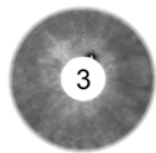
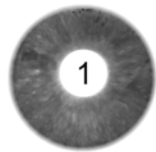


Vision Sciences Society

13th Annual Meeting, May 10-15, 2013

Waldorf Astoria Naples, Naples, Florida

Program



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President's Welcome

Welcome to the 13th Annual Meeting of the Vision Sciences Society!

On behalf of the board of directors of the Vision Sciences Society, I am delighted to welcome you all to our annual conference in Naples, Florida. Half of our meetings have now been held at this venue, and the last six years have not only seen tremendous growth of our society, but also excellent meeting facilities and a great environment to discuss science.

Our meeting continues to gradually evolve, yet some aspects are already well established. Like every year, we will have six special user-initiated symposia, which start off our conference on Friday afternoon. There were many more symposia proposals, but we think the selected topics are right at the core of the current debates in vision science. One of the symposia, on Visual Development is a joint enterprise with the Association for Research in Vision and Ophthalmology (ARVO). By now, not all members are familiar with the name – it has been 13 years since VSS split off from ARVO. The annual joint symposium is one of our links to ARVO and to clinical vision science.

This year's keynote speaker is Dora Angelaki, who has done outstanding work on the physiology and modeling of visual-vestibular interactions. As vision scientists, we tend to ignore the vestibular sense, but Dora's work very elegantly shows how multisensory neurons can help us keep track of our own movements and the motion of other objects at the same time. As usual, our keynote lecture is generously sponsored by Cambridge Research Systems.

The Young Investigator Award is now also a well established part of VSS. This year, Dr. Roland Fleming is the winner of the award for his exceptional contributions to the young field of material property perception. The award is made possible through the support of Elsevier Publishers, who are also the source for 20 travel fellowships we are able to award each year.

This year we are proud to introduce a second award. Initiated by Lynne Kiorpes and Karen Dobkins, VSS has established an award to honor the late Davida Teller. Davida not only was a world leading vision scientist in visual development for many decades, she was also a tireless mentor of many young scientists. Moreover, she went through great efforts to help advance the career of young female scientists. The award is therefore given to an outstanding woman vision scientist with a strong history of mentoring. The well deserved inaugural recipient of the Davida Teller award is Dr. Eileen Kowler, who has shaped eye movement research during the last 30 years like no other.

Both the Young Investigator award and the Davida Teller award will be presented in a special awards session at 1pm on Monday. I hope many of you will attend this special occasion.

Of course, the core of the meeting are our 80 poster and 32 talk sessions, where we all get to hear and discuss the latest findings of scientists from all around the world. Enjoy the conference!

Karl R. Gegenfurtner
President of VSS



Meeting Schedule

Friday, May 10

10:00 am – 9:30 pm Registration Open
 1:00 – 3:00 pm Symposium Session 1
 3:00 – 3:30 pm Coffee Break
 3:30 – 5:30 pm Symposium Session 2
 5:30 - 6:00 pm Coffee Break
 5:30 - 8:00 pm Exhibits Open
 5:30 - 8:00 pm Evening Poster Session
 7:30 - 9:30 pm Opening Night Reception

Royal Palm Foyer
 Royal Palm 1-3, 4-5 & 6-8 (See page 26)
 Royal Palm Foyer
 Royal Palm 1-3, 4-5 & 6-8 (See page 27)
 Royal Palm Foyer, Orchid Foyer
 Orchid Foyer, Acacia Foyer
 Vista Ballroom, Orchid Ballroom
 Sunset & Vista Decks, Mangrove Pool

Saturday, May 11

7:30 am – 6:45 pm Registration Open
 7:45 – 8:15 am Coffee & Continental Breakfast
 8:15 – 9:45 am Talk Session
 8:30 am – 12:30 pm Poster Session
 8:30 am – 6:45 pm Exhibits Open
 9:45 – 10:30 am Coffee Break
 10:00 – 11:30 am VSS Public Lecture

Royal Palm Foyer
 Royal Palm Foyer, Orchid Foyer
 Royal Palm 1-3 & 4-5
 Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
 Orchid Foyer, Acacia Foyer
 Royal Palm Foyer, Orchid Foyer
 Renaissance Academy of Florida Gulf Coast University
 (Off Site, See page 15)
 Royal Palm 1-3 & 4-5
 Purchase a lunch at VSS Marketplace and head to the beach!*

