Andrew Stockman, Bruce Henning, Andrew Rider, Peter West, Caterina Ripamonti

56.3010 A New Approach to the Absorption of Photon Energy among Retinal Cells Provides the Key to Some Old Problems in Color Vision Shahram Peyvandi, Alan Gilchrist

56.3011 **Retinal Processing Optimizes Contrast Coding** Jihyun Kim, Thomas Batard, Marcelo Bertalmío

56.3012 Dissociating Electrophysiological Correlates of Luminance and Brightness Using Metacontrast Masking Bruno Breitmeyer, Maximilian Bruchmann

56.3013 **Brain mapping reveals potential functions of ipRGCs in modulating eye movements** Shao-Min (Sean) Hung, Milea Dan, Françoise Viénot, Joo Huang Tan, Dhara Venkata Rukmini, Marie Dubail, Sharon Lee Choon Tow, Ting Aung, Joshua Gooley, Po-Jang (Brown) Hsieh

56.3014 Factor analysis of individual differences in the spectral sensitivities of transgenic and wild-type mice: expression of wild-type (M) and human (L) cone photopigments David Peterzell, Michael Crognale

56.3015 The invariance of surface color representations across illuminant changes in the human cortex Michael Bannert, Andreas Bartels

56.3016 Measuring the Propagation of Neural Signals Evoked from Colors and Contours Andrew Coia, Michael Crognale

Eye Movements: Visual search

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.3017 **The effect of Saliency and Ensemble in Visual Search.** Shunsuke Kumakiri, Yoshiyuki Ueda, Jun Saiki

56.3018 Target detection in dynamically changing visual displays: Predictive search, working memory capacity and intolerance of uncertainty Alex Muhl-Richardson, Hayward Godwin, Matthew Garner, Julie Hadwin, Simon Liversedge, Nick Donnelly

56.3019 Search for targets in fixed or random locations within consistent routes Oliver Tew, Hayward Godwin, Matthew Garner, Julie Hadwin, Simon Liversedge, Nick Donnelly

56.3020 Visual search in natural scenes: Normative modeling of the target absent case Jared Abrams, Wilson Geisler

56.3021 Tracking the dynamics of working memory representations through the eyes Katya Olmos Solis, Anouk Van Loon, Christian Olivers

56.3022 Typicality effects in categorical visual search investigated using the pupillary reflex Arryn Robbins, Michael Hout

56.3023 Rare Targets Induce Less "Perceptual Readiness:" Evidence from Pupillometry Maggie Sabik, Collin Scarince, Megan Papesh, Hayward Godwin, Stephen Goldinger, Michael Hout

56.3024 Eye Movements Reveal the Competition between Basic and Configural Features in False Pop Out in Visual Search Natalie Mestry, Kimberley Orsten-Hooge, James Pomerantz, Nick Donnelly

56.3025 **Oculomotor Capture Despite Contextual Cueing in Scenes** Jenn Olejarczyk

56.3026 Losing track of your eyes while trying to find Waldo Avi Aizenman, Melissa Võ, Jeremy Wolfe

56.3027 There and back again: Understanding the cause of revisits to distractors in high-prevalence visual searches Hayward Godwin, Tamaryn Menneer, Natalie Mestry, Kyle Cave, Nick Donnelly

56.3028 Vanishing point facilitates target search in natural scenes ali borji

56.3029 **Vanishing points attract eye movements during visual search** Yoshiyuki Ueda, Yusuke Kamakura, Jun Saiki

Objects: Learning, top-down effects, unconscious processes

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.3030 **Base-Rate Sensitivity Through Implicit Learning** Andrew Wismer, Urvashi Nayee, Christine Monir, Corey Bohil

56.3031 Fleeting impressions of economic value via summary statistical representations Allison Yamanashi, Kelly Chang, David Whitney

56.3032 **Effects of scene consistency in subliminally perceived visual stimuli** Jiyoon Stephanie Song, Hee Yeon Im, Christine Gamble, Joo-Hyun Song

56.3033 Dichoptic Masking Interferes with Feedback to Early Visual Areas when Part- and Whole-Familiarity Conflict Sarah Cook, Colin Flowers, Mary Peterson

56.3034 **Top-down modulation of spatial frequency extraction** Laurent Caplette, Bruno Wicker, Frédéric Gosselin

56.3035 **Sensitivity to statistical covariation of visual features is feature-specific** Hayaki Banno, Kuniyasu Imanaka

56.3036 Adaptation of numerical magnitude by visual size Eckart Zimmermann

56.3037 Factors affecting the perceived genuineness of security documents Osamu Masuda, Marius Pedersen, Jon Hardeberg

56.3038 The role of duration in the experience of beauty Lauren Vale, Denis Pelli

56.3039 **Compensation for blur requires an increase in field of view** MiYoung Kwon, Rong Liu

Motion: Neural mechanisms

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.3040 **Cortical responses to moderate- and high-speed gratings extending 60° in the peripheral visual field** Kyriaki Mikellidou, Francesca Frijia, Domenico Montanaro, Vincenzo Greco, David Burr, Maria Morrone

56.3041 **Primary visual cortex and behavioral responses to reversephi motion in mice.** Laurens Kirkels, Jacob Duijnhouwer, Wenjun Zhang, Martha Havenith, Jeffrey Glennon, Richard Wezel

56.3042 Perceptual training alters residual motion processing in V1-damaged humans Michael Melnick, Matthew Cavanaugh, Marisa Carrasco, Duje Tadin, Krystel Huxlin

56.3043 Changes in visual motion processing by neurons in mature primary visual cortex (V1) following early color deprivation Heywood Petry, Wenhao Dang, Elizabeth Johnson, Stephen Van Hooser

56.3044 The fast and the curious: A velocity code model based on MT pattern and component neurons can explain why a moving grating plus a plaid (V + .5V) looks faster than just two gratings (also V + .5V). John Perrone

56.3045 MT neurons are less directional selective after chronic V1 lesions in adult marmoset monkeys Leo Lui, Maureen Hagan, Tristan Chaplin, Krystel Huxlin

56.3046 Format-independent cortical representations of interactive events Alon Hafri, John Trueswell, Russell Epstein

56.3047 Theta-burst rTMS to the right superior temporal sulcus impairs emotion recognition from biological motion Rochelle Basil, Margaret Westwater, Martin Wiener, James Thompson

56.3048 Opposed effects of high- vs. low-frequency transcranial random noise stimulation on visual motion adaptation Gianluca Campana, Rebecca Camilleri, Beatrice Moret, Andrea Pavan

56.3049 Visual motion serves but is not under the purview of the dorsal pathway Sharon Gilaie-Dotan

Multisensory Processing: Vision, touch and balance

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4001 Alpha oscillations and desynchronizations facilitate visual-tactile multisensory integration ${\rm Lei}$ ${\rm Ai}, {\rm Tony}$ ${\rm Ro}$

56.4002 Effect of prior knowledge on visual localization of tactile stimulation Stephanie Badde, Hyunjin Oh, Michael Landy

56.4003 Integration of somatosensory and proprioceptive sensation in the localization of touch in visual space Michael Landy, Aotian Yang, Stephanie Badde

56.4004 Interplay between visuo-tactile interactions and attentional control over perceptual selection Ahmed Gardoh, Raymond Ee, Richard Wezel

