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VISION SCIENCES SOCIETY

17TH ANNUAL MEETING, MAY 19-24, 2017
TRADEWINDS ISLAND RESORTS, ST. PETE BEACH, FLORIDA

PROGRAM

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BOARD OF DIRECTORS



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(year) denotes end of term

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2002 - 2007

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2001 - 2005

PRESIDENT'S WELCOME

WELCOME to the 17th Annual Meeting of the Vision Sciences Society, our 4th year at the TradeWinds in St. Pete Beach.

The VSS Board of Directors, together with the indispensable duo of Shauney Wilson and Shawna Lampkin, have put together a full and exciting meeting this year with over 1,400 presentations, 6 symposia, and 19 satellite sessions!

This past year was particularly difficult for the Vision Sciences community. We lost four stalwart members who were regular VSS attendees and contributed substantially to the scientific discussions at the meeting: Bruce Bridgeman, Vivien Casagrande, Lynn Olzak and Bosco Tjan. There will be two memorial symposia Friday morning, organized by colleagues of Bruce Bridgeman and Bosco Tjan, honoring their contributions to vision science.

This year has also been hard on some VSS members who are not able to attend VSS because of travel restrictions. As so much of the value of VSS is interaction with one's scientific peers, VSS is happy to facilitate virtual attendance at the meeting for those affected. We are offering early morning chat sessions between attendees and those not able to travel.

Members of the VSS Board joined the March for Science in Washington DC and at various locations across the country. Many of our members participated to make a case for the importance of science.

One highlight of our meeting this year is the Keynote Address on Saturday evening by Katherine Kuchenbecker. Professor Kuchenbecker is a leading expert on incorporating haptics in the interaction between humans, computers and machines. She will speak about her work on capturing, quantifying and displaying touch. We are grateful to VPixx for sponsoring the Keynote Address.

Another highlight is our awards session where we honor the recipients of the three major VSS awards. Janneke Jehee is the recipient of the Young Investigator Award for her rigorous and innovative work on understanding how the brain represents the visual properties of the environment using a combination of computational, imaging and psychophysical approaches. We are grateful to Elsevier for sponsoring the Young Investigator Award, as well

as twenty Student Travel Awards. This year, the Davida Teller Award will go to Mary Hayhoe for her pioneering work in developing experimental paradigms for the investigation of natural visually guided behavior in both real and virtual environments. Finally, the Ken Nakayama Medal for Excellence in Vision Science will go to Jan Koenderink for his rigorous theoretical and scientific contributions to our understanding of receptive field profiles, different types of optic flow, and surface characteristics of three-dimensional shape. Please join us on Monday for the Awards Ceremony and for brief presentations from the three major award recipients.

The VSS Board is eager to hear your suggestions on how to improve the meeting. Please be sure to attend the Business Meeting on Tuesday, immediately after the morning session. The Business Meeting will provide an opportunity to discuss how to deal with travel restrictions in the future, the increasing request for satellites, and any other issue.

This year we are incorporating some of your previous suggestions to improve both your scientific experience and your enjoyment of the meeting. On the scientific front, we are making efforts to connect industry representatives to vision scientists seeking jobs in industry. One of our student workshops is on Careers in Government and Industry. In addition, VSS is facilitating meetings between companies and prospective candidates on Saturday and Sunday during the morning coffee breaks. To improve your enjoyment of the meeting venue, we are introducing misters on the patio to provide some relief from the heat. For those attending with family and friends, a new Family and Friends Pass will be available for a small fee to allow your guests to attend the Opening Night Reception and Demo Night Barbecue dinner.

There will be several opportunities to meet and network with vision scientists at this year's meeting, including Meet the Professors, FoVea (Females of Vision et al), PUIs (Primarily Undergraduate Institutions) and the (revived) Vanderbilt-Rochester (VVRC-CVS) party on Sunday night.

I look forward to seeing you at VSS, Preeti Verghese President, VSS Board of Directors, 2016-2017

COMMITTEES, STAFF AND SPONSORS

ABSTRACT REVIEW COMMITTEE

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MEETING SCHEDULE

WEDNESDAY, MAY 17

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

in Vision (MODVIS) VSS Satellite

THURSDAY, MAY 18

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

in Vision (MODVIS) VSS Satellite

9:00 am - 6:00 pm Implicit Guidance of Attention: Developing Jasmine

Theoretical Models VSS Satellite

4:00 - 7:00 pm Registration Open Grand Palm Colonnade

FRIDAY, MAY 19

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

7:30 am – 9:30 pm Cyber, Social and Quiet Lounges Blue Heron, Banyan/Citrus, Glades

8:30 – 9:15 am Morning Coffee & Continental Breakfast Grand Palm Colonnade and Garden Courtyard

9:00 - 11:30 am In the Fondest Memory of Bosco Tjan Talk Room 2 9:00 - 11:30 am Bruce Bridgeman Memorial Symposium Pavilion

9:00 am – 12:00 pm Computational & Mathematical Models in Vision Horizons

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

12:00 - 2:00 pm Symposium Session 2 Pavilion

2:30 - 4:30 pm Symposium Session 3 Talk Room 1-2 2:30 - 4:30 pm Symposium Session 4 Pavilion

4:30 - 5:00 pm Coffee Break Grand Palm Colonnade, Courtyard and Pavilion

5:00 - 7:00 pm Symposium Session 5 Talk Room 1-2 5:00 - 7:00 pm Symposium Session 6 Pavilion

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

SATURDAY, MAY 20

7:30 am - 6:45 pm Registration Open Grand Palm Colonnade

7:30 am – 9:30 pm Cyber, Social and Quiet Lounges Blue Heron, Banyan/Citrus, Glades

7:45 – 8:30 am Morning Coffee & Continental Breakfast Grand Palm Colonnade and Courtyard

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

9:00 am – 5:30 pm Exhibits Open Banyan Breezeway

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

9:45 – 10:30 am Connect with Industry Reps Who are Hiring Banyan/Citrus

10:45 am - 12:30 pm Morning Talk Session 2 Talk Room 1 and Talk Room 2 11:00 am - 12:00 pm VSS Public Lecture Museum of Fine Arts Offsite MEETING SCHEDULE VSS 2017 PROGRAM

12:30 – 2:00 pm	How Immersive Eye Tracking Tools and VR Analytics Will Impact Vision Science Research VSS Satellite	Jasmine/Palm
12:30 – 2:30 pm	VSS FoVea (Females of Vision et al) Workshop <i>VSS Satellite</i>	Horizons
12:30 - 2:00 pm	Lunch Break (on your own)	
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 - Katherine J. Kuchenbecker	Talk Room 1-2

SUNDAY, MAY 21

7:30 am – 6:45 pm	Registration Open	Grand Palm Colonnade
7:30 am - 9:30 pm	Cyber, Social and Quiet Lounges	Blue Heron, Banyan/Citrus, Glades
7:45 – 8:30 am	Morning Coffee & Continental Breakfast	Grand Palm Colonnade and Garden Courtyard
8:15 - 9:45 am	Morning Talk Session 1	Talk Room 1 and Talk Room 2
8:30 am - 12:30 pm	Morning Poster Sessions	Banyan Breezeway and Pavilion
9:00 am - 5:30 pm	Exhibits Open	Banyan Breezeway
9:45 – 10:30 am	Coffee Break	Grand Palm Colonnade, Courtyard and Pavilion
9:45 – 10:30 am	Connect with Industry Reps Who are Hiring	Banyan/Citrus
10:45 am - 12:30 pm	Morning Talk Session 2	Talk Room 1 and Talk Room 2
12:30 - 2:00 pm	Social Hour for Faculty at Primarily Undergraduate Institutions (PUIs) VSS Satellite	Royal Tern
12:30 - 2:30 pm	Lunch Break (on your own)	
1:00 - 2:00 pm	Student & Postdoc Workshop: Reviewing and Responding to Review	Sabal/Sawgrass
1:00 - 2:00 pm	Student & Postdoc Workshop: Careers in Industry and Government	Jasmine/Palm
2:30 - 4:15 pm	Afternoon Talk Session 1	Talk Room 1 and Talk Room 2
2:45 - 6:45 pm	Afternoon Poster Sessions	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
7:30 - 10:00 pm	Vanderbilt-Rochester Vision Centers Party VSS Satellite	Beachside Sun Decks

MONDAY, MAY 22

7:30 am – 9:30 pm	Cyber, Social and Quiet Lounges	Blue Heron, Banyan/Citrus, Glades
7:45 – 8:30 am	Morning Coffee & Continental Breakfast	Grand Palm Colonnade and Garden Courtyard
7:45 am - 1:30 pm	Registration Open	Grand Palm Colonnade
8:15 - 9:45 am	Morning Talk Session 1	Talk Room 1 and Talk Room 2
8:30 am - 12:30 pm	Morning Poster Sessions	Banyan Breezeway and Pavilion
9:00 am - 12:30 pm	Exhibits Open	Banyan Breezeway
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

VSS 2017 PROGRAM MEETING SCHEDULE

VSS Awards Session	Talk Room 2
Afternoon Off	Choose a satellite event or go have fun!
Applicational needs reinvent scientific views VSS Satellite	Jasmine/Palm
Tutorial in Bayesian modeling VSS Satellite	Sabal/Sawgrass
The Experiential Learning Laboratory VSS Satellite	Citrus/Glades
Meet the Professors	Tables on the Beach
Demo Night Beach BBQ	Beachside Sun Decks
Demo Night Demos	Talk Room 1-2, Jacaranda Hall, Royal Tern, Snowy Egret, Compass
	Afternoon Off Applicational needs reinvent scientific views VSS Satellite Tutorial in Bayesian modeling VSS Satellite The Experiential Learning Laboratory VSS Satellite Meet the Professors Demo Night Beach BBQ

TUESDAY, MAY 23

7:30 am – 9:30 pm	Cyber, Social and Quiet Lounges	Blue Heron, Banyan/Citrus, Glades
7:45 - 8:30 am	Morning Coffee & Continental Breakfast	Grand Palm Colonnade and Courtyard
7:45 am - 6:45 pm	Registration Open	Grand Palm Colonnade
8:15 - 9:45 am	Morning Talk Session 1	Talk Room 1 and Talk Room 2
8:30 am - 12:30 pm	Morning Poster Sessions	Banyan Breezeway and Pavilion
9:00 am - 5:30 pm	Exhibits Open	Banyan Breezeway
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 - 1:15 pm	VSS Business Meeting	Talk Room 2
1:00 - 2:30 pm	WorldViz VR Workshop VSS Satellite	Sabal/Sawgrass
1:15 - 2:30 pm	Lunch Break (on your own)	
1:15 - 2:30 pm	VSS Committees Lunch	Horizons
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

WEDNESDAY, MAY 24

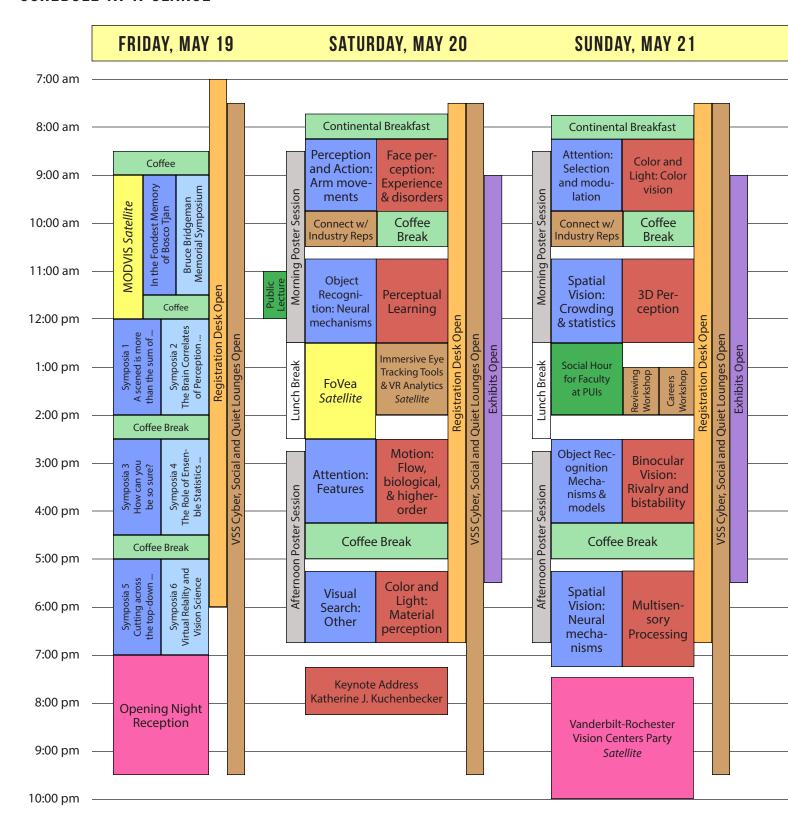
Club Vision

10:00 pm - 2:00 am

7:30 am – 12:45 pm	Cyber, Social and Quiet Lounges	Blue Heron, Banyan/Citrus, Glades
7:45 – 8:30 am	Morning Coffee & Continental Breakfast	Grand Palm Colonnade and Garden Courtyard
7:45 am – 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 Sessions	Pavilion
10:00 – 10:45 am	Coffee Break	Grand Palm Colonnade, Courtyard and Pavilion
11:00 am - 12:45 pm	Morning Talk Session 2	Talk Room 1 and Talk Room 2
3:00 - 5:00 pm	Honoring Al Ahumada – Al-apalooza! Talks VSS Satellite	Horizons
7:00 - 10:00 pm	Honoring Al Ahumada – Al-apalooza! Dinner VSS Satellite	Beachside Sun Decks

Talk Room 1

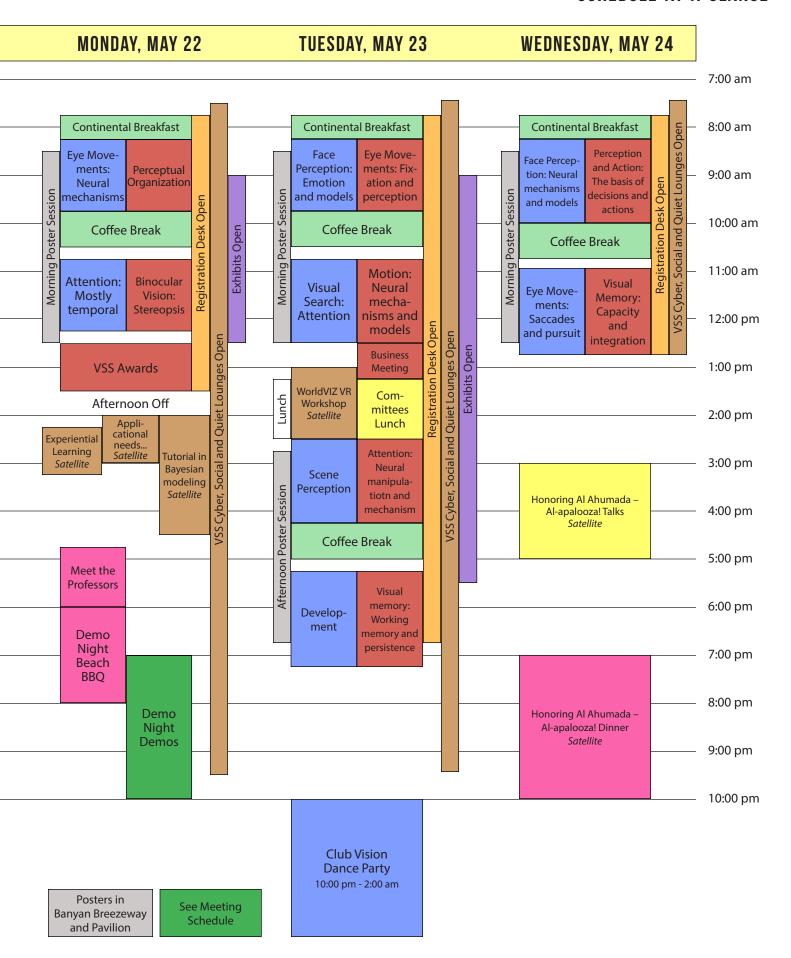
SCHEDULE-AT-A-GLANCE



Color Key:



SCHEDULE-AT-A-GLANCE



POSTER SCHEDULE

POSTER SETUP AND TAKEDOWN

All poster sessions are held in Banyan Breezeway and 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.

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 in the poster rooms.

MORNING POSTER SCHEDULE

Setup: 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 20

BANYAN BREEZEWAY

Attention: Features Motion: Biological motion

Visual Search: Features and objects

PAVILION

Visual Memory: Long term and working Visual Memory: Working memory Color and Light: Neural mechanisms

Color and Light: Constancy

Binocular Vision: Continuous flash suppression & awareness

Binocular Vision: Other

Perceptual Organization: Grouping

Perceptual Organization: Neural mechanisms

Temporal Processing: Duration Multisensory: Vision and audition

SATURDAY AFTERNOON, MAY 20

BANYAN BREEZEWAY

Perception and Action: Affordances

Face Perception: Models

Face Perception: Neural mechanisms Eye Movements: Pursuit and anticipation

PAVILION

Object Recognition: Where in the brain? Scene Perception: Models and other Scene Perception: Neural mechanisms

3D Perception: Shape

Visual Memory: Neural mechanisms

Visual Memory: Cognitive disorders, individual differences

Multisensory: Touch and balance Spatial Vision: Crowding and masking

AFTERNOON POSTER SCHEDULE

Setup: 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 21

BANYAN BREEZEWAY

Motion: Depth and models Motion: Flow and illusions Motion: Higher order

Development: Typical and lifespan

PAVILION

Perception and Action: Grasping Object Recognition: Foundations

Perceptual Learning: Plasticity and adaptation Perceptual Learning: Specificity and transfer

Attention: Neuroimaging Eye Movements: Cognition

Scene Perception: Categorization and memory Scene Perception: Spatiotemporal factors

SUNDAY AFTERNOON, MAY 21

BANYAN BREEZEWAY

Motion: Neural mechanisms

Face Perception: Development and experience

Face Perception: Disorders

Development: Atypical development

PAVILION

Color and Light: Appearance

Color and Light: Other

Attention: Exogenous and endogenous

Attention: Spatial selection

Attention: Individual differences, lifespan and clinical

Perception and Action: Walking and navigating Temporal Processing: Sequences, oscillations and

temporal order

Temporal Processing: Timing

POSTER SCHEDULE VSS 2017 PROGRAM

MONDAY MORNING, MAY 22

BANYAN BREEZEWAY

Color and Light: Material perception Color and Light: Lightness and brightness

Spatial Vision: Models

Spatial Vision: Neural mechanisms Object Recognition: Models

PAVILION

Perception and Action: Manual interception and

Face Perception: Emotion Face Perception: Social cognition Visual Memory: Limitations

Visual Memory: Attention and cognition Eye Movements: Remapping and applications

Eve Movements: Saccades

reaching movements

TUESDAY MORNING, MAY 23

BANYAN BREEZEWAY

Attention: Capture Attention: Divided

Attention: Electrophysiology

PAVILION

Perception and Action: Mutual interactions Face Perception: Individual differences, learning

and experience

Face Perception: Wholes, parts, and features

Object Recognition: Reading 3D Perception: Space Binocular Vision: Stereopsis

Perceptual Learning: Models and neural mechanisms Spatial Vision: Texture and natural image statistics

TUESDAY AFTERNOON, MAY 23

BANYAN BREEZEWAY

Visual Search: Eye movements and memory Visual Search: Models and mechanisms

Eye Movements: Models and neural mechanisms

Eye Movements: Perception

PAVILION

Perception and Action: Theory and mechanisms Color and Light: Cognition and preference

Color and Light: Thresholds Attention: Attentional blink

Attention: Inattention, blindnesses, and awareness

Binocular Vision: Rivalry and bistability

Object Recognition: Categories Object Recognition: Features

WEDNESDAY MORNING, MAY 24

PAVILION

Attention: Reward and value

Attention: Tracking, time and selection

Attention: Space and objects

Object Recognition: Neural mechanisms

Multisensory: Cognition, clinical and synesthesia Perceptual Organization: Contours and surfaces

Perceptual Organization: Ensemble coding and segmentation

Perceptual Organization: Shapes and objects

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

2 Saturday 3 Sunday

Monday

Tuesday

6 Wednesday

SECOND DIGIT - TIME

1 Early AM talk session 2 Late AM talk session

3 AM poster session 4 Early PM talk session 5 Late PM talk session

6 PM poster session

THIRD DIGIT - ROOM

FOURTH-SIXTH DIGITS - NUMBER

1 Talk Room 1 1, 2, 3... For talks 2 Talk Room 2 001, 002... For posters

3 Banyan Breezeway

4 Pavilion

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).

TALK SCHEDULE

SATURDAY, MAY 20

TIME TALK ROOM 1 TALK ROOM 2

8:15 – 9:45 am Perception and Action: Arm movements Face perception: Experience and disorders 10:45 am – 12:30 pm Object Recognition: Neural mechanisms Perceptual Learning

2:30 - 4:15 pmAttention: FeaturesMotion: Flow, biological, and higher-order5:15 - 6:45 pmVisual Search: OtherColor and Light: Material perception

SUNDAY, MAY 21

TIME TALK ROOM 1 TALK ROOM 2

8:15 – 9:45 am Attention: Selection and modulation Color and Light: Color vision
10:45 am – 12:30 pm Spatial Vision: Crowding and statistics 3D Perception
2:30 – 4:15 pm Object Recognition: Mechanisms and models Binocular Vision: Rivalry and bistability

Multisensory Processing

MONDAY, MAY 22

5:15 - 7:15 pm

TIME TALK ROOM 1 TALK ROOM 2

Spatial Vision: Neural mechanisms

8:15 – 9:45 am Eye Movements: Neural mechanisms Perceptual Organization
10:45 am – 12:15 pm Attention: Mostly temporal Binocular Vision: Stereopsis

TUESDAY, MAY 23

TIME TALK ROOM 1 TALK ROOM 2

8:15 – 9:45 am Face Perception: Emotion and models Eye Movements: Fixation and perception

10:45 am – 12:30 pm Visual Search: Attention Motion: Neural mechanisms and models

2:30 – 4:15 pm Scene Perception Attention: Neural manipulation and mechanism

5:15 – 7:15 pm Development Visual memory: Working memory and persistence

WEDNESDAY, MAY 24

TIME TALK ROOM 1 TALK ROOM 2

8:15 – 10:00 am Face Perception: Neural mechanisms and models Perception & Action: Basis of decisions and actions 11:00 am – 12:45 pm Eye Movements: Saccades and pursuit Visual Memory: Capacity and integration

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

KATHERINE J. KUCHENBECKER

Director of the new Haptic Intelligence Department, Max Planck Institute for Intelligent Systems, Stuttgart, Germany

Associate Professor (on leave), Mechanical Engineering and Applied Mechanics Department, University of Pennsylvania, Philadelphia, USA



Katherine Kuchenbecker is Director of the new Haptic Intelligence Department at the Max Planck Institute Intelligent Systems in Stuttgart, Germany. She is currently on leave from her appointment Associate Professor Mechanical Engineering and Applied Mechanics at the University of Pennsylvania, where she held the Class of 1940 Bicentennial Endowed Term Chair

and a secondary appointment in Computer and Information Science. Kuchenbecker earned a PhD (2006) in Mechanical Engineering at Stanford University and was a postdoctoral fellow at the Johns Hopkins University before joining the faculty at Penn in 2007. Her research centers on haptic interfaces, which enable a user to touch virtual and distant objects as though they were real and within reach, as well as haptic sensing systems, which allow robots to physically interact with and feel real objects. She delivered a widely viewed TEDYouth talk on haptics in 2012, and she has received several honors including a 2009 NSF CAREER Award, the 2012 IEEE Robotics and Automation Society Academic Early Career Award, a 2014 Penn Lindback Award for Distinguished Teaching, and many best paper and best demonstration awards.

HAPTOGRAPHY: CAPTURING AND DISPLAYING TOUCH

SATURDAY, MAY 20, 2017, 7:15 PM, TALK ROOM 1-2

When you touch objects in your surroundings, you can discern each item's physical properties from the rich array of haptic cues that you feel, including both the tactile sensations in your skin and the kinesthetic cues from your muscles and joints. Although physical interaction with the world is at the core of human experience, very few robotic and computer interfaces provide the user with high-fidelity touch feedback, limiting their intuitiveness. By way of two detailed examples, this talk will describe the approach of haptography, which uses biomimetic sensors and signal processing to capture tactile sensations, plus novel algorithms and actuation systems to display realistic touch cues to the user. First, we invented a novel way to map deformations and vibrations sensed by a robotic fingertip to the actuation of a fingertip tactile display in real time. We then demonstrated the striking utility of such cues in a simulated tissue palpation task through integration with a da Vinci surgical robot. Second, we created the world's most realistic haptic virtual surfaces by recording and modeling what a user feels when touching real objects with an instrumented stylus. The perceptual effects of displaying the resulting data-driven friction forces, tapping transients, and texture vibrations were quantified by having users compare the original surfaces to their virtual versions. While much work remains to be done, we are starting to see the tantalizing potential of systems that leverage tactile cues to allow a user to interact with distant or virtual environments as though they were real and within reach.



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

OPENING NIGHT RECEPTION

FRIDAY, MAY 19, 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.

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. Friends and family may accompany you with the purchase of a Friends and Family Pass. See the Registration Desk to purchase.

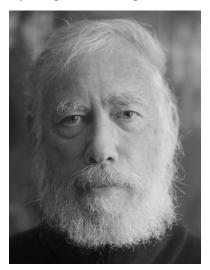
Prepare to sink your toes into the sand and enjoy this fantastic event! Please remember to wear your badge.

KEN NAKAYAMA MEDAL FOR EXCELLENCE IN VISION SCIENCE

The Vision Sciences Society is honored to present Dr. Jan J. Koenderink with the 2017 Ken Nakayama Medal for Excellence in Vision Science.

JAN J. KOENDERINK

Laboratory of Experimental Psychology, University of Leuven (KU Leuven), Belgium, Department of Experimental Psychology, Utrecht University, Utrecht, The Netherlands and Abteilung Allgemeine Psychologie, Justus-Liebig Universität, Giessen, Germany



Only a few scientists can be proud of a real breakthrough in vision science, very few can claim significant advances in multiple aspects of our visual experience, and almost none is an acclaimed researcher in two distinct disciplines. Jan Koenderink is this unique vision scientist. In both human and machine vision, Jan Koenderink has contributed countless

breakthroughs towards our understanding of the properties of receptive field profiles, of the different types of optic flow, of the surface characteristics of three-dimensional shape, and more recently of the space of color vision.

Together with his lifelong collaborator Andrea van Doorn, Jan Koenderink has approached each new problem in a humble, meticulous, and elegant way. While some papers may scare the less mathematical inclined reader, a bit of perseverance inevitably leads to the excitement of sharing with him a true insight. These insights have profoundly influenced our understanding of the functioning of the visual system. Some examples include: the structure of images seen through the lens of incremental blurring

that led to the now ubiquitous wavelet representation of images, the minimal number of points and views to reconstruct a unique class of three-dimensional structures known as affine representations, the formal description of Alberti's inventory of shapes from basic differential geometry principles, the careful description of the interplay between illumination and surface reflectance and texture, and many more. The approach of Jan Koenderink to systematically work in parallel on theoretical derivations and on psychophysical experimentations reminds us that behavioral results are uninterpretable without a theoretical framework, and that theoretical advances remain detached from reality without behavioral evidence.

Jan Koenderink trained in astronomy with Maarten Minnaert at the University of Utrecht in the Netherlands, and then in physics and mathematics. He earned his PhD in artificial intelligence and visual psychophysics with Maarten Bouman from Utrecht. He held faculty positions in Utrecht and Groningen in the Netherlands, and guest professorships from Delft University of Technology, MIT in the USA, Oxford in the UK, and KU Leuven in Belgium. Most significantly, he headed the "Physics of Man" department at the University of Utrecht for more than 30 years. Jan Koenderink has authored more than 700 original research articles and published 2 books of more than 700 pages each. He received many honors, among them a Doctor Honoris Causa in Medicine from KU Leuven, the Azriel Rosenfeld lifelong achievement award in Computer Vision, the Wolfgang Metzger award, the Alexander von Humboldt prize, and is a fellow of the Royal Netherlands Academy of Arts and Sciences.

SOMETHING OLD, SOMETHING NEW, SOMETHING BORROWED, SOMETHING BLUE

DR. KOENDERINK WILL TALK DURING THE AWARDS SESSION MONDAY, MAY 22, 2017, 12:30 - 1:30 PM, TALK ROOM 2

DAVIDA TELLER AWARD

Vision Sciences Society is honored to present Dr. Mary Hayhoe with the 2017 Davida Teller Award.

MARY HAYHOE

Professor of Psychology, Center for Perceptual Systems, University of Texas Austin



Mary Hayhoe is an outstanding scientist who has made a number of highly innovative and important contributions to our understanding of visual sensation, perception and cognition. She received her PhD in 1980 from UC San Diego and served on the faculty at the University of Rochester (1984 -2005) and University of Texas at Austin (2006 present). Her scientific career began with a long

series of fundamental and elegant studies on visual sensitivity, adaptation and color vision. During this period, Mary was a well-funded and internationally-recognized leader in these areas of research; indeed, her work in these areas is still having an important influence.

She then made a dramatic shift in fields, leaving retinal and color psychophysics entirely. With this change, Mary Hayhoe and her colleagues became pioneers in developing a new research area that examines behavior in semi-naturalistic situations. Her research is not about the perceptual or motor system in isolation, but how these systems work together to generate behavior. At the time (the early 1990's), there had been very few attempts to understand visual and cognitive processing in natural visual tasks. Mary and her colleagues were really the first to develop research methods for rigorously studying visual memory, attention and eye

movements in natural everyday tasks (making a sandwich, copying block patterns, walking in cluttered environments etc.). Prior to this work most scientists believed that little of fundamental or general importance could come from working with such complex tasks, because so many neural and motor mechanisms are involved, and because of the difficulty of exerting sufficient experimental control. However, Mary recognized and beautifully exploited the potential of eye, head and body tracking technology, and of virtual-reality technology, for rigorously addressing the problem of understanding perceptual and cognitive processing in natural tasks.

Mary Hayhoe is one of the founders and acknowledged leaders of a new field where there is much deserved emphasis on behavior in the real world. Her care and imagination are always evident, providing an admirable standard for young men and women alike. Her former graduate students and post-doctoral researchers readily acknowledge that her mentoring, investment in their futures, and friendship played an important role in their development as scientists and critical thinkers.

VISION IN THE CONTEXT OF NATURAL BEHAVIOR

DR. HAYHOE WILL TALK DURING THE AWARDS SESSION MONDAY, MAY 22, 2017, 12:30 - 1:30 PM, TALK ROOM 2

Investigation of vision in the context of ongoing behavior has contributed a number of insights by highlighting the importance of behavioral goals, and focusing attention on how vision and action play out in time. In this context, humans make continuous sequences of sensory-motor decisions to satisfy current goals, and the role of vision is to provide the relevant information for making good decisions in order to achieve those goals. I will review the factors that control gaze in natural behavior, including evidence for the role of the task, which defines the immediate goals, the rewards and costs associated with those goals, uncertainty about the state of the world, and prior knowledge.



ELSEVIER/VSS YOUNG INVESTIGATOR AWARD

Vision Sciences Society is honored to present Dr. Janneke F.M. Jehee with the 2017 Young Investigator Award.

JANNEKE F.M. JEHEE

Principal Investigator at the Center for Cognitive Neuroimaging, Donders Institute for Brain, Cognition and Behavior, Radboud University, Nijmegen, the Netherlands



Janneke F.M. Jehee is a tenured Principal Investigator at the Center for Cognitive Neuroimaging, Donders Institute for Brain, Cognition and Behavior, Nijmegen, the Netherlands, where she directs the Visual Computation & Neuroimaging group. She received her Ph.D. in Psychology from the University of Amsterdam under the direction of Victor Lamme.

She then moved on to postdoctoral work, first in computational neuroscience at the University of Rochester with Dana Ballard, and then in fMRI research at Vanderbilt University with Frank Tong. Dr. Jehee's work has been supported by numerous grants and fellowships, including from the Netherlands Organization for Scientific Research and the European Research Council.

Dr. Jehee works on the fundamental problem of understanding how the brain represents the visual properties of the environment. Her contributions have used multiple approaches, including computational modeling, psychophysical experimentation and fMRI, to study the interaction between the bottom-up encoding of stimulus features and top-down influences, such as predictability, attention, and learning. She has developed a series of innovative and rigorous computational models of neural coding, and tested those models against data from single neurons and fMRI, as well as psychophysical observations. In her early work, which was focused on predictive neural coding, she developed models showing that predictive feedback could account for aspects of the tuning properties of cortical neurons, as well as the temporal response properties of neurons in the lateral geniculate nucleus. She also contributed to the development of a neural model of temporal coding based on timed circuits in the gamma frequency range.

In her fMRI research, Dr. Jehee has conducted important studies that have shed light on the neural mechanisms of spatial and feature-based attention, and the impact of perceptual learning on early visual cortical representations. In collaboration with her students and colleagues at the Donders Institute, she tackled an important conundrum regarding predictive neural coding, namely, why neural signals for predictable stimuli are typically suppressed relative to those for novel stimuli, while neural signals for attended stimuli are often enhanced. Jehee showed that while the strength of signals representing highly predictable stimuli may be suppressed, the precision of the neural representation of these stimuli is improved.

In more recent, ground-breaking work, Jehee and her lab developed a new technique that can estimate the neural uncertainty of visuocortical representations of stimuli on a moment-to-moment basis, directly linking neural uncertainty to perceptual decisions of the observer.

In addition to these stellar research accomplishments, Dr. Jehee has participated in the training of many graduate students and postdoctoral fellows, who attest to her creativity, courage and unwavering dedication and devotion to both the work and to the students she is training.

UNCERTAINTY AND OPTIMIZATION IN HUMAN VISION

DR. JEHEE WILL TALK DURING THE AWARDS SESSION MONDAY, MAY 22, 12:30 - 1:30 PM, TALK ROOM 2

We tend to trust our eyes, believing them to be reliable purveyors of information about our visual environment. In truth, however, the signals they produce from moment to moment are noisy and incomplete. How do we 'decide' what we see based on such limited and uncertain information? In this talk, I will present theoretical as well as experimental work to address this question. I will first discuss a computational model of predictive neural coding. The model suggests that the visual system may use topdown interactions between areas to reduce the degree of uncertainty in its perceptual representations. I will then present experimental findings on top-down attention and perceptual learning, and show that these processes reduce the uncertainty in the representation of stimulus features in visual cortex. Finally, I will present recent neuroimaging results indicating that the degree of uncertainty in cortical representations can be characterized on a trial-by-trial basis. This work shows that the fidelity of visual representations can be directly linked to the observer's perceptual decisions.

VSS PUBLIC LECTURE

NANCY KANWISHER

MIT



Nancy Kanwisher received her B.S. and Ph.D. from MIT working with Molly Potter. After a postdoc as a MacArthur Fellow in Peace and International Security, and a second postdoc in the lab of Anne Treisman at UC Berkeley, she held faculty positions at UCLA and then Harvard, before returning to MIT in 1997, where she is now an Investigator at the McGovern Institute for Brain Research, a faculty member in the Department of Brain & Cognitive Sciences, and a member of

the Center for Minds, Brains, and Machines. Kanwisher's work uses brain imaging to discover the functional organization of the human brain as a window into the architecture of the mind. Kanwisher has received the Troland Award, the Golden Brain Award, and a MacVicar Faculty Fellow teaching Award from MIT, and she is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. You can view her short lectures about human cognitive neuroscience for lay audiences here: http://nancysbraintalks.mit.edu

ATTENDING THE PUBLIC LECTURE

The lecture is free to the public with admission to the museum. VSS attendees will receive free admission to the Museum by showing your meeting badge.

FUNCTIONAL IMAGING OF THE HUMAN BRAIN AS A WINDOW INTO THE MIND

SATURDAY, MAY 20, 11:00 AM - 12:00 PM MUSEUM OF FINE ARTS, ST. PETERSBURG, FLORIDA

Twenty-five years ago with the invention fMRI it became possible to image neural activity in the normal human brain. This remarkable tool has given us a striking new picture of the human brain, in which many regions have been shown to carry out highly specific mental functions, like the perception of faces, speech sounds, and music, and even very abstract mental functions like understanding a sentence or thinking about another person's thoughts. These discoveries show that human minds and brains are not single general-purpose devices, but are instead made up of numerous distinct processors, each carrying out different functions. I'll discuss some of the evidence for highly specialized brain regions, and what we know about each. I'll also consider the tantalizing unanswered questions we are trying to tackle now: What other specialized brain regions do we have? What are the connections between these each of these specialized regions and the rest of the brain? How do these regions develop over infancy and childhood? How do these regions work together to produce uniquely human intelligence?

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.

CLUB VISION DANCE PARTY

TUESDAY, MAY 23, 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!

ELSEVIER/VISION RESEARCH STUDENT TRAVEL AWARDS



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

KAMRAN BINAEE

Rochester Institute of Technology Advisor: Gabriel J. Diaz

KATHRYN BONNEN

University of Texas at Austin Advisors: Alexander C. Huk, Lawrence K. Cormack

SASSKIA BRÜERS

Université de Toulouse Paul Sabatier Advisor: Rufin VanRullen

BLAIRE DUBE

University of Guelph Advisor: Naseem Al-Aidroose

MIZUKI FUJITA

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Osaka University Advisors: Ichiro Fujita, Kaoru Amano, Hiroshi Ban

CHRISTINE GAMBLE

Brown University Advisor: Joo-Hyun Song

RINAT HILO

Tel-Aviv University Advisor: Shlomit Yuval-Greenberg

JANIS INTOY

Boston University Advisor: Michele Rucci

SHA LI

University of Minnesota Advisor: Yuhong Jiang

MATTHEW LOWE

University of Toronto Advisors: Dirk Bernhardt-Walther, Susanne Ferber, Jonathan S. Cant

LONG LUUI

University of Pennsylvania Advisor: Alan A. Stocker

TAKUMA MORIMOTO

University of Oxford Advisor: Hannah Smithson

JOEL ROBITAILLE

Brock University Advisor: Stephen M. Emrich

RICHARD SCHWEITZER

Humboldt-Universität zu Berlin Advisor: Martin Rolfs

DAVID SUTTERER

University of Chicago Advisor: Ed Awh

DIANA TONIN

University of East Anglia Advisor: Stephanie Rossit

RUBEN VAN BERGEN

Donders Institute for Brain, Cognition & Behavior Advisor: Janneke Jehee

GRETA VILIDAITE

University of York Advisor: Daniel H. Baker

VY VO

Unversity of California, San Diego Advisor: John Serences

PAUL ZERR

Utrecht University Advisors: Albert Postma, Stefan Van der Stigchel

ARVO/VSS RESEARCH FELLOWSHIP

VSS is pleased to announce the 2017 recipent of the ARVO/VSS Research Fellowship.



KATHRYN BONNEN

University of Texas at Austin

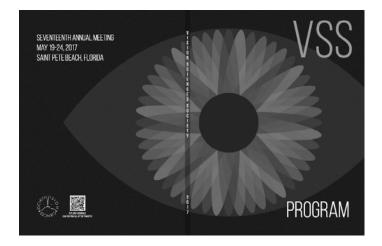
Kathryn Bonnen will apply her training in the perception of 3-dimensional motion and sensorimotor control to investigate how individuals with amblyopia use vision to guide action in everyday tasks.

The purpose of the ARVO/VSS 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 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.

GRAPHICS COMPETITION

Each year VSS hold a graphics competition seeking interesting visual images to be used for the annual meeting. There are two graphics competitions: a T-Shirt Design Competition and a Program Cover Competition, each with a cash award for the winner.







PROGRAM COVER COMPETITION

JOHN GASPAR

University of California, Davis

The cover was inspired by the minimalist Penguin and Pelican Book covers from the 60's. These designs utilized only simple shapes, colors, and typography to adroitly illustrate their respective book titles. It was left to the reader to appreciate the gestalt of the arrangement in order to glimpse the connection between cover and subject matter. While my design is nowhere near as clever as so many of those were, my attempt was of similar kind. I could tell you of each specific motivation I had while designing it, but it is much more fun for you to derive your own interpretations. Besides, then I can take credit for all of the wonderful symbolism you notice that must have subliminally influenced me.

T-SHIRT DESIGN COMPETITION

The winners of this year's T-Shirt Design Competition are:

CLAUDIA DAMIANO AND YAELAN JUNG

University of Toronto, Department of Psychology

VSS has been a fun and happy time for us to absorb sunshine and knowledge about vision science. We wanted a T-shirt logo that visualizes that joyfulness, which led us to choose funky neon colors and a cute visual illusion called Neon Color Spreading. We hope that our simple logo can spread our love to the attendees of VSS, and we wish everyone good luck on their amazing research!

ADDITIONAL WINNER

This year the board decided to grant an extra award to a graphic submission that they found interesting, but did not fit neatly into the program or t-shirt categories. You will see the use of this graphic on the program covers and various meeting signs.

DEJAN DRASCHKOW

Scene Grammar Lab, Goethe University Frankfurt

SAGE BOETTCHER

Brain & Cognition Lab, University of Oxford

The whole world is going virtual, so why shouldn't VSS? Virtual reality has experienced a surge in popularity within the last year. Between VR "headsets" for phones, VR gaming opportunities, and of course, an increased interest in VR as an experimental tool, as predicted by every sci-fi movie ever, it is hard to escape this alternate version of reality. VSS has always reflected trends not only popular among scientists but also among the general public. This inspired us to take a "virtual" approach to this year's graphics competition allowing users to experience St. Pete Beach from a bird's eye perspective...with a few minor modifications. We hope this will inspire more interactive and virtual submissions for future graphic competitions.