10:45 am - 12:30 pm Talk Session
 12:30 - 2:30 pm Lunch Break
 2:30 – 4:15 pm Talk Session
 2:45 – 6:45 pm Poster Session
 4:15 – 5:00 pm Coffee Break
 5:15 – 6:45 pm Talk Session
 7:00 – 8:00 pm Keynote Address

Royal Palm 1-3 & 4-5
 Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
 Royal Palm Foyer, Orchid Foyer
 Royal Palm 1-3 & 4-5
 Royal Palm 4-5 (See page 11)

Sunday, May 12

7:30 am – 6:45 pm Registration Open
 7:45 – 8:15 am Coffee & Continental Breakfast
 8:15 – 9:45 am Talk Session
 8:30 am – 12:30 pm Poster Session
 8:30 am – 6:45 pm Exhibits Open
 9:45 – 10:30 am Coffee Break
 10:45 am - 12:30 pm Talk Session
 12:30 - 2:30 pm Lunch Break
 1:00 - 2:00 pm VSS Workshop for PhD Students and Postdocs: How to deal with media?!
 1:00 - 2:00 pm VSS Career Event for PhD Students and Postdocs: What's Next?
 2:30 – 4:15 pm Talk Session
 2:45 – 6:45 pm Poster Session
 4:15 – 5:00 pm Coffee Break
 5:15 – 7:15 pm Talk Session

Royal Palm Foyer
 Royal Palm Foyer, Orchid Foyer
 Royal Palm 1-3 & 4-5
 Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
 Orchid Foyer, Acacia Foyer
 Royal Palm Foyer, Orchid Foyer
 Royal Palm 1-3 & 4-5
 Purchase a lunch at VSS Marketplace and head to the beach!*

Monday, May 13

7:45 am – 2:00 pm Registration Open
 7:45 – 8:15 am Coffee & Continental Breakfast
 8:15 – 9:45 am Talk Session
 8:30 am – 12:30 pm Poster Session
 8:30 am – 12:30 pm Exhibits Open

Royal Palm Foyer
 Royal Palm Foyer, Orchid Foyer
 Royal Palm 1-3 & 4-5
 Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
 Orchid Foyer, Acacia Foyer

9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:45 am - 12:30 pm	Talk Session	Royal Palm 1-3 & 4-5
1:00 – 2:00 pm	Davida Teller & YIA Lectures	Royal Palm 4-5 (See pages 12-14)
2:00 – 4:30 pm	Board of Directors Meeting	Mangrove 1-2
2:00- 5:00 pm	Afternoon off	
5:00 – 7:00 pm	9th Annual Best Illusion of the Year Contest (satellite)	Philharmonic Center for the Arts (Off Site, See page 23)
7:00 – 9:00 pm	Demo Night Dinner	Vista Ballroom, Sunset Deck, Mangrove Pool (See page 21)
7:30 – 10:00 pm	Demo Night Demos	Royal Palm 4-5, Acacia Rooms & Foyer, Cypress Room (Page 21)

Tuesday, May 14

7:45 am – 6:45 pm	Registration Open	Royal Palm Foyer
7:45 – 8:15 am	Coffee & Continental Breakfast	Royal Palm Foyer, Orchid Foyer
8:15 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:30 am – 12:30 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:45 am - 12:30 pm	Talk Session	Royal Palm 1-3 & 4-5
12:30 - 1:45 pm	Lunch Break	Purchase a lunch at VSS Marketplace and head to the beach!*
12:30 - 1:45 pm	VSS Committees Lunch	Acacia 5-6
1:45 - 2:30 pm	Business Meeting	Royal Palm 4-5
2:30 – 4:15 pm	Talk Session	Royal Palm 1-3, & 4-5
2:45 - 6:45 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
4:15 – 5:00 pm	Coffee Break	Royal Palm Foyer, Orchid Foyer
5:15 – 7:15 pm	Talk Session	Royal Palm 1-3 & 4-5
10:00 pm – 2:00 am	Club Vision Dance Party	Vista Ballroom, Sunset Deck (See page 20)

Wednesday, May 15

7:45 am – 12:45 pm	Registration Open	Royal Palm Foyer
7:45 – 8:15 am	Coffee & Continental Breakfast	Royal Palm Foyer, Orchid Foyer
8:15 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:30 am – 12:30 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:45 am – 12:45 pm	Talk Session	Royal Palm 1-3 & 4-5
12:45 pm	Meeting Ends	

* Salads, sandwiches, and snacks are available for purchase at the VSS Marketplace located on the ballroom level between the Royal Palm and Orchid Foyers.