56.4005 Early experience alters the developmental trajectory of visual, auditory and tactile sound-shape correspondences Hiu Mei Chow, Daniel Harris, Sandy Eid, Vivian Ciaramitaro

56.4006 On the importance of inter-sensory redundancy: Learning a new rhythmic coordination pattern using one mode (vision vs kinesthesis) can teach performance using the other mode Geoffrey Bingham, Winona Snapp-Childs, Qin Zhu, Shaochen Huang

56.4007 **Visuo-Haptic 3D Interpolation Shapes Amodally Completed Angles** Walter Gerbino, Joanna Jarmolowska, Carlo Fantoni

56.4008 Visuo-haptic cue integration in older adults Oh-Sang Kwon, Philip Jaekl, Olga Pikul, David Knill, Duje Tadin

56.4009 Boundary location of remembered area is determined based on object-centered coordinates Takuma Murakoshi, Eiji Kimura, Makoto Ichikawa

56.4010 **Object localisation using visual to tactile and visual to auditory sensory substitution** Dustin Venini, Ernst Ditges, Nicholas Sibbald, Hayley Jach, Stefanie Becker

56.4011 Allocentric and egocentric contribution to manual interception by moving actors. Florian Perdreau, Robert van Beers, Pieter Medendorp

56.4012 Proprioceptive Influences on the Processing of Visual Targets: An ERP Study Catherine Reed, Daivik Vyas, John Garza, William Bush, Shaun Vecera

56.4013 **The Vestibular Aubert-Fleischl Phenomenon** Isabelle Garzorz, Tom Freeman, Marc Ernst, Paul MacNeilage

56.4014 Observers have less confidence in perceiving self-motion direction from visual and vestibular information when the multi-modal integration is in the optimal range Ryo Tachibana, William Beaudot, Kenzo Sakurai

56.4015 Vection is facilitated by bone conducted vibration and galvanic vestibular stimulation Seamas Weech, Yaroslav Konar, Nikolaus Troje

56.4016 Oral Exposure to Glucose Affects Perception of Spatial Layout Jonathan Zadra, Dennis Proffitt

Binocular Vision: Rivalry and bistability

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4017 **The role of parietal cortex during probe-accelerated binocular rivalry** Brian Metzger, Kathy Low, Edward Maclin, Gabriele Gratton, Monica Fabiani, Diane Beck

56.4018 Similar spatial decencies for image- and eye-based integration during binocular rivalry Sjoerd Stuit, Maurits Barendregt, Maarten Smagt, Susan te Pas

56.4019 Playing visual dominance of score on the piano: Skilled motor action matters in the awareness of musical notes during binocular rivalry, only when accompanied by auditory feedback Sujin Kim, Chai-Youn Kim

56.4020 Contrast-modulated stimuli in competition with luminance-modulated stimuli under binocular rivalry conditions Jan Skerswetat, Monika Formankiewicz, Sarah Waugh

56.4021 **Responses of orientation-tuned channels in human visual cortex during binocular orientation rivalry** Chao Shi, Junshi Lu, Fang Fang

56.4022 A binocular context exerts a similar influence on both binocular rivalry and ambiguous figure perception Marouane Ouhnana, Ben Jennings, Frederick Kingdom

56.4023 **The development of binocular suppression in infant** Jiale Yang, So Kanazawa, Masami Yamaguchi

56.4024 Eye of origin is critical for robust continuous flash suppression Motomi Shimizu, Eiji Kimura

56.4025 Faster motion takes priority: Interocular dynamic suppression of motion is primarily salience-based rather than feature-selective Egor Ananyev, Po-Jang (Brown) Hsieh

56.4026 **Binocular summation of chromatic information** Hsiao-Yuan Lin, Chien-Chung Chen

56.4027 Differential effects of interocular suppression on the pupillary constriction and dilation Eiji Kimura, Ken Goryo

56.4028 Spatiotemporal BOLD correlates of switches in bistable perception Eline Kupers, Jan Brascamp, Tomas Knapen

56.4029 The temporal frequency tuning of CFS: peak suppression at low frequencies Shui'Er Han, Claudia Lunghi, David Alais

56.4030 Traveling waves in motion-induced blindness Dustin Cox, Sang Hong

56.4031 Causal events enter awareness faster than non-causal events Pieter Moors, Johan Wagemans, Lee de-Wit

56.4032 Perceptual Inferences in Schizophrenia: A preliminary study in healthy participants Pantelis Leptourgos, Charles-Edouard Notredame, Renaud Jardri, Sophie Denève

56.4033 Heritability of individual visual abilities captured by common SNPs Zijian Zhu, Yi Rao

Temporal Processing: Neural mechanisms

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4034 Visual target detection in temporal white-noise: A "universal" forward model using oscillatory impulse response functions
Sasskia Brüers, Rufin VanRullen

56.4035 Higher N1 responses in relatives of schizophrenia patients than controls in visual backward masking Janir da Cruz, Maya Roinishvili, Eka Chkonia, Patrícia Figueiredo, Michael Herzog

56.4036 Electrophysiological correlates of backward masking in students scoring high in cognitive disorganization Ophélie Favrod, Guillaume Sierro, Maya Roinishvili, Eka Chkonia, Christine Mohr, Céline Cappe, Michael Herzog

56.4037 Flicker adaptation and neural transmission speed in the human MC pathway Xinyu Liu, Xiaohua Zhuang, Steven Shevell

56.4038 The hidden spatial dimension of alpha: occipital EEG channels encode contralateral and ipsilateral visual space at distinct phases of the alpha cycle Diego Lozano-Soldevilla, Rufin VanRullen

56.4039 Reduced steady-state following responses in primary visual cortex in an animal model of schizophrenia Alexander Schielke, Bart Krekelberg

56.4040 **Temporal Summation and Adaptation in Human Visual Cortex** Jingyang Zhou, Noah Benson, Kendrick Kay, Jonathan Winawer

Face Perception: Mechanisms and models 2

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4041 Auditory face identification activates selective areas within the ventral visual stream in congenitally blind Roni Arbel-Yaffe. Amir Amedi

56.4042 **NEURAL BASIS AND DYNAMICS OF FACE AND VOICE INTE- GRATION OF EMOTION EXPRESSION** Jodie Davies-Thompson, Giulia V. Elli, Mohamed Rezk, Stefania Benetti, Markus van Ackeren, Olivier Collignon

56.4043 **Voxel-wise tuning for retinal and face space in the occipital face area** Benjamin de Haas, Martin Sereno, D. Samuel Schwarzkopf

56.4044 Distributed information processing across OFA and FFA represents individual face identities Yuanning Li, Avniel Ghuman

56.4045 The right FFA is functionally connected to the dorsal visual pathway during configural face processing. Valentinos Zachariou, Stephen Gotts, Zaid Safiullah, Leslie Ungerleider

56.4046 Facial identity encoding, face space structure and neural-based image reconstruction in congenital prosopagnosia. Dan Nemrodov, Adrian Nestor, Galia Avidan, David Plaut, Marlene Behrmann

56.4047 Dynamic flow of Face Categorization Task Information in an MEG Network. N. Rijsbergen, R. Ince, G. Rousselet, J. Gross, P. Schyns

56.4048 Watching the brain recalibrate: An ERP correlate of renormalization during face adaptation Nadine Kloth, Gillian Rhodes, Stefan Schweinberger

56.4049 Neural representations of visual stimuli are influenced by cognitive load Luca Vizioli, Kendrick Kay, Junpeng Lao, Meike Ramon