MEMORIAL SYMPOSIA



IN THE FONDEST MEMORY OF BOSCO TJAN

FRIDAY, MAY 19, 9:00 - 11:30 AM, TALK ROOM 1-2

Organizers: Zhong-lin Lu, The Ohio State University and Susana Chung, University of California, Berkeley

Speakers: Zhong-lin Lu, Gordon Legge, Irving Biederman,

Anirvan Nandy, Rachel Millin, Zili Liu, Susana Chung

Professor Bosco S. Tjan was murdered at the pinnacle of a flour-ishing academic career on December 2, 2016. The vision science and cognitive neuroscience community lost a brilliant scientist and incisive commentator.

BOSCO TJAN: AN IDEAL SCIENTIFIC ROLE MODEL

Zhong-Lin Lu, The Ohio State University

Professor Bosco S. Tjan was murdered at the pinnacle of a flour-ishing academic career on December 2, 2016. The vision science and cognitive neuroscience community lost a brilliant scientist and incisive commentator. I will briefly introduce Bosco's life and career, and his contributions to vision science and cognitive neuroscience.

BOSCO TJAN: A MENTOR'S PERSPECTIVE ON IDEAL OBSERVERS AND AN IDEAL STUDENT

Gordon Legge, University of Minnesota

I will share my perspective on Bosco's early history in vision science, focusing on his interest in the theoretical framework of ideal observers. I will discuss examples from his work on 3D object recognition, letter recognition and reading.

BOSCO TJAN: THE CONTRIBUTIONS TO OUR UNDER-STANDING OF HIGHER LEVEL VISION MADE BY AN ENGINEER IN PSYCHOLOGIST'S CLOTHING

Irving Biederman, University of Southern California

Bosco maintained a long-standing interest in shape recognition. In an extensive series of collaborations, he provided invaluable input and guidance to research: a) assessing the nature of the representation of faces, b) applying ideal observer and reverse correlation methodologies to understanding face recognition, c) exploring what the defining operations for the localization of LOC, the region critical for shape recognition, were actually reflecting, and d) key contributions to the design and functioning of USC's Dornsife Imaging Center for Cognitive Neuroscience.

BOSCO TJAN: A BEAUTIFUL MIND

Anirvan Nandy, Salk Institute for Biological Studies

Bosco was fascinated with the phenomenon of visual crowding – our striking inability to recognize objects in clutter, especially in the peripheral visual fields. Bosco realized that the study of crowding provided an unique window into the study of object recognition, since crowding represents a "natural breakdown" of the object recognition system that we otherwise take for granted. I will talk about a parsimonious theory that Bosco & I had proposed and which aimed to unify several disparate aspects of crowding within a common framework.

BOSCO'S INSIGHTFUL APPROACH TO FMRI

Rachel Millin, University of Washington

Bosco was both a brilliant vision scientist and a creative methodologist. Through his work using fMRI to study visual processing, he became interested in how we could apply our limited understanding of the fMRI signal to better understand our experimental results. I will discuss a model that Bosco and I developed to simulate fMRI in V1, which aims to distinguish neural from non-neural contributions to fMRI results in studies of visual perception.

BOLD-O-METRIC FUNCTION IN MOTION DISCRIMINATION

Zili Liu, UCLA

We investigated fMRI BOLD responses in random-dot motion direction discrimination, in both event-related and blocked designs. Behaviorally, we obtained the expected psychometric functions as the angular difference between the motion direction and reference direction was systematically varied. Surprisingly, however, we found little BOLD modulation in the visual cortex as the task demand varied. (In collaboration with Bosco Tjan, Ren Na, Taiyong Bi, and Fang Fang)

BOSCO TJAN: THE TRANSLATOR

Susana Chung, University of California, Berkeley

Bosco was not a clinician, yet, he had a strong interest in translating his knowledge and skills in basic science to issues that relate to people with impaired vision. I will present some of my collaboration work with Bosco that had shed light on how the brain adapts to vision loss in patients with macular disease.

VSS 2017 PROGRAM MEMORIAL SYMPOSIA



BRUCE BRIDGEMAN MEMORIAL SYMPOSIUM

FRIDAY, MAY 19, 9:00 - 11:30 AM, PAVILION

Organizer: Susana Martinez-Conde, State University of New York

Speakers: Stephen L. Macknik, Stanley A. Klein, Susana Martinez-Conde, Paul Dassonville, Cathy Reed, Laura Thomas

Professor Emeritus of Psychology Bruce Bridgeman was tragically killed on July 10, 2016, after being struck by a bus in Taipei, Taiwan. Those who knew Bruce will remember him for his sharp intellect, genuine sense of humor, intellectual curiosity, thoughtful mentorship, gentle personality, musical talent, and committed peace, social justice, and environmental activism. This symposium will highlight some of Bruce's many important contributions to perception and cognition, which included spatial vision, perception/action interactions, and the functions and neural basis of consciousness.

Please also visit the Bruce Bridgeman Tribute website at https://brucebridgeman.sites.ucsc.edu/.

A SMALL PIECE OF BRUCE'S LEGACY

Stephen L. Macknik, State University of New York

CONSCIOUSNESS AND COGNITION

Stanley A. Klein, UC Berkeley

BRUCE BRIDGEMAN'S PIONEERING WORK ON MICRO-SACCADES

Susana Martinez-Conde, State University of New York

THE INDUCED ROELOFS EFFECT IN MULTISENSORY PERCEPTION AND ACTION

Paul Dassonville, University of Oregon

ANYTHING I COULD DO BRUCE COULD DO BETTER

Cathy Reed, Claremont Mckenna College

A LEGACY OF ACTION

Laura Thomas, North Dakota State University

IN MEMORIAM



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BRUCE BRIDGEMANProfessor Emeritus, UC Santa Cruz
September 17, 1944 - July 10, 2016



VALERIE MORASH
Post-doctoral Fellow, Smith-Kettlewell Eye Research Institute August 13, 1984 - January 23, 2017



VIVIEN CASAGRANDE
Professor, Vanderbilt University
June 7, 1942 - January 21, 2017



LYNN OLZAK
Visiting Research Scholar,
UC Berkeley School of Optometry
Professor Emerita,
Miami University of Ohio
November 23, 1951 - October 13, 2016



RICHARD HELDProfessor Emeritus, Massachusetts
Institute of Tecnology
October 10, 1922 - November 22, 2016



BOSCO TJAN

Professor, University of
Southern California
January 21, 1966 - December 2, 2016

SATELLITE EVENTS

COMPUTATIONAL AND MATHEMATICAL MODELS IN VISION (MODVIS)

WEDNESDAY, MAY 17, 9:00 AM - 6:00 PM, HORIZONS THURSDAY, MAY 18, 9:00 AM - 6:00 PM, HORIZONS FRIDAY, MAY 19, 9:00 AM - 12:00 PM, 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 6th VSS satellite workshop on Computational and Mathematical Models in Vision (MODVIS) will be held at the VSS conference venue (the Tradewinds Island Resorts in St. Pete Beach, FL) May 17 – May 19.

A keynote address will be given by Aude Oliva (MIT).

More information can be found on the workshop's website: http://www.conf.purdue.edu/modvis/

IMPLICIT GUIDANCE OF ATTENTION: DEVELOPING THEORETICAL MODELS

THURSDAY, MAY 18, 9:00 AM - 6:00 PM, JASMINE/PALM

Organizers: Rebecca Todd, University of British Columbia and Chelazzi Leonardo, University of Verona

Speakers: Leo Chelazzi, Jane Raymond, Rebecca Todd, Andreas Keil, Clayton Hickey, Sarah Shomstein, Ayelet Landau, Brian Anderson, Jan Theeuwes

Visual selective attention is the process by which we tune ourselves to the world so that, of the millions of bits per second transmitted by the retina, the information that is most important to us reaches awareness and guides action. Recently, new areas of attention research have emerged, making sharp divisions between top-down volitional attention and bottom-up automatic capture by visual features much less clear than previously believed. Challenges to this intuitively appealing dichotomy have arisen as researchers have identified factors that guide attention non-strategically and often implicitly (a quality of bottom-up processes) but also rely on prior knowledge or experience (a quality of top-down systems). As a result, a number of researchers have been developing new theoretical frameworks that move beyond the classic attentional dichotomy. This roundtable discussion will bring together researchers from often-siloized investigative tracks who have been investigating effects of reward, emotion, semantic associations, and statistical learning on attentional guidance, as well as underlying neurocognitive mechanisms. The goal of this roundtable is to discuss these emerging frameworks and outstanding questions that arise from considering a broader range of research findings.

IN THE FONDEST MEMORY OF BOSCO TJAN

FRIDAY, MAY 19, 9:00 - 11:30 AM, TALK ROOM 1-2 See page page 20.

BRUCE BRIDGEMAN MEMORIAL SYMPOSIUM

FRIDAY, MAY 19, 9:00 - 11:30 AM, PAVILION

To find out more, please visit: http://www.visionsciences.org/ See page page 21.

HOW IMMERSIVE EYE TRACKING TOOLS AND VR ANALYTICS WILL IMPACT VISION SCIENCE RESEARCH

SATURDAY, MAY 20, 12:30 - 2:00 PM, JASMINE/PALM

Organizers: Courtney Gray, SensoMotoric Instruments, Inc. and Annett Schilling, SensoMotoric Instruments GmbH

Speakers: Stephen Macknik, SUNY Downstate Medical Center; Gabriel Diaz, Rochester Institute of Tech; Mary Hayhoe, University of Texas.

This event covers the implications of new immersive HMD technologies and dedicated VR analysis solutions for vision science research. Researchers share their experiences and discuss how they believe VR eye tracking headsets and the ability to analyze data from immersive scenarios will positively impact visual cognition and scene perception research.

FOVEA (FEMALES OF VISION ET AL) WORKSHOP AND LUNCH

SATURDAY, MAY 20, 12:30 - 2:30 PM, HORIZONS

Organizers: Diane Beck, University of Illinois; Mary A. Peterson, University of Arizona; Karen Schloss, University of Wisconsin – Madison; Allison Sekuler, McMaster University

Panelists: Marisa Carrasco, New York University and Allison Sekuler, McMaster University

FoVea is a group founded to advance the visibility, impact, and success of women in vision science. To that end, we plan to host a series of professional issues workshops during lunchtime at VSS. We encourage vision scientists of all genders to participate in the workshops.

The topic of the 2017 workshop is **Negotiation: When To Do It and How To Do It Successfully**. Two panelists will each give a presentation, and then will take questions and comments from the audience. The remainder of the workshop time will be spent networking with other attendees. The panelists are:

Marisa Carrasco, Professor of Psychology and Neural Science at New York University who served as the Chair of the Psychology Department for 6 years.

Allison Sekuler, Professor of Psychology, Neuroscience & Behaviour and Strategic Advisor to the President and VPs on Academic Issues, McMaster University; past Canada Research Chair in Cognitive Neuroscience (2001-2011), Associate VP & Dean, School of Graduate Studies (2008-2016), and interim VP Research (2015-2016).

VSS 2017 PROGRAM SATELLITE EVENTS

A buffet lunch will be available. Registration is required so the appropriate amount of food can be on hand. To register, please go to: https://sites.google.com/site/femalesofvisionetal/vss2017. Capacity is limited to 95 attendees.

SOCIAL HOUR FOR FACULTY AT PRIMARILY UNDERGRADUATE INSTITUTIONS (PUIS)

SUNDAY, MAY 21, 12:30 - 2:00 PM, ROYAL TERN

Organizers: Eriko Self, California State University, Fullerton; Cathy Reed, Claremont McKenna College; and Nestor Matthews, Denison University

Do you work at a primarily undergraduate institution (PUI)? Do you have to find precious time for research and mentoring students among heavy teaching load? If so, bring your lunch or just bring yourself to PUI social and get to know other faculty at PUIs! It will be a great opportunity to share your ideas and concerns.

VANDERBILT-ROCHESTER VISION CENTERS PARTY

SUNDAY, MAY 21, 7:30 - 10:00 PM, BEACHSIDE SUN DECKS

Organizers: Geoffrey Woodman, Vanderbilt University and Duje Tadin, Rochester University

This event brings back the Vanderbilt-Rochester Party that began at the first VSS meetings. This social event will feature free drinks and snacks for all VSS attendees. It will provide attendees with the opportunity to socialize with members of the Rochester Center for Vision Science and the Vanderbilt Vision Research Center in attendance at VSS. This is a good opportunity to talk to potential mentors for graduate or postdoctoral training in vision science.

APPLICATIONAL NEEDS REINVENT SCIENTIFIC VIEWS

MONDAY, MAY 22, 2:00 - 3:00 PM, JASMINE/PALM

Organizers: Katharina Rifai, Iliya V. Ivanov, and Siegfried Wahl, Institute of Ophthalmic Research, University of Tuebingen

Speakers: Eli Peli, Schepens Eye Research Institute; Peter Bex, Northeastern University; Susana Chung, UC Berkeley; Markus Lappe, University of Münster; Michele Rucci, Boston University; Jeff Mulligan, NASA Ames Research Center; Arijit Chakraborty, School of Optometry and Vision Science, University of Waterloo; Ian Erkelens, School of Optometry and Vision Science, University of Waterloo; Kevin MacKenzie, York University and Oculus VR, LCC.

Applicational needs have often reinvented views on scientific problems and thus triggered break-throughs in models and methods. A recent example is augmented/virtual reality which challenges the visual system with reduced or enriched content and thus triggers scientific questions on visual system's robustness.

Nonetheless, the driving character of applications within VSS research has not received focal attention until now. Therefore, we

intend to bring together bright minds in a satellite event promoting the scientific drive created by applicational needs within VSS 2017.

TUTORIAL IN BAYESIAN MODELING

MONDAY, MAY 22, 2:00 - 4:30 PM, SABAL/SAWGRASS

Organizer: Wei Ji Ma, New York University

Bayesian models are widespread in vision science. However, their inner workings are often obscure or intimidating to those without a background in modeling. This tutorial, which does not assume any background knowledge, will start by motivating Bayesian models through visual illusions. Then, you as participants will collectively choose a concrete experimental design to build a model for. We will develop the math of the Bayesian model of that task, and implement it in Matlab. You will take home complete code for a Bayesian model. Please bring pen, paper, and if possible, a laptop with Matlab.

Tutorial is limited to the first 50 people (first come, first-served).

THE EXPERIENTIAL LEARNING LABORATORY

MONDAY, MAY 22, 2:15 - 3:15 PM, CITRUS/GLADES

Organizers: Ken Nakayama, Na Li, and Jeremy Wilmer; Harvard University and Wellesley College

Psychology is one of most popular subjects with some the highest enrollments and at the undergraduate level. Psychology is also a science. Yet, the exposure of the undergraduate population to the actual "hands-on" practice doing such science is limited. It is rare in an undergraduate curriculum to see the kind of undergraduate laboratories that have been a longstanding tradition in the natural sciences and engineering. It is our premise that well conceived laboratory experiences by Psychology students have the potential to bring some important STEM practices and values to Psychology. This could increase the number of students who will have the sophistication to understand science at a deeper level, who will have the ability to create new knowledge through empirical investigation and who will develop the critical skills to evaluate scientific studies and claims. Critically important here is to supply conditions to engage students more fully by encouraging student initiated projects and to use this opportunity for them to gain mastery. TELLab with its ease of use and its ability to allow students to create their own experiments is what distinguishes it from other currently available systems. We invite teachers to try our system for their classes.

WORLDVIZ VR WORKSHOP

TUESDAY, MAY 23, 1:00 - 2:30 PM, SABAL/SAWGRASS

Organizer: Matthias Pusch, WorldViz

Virtual Reality is getting a lot of attention and press lately, but 'hands on' experiences with real use cases for this new technology are rare. This session will show what WorldViz has found to work for collaborative VR, and we will set up and try out an interactive VR experience together with the audience.

SATELLITE EVENTS VSS 2017 PROGRAM

HONORING AL AHUMADA — AL-APALOOZA! TALKS

WEDNESDAY, MAY 24, 3:00 - 5:00 PM, HORIZONS

Organizers: Jeff Mulligan, NASA Ames Research Center and Beau Watson, Apple

A celebration of the life, work, and play of Albert Jil Ahumada, Jr., a whimsical exploration of network learning for spatial and color vision, noise methods, models of photoreceptor positioning, etc. An afternoon session of informal talks will be open to all free of charge, followed by an evening banquet (payment required).

Full details will be posted as they are available at http://visionscience.com/alapalooza/.

HONORING AL AHUMADA — AL-APALOOZA! DINNER

WEDNESDAY, MAY 24, 7:00 - 10:00 PM, BEACHSIDE SUN DECKS

Organizers: Jeff Mulligan, NASA Ames Research Center and Beau Watson, Apple

Full details will be posted as they are available at http://visionscience.com/alapalooza/

VSS@ARV0 2017

FUNCTIONAL BRAIN IMAGING IN DEVELOPMENT AND DISORDER

TUESDAY, MAY 9, 1:00 - 2:30 PM AT ARVO 2017, BALTIMORE, MARYLAND

Presenters: Geoffrey K. Aguirre, Jan Atkinson, Tessa M. Dekker, Deborah Giaschi

This symposium will feature four talks that apply functional brain imaging to the study of both visual development and visual disorders. Functional brain imaging, primarily fMRI, enables non-invasive and quantitative assessment of neural function in the human brain. The four talks in the symposium will cover topics that include the reorganization of visual cortex in blindness, studies of cortical response in children with amblyopia, the normal development of population receptive fields in visual cortex, and the effect of early cortical damage on visual development.

POST-RETINAL STRUCTURE AND FUNCTION IN HUMAN BLINDNESS

Speaker: Geoffrey K. Aguirre, Department of Neurology, University of Pennsylvania

NEUROIMAGING THE TYPICAL AND ATYPICAL DEVELOPING VISUAL BRAIN: DORSAL VULNERABILITY AND CEREBRAL VISUAL IMPAIRMENT

Speaker: Professor Jan Atkinson Ph.D, FMedSci; Acad. Europaea; FBA, Emeritus Professor of Psychology and Developmental Cognitive Neuroscience, University College London, Visiting Professor, University of Oxford

DEVELOPMENT OF RETINOTOPIC REPRESENTATIONS IN VISUAL CORTEX DURING CHILDHOOD

Speaker: Tessa M. Dekker, Division of Psychology and Language Sciences & Institute of Ophthalmology, University College London

NEURAL CORRELATES OF MOTION PERCEPTION DEFICITS IN AMBLYOPIA

Speaker: Deborah Giaschi, Department of Ophthalmology and Visual Science, University of British Columbia

MEET THE PROFESSORS

MONDAY, MAY 22, 2017, 4:45 - 6:00 PM, BRECK DECK NORTH

Students and postdocs are invited to the second annual "Meet the Professors" event immediately preceding the VSS Dinner and Demo Night. This is an opportunity for a free-wheeling, open-ended discussion with members of the VSS Board and other professors. You might chat about science, the annual meeting, building a career, or whatever comes up.

Participants must pre-register online at http://www.visionsciences.org/2017-meet-the-professors/. To see if space is available the day of the event, please arrive before the event.

VSS Board Members are show with an asterisk (*).

DAVID BRAINARD* University of Pennsylvania – Studies human color vision, with particular interests in the consequences of spatial and spectral sampling by the photoreceptors and in the mechanisms mediating color constancy.

ELI BRENNER* Free University, Amsterdam – Studies how visual information is used to guide our actions.

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..

ISABEL GAUTHIER Vanderbilt University – Uses behavioral and brain imaging methods to study perceptual expertise, object and face recognition, and individual differences in vision.

JULIE HARRIS St. Andrews – Studies our perception of the 3D world, including binocular vision and 3D motion. She also has an interest in animal camouflage.

SHENG HE University of Minnesota & Institute of Biophysics, CAS – Uses psychophysical and neuroimaging (fMRI, EEG, MEG) methods to study spatiotemporal properties of vision, binocular interaction, visual attention, visual object recognition, and visual awareness.

MICHAEL HERZOG EPFL, Switzerland – Studies spatial and temporal vision in healthy and clinical populations.

TODD HOROWITZ National Cancer Institute – Broadly interested in how vision science can be leveraged to reduce the burden of cancer, from improving detection and diagnosis to understanding the cognitive complaints of cancer survivors

LYNNE KIORPES* NYU – Uses behavioral and neurophysiological approaches to study visual development and visual disability. The goal is to understand the neural limitations on development and the effects of abnormal visual experience.

DENNIS LEVI UC Berkeley – Studies plasticity both in normal vision, and in humans deprived of normal binocular visual experience, using psychophysics and neuroimaging.

ENNIO MINGOLLA Northeastern – Develops and tests of neural network models of visual perception, notably the segmentation, grouping, and contour formation processes of early and middle vision in primates, and on the transition of these models to technological applications.

CONCETTA MORRONE University of Pisa – Studies the visual system in man and infants using psychophysical, electrophysiological, brain imaging and computational techniques. More recent research interests have been vision during eye-movement, perception of time and plasticity of the adult visual brain.

TONY NORCIA* Stanford University – Studies the intricacies of visual development, partly to better understand visual functioning in the adult and abnormal visual processing.

AUDE OLIVA MIT – Studies human vision and memory, using methods from human perception and cognition, computer science and human neuroscience (fMRI, MEG).

MARY PETERSON University of Arizona – Uses behavioral methods, neuropsychology, ERPs, and fMRI to investigate the competitive processes producing object perception and the interactions between perception and memory.

JEFF SCHALL* Vanderbilt University – Studies the neural and computational mechanisms that guide, control and monitor visually-guided gaze behavior.

JAMES TANAKA University of Victoria – Studies the cognitive and neural processes of face recognition and object expertise. He is interested in the perceptual strategies of real world experts, individuals on the autism spectrum and how a perceptual novice becomes an expert.

PREETI VERGHESE* 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* Apple – Studies human spatial, temporal and motion processing, computational modeling of vision, and applications of vision science to imaging technology.

JEREMY WOLFE* 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.

STUDENT AND POSTDOC WORKSHOPS

VSS WORKSHOP FOR PHD STUDENTS AND POSTDOCS: REVIEWING AND RESPONDING TO REVIEW

SUNDAY, MAY 21, 2017, 1:00 - 2:00 PM, SABAL/SAWGRASS

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

Moderator: Jeremy Wolfe

Panelists: David H. Foster, Isabel Gauthier,

Cathleen Moore, Jeremy Wolfe

Peer review of papers and grants is far from perfect, but it is, nevertheless, a pillar of our sciences. Writing reviews and responding to reviews are important, time-consuming tasks. How can we do them better? How much is too much when it comes to review? Should I give the author the benefit of my biting wit? Do I need to respond to every point in the review? When is it OK to say that the reviewer is an idiot? The members of our panel will address these and other questions from the vantage point of their roles as journal editors, grant reviewers, and recipients of reviews. Bring your questions and war stories from the trenches of peer review.



DAVID H. FOSTER

University of Manchester

David H. Foster is Professor of Vision Systems at the University of Manchester. His research interests are in human vision, mathematical and statistical modelling, and applications to machine and biological vision systems. He has served as journal editor for over thirty years, most recently as editor-in-chief of Vision Research. His book, A Concise Guide to Communica-

tion in Science & Engineering, which is based on courses given to graduate students and early-career researchers, is due to be published by Oxford University Press in 2017.



ISABEL GAUTHIER

Vanderbilt University

Isabel Gauthier is David K Wilson Professor of Psychology at Vanderbilt University. She received her PhD from Yale in 1998 and is the recipient of several awards, including the Troland award from the National Academy of Sciences. She heads the Object Perception Laboratory, where investigators use behavioral and brain imaging methods to study perceptual

expertise, object and face recognition, and individual differences in vision. She has served as associate editor at several journals, is currently outgoing editor of the Journal of Experimental Psychology: General and incoming Editor of the Journal of Experimental Psychology: Human Perception and Performance.



CATHLEEN MOORE

University of Iowa

Cathleen Moore is a Professor of Psychology at the University of Iowa, where she heads up the Iowa Attention and Perception Lab. Her research focuses on visual attention and perceptual organization. She has been on the Governing Board of the Psychonomic Society since 2010, having served as Chair in 2016. She was Editor of Psychonomic Bulletin & Review

from 2011-14, and Associate Editor of the same journal from 2002-05. She has written and read a lot of reviews over the years.



JEREMY WOLFE

Harvard Medical School

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. In the world of reviewing he has served as Editor of Attention, Perception, and Psychophysics and is the founding Editor of the new Psychonomic Society, open access journal; Cognitive Research: Principles and Implications. He will be moderating this session and currently serves as a VSS board member.

CONNECT WITH INDUSTRY REPS WHO ARE HIRING

SATURDAY, MAY 20, 9:45 - 10:30 AM, BANYAN/CITRUS SUNDAY, MAY 21, 9:45 - 10:30 AM, BANYAN/CITRUS

VSS would like to help facilitate interactions between industry reps and VSS members seeking industry vision science jobs. Industry reps from Meta Co., Exponent, SR Research and Oculus will be on hand Saturday and Sunday morning coffee breaks to discuss open positions for vision scientists in their companies, and to answer questions about working in industry as a vision scientist.

Coffee and refreshments will be available.

VSS 2017 PROGRAM STUDENT AND POSTDOC WORKSHOPS

VSS WORKSHOP FOR PHD STUDENTS AND POSTDOCS: CAREERS IN INDUSTRY AND GOVERNMENT

SUNDAY, MAY 21, 2017, 1:00 - 2:00 PM, JASMINE/PALM

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

Moderator: David Brainard

Panelists: Kurt Debono, Kevin MacKenzie, Alex Smolyanskaya, Cheri Wiggs, David Brainard

Scientific training often focuses on preparation for careers in academia, in part because those providing the training are generally academics themselves and thus most familiar with the academic track. This workshop will provide an opportunity for students and post-docs to learn more about career opportunities for vision scientists outside of academia, specifically careers in industry and government. Panelists will provide brief introductory remarks touching on how their scientific training prepared them for their current career, how they obtained their position, and what they have found rewarding about their career path. This will be followed by an audience-driven discussion where panelists will respond to questions and speak to issues raised by audience members.



KURT DEBONO

SR Research

Kurt works in eye tracking technology with SR Research Ltd in Brighton UK. He got his PhD in vision science at Giessen University and made his transition from academia five years ago.



KEVIN J. MACKENZIE

Oculus

Kevin J. MacKenzie is a research scientist at Oculus Research, a multi-disciplinary research team within Oculus. He conducted his PhD work in Laurie Wilcox's lab at York University's Centre for Vision Research and held a post-doctoral fellowship at Bangor University, 2008 through 2012 under the tutelage of Simon Watt. Prior to Oculus, he was part of the

Microsoft HoloLens team, holding positions as a human factors engineer and user experience researcher.



ALEX SMOLYANSKAYA

Stitch Fix

Alex is a data scientist at Stitch Fix in San Francisco, where she works on forecasting demand and macro client behavior. She got her PhD in Neuroscience at Harvard and was a postdoc in Nicole Rust's lab at the University of Pennsylvania. She made the transition from academia to data

science two years ago via Insight Data Science, a post-doctoral fellowship program specifically designed to prepare scientists for interviews and careers in industry.



CHERI WIGGS

National Eye Institute

Cheri Wiggs serves as a Program Director at the National Eye Institute (of the National Institutes of Health). She oversees extramural funding through three programs — Perception & Psychophysics, Myopia & Refractive Errors, and Low Vision & Blindness Rehabilitation. She received her PhD from Georgetown University in 1991 and came to the NIH as

a researcher in the Laboratory of Brain and Cognition. She made her jump to the administrative side of science in 1998 as a Scientific Review Officer. She currently represents the NEI on several NIH coordinating committees (including BRAIN, Behavioral and Social Sciences Research, Medical Rehabilitation Research) and was appointed to the NEI Director's Audacious Goals Initiative Working Group.



DAVID BRAINARD

University of Pennsylvania

David H. Brainard is the RRL Professor of Psychology at the University of Pennsylvania. He is a fellow of the Optical Society, ARVO and the Association for Psychological Science. At present, he directs Penn's Vision Research Center, co-directs Penn's Computational Neuroscience Initiative, co-directs Penn's NSF funded certificate program in Complex Scene Perception, is

on the Board of the Vision Sciences Society, and is a member of the editorial board of the Journal of Vision. His research interests focus on human color vision, which he studies both experimentally and through computational modeling of visual processing. He will be moderating this session.

15TH ANNUAL DINNER AND DEMO NIGHT

MONDAY, MAY 22, 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 15th 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 was 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 Friends and Family Pass for the Beach BBQ. Friends and Family Passes may be purchased at the VSS Registration Desk at any time or at the Beach BBQ adjacent to Salty's Tiki Bar after 5:45 pm.

ROTATING SQUARES LOOK LIKE PINCUSHIONS

Stuart Anstis, Sae Kaneko, UC San Diego

A square that rotates about its own center appears to be distorted into pincushions with concave sides. This illusory shape changes is caused by a perceived compression along the curved path of motion. Corners stick out furthest from the center of rotation so they get apparently pinched the most.

THE ROTATING LINE

Kyle W Killebrew, Sungjin Im, Gideon Paul Caplovitz, University of Nevada Reno

If a line changes size at it rotates around its center it will appear to speed up and slow down as a function of its length. Speeding up as the line gets longer and slowing down as it gets shorter. Why can't the visual system get even this simplest of things right?

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.

USING MIXED REALITY TO STUDY THE FREEZING ROTA-TION ILLUSION

Max R. Dürsteler, University Hospital Zurich, Dept. of Neurology

Using a Microsoft Hololens, I demonstrate 3D versions of the "Freezing Rotation Illusion". When using a back and forth rotating tubular structure surrounding a constantly turning air plane model, the plane is perceived a slowing down, when it co-rotates with its surrounds, speeding up otherwise regardless of the observer's position.

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.

FULL IMMERSION IN VR WITH REMOTE INTERACTIVITY

Matthias Pusch, WorldViz

We will immerse two participants at a time with a high end VR system, and have them experience interactivity with a remote (west coast or Europe) set of participants in the same VR session. What can be observed is the level of natural interaction that evolves. Such co-located and/or remote interactivity is an eye opener for understanding the potential and implication of VR for the future of communication and training.

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.

HEMIFIELD-SPECIFIC CAMOUFLAGE AND PERSISTENCE

Zhiheng Zhou, Lars Strother, University of Nevada Reno

Zhou and Strother (2017) recently reported a new psychophysical method of studying contour visibility under conditions of impending camouflage. Here we show that portions of a single contour or two simultaneously visible contours, one viewed in each hemifield, can succumb to camouflage at different times.

AUDIO-VISUAL PERCEPTUAL ILLUSIONS: CENTRAL/ PERIPHERAL FLICKER SYNCHRONIZATION BY SOUND

Shinsuke Shimojo, Caltech; Kensuke Shimojo, St. Mark's School and Mohammad Shehata, Caltech

We will demonstrate that simultaneously pulsed circular targets (with a flicker frequency of 4 to 6 Hz), one viewed centrally and the other peripherally, appear to pulse at different rates (likely due to differences in the cone and rod systems), but can be synchronized with a pulsed audio stimulus that captures the visual percept.

BRAINWALK: EXPLORING THE VIRTUAL BRAIN IN IMMERSIVE VIRTUAL REALITY

Simon Smith, Bas Rokers, Nathaniel Miller, Ross Tredinnick, Chris Racey, Karen B. Schloss, University of Wisconsin – Madison

We will present a Virtual Brain, which uses immersive virtual reality to visualize the human brain. Wearing an Oculus Rift, you can explore a 3D volumetric brain built from real neuroimaging data. You can also play BrainWalk, a game created to help improve the visual design based on user performance.

VSS 2017 PROGRAM 13TH ANNUAL DINNER AND DEMO NIGHT

EGOCENTRIC AND EGOPHOBIC IMAGES

Dejan Todorovic, University of Belgrade, Serbia

Some portraits look (generally) at you from (almost) everywhere – but others never do. Likewise, some depicted roads (practically) always point (by and large) at you – but others never do. Check out how salient these effects are simply by inspecting pairs of identical large images spaced widely apart.

AUDIO-VISUAL PERCEPTUAL ILLUSIONS: EXPANDING/CONTRACTING DOUBLE FLASH AND SPATIAL DOUBLE FLASH

Bolton Bailey, Caltech; Noelle R. B. Stiles, University of Southern California and Caltech; Shinsuke Shimojo, Caltech and Armand R. Tanguay, Jr., University of Southern California and Caltech

At VSS 2016 we demonstrated the "Illusory Rabbit" and "Invisible Rabbit" illusions, both of which indicate that auditory stimuli can capture and modify the perceptual structure of visual stimuli postdictively. This year we will demonstrate two novel variants of the classical double flash illusion, one in which the visual stimulus is a circular contrast gradient that appears to vary dynamically in size, and another in which sequential tones from two separated speakers paired with a single flash induce an illusory flash displaced in the direction of apparent auditory motion.

THE SIZE-WEIGHT ILLUSION

Cristina de la Malla, Vrije Universiteit Amsterdam

A small object feels heavier than a larger object of the same mass. This is known as the size-weight illusion. We will provide the opportunity to experience several variations of the illusion.

VIRTUAL REALITY REAL-TIME MULTIPLE OBJECT TRACKING PSYCHOPHYSICS PLATFORM

Steven Oliveira, Mohammed Islam, Elan Barenholtz, Mike Kleinman, Shannon Whitney, Florida Atlantic University

Experimental platform for immersive multiple object tracking experiment using state-of-the-art virtual reality system. Come enjoy the next generation of psychophysics experiments in a fully immersive 3D environment.

AUGMENTED BRAINWALK: HANDS-ON AUGMENTED REALITY 3D BRAIN EXPLORATION

Stefano Baldassi, Moqian Tian, Meta Company; Bas Rokers, Nathaniel Miller, Ross Tredinnick, Chris Racey, Karen Schloss, University of Wisconsin, Madison & Wisconsin Institute for Discovery

We present an Augmented Reality tool that allows users to visualize brain structures in 3D and manipulate them directly. This tool has special advantages in education, in that users can see through the real world, allowing direct teacher-student communication while interacting with the same brain model.

GOING TO THE MOVIES: IMMERSION, VISUAL AWARENESS, AND MEMORY

Matthew Moran, Derek McClellan, Dr. D. Alexander Varakin, Eastern Kentucky University

The observer will view a movie clip through a scaled down detailed replica of a movie theater that served as the experimental condition of the study. An unexpected stimulus will cross the stage area in front of the movie screen at the 6:36 mark.

SEE YOUR OWN SACCADES

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

VPixx Technologies presents a series of demonstrations which combine the PROPixx 1440Hz refresh rate visual display, and the TRACKPixx 2kHz eye tracker. See your own saccadic eye movement path plotted directly onto your own retina. Question saccadic suppression by examining objects which are visible only during saccades. See what happens when visual stimuli are stabilized on your retina.

HIGH SPEED GAZE-CONTINGENT VISUAL SEARCH

Kurt Debono, Dan McEchron, SR-Research Ltd

Try to find the target in a visual search array which is continuously being updated based on the location of your gaze. High speed video based eye tracking combined with the latest high speed monitors make for a compelling challenge.

EYES WIDE SHUT ILLUSION

Shaul Hochstein, Hebrew University, Jerusalem

The "Eyes Wide Shut" illusion uses a curved/enlarging mirror to observe one eye at a time, and then, surprisingly, both eyes together in one integrated view. It demonstrates mirror action, binocular integration, and how prior assumptions determine how very approximate information from the world creates perception.

VISUAL ATTENTION EEG CHALLENGE

Lloyd Smith, Cortech Solutions, Inc.; Jakob Thomassen, Cambridge Research Systems, Ltd.

Take the EEG Frequency Tagging Challenge to see whether you or your colleagues will take home the prize for most robust visual spatial attention as measured in an EEG SSVEP paradigm. Don't look away, though, because moving your eyes might be cause for disqualification! Find out once and for all who among you is best able to focus visual attention and avoid distractions.

THE BOX THAT DEFINED A MOVEMENT

Joshua E Zosky, Michael D. Dodd, University of Nebraska – Lincoln By surrounding objects (which can be perceived moving leftward or rightward) with a three- dimensional box that has a clear direction of motion, viewers are induced to see a directionally congruent perception of motion. Examples of the phenomenon include: spinning orb, spinning dancer, and The Orb that Destroys Stars.

THE FECHDECK: A HANDTOOL FOR EXPLORING PSYCHO-PHYSICS

James Ferwerda, Center for Imaging Science, Rochester Institute of Technology

The FechDeck is an ordinary deck of playing cards modified to support exploration of psychophysical methods. The deck allows users to conduct threshold experiments using Fechner's methods of adjustment, limits, and constant stimuli, scaling experiments using Thurstone's ranking, pair comparison, and category methods, and Stevens' method of magnitude estimation.

STROBOPONG

Back by popular demand. Strobe lights and ping pong!

EXHIBITORS

VSS recognizes the following companies who are exhibiting at VSS 2017 and we thank them for their participation and support.

EXHIBIT HOURS

Saturday, May 20, 9:00 am - 5:30 pm Sunday, May 21, 9:00 am - 5:30 pm Monday, May 22, 9:00 am - 12:30 pm Tuesday, May 23, 9:00 am - 5:30 pm

BRAIN VISION, LLC

BOOTH 6

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.

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!

EXPONENT, INC.

B00TH 11

Exponent is an engineering and scientific consulting firm that provides solutions to complex technical problems. Our multidisciplinary team of scientists, physicians, engineers, and business consultants performs in-depth research and analysis in more than 90 technical disciplines. We offer clients the scientific expertise needed to understand important issues and make sound strategic decisions. Our clients include a wide range of manufacturers, utilities, insurers, industry groups, government agencies, venture capital companies, and law firms.

Exponent's Human Factors engineers and scientists evaluate human performance and safety in product and system use. Our consultants study how the limitations and capabilities of people, including memory, perception, reaction time, judgment, physical size and dexterity, affect the way they use a product, interact with an organization or environment, process information, or participate in an activity.

Our Human Factors Practice has experience in the following areas of research:

- Evaluating human performance in a wide variety of applications
- Visibility, conspicuity, low-illuminance scene assessment
- Applying fields of cognitive, developmental and experimental psychology as well as human factors and ergonomics
 (such as visual perception, attention, perception-response time, decision making and auditory perception) to real-world situations
- Conducting qualitative and quantitative research and experiments with human subjects through the use of questionnaires, focus groups, interviews, observations, instrumentation, and data acquisition
- Safety and risk analysis
- Consumer product hazard assessment
- Developing safety information to be placed on products and in manuals
- Assisting in the development and design of consumer products At Exponent, we pride ourselves on the high quality of our 1,000+ employees. More than 800 are degreed technical professionals, and more than 500 have earned an M.D. or Ph.D. Exponent operates 20 regional offices and 6 international locations, and is publicly traded on the NASDAQ exchange under the symbol EXPO.

FEEL GOOD, INC.

BOOTH 8

Feel Good, Inc. provides portable TENS (transcutaneous electrical nerve stimulation) units offering a wide variety of benefits including alleviating back, nerve, post-op, diabetic pain and migraines. Our units also improve circulation and sleep patterns to decrease the use of pain relievers that causes negative side effects.

MIT PRESS

B00TH 2

MIT Press is the only university press in the United States whose list is based in science and technology. This does not mean that science and engineering are all we publish, but it does mean that we are committed to the edges and frontiers of the world—to exploring new fields and new modes of inquiry. We publish about 200 new books a year and 150 issues from over 30 journals. Our goal is to create content that is challenging, creative, attractive, and yet affordable to individual readers.

OXFORD UNIVERSITY PRESS

BOOTH 1

Please visit Oxford University Press to browse our new and classic titles including The Oxford Compendium of Visual Illusions, by Shapiro; Development of Perception in Infancy, by Arterberry; and Art, Aesthetics, and the Brain, by Huston.

VSS 2017 PROGRAM EXHIBITORS

PSYCHONOMIC SOCIETY

BOOTH 3

The Psychonomic Society is the home for scientists who study how the mind works. Members of the Society are cognitive psychologists and include some of the most distinguished researchers in the field. Many of us are concerned with the application of psychology to health, technology and education. Some of the most innovative research uses converging methods such as neuroscience and computational science to achieve our research goals. But what brings us together is that we study the fundamental properties of how the mind works by using behavioral techniques to better understand mental functioning. Members of the Society perform and promote the basic science of behavior in areas such as memory, learning, problem solving, action planning, language, and perception that connect with other fields of research. Please visit us at www.psychonomic.org.

ROGUE RESEARCH. INC.

B00TH 14

Rogue Research Inc. 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.

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. Our newest devices include a 250 Hz virtual reality integration, and the 2000 Hz ultra-precise iView 2K.

SR RESEARCH LTD.

BOOTH 13

SR Research, makers of EyeLink eye-trackers, welcomes you to VSS 2017! Come and see the EyeLink Portable Duo - a high performance eye-tracker in a portable package, or the EyeLink 1000 Plus. Starting this year, all new EyeLinks track at up to 2000 Hz binocularly by default, with up to 1000 Hz remote, head free-to move binocular tracking available. While the EyeLink Portable Duo is perfect for school or clinic visits, the EyeLink 1000 Plus provides a uniform, cutting-edge eye-tracking solution for the behavioral lab, MRI/MEG, or EEG. 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. Drop by and discuss our latest hardware and software additions.