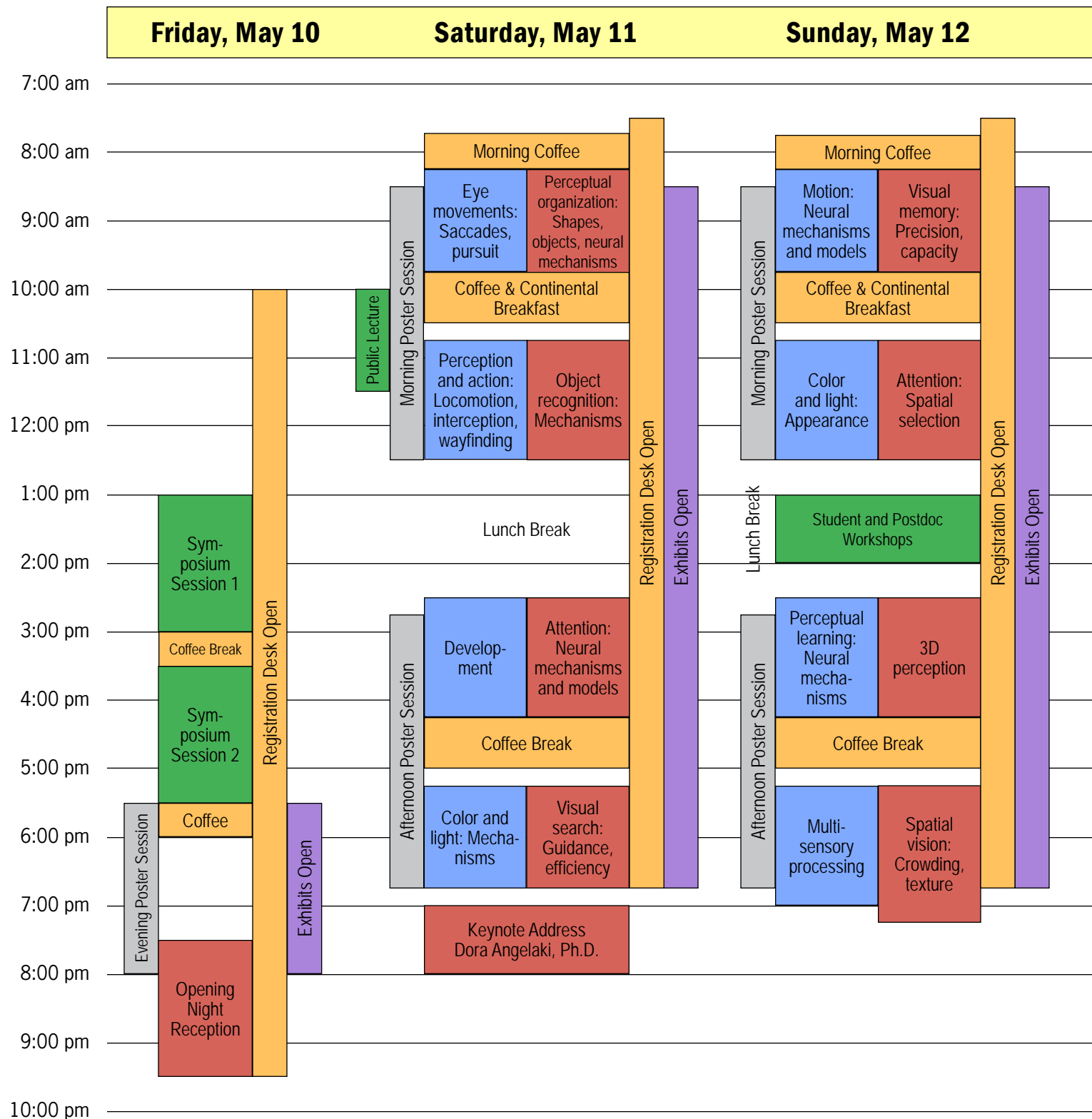


Save the Date...