56.4050 Automatic contribution of colour information to face categorization from briefly presented natural images Charles C.-F. Or, Talia Retter, Bruno Rossion

56.4051 At a single glance: uncovering the magnitude and spatio-temporal dynamics of neural face categorization responses with rapid streams of natural images Talia Retter, Bruno Rossion

56.4052 Tilt aftereffects in face space O. Gwinn, Michael Webster

56.4053 Does differential shape-contour processing precede or follow category-selective processing? Juliet Shafto, Michael Tarr

56.4054 Testing the independence of neural representations of face identity and expression through multidimensional signal detection theory Fabian Soto, Lauren Vucovich, F. Greg Ashby

56.4055 Observers perceive the average identity of amodally completed faces Lauren Ulrich, Jason Haberman

Face Perception: Disorders

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4056 Alzheimer's disease: temporal and familiarity gradients in face recognition. Marie-Christine Nizzi, Christine Moroni, Ken Nakayama

56.4057 **Topographic disorientation (TD) in Developmental and Aquired Prosopagnosia patients** Jeffrey Corrow, Sherryse Corrow, Edison Lee, Ford Burles, Bradley Duchaine, Giuseppe Iaria, Jason Barton

56.4058 Tone deafness in developmental prosopagnosia - is there a common cause? Sherryse Corrow, Jacob Stubbs, Stephanie Buss, H. Charles Li, Gottfried Schlaug, Jason Barton

56.4059 **No emotion adaptation to the low spatial frequencies of hybrid faces in developmental prosopagnosia** Edwin Burns, Joel Martin, Alice Chan, Hong Xu

56.4060 On the relation between face and object recognition in developmental prosopagnosia: Systematic association but no dissociation. Christian Gerlach, Solja Klargaard, Randi Starrfelt

56.4061 **Topographical ability in Developmental Prosopagnosia: preserved perception but impaired memory of spatial scenes** Solja Klargaard, Randi Starrfelt, Anders Petersen, Christian Gerlach

56.4062 Open neuropsychology: Testing a new approach via prosopagnosia Brad Duchaine, Jiahui Guo

56.4063 **Gray matter differences are associated with non-identity face perception in developmental prosopagnosia** Jiahui Guo, Hua Yang, Constantin Rezlescu, Tirta Susilo, Bradley Duchaine

56.4064 Impaired Face and Non-face Discrimination by Developmental Prosopagnosics (DPs) Eshed Margalit, Xiaomin Yue, Irving Biederman

56.4065 Word and face recognition deficits following posterior cerebral artery stroke: Is there a common network for the recognition of faces and words? Christina Kühn, Johanne Asperud Thomsen, Tzvetelina Delfi, Helle Iversen, Christian Gerlach, Randi Starrfelt

56.4066 Age matters, but disease does not: Comparing processing of emotional and communicational facial expressions across age and across prevalence of Parkinson's disease Dilara Derya, June Kang, Doyoung Kwon, Christian Wallraven

56.4067 Rapid and objective quantification of perceptual deficits in acquired prosopagnosia with fast periodic oddball stimulation Joan Liu-Shuang, Katrien Torfs, Bruno Rossion

56.4068 Attention capture by faces and trains: A developmental study Allison Brennan, Elina Birmingham, Grace Iarocci

56.4069 **Emotion processing deficits in Moebius Syndrome** Savannah Lokey, Shruti Japee, Christopher Baker, Leslie Ungerleider

56.4070 Atypical eye gaze perception in autism spectrum disorder arises from heterogeneous perceptual mechanisms Peter Pantelis, Daniel Kennedy

Attention: Tracking

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4071 Individual differences in position tracking are related to peak occipital alpha frequency Craig Arnold, Matthew Belmonte, Christina Howard

56.4072 Non-independence of spatial memory and position tracking Christina Howard, Duncan Guest, Amanda Hornsby, Rebekah Pole, Paulina Nowak

56.4073 Multiple object tracking is immune from a strong perceptual illusion Harry Haladjian, Matteo Lisi, Patrick Cavanagh

56.4074 Attentive motion tracking does not utilize eye-of-origin information Amy Chow, Deborah Giaschi, Benjamin Thompson

56.4075 Exploring the temporal dynamics of attentional reallocations with the multiple object tracking paradigm Hauke Meyerhoff, Frank Papenmeier, Georg Jahn, Markus Huff

56.4076 Identity information of multiple moving objects is extracted in a serial manner during multiple identity tracking: An eye-tracking study Lauri Oksama, Jie Li, Jukka Hyönä

56.4077 Using Color Combination to Predict Tracking Performance in Multiple Object Tracking Chundi Wang, Luming Hu, Xuemin Zhang

56.4078 Multiple Identity Tracking of Semantic-category Based Chinese Words: Visual-perceptual Processing or Semantic Processing Jing Su, Xuemin Zhang, Liuqing Wei

Attention: Spatial selection and modulation 2

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4079 Covert attention within the foveola enhances fine discrimination Martina Poletti, Marisa Carrasco, Michele Rucci

56.4080 **Eye abduction reduces competition in the oculomotor system** Paul Boon, Jan Theeuwes, Artem Belopolsky

56.4081 Localization of flash grab targets is improved with sustained spatial attention Nika Adamian, Patrick Cavanagh

56.4082 Attention and Metacontrast Masking do not Interact Sevda Agaoglu, Bruno Breitmeyer, Haluk Ogmen

56.4083 **Does similarity affect the order in which items are scrutinized in visual search? No.** Alejandro Lleras, Trisha Patel, Simona Buetti

56.4084 Accurate location information modulates perceptual distraction during search Dipanjana Das, Søren Kyllingsbæk, Claus Bundesen, Barry Giesbrecht

56.4085 Electrophysiological correlates in healthy individuals of galvanic vestibular stimulation protocols used to treat hemi-spatial neglect Rachael Morris, Catriona Scrivener, Joseph Brooks

56.4086 Age-related changes in the hemispheric lateralisation of pre-stimulus alpha. Gemma Learmonth, Monika Harvey

56.4087 When does visual attention need to be retargeted? A study of the neural correlates of attentional deployment to two sequential targets Brad Wyble, Chloe Callahan-Flintoft

56.4088 **Two modes for seeing relations between objects** Audrey Michal, Stacey Parrot, Steven Franconeri

56.4089 Attention field models capture biases in perceived position Barrie Klein, Chris Paffen, Susan te Pas, Serge Dumoulin

56.4090 Attention correlates with saccade amplitude modulations caused by gaze-contingent filtering of the visual field Jochen Laubrock, Anke Cajar, Ralf Engbert

56.4091 The eyes don't have it after all? Attention is not biased towards faces or eyes Effie Pereira, Elina Birmingham, Jelena Ristic

56.4092 Hand proximity biases overt - not covert - orienting Eric Taylor, Minal Patel, Jay Pratt

56.4093 **Dissociating inhibitory mechanisms with actions and objects** Matthew Hilchey, John Christie, Jay Pratt

56.4094 Action video games improve math abilities in children with developmental dyscalculia Sandro Franceschini, Simone Gori, Monja Tait, Elisa Casagrande, Carlo Robino, Claudio De'Sperati, Andrea Facoetti

56.4095 Number subliminally primes area judgments: Novel evidence for a general magnitude system in human adults Stella Lourenco, Vladislav Ayzenberg