THOUSLITE

B00TH 7

Thousand Lights Lighting (Changzhou) Limited or THOUSLITE is a high-tech enterprise, focusing on multi-channel LED lighting technology and light quality management. THOUSLITE is a global leading LED-based standard lighting environment provider. THOUSLITE offers full range of multi-channel LED lighting products for lighting & vision research, color viewing assessment, and camera & sensor test. We also provide customization services. THOUSLITE LEDCube any SPD simulator is designed to build customized or large lighting space, and THOUSLITE LEDView lighting cabinet is used for standard lighting space.

VPIXX TECHNOLOGIES INC.

BOOTHS 4 & 5

VPixx Technologies welcomes the vision community to VSS 2017, and is excited to demonstrate our TRACKPixx 2kHz binocular eye tracker, alongside the PROPixx DLP LED video projector, now supporting refresh rates up to 1440Hz. 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 1920×1080, and a perfectly linear gamma. The solid state LED light engine has 30x the lifetime of halogen projectors, a wider color gamut, and zero image ghosting for stereo vision applications. Our high speed circular polarizer can project 480Hz 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 microsecond synchronization between visual stimulation and other types of I/O including eye tracking, EEG, TMS, audio stimulation, button box input, TTL trigger output, analog acquisition, and more! VPixx Technologies will be using the PROPixx/TRACKPixx combination to demonstrate a new set of gaze-contingent paradigms!

WORLDVIZ

B00TH 12

WorldViz is the industry leader in immersion-ready virtual reality (VR) solutions. WorldViz's interactive visualization and simulation technologies are deployed across 1500+ Fortune 500 companies, academic institutions and government agencies.

WorldViz's core products are Vizard, a specialized development platform for professional VR application development, 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.

WorldViz has recently introduced the VR Collaboration Platform code-named 'Project Skofield' and will show a demo preview of this platform at VSS 2017.

ATTENDEE RESOURCES

ABSTRACT BOOK

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

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 23, 12:30 – 1:15 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 or 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/events-calendar

Daily Kid's Activities Calendar: https://www.tradewindsresort.com/resort-activities/kids

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

See Lounges.

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 19), Demo Night (May 22) or Club Vision (May 23).

EXHIBITS

All exhibits are located in the Banyan Breezeway.

EXHIBIT HOURS

Saturday, May 20, 9:00 am – 5:30 pm Sunday, May 21, 9:00 am – 5:30 pm Monday, May 22, 9:00 am – 12:30 pm Tuesday, May 23, 9:00 am – 5:30 pm

EXHIBITOR SETUP AND TEARDOWN

Setup: Friday, May 19, 4:00 – 7:00 pm and Saturday, May 20, 7:00 – 9:00 am Teardown: Tuesday, May 23, 5:30 – 8:00 pm VSS 2017 PROGRAM ATTENDEE RESOURCES

FITNESS CENTER

The Island Grand fitness center is open daily 6:00 am – 10:00 pm. 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.

FOOD SERVICE/CATERING

Complimentary coffee and tea, and a light continental breakfast is available each morning in the Grand Palm Colonnade and Garden 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. Attendees may purchase a Friends & Family Pass, which will allow their guests to attend the food and social events. See Friends & Family Pass for details.

Each attendee will be given two free drink tickets, good at the Opening Night Reception, Demo Night, or 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 10% 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 10% 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.

FRIENDS & FAMILY PASS

This year, VSS is introducing the new VSS Friends and Family Pass. This pass will allow your family and friends to enjoy some of our fun VSS social events. For \$50.00, your travel companion can attend the Opening Night Reception and the amazing Demo Night Beach BBQ, as well as enjoy all Coffee/Snack Breaks and the Daily Continental Breakfast. Passes are only \$10.00 for each additional family member.

To purchase a Family & Friends Pass, please visit the VSS Registration desk onsite. Passes will be required for entrance to all social events and meals

Note: The VSS Family & Friends Pass does not cover entrance to the scientific sessions. For a guest pass to a scientific session, please inquire at the VSS Registration Desk onsite. For more information, please see "Guests".

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.

To attend social functions, including the Opening Night Reception, Demo Night Beach BBQ, Coffee/Snack Breaks and Daily Continental Breakfast, attendee guests will need to purchase a Friends & Family Pass, available at the VSS Registration Desk.

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.

Also see Lounges.

LOST AND FOUND

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

LOUNGES

VSS offers three lounge areas exclusively for meeting attendees:

CYBER LOUNGE

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

QUIET LOUNGE

The VSS Quiet Lounge is designed especially for attendees who need a quiet place to read, nurse, silently meditate, or relax. It is located in the Glades/Jasmine room in Jacaranda Hall.

SOCIAL LOUNGE

The VSS Social Lounge features comfortable seating for relaxing and visiting with colleagues. Phone charging stations will be available as well. The Social Lounge is located in the Banyan/Citrus room in Jacaranda Hall.

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.

ATTENDEE RESOURCES VSS 2017 PROGRAM

PHONE CHARGING STATION

Phone charging stations will be located at the Registration Desk and 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 – 30 minutes from 5:05 am to 10:10 pm Monday through Thursday and Sunday. Service runs until 5:00 midnight on Friday and Saturday. A bus stop is located directly outside the TradeWinds Resort.

Fare: \$2.25/ride or purchase an Unlimited Daily GO Card for \$5.00 and ride all day

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: multi-zone pricing ranges from free to \$2.25/ride depending on your destination.

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 from 10:00 am – 5:00 pm, and until midnight on Friday and Saturday evenings. Look for the bright red and yellow trolleys. Fare: \$0.50/ride, Seniors & disabled: \$0.25/ride

QUIET LOUNGE

See Lounges.

REGISTRATION

The Registration desk is located in the Grand Palm Colonnade.

REGISTRATION HOURS

Thursday, May 18, 4:00 – 7:00 pm Friday, May 19, 7:00 am – 6:00 pm Saturday, May 20, 7:30 am – 6:45 pm Sunday, May 21, 7:30 am – 6:45 pm Monday, May 22, 7:45 am – 1:30 pm Tuesday, May 23, 7:45 am – 6:45 pm Wednesday, May 24, 7:45 am – 12:45 pm

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, Friday 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.

Kids eat dinner FREE with a dining adult Sunday, Monday,

and Thursday from 5:00 – 7:00 pm Breakfast: 7:00 – 11:00 am (daily)

Dinner: 5:00 – 10:00 pm (closed Tuesday and Wednesday)

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 am – 10:00, and on Saturday until 11:00 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 daily from 4:00pm – 11:00pm, with entertainment on Friday and Saturday evenings from 8:00 – 9:00 pm.

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.

VSS 2017 PROGRAM ATTENDEE RESOURCES

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 – 10:00 pm (breakfast served 8:00 am – 11:00 am).

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 – 2:00 am.

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. Dining hours are 11:30 am – 10:00 pm. There is also a Sunday brunch buffet. Reservations are recommended. Bars are open late night.

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 – 2:00 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 – 12:00 am.

ROOM SERVICE AT THE GUY HARVEY OUTPOST

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

SOCIAL LOUNGE

See Lounges.

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.

MEMBER-INITIATED SYMPOSIA

SCHEDULE OVERVIEW

FRIDAY, MAY 19, 2017, 12:00 - 2:00 PM

S1 - A scene is more than the sum of its objects: The mechanisms of object-object and object-scene integration $\,Talk\,\,Room\,\,1$

S2 - The Brain Correlates of Perception and Action: from Neural Activity to Behavior Pavilion

FRIDAY, MAY 19, 2017, 2:30 - 4:30 PM

S3 - How can you be so sure? Behavioral, computational, and neuroscientific perspectives on metacognition in perceptual decision-making $\,{\rm Talk}\,\,{\rm Room}\,1$

S4 - The Role of Ensemble Statistics in the Visual Periphery Pavilion

FRIDAY, MAY 19, 2017, 5:00 - 7:00 PM

S5 - Cutting across the top-down-bottom-up dichotomy in attentional capture research $\,{\rm Talk}\;Room\,1$

S6 - Virtual Reality and Vision Science Pavilion

S1 - A SCENE IS MORE THAN THE SUM OF ITS OBJECTS: THE MECHANISMS OF OBJECT-OB-JECT AND OBJECT-SCENE INTEGRATION

FRIDAY, MAY 19, 2017, 12:00 - 2:00 PM, TALK ROOM 1

Organizer(s): Liad Mudrik, Tel Aviv University and Melissa Vő, Goethe University Frankfurt

Presenters: Michelle Greene, Monica S. Castelhano, Melissa L.H. Võ, Nurit Gronau, Liad Mudrik

Our visual world is much more complex than most laboratory experiments make us believe. Nevertheless, this complexity turns out not to be a drawback, but actually a feature, because complex real-world scenes have defined spatial and semantic properties which allow us to efficiently perceive and interact with our environment. In this symposium we will present recent advances in assessing how scene-object and object-object relations influence processing, while discussing the necessary conditions for deciphering such relations. By considering the complexity of real-world scenes as information that can be exploited, we can develop new approaches for examining real-world scene perception.

MEASURING THE EFFICIENCY OF CONTEXTUAL KNOWLEDGE

Speaker: Michelle Greene, Stanford University

WHERE IN THE WORLD?: EXPLAINING SCENE CONTEXT EFFECTS DURING VISUAL SEARCH THROUGH OBJECT-SCENE SPATIAL ASSOCIATIONS

Speaker: Monica S. Castelhano, Queen's University

WHAT DRIVES SEMANTIC PROCESSING OF OBJECTS IN SCENES?

Speaker: Melissa L.H. Võ, Goethe University Frankfurt

VISION AT A GLANCE: THE NECESSITY OF ATTENTION TO CONTEXTUAL INTEGRATION PROCESSES

Speaker: Nurit Gronau, The Open University of Israel

OBJECT-OBJECT AND OBJECT-SCENE INTEGRATION: THE ROLE OF CONSCIOUS PROCESSING

Speaker: Liad Mudrik, Tel Aviv University

S2 - THE BRAIN CORRELATES OF PERCEPTION AND ACTION: FROM NEURAL ACTIVITY TO BEHAVIOR

FRIDAY, MAY 19, 2017, 12:00 - 2:00 PM, PAVILION

Organizer(s): Simona Monaco, Center for Mind/Brain Sciences, University of Trento & Annalisa Bosco, Department of Pharmacy and Biotech, University of Bologna

Presenters: J. Douglas Crawford, Patrizia Fattori, Simona Monaco, Annalisa Bosco, Jody C. Culham

This symposium offers a comprehensive view of the cortical and subcortical structures involved in perceptual-motor integration for eye and hand movements in contexts that resemble real life situations. By gathering scientists from neurophysiology to neuroimaging and psychophysics we provide an understanding of how vision is used to guide action from the neuronal level to behavior. This knowledge pushes our understanding of visually-guided motor control outside the constraints of the laboratory and into contexts that we daily encounter in the real world.

VISUAL-MOTOR TRANSFORMATIONS AT THE NEURONAL LEVEL IN THE GAZE SYSTEM

Speaker: J. Douglas Crawford, Centre for Vision Research, York University, Toronto, Ontario, Canada

Additional Authors: AmirSaman Sajad, Center for Integrative & Cognitive Neuroscience, Vanderbilt University, Nashville, TN and Morteza Sadeh, Centre for Vision Research, York University, Toronto, Ontario, Canada

NEURONS FOR EYE AND HAND ACTION IN THE MONKEY MEDIAL POSTERIOR PARIETAL CORTEX

Speaker: Patrizia Fattori, University of Bologna

Additional Authors: Fattori Patrizia, Breveglieri Rossella, Galletti Claudio, Department of Pharmacy and Biotechnology, University of Bologna

THE ROLE OF THE EARLY VISUAL CORTEX IN ACTION

Speaker: Simona Monaco, Center for Mind/Brain Sciences, University of Trento

Additional Authors: Simona Monaco, Center for Mind/Brain Sciences, University of Trento; Doug Crawford, Centre for Vision Research, York University, Toronto, Ontario, Canada; Luca Turella, Center for Mind/Brain Sciences, University of Trento; Jody Culham, Brain and Mind Institution

THE INFLUENCE OF ACTION EXECUTION ON OBJECT SIZE PERCEPTION

Speaker: Annalisa Bosco, Department of Pharmacy and Biotechnology, University of Bologna

Additional Authors: Annalisa Bosco, Department of Pharmacy and Biotechnology, University of Bologna; Patrizia Fattori, Department of Pharmacy and Biotechnology, University of Bologna

VSS 2017 PROGRAM MEMBER-INITIATED SYMPOSIA

NEUROIMAGING REVEALS THE HUMAN NEURAL REPRESENTATIONS FOR VISUALLY GUIDED GRASPING OF REAL OBJECTS AND PICTURES

Speaker: Jody C. Culham, Brain and Mind Institute, University of Western Ontario

Additional Authors: Jody C. Culham, University of Western Ontario; Sara Fabbri, Radboud University Nijmegen; Jacqueline C. Snow, University of Nevada, Reno; Erez Freud, Carnegie-Mellon University

S3 - HOW CAN YOU BE SO SURE? BEHAVIORAL, COMPUTATIONAL, AND NEUROSCIENTIFIC PERSPECTIVES ON METACOGNITION IN PERCEPTUAL DECISION-MAKING

FRIDAY, MAY 19, 2017, 2:30 - 4:30 PM, TALK ROOM 1

Organizer(s): Megan Peters, University of California Los Angeles Presenters: Megan Peters, Ariel Zylberberg, Michele Basso, Wei Ji Ma, Pascal Mamassian

Evaluating our certainty in a memory, thought, or perception seems as easy as answering the question, "Are you sure?" But how our brains make these determinations remains unknown. Specifically, does the brain use the same information to answer the questions, "What do you see?" and, "Are you sure?" What brain areas are responsible for doing these calculations, and what rules are used in the process? Why are we sometimes bad at judging the quality of our memories, thoughts, or perceptions? These are the questions we will try to answer in this symposium.

TRANSCRANIAL MAGNETIC STIMULATION TO VISUAL CORTEX INDUCES SUBOPTIMAL INTROSPECTION

Speaker: Megan Peters, University of California Los Angeles Additional Authors: Megan Peters, University of California Los Angeles; Jeremy Fesi, The Graduate Center of the City University of New York; Namema Amendi, The Graduate Center of the City University of New York; Jeffrey D. Knotts, University of California Los Angeles; Hakwan

THE INFLUENCE OF EVIDENCE VOLATILITY ON CHOICE, REACTION TIME AND CONFIDENCE IN A PERCEPTUAL DECISION

Speaker: Ariel Zylberberg, Columbia University

Additional Authors: Ariel Zylberberg, Columbia University; Christopher R. Fetsch, Columbia University; Michael N. Shadlen, Columbia University

A ROLE FOR THE SUPERIOR COLLICULUS IN DECISION-MAKING AND CONFIDENCE

Speaker: Michele Basso, University of California Los Angeles

Additional Authors: Michele Basso, University of California Los Angeles; Piercesare Grimaldi, University of California Los Angeles; Trinity Crapse, University of California Los Angeles

TESTING THE BAYESIAN CONFIDENCE HYPOTHESIS

Speaker: Wei Ji Ma, New York University

Additional Authors: Wei Ji Ma, New York University; Will Adler, New York University; Ronald van den Berg, University of Uppsala

INTEGRATION OF VISUAL CONFIDENCE OVER TIME AND ACROSS STIMULUS DIMENSIONS

Speaker: Pascal Mamassian, Ecole Normale Supérieure

Additional Authors: Pascal Mamassian, Ecole Normale Supérieure; Vincent de Gardelle, Université Paris 1; Alan Lee, Lingnan University

S4 -THE ROLE OF ENSEMBLE STATISTICS IN THE VISUAL PERIPHERY

FRIDAY, MAY 19, 2017, 2:30 - 4:30 PM, PAVILION

Organizer(s): Brian Odegaard, University of California-Los Angeles Presenters: Michael Cohen, David Whitney, Ruth Rosenholtz, Tim Brady, Brian Odegaard

The past decades have seen the growth of a tremendous amount of research into the human visual system's capacity to encode "summary statistics" of items in the world. One recent proposal in the literature has focused on the promise of ensemble statistics to provide an explanatory account of subjective experience in the visual periphery (Cohen, Dennett, & Kanwisher, Trends in Cognitive Sciences, 2016). This symposium will address how ensemble statistics are encoded outside the fovea, and to what extent this capacity explains our experience of the majority of our visual field.

ENSEMBLE STATISTICS AND THE RICHNESS OF PERCEPTUAL EXPERIENCE

Speaker: Michael Cohen, MIT

ENSEMBLE REPRESENTATIONS AS A BASIS FOR RICH PERCEPTUAL EXPERIENCES

Speaker: David Whitney, University of California-Berkeley

SUMMARY STATISTIC ENCODING PLUS LIMITS ON DECISION COMPLEXITY UNDERLIE THE RICHNESS OF VISUAL PERCEPTION AS WELL AS ITS QUIRKY FAILURES

Speaker: Ruth Rosenholtz, MIT

THE ROLE OF SPATIAL ENSEMBLE STATISTICS IN VISUAL WORKING MEMORY AND SCENE PERCEPTION

Speaker: Tim Brady, University of California-San Diego

SUMMARY STATISTICS IN THE PERIPHERY: A METACOGNITIVE APPROACH

Speaker: Brian Odegaard, University of California-Los Angeles

S5 - CUTTING ACROSS THE TOP-DOWN-BOTTOM-UP DICHOTOMY IN ATTENTIONAL CAPTURE RESEARCH

FRIDAY, MAY 19, 2017, 5:00 - 7:00 PM, TALK ROOM 1

Organizer(s): J. Eric T. Taylor, Brain and Mind Institute at Western University

Presenters: Nicholas Gaspelin, Matthew Hilchey, Dominique Lamy, Stefanie Becker, Andrew B. Leber

Research on attentional selection describes the various factors that determine what information is ignored and what information is processed. Broadly speaking, researchers have adopted two explanations for how this occurs, which emphasize either automatic or controlled processing, often presenting evidence that is mutually contradictory. This symposium presents new evidence from five speakers that address this controversy from non-dichotomous perspectives.

MEMBER-INITIATED SYMPOSIA VSS 2017 PROGRAM

MECHANISMS UNDERLYING SUPPRESSION OF ATTENTIONAL CAPTURE BY SALIENT STIMULI

Speaker: Nicholas Gaspelin, Center for Mind and Brain at the University of California, Davis

Additional Authors: Nicholas Gaspelin, Center for Mind and Brain at the University of California, Davis; Carly J. Leonard, Center for Mind and Brain at the University of California, Davis; Steven J. Luck, Center for Mind and Brain at the University of California, Davis

BEYOND THE NEW-EVENT PARADIGM IN VISUAL ATTENTION RESEARCH: CAN COMPLETELY STATIC STIMULI CAPTURE ATTENTION?

Speaker: Matthew Hilchey, University of Toronto

Additional Authors: Matthew D. Hilchey, University of Toronto, J. Eric T. Taylor, Brain and Mind Institute at Western University; Jay Pratt, University of Toronto

STIMULUS SALIENCE, CURRENT GOALS AND SELECTION HISTORY DO NOT AFFECT THE SAME PERCEPTUAL PROCESSES

Speaker: Dominique Lamy, Tel Aviv University

Additional Authors: Dominique Lamy, Tel Aviv University Alon Zivony, Tel Aviv University

WHICH FEATURES GUIDE VISUAL ATTENTION, AND HOW DO THEY DO IT?

Speaker: Stefanie Becker, The University of Queensland

Additional Authors: Stefanie Becker, The University of Queensland; Aimee Martin, The University of Queensland

TOWARD A PROFILE OF GOAL-DIRECTED ATTENTIONAL CONTROL

Speaker: Andrew B. Leber, The Ohio State University

Additional Authors: Andrew B. Leber, The Ohio State University; Jessica L. Irons, The Ohio State University

S6 - VIRTUAL REALITY AND VISION SCIENCE

FRIDAY, MAY 19, 2017, 5:00 - 7:00 PM, PAVILION

Organizer(s): Bas Rokers, University of Wisconsin - Madison & Karen B. Schloss, University of Wisconsin - Madison

Presenters: Jacqueline Fulvio, Robin Held, Emily Cooper, Stefano Baldassi, David Luebke

Virtual and augmented reality (VR/AR) research can answer scientific questions that were previously difficult or impossible to address. VR/AR may also provide novel methods to assist those with visual deficits and treat visual disorders. After a brief introduction by the organizers (Bas Rokers & Karen Schloss), 5 speakers representing both academia and industry will each give a 20-minute talk, providing an overview of existing research and identify promising new directions. The session will close with a 15 minute panel to deepen the dialog between industry and vision science. Topics include sensory integration, perception in naturalistic environments, and mixed reality. Symposium attendees may learn how to incorporate AR/VR into their research, identify current issues of interest to both academia and industry, and consider avenues of inquiry that may open with upcoming technological advances.

EXTRA-RETINAL CUES IMPROVE ACCURACY OF 3D MOTION PERCEPTION IN VIRTUAL REALITY ENVIRONMENTS

Speaker: Jacqueline Fulvio, University of Wisconsin - Madison Additional Authors: Jacqueline M. Fulvio & Bas Rokers, Department of Psychology, UW-Madison

PERCEPTUAL CONSIDERATIONS FOR THE DESIGN OF MIXED-REALITY CONTENT

Speaker: Robin Held, Microsoft

Additional Authors: Robin Held, Microsoft

DESIGNING AND ASSESSING NEAR-EYE DISPLAYS TO INCREASE USER INCLUSIVITY

Speaker: Emily Cooper, Dartmouth College

Additional Authors: Nitish Padmanaban, Robert Konrad, and Gordon Wetzstein, Department of Electrical Engineering, Stanford University

SEE-THROUGH WEARABLE AUGMENTED REALITY: CHALLENGES AND OPPOR-Tunities for vision science

Speaker: Stefano Baldassi, Meta Company

Additional Authors: Stefano Baldassi & Moqian Tian, Analytics & Neuroscience Department, Meta Company

COMPUTATIONAL DISPLAY FOR VIRTUAL AND AUGMENTED REALITY

Speaker: David Luebke, NVIDIA

Additional Authors: David Luebke, VP Graphics Research, NVIDIA

SATURDAY MORNING TALKS

PERCEPTION AND ACTION: ARM MOVEMENTS

SATURDAY, MAY 20, 8:15 - 9:45 AM, TALK ROOM 1

Moderator: Robert Volcic

21.11, 8:15 am The causal role of the lateral occipital (LO) cortex and anterior intraparietal sulcus (aIPS) in real and pantomimed grasping: an fMRI-guided TMS study Diana Tonin, Vincenzo Romei, Rachel Lambert, Andre Bester, Janak Saada, Stephanie Rossit

21.12, 8:30 am Proprioception calibrates object size constancy for grasping but not perception in limited viewing conditions Juan Chen, Irene Sperandio, Melvyn Goodale

21.13, 8:45 am The medial grasping area in the parietal cortex of the macaque Patrizia Fattori, Rossella Breveglieri, Marina De Vitis, Annalisa Bosco, Claudio Galletti

21.14, 9:00 am Modeling Hand-Eye Movements in a Virtual Ball Catching Setup using Deep Recurrent Neural Network Kamran Binaee, Anna Starynska, Rakshit Kothari, Christopher Kanan, Jeff Pelz, Gabriel Diaz

21.15, 9:15 am Congruency between perceptual and conceptual object size modulates visually-guided action Christine Gamble, Joo-Hyun Song

21.16, 9:30 am Errors in manual interception are precisely what one would expect for the psychophysically determined errors in perception Cristina de la Malla, Jeroen Smeets, Eli Brenner

OBJECT RECOGNITION: NEURAL MECHANISMS

SATURDAY, MAY 20, 10:45 AM - 12:30 PM, TALK ROOM 1

Moderator: Timothy Andrews

22.11, 10:45 am Dynamic differences in letter contrast polarity improve peripheral letter string and word recognition performance Jean-Baptiste Bernard, Eric Castet

22.12, 11:00 am A developmental deficit in seeing the orientation of typical 2D objects Gilles Vannuscorps, Albert Galaburda, Eric Falk, Alfonso Caramazza

22.13, 11:15 am A data-driven approach to stimulus selection reveals the importance of visual properties in the neural representation of objects. David Coggan, David Watson, Tom Hartley, Daniel Baker, Timothy Andrews

22.14, 11:30 am Neural Mechanisms of Categorical Perception in Human Visual Cortex Edward Ester, Thomas Sprague, John Serences

22.15, 11:45 am Joint coding of shape and blur in area V4 Timothy Oleskiw, Amy Nowack, Anitha Pasupathy

22.16, 12:00 pm Selective attention modulates face categorization differently in the left and right hemispheres Genevieve Quek, Dan Nemrodov, Bruno Rossion, Joan Liu-Shuang

22.17, 12:15 pm Does symmetry have a special status in single neurons? RT Pramod, SP Arun

FACE PERCEPTION: EXPERIENCE AND DISORDERS

SATURDAY, MAY 20, 8:15 - 9:45 AM, TALK ROOM 2

Moderator: Isabel Gauthier

21.21, 8:15 am The speed of continuous face detection suggests shortcuts in the visual hierarchy for upright faces Jacob Martin, Charles Davis, Maximilian Riesenhuber, Simon Thorpe

21.22, 8:30 am Thickness of deep layers in FFA predicts face recognition performance Isabel Gauthier, Rankin McGugin, Benjamin Tamber-Rosenau, Allen Newton

21.23, 8:45 am Hemispheric specialization for faces in pre-reading children Aliette Lochy, Adelaide de Heering, Bruno Rossion

21.24, 9:00 am Development of neural sensitivity to face identity correlates with perceptual discriminability Vaidehi Natu, Michael Barnett, Jake Hartley, Jesse Gomez, Anthony Stigliani, Kalanit Grill-Spector

21.25, 9:15 am Deafness Amplifies Visual Information Sampling during Face Recognition Junpeng Lao, Chloé Stoll, Matthew Dye, Olivier Pascalis, Roberto Caldara

21.26, 9:30 am Is face perception preserved in pure alexia? Evaluating complementary contribution of the left fusiform gyrus to face processing Andrea Albonico, Jason Barton

PERCEPTUAL LEARNING

SATURDAY, MAY 20, 10:45 AM - 12:30 PM, TALK ROOM 2

Moderator: Jozsef Fiser

22.21, 10:45 am REM sleep stabilizes visual perceptual learning which was rendered fragile by NREM sleep Yuka Sasaki, Masako Tamaki, Takeo Watanabe

22.22, 11:00 am Evidence for awake replay in human visual cortex after training Ji Won Bang, Yuka Sasaki, Takeo Watanabe, Dobromir Rahnev

22.23, 11:15 am Combining the cholinesterase inhibitor donepezil with perceptual learning in adults with amblyopia Susana Chung, Roger Li, Michael Silver, Dennis Levi

22.24, 11:30 am Dissociable effects of stimulus strength, task demands, and training on occipital and parietal EEG signals during perceptual decision-making Sirawaj Itthipuripat, Kai-Yu Chang, Vy Vo, Stephanie Nelli, John Serences

22.25, 11:45 am Double training reduces motor response specificity Lukasz Grzeczkowski, Aline Cretenoud, Fred Mast, Michael Herzog

22.26, 12:00 pm Visual statistical learning provides scaffolding for emerging object representations Jozsef Fiser, Gabor Lengyel, Marton Nagy

22.27, 12:15 pm Evidence for stimulus abstraction before perceptual learning Xin-Yu Xie, Cong Yu

SATURDAY MORNING POSTERS

ATTENTION: FEATURES

SATURDAY, MAY 20. 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

23.3001 Acts feature based suppression of ignored stimuli globally or locally in the visual field? Matthias Mueller

23.3002 **Using Angles as Features** Matthew Inverso, Charles Chubb, Charles Wright, George Sperling

23.3003 Feature-based surround suppression in the motion domain Sang-Ah Yoo, John Tsotsos, Mazyar Fallah

23.3004 Does Feature-Based Attention for Grayscale Vary Across Visual Tasks with Identical Stimuli? Howard Yang, Peng Sung, Charles Chubb, George Sperling

 $23.3005 \ \textbf{Shape interactions require more than feedforward representation} \ \ Larissa\ D'Abreu, Timothy Sweeny$

23.3006 Variable Viewpoint Hybrid Search: Searching for the Object or the Image? Abla Alaoui Soce, Bochao Zou, Jeremy Wolfe

23.3007 How does attention alter perceived contrast? Enhancement at low contrast levels turns into attenuation at high contrast levels. Liu-Fang Zhou, Simona Buetti, Shena Lu, Yong-Chun Cai

23.3008 Surround Suppression in Feature-based Attention to Color Wanghaoming Fang, Mark Becker, Taosheng Liu

23.3009 Continuous vs. categorical representation of feature-based attentional priority in human frontoparietal cortex Mengyuan Gong, Taosheng Liu

23.3010 Tuning attention to relative features results in feature-based enhancement and suppression Josef Schoenhammer, Stefanie Becker, Dirk Kerzel

23.3011 Short display time reduces distractor interference when distractor is a feature of the target Zhi Li, Fan Yang, Yijie Chen

23.3012 Is Mean Size a Good Example of a Statistical Summary Representation? Centroid versus Mean Size Judgments Laris RodriguezCintron, Charles Wright, Charles Chubb

23.3013 Conjunctive targets are better than or equal to both constituent feature targets in the centroid paradigm A. Nicole Winter, Charles Wright, Charles Chubb, George Sperling

23.3014 Ensembles Increase Search Efficiency When Predictive of Target Location Phillip Witkowski, Joy Geng

23.3015 **Limits to Attentional Selection of Features** Madison Elliott, Ronald Rensink

23.3016 Flexible prioritization of feature dimensions in perception of objects, ensembles, and social stimuli Jose Rivera-Aparicio, Benjamin Lin, Jeremy Cone, Mariko Moher

23.3017 What modulate attentional parameters, familiarity or features? Thomas Sørensen, Yongming Wang, Xinlu Cai, Raymond Chan, Jonas Dall

23.3018 Blur as a Guide for Attention when Viewing Representational Visual Art Christina Chao, Chai-Youn Kim, Emily Grossman

23.3019 'Mind contact': Might eye-gaze effects actually reflect more general phenomena of perceived attention and intention? Clara Colombatto, Benjamin van Buren, Brian Scholl

23.3020 The role of visual attention and high-level object information on short-term visual working memory in a change detection task. Moreno Coco, Antje Nuthmann, Sergio Della Sala

MOTION: BIOLOGICAL MOTION

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

23.3021 Identity Matching of Unfamiliar People from Point-Light Biological Motion Asal Baragchizadeh, Alice O'Toole

23.3022 Categorizing features of coordination from joint actions Joseph Burling, Hongjing Lu

23.3023 Subcortical and cortical responses to local biological motion as revealed by fMRI and MEG Dorita Chang, Hiroshi Ban, Yuji Ikegaya, Ichiro Fujita, Nikolaus Troje

23.3024 Examining the role of motion in expert object recognition. Simen Hagen, Quoc Vuong, Lisa Scott, Tim Curran, James Tanaka

23.3025 Motion information reducing manipulations can bias the discrimination of sex in biological motion perception Eric Hiris, Danielle Brzezinski, Alayna Stein

23.3026 Priming and Adaptation in Biological Motion Perception Hongjing Lu, Yujia Peng

23.3027 Seeing illusory body movements in human causal interactions Yujia Peng , Hongjing Lu

23.3028 **How Do We Recognize People in Motion?** Noa Simhi, Galit Yovel

23.3029 Dynamics of multistable biological motion perception Louisa Sting, Leonid Fedorov, Tjeerd Dijkstra, Howard Hock, Martin Giese

VISUAL SEARCH: FEATURES AND OBJECTS

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

23.3030 Target prevalence in a search task transfers to another search task if their search items look visually similar Han-Gyeol Son, Hyung-Bum Park, Joo-Seok Hyun

23.3031 Motor Biases Do Not Account for the Low Prevalence
Effect Chad Peltier, Mark Becker

23.3032 Target prevalence in a visual search task differentially modulates lure effects from visual working memory Beatriz Gil Gómez de Liaño, Trafton Drew, Daniel Rin, Jeremy Wolfe

23.3033 **Temporal dynamics of attentional templates** Anna Grubert, Martin Eimer

23.3034 **Visual search through displays of data** Christine Nothelfer, Steven Franconeri

23.3035 Visual search in large letter arrays containing words: are words implicitly processed during letter search? Maria Falikman

23.3036 The guidance of attention by features and feature configurations during shape/shape conjunction search Cody McCants, Nick Berggren, Martin Eimer

23.3037 Binding feature distributions to locations and to other features Andrey Chetverikov, Gianluca Campana, Árni Kristjánsson

23.3038 Does Orientation Matter? The Effects of Target Orientation in Multiple Target Visual Search Stephen Adamo, Joseph Nah, Andrew Collegio, Paul Scotti, Sarah Shomstein

23.3039 The Influence of Color and Form Information on Visual Search Guidance and Verification Times Mark Becker, Ryan Wujcik, Chad Peltier

VSS 2017 PROGRAM SATURDAY MORNING POSTERS

23.3040 The Grass isn't Greener: No detriment for red-green color deficiency in search for camouflaged targets Alyssa Hess, Mark Neider

- 23.3041 Physical Properties Guide Visual Search for Real-world Objects Li Guo, Susan Courtney, Jason Fischer
- 23.3042 Task-irrelevant optic flow guides overt attention during visual search Yoko Higuchi, Terumasa Endo, Satoshi Inoue, Takatsune Kumada
- 23.3043 Effects of prior knowledge on visual search in depth Bochao Zou, Yue Liu, Jeremy Wolfe
- 23.3044 Into the Woods: Characterizing and Training Detection of Camouflaged Targets in Natural Scenes Dawn Sarno, Alyssa Hess, Joanna Lewis, Ada Mishler, Corey Bohil, Arthur Kramer, Mark Neider
- 23.3045 When does visual search move on?: Using the color wheel to measure the dynamics of foraging search Anna Kosovicheva, Joseph Feffer, Abla Alaoui Soce, Matthew Cain, Jeremy Wolfe
- 23.3046 Category supersedes identity in visual search: Attentional templates reflect participants' category knowledge in both item and set searches Brianna McGee, Chelsea Echiverri, Benjamin Zinszer, Rachel Wu
- 23.3047 Modeling categorical search guidance using a convolutional neural network designed after the ventral visual pathway Gregory Zelinsky, Chen-Ping Yu
- 23.3048 How the Heck Did I Miss That? How to use the hybrid search paradigm to study "incidental finding" errors in radiology. Jeremy Wolfe, Abla Alaoui Soce
- 23.3049 "Deep" Visual Patterns Are Informative to Practicing Radiologists in Mammograms in Diagnostic Tasks Jennevieve Sevilla, Jay Hegde
- 23.3050 Predicting airport screening officers' visual search competency with a rapid assessment Stephen Mitroff, Justin Ericson, Benjamin Sharpe

VISUAL MEMORY: LONG TERM AND WORKING

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4001 Context transitions modulate perceptual serial dependence Anastasia Kiyonaga, Mauro Manassi, Mark D'Esposito, David Whitney
- 23.4002 Evidence for sequential access in visual long-term memory Inder Singh, Aude Oliva, Marc Howard
- 23.4003 Different Limits on Fidelity in Visual Working Memory and Visual Long Term Memory Natalie Kataev, Andrei Teodorescu, Ron Hajaj, Roy Luria, Yonatan Goshen-Gottstein
- 23.4004 Enhanced perceptual processing of visual context benefits later memory Megan deBettencourt, Nicholas Turk-Browne, Kenneth Norman
- 23.4005 The impact of mnemonic interference on memory for visual form Aedan Li, Celia Fidalgo, Andy Lee, Morgan Barense
- 23.4006 Does an unexpected task reset the contents of visual working memory? Garrett Swan, Brad Wyble, Hui Chen
- 23.4007 Are memorable images easier to categorize rapidly? Lore Goetschalckx, Steven Vanmarcke, Pieter Moors, Johan Wagemans
- 23.4008 Resource scarcity impairs visual online detection and prospective memory Brandon Tomm, Jiaying Zhao
- $23.4009 \ \textbf{Suppressing visual representations in long-term memory} \ \ \textbf{with recognition} \ \ \textbf{Ashleigh Maxcey}$

- 23.4010 Sequential whole-report reveals different states in visual working memory Benjamin Peters, Benjamin Rahm, Stefan Czoschke, Catherine Barnes, Jochen Kaiser, Christoph Bledowski
- 23.4011 Surface and boundary organization of objects influences visual short-term memory performance Benjamin McDunn, James Brown
- 23.4012 The Role of Memory Uncertainty in Change Localization Aspen Yoo, Luigi Acerbi, Wei Ji Ma
- 23.4013 Is location information lost from visual short-term memory? Andra Mihali, Wei Ji Ma
- 23.4014 Attentional boost effect: Failure to replicate Katherine Moen, Stephanie Saltzmann, Melissa Beck
- 23.4015 Working Memory Capacity and Cognitive Filtering Predict Demand Avoidance. Jeff Nador, Brad Minnery, Matt Sherwood, Assaf Harel, Ion Juvina
- 23.4016 Dissociable biases in orientation recall: The oblique effect follows retinal coordinates, while repulsion from cardinal follows real-world coordinates. Rosanne Rademaker, Chaipat Chunharas, Pascal Mamassian, John Serences

VISUAL MEMORY: WORKING MEMORY

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4017 **Saccades Smear Spatial Working Memory** Matthew Peterson, Shane Kelley, Eric Blumberg
- 23.4018 The effects of content-dependent competition on working memory capacity limits Jason Scimeca, Jacob Miller, Mark D'Esposito
- 23.4019 The Functional Limit in Visual Working Memory Storage: The Tale Is In The Tail Marcus Cappiello, Weiwei Zhang
- 23.4020 When shorter delays lead to worse memories: Taking attention away from visual working memory temporarily makes it more vulnerable to test interference. Benchi Wang, Jan Theeuwes, Christian Olivers
- 23.4021 No evidence for an object working memory capacity benefit with extended viewing time Colin Quirk, Edward Vogel
- 23.4022 Encoding strategies in visual working memory Hagar Cohen, Halely Balaban, Roy Luria
- 23.4023 **Visual working memory of multiple preferred objects** Holly Lockhart, Stephen Emrich
- 23.4024 The precision of visual working memory is set by the number of subsets Gaeun Son, Sang Chul Chong
- 23.4025 Integration of ensemble representations stored in visual working memory Jifan Zhou, Yijun Zhang, Shulin Chen, Rende Shui, Mowei Shen
- 23.4026 Formation and maintenance of mean orientation of sequentially presented objects in visual working memory Jun Saiki, Mutsumi Yamaoka
- 23.4027 An effect of categorical similarity on object-location binding in visual working memory Yuri Markov, Igor Utochkin
- 23.4028 Perceptual organization predicts variability in visual working memory performance across displays and items. Young Eun Park, William Ju, Frank Tong
- 23.4029 Perceptual Grouping Influences Neural Correlates of Spatial Working Memory Laura Rabbitt, Craig McDonald, Matthew Peterson
- 23.4030 Successful movement inhibition boosts the inhibition of distractors in visual working memory Min-Suk Kang, Hayoung Song

SATURDAY MORNING POSTERS VSS 2017 PROGRAM

23.4031 The time course of retaining the hierarchical representation in visual working memory Vladislav Khvostov, Igor Utochkin

23.4032 Frequency domain analyses of EEG reveal neural correlates of visual working memory capacity limitations observed during encoding using a full report paradigm. Kyle Killebrew, Candace Peacock, Gennadiy Gurariy, Marian Berryhill, Gideon Caplovitz

COLOR AND LIGHT: NEURAL MECHANISMS

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

23.4033 Luminance modulates the contrast response in human visual cortex Louis Vinke, Sam Ling

23.4034 Receptive Field Structures of Color-responsive Neurons in Macaque Monkey V1 Wei-Ming Huang, Hsiang-Yu Wu, Yu-Cheng Pei, Chun-I Yeh

23.4035 Quantifying the relation between pupil size and electrophysiological engagement of visual cortex Nina Thigpen, Andreas Keil

23.4036 Tracing the representation of colored objects in the primate brain Le Chang, Pinglei Bao, Doris Tsao

23.4037 Electrophysiological correlates of perceptual blue-yellow asymmetries with #thedress Talia Retter, Owen Gwinn, Sean O'Neil, Fang Jiang, Michael Webster

23.4038 Differential effects of four types of TMS on signal processing Greta Vilidaite, Daniel Baker

COLOR AND LIGHT: CONSTANCY

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

23.4039 Memory Bias for Illumination Colour Stacey Aston, Maria Olkkonen, Anya Hurlbert

23.4040 The optics, perception and design of light diffuseness in real scenes Sylvia Pont, Ling Xia, Tatiana Kartashova

23.4041 **Contrast adaptation and illuminant spectra** Ivana Ilic, Lorne Whitehead, Michael Webster

23.4042 Universal information limit on real-world color constancy David Foster, Iván Marín-Franch

23.4043 Appearance of surface property influenced by the diffuseness of lighting Yoko Mizokami, Yuki Kiyasu, Hirohisa Yaguchi

23.4044 Unraveling simultaneous transparency and illumination changes Robert Ennis, Katja Doerschner

23.4045 **#thedress: A Tool for Understanding How Color Vision Works** Rosa Lafer-Sousa, Bevil Conway

23.4046 Luminance-contrast reversal disambiguates illumination interpretation in #TheDress Shigeki Nakauchi, Kai Shiromi, Hiroshi Higashi, Mohammad Shehata, Shinsuke Shimojo