VSS 2014
May 16-21, 2014

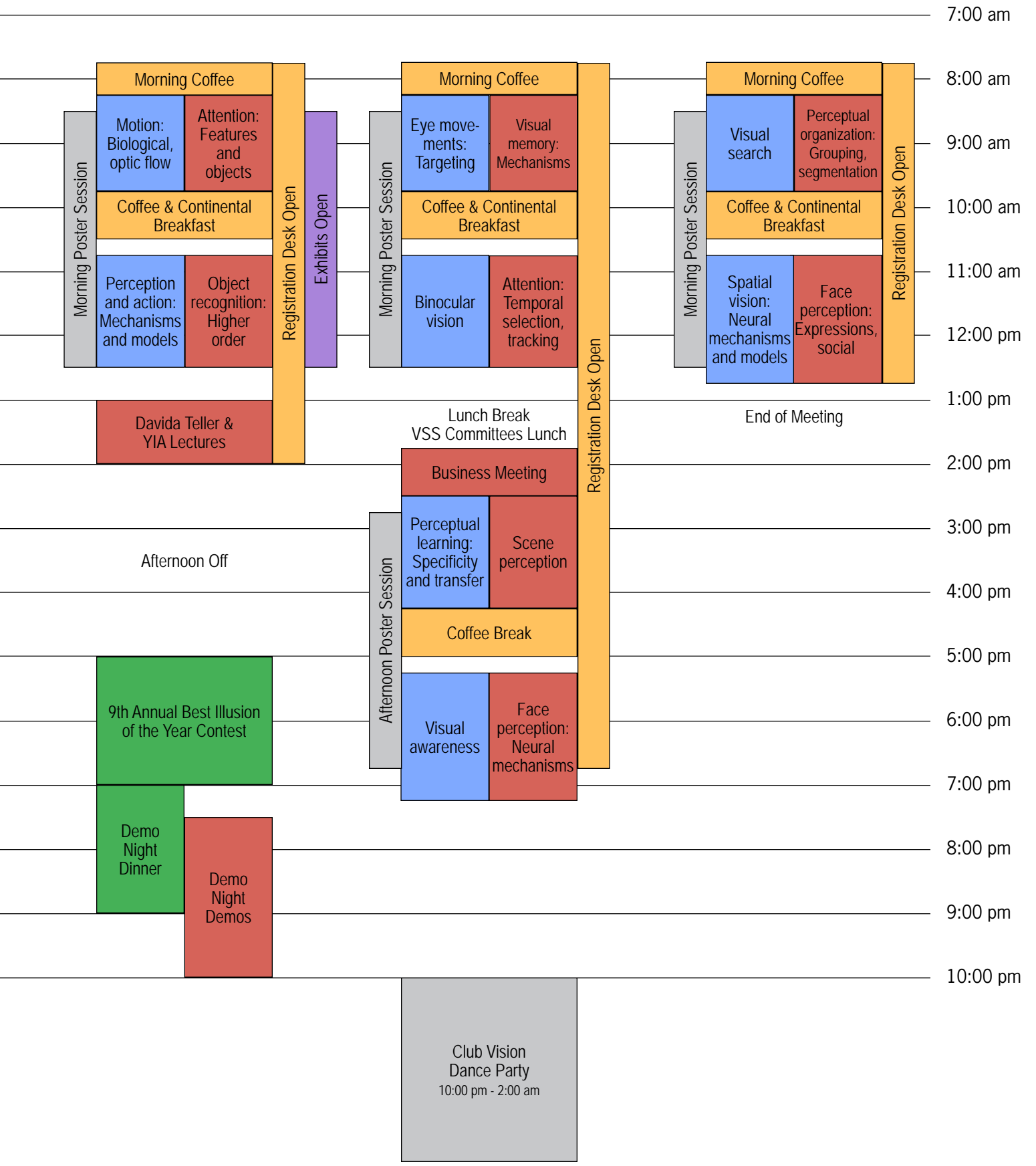
We're Moving to the...

TradeWinds Island Resorts
St. Pete Beach, Florida



Color Key: Royal Palm 1-3 Royal Palm 4-5 Royal Palm Foyer Orchid Foyer Vista, Royal Palm 6-8, Orchid See Meeting Schedule

Monday, May 13 **Tuesday, May 14** **Wednesday, May 15**





Poster Schedule

Poster Setup and Takedown

All poster sessions are held in the Royal Palm 6-8 and Orchid Ballrooms on the Ballroom level, and Vista Ballroom on the Lobby level. 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 Author Presents” time; and authors of odd numbered posters during the entire “Odd Author Presents” 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 at the Meeting Registration Desk in the Royal Palm Foyer.