Visual Search: Attention

Tuesday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

56.4096 Investigating Linear Separability in Visual Search for Orientation Garry Kong, David Alais, Erik Van der Burg

56.4097 **Pop-out in feature search is spatiotopic.** Cécile Eymond, Patrick Cavanagh, Thérèse Collins

56.4098 Individual Difference in Spatial Updating Revealed in Location Probability Cuing Ying Fang, Shiyi Li, Nadia Wong, Xuejun Bai, Hong-Jin Sun

56.4099 **Binocularity and Visual Search – Revisited** Bochao Zou, Igor Utochkin, Yue Liu, Jeremy Wolfe

56.4100 Precise Guided Search Matthew Cain, Jeremy Wolfe

56.4101 Feature priming facilitates target selection but does not modulate exogenous attentional shift Amit Yashar, Alex White, Wanghaoming Fang, Marisa Carrasco

56.4102 Expected visual search difficulty modulates the target representation Joseph Schmidt, Gregory Zelinsky

56.4103 Control over target selection determines switch costs in multiple-target search. Eduard Ort, Johannes Fahrenfort, Christian Olivers

56.4104 Fitting two target templates into the focus of attention in a hybrid foraging task Abla Alaoui Soce, Matthew Cain, Jeremy Wolfe

56.4105 Evidence for salience-guided search in a fine-localization task Poutasi Urale, Matt Oxner, William G Hayward

56.4106 Learning to shield visual search from salient distractors: qualitative differences in location probability cueing between same- and cross-dimensional distractors Marian Sauter, Michael Zehetleitner, Hermann Müller

56.4107 **Psychophysical Evaluation of Saliency Algorithms** Calden Wloka, Sang-Ah Yoo, Rakesh Sengupta, Toni Kunic, John Tsotsos

56.4108 Investigating dynamic feature prevalence and quitting thresholds in Multi-element Asynchronous Dynamic (MAD) search Collin Scarince, Michael Hout

56.4109 The capacity of attentional templates Anna Grubert, Martin Eimer

56.4110 The effect of intentional investment of effort on attentional orienting, executive control, and alerting Motohiro Ito, Jun Kawahara

56.4111 **Do Dyslexic Learners Benefit From Holistic Processing in a Comparative Visual Search Task?** Jiahui Wang, Matthew Schneps, Pavlo Antonenko, Marc Pomplun, Kara Dawson

56.4112 Visual search for faces as a function of vertical and horizontal hemifield Christophe Carlei, David Framorando, Nicolas Burra, Dirk Kerzel

56.4113 **Scene Context Leads to Inattentional Scale Blindness during Search** Miguel Eckstein, Kathryn Koehler



Wednesday Morning Talks

Attention: Spatial

Wednesday, May 18, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Tomas Knapen

61.11, 8:15 am Attentional modulation of eye torsion responses. Scott Stevenson, Madhumitha Mahadevan, Jeffrey Mulligan

61.12, 8:30 am Attention-related BOLD modulation with and without superior colliculus inactivation Anil Bollimunta, Amarender Bogadhi, David Leopold, Richard Krauzlis

61.13, 8:45 am Attention Improves Stimulus Encoding in Early Visual Cortex Daniel van Es, Tomas Knapen

61.14, 9:00 am Reconstruction of the attentional priority representation of faces from V1 activities Ce Mo, Dongjun He, Fang Fang

61.15, 9:15 am Comparing Efficiencies in Estimating Centroids and Judging Numerosity Matthew Inverso, Charles Chubb, Charles Wright, Richard Shiffrin, George Sperling

61.16, 9:30 am Adding Shape to Saliency: A Proto-object Saliency Map for Predicting Fixations during Scene Viewing Yupei Chen, Chen-Ping Yu, Gregory Zelinsky

Visual Search: Attention

Wednesday, May 18, 11:00 am - 12:45 pm Talk Session, Talk Room 1 Moderator: Joo-Hyun Song

62.11, 11:00 am A detailed comparison of optimality and simplicity in visual search Wei Ji Ma, Shan Shen

62.12, 11:15 am Misguided: how knowing the orientation of the target can make you worse at visual search Johan Hulleman

62.13, 11:30 am Impact of conscious versus unconscious distractors in pop-out visual search Christine Gamble, Joo-Hyun Song

62.14, 11:45 am The Influence of Visual Clutter on Search Guidance with Complex Scenes Arturo Deza, Grant Taylor, Miguel Eckstein

62.15, 12:00 pm Search excludes irrelevant regions in immersive environments Chia-Ling Li, Maria Aivar, Matthew Tong, Mary Hayhoe

62.16, *12:15 pm* **Is search priming reflected in BOLD repetition suppression?** Manje Brinkhuis, Arni Kristjansson, Jan Brascamp

62.17, 12:30 pm The attentional fields of visual search in simultanagnosia and healthy individuals: How object and space attention interact Aarlenne Khan, Myriam Prost-Lefebvre, Romeo Salemme, Gunnar Blohm, Yves Rossetti, Laure Pisella

Object Recognition: Neural correlates and cognition

Wednesday, May 18, 8:15 - 10:00 am Talk Session, Talk Room 2 Moderator: Peter Bex

61.21, 8:15 am Visual cortex overlap between hand and tool responses does not require having hands Ella Striem-Amit, Gilles Vannuscorps, Alfonso Caramazza

61.22, 8:30 am Investigating the temporal properties of visual object processing using a multivariate analysis of EEG data. David Coggan, Timothy Andrews, Daniel Baker

61.23, 8:45 am Neural representation of object orientation reveals dissociation between MVPA and Repetition Suppression Miles Hatfield, Michael McCloskey, Soojin Park

61.24, 9:00 am The serial dependence of object perception is independent of decision Alina Liberman, David Whitney

61.25, 9:15 am Reading rainbows: Measuring the dynamics of word processing Anna Kosovicheva, Peter Bex

61.26, 9:30 am ls dyslexia due to deficits in high-level visual processing? Face and object recognition problems in dyslexia Heida Sigurdardottir, Eysteinn Ívarsson, Kristjana Kristinsdóttir, Árni Kristjánsson

61.27, 9:45 am Cortical thickness of functionally-defined visual areas in schizophrenia and bipolar disorder Eric Reavis, Junghee Lee, Jonathan Wynn, Stephen Engel, Amy Jimenez, Aaron McNair, Eugene Kutasevich, Michael Green

Binocular Vision

Wednesday, May 18, 11:00 am - 12:45 pm Talk Session, Talk Room 2 Moderator: Laurie Wilcox

62.21, 11:00 am A dynamic double pass technique for characterizing internal noise during binocular rivalry Daniel Baker, Bruno Richard

62.22, 11:15 am Classifying Mixed Percepts During Binocular Rivalry in Younger and Older Adults Amanda Beers, Allison Sekuler, Patrick Bennett

62.23, 11:30 am Face gender adaptation from random noise adaptors: A surprising prediction of Li and Atick's efficient binocular coding theory Keith May, Li Zhaoping

62.24, 11:45 am Unreportable switches in bistable perception produce negligible fronto-parietal BOLD activity. Tomas Knapen, Randolph Blake, Jan Brascamp

62.25, 12:00 pm Shifts in interocular balance resulting from short-term monocular deprivation in adult macaque visual cortex are not magno-dominated Momotaz Begum, Daniel Tso