23.4047 Color quality assessments of 3D facial prostheses in varying illuminations Kinjiro Amano, Ali Sohaib, Kaida Xiao, Julian Yates, Charles Whitford, Sophie Wuerger

23.4048 When the brightest is not the best: Illuminant estimation based on highlight geometry Takuma Morimoto, Robert Lee, Hannah Smithson

BINOCULAR VISION: CONTINUOUS FLASH SUPPRESSION AND AWARENESS

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

23.4049 Why are dynamic Mondrian patterns unusually effective in inducing interocular suppression? Shui'Er Han, Garry Kong, Randolph Blake, David Alais

23.4050 Mechanisms of suppression: How the classic Mondrian beats noise in CFS masking Weina Zhu, Jan Drewes, David Melcher

23.4051 Different suppressing stimuli produce different suppression in the continuous flash suppression paradigm Motomi Shimizu, Eiji Kimura

23.4052 Analyzing the time course of processing invisible stimuli: Applying event history analysis to breaking continuous flash suppression data. Pieter Moors, Johan Wagemans

23.4053 Perceptual learning does not affect access to awareness Chris Paffen, Surya Gayet, Micha Heilbron, Stefan Van der Stigchel

23.4054 The Functional Order of Binocular Rivalry and Blind Spot Filling-in Stella Qian, Jan Brascamp, Taosheng Liu

23.4055 The content of visual working memory alters processing of visual input prior to conscious access: evidence from pupillometry Surya Gayet, Chris Paffen, Matthias Guggenmos, Philipp Sterzer, Stefan Van der Stigchel

23.4056 Access to awareness and semantic categories: low-level image properties drive access to awarenes Sjoerd Stuit, Martijn Barendregt, Susan te Pas

23.4057 The effect of trypophobic images on conscious awareness during continuous flash suppression Risako Shirai, Hirokazu Ogawa

23.4058 Dissociating the Effects of Relevance and Predictability on Visual Detection Sensitivity Roy Moyal, Shimon Edelman

BINOCULAR VISION: OTHER

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

23.4059 Interocular interactions in macaque LGN Kacie Dougherty, Michele Cox, Jacob Westerberg, Alexander Maier

23.4060 Overestimation of the number of elements in a three-dimensional stimulus is dependent on the size of the area containing the elements Yusuke Matsuda, Koichi Shimono, Saori Aida

23.4061 Binocular contrast interactions in cross- and iso-oriented surround modulation: measurement and modeling Pi-Chun Huang

23.4062 Binocular Combination: Data and Binocular Perceptual Template Model Chang-Bing Huang, Ge Chen, Fang Hou, Zhong-Lin Lu

23.4063 Real-time experimental control with graphical user interface (REC-GUI) for vision research Ari Rosenberg, Byounghoon Kim, Shobha Kenchappa, Ting-Yu Chang

23.4064 Interocular enhancement revealed in binocular combination Jian Ding, Oren Yehezkel, Anna Sterkin, Uri Polat, Dennis Levi

23.4065 A contrast-based Pulfrich effect in normals and a spontaneous Pulfrich effect in amblyopes Alexandre Reynaud, Robert Hess

23.4066 The impact of object-based grouping on perceived depth magnitude: Virtual vs. physical targets Aishwarya Sudhama, Lesley Deas, Brittney Hartle, Matthew Cutone, Laurie Wilcox

23.4067 **Visual Discomfort and Ethnicity** Robert Mosher, Daniel Del Cid, Arthur Ilnicki, Stefanie Drew

23.4068 **Does an eye movement make the difference in 3D?** Katharina Rifai, Siegfried Wahl

23.4069 A Bayesian model of distance perception from ocular convergence Peter Scarfe, Paul Hibbard

23.4070 Fusional Vergence differences between manual phoropter and automated phoropter Efrain Castellanos, Kevin Phan

23.4071 Modulation of oculomotor control & adaptation with cerebellar TMS: effects on slow-tonic vergence adaptation. Heidi Patterson, Ian Erkelens, Claudia Martin Calderon, William Bobier, Benjamin Thompson

PERCEPTUAL ORGANIZATION: GROUPING

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4073 Inter-Edge Grouping: Are many figure-ground principles actually perceptual grouping? Joseph Brooks, Anka Davila, Akul Satish
- 23.4074 The mechanism underlying the competition between grouping organizations Einat Rashal, Michael Herzog
- 23.4075 Estimating the relative strength of similarity and proximity in perceptual grouping with tripole Glass patterns Chien-Chung Chen, Lee Lin, Yih-Shiuan Lin
- 23.4076 Parallelism is an emergent feature not derived from the detection of individual line slopes James Pomerantz, Curtiss Chapman, Jon Flynn, Colin Noe, Tian Yingxue
- 23.4077 Category-based updating of object representations $\ \mathrm{Ru}\ \mathrm{Qi}\ \mathrm{Yu}$, Jiaying Zhao
- 23.4078 Solving the Complexity of Object Occlusions in Scenes: The Grouping of Adjacent Surfaces and Non-Adjacent but Connected Surfaces Debarshi Datta, Howard Hock
- 23.4079 Evidence for Configural Superiority Effects in Convolutional Neural Networks Shaiyan Keshvari, Ruth Rosenholtz
- 23.4080 Can perceptual grouping unfold in the absence of visual consciousness? Ruth Kimchi, Dina Devyatko, Shahar Sabary
- 23.4081 1,2,3, many: Perceptual order is computed by patches containing 3x3 "repetitions" of Motifs Mikhail Katkov, Hila Harris, Dov Sagi
- 23.4082 Examining a shift in response bias through two lenses: A concurrent examination of process and informational characteristics Michael Wenger, Lisa DeStefano, James Townsend, Yanjun Liu, Ru Zhang

PERCEPTUAL ORGANIZATION: NEURAL MECHANISMS

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4083 Neural representations of ensemble coding for visual features in the early visual and fronto-parietal cortex Kyeong-Jin Tark, Sunyoung Park, Insub Kim, Won Mok Shim
- 23.4084 Conjoint and independent representation of numerosity and area in human intraparietal cortex Andrew Persichetti, Lauren Aulet, Daniel Dilks, Stella Lourenco
- 23.4085 Measuring Integration Processes in Visual Symmetry with Frequency-tagged EEG Nihan Alp, Peter Kohler, Naoki Kogo, Johan Wagemans, Anthony Norcia
- 23.4086 Recurrent Interaction between Visual Cortical Areas Contributes to Contour Integration in the Human Brain: An fMRI-guided TMS Study Ya Li, Yonghui Wang, Sheng Li
- 23.4087 Two-stage generative process in illusory shape perception: a MEG study Ling Liu, Huan Luo
- 23.4088 The topographical relationship between visual field maps in association cortex and brain areas involved in non-visual cognition Eline Kupers, Wayne Mackey, Clayton Curtis, Jonathan Winawer

23.4089 Top-down neural processing that supplements missing image features revealed by brain decoding with deep neural network representation Mohamed Abdelhack, Yukiyasu Kamitani

23.4090 Visual hallucinations following occipital stroke associated with altered structural connectivity Sara Rafique, John Richards, Jennifer Steeves

TEMPORAL PROCESSING: DURATION

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4091 Individual differences in the perception of (a bigger) time Simon Cropper, Christopher Groot, Andrew Corcoran, Aurelio Bruno, Alan Johnston
- 23.4092 Perception of duration in the absence of the clock reset Liubica Jovanovic, Pascal Mamassian
- 23.4093 Stimulus response compatibility affects duration judgments, not the rate of an internal timer. D. Alexander Varakin
- 23.4094 Central tendency effects override and generalize across illusions in time estimation Eckart Zimmermann
- 23.4095 **Synchronized stimuli are perceived to be shorter** Bo-Rong Lin, Chang-Bing Huang
- 23.4096 A superposition of moving and static stimuli appears to dilate in time when the moving stimulus is attended to Daisuke Hayashi, Hiroki Iwasawa, Takayuki Osugi, Ikuya Murakami
- 23.4097 Time compression, but not dilation, in slowly moving stimuli Saya Kashiwakura, Isamu Motoyoshi
- 23.4098 Task-relevant attention and repetition suppression co-determine perceived duration Yong-Jun Lin, Shinsuke Shimojo
- **23.4099 Attention mediates the encoding of duration** Jim Maarseveen, Hinze Hogendoorn, Frans Verstraten, Chris Paffen
- 23.4100 Luminance motion induces larger time compression and larger time dilation than equiluminant motion Hiroshi Yoshimatsu, Yuki Murai, Yuko Yotsumoto
- 23.4101 Temporal windows in psychophysical discrimination and in neural responses in human visual cortex Jingyang Zhou, Silvia Choi, Jonathan Winawer

MULTISENSORY: VISION AND AUDITION

SATURDAY, MAY 20, 8:30 AM - 12:30 PM, PAVILION

- 23.4102 Oculomotor Response Precedes Awareness Access of Multisensory Emotional Information Under Interocular Suppression Yung-Hao Yang, Su-Ling Yeh
- 23.4103 Context dependent crossmodal assocations between visual spatial frequencies and auditory amplitude modulation rates. Joo Huang TAN, Po-Jang HSIEH
- 23.4104 Look at me when I'm talking to you! Sound influences gaze behaviour in a 'split-screen' film Jonathan Batten, Jennifer Haensel, Tim Smith
- 23.4106 Limits of sensory fusion in audio-visual cue conflict stimuli Baptiste Caziot, Pascal Mamassian
- 23.4107 The Expanding and Shrinking Double Flash: An Auditory Triggered Dynamic Replay of a Visual Stimulus Noelle Stiles, Armand Tanguay, Jr., Shinsuke Shimojo
- 23.4108 The Spatial Double Flash Illusion: Audition-Induced Spatial Displacement Armand Tanguay, Jr., Bolton Bailey, Noelle Stiles, Carmel Levitan, Shinsuke Shimojo

23.4109 Protective effects of combined audiovisual stimulation on temporal expectations in noisy environments Felix Ball, Lara Michels, Fabienne Fuehrmann, Johanna Starke, Toemme Noesselt

23.4110 Processing of congruent and incongruent facial expressions during listening to music: an eye-tracking study $\rm Kari\ Kallinen$

23.4111 Cross-modal Matching as a Means of Stimulus Norming for the Visual World Paradigm Kelly Dickerson, Brandon Perelman, Peter Gerhardstein

23.4112 Cross-modal 'Goodness of Fit' Judgments of Auditory and Visual Meter in Musical Rhythms Stephen Palmer, Joshua Peterson, Nori Jacoby

SATURDAY AFTERNOON TALKS

ATTENTION: FEATURES

SATURDAY, MAY 20, 2:30 - 4:15 PM, TALK ROOM 1

Moderator: Greg Zelinsky

24.11, 2:30 pm Seeing physics in the blink of an eye Chaz Firestone,

Brian Scholl

24.12, 2:45 pm Strategic Templates for Rejection Nancy Carlisle

24.13, 3:00 pm How do we ignore salient distractors? Clayton Hickey, Matthew Weaver, Hanna Kadel, Wieske van Zoest

24.14, 3:15 pm More than a filter: Feature-based attention regulates the distribution of visual working memory resources Blaire Dube, Stephen Emrich, Naseem Al-Aidroos

24.15, 3:30 pm Attentional cues potentiate recovery of fine direction discrimination in cortically-blind patients Matthew Cavanaugh, Antoine Barbot, Marisa Carrasco, Krystel Huxlin

24.16, 3:45 pm Prediction facilitates complex shape processing in visual cortex Peter Kok, Nicholas Turk-Browne

24.17, 4:00 pm Computing Saliency over Proto-Objects Predicts Fixations During Scene Viewing Yupei Chen, Gregory Zelinsky

VISUAL SEARCH: OTHER

SATURDAY, MAY 20, 5:15 - 6:45 PM. TALK ROOM 1

Moderator: Arni Kristjansson

25.11, 5:15 pm If I showed you where you looked, you still wouldn't remember Avi Aizenman, Ellen Kok, Melissa Vo, Jeremy Wolfe

25.12, 5:30 pm Peripheral Representations Enhance Dense Clutter Metrics in Free Search Arturo Deza, Miguel Eckstein

25.13, 5:45 pm The width of the functional viewing field is sensitive to distractor-target similarity even in efficient singleton search Gavin Ng, Alejandro Lleras, Simona Buetti

25.14, 6:00 pm Serial dependence determines object classification in visual search Mauro Manassi, Árni Kristjánsson, David Whitney

25.15, *6:15 pm* **Searching with and against each other** Diederick Niehorster, Tim Cornelissen, Ignace Hooge, Kenneth Holmqvist

25.16, 6:30 pm Estimates of a priori power and false discovery rates induced by post-hoc changes from thousands of independent replications Dwight Kravitz, Stephen Mitroff

MOTION: FLOW, BIOLOGICAL, AND HIGHER-ORDER

SATURDAY, MAY 20, 2:30 - 4:15 PM, TALK ROOM 2

Moderator: Michael Morgan

24.21, 2:30 pm Viewpoint oscillation frequency influences the perception of distance travelled from optic flow Martin Bossard, Cédric Goulon, Daniel Mestre

24.22, 2:45 pm Optic flow and self-motion information during realworld locomotion Jonathan Matthis, Karl Muller, Kathryn Bonnen, Mary Hayboe

24.23, 3:00 pm Visual-vestibular detection of curvilinear paths during self-motion John Perrone

24.24, 3:15 pm Residual Perception of Biological Motion in Cortical Blindness Meike Ramon, Nicolas Ruffieux, Junpeng Lao, Françoise Colombo, Lisa Stacchi, François-Xavier Borruat, Ettore Accolla, Jean-Marie Annoni, Roberto Caldara

24.25, 3:30 pm Who's chasing whom?: Changing background motion reverses impressions of chasing in perceived animacy Benjamin van Buren, Brian Scholl

24.26, 3:45 pm Non-retinotopic feature integration is mandatory and precise Leila Drissi Daoudi, Haluk Öğmen, Michael Herzog

24.27, 4:00 pm Attraction and Repulsion Between Local and Global Motion Michael Morgan, Joshua Solomon

COLOR AND LIGHT: MATERIAL PERCEPTION

SATURDAY, MAY 20, 5:15 - 6:45 PM, TALK ROOM 2

Moderator: Sylvia Pont

25.21, 5:15 pm Neo's Spoon and Newton's Apples: Prediction of rigid and non-rigid deformations of materials Lorilei Alley, Alexandra Schmid, Katja Doerschner

25.22, 5:30 pm Visual perception of elastic behavior of bouncing objects Vivian Paulun, Roland Fleming

25.23, 5:45 pm Perceiving gloss behind transparent layers Sabrina Hansmann-Roth, Pascal Mamassian

25.24, 6:00 pm The interaction between surface roughness and the illumination field on the perception of metallic materials James Todd, Farley Norman

25.25, 6:15 pm The interplay between material qualities and lighting Fan Zhang, Huib de Ridder, Rene van Egmond, Sylvia Pont

25.26, 6:30 pm Integration of color and gloss in surface material discrimination Toni Saarela, Maria Olkkonen

SATURDAY AFTERNOON POSTERS

PERCEPTION AND ACTION: AFFORDANCES

SATURDAY, MAY 20, 2:45 - 6:45 PM, BANYAN BREEZEWAY

26.3001 Categorical selectivity in the visual pathway revealed by fMRI in awake macaques Vassilis Pelekanos, Olivier Joly, Robert Mok, Matthew Ainsworth, Radoslaw Cichy, Diana Kyriazis, Maria Kelly, Andrew Bell, Nikolaus Kriegeskorte

26.3002 Grasp Affordances Are Necessary for Enhanced Target Detection Near the Hand Robert McManus, Laura Thomas

26.3003 Breaking Ground: Effects of Texture Gradient Disruption on the Visual Perception of Object Reach-Ability Jonathan Doyon, Alen Hajnal

26.3004 Bayes meets Gibson: Affordance-based control of target interception in the face of uncertainty Scott Steinmetz, Nathaniel Powell, Oliver Layton, Brett Fajen

26.3005 Towards Affordance-Based Control in Catching Fly Balls: The Affordance of Catchability Dees Postma, Frank Zaal

26.3006 Learning affordances through action: Evidence from visual search Greg Huffman, Jay Pratt

26.3008 Action-Specific Effects in Perception and their Mechanisms Jessica Witt, Nathan Tenhundfeld, Marcos Janzen, Michael Tymoski, Ian Thornton

26.3009 Distance on hill overestimation is not influenced by hiking experience Janzen Janzen, Tenhundfeld Nathan, Tymoski Michael, Witt Jessica

26.3010 I Can't Afford Both: Walk-through-ability Affordance
Judgments do not Correlate to the Distance on Hill Effect Michael
Tymoski, Jessica Witt, Nathan Tenhundfeld, Marcos Janzen

26.3011 An uphill battle: Distances are reported as farther on a hill even when immediate feedback about estimation accuracy is provided Nathan Tenhundfeld, Jessica Witt

26.3012 Support for modulation of visuomotor processes in shared, social space: Non-human distractors do not influence motor congruency effects relating to object affordances Elizabeth Saccone, Owen Churches, Ancret Szpak, Mike Nicholls

26.3013 Memory for real objects is better than images – but only when they are within reach Michael Compton, Jacqueline Snow

FACE PERCEPTION: MODELS

SATURDAY, MAY 20, 2:45 - 6:45 PM, BANYAN BREEZEWAY

26.3014 Coding of faces by tensor components Sidney Lehky, Anh Huy Phan, Andrzej Cichocki, Keiji Tanaka

26.3015 Identifying 'Confusability Regions' in Face Morphs Used for Ensemble Perception Emma ZeeAbrahamsen, Jason Haberman

26.3016 The Lightness Distortion Effect: Additive Conjoint Measurement Shows Race Has a Larger Influence on Perceived Lightness of Upright than Inverted Faces Nikolay Nichiporuk, Kenneth Knoblauch, Clément Abbatecola, Steven Shevell

26.3017 Face Representations in Deep Convolutional Neural Networks Connor Parde, Carlos Castillo, Matthew Hill, Y. Colon, Jun-Cheng Chen, Swami Sankaranarayanan, Alice O'Toole

26.3018 Training a deep convolutional neural network with multiple face sizes and positions, but not resolutions, is necessary for generating invariant face recognition across these transformations Megha Srivastava, Kalanit Grill-Spector

26.3019 Using Psychophysical Methods to Study Face Identification in a Deep Neural Network Tian Xu, Oliver Garrod, Lukas Snoek, Steven Scholte, Philippe Schyns

26.3020 Picturing Jonah Hill: memory-based image reconstruction of facial identity Chi-Hsun Chang, Dan Nemrodov, Andy Lee, Adrian Nestor

26.3021 Large inversion effects are not specific to faces and do not vary with object expertise Constantin Rezlescu, Tirta Susilo, Angus Chapman, Alfonso Caramazza

26.3022 Initial fixation to faces during gender identification is optimized for natural statistics of expressions Yuliy Tsank, Miguel Eckstein

FACE PERCEPTION: NEURAL MECHANISMS

SATURDAY, MAY 20, 2:45 - 6:45 PM, BANYAN BREEZEWAY

26.3023 The importance of image properties in the neural representation of familiar faces Timothy Andrews, Katja Weibert, Robin Kramer, Kay Ritchie, Mike Burton

26.3024 Fast periodic visual stimulation reveals face familiarity processing across image variability in the human adult brain Friederike Zimmermann, Bruno Rossion

26.3025 Compound facial threat cue perception: Contributions of visual pathways by image size Troy Steiner, Robert Franklin Jr., Kestutis Kveraga, Reginald Adams, Jr.

26.3026 Population receptive field tuning in the human Fusiform Face area Kelly Chang, Yiqin Shen, Jason Webster, Geoffrey Boynton, Yuichi Shoda, Ione Fine

26.3027 Mapping Spatial Preferences in Face and Object Patches in the Rhesus Macaque Using fMRI Caleb Sponheim, Adam Messinger, Leslie Ungerleider

26.3028 Face repetition probability does not affect repetition suppression in macaque middle lateral face patch. Kasper Vinken, Hans Op de Beeck, Rufin Vogels

26.3029 The superior temporal sulcus is causally connected to the amygdala: A combined TBS-fMRI study David Pitcher, Shruti Japee, Lionel Rauth, Leslie Ungerleider

26.3030 A combined fMRI-MEG investigation of face information processing in the occipito-temporal cortex Xiaoxu Fan, Hanyu Shao, Fan Wang, Sheng He

26.3031 Differential visual pathway contributions to compound facial threat cue processing Cody Cushing, Reginald Adams, Jr., Hee Yeon Im, Noreen Ward, Kestutis Kveraga

26.3032 Neurodynamics of reading crowd emotion: Independent visual pathways and hemispheric contributions Hee Yeon Im, Cody Cushing, Daniel Albohn, Troy Steiner, Noreen Ward, Reginald Adams, Jr., Kestutis Kveraga

26.3033 Spatiotemporal dynamics of view-sensitive and view-invariant face identity processing Charles C.-F. Or, Joan Liu-Shuang, Bruno Rossion

26.3034 The Spatiotemporal Neural Dynamics of the Processing of Infant Faces. Lawrence Symons, Kelly Jantzen, Amanda Hahn, Taylor Kredel, Benjamin Ratcliff, Nikal Toor, McNeel Jantzen

26.3035 Temporal dynamics of the core and extended face perception system with fMRI Silvia Ubaldi, Aidas Aglinskas, Elisa Fait, Scott Fairhall

26.3036 Attention modulation of rapid face identity discrimination Xiaoqian Yan, Joan Liu-Shuang, Bruno Rossion

26.3037 **Neural Correlates of Dynamic Face Perception** Huseyin Ozkan, Sharon Gilad-Gutnick, Evan Ehrenberg, Pawan Sinha

26.3038 Coarse to fine human face detection in a dynamic visual scene Joan Liu-Shuang, Genevieve Quek, Valérie Goffaux, Bruno Rossion

26.3039 Task-modulated integration of facial features in the brain Simon Faghel-Soubeyrand, Frédéric Gosselin

26.3040 Characteristics of face adaptation revealed by EEG Owen Gwinn, Talia Retter, Sean O'Neil, Michael Webster

26.3041 Representational confusion: the possible consequence of demeaning your data Fernando Ramírez, Carsten Allefeld, John-Dylan Haynes

26.3042 Representational similarity analysis of EEG and fMRI responses to face identities and emotional expressions Kaisu Ölander, Ilkka Muukkonen, Jussi Numminen, Viljami Salmela

EYE MOVEMENTS: PURSUIT AND ANTICIPATION

SATURDAY, MAY 20, 2:45 - 6:45 PM, BANYAN BREEZEWAY

26.3043 Does the baseline motor response predict the short-term adaptability of phasic vergence? Ian Erkelens, William Bobier

26.3044 **Dynamic modulation of volatility by reward contingencies: effects on anticipatory smooth eye movement** Jean-Bernard Damasse, Anna Montagnini, Laurent Perrinet

26.3045 Effect of attention on cyclovergence and cycloversion eye movements. Madhumitha Mahadevan, Scott Stevenson

26.3046 **Cognitive expectation modulates ocular torsion** Austin Rothwell, Miriam Spering

26.3047 Altered smooth pursuit of global motion caused by illusory positon shifts in local elements Zheng Ma, Steve Heinen

26.3048 Response of pursuit cells in MST after eye position perturbation by microstimulation of the Superior Colliculus (SC) Jérôme Fleuriet, Leah Bakst, Michael Mustari

26.3049 Eye-hand coordination during visuomotor tracking under complex hand-cursor mapping Frederic Danion, Randy Flanagan

OBJECT RECOGNITION: WHERE IN THE BRAIN?

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4001 Lateral occipitotemporal cortex's selectivity to small artifacts reflects multi-modal representation of shape-grasp mapping elements Wei Wu, Xiaoying Wang, Chenxi He, Yanchao Bi

26.4002 The N300p, a novel ERP component associated with extended categorization training Yue Meng, Shamsi Monfared, Jonathan Folstein

26.4003 A-modal versus Cross-modal: How input modality and visual experience affect categorical representation in the "visual" cortex Stefania Mattioni, Mohamed Rezk, Karen Cuculiza, Ceren Battal, Roberto Bottini, Markus Van Ackeren, Nick Oosterhof, Olivier Collignon

26.4004 Contralateral bias persists in category-selective visual areas Sarah Herald, Hua Yang, Bradley Duchaine

26.4005 Building of object view invariance in a newly-discovered network in inferior temporal cortex Pinglei Bao, Doris Tsao

26.4006 Decoding the representational dynamics of object recognition with MEG, behavior, and computational models Brett Bankson, Martin Hebart, Chris Baker

26.4007 Representation of visual and motor object features in human cortex Ariana Familiar, Heath Matheson, Sharon Thompson-Schill

26.4008 The large-scale organization of object processing in the ventral and dorsal pathways Erez Freud, Jody Culham, David Plaut, Marlene Behrmann

26.4009 Effect of Task on Object Category Representations Across Human Ventral, Dorsal, and Frontal Brain Regions JohnMark Taylor, Maryam Vaziri-Pashkam, Yaoda Xu

26.4010 Spatial frequency tolerant object representations in the ventral and dorsal visual processing pathways Maryam Vaziri Pashkam, Yaoda Xu

26.4011 Encoding of partially occluded and occluding stimuli in the macaque inferior temporal cortex Tomoyuki Namima, Anitha Pasupathy

26.4012 A dynamic representation of shape similarity in the lateral intraparietal area Koorosh Mirpour, James Bisley, Wei Song Ong

26.4013 Neural responses to shape and texture stimuli in macaque area V4 Taekjun Kim, Wyeth Bair, Anitha Pasupathy

26.4014 Exploring the role of curvature for neural shape representations across hV4 and Lateral Occipital visual field maps Richard Vernon, Andre Gouws, Samuel Lawrence, Bruce Keefe, Declan McKeefry, Alex Wade, Antony Morland

26.4015 **Radial frequency tuning in human visual cortex** Antony Morland, Samuel Lawrence, Richard Vernon, Bruce Keefe, Andre Gouws, Alex Wade, Declan McKeefry

26.4016 Decoding face pareidolia in the human brain with fMRI Susan Wardle, Kiley Seymour, Jessica Taubert

26.4017 **A tool for automatic identification of cerebral sinuses and corresponding artifacts in fMRI** Keith Jamison, Luca Vizioli, Ruyuan Zhang, Jinyi Tao, Jonathan Winawer, Kendrick Kay

SCENE PERCEPTION: MODELS AND OTHER

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4018 Places: An Image Database for Deep Scene Understanding Bolei Zhou, Agata Lapedriza, Antonio Torralba, Aude Oliva

26.4019 Similarities Between Deep Neural Networks and Brain Regions In Processing Good and Bad Exemplars of Natural Scenes Manoj Kumar, Shuchen Zhang, Diane Beck

26.4020 Computational mechanisms for identifying the navigational affordances of scenes in a deep convolutional neural network Michael Bonner, Russell Epstein

26.4021 Expecting and detecting objects in real-world scenes: when do target, nontarget and coarse scene features contribute? Harish Katti, Marius Peelen, S. P. Arun

26.4022 **Symmetry in the Eye of the Beholder** Seyed Ali Amirshahi, Asha Anoosheh, Stella Yu, Jakob Suchan, Carl Schultz, Mehul Bhatt

26.4023 The Relationship Between Salience and Meaning During Real-World Scene Viewing Taylor Hayes, John Henderson

26.4024 **THREAT - A database of line-drawn scenes to study threat perception** Jasmine Boshyan, Nicole Betz, Lisa Feldman Barrett, David De Vito, Mark Fenske, Reginald Adams, Jr., Kestutis Kveraga

26.4025 The Use of Infographics to Evaluate Visual Context Processing Beliz Hazan, Daniel D. Kurylo

26.4026 Anchoring spatial predictions: Evidence for the critical role of anchor objects for visual search in scenes. Sage Boettcher, Eric Dienhart, Melissa Vo

SATURDAY AFTERNOON POSTERS VSS 2017 PROGRAM

26.4027 Aging alters neural processing underlying figure-ground organization Allison Sekuler, Jordan Lass, Ali Hashemi, Patrick Bennett, Mary Peterson

SCENE PERCEPTION: NEURAL MECHANISMS

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4029 Time-resolved fMRI decoding reveals spatio-temporal characteristics of scene processing network Zhengang Lu, Soojin Park

26.4030 Evidence for a grid-like representation of visual space in humans Joshua Julian, Alex Keinath, Giulia Frazzetta, Russell Epstein

26.4031 Discriminating multimodal from amodal representations of scene categories using fMRI decoding Yaelan Jung, Bart Larsen, Dirk Bernhardt-Walther

26.4032 Retinotopic organization of scene area in macaque inferior temporal cortex and its implications for development Michael Arcaro, Margaret Livingstone

26.4033 Eye movements during scene viewing are causally dependent on the occipital place area Jennifer Henry, George Malcolm, Edward Silson, Chris Baker

26.4034 Category discrimination of early electrophysiological responses reveals the time course of natural scene perception Matthew Lowe, Jason Rajsic, Susanne Ferber, Dirk Walther

26.4035 Artificially-generated scenes demonstrate the importance of global scene properties for scene perception Mavuso Mzozoyana, Matthew Lowe, Iris Groen, Jonathan Cant, Assaf Harel

26.4036 Neurodynamics and hemispheric lateralization in threat and ambiguous negative scene recognition Noreen Ward, David De Vito, Cody Cushing, Jasmine Boshyan, Hee Yeon Im, Reginald Adams, Jr., Kestutis Kveraga

26.4037 **Dissociating scene navigation from scene categorization: Evidence from Williams syndrome** Frederik Kamps, Stephanie Wahab, Daniel Dilks

3D PERCEPTION: SHAPE

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4038 Inferring the deformation of unfamiliar objects Filipp Schmidt, Flip Phillips, Roland Fleming

26.4039 Depth-Inversion "Easillusions" and "Hardillusions": Differences for Scenes and Faces Thomas Papathomas, Attila Farkas, Tom Grace, Alistair Kapadia, John Papayanopoulos, Vanja Vlajnic, Sophia Lovoulos, Katya Echazarreta, Yuan Li

26.4040 Distortions in perceived depth magnitude for stereoscopic surfaces Matthew Cutone, Laurie Wilcox

26.4041 Shape constancy in anaglyphs: Effects of angle, context and instruction Alexander Bies, Atsushi Kikumoto, Stefanos Lazarides, Margaret Sereno

26.4042 **Critical contours link surface inferences with image flows** Benjamin Kunsberg, Steven Zucker

26.4043 **The perception of transparency with motion parallax** Athena Buckthought, Shuhang Wu

26.4044 Seeing through transparent layers Dicle Dovencioglu, Andrea van Doorn, Jan Koenderink, Katja Doerschner

26.4045 Highlight disparities contribute to perceived depth of shiny 3D surface Jeffrey Saunders

26.4046 Non-veridical Depth Perception Causes Symmetric 3D Objects to Appear Asymmetric, and Vice Versa Ying Yu, Alexander Petrov, James Todd

26.4047 Distortions of apparent 3D shape from shading caused by changes in the direction of illumination Makaela Nartker, James Todd, Alexander Petrov

26.4048 Effect of head translation and manual control on depth sign perception from motion parallax Masahiro Ishii

26.4049 Minimal Deformation Constrains the Perceived Height of the Stereokinetic Cone Yang Xing, Zili Liu

26.4050 Mapping the Hierarchical Neural Network of 3D Vision using Diffusion Tensor Imaging Ting-Yu Chang, Niranjan Kambi, Erin Kastar, Jessica Phillips, Yuri Saalmann, Ari Rosenberg

26.4051 Overrepresentation of vertical limbs in primate inferotemporal cortex Cynthia Steinhardt, Chia-Chun Hung, Charles Connor

26.4052 **Perception of Depth in Natural Scenes** Yiran Duan, Alexandra Yakovleva, Anthony Norcia

26.4053 **Learning to identify depth edges in real-world images with 3D ground truth** Krista Ehinger, Kevin Joseph, Wendy Adams, Erich Graf, James Elder

26.4054 Mitigating Perceptual Error in Synthetic Animatronics using Visual Feature Flow Ryan Schubert, Gerd Bruder, Greg Welch

VISUAL MEMORY: NEURAL MECHANISMS

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4055 Spatial selectivity of alpha band activity declines with increasing visual working memory load David Sutterer, Joshua Foster, Kirsten Adam, Edward Vogel, Edward Awh

26.4056 **Topography of alpha-band power tracks improvement in working memory precision with repeated encoding** Kirsten Adam, Joshua Foster, David Sutterer, Edward Vogel, Edward Awh

26.4057 Working memory reconstructions using alpha-band activity are disrupted by sensory input. Tom Bullock, Mary MacLean, Barry Giesbrecht

26.4058 Alpha-band activity reveals robust representations of spatial position during the storage of non-spatial features in working memory Joshua Foster, Emma Bsales, Edward Awh

26.4059 Parieto-occipital alpha power dynamics selectively code for the storage of spatial locations in visual working memory Keisuke Fukuda, Christopher Sundby, Geoffrey Woodman

26.4060 Alpha-Band Activity Tracks Updates to the Content of Spatial Working Memory Eren Gunseli, Joshua Foster, David Sutterer, Edward Vogel, Edward Awh

26.4061 Suppression of irrelevant information from working memory is reflected in the PD and CDAp components of the EEG Tobias Feldmann-Wüstefeld, Edward Vogel

26.4062 What Information Can Actually Be Decoded from the EEG in Visual Working Memory Tasks? GiYeul Bae, Steven Luck

26.4063 Decoding the Contents of Working Memory Using EEG Provides Evidence For the Sensory Recruitment Hypothesis Allison Bruning, Michael Pratte

26.4064 Bridging Working Memory and Imagery: Encoding induced alpha EEG activity reveals similar neural processes Joel Robitaille, Stephen Emrich

26.4065 Time-reversed activation of sequentially memorized items during maintaining period in humans Qiaoli Huang, Jiarong Jia, Huan Luo

26.4066 Modulation of working memory filtering efficiency during acute bouts of exercise. Lindsey Purpura, Thomas Bullock, Barry Giesbrecht

26.4067 **Neural evidence for unitization following perceptual expertise** Jackson Liang, Jonathan Erez, Felicia Zhang, Rhodri Cusack, Morgan Barense

26.4068 Neural mechanisms of precision in visual working memory for faces Elizabeth Lorenc, Mark D'Esposito

26.4069 Decoding visual spatial working memory uncertainty from human cortex Thomas Sprague, Masih Rahmati, Aspen Yoo, Wei Ji Ma, Clayton Curtis

26.4070 Active Maintenance of Working Memory Representations Remains Robust Under Automatic, But Not Non-Automatic, Processing of Distractor Stimuli Orestis Papaioannou, Steven Luck

26.4071 **Decoding the Content of Visual Working Memory in the Human Visual System** Xilin Zhang, Nicole Mlynaryk, Shruti Japee, Leslie Ungerleider

26.4072 **Can the visual cortex represent the invisible?** Shude Zhu, Li Zhang, Rudiger von der Heydt

26.4073 TMS of the frontal eye fields reveals load- and cue-related modulations of cortical excitability and effective connectivity Amanda van Lamsweerde, Andrea Bocincova, Andrew Heinz, Jeffrey Johnson

VISUAL MEMORY: COGNITIVE DISORDERS, INDIVIDUAL DIFFERENCES

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4074 Individual differences reveal independent mechanisms for working memory and perceptual serial dependence Kathy Zhang, David Whitney

26.4075 Time is needed for memory to be biased toward an ensemble average Byung-Il Oh, Min-Suk Kang

26.4077 Dissociable Effects of Depressed Mood, Schizotypal Personality Disorder, and Age on the Number and Quality of Visual Working Memory Representations Weiwei Zhang, Weizhen Xie, Marcus Cappiello

26.4078 Impact of Impaired Spontaneous Grouping on Estimates of Visual Working Memory Capacity in Schizophrenia Molly Erickson, Brian Keane, Dillon Smith, Steven Silverstein

26.4079 Evidence of limited cross-category visual statistical learning in amnesia Marian Berryhill, Adelle Cerreta, Timothy Vickery

26.4080 Distortions of spatial memory: Social attention, but not social interaction effects Tim Vestner, Steven Tipper, Tom Hartley, Shirley-Ann Rueschemeyer

26.4081 Degradation of object-specific knowledge from atrophy of perirhinal cortex Amy Price, Amy Halpin, Michael Bonner, Murray Grossman

MULTISENSORY: TOUCH AND BALANCE

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4082 Measuring end-to-end latency of a virtual reality system objectively and psychophysically Andrew Glennerster, Stuart Gilson

26.4083 Multimodal Contributions to Subjective Visual Vertical Chéla Willey, Zili Liu

26.4084 Effect of Vibrotactile Feedback through the Floor on Social Presence in an Immersive Virtual Environment Myungho Lee, Gerd Bruder, Greg Welch

26.4085 Spatiotemporal dynamics of braille letter perception in blind readers Santani Teng, Radoslaw Cichy, Dimitrios Pantazis, Aude Oliva

26.4086 Estimation of gloss and shape from vision and touch. Wendy Adams, Gizem Küçükoğlu, Michael Landy

26.4087 The role of proprioception in visuo-haptic size perception Robert Volcic, Nadeen Alalami

26.4088 Hand as a Deformable Sensor: Toward a Quantitative Framework for Characterizing 4D Dynamics of the Hand during Visual-Haptic Cross-Modal Perception $\rm Jay \ Hegde$

26.4089 Eye and hand dissociation in depth and direction: behavioral encoding of reach Annalisa Bosco, Valentina Piserchia, Patrizia Fattori

26.4090 Causal inference in the updating and weighting of allocentric and egocentric information for spatial constancy during whole-body motion Florian Perdreau, Mathieu Koppen, Pieter Medendorp

26.4091 Suppressive mechanism in motion perception correlates with postural control ability Liana Saftari, Shuping Xiong, Oh-Sang Kwon

26.4092 Interaction Effect of Frequency, Velocity and Amplitude on Perceived Vection Magnitude for Yaw Visual Oscillation Xiao FU, Yue WEI, Daniel CHEN, Richard SO

SPATIAL VISION: CROWDING AND MASKING

SATURDAY, MAY 20, 2:45 - 6:45 PM, PAVILION

26.4093 Crowding asymmetries in a neural model of image segmentation Alban Bornet, Adrien Doerig, Michael Herzog, Gregory Francis

26.4094 Perceptual Grouping and Segmentation: Uncrowding Gregory Francis, Alban Bornet, Adrien Doerig, Michael Herzog

26.4095 On the heterogeneity of visual crowding William Harrison, Peter Bex

26.4096 Un-crowding affects cortical activation in V1 differently from LOC Maya Jastrzebowska, Vitaly Chicherov, Bogdan Draganski, Michael Herzog

26.4097 Relationships between retinal ganglion cells, Ricco's area and crowding zone Rong Liu, MiYoung Kwon

26.4098 The effect of overall stimulus configuration on crowding Matthew Pachai, Maya Roinishvili, Michael Herzog

26.4099 Are there benefits of Visual Crowding? Srimant Tripathy, Harold Bedell

26.4100 **Cross-optotype metrics for foveal lateral masking** Sarah Waugh, Monika Formankiewicz, Denis Pelli

26.4101 **Topological dominance in peripheral vision** Ruijie Wu, Bo Wang, Yan Zhuo, Lin Chen

26.4102 Crowding and binding: Not all feature-dimensions behave equally Amit Yashar, Xiuyun Wu, Jiageng Chen, Marisa Carrasco

26.4103 The alleviation of crowding effect through perceptual learning Ziyun Zhu, Fang Fang

26.4104 Invariant tuning of lateral interactions between visual stimuli Sunwoo Kwon, Savel'ev Sergey, Thomas Albright, Sergei Gepshtein

26.4105 Statistics of boundary, luminance, and pattern information predict occluding target detection in natural backgrounds R Calen Walshe, Stephen Sebastian, Wilson Geisler

26.4106 Detecting, Localizing and Correcting Exposure-Saturated Regions Using a Natural Image Statistics Model Zeina Sinno, Christos Bampis, Alan Bovik

SUNDAY MORNING TALKS

ATTENTION: SELECTION AND MODULATION

SUNDAY, MAY 21, 8:15 - 9:45 AM, TALK ROOM 1

Moderator: Anne Sereno

31.11, 8:15 am Investigating the neural correlates of automatic attention shifts in electroencephalography Merle Ahrens, Domenica Veniero, Monika Harvey, Gregor Thut

31.12, 8:30 am Alpha and gamma neurofeedback reinforce control of spatial attention Yasaman Bagherzadeh, Daniel Baldauf, Benjamin Lu, Dimitrios Pantazis, Robert Desimone

31.13, 8:45 am Accounting for attention in perceptual decisions and confidence Rachel Denison, William Adler, Marisa Carrasco, Wei Ii Ma

31.14, 9:00 am Task performance in covert, but not overt, attention correlates with early ERP laterality Rinat Hilo, Marisa Carrasco, Shlomit Yuval-Greenberg

31.15, 9:15 am Effect of Apparent Depth in Peripheral Target Detection in Driving under Focused and Divided Attention Jiali Song, Patrick Bennett, Allison Sekuler, Hong-Jin Sun

31.16, 9:30 am Attention to shape enhances shape discrimination in AIT neural population coding but attention to space does not modulate location discrimination in LIP of macaque monkeys. Anne Sereno, Sidney Lehky

SPATIAL VISION: CROWDING AND STATISTICS

SUNDAY, MAY 21, 10:45 AM - 12:30 PM, TALK ROOM 1

Moderator: Eero Simoncelli

32.11, 10:45 am Cortical magnification factor of human V2 predicts individual susceptibility to letter-crowding Steven Dakin, Samuel Schwarzkopf, Geraint Rees, Catherine Morgan, Elaine Anderson