Friday Evening, May 10

Setup: 5:00 – 5:30 pm

Session: 5:30 - 8:00 pm

Even Authors Present: 6:00 – 7:00 pm

Odd Authors Present: 7:00 – 8:00 pm

Room: Orchid Ballroom

Visual memory: Mechanisms and models

Development: Atypical aging and development

Spatial vision: Neural mechanisms

Object recognition: Spatial and temporal aspects

Room: Vista Ballroom

Perceptual organization: Shapes, objects

Attention: Capture

Face perception: Holistic and parts

Take down: 9:30 – 10:00 pm

Saturday Morning, May 11

Setup: 8:00 - 8:30 am

Session: 8:30 am – 12:30 pm

Even Authors Present: 9:15 – 10:15 am

Odd Authors Present: 10:15 – 11:15 am

Room: Royal Palm 6-8

Attention: Features and objects

Visual search: Memory, attentional capture

Room: Orchid Ballroom

Face perception: Mechanisms and models

Motion: Biological motion

Color and light: Material properties

3D perception: Space

Room: Vista Ballroom

Attention: Neural mechanisms and models

Perceptual learning: Models, specificity

3D perception: Shape from shading and contours

Spatial vision: Models

Take down: 12:30 – 1:00 pm

Saturday Afternoon, May 11

Setup: 2:00 – 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

Room: Royal Palm 6-8

Temporal processing

Visual memory: Encoding, maintenance, retrieval

Room: Orchid Ballroom

Perception and action: Reaching and grasping, neural mechanisms

Motion: Neural mechanisms and models

Motion: Local, adaptation

Eye movements: Pursuit

Room: Vista Ballroom

Face perception: Inversion, eye movements, gaze perception

Face perception: Identification

Attention: Spatial and temporal aspects

3D perception: Neural mechanisms and models

Take down: 6:45– 7:00 pm

Sunday Morning, May 12

Setup: 8:00 - 8:30 am

Session: 8:30 am – 12:30 pm

Even Authors Present: 9:15 – 10:15 am

Odd Authors Present: 10:15 – 11:15 am

Room: Royal Palm 6-8

Perception and action: Complex actions, clinical

Object recognition: Neural mechanisms

Room: Orchid Ballroom

Eye movements: Cognition, models

Visual search: Eye movements

Binocular vision: Rivalry

Binocular vision: Neural mechanisms and models

Room: Vista Ballroom

Perceptual learning: Plasticity, adaptation

Spatial vision: Crowding, eccentricity

Face perception: Emotion

Take down: 12:30 – 1:00 pm

Sunday Afternoon, May 12

Setup: 2:00 – 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
 Room: Royal Palm 6-8
 Attention: Spatial Selection 1
 Attention: Divided, resource competition
 Room: Orchid Ballroom
 Object recognition: Categories
 Object recognition: Frames of reference
 Visual search: Spatial and temporal aspects
 Motion: Optic flow
 Room: Vista Ballroom
 Perceptual organization: Surfaces, segmentation
 Development: Typical development across the lifespan
 Perception and action: Models, adaptation
 Take down: 6:45– 7:00 pm

Monday Morning, May 13

Setup: 8:00 - 8:30 am
 Session: 8:30 am – 12:30 pm
 Even Authors Present: 9:15 – 10:15 am
 Odd Authors Present: 10:15 – 11:15 am
 Room: Royal Palm 6-8
 Eye movements: Methodology, clinical
 Visual memory: Objects, features
 Room: Orchid Ballroom
 Perceptual organization: Grouping
 Development: Autism Spectrum Disorders
 Face perception: Social cognition
 Room: Vista Ballroom
 Multisensory processing: Sensory interaction
 Attention: Reward, motivation, emotion
 Perceptual learning: Neural mechanisms
 Take down: 12:30 – 1:00 pm

Tuesday Morning, May 14

Setup: 8:00 - 8:30 am
 Session: 8:30 am – 12:30 pm
 Even Authors Present: 9:15 – 10:15 am
 Odd Authors Present: 10:15 – 11:15 am
 Room: Royal Palm 6-8
 Perception and action: Locomotion, navigation
 Motion: Depth, higher order
 Room: Orchid Ballroom
 Face perception: Experience and learning
 Face perception: Disorders
 Object recognition: Features, parts
 Color and light: Mechanisms and models
 Room: Vista Ballroom
 Perceptual organization: Neural mechanisms and models
 Scene perception: Spatiotemporal factors
 Scene perception: Neural mechanisms
 Multisensory processing: Cognitive, orienting
 Take down: 12:30 – 1:00 pm

Tuesday Afternoon, May 14

Setup: 2:00 – 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
 Room: Royal Palm 6-8
 Attention: Spatial Selection 2
 Attention: Inattention, attention blindness
 Room: Orchid Ballroom
 Color and light: Lightness and brightness
 Color and light: High level
 Binocular vision: Stereopsis
 3D perception: Cue combination
 Attention: Temporal
 Room: Vista Ballroom
 Eye movements: Neural mechanisms, perception
 Eye movements: Saccades
 Spatial vision: Natural image statistics
 Visual search: Attention
 Take down: 6:45– 7:00 pm