62.26, *12:15 pm* **Binocular alignment in mice during stereoscopic discrimination of depth** Jason Samonds, Veronica Choi, Nicholas Priebe

62.27, 12:30 pm **Stereoscopic surface interpolation from illusory contours** Brittney Hartle, Richard Murray, Laurie Wilcox

Wednesday Morning Posters

Eye Movements: Applications

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4001 Precision and Accuracy of Oculo-motor Behavior in Patients with Central Vision Loss Girish Kumar, Susana Chung

63.4002 Similar estimates of contrast sensitivity and acuity from psychophysics and automated analysis of optokinetic nystagmus Steven Dakin, Phillip Turnbull

63.4003 Lost in Space: The Cost of Interruption During Search
Through Volumetric Medical Images Lauren Williams, Trafton Drew

63.4004 Quantifying the costs of telephone interruptions during diagnostic radiology: A mobile eye-tracking study Trafton Drew, Booth Aldred, Marta Heilbrun, Satoshi Minoshim

63.4005 A systematic search strategy in radiology: seeing more, missing less? Ellen Kok, Halszka Jarodzka, Anique de Bruin, Hussain BinAmir, Simon Robben, Jeroen van Merriënboer

63.4006 Modelling the rapid adaptation of fixation durations during naturalistic scene viewing. R Calen Walshe, Antje Nuthmann

63.4007 Can pupillometry dissociate fear and disgust? Trypophobia as a test case. Meghan Hickey, Vladislav Ayzenberg, Stella Lourenco

63.4008 Do eye movements referenced to an extra-foveal retinal location in the absence of a functioning fovea? Susana Chung, Girish Kumar

63.4009 Visual Attention and Eye Movement Deficits in Patients with Traumatic Brain Injury Tori Espensen-Sturges, Timothy Hendrickson, Andrea Grant, Scott Sponheim, Cheryl Olman

63.4010 In search of the visual and oculomotor factors that determine the location of a preferred retinal locus $Helga\ Mazyar$, $Bosco\ Tjan$

63.4011 Transfer of Peripheral Fixation Training Across Retinal Eccentricities Dylan Rose, Peter Bex

63.4012 A comparison of eye-movement patterns between experienced observers and novices in detecting harmful intention from surveillance video Joseph Burling, Hongjing Lu, Greta Todorova, Frank Pollick

63.4013 **Gaze-entropy as a task load index for safety-critical operators: military pilots and surgeons.** Leandro Di Stasi, Carolina Diaz-Piedra, Hector Rieiro, Juan Ruiz-Rabelo, David Cardenas, Alberto Cherino, Gonzalo Olivares, Luis Fuentes, Andres Catena

63.4014 Recognizing harmful intent from surveillance video viewed through the eye-movements of novice and experienced observers Frank Pollick, Greta Todorova, Steven Thurman, Joseph Burling, Hongjing Lii

Eye Movements: Pursuit

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4015 Saccade and pursuit interactions for following moving targets Doris Braun, Karl Gegenfurtner

63.4016 Smooth pursuit and gaze stabilization: an integrated computational model Dinesh Pai

63.4017 To fixate or pursue? Manipulating eye movements to combat the size-speed illusion Helen Clark, John Perrone

63.4018 Discriminating curvature of motion trajectories during fixation and smooth pursuit Nicholas Ross, Alexander Schütz, Doris Braun, Karl Gegenfurtner

63.4019 Do we foveate targets during smooth pursuit? Natela Shanidze, Stephen Heinen, Preeti Verghese

63.4020 Another reason for following an object with one's eyes if one intends to intercept it Cristina de la Malla, Jeroen Smeets, Eli Brenner

63.4021 Predictive movements of the hands and eyes to a target that disappears briefly when moving in depth. Gabriel Diaz, Kamran Binaee, Flip Phillips

63.4022 Maintaining smooth pursuit after target disappearance with eye-induced reverse-phi motion Arthur Portron, Jean Lorenceau

63.4023 Local recalibration to background motion during smooth pursuit eye movements David Souto, Karl Gegenfurtner, Alexander Schütz

63.4024 Pursuing a small spot engages a different mechanism than pursuing a feature on a large object Scott Watamaniuk, Elena Potapchuk, Stephen Heinen

63.4025 Catch-up saccades during pursuit correct position error with the help of attention Stephen Heinen, Elena Potapchuk, Scott Watamaniuk

63.4026 Asymmetry in saccadic latency during smooth pursuit: A signature of visual spatial attention? Madhumitha Mahadevan, Harold Bedell, Scott Stevenson

63.4027 Hybrid Calibration for Eye Tracking: Smooth Pursuit Trajectory with Anchor Points Quan Wang, Erin Barney, Carla Wall, Lauren DiNicola, Claire Foster, Yeojin Ahn, Beibin Li, Chawarska Katarzyna, Frederick Shic

63.4028 Operant reinforcement versus reward expectancy: effects on anticipatory eye movements Jean-Bernard Damasse, Laurent Perrinet, Jeremie Jozefowiez, Laurent Madelain, Anna Montagnini

63.4029 Action video game play increases the connection of pursuit eye movements and dynamic visual processing with visuomotor control ${\rm Li}\ {\rm Li}, {\rm Raine}\ {\rm Chen}$

63.4030 Involuntary saccades and binocular coordination during visual pursuit in Parkinson's disease Arash Yazdanbakhsh, Chia-Chien Wu, Bo Cao, Veena Dali, Celia Gagliardi, Marc Pomplun, Alice Cronin-Golomb

Perception and Action: Locomotion and navigation

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4031 Knowing when to give up: Control strategies for choosing whether to pursue or abandon the chase of a moving target Brett Fajen, Oliver Layton, Robert Wild

63.4032 Visually guided locomotor planning in children and adults Dorothy Cowie, Maryam Pervez

63.4033 An Exploratory Approach to Manipulating Dynamic Stability: Investigating the Role of Visual Control during a Precision Foot Placement Task Russell Kennedy, Dr. Michael Cinelli

- 63.4034 The Influence of Biomechanics on Visual Attention while Walking Rakshit Kothari, Gabriel Diaz, Kamran Binaee, Reynold Bailey, Johnatan Matthis
- 63.4035 Quantitative Assessment of Gait Instability in the Absence of Visual Information Chihiro Asanoi, Koichi Oda
- 63.4036 Failure of spontaneous phase locking for side-by-side walkers in visual contact Amanda Elam, Catherine Norris, Greer Prettyman, Ray Lefco, Frank Durgin
- 63.4037 The effects of a human confederate and goal location on the path selection of young adults Lana Pfaff, Michael Cinelli
- 63.4038 Watch your step! Haptic perception of geographic slant corresponds to vision, but results in safer locomotion Jonathan Doyon, Joseph Clark, Tyler Surber, Alen Hajnal
- 63.4039 Action strategies for walking through multiple, misaligned apertures Michael Cinelli, Amy Hackney, James Frank
- 63.4040 Finding Home: The influence of landmark ambiguity on human navigation. Simon Jetzschke, Norbert Boeddeker, Marc Ernst, Julia Fröhlich
- 63.4041 Effects of familiarity and neighbor behavior on visually-guided exit choice in an emergency Max Kinateder, Brittany Comunale, William Warren
- 63.4042 **Spatial localization accuracy varies with the fractal dimension of the environment** Arthur Juliani, Alexander Bies, Cooper Boydston, Richard Taylor, Margaret Sereno
- 63.4043 Where did I leave my coffee cup? Evidence for independent local and global representations of environmental space Steven Marchette, Jack Ryan, Russell Epstein
- 63.4044 Landmark- and boundary-based spatial memory: typical and atypical development Frederik Kamps, Joshua Julian, Jack Ryan, Russell Epstein, Daniel Dilks
- 63.4045 **Navigation and spatial memory for older adults with simulated low vision** Erica Barhorst, Kristina Rand, Sarah Creem-Regehr
- 63.4046 Visual and motor uncertainty effects on obstacle avoidance trajectories. Oran Zohar, Matthew Tong, Mary Hayhoe