32.12, 11:00 am Suppressive stimulus interactions in visual cortex reflect the critical spacing in crowding Leili Soo, Ramakrishna Chakravarthi, Plamen Antonov, Søren Andersen

32.13, 11:15 am Cortical distance determines the perceptual outcomes of crowding John Greenwood, Joseph Danter, Rhiannon Finnie

32.14, *11:30 am* **Towards a Unifying Model of Crowding: Model Olympics** Adrien Doerig, Aaron Clarke, Greg Francis, Michael Herzog

32.15, *11:45* am **How do we count at a glance?** Richard Murray, Kevin DeSimone, Minjung Kim

32.16, 12:00 pm Multidimensional Normalization is Optimal for **Detection in Natural Scenes** Wilson Geisler, Stephen Sebastian, Jared Abrams

32.17, 12:15 pm Perceptual Straightening Of Natural Video Trajectories Olivier Henaff, Robbe Goris, Eero Simoncelli

COLOR AND LIGHT: COLOR VISION

SUNDAY, MAY 21, 8:15 - 9:45 AM, TALK ROOM 2

Moderator: Michael Crognale

31.21, 8:15 am Metameric Mismatching in Natural and Artificial Reflectances Arash Akbarinia, Karl Gegenfurtner

31.22, 8:30 am Quickly-forming, shape-dependent memory biases in color perception Maria Olkkonen, Toni Saarela

31.23, 8:45 am Color-ambiguity Matching Steven Shevell, Wei Wang

31.24, *9:00 am* Facilitation of color discrimination by verbal and visual cues Lewis Forder, Gary Lupyan

31.25, 9:15 am Individual differences in hue scaling suggest mechanisms narrowly tuned for color and broadly tuned for lightness Kara Emery, Vicki Volbrecht, David Peterzell, Michael Webster

31.26, 9:30 am Color vision for flight control in Drosophila Kit Longden, Michael Reiser

3D PERCEPTION

SUNDAY, MAY 21, 10:45 AM - 12:30 PM, TALK ROOM 2

Moderator: Julie Harris

32.21, *10:45 am* **Rendering correct blur** Steven Cholewiak, Gordon Love, Martin Banks

32.22, 11:00 am Human surface tilt estimation in natural and artificial 3D scenes Seha Kim, Johannes Burge

32.23, *11:15 am* **A data-driven approach to learning 3D shape** Sven Eberhardt, Daniel Schiebler, Drew Linsley, Thomas Serre

32.24, 11:30 am The Veiled Virgin Project: Causal layering of 3D shape Flip Phillips, Roland Fleming

32.25, 11:45 am Dynamically deformable volume completion: A new class of visual shape illusions Peter Tse

32.26, 12:00 pm Perceptual integration of depth cues is facilitated by inhibitory processing in dorsal visual cortex Reuben Rideaux, Andrew Welchman

32.27, 12:15 pm Encoding and decoding in neural populations with non-Gaussian tuning: the example of 3D motion tuning in MT Kathryn Bonnen, Alexander Huk, Lawrence Cormack

SUNDAY MORNING POSTERS

MOTION: DEPTH AND MODELS

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

- 33.3001 A model for spatial integration of pattern and 3D motion in MT neurons Pamela Baker, Wyeth Bair
- 33.3002 Linking normative models for natural tasks and subunit models of neural response Johannes Burge, Priyank Jaini
- 33.3003 Comparison of horizontal vergence responses to changing disparity and inter-ocular velocity differences Martin Giesel, Julie Harris, Alexandra Yakovleva, Alex Wade, Marina Bloj, Anthony Norcia
- 33.3004 Fat-tailed propagation noise model of visual object tracking Byeong-Hee Gwak, Hanan Mohamed, Oh-Sang Kwon
- 33.3005 The influence of contour geometry on structure-from-motion: from symmetry to parallelism Xiaoli He, Jacob Feldman, Manish Singh
- 33.3006 Perception of Depth-Order from Motion: An Electroencephalographical Study Ashley Kalle, Jennevieve Sevilla, Jay Hegdé
- **33.3007 The Visual Features of Smoke** Max Kinateder, Tobias Pfaff, Emily Cooper
- **33.3008 Speed discrimination for real-world motion in depth** Abigail Lee, Justin Ales, Julie Harris
- **33.3009 Time to Contact Estimation in Virtual Reality** Dinesh Pai, Robert Rolin, Jolande Fooken, Miriam Spering

MOTION: FLOW AND ILLUSIONS

- SUNDAY, MAY 21, 8:30 AM 12:30 PM, BANYAN BREEZEWAY
- 33.3010 Effects of motion picture frame rate on material and texture appearance Robert Allison, Yoshitaka Fujii, Laurie Wilcox
- 33.3011 **Short motions look faster than long ones** Stuart Anstis, Juno Kim
- 33.3012 Effects of contrast polarity and binocularity on global motion discrimination Lanya Cai, Benjamin Backus
- 33.3013 Evidence of a Contrast Induction Field for Peripherally Viewed Motion Stimuli Aaron Clarke, Duygu Savcı
- 33.3014 The Double-drift Illusion Affects Both the Perception of Where the Target IS and the Memory of Where it WAS. Sydney Gilbert, Daryn Blanc-Goldhammer, Paul Dassonville
- 33.3015 Proprioceptive self-localization modulated by vection Michiteru Kitazaki
- 33.3016 **A model of optic flow parsing as error in prediction** Oliver Layton, Brett Fajen
- 33.3017 Existence of acceleration sensitive units in pre-attentive visual system Ryohei Nakayama, Isamu Motoyoshi
- 33.3018 Temporal dynamics of perceiving scene-relative object motion during self-motion from optic flow $\rm \ Long\ NI,\ LI\ LI$
- 33.3019 Vestibular and visual Information are required for the accurate perception of object motion during self-motion Mingyang Xie, Diederick Niehorster, Markus Lappe, Li Li
- 33.3020 The Plasticity of Eye Movements Compensation in Macaque VIP Hu Deng, Shengbing Kuang, Shengguang Li, Tao Zhang
- **33.3021 Is Serial Dependence Sticky or Predictive?** Ye Xia, David Whitney

33.3022 Temporal derivative of the elevation angle as a cue for visually perceived gravity Björn Jörges, Joan López-Moliner

MOTION: HIGHER ORDER

- SUNDAY, MAY 21, 8:30 AM 12:30 PM, BANYAN BREEZEWAY
- 33.3023 Performed overt actions can disambiguate ambiguous apparent motion Allison Allen, Nathan Heller, Nicolas Davidenko
- 33.3024 Attention modulates the motion aftereffect: A meta-analysis. Laura Bartlett, Nicholas Hedger, Erich Graf, Wendy Adams
- 33.3025 Vertical anisotropy in stream/bounce perception of refracted motion trajectory Akihiko Gobara, Yuki Yamada
- 33.3026 It's not all black and white: Visual speed perception depends on local, structural and global scene features Céline Gravot, Alexander Knorr, Stefan Glasauer, Hans Straka
- 33.3027 Transformational Apparent Motion is Driven by Figural Parsing, Not Low-Level Motion Signals Kevin Hartstein, Peter Tse
- 33.3028 The effect of stimulus area on global motion thresholds in children and adults Kimberly Meier, Farnaz Javadian, Kevin Chang, Deborah Giaschi
- 33.3029 The Reference Frame for Encoding and Retention of Motion-Direction Information Depends on Stimulus Set-
- size Haluk Ogmen, Duong Huynh, Srimant Tripathy, Harold Bedell
- 33.3030 Assessment of mid-level vision segregation in mice with radially expanding/contracting targets William John Redmond, Christophe Bossens, Hans Op de Beeck
- 33.3031 Volitionally altering the immediate past: Postdictive Biasing of Perceived Motion Direction Liwei Sun, Kevin Hartstein, Sebastian Frank, Peter Tse
- 33.3032 The effects of local and global noise on confidence judgments Alan LEE

DEVELOPMENT: TYPICAL AND LIFESPAN

- SUNDAY, MAY 21, 8:30 AM 12:30 PM, BANYAN BREEZEWAY
- 33.3033 A Comparison of Electrophysiological and Behavioral Measures of Visual Acuity Nakita Ryan, Gabrielle Hodder, Lauren King, James Drover
- 33.3034 A Comparison of the Developmental Rates of Three Visual Functions Shelley Cornick, Darcy Hallett, Jacqueline Higgins, James Drover
- 33.3035 Differences in Transitional Saccades in 4-month-olds When Viewing Pairs of Possible and Impossible Objects Julie Planke, Sarah Shuwairi
- 33.3036 Dynamic Characteristics of 5 to 22 week-old Infants'
 Accommodation and Vergence Tracking Responses Colin Downey,
 Griffin Pace, Eric Seemiller, Rowan Candy, Larry Cormack
- 33.3037 Vergence responses to changing disparity in 5 to 10 week old human infants. Eric Seemiller, T. Candy
- 33.3038 Exploring the neural foundation of scene recognition development from middle childhood to adulthood Tobias Meissner, Marisa Nordt, Sarah Weigelt
- 33.3039 Development of sensitivity to naturalistic textures in macaque: psychophysics and physiology Najib Majaj, Darren Seibert, J. Movshon, Lynne Kiorpes

SUNDAY MORNING POSTERS VSS 2017 PROGRAM

- 33.3040 A not-so-narrow spotlight: Infants can encode information about objects into VSTM that were not fixated Zsuzsa Kaldy, Sangya Dhungana, Erik Blaser
- 33.3041 The origins of visual working memory capacity in infants: Implications for theory building Bret Eschman, Shannon Ross-Sheehy
- 33.3042 Reduced inter-hemispheric interference in ageing: Evidence from a divided field Stroop-like paradigm Julie Castronovo, Jean-Francois Delvenne
- 33.3043 Motivational effects on reaching adaptation in young and senior adults Jing Huang, Sabine Margolf-Hackl, Mathias Hegele, Jutta Billino
- 33.3044 Quantifying Changes in Sensitivity to Face Information with Healthy Ageing Andrew Logan, Gael Gordon, Gunter Loffler
- 33.3045 Domain-general individual and developmental differences in confidence acuity Darko Odic, Carolyn Baer
- 33.3046 The activation of the temporal area during audiovisual material matching in infants. Yuta Ujiie, Wakayo Yamashita, Waka Fujisaki, So Kanazawa, Masami Yamaguchi
- 33.3047 **Infants' face detection in natural scene** Megumi Kobayashi, So Kanazawa, Masami Yamaguchi, Ryusuke Kakigi
- 33.3048 Infants' neural response to yawning: a behavioral and a near-infrared spectroscopic study Shuma Tsurumi, So Kanazawa, Masami Yamaguchi
- 33.3049 Is this the same face? Developmental increases of the tolerance of within-person variability in the fusiform face area Marisa Nordt, Kilian Semmelmann, Erhan Genç, Sarah Weigelt

PERCEPTION AND ACTION: GRASPING

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

- 33.4001 Neural mechanisms for updating grasp plans: An fMRI study Bianca Baltaretu, Simona Monaco, Ada Le, Jena Velji-Ibrahim, Gaelle Luabeya, J. Crawford
- 33.4002 Decoding real and imagined actions: overlapping but distinct neural representations for planning vs. imagining hand movements Simona Monaco, Giulia Malfatti, Jody Culham, Luigi Cattaneo, Luca Turella
- 33.4003 A new multivariate analysis method suggests timing is key factor in visually-guided reach-to-grasp movements Alex Yan, Jody Culham
- 33.4004 On-line adjustments of grasping movements under visual, haptic and visuo-haptic guidance Ivan Camponogara, Robert Volcic
- 33.4005 The contributions of visual and tactile cues to analytic processing during grasping Aviad Ozana, Tzvi Ganel
- 33.4006 Effects of numerical magnitude on the online execution of grasping movements Gal Namdar, Tzvi Ganel
- 33.4007 Relation between action precision and perceptual discrimination Jianfei Guo, Joo-Hyun Song
- 33.4008 Visualization of viewing strategies for grasping a rotating target Charlotte Leferink, Neil Bruce, Jonathan Marotta
- 33.4009 You break it, you buy it effect of object shape on grasp locations Lina Klein, Vivian Paulun, Roland Fleming
- **33.4010 Influence of object texture on grasping behaviour** Catharina Glowania, Loes van Dam, Eli Brenner, Myrthe Plaisier
- 33.4011 Grip control and contact point selection for grasping slanted 3D objects with conflicting monocular and binocular cues Zhongting Chen, Jeffrey Saunders

33.4012 Features of grasp adaptation: Error correction, interference, and perceptual recalibration Evan Cesanek, Fulvio Domini

33.4013 Error correction and interference in grasping illusions Karl Kopiske, Evan Cesanek, Carlo Campagnoli, Fulvio Domini

OBJECT RECOGNITION: FOUNDATIONS

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

- 33.4014 An Investigation of the Characteristic Properties of Cognitive Processes with Perceptually Integral Stimuli Yanjun Liu, Ru Zhang, James Townsend, Michael Wenger, Lisa De Stefano
- 33.4015 On the Human Visual System Invariance to Translation and Scale Yena Han, Gemma Roig, Gadi Geiger, Tomaso Poggio
- 33.4016 Effects of Inducer Contrast on Simultaneous Brightness and Poggendorf Illusions Bruno Breitmeyer, James Brown, Ralph Hale, Richard Plummer
- 33.4017 A Dissociation Between Visual Strategy Use and Accuracy after Perceptual Expertise Training Allison Carr, Travis Jones, Andrea Cataldo, Hillary Hadley, Erik Arnold, James Tanaka, Tim Curran, Lisa Scott
- 33.4018 The role of context and level of object processing in the activation of structure- and function-based action representation Wenyuan Yu, Ye Liu, Xiaolan Fu
- **33.4019 Distance perception and falling risks** Russell Jackson, William Felton
- 33.4020 The effect of hunger on the perception of food size Noa Zitron, Tzvi Ganel
- 33.4021 Stimulus and task dependence of response latencies in primate area V4 Polina Zamarashkina, Dina Popovkina, Anitha Pasupathy
- **33.4022 New Optotypes for recognition acuity in children** Lisa Hamm, Janice Yeoman, Nicola Anstice, Steven Dakin
- 33.4023 Visual aspects of numeracy neuroimaging: cortical surface-based meta-analysis. Anthony Cate, Leah Cooper, Rishi Devulapalli, Taylor Flynn, Dale Hiles, Timothy Quinn
- 33.4024 Multivariate pattern analysis of MEG and EEG reveals the dynamics of human object processing Dimitrios Pantazis, Radoslaw Cichy
- **33.4025 Number in the human subcortex** Elliot Collins, Joonkoo Park, Marlene Behrmann
- 33.4026 A case of severe impairments in mid-level vision but intact face recognition, biological motion processing and reading abilities Sarah Weigelt, Sonja Breitenbach, Marisa Nordt, Christiane Freitag, Lea Hyvärinen, Renate Walthes
- 33.4027 Self-reported visual perceptual abnormalities predict schizophrenia, poor premorbid functioning, and more severe positive symptoms: New Insights from the Bonn Scale Lisa Cruz, Steven Silverstein, Danielle Paterno, Brian Keane
- 33.4028 Neuronal correlates of rapid learning in the human medial temporal lobe Jiye Kim, Julie Blumberg, Franz Aiple, Peter Reinacher, Jed Singer, Armin Brandt, Andres Schulze-Bonhage, Gabriel Kreiman

PERCEPTUAL LEARNING: PLASTICITY AND ADAPTATION

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

- **33.4029 Single exposure effects on a perceptual task** Tyler Barnes-Diana, Takeo Watanabe, Yuka Sasaki
- 33.4030 Contrast adaptation reduces SSVEP amplitude Mark Vergeer, Juraj Mesik, Yihwa Baek, Kelton Wilmerding, Stephen Engel

- 33.4031 Role of exogenous attention in task-relevant perceptual learning Kieu Nguyen, Takeo Watanabe, George Andersen
- 33.4032 Monocular deprivation of Fourier phase information boosts the deprived eye's dominance during interocular competition but not interocular phase combination Min Bao, Jianying Bai, Xue Dong, Sheng He
- 33.4033 Reduction in adaptation is necessary for perceptual learning to occur Kazuhisa Shibata, Ariel Choi, Yuka Sasaki, Takeo Watanabe
- 33.4034 Perceptual effects of adaptation over multiple timescales Nikos Gekas, Kyle McDermott, Pascal Mamassian
- 33.4035 Perceptual learning of spatial frequency identification through learned reweighting. Barbara Dosher, Jiajuan Liu, Zhong-Lin Liu
- 33.4036 The time course of adaptation to changes in environmental orientation statistics Patrick Shafto, April Schweinhart, Ed Essock, Lewis Baker, Deepak Jonnalagedda
- 33.4037 Structured knowledge and novel object kinds can be inferred from visual event streams Anna Leshinskaya, Sharon Thompson-Schill
- 33.4038 Behaviorally relevant prior experience biases subsequent perception Helen Feigin, Shira Baror, Moshe Bar, Adam Zaidel
- 33.4039 Adaptation Is Slower in High Variability Environments Feiyi Ouyang, Stephen Engel
- 33.4040 Discriminability of Prediction Artifacts in a Head-Mounted Display Christopher Widdowson, Steven LaValle, Ranxiao Wang, Eric Huber, Ashwin Kumar, Katherine Wood
- 33.4041 The effect of perceptual learning on reducing sensory eye dominance Eunbin Lee, Sang Chul Chong
- 33.4042 Short-term patching does not affect interocular correlation sensitivity Jacob Sheynin, Alexandre Reynaud, Robert Hess
- 33.4043 Rapid compensation for defocus in the myopic visual system Stephen Engel, Urvi Mistry, Peter Allen
- 33.4044 Evidence of disinhibition as a mechanism for short-term plasticity following a simulated peripheral scotoma Matthew Gannon, Stephanie Long, Megan Gardner, Nathan Parks
- 33.4045 Rapid development of reaching/grasping and intersensory recognition in a previously blind Tibetan girl Frank Thorn, Jie Chen, En-De Wu, Xin Chen, Lu-He Zhu, Xiaoman Li, Jia Qu

PERCEPTUAL LEARNING: SPECIFICITY AND TRANSFER

- SUNDAY, MAY 21, 8:30 AM 12:30 PM, PAVILION
- 33.4046 Visuomotor adaptation of walking and pointing: evidence for function-specific and motor-specific components $Xing\ Xing$, Jeffrey Saunders
- 33.4047 **Specificity in short- and long-term motor learning** Zili Liu, Chéla Willey
- 33.4048 Learning induced illusions: Statistical regularities create false memories $\ \mathrm{Yu}\ \mathrm{Luo}, \mathrm{Jiaying}\ \mathrm{Zhao}$
- 33.4049 Ruling out task difficulty in the context-generalization of texture perceptual learning Alicia Serrano, Ali Hashemi, Allison Sekuler, Patrick Bennett
- 33.4050 The Effect of Cognitive Load on Visual Statistical Learning Amir Tal, Shira Baror, Moshe Bar
- 33.4051 Perceptual learning based on the learning of diagnostic features Sebastian Frank, Liwei Sun, Patrick Cavanagh, Mark Greenlee, Peter Tse

- 33.4052 **Beyond classic Perceptual learning: Coordinated attentional training to boost learning and generalization** Marcello Maniglia, Denton DeLoss, Kristina Visscher, Aaron Seitz
- 33.4053 On learning two different tasks of same input stimulus Qing He, Jiawei Zhou, Robert Hess, Chang-Bing Huang
- 33.4054 Extensive training of orientation filtered textures increases generalization of learning Ali Hashemi, Allison Sekuler, Patrick Bennett
- 33.4055 Cognitive bias and reward affect contrast and response gain Parker Banks, Allison Sekuler, Patrick Bennett
- 33.4056 Classification images reveal changes in the encoding of newly learned face dimensions Fabian Soto
- 33.4057 Subordinate-level training with novel objects differentially impacts neural and behavioral processing Travis Jones, Hillary Hadley, Andrea Cataldo, Erik Arnold, Tim Curran, Jim Tanaka, Lisa Scott
- 33.4058 An unfamiliar expression: exploring the role of symbolic elements in processing cartoon faces Lia Kendall, Quentin Raffaelli, Alan Kingstone, Rebecca Todd
- 33.4059 Moderating Effects of Visual Attention and Action Video Game Play on Perceptual Learning Theodore Jacques, Aaron Seitz
- 33.4060 Training Peripheral Vision to Read Korean Characters
 Transfers to English Characters: Evidence for A Non-symbol-specific Mechanism Yingchen He, MiYoung Kwon, Gordon Legge
- 33.4061 Visual Speed Sensitivity in the Drum Corps Color Guard Nestor Matthews, Leslie Welch, F. Coplin, Allison Murphy, Megan Puritz
- 33.4062 Investigating The Impact of Demographic Features on **Body Size Discrimination** Annie Chan, Danielle McKean, Oguz Akbilgic, Webb Smith
- 33.4063 Mutual transfer between visual and auditory temporal interval learning supports a central clock in temporal processing Shu-chen Guan, Ying-Zi Xiong, Cong Yu

ATTENTION: NEUROIMAGING

- SUNDAY, MAY 21, 8:30 AM 12:30 PM, PAVILION
- 33.4064 Neural markers of efficient response inhibition in parietal cortex Tamar Kolodny, Pnina Stern, Maya Ankaoua, Natalie Kataev, Shlomit Tsafrir, Carmel Mevorach, Lilach Shalev
- 33.4065 Tracking the neural fate of visual representations across fluctuations in sustained attention David Rothlein, Joseph DeGutis, Michael Esterman
- 33.4066 Attentional modulation of layer-specific BOLD signals in human early visual cortex Chengwen Liu, Sheng He, Peng Zhang
- 33.4067 Independent and overlapping neural representations of saccades, attention shifts, and reference frames Xiaoli Zhang, Julie Golomb
- 33.4068 Neuronal and temporal correlates of "Gist" processing Lucy Spencer, Alex Wade, Daniel Baker, Karla Evans
- 33.4069 **Visuospatial attentional selectivity within the cerebel- lum** James Brissenden, David Osher, Emily Levin, Mark Halko, David Somers
- 33.4070 Predicting an individual's own Dorsal Attention Network from their functional connectivity fingerprint David Osher, Sean Tobyne, James Brissenden, Abigail Noyce, Samantha Michalka, Emily Levin, David Somers

SUNDAY MORNING POSTERS VSS 2017 PROGRAM

33.4071 Mapping Task Response Profiles in Visual-biased Frontal Cortex Sean Tobyne, Abigail Noyce, David Osher, James Brissenden, Emily Levin, Samantha Michalka, David Somers

33.4072 Attentional load parametrically modulates responses within human FEF and early visual cortex Sara Aghajari, Sam Ling

EYE MOVEMENTS: COGNITION

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

33.4073 On utilizing eye movements to inform and guide subsequent thought Bhavin Sheth, Alma Tijiboy

33.4074 Pupil dilation reveals the implicit prior processing of the insight to the hidden image Yuta Suzuki, Tetsuto Minami, Shigeki Nakauchi

33.4075 Fixation-related Potentials as a Natural Index of Task
Difficulty: Single-trial Classification Jon Touryan, David Slayback,
Anthony Ries

33.4076 Information Fusion Based on Fixation Patterns and Semantic Analysis for Observer Identification during Reading Akram Bayat, AmirHossein Bayat, Marc Pomplun

33.4077 What eye movement and memory experiments can tell us about the human perception of visualizations Zoya Bylinskii, Michelle Borkin, Nam Kim, Hanspeter Pfister, Aude Oliva

33.4078 Examining the influence of ttask and scene alternations and repetitions on eye movements during scene viewing Jordan Marshall, Edwin Dalmaijer, Stefan Van der Stigchel, Mark Mills, Michael Dodd

33.4079 The relationship between eye movements & memory performance during scene viewing is influenced by viewing mode Monica Rosen, Mark Mills, Edwin Dalmaijer, Stefan van der Stigel, Michael Dodd

33.4080 Increased scene exploration does not enhance memory Claudia Damiano, Dirk Walther

33.4081 Eye-Movements Search for Comprehension during Bridging Inference Generation in Wordless Visual Sequential Narratives John Hutson, Joseph Magliano, Lester Loschky

33.4082 Eye movement strategies during search of graphs with relevant and irrelevant information Elsie Lee, Jason Rubinstein, Eileen Kowler

33.4083 Gaze patterns reveal how texts are remembered: A mental model of what was described is favoured over the text itself Franziska Traub, Roger Johansson, Kenneth Holmqvist

33.4084 Eye Movements During Rapid Naming tasks Predict Reading Ability. Sheila Crewther, Jessica Peters, Nahal Goharpey, Jessica Taylor, Chantanee Mungkhetklang, Daniel Crewther, Robin Laycock

33.4085 Age-related changes in gaze dynamics during real-world navigation Marcia Bécu, Guillaume Tatur, Annis-Rayan Bourefis, Luca Bologna, Denis Sheynikhovich, Angelo Arleo

33.4086 Target presence affects the eye movement behaviour and kinematics of non-human primates in virtual navigation tasks Benjamin Corrigan, Roberto Gulli, Guillaume Doucet, Julio Martinez-Trujillo

33.4087 Towards cognitive saliency: narrowing the gap to human performance Adria Recasens, Zoya Bylinskii, Ali Borji, Fredo Durand, Antonio Torralba, Aude Oliva

33.4088 CHAP: An Open Source Software for Processing and Analyzing Pupillometry Data Ronen Hershman, Noga Cohen, Avishai Henik

33.4089 Dangerous Ambiguity: Capturing Shooter Bias with an Eye Tracker Glen Gagnon, Chad Peltier, David Johnson, Mark Becker

33.4090 Eye Movements during Emotional Scene Processing: Exploring the Role of Visual Perception in Intrusive Mental Imagery Stephanie Roldan, Olivia Obertello, Anthony Cate

33.4091 The importance of gaze coherence of CCTV operators in facilitating the ability to recognise harmful intentions Greta Todorova, Joseph Burling, Hongjing Lu, Frank Pollick

33.4092 You lookin' at me? Perception of a real-time dyadic interaction influences gaze behavior Michael Kleiman, Elan Barenholtz

SCENE PERCEPTION: CATEGORIZATION AND MEMORY

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

33.4093 The emotional valence of scene ensembles is less extreme than its constituents Chloe Burkhead, Jason Haberman

33.4094 Representations of emotional scenes during memory retrieval Doyoung Park, Sue-Hyun Lee

33.4095 Scene's Openness Revisited: What You See vs. Where You are Soojin Park, Thitaporn Chaisilprungraung, Ruu Harn Cheng

33.4096 Behavioral relevance impacts utilization of diagnostic information for scene categorization at multiple time windows: Electrophysiological evidence Natalie Hansen, Birken Noesen, Assaf Harel

33.4097 Visual, Functional, and Semantic Contributions to Scene Categorization Michelle Greene, Bruce Hansen

33.4098 Processing global properties in scene categorization Hanshu Zhang, Joseph Houpt

33.4099 Category in temporal context cues scene integration Robert Wiley, Soojin Park

33.4100 Perceptual properties of scenes determine their subsequent memory Assaf Harel, Emily Artz

33.4101 Remembering overlapping scenes: higher false alarm rates for unseen parts of scenes Filip Dechterenko, Jiri Lukavsky

33.4102 Scene categorisation in the presence of a distractor $\,$ Jiri Lukavsky, Filip Dechterenko, Andrea Dally

33.4103 Narrative priming of scene gist: The role of sequential expectations in scene gist perception Maverick Smith, John Hutson, Thomas Hinkel, Kaydee Tran, Megan Steele, Lester Loschky

33.4104 Through the door: Boundary Extension of areas viewed through scene-intrinsic apertures Carmela Gottesman

33.4105 Visualizing the Percept of a Scene John Defant, Thomas Sanocki, Steven Schultz, Trang Nguyen

SCENE PERCEPTION: SPATIOTEMPORAL FACTORS

SUNDAY, MAY 21, 8:30 AM - 12:30 PM, PAVILION

33.4106 Seeing the road in the blink of an eye - rapid perception of the driver's visual environment Benjamin Wolfe, Lex Fridman, Anna Kosovicheva, Bryan Reimer, Ruth Rosenholtz

33.4107 Event Model Construction Occurs Within a Single Eye Fixation Adam Larson, Taylor Simonson, Martin McMullen, Karissa Payne

33.4108 Peripheral involvement of the extraction of the gist of the scene. Donders Institute Geuzebroek, Albert van den Berg

33.4109 Spatial frequency tuning for indoor scene categorization Verena Willenbockel, Frédéric Gosselin, Melissa Vo

33.4110 I couldn't help but notice: Irrelevant object-scene inconsistencies influence search for highly visible gabor patches Tim Cornelissen, Kenneth Holmqvist, Melissa Vo

33.4111 Pupil size is sensitive to dynamic change in scene layout properties Chencan QIAN, Zuxiang LIU

33.4112 Analysis of dynamic multispectral video using systems factorial technology (SFT) Elizabeth Fox, Joseph Houpt

33.4113 Topoagnosia in panoramic pictorial space Andrea van Doorn, Jan Koenderink

SUNDAY AFTERNOON TALKS

OBJECT RECOGNITION: MECHANISMS AND MODELS

SUNDAY, MAY 21, 2:30 - 4:15 PM, TALK ROOM 1

Moderator: Antony Morland

34.11, 2:30 pm Classification Images Reveal that Deep Learning Networks Fail to Perceive Illusory Contours Philip Kellman, Nicholas Baker, Gennady Erlikhman, Hongjing Lu

34.12, 2:45 pm Unconscious perception of visual stimuli reveals an early neural signature of memorability Yalda Mohsenzadeh, Aude Oliva, Dimitrios Pantazis

34.13, 3:00 pm Should you trust your RSA result? A Bayesian method for reducing bias in neural representational similarity analysis. Ming Bo Cai, Nicolas Schuck, Michael Anderson, Jonathan Pillow, Yael Niv

34.14, 3:15 pm Positional regularity disrupts independent coding of multiple objects in visual cortex Marius Peelen, Daniel Kaiser

34.15, 3:30 pm Modeling the perceptual experience of retinal prosthesis patients Michael Beyeler, Ariel Rokem, Geoffrey Boynton, Ione Fine

34.16, 3:45 pm Combining human MEG and fMRI data reveals the spatio-temporal dynamics of animacy and real-world object size Seyed-Mahdi Khaligh-Razavi, Radoslaw Cichy, Dimitrios Pantazis, Aude Oliva

34.17, 4:00 pm Mid-level features are sufficient to drive the animacy and object size organization of the ventral stream Bria Long, Talia Konkle

BINOCULAR VISION: RIVALRY AND BISTABILITY

SUNDAY, MAY 21, 2:30 - 4:15 PM, TALK ROOM 2

Moderator: Concetta Morrone

34.21, 2:30 pm Neuronal responses underlying shifts in interocular balance induced by short-term deprivation in adult macaque visual cortex Daniel Tso, Ronald Miller, Momotaz Begum

34.22, 2:45 pm Short-term monocular deprivation enhances 7T BOLD responses and reduces neural selectivity in V1 Paola Binda, Jan Kurzawski, Claudia Lunghi, Laura Biagi, Michela Tosetti, Maria Concetta Morrone

 $34.23, 3:00\,pm\ \ \mbox{Mutual inhibition circuit as underlying mechanism} \ \mbox{for bi-stable perception and non-linear responses in vision}\ \ Naoki \ \ Kogo$

34.24, 3:15 pm An attention model of binocular rivalry Hsin-Hung Li, James Rankin, John Rinzel, Marisa Carrasco, David Heeger

34.25, *3:30 pm* **A predictive-coding account of multistable perception** Philipp Sterzer, Veith Weilnhammer, Guido Hesselmann, Katharina Schmack

34.26, 3:45 pm When motion loses in interocular competition: Onset of static stimulus briefly dominates the center, regardless of eccentricity Egor Ananyev, Po-Jang (Brown) Hsieh

34.27, 4:00 pm Distributional analyses of individual differences in binocular rivalry dynamics Jocelyn Sy, Andrew Tomarken, Vaama Patel, Randolph Blake

SPATIAL VISION: NEURAL MECHANISMS

SUNDAY, MAY 21, 5:15 - 7:15 PM, TALK ROOM 1

Moderator: Jonathan Winawer

35.11, 5:15 pm Model-based functional segmentation of the human lateral geniculate nucleus Kevin DeSimone, Keith Schneider

35.12, 5:30 pm An anatomically-defined template of BOLD response in V1-V3 Noah Benson, William Broderick, Heiko Müller, Jonathan Winawer

35.13, *5:45* pm "Depth-otopic" mapping of human visual cortex Julie Golomb, Daniel Berman, Nonie Finlayson

35.14, 6:00 pm Radial asymmetries in population receptive field size and cortical magnification factor in early visual cortex Ben Harvey, Jan Brascamp, Sónia Ferreira, Miguel Castelo-Branco, Serge Dumoulin, Maria Silva

35.15, 6:15 pm Transcranial electric stimulation (tES) to early visual areas alters large-scale functional connectivity. Shuhei Shima, Kristina Visscher, Joseph Griffis, Aaron Seitz, Yuko Yotsumoto

35.16, 6:30 pm Comparative neuroanatomy of occipital white matter tracts in human and macaque Hiromasa Takemura, Franco Pestilli, Kevin Weiner, Georgios Keliris, Sofia Landi, Julia Sliwa, Frank Ye, Michael Barnett, David Leopold, Winrich Freiwald, Nikos Logothetis, Brian Wandell

35.17, 6:45 pm Uncertainty in cortical stimulus representations predicts serial dependence effects in orientation perception Ruben van Bergen, Janneke Jehee

35.18, 7:00 pm Frequency and phase-specific direct interaction in visual cortex between visually evoked and tACS induced neuronal signals Zhouyuan Sun, Linan Shi, Peng Zhang, Sheng He

MULTISENSORY PROCESSING

SUNDAY, MAY 21, 5:15 - 7:15 PM, TALK ROOM 2

Moderator: Li Zhaoping

35.21, 5:15 pm New rehabilitation technology for visually impaired children and adults based on multisensory integration Luigi Cuturi, Giulia Cappagli, Sara Finocchietti, Elena Cocchi, Monica Gori

35.22, 5:30 pm A generalized sense of number for perception and action Roberto Arrighi, Giovanni Anobile, Irene Togoli, David Burr

35.23, 5:45 pm Top-down working memory reorganization of the primary visual cortex: Granger Causality analysis Lora Likova, Laura Cacciamani, Spero Nicholas, Kris Mineff

35.24, 6:00 pm Touch dominates vision in a shape processing task – a virtual-reality study. Hyeokmook Kang, Christian Wallraven

35.25, 6:15 pm Tactile stimulation disambiguates the perception of visual motion paths Hauke Meyerhoff, Simon Merz, Christian Frings

35.26, 6:30 pm Duration of vection generated by rotating dot patterns in peripheral correlates with VEP suppression in central visual field Yue Wei, Jia Zheng, Richard So

35.27, 6:45 pm Preferred screen orientation depends on body tilt: a virtual reality study Nicolas Davidenko, Alisia Martinez, Brent Hickey, Jennifer Day

35.28, 7:00 pm Efficient coding as the provenance of matched and opposite neuronal feature preferences for multisensory and multi-modal inputs Li Zhaoping

SUNDAY AFTERNOON POSTERS

MOTION: NEURAL MECHANISMS

SUNDAY, MAY 21, 2:45 - 6:45 PM, BANYAN BREEZEWAY

36.3001 Photopic motion sensitivity at high temporal frequencies is limited by the dark light of the eye, not quantal noise Remy Allard, Angelo Arleo

36.3002 Elucidating the functional specialization of motion sensitive cortical regions in congenitally blind and sighted adults. Maeve Barrett, Josef Rauschecker

36.3003 fMRI reveals S-cone and achromatic contributions to motion-in-depth perception Milena Kaestner, Ryan Maloney, Marina Bloj, Julie Harris, Alex Wade

36.3004 **Neural Basis of the Double-Drift Illusion** Sirui Liu, Qing Yu, Peter Tse, Patrick Cavanagh

36.3005 Duration thresholds for motion discrimination of complex stimuli show non-linear interactions between motion sensors Raúl Luna, Ignacio Serrano-Pedraza

36.3006 **Area prostriata in the human brain** Kyriaki Mikellidou, Jan Kurzawski, Francesca Frijia, Domenico Montanaro, Vincenzo Greco, David Burr, Maria Concetta Morrone

36.3007 Speed modulates the strength of the inhibitory interaction between motion sensors tuned to coarse and fine scales Ignacio Serrano-Pedraza, Raúl Luna

36.3008 **Ipsilateral sensitivity to visual motion is restricted to V5/ MT+ in the right cerebral hemisphere** Samantha Strong, Edward Silson, André Gouws, Antony Morland, Declan McKeefry

FACE PERCEPTION: DEVELOPMENT AND EXPERIENCE

SUNDAY, MAY 21, 2:45 - 6:45 PM, BANYAN BREEZEWAY

36.3009 Development differentially sculpts population receptive fields across human visual cortex Jesse Gomez, Vaidehi Natu, Brianna Jeska, Michael Barnett, Kalanit Grill-Spector

36.3010 Does Blocking the Eyebrows with Eyeglasses Disrupt Faces Recognition Performance? Alexis Drain, Cindy Bukach, Jessie Peissig

36.3011 **Testing the development of face space in early infancy** Lisa Parr, Erin Robbins, Jessica Taubert, Philippe Rochat

36.3012 Infant visual exploration strategies predict own-race face discrimination Ryan Barry-Anwar, Trevor Zwaan, Lisa Scott

36.3013 The development of own- and other-race face individuation: Evidence from steady-state visual evoked potentials. Lisa Scott, Ryan Barry-Anwar, Trevor Zwaan

36.3014 Contribution of internal noise & efficiency to older adults' face discrimination Sarah Creighton, Patrick Bennett, Allison Sekuler

36.3015 Age-related decline in face identification can be trained away, and is explained by horizontal bias. Alexander Elliott, Ali Hashemi, Sarah Creighton, Patrick Bennett, Allison Sekuler

36.3016 Face diet revealed: A study of daily exposure to faces in adult observers Ipek Oruc, Fakhri Shafai, Paula Lages, Thais Ton, Shyam Murthy

36.3017 Qualitative Differences Between Professional Forensic Face Examiners and Untrained People in Person Recognition Are Revealed by Item Analysis Ying Hu, Kelsey Jackson, Amy Yates, David White, P. Jonathon Phillips, Alice O'Toole

36.3018 How does representation of faces change with increasing familiarity? Mintao Zhao, Duangkamol Srismith, Isabelle Bülthoff

36.3019 The Effect of Home-Schooling on Face Processing Ability Lindsey Short, Benjamin Balas, Cassandra Wilson, Matthew Linzel

36.3020 Modulation of Expression on the Generalization Gradient of Pose in Face Learning and Recognition Becky Chen, Gary Shyi

FACE PERCEPTION: DISORDERS

SUNDAY, MAY 21, 2:45 - 6:45 PM, BANYAN BREEZEWAY

36.3021 What is the Perceptual Deficit in Developmental Prosopagnosia? Irving Biederman, Eshed Margalit, Rafael Maarek, Emily Meschke, Bryan Shilowich

36.3022 Delayed processing of global shape in developmental prosopagnosia Christian Gerlach, Solja Klargaard, Randi Starrfelt

36.3023 Attentional modulation in the face network in participants with normal face processing and developmental prosopagnosia Jiahui Guo, Hua Yang, Brad Duchaine

36.3024 Retinotopic Specificity of Face Encoding in Neurotypicals and Developmental Prosopagnosics Matthew Peterson, Harris Hoke, Ian Zaun, Brad Duchaine, Nancy Kanwisher

36.3025 The face-inversion effect in developmental prosopagnosia Solja Klargaard, Randi Starrfelt, Christian Gerlach

36.3026 Ensemble Coding of Face Identity in Congenital Prosopagnosia Matthew Robson, Romina Palermo, Linda Jeffery, Markus Neumann

36.3027 Perceptual learning of faces: A rehabilitative study of developmental prosopagnosia Sherryse Corrow, Jodie Davies-Thompson, Kimberly Fletcher, Jeffrey Corrow, Charlotte Hills, Brad Duchaine, Jason Barton

36.3028 Perceptual learning of faces: a rehabilitative study of acquired prosopagnosia Jodie Davies-Thompson, Kimberley Fletcher, Charlotte Hills, Raika Pancaroglu, Sherryse Corrow, Jason Barton

36.3029 **Developmental dyslexia and potential deficits of experience-driven visual processing** Heida Sigurdardottir, Liv Fridriksdottir, Sigridur Gudjonsdottir, Árni Kristjánsson

36.3030 Typical integration of emotion cues from the face and body in Autism Spectrum Disorder Rebecca Brewer, Federica Biotti, Geoffrey Bird, Richard Cook

36.3031 Eye gaze following is an autism endophenotype for males but not females Elisabeth Whyte, K. Suzanne Scherf

DEVELOPMENT: ATYPICAL DEVELOPMENT

SUNDAY, MAY 21, 2:45 - 6:45 PM, BANYAN BREEZEWAY

36.3032 **Reading speed during a mesopic visual acuity task** Nancy Coletta, Lenna Walker, Fuensanta Vera-Diaz

36.3033 White matter changes following early loss of one eye extend beyond the primary visual pathway Nikita Wong, Sara Rafique, Krista Kelly, Stefania Moro, Brenda Gallie, Jennifer Steeves