Wednesday Morning, May 15

Setup: 8:00 - 8:30 am
 Session: 8:30 am – 12:30 pm
 Even Authors Present: 9:15 – 10:15 am
 Odd Authors Present: 10:15 – 11:15 am
 Room: Royal Palm 6-8
 Attention: Tracking, shifting
 Object recognition: Reading
 Room: Orchid Ballroom
 Scene perception: High level
 Multisensory processing: Synesthesia, attention, sensory interaction
 Eye movements: Microsaccades
 Visual memory: Precision, capacity
 Take down: 12:30 – 1:00 pm



Talk Schedule

Saturday, May 11

Time	Royal Palm 1-3	Royal Palm 4-5
8:15 – 9:45 am	Eye movements: Saccades, pursuit	Perceptual organization: Shapes, objects, neural mechanisms
10:45 am – 12:30 pm	Perception and action: Locomotion, interception, wayfinding	Object recognition: Mechanisms
2:30 – 4:15 pm	Development	Attention: Neural mechanisms and models
5:15 – 6:45 pm	Color and light: Mechanisms	Visual search: Guidance, efficiency

Sunday, May 12

Time	Royal Palm 1-3	Royal Palm 4-5
8:15 – 9:45 am	Motion: Neural mechanisms and models	Visual memory: Precision, capacity
10:45 am – 12:30 pm	Color and light: Appearance	Attention: Spatial Selection
2:30 – 4:15 pm	Perceptual learning: Neural mechanisms	3D Perception
5:15 – 7:15 pm	Multisensory processing	Spatial vision: Crowding, texture

Monday, May 13

Time	Royal Palm 1-3	Royal Palm 4-5
8:15 – 9:45 am	Motion: Biological, optic flow	Attention: Features and objects
10:45 am – 12:30 pm	Perception and action: Mechanisms and models	Object recognition: Higher order

Tuesday, May 14

Time	Royal Palm 1-3	Royal Palm 4-5
8:15 – 9:45 am	Eye Movements: Targeting	Visual memory: Mechanisms
10:45 am – 12:30 pm	Binocular Vision	Attention: Temporal selection, tracking
2:30 – 4:15 pm	Perceptual learning: Specificity and transfer	Scene perception
5:15 – 7:15 pm	Visual awareness	Face perception: Neural mechanisms

Wednesday, May 15

Time	Royal Palm 1-3	Royal Palm 4-5
8:15 – 9:45 am	Visual search	Perceptual organization: Grouping, segmentation
10:45 am – 12:45 pm	Spatial vision: Neural mechanisms and models	Face perception: Expressions, social

Speaker Information

Please arrive at the Ballroom 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

Dora Angelaki, Ph.D.

Wilhelmina Robertson Professor & Chair Department of Neuroscience, Baylor College of Medicine



Dr. Angelaki is the Wilhelmina Robertson Professor & Chair of the Department of Neuroscience, Baylor College of Medicine, with a joint appointment in the Departments of Electrical & Computer Engineering and Psychology, Rice University. She holds Diploma and PhD degrees in Electrical and Biomedical Engineering from the

University of Athens and University of Minnesota. Her general area of interest is computational, cognitive and systems neuroscience. Within this broad field, she specializes in the neural mechanisms of spatial orientation and navigation using humans and non-human primates as a model. She is interested in neural coding and how complex, cognitive behavior is produced by neuronal populations. She has received many honors and awards, including the inaugural Pradal Award in Neuroscience from the National Academy of Sciences (2012), the Grass lectureship from the Society of Neuroscience (2011), the Halpike-Nylen medal from the Barany Society (2006) and the Presidential Early Career Award for Scientists and Engineers (1996). Dr. Angelaki maintains a very active research laboratory funded primarily by the National Institute of Health and a strong presence in the Society for Neuroscience and other international organizations.