Face Perception: Emotion 2

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 63.4047 Compound facial threat cue perception: Contributions of visual pathways, aging, and anxiety Reginald Adams, Hee Yeon Im, Cody Cushing, Noreen Ward, Jasmine Boshyan, Troy Steiner, Daniel Albohn, Kestutis Kveraga
- 63.4048 Crowd emotion perception is lateralized in a goal-driven fashion and modulated by observer anxiety and stimulus characteristics: behavioral and fMRI results Hee Yeon Im, Daniel Albohn, Troy Steiner, Reginald Adams, Kestutis Kveraga
- 63.4049 State Anxiety and Perception of Average Emotion in Groups of Faces Sarah Caputo, Amrita Puri
- 63.4050 Contribution of Top and Bottom Part of a Face to the Perception of Facial Expressions: A Gaze-Contingency Investigation Vicky Chen, Gary Shyi
- 63.4051 Processing emotion across the senses: hearing negative emotional content weakens the perceptual and physiological response to seeing a happy face Vivian Ciaramitaro, Anh Phan, Hannah Lapp, Richard Hunter, Daniel Harris
- 63.4052 Object substitution masking prevents within-hemifield perceptual averaging of facial expressions Elric Elias, Lauren Padama, Timothy Sweeny

- 63.4053 Object substitution masking is engaged relatively early in visual processing of emotional faces Larissa D'Abreu, Timothy Sweeny
- 63.4054 Effect of Visual Acuity and Duration of Dynamic Facial Expression on Perceived Emotion Terumi Otsukuni, Koichi Oda
- 63.4055 Color changes in facial expressions of emotion are consistent within emotion and differential between emotions Aleix Martinez, C. Fabian Benitez-Quiroz, Pamela Pallett, Angela Brown, Delwin Lindsey
- 63.4056 **The Not Face: From the expression of emotion to grammatical function** C. Fabian Benitez-Quiroz, Ronnie Wilbur, Aleix Martinez
- 63.4057 Face Aftereffects following Perception and Imagery of Gender and Expression Edoardo Zamuner, Matt Oxner, William Hayward
- 63.4058 Revealing perceptual tuning functions to facial expression of various intensities by means of fast periodic visual stimulation Arnaud Leleu, Milena Dzhelyova, Bruno Rossion, Karine Durand, Benoist Schaal, Jean-Yves Baudouin
- 63.4059 Perceptual learning reveals the relationships among the processing of six basic emotional expressions Yingying Wang, Fang Fang
- 63.4060 Emotion specificity of gaze cueing in a danger vigilance context. Abbie Coy, Catherine Mondloch
- 63.4061 Eye movements and spatial frequency utilization during the recognition of static and dynamic facial expressions Camille Saumure Régimbald, Daniel Fiset, Caroline Blais
- 63.4062 Old and Young use the same visual information to identify basic facial expressions Youna Dion-Marcoux, Hélène Forget, Caroline Blais, Alicia Roy-Binet, Daniel Fiset
- 63.4063 **Mapping the recognition of facial expression of emotions in deafness** Junpeng Lao, Anne-Raphaëlle Richoz, Chloé Stoll, Olivier Pascalis, Matthew Dye, Roberto Caldara

Faces Perception: Social cognition 2

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 63.4064 The impact of contextual valence and self-relevance on electrocortical and behavioural responses to faces with direct and averted gaze Sarah McCrackin, Roxane Itier
- 63.4065 Measuring the time course of spatial frequency use for face recognition from East to West Amanda Estephan, Camille Saumure Régimbald, Daniel Fiset, Dan Sun, Ye Zhang, Marie-Pier Plouffe-Demers, Caroline Blais
- 63.4066 The impact of stress on the visual representation of an ethnic ingroup and outgroup Andréa Deschênes, Daniel Fiset, Hélène Forget, Frédérika Von Partenza Belec, Valiquette Joelle, Blais Caroline
- 63.4067 Are Social Categories Alone Sufficient to Elicit an In-Group Advantage in Perceptions of Within-Person Variability? Lindsey Short, Maria Wagler
- 63.4068 **Cultural differences in face processing are robust to self-construal priming** Meike Ramon, Helen Roger, Junpeng Lao, Shihui Han, Roberto Caldara
- 63.4069 **Cross-cultural differences and similarities uderlying other-race effects for facial identity and expression** Xiaoqian Yan, Timothy Andrews, Rob Jenkins, Andrew Young
- **63.4070 The Effects of Facial Dominance and Gender Prototypicality on the Gaze-cuing Effect** Troy Steiner, Joe Brandenburg, Reginald Adams, Jr.

63.4071 Body Perception and the Sexualized-Body-Inversion-Hypothesis Ruth Hofrichter, M.D. Rutherford

63.4072 Animacy Perception is Modulated by Stimulus Gender and Emotional Expression Natalie Bowling, Michael Banissy

63.4073 Investigating the influence of personal BMI on own body size perception in females using self-avatars Anne Thaler, Michael Geuss, Simone Mölbert, Katrin Giel, Stephan Streuber, Michael Black, Betty Mohler

63.4074 The "threat premium" in economic bargaining and who pays the price Shawn Geniole, Elliott MacDonell, Cheryl McCormick

Object Recognition: Real world

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4076 Instinctive drift in the illusory perception of objects: The ready perception of animate objects in random noise Joshua New, Sarah Lazarsfeld, Mary Seo, Melyssa Luxenberg

63.4077 **Contextual Facilitation of Action-related Object Pairs** Ruosi Wang, Yaoda Xu

63.4078 Psychophysics of Fingerprint Identification Parker Banks, Patrick Bennett, Allison Sekuler

63.4079 Exploring the Real Object Advantage in Recognition Memory using fMRI Michael Compton, Edward O'Neil, Lars Strother, Jacqueline Snow

63.4080 **Real-world size improves recognition of real objects, not images.** Desiree Holler-Kidder, Jacqueline Snow

63.4081 Photographs elicit more associations than highly recognizable color or outline drawings Anne Gilman, Anh Le, Caitlin McCann, Ankara Shepard, Kiera Foster, Melina Olivas

63.4082 Pre-verbal infants automatically activate real-world object size information Bria Long, Susan Carey, Talia Konkle

63.4083 Body emotion recognition depends on vertical orientation subbands during middle childhood Jamie Schmidt, Amanda Auen, Benjamin Balas

63.4084 Increased willingness-to-pay for real foods versus image displays. Carissa Romero, Nicole Haddad, Jacqueline Snow

63.4085 **Observers misperceive the size of artificial limbs** Ritika Mazumder, Jason Haberman

63.4086 Substance over style? The role of high and low level visual properties in novice impressions of artistic style Caitlin Mullin, Rebecca Chamberlain, Sander Bisselink, Johan Wagemans