36.3034 The impact of blindness onset on the connectivity profile of the occipital cortex. Mohamed Rezk, Maxime Pelland, Hicret Atilgan, Olivier Collignon

36.3035 Influence of visual cortical GABA concentration on perceptual suppression and binocular summation in amblyopia Arjun Mukerji, Kelly Byrne, Eunice Yang, Liyang Li, Dennis Levi, Michael Silver

VSS 2017 PROGRAM SUNDAY AFTERNOON POSTERS

36.3036 A speed-acuity test to determine delays in visual processing: normative data and application in children with visual impairments Annemiek Barsingerhorn, Nienke Boonstra, Jeroen Goossens

36.3037 **Reading Ability of Children Treated for Amblyopia** Deborah Giaschi, Marita Partanen, Laveniya Kugathasan, Violet Chu, Christopher Lyons

36.3038 Superior Abilities to Focus Visual Attention and Pupil Dynamics are linked with Broader Autism Traits Vanessa Troiani, Antoinette DiCriscio

36.3039 Association between empathic concern and face expression processing in adults with autism spectrum disorder Fakhri Shafai, Kimberly Armstrong, Grace Iarocci, Ipek Oruc

36.3040 Reduced visual metacognitive efficiency in adults with Autism Spectrum Disorder. Rebecca Lawson, Ainslie Johnstone, Geraint Rees

36.3041 Action video games improve reading and cross-modal attentional shifting as well as phonological skills in English-speaking children with dyslexia Andrea Facoetti, Piergiorgio Trevisan, Luca Ronconi, Sara Bertoni, Susan Colmar, Kit Double, Chiara Andreola, Simone Gori, Sandro Franceschini

36.3042 Investigation of visual aspects of developmental dyslexia in children Barbara Piotrowska, Jennifer Murray , Alexandra Willis , Jon Kerridge

36.3043 "When trees overshadow the forest": A peculiar vision of dyslexia Simone Gori, Sandro Franceschini, Sara Bertoni, Chiara Andreola, Tiziana Gianesini, Andrea Facoetti

36.3044 Learning to read does not affect motion processing in dyslexia Sung Jun Joo, Patrick Donnelly, Jason Yeatman

36.3045 **Visual deficits and individual differences in developmental dyslexia** Jason Yeatman, Alex White, Douglas Strodtman, Patrick Donnelly, Sung Jun Joo

36.3046 A critical period for number-related plasticity in the visual cortex of blind individuals Shipra Kanjlia, Lisa Feigenson, Marina Bedny

36.3047 Differences in Cortical Thickness Reflect Differences in Plasticity of Visual Cortex Between Juvenile and Age-related Macular Degeneration Matthew Defenderfer, Mark Greenlee, Antony Morland, Frans Cornelissen, Kristina Visscher

COLOR AND LIGHT: APPEARANCE

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4001 Does color diagnosticity enhance subjective experience of full-color natural scenes? Eiji Kimura, Natsumi Takahashi

36.4002 Maxwell's spot measurements in changing white light spectra Marcel Lucassen, Tobias Borra, Jan Souman, Luc Schlangen

36.4003 Chromatic Induction in a Ganzfeld Shahram Peyvandi, Vebjorn Ekroll, Alan Gilchrist

36.4004 Yagoto Illusion: illusory colorization on a static achromatic grid pattern. Yuka Kobayashi, Kohske Takahashi

36.4005 Edge integration and image segmentation in lightness and color $\,$ Michael $\,$ Rudd

36.4006 Evidence for at least four colour appearance mechanisms Sophie Wuerger, Kaida Xiao, Tushar Chauhan

36.4007 Resolution of interocular-switch rivalry by neurons following orientation-color feature integration Emily Slezak, Steven Shevell

36.4008 Perceptual compensation in anomalous trichromats? John Vanston, Katherine Tregillus, Michael Crognale

36.4009 Chromatic Induction and the Flash Lag Effect Andrew Coia, Steven Shevell

36.4010 Effect of Multi-notch filter on Color Arrangement Test Performance in Color Normal and Color Deficient Humans Julia Kitchens. Patricia Cisarik

36.4011 Motion-induced Appearance Shift Depending on Orientation Sang Wook Hong, Min-Suk Kang

36.4012 The Wilson-Cowan model describes Contrast Response and Subjective Distortion Marcelo Bertalmío, Praveen Cyriac, Thomas Batard, Marina Martinez-Garcia, Jesús Malo

COLOR AND LIGHT: OTHER

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4013 **How redundant are luminance and chrominance information in natural scenes?** Camille Breuil, Simon Barthelmé, Nathalie Guyader

36.4014 Influences of sunrise and morning light on visual behavior of four sympatric New World primates (Ateles, Callicebus, Lagothrix, and Pithecia) Max Snodderly, Kelsey Ellis, Sarina Lieberman, Andrés Link, Eduardo Fernandez-Duque, Sara Alvarez, Laura Abondano, Anthony Di Fiore

36.4015 Circadian and fatigue effects on the dynamics of the pupillary light reflex Terence Tyson, Erin Flynn-Evans, Leland Stone

36.4016 I spy with my little eye: A simple behavioral assay to test color perception in animal virtual reality setups Alexander Knorr, Céline Gravot, Hans Straka, Stefan Glasauer

36.4017 **Why do LCD screens appear to glow?** Khushbu Patel, Leonard Palatnic, Richard Murray

36.4018 Abnormal Retinal Functioning in Schizophrenia and its Relationship to Performance on Low- and Mid-Level Visual Processing Tasks Docia Demmin, Matthew Rochè, Quentin Davis, Aaron Seitz, Aaina Menon, Steven Silverstein

36.4019 How Traumatic Brain Injury Affects the Human Retina Christopher Tyler, Lora Likova

ATTENTION: EXOGENOUS AND ENDOGENOUS

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4020 **The effect of cue frequency on bottom-up attention** Yosun Yoon, Shin Young Jung, Eunhee Bae, Suk Won Han

36.4021 The spatial distribution of exogenous feature based attention Ian Donovan, Ying Zhou, Marisa Carrasco

36.4022 Modulation of inhibition as a function of distractor cue validity Dipanjana Das, Barry Giesbrecht

36.4023 Modulation of alpha power reveals interaction between top-down and bottom-up effects during visual selective attention Lia Bonacci, Scott Bressler, Barbara Shinn-Cunningham

36.4024 **Temporal integration and spatial attention** Ilanit Hochmitz, Yaffa Yeshurun

36.4025 **Exogenous cues and visual confidence** Samuel Recht, Vincent de Gardelle, Pascal Mamassian

36.4026 Working memory contents capture attention in real-world visual search Shinyoung Jung, Yosun Yoon, Suk Won Han

ATTENTION: SPATIAL SELECTION

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4027 Attention improves the perceived contrast of a uniform patch Yong-chun Cai, Zi-Yue Liang, Yi-Hui He

SUNDAY AFTERNOON POSTERS VSS 2017 PROGRAM

36.4028 **Sensitivity measures of visuospatial attention** Nina Hanning, Heiner Deubel, Martin Szinte

36.4029 Statistical learning of distractor suppression Oscar Ferrante, Alessia Patacca, Valeria Di Caro, Elisa Santandrea, Chiara Della Libera, Leonardo Chelazzi

36.4030 The precise role of surface structure in spatial attention Nicole Jardine, Cathleen Moore

36.4031 Predictions, not attention, may modulate the first feedforward-sweep of cortical information processing Josipa Alilovic, Bart Timmermans, Leon Reteig, Heleen Slagter

36.4032 The contra-lateral delay activity is reversed during the retention of episodic information Thomas Ditye, Ulrich Ansorge

36.4033 Spontaneous biasing toward implicitly-learned visual regularities: the role of prior attention Yoolim Hong, Andrew Leber

36.4034 Independent mechanisms of spatial attention in visual and tactile working memory Tobias Katus, Martin Eimer

36.4035 Can synchronous multisensory looming stimuli bias attentional weights? Hanne Huygelier, Raymond van Ee, Johan Wagemans, Céline Gillebert

36.4036 Attention Involved in Visual Search with Multiple Targets James Wilmott, Joo-Hyun Song

36.4037 The distractor saliency and target detection for multiple RSVP series Masataka Miyoshi, Makoto Ichikawa

36.4038 Invisible images of snakes and spiders capture visual attention Xiaoyue Sun, Lan Wang, Sheng He

36.4039 Attention goes both ways: Shifting attention influences lexical decisions Mark Mills, Paul Boychuk, Jay Pratt, Alison Chasteen

36.4040 Effects of the number of distractor types on attentional blink Misong Kim, Soojin Lee, Hoon Choi

36.4041 Where is your attention?: Estimating the frequency of gaze following in the cuing task using a trial-by trial analysis. Christopher Blair, Francesca Capozzi, Jelena Ristic

ATTENTION: INDIVIDUAL DIFFERENCES, LIFESPAN AND CLINICAL

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4042 Trait anxiety is associated with increased multiple-target visual search errors Matthew Cain, Joseph Dunsmoor, Kevin LaBar, Stephen Mitroff

36.4043 Dispositional affect predicts attentional and conceptual breadth: Individual difference evidence for the importance of arousal and valence interactions Andrew Chung, Karen Arnell

36.4044 Brooding rumination moderates sustained attention biases to emotion for non-depressed individuals. Max Owens, Brandon Gibb

36.4045 Executive control processes can broaden attention for those with high approach tendencies Brent Pitchford, Karen Arnell

36.4046 Visual Attention and Visual Memory in Struggling Readers: Are Anomalies Revealed in ERP N2pc and SPCN? Richard Kruk, Erica Flaten

36.4047 Individual differences in neural representations of accumulating affective information Andre Beukers, Mana Ehlers, James Kryklywy, Sarah Moore, Adam Anderson, Rebecca Todd

36.4048 The effects of acute stress on the attentional network. Stuart Pugh, Tamaryn Menneer, Dominic Taunton, Anne Hillstrom, Nick Donnelly

36.4049 Patterns of cortical microstructure predict visual sustained attention ability Alex Mitko, Joseph DeGutis, Michael Esterman

36.4050 Did You See That?! A Look Into Whether Media Engagement Can be Influenced by Individuals' Viewing Styles. Taylor Simonson, Adam Larson

36.4051 **Useful field of view performance throughout adult-hood** Karlijn Woutersen, Thomas Theelen, Jeroen Goossens

36.4052 Adult age differences in phasic alerting effects on components of visual attention Iris Wiegand, Anders Petersen, Claus Bundesen, Thomas Habekost

36.4053 Don't Overreact to this! Over-reactivity of the M-pathway in Older Adults David Chan, Liza Igochine, Jay Pratt

36.4054 Endogenous and exogenous covert attention are functionally intact in adults with ADHD Mariel Roberts, Brandon Ashinoff, F. Castellanos, Marisa Carrasco

36.4055 Sustained visual attention at different retinal eccentricities and its significance for the development of the preferred retinal locus Maria Barraza-Bernal, Iliya Ivanov, Katharina Rifai, Siegfried Wahl

36.4056 The role of naturally occurring differences in norepinephrine availability in modulating electrocortical indices of affectively biased attention Maria Manaligod, Kevin Roberts, Matthias Wieser, Daniel Mueller, Rebecca Todd

36.4057 Orientation surround suppression but not complex search slope correlates with autistic trait level. David Crewther, Rong Ye, Yasi Jian, Hsin-yi Lai

36.4058 Increased Preceuneus deactivation as a possible mechanism for enhanced preparatory suppression in people with high expression of autistic traits Carmel Mevorach, Mayra Muller Spaniol, Robin Green, Brandon Ashinoff, Anthony Fellows, Nicola Parker, Ahmad Abu-Akel

36.4059 **SALICON:** a web platform for crowdsourcing behavioral **experiments** Ming Jiang, Zhiqi Shen, Shaojing Fan, Qi Zhao

36.4060 **A correlational study between human attention and high-level image perception** Shaojing Fan, Ming Jiang, Juan Xu, Bryan Koenig, Yao Cheng, Mohan Kankanhalli, Qi Zhao

PERCEPTION AND ACTION: WALKING AND NAVIGATING

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4061 Walkers prefer to visually sample the upcoming terrain during the critical phase for visual control of foot placement Brett Fajen, Robert Wild, Sean Barton

36.4062 The visual control of walking over complex terrain with flat versus raised obstacles Sean Barton, Scott Steinmetz, Gabe Diaz, Jonathan Matthis, Brett Fajen

36.4063 Obstacle Avoidance and Secondary Task Performance

During Locomotion Preeti Chopra, Jonathan Dingwell, Darla Castelli

36.4064 Does uncertainty about the terrain explain gaze behavior during visually guided walking? Javier Dominguez-Zamora, Shaila Gunn, Daniel Marigold

36.4065 Choosing actions that maintain sprint ability during repeated target interception tasks Nathaniel Powell, Scott Steinmetz, Oliver Layton, Brett Fajen

36.4066 Slowed optic flow is used to perceive object motion during active locomotion Howard Hock, Oliver Layton, Adar Pelah

36.4067 **Glaucoma-related changes in gaze behavior affect mobility but are modifiable** Shaila Gunn, Kim Lajoie, Andreas Miller, Kim Zebehazy, Robert Strath, David Neima, Daniel Marigold

36.4068 Use of echolocation and long cane for obstacle avoidance during walking: Effects of visual impairment and echolocation expertise Lore Thaler, Daniel Kish, Dorothy Cowie

36.4069 How do people steer a car to intercept a moving target: the visual control of locomotor interception Huaiyong Zhao, Dominik Straub, Constantin Rothkopf

36.4070 Disentangling the contribution of optic flow and perspective cues to the control of walking toward a goal Li Li, Wei Sun, Jing Chen, Guangtao Zhai

36.4071 A vision-based model for the joint control of speed and heading in pedestrian following Gregory Dachner, William Warren

36.4072 Recruitment of Pedestrians into Collective Crowd Motion Trenton Wirth, William Warren

36.4073 Simulating collective motion with a model of pedestrian following William Warren, Gregory Dachner

36.4074 Finding Home: Cue integration and prior knowledge. Simon Jetzschke, Marc Ernst, Norbert Boeddeker

36.4075 Visual, Vestibular, and Proprioceptive Contributions to Path Integration in a Novel Homing Task Elizabeth Chrastil, Grace Nicora

36.4076 Navigation and pointing errors in non-metric environments. Alexander Muryy, Andrew Glennerster

TEMPORAL PROCESSING: SEQUENCES, OSCILLATIONS AND TEMPORAL ORDER

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4077 Temporal and Behavioral Aspects of Subjective Video Quality Perception Christos Bampis, Alan Bovik

36.4078 Changing Moral Judgments by Exploiting the Visual System Julian De Freitas, George Alvarez

36.4079 Ambient luminance changes modulate oscillatory properties of the visual system Alessandro Benedetto, Diego Lozano-Soldevilla, Rufin Vanrullen

36.4080 Long vs. short integrators: resting state alpha frequency predicts individual differences in temporal integration Jan Drewes, Weina Zhu, Evelyn Muschter, David Melcher

36.4081 Alpha oscillation phase determines the timing of perception: evidence from sensory entrainment Luca Ronconi, David Melcher

36.4082 Behavioral oscillations of criterion and sensitivity synchronized with action Huihui Zhang, David Alais

36.4083 Post-cuing falsifies drift diffusion and signal detection theory Dobromir Rahnev, Ji Won Bang

TEMPORAL PROCESSING: TIMING

SUNDAY, MAY 21, 2:45 - 6:45 PM, PAVILION

36.4084 Comparing the Effects of Implicit and Explicit Temporal Expectation on Choice Response Time and Response Conflict Melisa Menceloglu, Marcia Grabowecky, Satoru Suzuki

36.4085 Latency-variable time integration mechanisms underlie generalized flash-lag effect Ryusuke Hayashi

36.4086 Temporal properties of mirror-symmetry perception Rebecca Sharman, Elena Gheorghiu

36.4087 Apparent motion of a coherent and continuously moving random-dot pattern appears slower in update rate Teresa Inoue, Ikuya Murakami

36.4088 Evoked neural response variability predicts poor timing precision Derek Arnold, Natasha Mathews, Brendan Keane, Kielan Yarrow

36.4089 Pre- versus Post-Stimulus Comparison of Correlated Spiking Variability across V1 Laminae Jacob Westerberg, Michele Cox, Kacie Dougherty, Alexander Maier

36.4090 Human flicker fusion frequencies correlate negatively with cortical VEP magnocellular nonlinearities Alyse Brown, Molly Corner, David Crewther, Sheila Crewther

MONDAY MORNING TALKS

EYE MOVEMENTS: NEURAL MECHANISMS

MONDAY, MAY 22, 8:15 - 9:45 AM, TALK ROOM 1

Moderator: Michele Basso

41.11, 8:15 am Modulation of oculomotor control & adaptation with cerebellar TMS: effects on saccades. Claudia Martin Calderon, Ian Erkelens, Heidi Patterson, William Bobier, Benjamin Thompson

41.12, 8:30 am EEG decoding of pre-saccadic effects on post-saccadic processing Grace Edwards, Rufin VanRullen, Patrick Cavanagh

41.13, 8:45 am Functional and structural organization of the foveal visual representation of the primate superior colliculus Chih-Yang Chen, Claudia Distler, Klaus-Peter Hoffmann, Ziad Hafed

41.14, 9:00 am Superior colliculus coordinates pupillary and saccadic responses Chin-An Wang, Douglas Munoz

41.15, 9:15 am Investigating Perceptual Confidence in the Superior Colliculus with Multi-Unit Neuronal Recordings Brian Odegaard, Piercesare Grimaldi, Seong Cho, Megan Peters, Hakwan Lau, Michele Basso

41.16, 9:30 am Dissociating contributions of visual working memory and saccade preparation in V4 activity Donatas Jonikaitis, Tirin Moore

ATTENTION: MOSTLY TEMPORAL

MONDAY, MAY 22, 10:45 AM - 12:15 PM, TALK ROOM 1

Moderator: Karla Evans

42.11, 10:45 am Predicting Scanpath Agreement during Scene Viewing using Deep Neural Networks Zijun Wei, Hossein Adeli, Minh Hoai, Gregory Zelinsky, Dimitris Samaras

42.12, 11:00 am The Implicit Adaptation to Temporal Regularities Nir Shalev, Nele Demeyere, Anna Nobre

42.13, 11:15 am Is Onset King? Comparing Attention Capture Effects for Onset and Looming Stimuli Joanna Lewis, Mark Neider

42.14, 11:30 am Multiple object tracking doesn't care if you are crossing the street or bouncing off the walls Farahnaz Wick, Jeremy Wolfe

42.15, *11:45 am* Allocation of Attention in a Complex Environment Karla Evans, Lucy Spencer

42.16, 12:00 pm Perceptual and attentional factors in detection of driving-relevant visual events Ruth Rosenholtz, Benjamin Wolfe, Ben Sawyer, Anna Kosovicheva, Bryan Reimer

PERCEPTUAL ORGANIZATION

MONDAY, MAY 22, 8:15 - 9:45 AM, TALK ROOM 2

Moderator: Shin'ya Nishida

41.21, 8:15 am Spatial configuration modulates perceptual transparency from dymamic image deformation Takahiro Kawabe, Shin'ya Nishida

41.22, 8:30 am Spontaneous perception of numerosity in humans David Burr, Guido Cicchini, Giovanni Anobile

41.23, 8:45 am Choice-induced biases in visually perceived numerosity Long Luu, Alan Stocker

41.24, *9:00 am* The role of uncertainty in perceptual organization Yanli Zhou, Luigi Acerbi, Wei Ji Ma

41.25, 9:15 am The topographic representation of global object perception in human visual cortex Susanne Stoll, Nonie Finlayson, D. Samuel Schwarzkopf

41.26, 9:30 am Distinct effects of boundary detection and figure enhancement in the early visual cortex Sonia Poltoratski, Frank Tong

BINOCULAR VISION: STEREOPSIS

MONDAY, MAY 22, 10:45 AM - 12:15 PM, TALK ROOM 2

Moderator: Paul Hibbard

42.21, 10:45 am Modeling response variability in disparity-selective cells Sid Henriksen, Bruce Cumming, Jenny Read

42.22, 11:00 am Optimized computation of binocular disparity by populations of simple and complex cells Nuno Goncalves, Andrew Welchman

42.23, 11:15 am Optimal Combination of Disparity arcoss a log Polar Scaled Visual Field Guido Maiello, Manuela Chessa, Fabio Solari, Peter Rey

42.24, 11:30 am Latent Binocular Interactions in Cortical Area V1 of Human Amblyopia Chuan Hou, Terence Tyson, Ismet Üner, Preeti Verghese

42.25, 11:45 am Human white matter structural properties correlate with individual difference in stereoacuity Hiroki Oishi, Hiromasa Takemura, Shuntaro Aoki, Ichiro Fujita, Kaoru Amano

42.26, 12:00 pm Task-dependent modulation of BOLD responses reveals distinct roles of dorsal and ventral pathways in stereoscopic depth perception Mizuki Fujita, Shuntaro Aoki, Hiroshi Ban, Kaoru Amano, Ichiro Fujita

MONDAY MORNING POSTERS

COLOR AND LIGHT: MATERIAL PERCEPTION

MONDAY, MAY 22, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

- 43.3001 Visually predicting the future states of pouring liquids Roland Fleming, Jan Jaap Van Assen, Filipp Schmidt
- **43.3002 Viscosity constancy across contexts** Jan Jaap van Assen, Roland Fleming
- 43.3003 Shatter and splatter: The contribution of motion and surface optics to the perception of non-rigid materials Alexandra Schmid, Katja Doerschner
- 43.3004 Perceiving shape of thin translucent objects from spatial transmittance variation Masataka Sawayama, Taiki Fukiage, Shin'ya Nishida
- 43.3005 Multiple cues for visual perception of mirror and glass materials Hideki Tamura, Hiroshi Higashi, Shigeki Nakauchi
- 43.3006 **Probing perceptual gloss space with physical surfaces** Joachim Kildau, Eugen Prokott, Roland Fleming
- 43.3007 Visual estimation of surface BRDF James Ferwerda
- 43.3008 Relationship between perceptual surface qualities and distinctive features in onomatopoetic expression Kohta Wakamatsu, Hideki Tamura, Jinhwan Kwon, Maki Sakamoto, Shigeki Nakauchi

COLOR AND LIGHT: LIGHTNESS AND BRIGHTNESS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

- 43.3009 How to kill the simultaneous lightness contrast illusion Cristhian Altamirano, Christina Zambrano-Varghese, Alan Gilchrist
- 43.3010 VISUAL SIGNALS INCREASE FASTER THAN THE CONTRASTS THAT ELICIT THEM Joshua Solomon, Michael Morgan
- 43.3011 When Does Surface Appearance Become Scale-Variant? Jihyun Yeonan-Kim, Marcelo Bertalmío
- 43.3012 Brightness reduction in parafoveal stimuli in the simultaneous presence of light inside the natural blind spot Marina Saito, Kentaro Miyamoto, Yusuke Uchiyama, Ikuya Murakami
- 43.3013 **EEG-based classification of images as HDR versus non-HDR using Steady-State Visual Evoked Potential** Shuichi Takahashi, Takafumi Morifuji, Masami Ogata, Anthony Norcia
- 43.3014 Feature interactions under high dynamic range (HDR) luminance visual recognition Chou Hung, Andre Harrison, Anthony Walker, Min Wei, Barry Vaughan

SPATIAL VISION: MODELS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

- 43.3015 **What internal noise source limits peripheral vision?** Denis Pelli, Hörmet Yiltiz
- 43.3016 Predicting perceptual distortion sensitivity with gain control models of LGN Alexander Berardino, Valero Laparra, Johannes Ballé, Eero Simoncelli
- 43.3017 Selectivity, hyper-selectivity and the tuning of V1 neurons David Field, Kedarnath Vilankar
- $43.3018 \ \textbf{Lateral Context Effects on Contrast Pattern Detection and Discrimination} \quad John \ Foley$

- 43.3019 Introducing a Time Efficient Model for Spatial Contrast Detection Based on Wavelet Transform, Suitable for Practical Applications Hamed Hooshangnejad, Shahriar Gharibzadeh, Farzad Towhidkhah
- 43.3020 **Building a better model of V1** Cheryl Olman, Adam Kohn, Thomas Naselaris, Jonathan Peirce, Odelia Schwartz
- 43.3021 A connectionist account of lateralized categorical and coordinate visual processing. Vishaal Prasad, Ben Cipollini, Garrison Cottrell
- 43.3022 **The Density Effect in Centroid Computation** Jordan Rashid, Charles Chubb
- 43.3023 **Testing an Early Vision Model on Natural Image Stimuli** Heiko Schütt, Lars Rothkegel, Hans Trukenbrod, Ralf Engbert, Felix Wichmann
- 43.3024 **Submasking: A Key Factor in Human Pattern Vision** Stephen Sebastian, Wilson Geisler
- 43.3025 Spatiotemporal maps of quantal noise, dark light and late neural noise limiting contrast sensitivity Daphne Silvestre, Angelo Arleo, Remy Allard
- 43.3026 Towards matching peripheral appearance for arbitrary natural images using deep features Thomas Wallis, Christina Funke, Alexander Ecker, Leon Gatys, Felix Wichmann, Matthias Bethge
- 43.3027 **The Structure of Visual Space** Michael Herzog, Aline Cretenoud, Gregory Francis, Lukasz Grzeczkowski
- 43.3028 Identifying, avoiding and dealing with convergence failures in maximum-likelihood estimation of the psychometric function. Nicolaas Prins

SPATIAL VISION: NEURAL MECHANISMS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

- 43.3029 Stability of Repeated Measures of Contrast Sensitivity Across Spatial Frequency Russell Adams, Michele Mercer
- 43.3030 Cortical Correlates of Aberrant Vernier Acuity in Albinism Edgar DeYoe, Erica Woertz, Melissa Wilk, Jed Mathis, Joseph Carroll
- 43.3031 Individual differences in contrast sensitivity functions with and without adaptive optics: direct estimates of optical and neural processes in young and elderly adults using factor analysis Sarah Elliott, David Peterzell
- 43.3032 Heritability of visual perception and cortical architecture Nonie Finlayson, Ben de Hass, Shwe Ei, D. Samuel Schwarzkopf
- 43.3033 The effects of visual surround on multifocal visual evoked potentials Laila Hugrass, David Crewther
- 43.3035 Divisive normalization versus inhibition during visual motion integration in humans Michael-Paul Schallmo, Anastasia Flevaris, Alex Kale, Rachel Millin, Raphael Bernier, Scott Murray
- 43.3036 Spatially selective responses to both modal and amodal completion stimuli in human visual cortex D. Samuel Schwarzkopf, Benjamin de Haas
- 43.3037 Differential orientation tuning of near and far surround suppression in human V1 Kiley Seymour, Susan Wardle

MONDAY MORNING POSTERS VSS 2017 PROGRAM

43.3038 Prevalence of gain control effects in macaque visual cortex Christopher Shooner, Luke Hallum, Jenna Kelly, J. Movshon, Michael Hawken

43.3039 Impact of foveal bias on estimates of population recpetive fields Edward Silson, Chris Baker, Dwight Kravitz

OBJECT RECOGNITION: MODELS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

43.3040 Three-dimensional objects are preferentially categorized using their medial axes Vladislav Ayzenberg, Stella Lourenco

43.3041 Interaction with physical objects to learn visual representations Kandan Ramakrishnan, H.Steven Scholte, Arnold Smeulders, Sennay Ghebreab

43.3042 **Towards a quantitative model of feeling beauty** Aenne Brielmann, Denis Pelli

43.3043 Noise masking and crowding reveal two very different kinds of spatial integration. Hörmet Yiltiz, Denis Pelli

43.3044 Modeling the shape selectivity of single neurons of a macaque body patch Ioannis Kalfas, Satwant Kumar, Rufin Vogels

43.3045 Comparing response properties of V1 neurons to those of units in the early layers of a convolutional neural net Dean Pospisil, Wyeth Bair

43.3046 Evaluating the robustness of object recognition to visual noise in humans and convolutional neural networks Hojin Jang, Devin McCormack, Frank Tong

43.3047 **Of Human Observers and Deep Neural Networks: A Detailed Psychophysical Comparison** Robert Geirhos, David Janssen, Heiko Schütt, Matthias Bethge, Felix Wichmann

43.3048 Superstitious perception by humans and convolutional neural networks Patrick Laflamme, James Enns

43.3049 Eccentricity Dependent Deep Neural Networks for Modeling Human Vision Gemma Roig, Francis Chen, Xavier Boix, Tomaso Poggio

43.3050 Map-CNN: A Convolutional Neural Network with Map-like Organizations Chen-Ping Yu, Talia Konkle

PERCEPTION AND ACTION: MANUAL INTERCEPTION AND REACHING MOVEMENTS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, PAVILION

43.4001 Eye movements when the target that you want to intercept might bounce Eli Brenner, David Mann, Vera van Eeden, Demi Zoetewei, Jeroen Smeets

43.4002 **EYE-HAND COORDINATION IN INTERCEPTION WITH DELAYED VISUAL FEEDBACK** Clara Camara, Cristina de la Malla, Joan Lopez-Moliner, Eli Brenner

43.4003 Both visual tracking and manual control performance predict infield batting accuracy in professional baseball players Rongrong Chen, Dorion Liston, Li Li

43.4004 Eye movement signatures of decision making and hand movement accuracy in a go-no go manual interception task Miriam Spering, Jolande Fooken

43.4005 The relationship between baseline variability and adaptation to temporal delays in interception Elisabeth Knelange, Joan López-Moliner

43.4006 Effects of aging on illusory target motion in a hitting task. Alix de Dieuleveult, Anne-Marie Brouwer, Petra Siemonsma, Jan van Erp, Eli Brenner

43.4007 **Aiming under risk in healthy aging** Matteo Valsecchi, Jutta Billino, Karl Gegenfurtner

43.4008 Inefficient trade-offs of visual and motor information during time-limited movements in childhood Imogen Large, Grace Sutton, Tessa Dekker

43.4009 Visual Vector Inversion Contributes to the Coding of Reaching Movements Via Visuoperceptual Networks Joseph Manzone, Matthew Heath

FACE PERCEPTION: EMOTION

MONDAY, MAY 22, 8:30 AM - 12:30 PM, PAVILION

43.4011 Sensory Reliability Does Not Alter the Weight of Visual information in Multisensory Emotion Adaptation $\,$ Ka Lon Sou, Fun Lau, Hong $\,$ Xu

43.4012 **Neurodynamics of expression coding in human fusi- form** Yuanning Li, Michael Ward, Witold Lipski, R. Richardson, Avniel Ghuman

43.4013 Detecting Emotional Facial Expressions in the Peripheral Visual Field: Psychophysical and Electrophysiological Evidence Andrew Mienaltowski, Hayley Lambert, Connor Rogers, Brittany Groh, J. Farley Norman

43.4014 The "Just Noticeable Difference" in Threatening and Friendly Male and Female Faces Daniel Albohn, Kestutis Kveraga, Reginald Adams, Jr.

43.4015 Groups are more likely than individuals to be categorized as angry Diana Mihalache, Timothy Sweeny

43.4016 Emotional face perception and spatial frequency Ben Jennings, Yinan Yu, Frederick Kingdom

43.4017 **Spatial frequency utilization during the recognition of static, dynamic and dynamic random facial expressions.** Marie-Pier Plouffe Demers, Camille Saumure Régimbald, Daniel Fiset, Caroline Blais

43.4018 Similar visual strategies are used to recognize spontaneous and posed facial expressions Camille Saumure, Marie-Pier Plouffe-Demers, Daniel Fiset, Caroline Blais

43.4019 **Do Snapchat filters change how we perceive facial expressions?** Jennifer Day, Nicolas Davidenko

43.4020 Temporal Examination of Age-Related Differences in Visually Evoked Potential to Onset of Emotional Facial Expressions Allison Rinne, Nicole Chambers, Andrew Mienaltowski

43.4021 Ensemble representation for multiple facial expressions: Evidence for a capacity limited but asymmetrical perceptual process between positive and negative facial expressions Luyan Ji, Gilles Pourtois

43.4022 Eye Left the Right Face: The Impact of Central Attentional Resource Modulation on Visual Strategies During Facial Expression Categorization Justin Duncan, Gabrielle Dugas, Benoit Brisson, Caroline Blais, Daniel Fiset

43.4023 Trait anxiety moderates visual pathway contributions to the processing of clear versus ambiguous threat. Reginald Adams, Jr., Hee Yeon Im, Noreen Ward, Jasmine Boshyan, Cody Cushing, Kestutis Kveraga

43.4024 Hypersensitivity to low intensity fearful faces in autism when fixation is constrained to the eyes Amandine Lassalle, Jakob Åsberg Johnels , Nicole Zürcher, Loyse Hippolyte, Eva Billstedt, Noreen Ward, Eric Lemonnier, Christopher Gillberg, Nouchine Hadjikhani

VSS 2017 PROGRAM MONDAY MORNING POSTERS

FACE PERCEPTION: SOCIAL COGNITION

MONDAY, MAY 22, 8:30 AM - 12:30 PM, PAVILION

- 43.4025 Mapping Dynamic Conversational Facial Expressions Across Cultures Chaona Chen, Oliver Garrod, Philippe Schyns, Rachael Jack
- 43.4026 Cultural differences in face scanning during live faceto-face interactions using head-mounted eye-tracking Jennifer Haensel, Tim Smith, Atsushi Senju
- 43.4027 **Spatial frequencies for rapid and accurate race categorisation in Caucasian participants** Isabelle Charbonneau, Gabrielle Dugas, Jessica Royer, Caroline Blais, Benoit Brisson, Daniel Fiset
- 43.4028 Learning to see faces like humans: modeling the social dimensions of faces Amanda Song, Li Linjie, Chad Atalla, Garrison Cottrell
- 43.4029 Social Inclusion and the Perception of Animacy in a Face Joseph Brandenburg, Daniel Albohn, Troy Steiner, Regniald Adams, Ir.
- 43.4030 Narrow boundaries for categorization of the identity of personally familiar faces Vassiki Chauhan, Maria Gobbini
- 43.4031 Ensemble Representation of Facial Attractiveness Adaptation by Rapid Serial Visual Presentation Haojiang Ying, Edwin Burns, Amanda Choo, Hong Xu
- 43.4032 The Female Cambridge Face Memory Test (F-CFMT+) Natalie Motta-Mena, Daniel Elbich, Bradley Duchaine, K. Suzanne Scherf
- 43.4033 Visual representation of age groups as a function of ageism levels Valérie Plouffe, Youna Dion-Marcoux, Daniel Fiset, Hélène Forget, Caroline Blais
- 43.4034 Perception of others' body sizes is predicted by own body size Anne Thaler, Michael Geuss, Jeanine Stefanucci, Simone Mölbert, Katrin Giel, Michael Black, Betty Mohler
- 43.4035 Similar Neural Network Topology for Men and Women During Face Recognition Daniel Elbich, Natalie Motta-Mena, Suzy Scherf
- 43.4036 **Evidence for face pareidolia in rhesus monkeys.** Jessica Taubert, Susan Wardle, Molly Flessert, David Leopold, Leslie Ungerleider
- 43.4037 **Discrimination of individual faces in visual cortex** Hyehyeon Kim, Sue-Hyun Lee

VISUAL MEMORY: LIMITATIONS

MONDAY, MAY 22, 8:30 AM - 12:30 PM, PAVILION

- 43.4038 A Shared Mechanism for Mnemonic Precision in Visual Short-term Memory and Visual Long-term Memory Weizhen Xie, Marcus Cappiello , Zachariah Reagh, Michael Yassa, Weiwei Zhang
- 43.4039 Remembering stimuli in different depth planes increases visual working memory precision and reduces swap errors. Chaipat Chunharas, Rademaker Rosanne, Thomas Sprague, Timothy Brady, John Serences
- 43.4040 Visual Memory for Change Detection is Better with Gaze Shifts Nicholas Kleene, Melchi Michel
- 43.4041 **Visual Short-term Memory for Dynamically Changing Stimuli** Hyung Bum Park, Weizhen Xie, Marcus Cappiello, Joo-Seok Hyun, Weiwei Zhang
- $43.4042\ \textbf{Representation of Object Information during Associative } \textbf{Memory Retrieval}\ \ Joonyoung\ Kang, Sue-Hyun\ Lee$

- 43.4043 Protection against interference limits visual capacity to three items independent of retention interval Hiroyuki Tsubomi, Keisuke Fukuda, Edward Vogel
- 43.4044 Processing Stage Affected by Visual Prediction is a Function of Preparation Time Cybelle Smith, Kara Federmeier
- 43.4045 Fluid and Adaptive Changes of Prospective Memory Control Seth Koslov, Jarrod Lewis-Peacock
- 43.4046 Response priming reveals capacity limitations Marjan Persuh, Bella Matias
- 43.4047 Memory compression using statistical regularities requires explicit awareness William Ngiam, Edward Awh
- 43.4048 Longer Memory Delay Reveals Demands for Maintaining Multiple Features Paige Pytel, Summer Sheremata
- 43.4049 Where do cognitive limitations come from and why do we care? The divergent cases of visual working memory storage and approximate number sense acuity Jeremy Wilmer, Hrag Pailian, Laura Germine, Ryan Ly, Justin Halberda
- 43.4050 Visual working memory representations bypass divisive normalization Ilona Bloem, Yurika Watanabe, Sam Ling, Melissa Kibbe
- 43.4051 Distinct memory processes for high- and low-capacity individuals beyond their memory capacity Youngseon Shin, Summer Sheremata
- 43.4052 Fidelity of VSTM representations across the visual field reflects right-hemisphere specialization Summer Sheremata, Sabrina Loftus
- 43.4053 **Neural bases of automaticity** Mathieu Servant, Peter Cassey, Geoffrey Woodman, Gordon Logan

VISUAL MEMORY: ATTENTION AND COGNITION

MONDAY, MAY 22, 8:30 AM - 12:30 PM, PAVILION

- 43.4054 Sustained spatial attention is not sufficient to elicit the Contralateral Delay Activity Nicole Hakim, Kirsten Adam, Eren Gunseli, Edward Vogel
- 43.4055 Attentional Mechanism for Organization in Visual Working Memory Chengfeng Zhu, Shulin Chen, Rende Shui, Mowei Shen, Zaifeng Gao
- 43.4056 How Task Irrelevant Contents of VWM and LTM affect Attentional Guidance and Disengagement Rebecca Goldstein, W. Joseph Delaune III, Melissa Beck
- 43.4057 **Object-based Attention Underlies the Storage of Event Files in Working Memory** Xiqian Lu, Yangfan Zhao, Rende Shui, Mowei Shen, Zaifeng Gao
- 43.4058 Temporal-order-based attentional salience modulates visual working memory representations in the parietal cortex Qing Yu, Won Mok Shim
- 43.4059 Action-related upating of visual working memory: Attentional weighting of spatial locations and feature dimensions
 Anna Heuer, John Crawford, Anna Schubö
- 43.4060 The Effect of Emotion on Processing Distractor Items in a Visual Working Memory Task Christine Salahub, Stephen Emrich
- 43.4061 When is reward-associated information prioritised in visual working memory? Edwin Dalmaijer, Claire Poullias, Rosyl Somai, Masud Husain
- 43.4062 Gestalt Grouping Cues Can Improve Filtering Performance in Visual Working Memory Ayala Allon, Roy Luria
- 43.4063 Motion cues facilitate feature updating in mental rotation Dian Yu, John Plass, Satoru Suzuki, Steven Franconeri

MONDAY MORNING POSTERS VSS 2017 PROGRAM

- 43.4064 Expecting the unexpected: expecting to be surprised reduces attribute amnesia Hui Chen, Brad Wyble, Baruch Eitam
- 43.4065 Target recognition is impaired by spatial attention deployed to its location during the retention interval Sori Kim, Min-suk Kang
- 43.4066 Reconsidering the focus of attention: Cued items contain more information but are not more accessible Myriam Sbeiti, Daryl Fougnie, Timothy Brady
- 43.4067 Expertise prompts initial faster processing followed by increased short-term memory Jonas Dall, Katsumi Watanabe, Thomas Sørensen
- 43.4068 Relational memory is enhanced in the attentional boost effect Hamid Turker, Khena Swallow
- 43.4069 The costs and benefits of top-down control over visual long-term memory encoding Christopher Sundby, Geoffrey Woodman, Keisuke Fukuda

EYE MOVEMENTS: REMAPPING AND APPLICATIONS

- MONDAY, MAY 22, 8:30 AM 12:30 PM, PAVILION
- 43.4070 Evidence that perisaccadic compression is related to uncertainty about the target's position Maria Matziridi, Eli Brenner, Jeroen Smeets
- 43.4071 Is the efference copy of a saccade influenced by a perceptual illusion? Delphine Massendari, Matteo Lisi, Patrick Cavanagh, Thérèse Collins
- 43.4072 Dynamically tracking the neural signatures of visual attention across a saccade Jiageng Chen, Xiaoli Zhang, Julie Golomb
- 43.4073 Perceptual continuity across saccades: evidence for rapid spatiotopic updating Jasper Fabius, Alessio Fracasso, Stefan Van der Stigchel
- 43.4074 Parallel shifts: evidence for simultaneous predictive remapping across multiple attentional targets Melchi Michel, James Wilmott
- 43.4075 Auditory spatial attention across eye-movements is remapped in retinotopic coordinates Stefan Van der Stigchel, Nathan Van der Stoep, Martijn Schut
- 43.4076 Adaptation to distortions of natural scenes is retained across saccades Selam Habtegiorgis, Katharina Rifai, Siegfried Wahl
- 43.4077 Peri-saccadic perceptual mislocalization is different for upward saccades Ziad Hafed, Nikola Grujic, Nils Brehm, Cordula Gloge, Weijie Zhuo
- 43.4078 Microsaccades while aiming are not just limited by gaze relocation demands. Rakesh Nanjappa, Robert McPeek
- 43.4079 Fixation and pursuit show similar behavior with complex stimuli Scott Watamaniuk, Stephen Heinen
- 43.4080 Eye movement patterns when driving in real environment Hong Xu, Bo Du, Jian Sheng Yeung, Yiik Diew Wong
- 43.4081 **Visual Attention and Learning from Multimedia With and Without an Anticipation Guide** Natercia Valle, Jiahui Wang, Pasha Antonenko, Wenjing Luo, Ryan Rushing
- 43.4082 Effect of aging on ocular fixation and microsaccades during optic flow Angelo Arleo, Marcia Bécu, Guillaume Tatur, Alix de Dieuleveult, Changmin Wu, Silvia Marchesotti, Denis Sheynikhovich
- 43.4083 Instructor Presence, Visual Attention, and Learning in Educational Video: Content Difficulty Matters Jiahui Wang, Pavlo Antonenko, Ethan Fieldman
- 43.4084 Online eye tracking with consumer-grade webcams: potential and limits Kilian Semmelmann, Sarah Weigelt