Optimal integration of sensory evidence: Building blocks and canonical computations

Saturday, May 12, 7:00 - 8:00 pm Royal Palm 4-5

Dora E. Angelaki, Department of Neuroscience, Baylor College of Medicine and Gregory C. DeAngelis, Department of Brain and Cognitive Sciences, University of Rochester

A fundamental aspect of our sensory experience is that information from different modalities is often seamlessly integrated into a unified percept. Recent computational and behavioral studies have shown that humans combine sensory cues according to a statistically optimal scheme

derived from Bayesian probability theory; they perform better when two sensory cues are combined. We have explored multisensory cue integration for self-motion (heading) perception based on visual (optic flow) and vestibular (linear acceleration) signals. Neural correlates of optimal cue integration during a multimodal heading discrimination task are found in the activity of single neurons in the macaque visual cortex. Neurons with congruent heading preferences for visual and vestibular stimuli ('congruent cells') show improved sensitivity under cue combination. In contrast, neurons with opposite heading preferences ('opposite cells') show diminished sensitivity under cue combination. Responses of congruent neurons also reflect trial-by-trial re-weighting of visual and vestibular cues, as expected from optimal integration, and population responses can predict the main features of perceptual cue weighting that have been observed many times in humans. The trial-by-trial re-weighting can be simulated using a divisive normalization model extended to multisensory integration. Deficits in behavior after reversible chemical inactivation provide further support of the hypothesis that extrastriate visual cortex mediates multisensory integration for self-motion perception.

However, objects that move through the environment can distort optic flow and bias perceptual estimates of heading. In biologically-constrained simulations, we show that decoding a mixed population of congruent and opposite cells according to their vestibular heading preferences can allow estimates of heading to be dissociated from object motion. These theoretical predictions are further supported by perceptual and neural responses: (1) Combined visual and vestibular stimulation reduces perceptual biases during object and heading discrimination tasks. (2) As predicted by model simulations, visual/vestibular integration creates a more robust representation of heading in congruent cells and a more robust representation of object motion in opposite cells.

In summary, these findings provide direct evidence for a biological basis of the benefits of multisensory integration, both for improving sensitivity and for resolving sensory ambiguities. The studies we summarize identify both the computations and neuronal mechanisms that may form the basis for cue integration. Diseases, such as autism spectrum disorders, might suffer from deficits in one or more of these canonical computations, which are fundamental in helping merge our senses to interpret and interact with the world.



Keynote Address is sponsored by Cambridge Research Systems

Dauida Teller Award

Eileen Kowler

Department of Psychology, Rutgers University



Dr. Eileen Kowler, Professor at Rutgers University, is the inaugural winner of the Dauida Teller Award. Eileen transformed the field of eye movement research that eye movements are not reflexive visuomotor responses, but are driven by and tightly linked to attention, prediction, and cognition.

Perhaps the most significant scientific contribution by Eileen was the demonstration that saccadic eye movements and visual perception share attentional resources. This seminal paper has become the starting point for hundreds of subsequent studies about vision and eye movements. By convincingly demonstrating that the preparation of eye movements shares resources with the allocation of visual attention, this paper also established the validity of using eye movements as a powerful tool for investigating the mechanisms of visual attention and perception, which provides a precision and reliability that is otherwise difficult, if not impossible, to achieve. This work forms the basis of most of the work on eye movements that is presented at VSS every year!

Before her landmark studies on saccades and attention, Eileen made a major contribution by showing that cognitive expectations exert strong influences on smooth pursuit eye movements. At that time smooth pursuit eye movements were thought to be driven in a machine-like fashion by retinal error signals. Eileen's wonderfully creative experiments (e.g., pursuit targets moving through Y-shaped tubes) convinced the field that smooth pursuit is guided in part by higher-level visual processes related to expectations, memory, and cognition.

Anticipatory behavior of human eye movements

Monday, May 13, 1:00 pm, Royal Palm 4-5

The planning and control of eye movements is one of the most important tasks accomplished by the brain because of the close connection between eye movements and visual function. Classical approaches assumed that eye movements are solely or primarily reactions to one or another type of sensory cue, but we now know that eye movements also display anticipatory responses to predicted signals or events. This talk will illustrate several examples of anticipatory behavior of both smooth pursuit eye movements and saccades. These anticipatory responses are automatic and effortless, depend on the decoding of symbolic environmental cues and on memory for recent events, and can be found in typical individuals and in those with autism spectrum disorder. Anticipatory responses show that oculomotor control is driven by internal models that take into account both the capacity limits of the motor system and the states of the surrounding visual environment

Workshop on Mathematical and Computational Modeling

May 8 - 10, 2013, Edgewater Beach Hotel

Organizers: Jeffrey Mulligan and Zygmunt Pizlo

Contributed presentations on theory and practice of mathematical modeling for vision research. Registration is required.