63.4087 Human tilt estimation in local patches with natural stereo-images Seha Kim, Johannes Burge

Object Recognition: Reading

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4088 Perceptual Grouping Influences Mental Arithmetic Performance Patrick Garrigan

63.4089 Crowded Letter Recognition in Peripheral Vision Is Not Solely Determined by Target-Flanker Cortical Distance Yingchen He, Gordon Legge

63.4090 Crowding and grouping in letter recognition Devue Yu

63.4091 **Dissociation between magnocellular and parvocellular processing in visual word recognition** Théodora Vahine, Stéphanie Mathey, Jean-Noël Foulin, Sandrine Delord

63.4092 Binocular integration across the visual field for letter recognition in normal and glaucomatous vision Lillian Chien, Rong Liu, Christopher Girkin, MiYoung Kwon

63.4093 Age-related changes in the visual span, crowding and reading speed Rong Liu, Bhavika Patel, MiYoung Kwon

63.4094 Reduction in Legibility with Degradation in Older and Younger Observers Benjamin Wolfe, Jonathan Dobres, Anna Kosovicheva, Ruth Rosenholtz, Bryan Reimer

63.4095 Effects of Length of Reading Materials on Key Parameters of Reading Speed Function Koichi Oda, Madoka Ohnishi, Terumi Otsukuni, Aoi Takahashi, Michiko Sugiyama, Seiji Yamagami

63.4096 Effects of Luminance Contrast and Character Size on Reading Function. Madoka Ohnishi, Terumi Otsukuni, Aoi Takahashi, Michiko Sugiyama, Mako Hirakimoto, Sachie Kawamura, Atsuo Suzuki, Yuta Oshima, Koichi Oda

63.4097 Vertical and Horizontal Arrangements of Chinese Characters Lin SHI, Yue ZHANG

63.4098 Effect of Stroke Frequency and Critical Contrast Component on Legibility of Outlined and Solid Chinese Characters Aoi Takahashi, Koichi Oda

63.4099 Can you recognize two words at once? Characterizing capacity limits in the visual processing of words Alex White, John Palmer, Geoffrey Boynton

63.4100 The field of view of word-responsive regions in visual **cortex** Rosemary Le, Brian Wandell, Michal Ben-Shachar, Nathan Withoft

Visual memory: Long-term memory, models, and integrative processes

Wednesday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

63.4101 Accessing without remembering: memory consolidation of information at the focus of awareness is optional Hui Chen, Brad Wyble

63.4102 Contextual Adaptation to Changes of "What" and "Where"

- Learning of Object Identity and Spatial Configuration in Visual
Search Markus Conci, Martina Zellin, Hermann Müller

63.4103 Overlap and separation of remembered and perceived visual information in the human medial temporal lobe J. Benjamin Hutchinson, Yida Wang, Nicholas Turk-Browne

63.4104 Intersubject similarity of mulitvoxel codes in perirhinal cortex reflects the typicality of visual objects Amy Price, Michael Bonner, Jonathan Peelle, Murray Grossman

63.4105 Neural architecture for binding in visual working memory $\operatorname{Paul}\operatorname{Bays}$

63.4106 The role of memory uncertainty in change detection Aspen Yoo, Luigi Acerbi, Emin Orhan, Wei Ji Ma

63.4107 **Testing Predictions of the Binding Pool model** Garrett Swan, Brad Wyble

63.4108 The Functional Role of Imagery in Generative Models of Visual Perceptions Ghislain St-Yves, Thomas Naselaris

63.4109 A new vocabulary for understanding limits on perception Chris Sims, Rachel Lerch

63.4110 The Role of Amodal Object-based Attention in Retaining Bindings in Working Memory Fan Wu, Hong Ma, Kaifeng He, Yue Yang, Zaifeng Gao, Mowei Shen

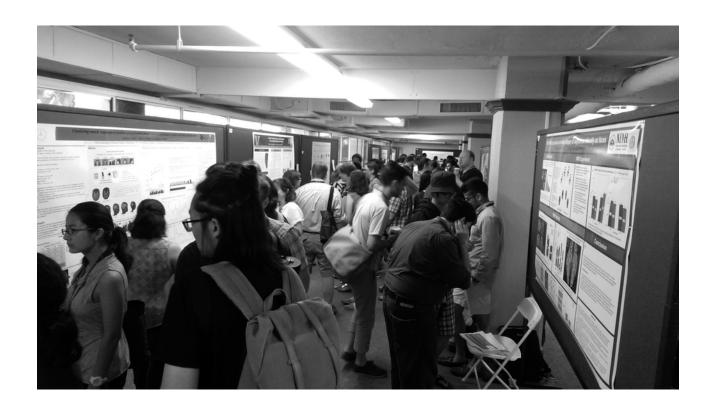
63.4111 Visual working memory is spatially global: boundaries in the similarity of visually perceived and internally represented stimuli Geoffrey Harrison, Daryl Wilson

63.4112 Individual differences in depth discrimination predicts differences in visual working memory for stimuli rendered in 3D Chaipat Chunharas, Sirawaj Itthipuripat, Thomas Sprague, Edward Ester, John Serences

63.4113 Identity and Spatial Cues Can Improve Filtering Ability in Visual Working Memory Ayala Allon, Roy Luria

63.4114 A task-irrelevant high memorability image can impair or enhance visual search performanc Qi Li, Kazuhiko Yokosawa

63.4115 Saccades inevitably protect visual memory traces Sven Ohl, Martin Rolfs



TOPIC INDEX

Below is a list of talk and poster sessions by topic. Parentheses indicate the abstracts that are included in each session.

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3D Perception: Shape and cue combination

Poster Presentation (36.4018-36.4029) Sunday, May 15, 2:45 - 6:45 pm

3D Perception: Space and mechanisms

Poster Presentation (26.4022-26.4040) Saturday, May 14, 2:45 - 6:45 pm

Attention: Capture, salience, reward

Poster Presentation (53.4001-53.4018) Tuesday, May 17, 8:30 am - 12:30 pm

Attention: Features and objects

Poster Presentation (36.4051-36.4071) Sunday, May 15, 2:45 - 6:45 pm

Attention: Inattention

Poster Presentation (23.3001-23.3010) Saturday, May 14, 8:30 am - 12:30 pm

Attention: Individual differences

Poster Presentation (33.3021-33.3029) Sunday, May 15, 8:30 am - 12:30 pm

Attention: Models and mechanisms

Oral Presentation (24.11-24.17) Saturday, May 14, 2:30 - 4:15 pm

Attention: Neural mechanisms

Poster Presentation (36.3017-36.3039) Sunday, May 15, 2:45 - 6:45 pm

Attention: Neural mechanisms

Oral Presentation (51.21-51.26) Tuesday, May 17, 8:15 - 9:45 am

Attention: Priming, cueing, guiding, and dividing

Poster Presentation (53.4019-53.4038) Tuesday, May 17, 8:30 am - 12:30 pm

Attention: Reward

Poster Presentation (23.4001-23.4017) Saturday, May 14, 8:30 am - 12:30 pm

Attention: Reward, emotion, motivation

Oral Presentation (55.21-55.28) Tuesday, May 17, 5:15 - 7:15 pm

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Oral Presentation (21.11-21.16) Saturday, May 14, 8:15 - 9:45 am