EYE MOVEMENTS: SACCADES

- MONDAY, MAY 22, 8:30 AM 12:30 PM, PAVILION
- 43.4085 Monocular microsaccades; do they really occur? Martina Poletti, Yu Fang, Michele Rucci
- 43.4086 Alteration of the microsaccadic velocity-amplitude main sequence relationship after visual transients: implications for models of saccade control Antimo Buonocore, Chih-Yang Chen, Xiaoguang Tian, Saad Idrees, Thomas Muench, Ziad Hafed
- 43.4087 **Memory-guided microsaccades** Konstantin-Friedrich Willeke, Xiaoguang Tian, Joachim Bellet, Araceli Ramirez-Cardenas, Ziad Hafed
- 43.4088 Microsaccades in blindsight monkeys Masatoshi Yoshida, Ziad Hafed
- 43.4089 Changes in oscillatory brain activity around the time of saccades: an MEG study of voluntary horizontal saccades in near-darkness condition David Acunzo, David Melcher
- 43.4090 EEG decoding of saccade direction 1.7 s before the saccade Andrea Desantis, Patrick Cavanagh
- 43.4091 Transcranial direct current stimulation of the right frontal eye field to affect saccade execution Leon Reteig, Tomas Knapen, K. Ridderinkhof, Heleen Slagter
- 43.4092 Saccadic gain controlled by a visual discrimination task Sohir Rahmouni, Anna Montagnini, Laurent Madelain
- 43.4093 Saccade latencies in an overlap paradigm when manipulating the stimuli timing, energy and transient changes. Valentina Vencato, Mark Harwood, Laurent Madelain
- 43.4094 Parallel and continuous visuomotor processing of simultaneously moving targets Laurent Goffart
- 43.4095 An orchestra without a conductor: Saccadic visual exploration can be explained by a self-paced process Shlomit Yuval-Greenberg, Roy Amit, Izhar Bar-Gad
- 43.4096 Dissociable effects of stimulus capture, global effect and task intention in saccade targeting David Aagten-Murphy, Paul Bays
- 43.4097 How quickly can color information drive reflexive saccadic eye movements? Amandeep Kaur, Jay Edelman
- 43.4098 The Spatial Separation of Movement Goals and Preparation Time Determines Single vs. Averaged Saccade Motor Plans Shane Kelly, Matthew Peterson, Wilsaan Joiner
- 43.4099 Saccade-contingent feedback improves eye movement efficiency Preeti Verghese, Saeideh Ghahghaei
- 43.4100 Intrinsic vs extrinsic value in saccadic adaptation Annegret Meermeier, Svenja Gremmler, Markus Lappe
- 43.4101 Effect of reinforcement on the size-latency phenomenon Cécile Vullings, Mark Harwood, Laurent Madelain
- 43.4102 **The necessity to choose causes effects of reward** Christian Wolf, Anna Heuer, Anna Schubö, Alexander Schütz

TUESDAY MORNING TALKS

FACE PERCEPTION: EMOTION AND MODELS

TUESDAY, MAY 23, 8:15 - 9:45 AM, TALK ROOM 1

Moderator: James Tanaka

51.11, 8:15 am The effects of emotional cues on visual perception and the special case of faces Batsheva Hadad, Elite Mardo, Galia Avidan

51.12, 8:30 am Angrier = Blacker?: The influence of emotional expression on the representation of race in faces, measured with serial reproduction Stefan Uddenberg, Brian Scholl

51.13, 8:45 am Perceptual inference of dynamic emotion in natural movies Zhimin Chen, David Whitney

51.14, 9:00 am Unconsciously attracted: invisible attractive faces orient visual attention. Shao-Min (Sean) Hung, Chih-Hsuan Nieh, Po-Jang (Brown) Hsieh

51.15, *9:15 am* **Mooney Faces from Photos** Tsung-Wei Ke, Stella Yu, David Whitney

51.16, 9:30 am Objective Analysis of the Subjective Information Contents of Memory of Familiar Faces Jiayu Zhan, Nicola Van Rijsbergen, Oliver Garrod, Philippe Schyns

VISUAL SEARCH: ATTENTION

TUESDAY, MAY 23, 10:45 AM - 12:30 PM, TALK ROOM 1

Moderator: Joy Geng

52.11, 10:45 am Individual differences in susceptibility to irrelevant environmental influences predict visual search performance Michelle Kramer, Rachel Wynn, Stephen Mitroff

52.12, 11:00 am Short-term and long-term attentional biases to frequently encountered target features Sha Li, Roger Remington, Yuhong Jiang

52.13, 11:15 am More than a memory: Confirmatory visual search does not occur when target colors are merely remembered Jason Rajsic, Jay Pratt

52.14, 11:30 am Visual search in large-scale spaces: Spatial memory and head movements Chia-Ling Li, M. Aivar, Matthew Tong, Mary Hayhoe

52.15, 11:45 am Detecting the "gist" of breast cancer in mammograms three years before the cancer appears. Hayden Schill, Anne-Marie Culpan, Jeremy Wolfe, Karla Evans

52.16, 12:00 pm Cortical evidence for negative search templates Reshanne Reeder, Christian Olivers, Stefan Pollmann

52.17, *12:15 pm* **A suppression template for multiple distractors in visual search** Bo-Yeong Won, Joy Geng

EYE MOVEMENTS: FIXATION AND PERCEPTION

TUESDAY, MAY 23, 8:15 - 9:45 AM, TALK ROOM 2

Moderator: Scott Watamaniuk

51.21, 8:15 am Fixations on real objects are affected by affordance and the ability to act Tom Foulsham, Marcello Costantini

51.22, 8:30 am Intra-saccadic motion streaks as a cue to the localization of objects across eye movements Richard Schweitzer, Martin Rolfs

51.23, 8:45 am The frequency of catch-up and micro saccades reacts to and predicts stimulus events Stephen Heinen, Jeremy Badler, Scott Watamaniuk

51.24, 9:00 am The Role of Microsaccades in the Snellen Acuity Test Janis Intoy, Michele Rucci

51.25, 9:15 am Visual suppression within the foveola during microsaccades Michele Rucci, Naghmeh Mostofi

51.26, 9:30 am Rhythmic modulation of human visual sensitivity synchronized with planning of saccades Maria Concetta Morrone, Alessandro Benedetto

MOTION: NEURAL MECHANISMS AND MODELS

TUESDAY, MAY 23, 10:45 AM - 12:30 PM, TALK ROOM 2

Moderator: Tatiana Pasternak

52.21, 10:45 am Inactivation of lateral prefrontal cortex increases activity of MT neurons during memory-guided comparisons of visual motion David Samu, Ruben Moreno-Bote, Albert Compte, Tatiana Pasternak

52.22, 11:00 am Opponency in the middle temporal complex: Counter-phase dot motion is processed like non-motion Andrew Silva, Benjamin Thompson, Zili Liu

52.23, 11:15 am Spatial arrangement of multiple moving stimuli with competing features alters normalization of neuronal responses Steven Wiesner, Xin Huang

52.24, 11:30 am When invisible noise obscures the signal: the consequences of nonlinearity in motion detection Jenny Read, Ghaith Tarawneh, Vivek Nityananda, Ronny Rosner, Steven Errington, William Herbert, Bruce Cumming, Ignacio Serrano-Pedraza

52.25, *11:45 am* **Neural responses to motion in 2 and 3 dimensions** Peter Kohler, Wesley Meredith, Anthony Norcia

52.26, 12:00 pm Predicting human performance in a natural task with strongly constrained models of noise Benjamin Chin, Johannes Burge

52.27, 12:15 pm Can Speed be Judged Independent of Direction? Oliver Braddick, Rory Trevelyan-Thomas, Catherine Manning

TUESDAY MORNING POSTERS

ATTENTION: CAPTURE

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

53.3001 A Visual Imagery Induced Reversal of Priming of Popout Brett Cochrane, Andrea Nwabuike, Dave Thomson, Bruce Milliken

53.3002 Attentional Dwelling and Capture by Color Singletons Eric Ruthruff, Michael Faulks, Joshua Maxwell, Nicholas Gaspelin

53.3003 Surprising depth cue captures attention in visual search Thorsten Plewan, Gerhard Rinkenauer

53.3004 Examining the influence of different types of dynamic changes to targets and distractors in a visual search task Mengzhu Fu, Joshua Zosky, Michael Dodd

53.3005 The development of chasing detection: Do 4-year-olds show evidence of a pop-out effect for chasing stimuli? Ruth Hofrichter, M. Rutherford

53.3006 Salient distractors speed responses when targets are absent in visual search $\,\mathrm{Jeff}$ $\,\mathrm{Moher}$

53.3007 Attention and Suppression: Awareness-Independent Same-Location Costs in Relational and Feature Search for Spatial Frequency Targets Ulrich Ansorge, Tobias Schoeberl

53.3008 Distractor suppression in visual search: Converging evidence from electrophysiology and computational modelling Heinrich Liesefeld, Hermann Müller

53.3009 Topological change captures attention as potent as abrupt onset Ligin Zhou, Ke Zhou, Lin Chen

53.3010 Irrelevant angry facial expressions attract attention and action Hsin-Mei Sun, Michelle Lin, Joo-Hyun Song

53.3011 Proportional Context of Distracters alters Top-Down Sets during Contingent Attention Capture Dick Dubbelde, Adam Greenberg

53.3012 Does Memory Consolidation Influence Memory-Driven Attentional Capture? Kristina Krasich, Andrew Clement, Cary Stothart, James Brockmole

53.3013 Interference from salient-but-irrelevant stimuli is influenced by emotional valence Caroline Barras, Coralie Pittet, Dirk Kerzel

53.3014 Automaticity and Specificity of Attentional Capture by Language Leeland Rogers, Sarah Fairchild, Anna Papafragou, Timothy Vickery

53.3015 Attentional control settings established via statistical learning are changed by context Sunghyun Kim, Melissa Beck

53.3016 Attentional control settings are stored in activated long term memory Lindsay Plater, Maria Giammarco, Naseem Al-Aidroos

53.3017 Hemifield asymmetries in the additional singleton paradigm: Behavioral and electrophysiological findings Christophe Carlei, Caroline Barras, Nicolas Burra, Dirk Kerzel

ATTENTION: DIVIDED

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

53.3018 Rapid adjustment of selective visual attention following errors Søren Andersen, Marco Steinhauser

53.3019 Improving vision with transcranial direct-current stimulation Geoffrey Woodman, Robert Reinhart

53.3020 Attentional capture by working memory does not interfere with visual feature perception Emma Dowd, Samoni Nag, Julie Golomb

53.3021 Evidence of serial processing in visual word recognition Alex White, John Palmer, Geoffrey Boynton

53.3022 The Influence of Ensemble Statistics and Focused Attention on Feature Perception Jane Beaufore, Jiageng Chen, Julie Golomb

53.3023 Visual statistical learning faces interference from response and executive demands Su Hyoun Park, Marian Berryhill, Jayesh Gupta, Timothy Vickery

53.3024 A system level model of visual attention: Targets and distractors are figments of your experimental design Brad Wyble, Chloe Callahan-Flintoft

53.3025 No arousal-biased competition in visuospatial attention Arni Asgeirsson, Sander Nieuwenhuis

53.3026 Display Configuration and Duration Effects in Redundancy Gain for a Categorization Task Ada Mishler, Mark Neider

53.3027 Divided attention effects are larger for change detection than for simple detection James Moreland, John Palmer, Geoffrey Boynton

53.3028 Categorical differences in the conscious access to visual **objects** Daniel Lindh, Sara Assecondi, Ilja Sligte, Kimron Shapiro, Ian Charest

53.3029 Three-Dimensional MOT task as an assessment tool for attention and working memory: a comparison with traditional measures Chiara Perico, Jocelyn Faubert, Armando Bertone

53.3030 The more, the better? It depends on consistency! Gaze cuing in multi-agent contexts. Francesca Capozzi, Andrew Bayliss, Jelena Ristic

53.3031 A concurrent working memory load task does not impair visual selective attention: A meta-analysis María Quirós-Godoy, Juan Botella, Beatriz Gil-Gómez de Liaño

53.3032 Point me in the right direction: Lateralization of change detection in hierarchical visual stimuli. Bonnie Angelone, Connor Burrows

53.3033 Just walk away: Gaze aversions as an overt attentional disengagement mechanism Dekel Abeles, Shlomit Yuval-Greenberg

53.3034 Effective task-switching behaviour despite fatigue by sleep restriction. Gemma Hanson, Anne Hillstrom, Tamaryn Menneer, Dominic Taunton

53.3035 Effects of Talking and Visual Attention Load on Driving Behavior Melissa Beck, Rebecca Goldstein, Katherine Moen, Alex Cohen, Brian Wolshon

ATTENTION: ELECTROPHYSIOLOGY

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, BANYAN BREEZEWAY

53.3036 Teasing apart the extraction and the processing of visual information in the brain Laurent Caplette, Karim Jerbi, Frédéric Gosselin

53.3037 Electrophysiological Correlates of Covert Attention Guidance in Natural Scenes Daniel Walper, Wolfgang Einhäuser, Anna Schubö, Alexandra Bendixen

53.3038 The adaptation and recovery of visual event-related potentials Hannah Glenn, Geoffrey Woodman

VSS 2017 PROGRAM MONDAY MORNING POSTERS

- 53.3039 The Interplay of P1 and N1 Latency Predicts Visual Short-Term Memory Capacity, (in Absence of Pre-cue Contamination)
 Bart Cooreman, Anders Petersen, Claus Bundesen, Signe Vangkilde
- 53.3040 Alpha entrainment of posterior visual cortex impacts visual detection Stephanie Nelli, Max Boonjindasup, Aayushi Malpani, John Serences
- 53.3041 Characterising the relationship between pre-stimulus individual alpha and visual search performance Aleksandra Pastuszak, Simon Hanslmayr, Kim Shapiro
- 53.3042 Attention effects on steady-state visual evoked potentials in response to 3-80 Hz flicker Rasa Gulbinaite, Diane Roozendaal, Rufin VanRullen
- 53.3043 Reactivation of a previous target location: a new event-related potential component Hayley Lagroix, Nadja Jankovic, Aaron Richardson, Kevin Boyd, Vincent Di Lollo, Thomas Spalek
- 53.3044 Electrophysiological indices of target selection and distractor suppression under varying perceptual load: Evidence for spreading suppression Zachary Roper, Jeffrey Schall, Geoffrey Woodman
- 53.3045 **Neural Correlates of Learning to Ignore** Corbin Cunningham, Jeff Moher, Annie Tran, James Hoffman, Howard Egeth
- 53.3046 High definition transcranial alternating current stimulation reveals different frontal oscillatory mechanisms of visual-feedback processing and learning Robert Reinhart
- 53.3047 Electrophysiological indices of value-driven attentional capture extinction Shelby Santee, Zachary Roper, Geoffrey Woodman, Keisuke Fukuda
- 53.3048 Task dependent modulation before, during and after visually evoked responses in human intracranial recordings Leyla Isik, William Lotter, Nathan Crone, David Cox, Nancy Kanwisher, Wiliam Andreson, Gabriel Kreiman

PERCEPTION AND ACTION: MUTUAL INTERACTIONS

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

- 53.4001 **Postural reactions to inclined visual ground-like surfaces** Konogan Baranton, Delphine Bernardin, Mark Wexler
- 53.4002 The role of motion parallax in the perception of egocentric direction Kait Clark, Simon Rushton
- 53.4003 Spatial Representation for a Non-Euclidean Virtual Maze Ranxiao Frances Wang, Christopher Widdowson
- 53.4004 The bigger the better also true for action recognition? Laura Fademrecht, Isabelle Bülthoff, Stephan de la Rosa
- 53.4005 The neural correlates of hand and foot action recognition in individuals born without upper limbs Moritz Wurm, Gilles Vannuscorps, Ella Striem-Amit, Alfonso Caramazza
- 53.4006 Low and high level features explain neural response tuning during action observation Leyla Tarhan, Talia Konkle
- 53.4007 The Visual Perception of Interactive Behaviour in the Posterior Superior Temporal Cortex Jon Walbrin, Paul Downing, Kami Koldewyn
- 53.4008 Videos are more effective than pictures at localizing tooland hand-selective activation in fMRI Scott Macdonald, Fiona van den Heiligenberg, Tamar Makin, Jody Culham
- **53.4009 Visual production induces categorical perception** Judith Fan, Daniel Yamins, Nicholas Turk-Browne
- 53.4010 An fMRI analysis of subjective experience during immersive gaming Christian Wallraven, Uijong Ju

53.4011 **Braking bad: Arousal influences the visual guidance of braking** Brandon Thomas, Micheal Guess, Ian Ruginski, Jeanine Stefanucci

FACE PERCEPTION: INDIVIDUAL DIFFERENCES, LEARNING AND EXPERIENCE

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

- 53.4012 Systematic variations in visual information utilization predict face recognition abilities, from developmental prosopagnosics to super-recognizers Jessica Tardif, Xavier Morin Duchesne, Brad Duchaine, Caroline Blais, Frédéric Gosselin
- 53.4013 Individual differences in children's face recognition abilities Romina Palermo, Marianne Thorburn, Ellen Bothe, Laura Engfors, Amber King, Kaitlyn Turbett, Xujia Wang, Prue Watson, Linda Jeffery
- 53.4014 Individual differences in face processing ability and consistency in visual strategies Jessica Royer, Isabelle Charbonneau, Gabrielle Dugas, Valerie Plouffe, Caroline Blais, Daniel Fiset
- 53.4015 Familiarity abolishes right-hemispheric bias in face perception Katja Weibert, Veronika Müller , Jessica Sänger
- 53.4016 Task effects on perceived identity of unfamiliar faces in open card sorting. Alison Campbell, James Tanaka
- 53.4017 The influence of temporal contiguity on behavioral and neural measures of viewpoint tolerance Chayenne Van Meel, Hans Op de Beeck
- 53.4018 Social Judgements Improve Face Recognition More Than Perceptual Judgements Linoy Schwartz, Galit Yovel
- 53.4019 Comparing word and face recognition: an insoluble conundrum Julia Robotham, Randi Starrfelt
- 53.4020 Comparing human and deep convolutional neural network face-matching performance on disguised face images Eilidh Noyes, Connor Parde, Y. Colon, Matthew Hill, Carlos Castillo, Jun-Cheng Chen, Rob Jenkins, Alice O'Toole
- 53.4021 Does social collaboration benefit face-matching accuracy over simply fusing individuals' responses? Géraldine Jeckeln, Eilidh Noyes, Carina Hahn, Alice O'Toole
- 53.4022 Impact of myopia on visual attention and the potential link with cultural differences in visual perception Caroline Blais, Hana Furumoto-Deshaies, Marie-Pier Plouffe-Demers, Amanda Estéphan, Daniel Fiset
- 53.4023 Rhesus monkeys are able to discriminate facial identity and expression Molly Flessert, Jessica Taubert, Ning Liu, Leslie Ungerleider
- 53.4025 Encoding and recognition of faces involve different eye-movement dynamics Joseph Arizpe, Danielle McKean, Jack Tsao, Annie Chan
- 53.4026 The effects of multi-modal sources of person information on the face encoding stage. Thilda Karlsson, Heidi Schaeffer, Sherryse Corrow, Jason Barton
- 53.4027 Network level taxonomy of the core/extended person perception system Aidas Aglinskas, Silvia Ubaldi, Elisa Fait, Scott Fairhall
- 53.4028 Modeling face-type and threat: Biased decision making in expression interpretation Sarah Williams, Alesha Bond, Corey Bohil, Heather Kleider-Offutt

TUESDAY MORNING POSTERS VSS 2017 PROGRAM

53.4029 Connecting Holistic Processing with Brain Regions Selective for Face Processing and Face Memory: A Regression Approach Gary Shyi, Varden Hung, Peter Cheng, Tina Huang

53.4030 Testing the Robustness of Newly Acquired Face Memory: An fMRI Study Peter Cheng, Gary Shyi, Claire Lee, Varden Hung, S.-T. Tina Huang, Becky Chen

FACE PERCEPTION: WHOLES, PARTS, AND FEATURES

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4031 **Viewing faces through apertures** Jennifer Murphy, Richard Cook

53.4032 Holistic processing of faces is modulated by facial expressions Wei Chen, Olivia Cheung

53.4033 Holistic and Analytic Processing of Identity and Expression in Faces: A Systems Factorial Technology Approach Varden Hung, Gary Shyi

53.4034 Is holistic processing ensemble coding? Jisoo Sun, Sang Chul Chong

53.4035 The role of the upper and lower face in the recognition of facial identity in dynamic stimuli. Shanna Yeung, Heidi Schaefer, Sherryse Corrow, Jason Barton

53.4036 The clone devaluation effect: Many exactly same faces induce eerie impressions Fumiya Yonemitsu, Kyoshiro Sasaki, Akihiko Gobara, Yuki Yamada

53.4037 Measuring susceptibility to the composite face effect using psychophysics Katie Gray, Richard Cook

53.4038 Morphing Angelina into Jessica reveals identity specific spatial frequency tuning for faces Gabrielle Dugas, Charbonneau Isabelle, Royer Jessica, Blais Caroline, Brisson Benoit, Fiset Daniel

53.4039 The Effects of Familiarity and Orientation when Correcting Spatially Distorted Faces Nick Donnelly, Natalie Mestry

53.4040 **A Preference for Flipped Depictions of Self** Malerie McDowell, Jordan Suchow, Jason Haberman

53,4041 **Discovering the critical features of face recognition** Galit Yovel, Naphtali Abudarham

53.4042 Factors that do and don't make flashing faces more distorted Hannah Pearson, Benjamin Balas

53.4043 Inversion, Configural Recognition, and Part Recognition in Long-Term Memory for Faces Mitchell Meltzer, Gowtham Ganesan, Michelle Min, James Bartlett

53.4044 Can Familiar Faces be Negatively Detected at RSVP Rates? Emily Meschke, Catrina Hacker, Jordan Juarez, Rafael Maarek, Irving Biederman

53.4045 **Lateralisation and binding of dynamic facial features** Ben Brown, Vanessa Enahoro, Alan Johnston

53.4046 Preserved eye sensitivity of the N170 ERP component across face size Karisa Parkington, R. Elif Ermis, Roxane Itier

53.4047 An fMRI half-field repetition suppression study of chimeric faces Matthew Harrison, Zhiheng Zhou, Lars Strother

OBJECT RECOGNITION: READING

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4048 How reading changes letter representations: a double dissociation using orthographically distinct scripts in India Aakash Agrawal, K.V.S. Hari, S.P. Arun

53.4049 The effects of colour and spatial noise on reading performance in human vision Abdullah Al Salhi, Nadia Northway, Glyn Walsh

53.4050 **Different reading tasks measure different reading behaviors.** Tiffany Arango, Fang Hou, Luis Lesmes, Deyue Yu, Zhong-Lu Lin, Peter Bex

53.4051 Functional connectivity dynamics of the left midfusiform gyrus during single, printed word presentation Matthew Boring, Rongye Shi, Michael Ward, Witold Lipski, Peter Elliot, Max G'Sell, Mark Richardson, Julie Fiez, Avniel Ghuman

53.4052 Temporal modulation of signal/noise reveals processing units of a scale greater than letters in visual word recognition. Simon Fortier-St-Pierre, Martin Arguin

53.4053 Representations of individual number and letter symbols in ventral visual cortex Daniel Janini, Chris Baker

53.4054 Is word recognition crowded in pure alexia? Katrine Sand, Thomas Habekost, Anders Petersen, Randi Starrfelt

53.4055 Musical notation reading in pure alexia Randi Starrfelt, Yetta Wong

53.4056 What enhances/reduces holistic processing in perceptual expertise: experience in writing/drawing versus component composition Ricky Van-yip Tso, Wai-ming Cheung, Terry Kit-fong Au, Janet Hui-wen Hsiao

53.4057 **Developing a logarithmic Chinese reading acuity chart** Cong Yu, Qi-Ming Han, Ling-Juan Cong, Lei Liu

53.4058 **Defining letter similarity** Deyue Yu, Tae Kyu Kwon

53.4059 Hemifield-dependent fMRI repetition enhancement for word pairs with concomitantly repeated and added letters Zhiheng Zhou, Carol Whitney, Lars Strother

3D PERCEPTION: SPACE

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4060 The contributions of monocular and binocular signals to the perception of 3D motion Mohan Ji, Lowell Thompson, Ari Rosenberg, Bas Rokers

53.4061 **The outdoor perception of distance ratios** J. Farley Norman, Olivia Adkins, Catherine Dowell, Lindsey Shain, Stevie Hoyng, Jonathan Kinnard

53.4062 Manipulations of local, but not global, luminance gradients affect judgements of depth magnitude Paul Hibbard, Ross Goutcher, Naveed Khan, Rebecca Hornsey

53.4063 Contextual influences of room width and depth on egocentric distance judgments in natural scenes John Philbeck, Dwight Kravitz, Stephen Mitroff, Lindsay Houck

53.4064 **Distance Perception in Consumer Virtual Reality** Rebecca Hornsey, Paul Hibbard, David Hunter

53.4065 **Observer vantage point and layout of virtual pictorial space** Dejan Todorović

53.4066 Comparison of the visual and haptic horizontal-vertical illusion Tyler Surber, Joseph Clark, Jonathan Doyon, Catalina Olavarria, Alen Hajnal

53.4067 Role of senses in representing portions of spaces around our body. Elena Aggius-Vella, Claudio Campus, Monica Gori

53.4068 Visual and haptic perception of the affordance of upright stance. Catalina Olavarria, Tyler Surber, Joseph Clark, Jonathan Doyon, Alen Hajnal

VSS 2017 PROGRAM TUESDAY MORNING POSTERS

53.4069 Illusory Motion and Kinetic Poggendorff Illusions in Baseball: Baserunners and Vantage Can Bias Perception of Ground Ball Trajectories Michael McBeath, Crystal Oberle

53.4070 Matching corresponding visual areas with fMRI and MEG Phoebe Asquith, Simon Rushton, Beth Routley, Krish Singh

BINOCULAR VISION: STEREOPSIS

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4071 On the combination of illusory and luminance-defined stereoscopic surfaces Brittney Hartle, Richard Murray, Laurie Wilcox

53.4072 Effects of temporal frequency on binocularity and contrast sensitivity in amblyopia Peter Bex, Anna Kosovicheva, Adriana Ferreira, Fuensanta Vera-Diaz

53.4073 Interactions between horizontal and orientation disparities in stereopsis Anna Ptukha, Pascal Mamassian

53.4074 Rapid adaptation in stereopsis Cherlyn Ng, Bart Farell

53.4075 The fusional range of the periphery Saeideh Ghahghaei, Suzanne McKee, Preeti Verghese

53.4076 Depth adaptation of disparity corrugated surface involves phase- and orientation-independent processing Shufang He, Hiroaki Shigemasu

53.4077 Classification images for the perception of binocular slant David Hunter, Paul Hibbard, Rebecca Hornsey

53.4078 'What not' encoding facilitates stereoscopic depth judgments Andrew Welchman, Nuno Goncalves

53.4079 Customizing mirror-prism haploscopes for viewers' interpupillary distance using 3D-printed adjustments Attila Farkas, Thomas Papathomas, John Papayanopoulos

53.4080 Watching 2-D movies improves stereoacuity Bart Farell, Cherlyn Ng, Mimi Lu

53.4081 **Position matching between the eyes in strabismus** Zahra Hussain, Andrew Astle, Ben Webb, Paul McGraw

53.4082 Using perceptual learning in VR to train stereo-anomalous observers to rely on disparity cues Angelica Godinez, Santiago González. Dennis Levi

53.4083 Exploring the relationship between the visual acuity interocular differences and stereopsis in strabismus and amblyopia patients Li Yan, Jing Fu, Hang Chu, Wei Lu, Shasha Pang, Dianpeng W.

53.4084 The GENUA PESTO Database - GENoa hUman Active fixation database: PEripersonal space STereoscopic images and grOund truth disparity Agostino Gibaldi, Andrea Canessa, Manuela Chessa, Marco Fato, Fabio Solari, Silvio Sabatini

53.4085 Efficient encoding of binocular disparity predicts sensitivity to depth differences Jordi Asher, Paul Hibbard, Ross Goutcher, Peter Scarfe, David Hunter

53.4086 Predicting effects of natural depth variation on binocular disparity estimation Arvind Iyer, Johannes Burge

PERCEPTUAL LEARNING: MODELS AND NEURAL MECHANISMS

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4087 The effects of cholinergic enhancement and consolidation duration on perceptual learning of texture discrimination Kelly Byrne, Matthew Peters, Elizabeth McDevitt, Summer Sheremata, Sara Mednick, Michael Silver

53.4088 Alertness may explain how reward evokes visual perceptual learning Zhiyan Wang, Dongho Kim, Yuka Sasaki, Takeo Watanabe

53.4089 Practice changes the hippocampal-neocortical communication Nihong Chen, Tommaso Furlanello, Bosco Tjan

53.4090 Did you see that? Examining whether statistical learning can elicit category-specific EEG activity in the absence of visual stimuli Joshua Zosky, Matthew Johnson, Michael Dodd

53.4091 Orientation discrimination training refines the stimulus comparison, rather than the perceptual encoding process in the primary visual cortex $\,\mathrm{Ke}\,\mathrm{Jia}$, $\,\mathrm{Sheng}\,\mathrm{Li}$

53.4092 Visual Perceptual Learning of Faces modifies a physiological abnormality in patients with Body Dysmorphic Disorder to a normal level Qingleng Tan, Kazuhisa Shibata, Katharine philips, David Sheinberg, Yuka Sasaki, Takeo Watanabe

53.4093 Task-Irrelevant Motion-Training Improves Word Decoding in Reading Disabled Participants Steven Holloway, José Náñez, Sr, Michael McBeath

53.4094 Sequential Decision Making: From Vision to Decisions and Back He Xu, Michael Herzog

53.4095 Perceptual learning in n-alternative forced choice with response and accuracy feedback, and a reweighting model. Jiajuan Liu, Barbara Dosher, Zhong-Lin Lu

53.4096 Unsupervised learning of repeating patterns using a novel STDP based algorithm Simon Thorpe, Amirreza Yousefzadeh, Jacob Martin, Timothée Masquelier

SPATIAL VISION: TEXTURE AND NATURAL IMAGE STATISTICS

TUESDAY, MAY 23, 8:30 AM - 12:30 PM, PAVILION

53.4097 Children's use of visual summary-statistics for material recognition Benjamin Balas, Jamie Schmidt

53.4098 A parametric texture model based on deep convolutional features closely matches texture appearance for humans Christina Funke, Thomas Wallis, Alexander Ecker, Leon Gatys, Felix Wichmann, Matthias Bethge

53.4099 Upscaling and Combing Artifact Prediction on Motion Pictures Using Convolutional Networks Todd Goodall, Alan Bovik

53.4100 Natural image statistics as a function of dynamic range Antoine Grimaldi, David Kane, Marcelo Bertalmío

53.4102 Effect of temporal modulations of dynamic inducer on tilt illusion Sae Kaneko, Stuart Anstis, Ichiro Kuriki

53.4103 Representing color ensembles: Mapping internal probability density functions with attentional priming Arni Kristjansson, Gianluca Campana, Andrey Chetverikov

53.4104 **Texture density aftereffect is bidirectional** Hua-Chun Sun, Frederick Kingdom, Curtis Baker

53.4105 **Towards a model for sensitivity to local image statistics** Jonathan Victor, Syed Rizvi, Jacob Bush, Mary Conte

TUESDAY AFTERNOON TALKS

SCENE PERCEPTION

TUESDAY, MAY 23, 2:30 - 4:15 PM, TALK ROOM 1

Moderator: Aude Oliva

54.11, 2:30 pm Convolutional neural networks best predict representational dissimilarity in scene-selective cortex: comparing computational, object and functional models Iris Groen, Michelle Greene, Christopher Baldassano, Li Fei-Fei, Diane Beck, Christopher Baker

54.12, 2:45 pm The neural separation and integration of object and background scene information in natural images Caitlin Mullin, Seyed-Mahdi Khaligh-Razav, Dimitrios Pantazis, Aude Oliva

54.13, 3:00 pm Active Exploration Benefits Memory for 360° Scenes Experienced with Headmounted Virtual Reality Anna Mynick, Caroline Robertson, Nancy Kanwisher

54.14, 3:15 pm The perceptual advantage of symmetry for scene perception John Wilder, Morteza Rezanejad, Sven Dickinson, Kaleem Siddiqi, Allan Jepson, Dirk Walther

54.15, $3:30\,pm$ Object segmentation controls image reconstruction from natural scenes $Peter\ Neri$

54.16, 3:45 pm Object, scenes, and the spaces in between: Workspaces have distinctive perceptual and semantic content Emilie Josephs, Talia Konkle

54.17, 4:00 pm Encoding of event roles from visual scenes is rapid, automatic, and interacts with higher-level visual processing Alon Hafri, John Trueswell, Brent Strickland

ATTENTION: NEURAL MANIPULATION AND MECHANISM

TUESDAY, MAY 23, 2:30 - 4:15 PM, TALK ROOM 2

Moderator: Tony Ro

54.21, 2:30 pm tRNS facilitates perceptual learning on cross-task training Federica Contò, Lorella Battelli

54.22, 2:45 pm Cross-modal attention effects in vestibular cortex during attentive tracking of moving objects Mark Greenlee, Sebastian Frank, Liwei Sun, Lisa Forster, Peter Tse

54.23, 3:00 pm Visual, spatial, or visuospatial? Disentangling sensory modality and task demands in frontal cortex. Abigail Noyce, Sean Tobyne, Samantha Michalka, David Osher, Barbara Shinn-Cunningham, David Somers

54.24, 3:15 pm Predicting trial-by-trial attention dynamics during human reinforcement learning Angela Radulescu, Yuan Chang Leong, Yael Niv

54.25, 3:30 pm At what latency does the phase of brain oscillations influence perception? Sasskia Brüers, Rufin VanRullen

54.26, 3:45 pm Alpha Oscillations Reflect Feedback Processing for Visual Awareness Tony Ro, Jeremy Fesi

54.27, 4:00 pm Learning Mechanisms Underlying Value-Driven Attention Brian Anderson, Hiroto Kuwabara, Dean Wong, Joshua Roberts, Arman Rahmim, James Brašić, Susan Courtney

DEVELOPMENT

TUESDAY, MAY 23, 5:15 - 7:15 PM, TALK ROOM 1

Moderator: Jan Atkinson

55.11, *5:15 pm* **Reduced Frequency of Motion Induced Blindness in Autism** Caroline Robertson, Jackson Lee, Nancy Kanwisher

55.12, 5:30 pm Direction and orientation integration in autistic children Catherine Manning, Marc Tibber, Steven Dakin

55.13, *5:45* pm Reading intervention induces change in white matter and behavior Elizabeth Huber, Patrick Donnelly, Ariel Rokem, Jason Yeatman

55.14, 6:00 pm How does poor initial acuity impact visual development? A computational investigation Lukas Vogelsang, Evan Ehrenberg, Sharon Gilad-Gutnick, Pawan Sinha

55.15, 6:15 pm How Visual Experience Shapes Object Recognition in the Newborn Brain: A Controlled Rearing Approach Justin Wood

55.16, *6:30* pm High cellular and columnar variability underlies the absence of early orientation selectivity David Whitney, Gordon Smith, Bettina Hein, Matthias Kaschube, David Fitzpatrick

55.17, 6:45 pm Tracking the recognition of static and dynamic facial expressions of emotion across life span Anne-Raphaëlle Richoz, Junpeng Lao, Olivier Pascalis, Roberto Caldara

55.18, 7:00 pm The milk in the bathroom strikes again: ERP evidence for the processing of semantic object-scene inconsistencies in early development Sabine Öhlschläger, Melissa Vo

VISUAL MEMORY: WORKING MEMORY AND PERSISTENCE

TUESDAY, MAY 23, 5:15 - 7:15 PM, TALK ROOM 2

Moderator: Duje Tadin

55.21, 5:15 pm Perceptual inefficiencies predict individual differences in working memory both in typical adults and in schizophrenia Woon Ju Park, Megan Ichinose, Sohee Park, Duje Tadin

55.22, 5:30 pm Perceptual grouping boosts visual working memory capacity and reduces effort during retention Candice Morey

55.23, 5:45 pm Erasing and blurring memories: The differential impact of visual interference on separate aspects of forgetting Sol Sun, Celia Fidalgo, Morgan Barense, Andy Lee, Jonathan Cant, Susanne Ferber

55.24, 6:00 pm Stimulus Memorability as a Unique Determinant of Memory Independent from Attention, Priming Wilma Bainbridge

55.25, 6:15 pm Binding errors in long-term memory: Independent storage of different features of real-world objects Igor Utochkin, Timothy Brady

55.26, 6:30 pm Neural representations of spatial position recalled from long-term and short-term memory diverge across the cortical hierarchy Vy Vo, David Sutterer, Joshua Foster, Thomas Sprague, John Serences, Edward Awh

55.27, 6:45 pm Neurophysiological Marker of Visual Working Memory Manipulation Hrag Pailian, Viola Störmer, George Alvarez

55.28, 7:00 pm Working memory contents outside the focus of attention are represented by different neural populations not in an activity-silent state Thomas Christophel, Polina Iamshchinina, Chang Yan, John-Dylan Haynes

TUESDAY AFTERNOON POSTERS

VISUAL SEARCH: EYE MOVEMENTS AND MEMORY

TUESDAY, MAY 23, 2:45 - 6:45 PM, BANYAN BREEZEWAY

56.3001 Intrinsic Position Uncertainty and Clutter in Natural Search Tasks Yelda Semizer, Melchi Michel

56.3002 The Effects of Unique Blur/Clarity Contrast on Visual Selective Attention as Measured by Eye Movements: Strong Clarity Capture and Weak Blur Repulsion Jared Peterson, Ryan Ringer, Elizabeth Sisco, Maria De La Torre, Hannah Talkington, Meagan Shanahan, Lester Loschky

56.3003 We know what we can see - peripheral visibility of search targets shapes eye movement behavior in natural scenes Lars Rothkegel, Heiko Schütt, Hans Trukenbrod, Felix Wichmann, Ralf Engbert

56.3005 Visual saliency and ensemble work simultaneously on eye movement in visual search Shunsuke Kumakiri, Yoshiyuki Ueda, Jun Saiki

56.3006 Is efficiency of difficult visual search determined by dwelling, skipping, and revisiting, rather than by guidance by the target? Gernot Horstmann, Stefanie Becker, Daniel Ernst

56.3007 Comparing visual search for categories defined with an explicit versus implicit rule Ashley Ercolino, Pooja Patel, Corey Bohil, Mark Neider, Joseph Schmidt

56.3008 Evaluating the Importance of Top-Down "Semantic" Features to Decoding Observer Task from Eye Movements Dylan Rose, Peter Bex

56.3009 Low target prevalence exacerbates problems with Computer-Aided Detection (CAD) during visual search Trafton Drew, Isabel Reback

56.3010 Visual foraging with two simultaneous visual working memory templates Tómas Kristjánsson, Ian Thornton, Árni Kristjánsson

56.3011 Repetition Priming Preferentially Benefits Infrequent Targets Paul Scotti, Stephen Adamo, Stephen Mitroff, Sarah Shomstein

56.3012 When searching for two targets takes twice as long as one Travis Weaver, Hyunyoung Park, Julianna Ianni, Geoffrey Woodman

56.3013 Decoding visually complex Chinese Characters during short-term memory from language related regions Chang Yan, Thomas Christophel, Carsten Allefeld, John Haynes

56.3014 **Spatial working memory in the absence of aware- ness** Michael Payton, Israr Ul-Haq, Kinza Maxood, Vahan Babushkin,
Amber Nomani, Kartik Sreenivasan

VISUAL SEARCH: MODELS AND MECHANISMS

TUESDAY, MAY 23, 2:45 - 6:45 PM, BANYAN BREEZEWAY

56.3015 Improved Detectability Model Better Predicts Fixation Search in Natural Scenes Jared Abrams, Wilson Geisler

56.3016 The Interaction of Target-Distractor Similarity and Visual Search Efficiency for Basic Features Calden Wloka, Sang-Ah Yoo, Rakesh Sengupta, John Tsotsos

56.3017 Temporal organization of color and shape processing during target detection in conjunctive visual search | Joseph Glavan, Joseph Houpt

56.3018 Variation of primary target contrast supports independence between race components in a search-step task Kevin Willeford, Robert McPeek

56.3019 Modeling the Influence of Visual Priming in Feature and Conjunctive Search Jordan Haggit, Joseph Houpt

56.3020 Evidence for a common decision mechanism for target-present and target-absent responses in visual search Louis Chan

56.3021 Satisfaction in Motion: Moving Search Displays Increase Subsequent Search Misses Cary Stothart, Andrew Clement, James Brockmole

56.3022 Occipital and parietal cortex encode representations of match between a viewed and sought object during visual target search Margaret Henderson, John Serences

56.3023 Learning to shield visual search from salient distractors: Evidence from the N2pc component Marian Sauter, Heinrich Liesefeld, Hermann Müller

56.3024 Functional roles of alpha oscillations underlying the communication between dorsal and ventral visual areas Sorato Minami, Hiroki Oishi, Hiromasa Takemura, Kaoru Amano

56.3025 Lingering effects of response inhibition: Evidence for both control settings and memory association mechanisms Rachel Wynn, Dwight Kravitz, Stephen Mitroff

56.3026 Electrophysiological Correlates of Individual Differences in Visual Search Lauren Williams, Trafton Drew

56.3027 Combining individual estimates to maximize detection performance Jennifer Corbett, Aaron Clarke, Jaap Munneke

EYE MOVEMENTS: MODELS AND NEURAL MECHANISMS

TUESDAY, MAY 23, 2:45 - 6:45 PM, BANYAN BREEZEWAY

56.3028 **State-equation learning model for saccade adaptation** Carlos Cassanello, Florian Ostendorf, Martin Rolfs

56.3029 Saccadic Flow: An image independent baseline Alasdair Clarke, Matt Stainer, Ben Tatler, Amelia Hunt

56.3030 Analytic eye movement patterns in face recognition are associated with enhanced face recognition performance and top-down control of visual attention Cynthia Chan, J.J. Wong, Antoni Chan, Tatia Lee, Janet Hsiao

56.3031 Differential responses of neurons in the macaque Lateral Intraparietal area to voluntary and reflexive saccades Jan Churan, Stefan Dowiasch, Andre Kaminiarz, Frank Bremmer

56.3032 A model explaining visual spatial (mis-)localization of flashed stimuli in man and monkey Frank Bremmer, Stefan Dowiasch

56.3033 DeepGaze II: Predicting fixations from deep features over time and tasks Matthias Kümmerer, Tom Wallis, Matthias Bethge

56.3034 Visual-motor response fields and spatial tuning in supplementary eye field (SEF) of the head unrestrained monkeys. Harbandhan Arora, Vishal Bharmauria, Amirsaman Sajad, Xiaogang Yan, Hongying Wang, John Crawford

56.3035 Processing of imminent collision information in human SC and Pulvinar Jinyou Zou, Sheng He, Peng Zhang

56.3036 Microcircuitry of visual performance monitoring Amirsaman Sajad, Jeffrey Schall

56.3037 Dissociable effects of saccades on hippocampal local field potential power and phase Julio Martinez-Trujillo, Roberto Gulli, Guillaume Doucet, Benjamin Corrigan

56.3038 Brain responses elicited by saccadic fixations on natural images of faces Yingxin Jia, Christopher Tyler

56.3039 **Oculomotor assessment of diurnal arousal variations** Jeffrey Mulligan, Carolina Diaz-Piedra, Leandro Di Stasi

EYE MOVEMENTS: PERCEPTION

TUESDAY, MAY 23, 2:45 - 6:45 PM, BANYAN BREEZEWAY

56.3040 Learning when to blink: Environmental statistics guide blinking behavior. David Hoppe, Stefan Helfmann, Constantin Rothkopf

56.3041 Fusion breaks at extreme eye positions due to lack of adaptation in the vergence system Elizabeth Fast, Linus Holm, Linda McLoon, Stephen Engel

56.3042 **Gaze-in-World movement Classification for Unconstrained Head Motion during Natural Tasks.** Rakshit Kothari, Kamran Binaee, Reynold Bailey, Christopher Kanan, Gabriel Diaz, Jeff Pelz

56.3043 Enhancing discrimination of fine spatial details with fixational eye movements: Is there an extra-retinal component? Mehmet Agaoglu, Christy Sheehy, Pavan Tiruveedhula, Austin Roorda, Susana Chung

56.3044 Measuring degraded visual sensitivity using microsaccades Chris Scholes, Jonathan Denniss, Paul McGraw, Neil Roach

56.3045 The role of small eye movements in spatial exploration Natalya Shelchkova, Christie Tang, Michele Rucci, Martina Poletti

56.3046 **Saccadic eye movements affect perceived speed** Alexander Goettker, Doris Braun, Alexander Schütz, Karl Gegenfurtner

56.3047 Visual features of Saccadic Suppression of Displacement Rodrigo Balp, Florian Waszak, Thérèse Collins

56.3048 Saccadic Suppression during Voluntary vs Reactive Saccades Svenja Gremmler, Markus Lappe

56.3049 Distracting attention impairs trans-saccadic integration Emma Stewart, Alexander Schütz

PERCEPTION AND ACTION: THEORY AND MECHANISMS

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4001 **Fractional-Order Information for Interception** Frank Zaal, Rémy Casanova, Simon Ledouit, Reinoud Bootsma

56.4003 **Dynamic visual localization with moving dot clouds** Shannon Locke, Michael Landy, Pascal Mamassian, Eero Simoncelli

56.4004 Biophysically plausible neural model for the interaction between visual and motor representations of action Mohammad Hovaidi Ardestani, Martin Giese

56.4005 **The primacy effect in primate saccade target selection** Jeroen Goossens, Joke Kalisvaart, Roohollah Massoudi, Peter Bremen

56.4006 Semantic knowledge and action-based visual prediction Nicholas Hindy, Emily Avery, Nicholas Turk-Browne

56.4007 Mental state affects visual performance Yael Afiki, Moshe Bar

56.4008 Optimizing Visual Representations: The RotCorr Methodology for Rotating Geometric Multidimensional Scaling Solutions to Align with Meaningful Functional Dimensions K. Jake Patten, Michael McBeath

COLOR AND LIGHT: COGNITION AND PREFERENCE

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4009 Statistical variations in the power spectrum of daylight over a day predict communicative efficiency of color-language Sivalogeswaran Ratnasingam, Edward Gibson, Richard Futrell, Julian Jara-Ettinger, Kyle Mahowald, Leon Bergen, Steven Piantadosi, Bevil Conway

56.4010 **Development of color communication across the life span (3 –75 years).** Delwin Lindsey, Angela Brown, Nicholas Carr

56.4011 **Ensemble percepts of color contrast** Siddhart Srivatsav, John Maule, Anna Franklin, Michael Webster

56.4012 Cones and colour: similarity and our perception of cardinal colours Kaye Mullins, Simon Cropper, Daniel Little

56.4013 Cardinal Colour Recognition: Sensitivity to Similarity-based Mask-Induced Interference? Amanda Shanks, Simon Cropper, Daniel Little

56.4014 **How robust are color-specific biases in memory?** Sarah Allred, Dajsha Collins, Christina Curtis, Jacqueline Gomez, Jameira Jackson, Sehwan Park, Jessica Rumer, Hechen Wang

56.4015 Color naming fluency does not explain color preference when chroma is controlled Chris Racey, Karen Schloss

56.4016 Kandinsky or me? How free is the eye of the beholder in abstract art? Doris Braun, Katja Dörschner

56.4017 The role of perceived opacity in interpreting colormap data visualizations Madeline Parker, Allison Silverman, Audrey Wang, Karen Schloss

56.4018 Trump makes us "see red"; Clinton makes us "feel blue" Adam Greenberg, Alysan Stauffacher

COLOR AND LIGHT: THRESHOLDS

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4019 **Effect of blur in colour discrimination** Leticia Álvaro, João Linhares, Talia Ali, Monika Formankiewicz, Sarah Waugh

56.4020 Spectral Sensitivity Functions Derived from Decrement Thresholds Rebecca Ijekah, Sean O'Neil, Michael Crognale

56.4021 **Nonlinearity of contrast responses in human achromatic and color vision** Yushu Wang, Alex Baldwin, Robert Hess, Kathy Mullen

56.4022 Explaining 'crispening' as a gain control mechanism. David Kane, Marcelo Bertalmío

56.4023 **Transient lumanopia at night** Adam Reeves, Rebecca Grayhem

56.4024 Gaze behavior during the averted detection of a simulated faint star Robert Alexander, Ronald Mintz, Paul Custodio, Stephen Macknik, Sofya Gindina, Susana Martinez-Conde

56.4025 Relation between Pupil Response and Feedback during Contrast Sensitivity Measurement through Tinted Lenses Tim Schilling, Hamed Bahmani, Arne Ohlendorf, Siegfried Wahl

56.4026 **The effect of TMS intensity on contrast sensitivity** Danielle Parrott, Seth Levine, Jens Schwarzbach, Lorella Battelli

56.4027 Effects of Size and Shape on Perceived Color Differences Danielle Szafir

TUESDAY AFTERNOON POSTERS VSS 2017 PROGRAM

ATTENTION: ATTENTIONAL BLINK

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4028 Temporal grouping enables selection of multiple targets in rapid streams of visual information Guy Snir, Yaffa Yeshurun

56.4029 Is the emotional blink just an attentional blink in disguise? Alyssa Lompado, Daniel Charytonowicz, Kaitlyn Naismyth, James Hoffman

56.4030 Does Crossmodal Attentional Blink Depend on Spatial Congruency? Amanda Sinclair, Jordin Tilbury, Steven Prime

56.4031 The attentional blink reveals discrete perceptual transitions, whereas both spatial and temporal cueing show graded attentional effects Christopher Asplund, Joan Ongchoco, Gwenisha Liaw, John Reid

56.4032 How the perceived duration depends upon the target detection in attentional blink display. Makoto Ichikawa, Masataka Miyoshi

56.4033 The perceptual enhancement by spatial attention is impaired during the attentional blink. Bae Eunhee, Jung Shinyoung, Han Suk Won

56.4034 First unitary, then divided: The temporal dynamics of dividing attention Lisa Jefferies, Joseph Witt

56.4035 Attentional blink as a product of attentional control signals: A computational investigation Rakesh Sengupta, Omar Abid, Asheer Bachoo, John Tsotsos

56.4036 Power Modulation in Spatially-Selective Alpha-band Responses during the Attentional Blink Mary MacLean, Thomas Bullock, Barry Giesbrecht

56.4037 **Salient Distractors cannot be suppressed during the attentional blink** John Gaspar, Hayley Lagroix, Pierre Jolicoeur, John McDonald

56.4038 Beneficial effect of exposure to fragrances on attentional blink Motohiro Ito, Jun Kawahara

56.4039 High level visual processing is not spared from the attentional blink Alon Zivony, Dominique Lamy

56.4040 T1 visibility influences the strength of T2 attentional blink when target locations are spatially uncertain. Jong-Min Park, Joo-Seok Hyun

56.4041 **Attentional blink during simulated driving** Bertrand Sager, Aaron Richardson, Carley Wood, Elisabeth Kreykenbohm, Thomas Spalek

ATTENTION: INATTENTION, BLINDNESSES, AND AWARENESS

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4042 The spatiotemporal dynamics of perceptual grouping in motion-induced blindness Dustin Cox, Sang Hong

56.4043 Individual differences in motion induced blindness: small-sample factor analysis of stereoscopic depth and mask coherence data reveals independent processes for frequency and duration of blindness episodes David Peterzell, Joseph LaBarre, John Sparrow

56.4044 The Influence of Attention-Deficit/Hyperactivity Traits on Motion-Induced Blindness Jeroen van Boxtel, Cassandra McEwen

56.4045 **Change blindness for changes in 3D structure** Ellis Gootjes-Dreesbach, Peter Scarfe, Andrew Glennerster

56.4046 Change blindness in augmented reality: Solution by monocular presentation Akihiko Kitamura, Yasunori Kinosada, Kazumitsu Shinohara

56.4047 Attention sets in sustained inattentional blindness are category-based Katherine Wood, Daniel Simons

56.4048 The unnoticed zoo: inattentional deafness of animal sounds in music Sandra Utz, Friedericke Knauss, Claus-Christian Carbon

56.4049 Sad minds seeking happy stimuli: Trait happiness predicts how quickly happy faces reach visual awareness Yi-Chia Chen, Hannah Raila, Brian Scholl

56.4050 Going to the movies: Immersion, visual awareness, and memory. Matthew Moran, Derek McClellan, Donald Varakin

BINOCULAR VISION: RIVALRY AND BISTABILITY

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4051 The onset bias of bi-stable perception across the horizontal and vertical meridians Jiahan Hui, Peng Zhang

56.4052 The Modularity of Brain Dynamics: Insights from Bistable **Perception** Teng Cao, Lan Wang, Zhouyuan Sun, Stephen Engel, Sheng He

56.4053 Continuous flash suppression is strongest for low temporal frequencies, high spatial frequencies and iso-oriented targets David Alais, Shui'er Han, Claudia Lunghi

56.4054 Audio-visual Interactions in Multistable Perception: Evidence from No-report Paradigms Wolfgang Einhäuser, Sabine Thomassen, Philipp Methfessel, Alexandra Bendixen

56.4055 The influence of associative learning on perceptual decisions in ambiguity Veith Weilnhammer, Heiner Stuke, Philipp Sterzer, Katharina Schmack

56.4056 Visual working memory affects the perception of ambiguous SFM (structure-from-motion) by enhance internally directed attention Jingjie Li, Hao Wu, Badong Chen

56.4057 Bolstering inter-observer differences to study the mechanisms behind perceptual bistability Jan Brascamp, Mark Becker, David Hambrick

56.4058 Interocular Grouping During Binocular Rivalry in Younger and Older Adults Amanda Beers, Allison Sekuler, Patrick Bennett

56.4059 On vs. off-object probes produce differential ERPs and reversal latencies in binocular rivalry Brian Metzger, Kathy Low, Ed Maclin, Monica Fabiani, Gabriele Gratton, Beck Diane

56.4060 Dissimilarity between feature ensembles triggers binocular rivalry without competing local features Oakyoon Cha, Randolph Blake, Sang Chul Chong

56.4061 Exploration of Interocular Suppression Using Perceptual Reverse Correlation and Computational Modeling David Nichols, Stephanie Shields

OBJECT RECOGNITION: CATEGORIES

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4062 **Are all visual objects created equal?** Marlene Behrmann, Jacob Geskin

56.4063 Context Modulation of Ambiguous Object Perception in The Absence of Awareness Dan Biderman, Liad Mudrik

56.4064 Investigating contextual effects in the Vanderbilt Holistic Processing Task Ting-Yun Chang, Isabel Gauthier

56.4065 Inversion effects in the ability to classify mammograms in one second. Michael Chin, Karla Evans, Jeremy Wolfe, Jon Bowen, James Tanaka

56.4066 Transformation of spatial reference frame in the absence of awareness $\,$ Yijun Ge, Sheng He

56.4067 Category-selective attention for animals: Beyond visual features Chenxi He, Olivia Cheung

56.4068 Assessing the role of task demands on object recognition under naturalistic conditions using a virtual-reality paradigm Mohammed Islam, Steven Oliveira, Elan Barenholtz

56.4069 Congruent Familiar Size Relationships Decrease Size Contrast Illusion Margarita Maltseva, Kevin Stubbs, Melvyn Goodale, Jody Culham

56.4070 Functional readout analysis reveals nonlinear representational transformation from early visual to category-selective regions Marieke Mur, Judith Borowski, Nikolaus Kriegeskorte

56.4071 Categorization specificity and sematic content impact the deployment of spatial attention Birken Noesen, Assaf Harel

56.4072 **Which Cereal Bar? Choose or Reject, does it Matter?** Ester Reijnen, Swen Kühne, Jeremy Wolfe

56.4073 The Variable Role of Abstraction in the Neural Representation of Categories in the Visual System $\,$ J. Brendan Ritchie, Hans Op de Beeck

56.4074 The Easy-to-Hard Advantage with Real-World Visual Categories Brett Roads, Buyun Xu, June Robinson, James Tanaka

56.4075 Memory for retinotopic locations is more accurate than memory for spatiotopic locations, even when intending to reach. Anna Shafer-Skelton, Julie Golomb

56.4076 The effects of different types of human-object interactions on the ventral occipitotemporal cortex Huichao Yang, Chenxi He, Xiaoying Wang, Zaizhu Han, Yanchao Bi

56.4077 Categorization in monkey inferior temporal cortex determined by image features, not acquired knowledge Xiaomin Yue, Marissa Yetter, Leslie Ungerleider

OBJECT RECOGNITION: FEATURES

TUESDAY, MAY 23, 2:45 - 6:45 PM, PAVILION

56.4078 Relational Representation of Body Parts Revealed by Adaptation Alexander Bratch, Stephen Engel, Daniel Kersten

56.4079 Principal Axes of Real-World Objects: Evidence from Orientation Reflection Errors Thitaporn Chaisilprungraung, Joseph German, Michael McCloskey

56.4080 Nonconscious Enhancement of Peripheral Vision Eric Clapham, Alex Richardson, Kerry Tarrant, Jessica Decker

56.4081 An Investigation of the Effect of Prediction on Object Perception Sarah Cook, Diana Perez, Mary Peterson

56.4082 Two-tone object recognition poses a major challenge for the developing visual system until late in childhood. Tessa Dekker, Theo Cooper, Aisha McLean

56.4083 **A Bistable Figure in a Thousand-Year-Old Bowl** Elizabeth Dobbins, Allan Dobbins

56.4084 Using eye-tracking to examine feature and component priming in adults and 3- to 5-year-old children. Peter Gerhardstein, Sarah Olsen, Alecia Moser

56.4085 The Relative Contribution of Features and Dimensions to Semantic Similarity Marius Cătălin Iordan, Cameron Ellis, Daniel Osherson, Jonathan Cohen

56.4086 Perceptual processing load in shape discrimination: stars are seen easier than ovals? Iliya Ivanov, Sandra Wagner, Siegfried Wahl

56.4087 We see the forests before the trees but how do they combine? Shape information combines linearly across multiple scales Georgin Jacob, SP Arun

56.4088 Object detection and localization for free from category-consistent CNN features. Hieu Le, Chen-Ping Yu, Dimitris Samaras, Gregory Zelinsky

56.4089 A novel game for discovering visual features for object recognition. Drew Linsley, Sven Eberhardt, Pankaj Gupta, Thomas Serre

56.4090 Attractiveness of female and male body: comparison of subjective and objective measures Slobodan Markovic, Tara Bulut

56.4091 **Amputees misperceive the size of artificial limbs** Ritika Mazumder, Jason Haberman

56.4092 Background check: Perceptual grouping cues reduce novice holistic processing of birds Cassady Olson, Grace Luu, Zachary Cole, Jieyi (Crystal) Ding, Jessie Peissig, Cindy Bukach

56.4093 **The second elbow in number perception** Makayla Portley, Frank Durgin

56.4094 Segmentation of the Human Body: How Does the Visual System Define Body Parts? Catherine Reed, Alison Harris, Madison Lodge, Grant Gaither

56.4095 RF shape channels: The processing of compound Radial Frequency patterns. Gunnar Schmidtmann, Alexandre Desjardins, Frederick Kingdom

56.4096 When and why does adaptation increase perceived number? Emilie Shepherd, Frank Durgin

56.4097 A concurrent investigation of perceptual separability and process arrangement using perceptually separable stimuli Ru Zhang, Yanjun Liu, James T. Townsend, Micheal J. Wenger, Lisa A. De Stefano

WEDNESDAY MORNING TALKS

FACE PERCEPTION: NEURAL MECHANISMS AND MODELS

WEDNESDAY, MAY 24, 8:15 - 10:00 AM, TALK ROOM 1

Moderator: Roberto Caldara

61.11, 8:15 am Idiosyncratic Neural Signatures of Face Discrimination - A Fast Periodic Oddball Stimulation Study Lisa Stacchi, Meike Ramon, Joan Liu-Shuang, Roberto Caldara

61.12, 8:30 am A highly effective approach in fMRI brain mapping of visual categorization Xiaoqing Gao, Francesco Gentile, Bruno Rossion

61.13, 8:45 am Being BOLD: The neural dynamics of face perception Francesco Gentile, Justin Ales, Bruno Rossion

61.14, 9:00 am The dynamics of facial identity processing: an **EEG-based image reconstruction study** Dan Nemrodov, Matthias Niemeier, Ashutosh Patel, Adrian Nestor

61.15, 9:15 am Spatiotemporal dynamics of face processing network studied with combined multivariate EEG and fMRI analysis Viljami Salmela, Ilkka Muukkonen, Jussi Numminen, Kaisu Ölander

61.16, 9:30 am Dynamic Integration of Visual and Categorization Relevant Information in the Ventral Stream Nicola van Rijsbergen, Robin Ince, Guillaume Rousselet, Joachim Gross, Philippe Schyns

61.17, 9:45 am Interactions between dorsal location- and ventral face-processing regions during configural face processing: a combined TBS-fMRI study. Valentinos Zachariou, Christine Gou, Nicole Mlynaryk, Leslie Ungerleider

EYE MOVEMENTS: SACCADES AND PURSUIT

WEDNESDAY, MAY 24, 11:00 AM - 12:45 PM, TALK ROOM 1

Moderator: Martin Rolfs

62.11, 11:00 am Deep neural network features decoded from fMRI responses to scenes predict eye movements Thomas O'Connell, Marvin Chun

62.12, 11:15 am Object motion thresholds are amplitude-contingent and tuned to specifically eliminate retinal motion produced by saccades Martin Rolfs, Sven Ohl, Richard Schweitzer, Éric Castet, Tamara Watson

62.13, 11:30 am Probing saccadic suppression of displacement with reverse correlation. Eva Joosten, Thérèse Collins

62.14, 11:45 am Intra-saccadic localisation is consistently carried out in world-centered coordinates Tamara Watson, Richard Schweitzer, Eric Castet, Sven Ohl, Martin Rolfs

62.15, 12:00 pm Saccadic curvature is gradually modulated by the direction and amplitude of other saccades in a sequence Reza Azadi. Robert McPeek

62.16, 12:15 pm Cooperative interactions between saccadic and pursuit planning when targeting a moving object Matteo Lisi, Patrick Cavanagh

62.17, 12:30 pm Attention is allocated closely ahead of the target during smooth pursuit eye movements: evidence from EEG frequency tagging Jing Chen, Matteo Valsecchi, Karl Gegenfurtner

PERCEPTION AND ACTION: THE BASIS OF DECISIONS AND ACTIONS

WEDNESDAY, MAY 24, 8:15 - 10:00 AM, TALK ROOM 2

Moderator: Jeroen Goossens

61.21, 8:15 am Subliminal Rotations During Eye Blinks for Redirected Walking Gerd Bruder, Eike Langbehn

61.22, 8:30 am Modeling Sensorimotor Behavior through Modular Inverse Reinforcement Learning with Discount Factors Ruohan Zhang, Shun Zhang, Matthew Tong, Mary Hayhoe, Dana Ballard

61.23, 8:45 am Representational Similarity of Actions in the Human Brain Ayse Saygin, Burcu Urgen, Selen Pehlivan

61.24, 9:00 am Temporal-based responses enhance gain in sensorimotor decision-making David Aguilar-Lleyda, Elisabet Tubau, Joan López-Moliner

61.25, 9:15 am Updating prior distributions in response to sampled visual information Laurence Maloney, Shaoming Wang

61.26, 9:30 am Uncoupling choice formation and choice-correlated activity in early visual cortex Corey Ziemba, Robbe Goris, Eero Simoncelli, J. Movshon

61.27, 9:45 am Human intracranial electrophysiology suggests suboptimal calculations underlie perceptual confidence! Megan Peters, Thomas Thesen, Yoshiaki Ko, Brian Maniscalco, Chad Carlson, Matt Davidson, Werner Doyle, Ruben Kuzniecky, Orrin Devinsky, Eric Halgren, Hakwan Lau

VISUAL MEMORY: CAPACITY AND INTEGRATION

WEDNESDAY, MAY 24, 11:00 AM - 12:45 PM, TALK ROOM 2

Moderator: Timothy Brady

62.21, 11:00 am Drift, not decay, in neural population activity causes working memory to deteriorate over time Sebastian Schneegans, Paul Bays

62.22, 11:15 am Beyond the magic number four: Remapping high-capacity, pre-attentive, fragile working memory. Paul Zerr, Surya Gayet, Kees Mulder, Ilja Sligte, Stefan Van der Stigchel

62.23, 11:30 am Visual working memory resetting is triggered by a loss of objects-to-representations correspondence Halely Balaban, Trafton Drew, Roy Luria

62.24, 11:45 am Proactive interference results from visual working memory, not just contamination from visual long-term memory Timothy Brady

62.25, 12:00 pm Finding maximal and minimal elements in a set is capacity-unlimited and massively-parallel Edwina Picon, Darko Odic

62.26, 12:15 pm Building the unexpected: scene grammar shapes the way we interact with objects, strengthens spatial representations, and speeds search. Dejan Draschkow, Melissa Vo

62.27, 12:30 pm Mechanisms of Visual Working Memory Manipulation: When "Bird-Brain" is a Compliment Irene Pepperberg, Hrag Pailian

WEDNESDAY MORNING POSTERS

ATTENTION: REWARD AND VALUE

WEDNESDAY, MAY 24, 8:30 AM - 12:30 PM, PAVILION

63.4001 **Reward modulates cross-modal conflict** Guanlan Kang, Wenshuo Chang, Xiaolin Zhou

63.4002 Perceptual salience of self-relevant information in shared environments Katie Jones, Melina Kunar, Derrick Watson

63.4003 Adaptation and stress independently influence the emotional categorization of facial expressions Alex Terpstra, Mana Ehlers. Rebecca Todd

63.4004 Spatial and feature-based attention to emotional faces David De Vito, Cody Cushing, Hee Yeom Im, Reginald Adams, Jr., Kestutis Kveraga

63.4005 Irrelevant social status cues drive visual attention Barry Giesbrecht, Matthias Gobel, Mary MacLean

63.4006 Emotional pictures automatically capture attention Minwoo Kim, Matt Taylor, James Hoffman

63.4008 Can value-driven attentional capture be extinguished? Anne Milner, Mary MacLean, Barry Giesbrecht

63.4009 Color and Shape Feature Dimensions Independently Potentiated in Value-Driven Attentional Capture Evan Palmer, Lindsey Davies, Corina Tillman

63.4010 Performance-contingent reward training modulates reaction time variability, even in the absence of previously rewarded stimuli Michael Grubb, Yuxuan Li

63.4011 **Feature-based reward learning biases dimensional attention** Jennifer Bu*, Angela Radulescu*, Nicholas Turk-Browne, Yael Niv

63.4012 Value-associated Stimuli Bias Ensemble Size Estimates Daniel Dodgson, Jane Raymond

63.4013 Go for information, but remember reward: Motivational and informational value affect the deployment of visual attention Hanna Kadel, Stephan Koenig, Metin Uengoer, Anna Schubö

63.4014 The Influence of Saliency and Value on Perceptual Averaging. Jaap Munneke, Jennifer Corbett

63.4015 **Target self-relevance enhances visual search efficiency** Gregory Wade, Timothy Vickery

63.4016 Modeling the Mechanisms of Reward Learning that Bias Visual Attention Jason Hays, Fabian Soto

63.4017 Neural evidence that values of task-irrelevant visual and motor features are tracked in a reward-based decision-making task Valerie Beck, Timothy Vickery

63.4018 **Prismatic Adaptation Boosts Feedback-Based Learning** Selene Schintu, Michael Freedberg, Zaynah Alam, Eric Wassermann, Sarah Shomstein

ATTENTION: TRACKING. TIME AND SELECTION

WEDNESDAY, MAY 24, 8:30 AM - 12:30 PM, PAVILION

63.4019 Attention can be flexibly distributed between targets in multiple object tracking Annie Tran, James Hoffman

63.4020 'Serial-like' sampling of visual objects during sustained attention Jianrong Jia, Fang Fang, Huan Luo

63.4021 The cognitive benefits of NeuroTracker training across neurodevelopmental disorders: Who benefits from training attention with multiple object-tracking? Domenico Tullo, Jocelyn Faubert, Armando Bertone

63.4022 **Multiple object tracking in peripheral vision** Arijit Chakraborty, Kevin Hua, Laura Chan, Deborah Giaschi, Benjamin Thompson

63.4023 Brain Areas Specific for Feature-based and Symmetry-based Groupings in Multiple Object Tracking Chundi Wang, Luming Hu, Xuemin Zhang

63.4024 Modeling motion extrapolation in multiple-object tracking Andrew Lovett, Will Bridewell, Paul Bello

63.4025 The effect of stereoscopic cues on multiple object tracking in a 3D virtual environment Steven Oliveira, Mohammed Islam, Elan Barenholtz, Regynald Augustin, Shannon Whitney

63.4026 Fate of the extra item in multiple identity tracking task Lauri Oksama, Maria Kuvaldina, Jukka Hyönä

63.4027 **The cost of time in multi-object tracking tasks.** Austin Kuo, Kathryn Bonnen, Alexander Huk, Lawrence Cormack

63.4028 The effect of different color combinations on multiple object tracking: an fMRI study Luming Hu, Chundi Wang, Xuemin Zhang

63.4029 Hemifield-specific attentional spotlights are dependent on a common global tracking template Roger Strong, George Alvarez

63.4030 **Detecting more than one event at a time in multiple event tracking.** Chia-Chien Wu, Jeremy Wolfe

63.4031 **Sequential Sampling in Visual Attention** Sean O'Bryan, Miranda Scolari

63.4032 Fast and flexible: dynamic adaptation of temporal expectation Chiron Oderkerk, Anders Petersen, Claus Bundesen, Signe Vangkilde

63.4033 Selective attention modulates the temporal window of integration Poppy Sharp, David Melcher, Clayton Hickey

63.4034 The Time Course of Attentional Disengagement from Faces, Objects, and Scenes Alissa Stafford, Jason Fischer

63.4035 Examining the distribution of multifocal attention in depth Eugenie Roudaia, Delphine Gaudin, Delphine Bernardin, Jocelyn Faubert, Aarlenne Khan

63.4036 Competition Between Foveal and Peripheral Attention Reveals Evidence in Favor of a Zoom-Lens Model of Attention Ryan Ringer

63.4037 The Effects of Rhythm-Induced Attention on Perceptual Representation - Precision Analysis Asaf Elbaz, Yaffa Yeshurun

ATTENTION: SPACE AND OBJECTS

WEDNESDAY, MAY 24, 8:30 AM - 12:30 PM, PAVILION

63.4038 Is the attentional spotlight asymmetrical? Nicole Thomas, Michael Nicholls

63.4039 The size of the attentional window when measured by the pupillary response to light Shira Tkacz-Domb, Yaffa Yeshurun

63.4040 Attentional Selection Determines Saccade Endpoint Luca Wollenberg, Heiner Deubel, Martin Szinte

WEDNESDAY MORNING POSTERS VSS 2017 PROGRAM

- 63.4041 The Effect of Distance on Voluntary Shifts of Attention between Visual Objects Michael Jenkins, Anna Grubert, Martin Eimer
- 63.4042 Saccadic evidence for spatial hyperfocusing in people with schizophrenia Carly Leonard, Benjamin Robinson, Britta Hahn, Steve Luck, James Gold
- 63.4043 Flanker Effects Reflect (Early) Suppression Delays Rather Than (Late) Response Competition Ricardo Max, Yehoshua Tsal
- 63.4044 Distinguishing among theories of selective attention using the flanker paradigm John Palmer, Cathleen Moore
- 63.4045 Explicit goal-driven attention, unlike implicitly learned attention, slips to secondary tasks Douglas Addleman, Jinyi Tao, Roger Remington, Yuhong Jiang
- 63.4046 Spatial recall performance: Differential landmark bias in schizophrenia Sonia Bansal, Benjamin Robinson, Carly Leonard, Kyle Frankovich, James Gold, Steven Luck
- 63.4047 Object-based attentional selection emerges early in visual cortex for object percepts of varying strength Shahd Al-Janabi, Nofar Strommer-Davidovich, Shai Gabay, Adam Greenberg
- 63.4048 Target location, rather than object location, drives the object-based attention shift direction anisotropy Adam Barnas, Adam Greenberg
- 63.4049 Measuring the speed of attentional selection for two features concurrently from a single object reveals a foveal speed advantage for color Chloe Callahan-Flintoft, Brad Wyble
- 63.4050 Does the Size of the Attentional Spotlight Constrain Global or Local Identification? Does Perceptual Load modify the Attentional Effect? Thomas Sanocki, Steven Schultz
- 63.4051 **The Effect of Object Size in Object-Based Attentional Selection** Joseph Nah, Marco Neppi-Modona, Lars Strother, Marlene Behrmann, Sarah Shomstein
- 63.4052 Visual ensemble perception is not invariant across object types Yoshiyuki Ueda
- 63.4053 Real-World Object Size Affects Attentional Allocation Andrew Collegio, Joseph Nah, Paul Scotti, Sarah Shomstein

OBJECT RECOGNITION: NEURAL MECHANISMS

- WEDNESDAY, MAY 24, 8:30 AM 12:30 PM, PAVILION
- 63.4054 Electrophysiological correlates of animate/inanimate and graspable/tool object representations Gennadiy Gurariy, Gideon Caplovitz
- 63.4055 Characterizing the spatio-temporal dynamics of behavior-related neural activity during human visual object perception Radoslaw Cichy, Nikolaus Kriegeskorte, Jasper van den Bosch, Kamila Jozwik, Ian Charest
- 63.4056 **MEG decoding reveals the representational dynamics of task context in visual processing** Martin Hebart, Brett Bankson, Assaf Harel, Chris Baker, Radoslaw Cichy
- 63.4057 Revealing the temporal dynamics of individually unique object representations Ian Charest, Daniel Lindh, Sara Assecondi, Matthias Treder
- 63.4058 Comparing human and convolutional neural network performance on scene segmentation Noor Seijdel, Max Losch , Edward De haan , Steven Scholte
- 63.4059 Relational processing of abstractly and associatively related object pairs: an ERP study Leemor Zucker, Liad Mudrik
- 63.4060 Oscillatory signatures of object recognition across cortical space and time. Leila Reddy, Radoslaw Cichy, Rufin VanRullen

63.4061 Do inverted scenes modulate semantic object processing? Behavioral and electrophysiological insights Tim Lauer, Verena Willenbockel, Melissa Vo

- 63.4062 Carving up the ventral stream with Deep Synthe-
- sis Anthony Norcia, Wesley Meredith, Guillaume Reisen, Daniel Yamins
- 63.4063 Elucidating Mechanisms of TMS-induced Visual Suppression Evan Center, Monica Fabiani, Gabriele Gratton, Diane Beck
- 63.4064 Developmental visual perception deficits in the presence of adequate face perception but abnormal eye movements Sharon Gilaie-Dotan, Ravid Doron

MULTISENSORY: COGNITION, CLINICAL AND SYNESTHESIA

- WEDNESDAY, MAY 24, 8:30 AM 12:30 PM, PAVILION
- **63.4065 Influence of Expectation on McGurk Effect** Nikki Buzdar, Brittney Hernandez, Alexander Le, Moire Sigler, Eriko Self
- 63.4066 The Neural Correlates of Cross-Modal Category Learning You Li, Ying Fang, Hui Li, Nan Liu, Yizhou Jiang, Lei Mo, Qi Chen
- 63.4067 Combining linguistic and visual instructions in a virtual reality maze. Serena De Stefani, Eileen Kowler, Karin Stromswold, Shahan Akhter, Jacob Feldman
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- 63.4082 Contour interpolation: A case study in Modularity of Mind Brian Keane
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- 63.4084 Modifying perceptual rules for surface representation with perceptual learning Jessica Holmin, Chao Han, Teng Leng Ooi, Ziajiang He
- 63.4085 **Perceptual surface completion and surface stability** Chao Han, Teng-Leng Ooi, Zijiang He
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- 63.4087 Different Mechanisms in the interpolation of modal and amodal completion; Evidence for different involvement of lower visual areas Sivan Schwartz, Batsheva Hadad, Liora Sekely, Shai Gabay
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- 63.4093 Ensemble representations account for size constancy Sneha Suresh, Sam Thomasson, Jason Haberman
- 63.4094 Combination of speed profile of accreting/deleting texture and occluding contour geometry in determining relative depth Omer Daglar Tanrikulu, Vicky Froyen, Jacob Feldman, Manish Singh
- 63.4095 Unmet Expectations Impede Object Detection: Interactions Between Predictions and Error Signals Interfere with Figure-Ground Assignment Rachel Skocypec, Barnes Jannuzi, Kimberley Orsten-Hooge, Mary Peterson

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- 63.4097 Seeing structure: Perceived similarity is driven by shape skeletons Adam Lowet, Chaz Firestone, Brian Scholl
- 63.4098 Open vs Closed Shapes: A Dimension of Perceptual Awareness? David Burlinson, Kalpathi Subramanian, Paula Goolkasian

- 63.4099 Evaluating translation invariance in models of shape tuning in area V4 Hannah Choi, Dean Pospisil, Wyeth Bair
- 63.4100 **Behavioral Oscillations in Shape Perception** Gennady Erlikhman, Gideon Caplovitz
- 63.4101 Effects of shape transformations on perceived similarity Yaniv Morgenstern, Filipp Schmidt, Roland Fleming
- 63.4102 Curvature detection shares common mechanisms with vernier task Marie Morita, Takao Sato
- 63.4103 Past Experience Within an Experiment Does Not Influence Figural Assignment Colin Flowers, Mary Peterson
- 63.4104 Further evidence for the global processing of random phase radial frequency patterns. Robert Green, James Dickinson, David Badcock
- 63.4105 The one-is-more illusion: Sets of discrete objects appear less extended than equivalent continuous entities in both space and time Sami Yousif, Brian Scholl
- 63.4106 Amodal completion requires more time in older adults Jessica Cali, Patrick Bennett, Allison Sekuler

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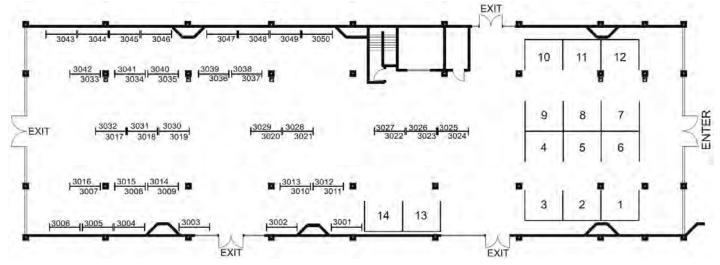
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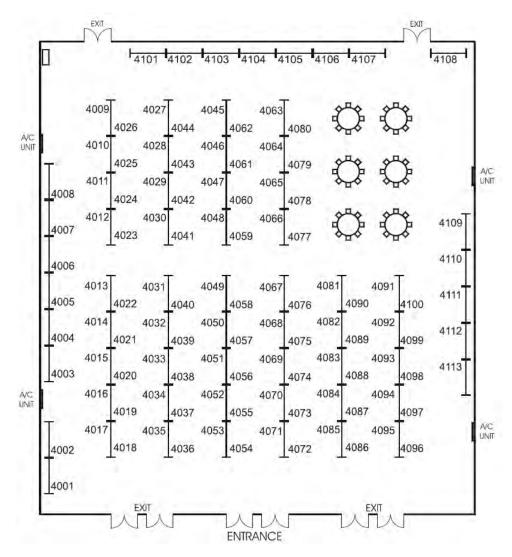
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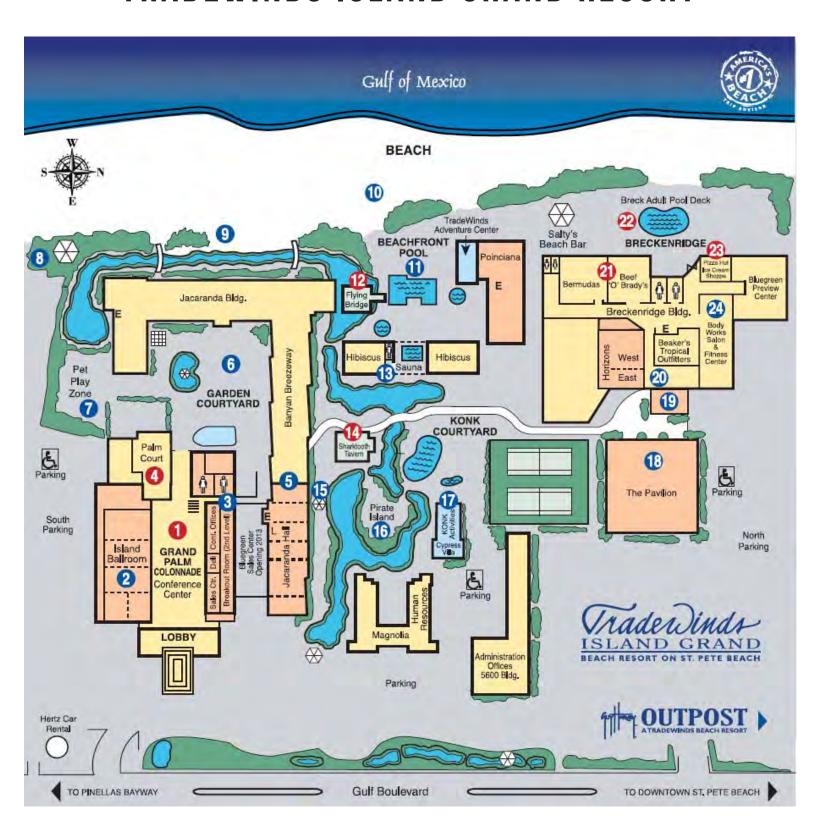
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