Attention: Spatial

Oral Presentation (61.11-61.16) Wednesday, May 18, 8:15 - 9:45 am

Attention: Spatial selection and modulation 1

Poster Presentation (43.4078-43.4094) Monday, May 16, 8:30 am - 12:30 pm

Attention: Spatial selection and modulation 2

Poster Presentation (56.4079-56.4095) Tuesday, May 17, 2:45 - 6:45 pm

Attention: Temporal

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Attention: Tracking

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Binocular Vision

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Binocular Vision: Stereopsis

Poster Presentation (43.4010-43.4030) Monday, May 16, 8:30 am - 12:30 pm

Binocular Vision: Mechanisms and models

Poster Presentation (33.3030-33.3046) Sunday, May 15, 8:30 am - 12:30 pm

Binocular Vision: Rivalry and bistability

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Color and Light: Adaptation and constancy

Poster Presentation (26.3001-26.3011) Saturday, May 14, 2:45 - 6:45 pm

Color and Light: Cognition

Poster Presentation (36.3040-36.3050) Sunday, May 15, 2:45 - 6:45 pm

Color and Light: Lightness and brightness

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Color and Light: Neural mechanisms

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Color and light: Neural mechanisms

Poster Presentation (56.3001-56.3016) Tuesday, May 17, 2:45 - 6:45 pm

Color and Light: Surfaces and materials

Oral Presentation (52.11-52.17) Tuesday, May 17, 10:45 am - 12:30 pm

Color and Light: Surfaces and materials

Poster Presentation (36.4001-36.4017) Sunday, May 15, 2:45 - 6:45 pm

Development: Atypical

Oral Presentation (54.21-54.27) Tuesday, May 17, 2:30 - 4:15 pm

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Development: Infancy

Poster Presentation (23.3022-23.3029) Saturday, May 14, 8:30 am - 12:30 pm

Development: Lifespan and neural mechanisms

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Development: Typical

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Eye Movements: Applications

Poster Presentation (63.4001-63.4014) Wednesday, May 18, 8:30 am - 12:30 pm

Eye Movements: Cognition

Poster Presentation (23.4037-23.4046) Saturday, May 14, 8:30 am - 12:30 pm

Eye Movements: Cognition and models

Oral Presentation (51.11-51.16) Tuesday, May 17, 8:15 - 9:45 am

Eye Movements: Localization and stability

Poster Presentation (23.4030-23.4036) Saturday, May 14, 8:30 am - 12:30 pm

Eye Movements: Neural mechanisms and remapping

Poster Presentation (23.4018-23.4029) Saturday, May 14, 8:30 am - 12:30 pm

Eye Movements: Pursuit

Poster Presentation (63.4015-63.4030) Wednesday, May 18, 8:30 am - 12:30 pm

Eye Movements: Saccade kinematics and dynamics

Poster Presentation (43.4031-43.4037) Monday, May 16, 8:30 am - 12:30 pm

Eye Movements: Saccade mapping and timing

Poster Presentation (43.4038-43.4045) Monday, May 16, 8:30 am - 12:30 pm

Eye Movements: Saccades and perception

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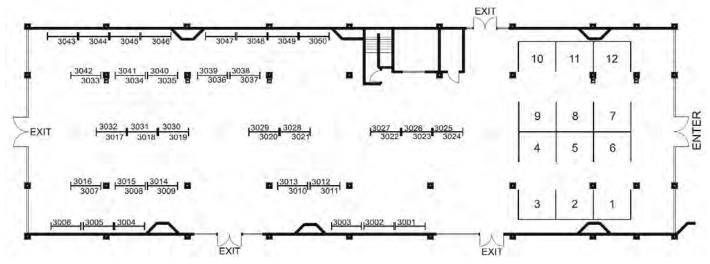
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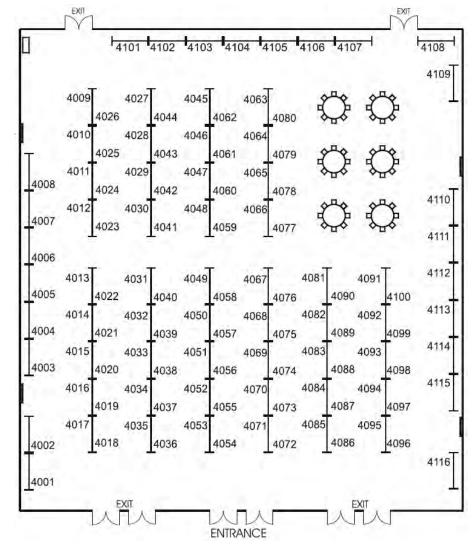
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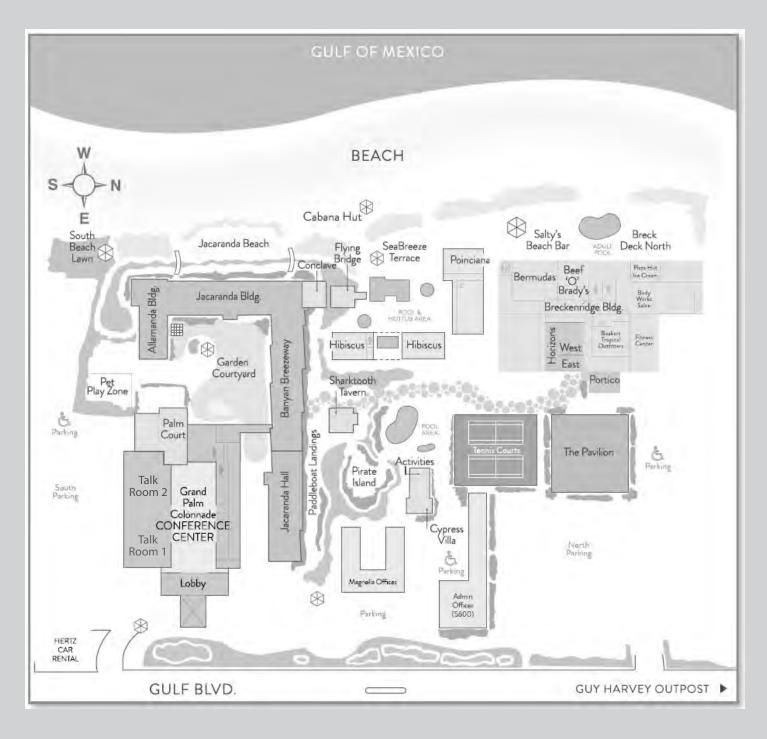


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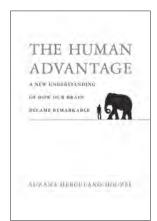


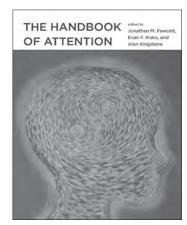
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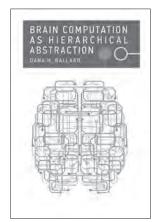


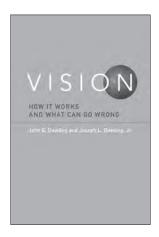
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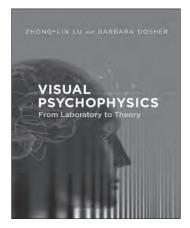


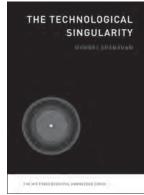


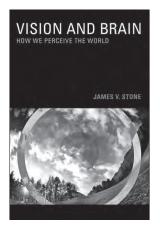












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