See: <http://www.conf.purdue.edu/modvis/>

Young Investigator Award

Roland W. Fleming

Kurt Koffka Junior Professor of Experimental Psychology, University Of Giessen



Roland W. Fleming is the 2013 winner of the VSS Young Investigator Award. Roland is the Kurt Koffka Junior Professor of Experimental Psychology at University of Giessen in Giessen, Germany. His work combines deep insight about perceptual processes with rigorous experimentation and computational analysis, and he communicates his

findings with exemplary clarity. Roland is well-known for his transformative work connecting the perception of object material properties with image statistics. Equally important is his work on shape estimation from 'orientation fields', which has been widely appreciated for highlighting raw information in the image that is diagnostic of 3D shape. Roland has also applied insights from perception to the advancement of computer graphics. He takes an interdisciplinary approach that combines neural modelling, psychophysical experiments, and advanced image synthesis and analysis methods. In addition to his formidable array of intellectual contributions, Roland has been a tireless contributor to the academic community, serving on editorial boards, organizing symposia and short courses, and training first rate students and postdocs.

Shape, Material Perception and Internal Models

Monday, May 13, 1:00 pm, Royal Palm 4-5

When we look at objects, we don't just recognize them, we also mentally 'size them up', making many visual inferences about their physical and functional properties. Without touching an object, we can usually judge how rough or smooth it is, whether it is physically stable or likely to topple over, or where it might break if we applied force to it. High-level inferences like these are computationally extremely challenging, and yet we perform them effortlessly all the time. In this talk, I will present research on how we perceive and represent the properties of materials and objects. I'll discuss gloss perception and the inference of fluid viscosity from shape cues. Using these examples I'll argue that the visual system doesn't actually estimate physical parameters of materials and objects. Instead, I suggest, the brain is remarkably adept at building 'statistical generative models' that capture the natural degrees of variation in appearance between samples. For example, when determining perceived glossiness, the brain doesn't estimate parameters of a physical reflection model. Instead, it uses a constellation of low- and mid-level image measurements to characterize the extent to which the surface manifests specular reflections. Likewise, when determining apparent viscosity, the brain uses many general-purpose shape and motion measurements to characterize the behaviour of a material and relate it to other samples it has seen before. I'll argue that these 'statistical generative models' are both more expressive and easier to compute than physical parameters, and therefore represent a powerful middle way between a 'bag of tricks' and 'inverse optics'. In turn, this leads to some intriguing future directions about how 'generative' representations of shape could be used for inferring not only material properties but also causal history and class membership from few exemplars.



Elsevier/ *Vision Research* Travel Awards

VSS congratulates this year's recipients of the 2013 Elsevier/ *Vision Research* Travel Awards.

Johanna Bergmann

University of New South Wales
Advisor: Joel Pearson

Omar Butt

University of Pennsylvania
Advisor: Geoffrey K. Aguirre

Rocco Chiou

Macquarie University, Australia
Advisor: Anina N. Rich

Kyoung whan Choe

Seoul National University
Advisor: Sang-Hun Lee

Rachel Denison

University of California, Berkeley
Advisor: Michael Silver

Dejan Draschkow

Ludwig-Maximilians University, Munich; Harvard Medical School and Brigham and Women's Hospital
Advisors: Jeremy Wolfe, Melissa Le-Hoa Vo

Jin Ekanayake

University College London
Advisor: Geraint Rees

Sylvia B. Guillory

University of Massachusetts, Boston
Advisor: Zsuzsa Kaldy

Su Keun Jeong

Harvard University
Advisor: Yaoda Xu

Jacques Jonas

University Hospital of Nancy, France; University of Lorraine, France; University of Louvain, Belgium
Advisors: Bruno Rossion, Louis Maillard

Stanley Komban

SUNY College of Optometry
Advisor: Qasim Zaidi

Zheng Ma

Johns Hopkins University
Advisor: Jonathan Flombaum

Claire Miller

Bangor University, UK
Advisor: Kimron Shapiro

Florian Perdreau

Université Paris Descartes; Sorbonne Paris Cité, France; CNRS UMR 8158, France
Advisor: Patrick Cavanagh

Kevin Smith

University of California, San Diego
Advisor: Ed Vul

Adhira Sunkara

Washington University in St. Louis and Baylor College of Medicine
Advisor: Dora E. Angelaki

Hui Wang

University of Minnesota
Advisor: Gordon E. Legge

Helena Wang

New York University
Advisor: David Heeger

Ruyuan Zhang

University of Rochester
Advisors: Dujie Tadin, Daphne Bavelier

Min Zhao

Rutgers University
Advisor: Eileen Kowler



ELSEVIER

VSS Public Lecture

David J. Lewkowicz

Florida Atlantic University



David J. Lewkowicz is an internationally renowned authority on infant perceptual and cognitive development. He is currently Professor of Psychology at Florida Atlantic University and a past President of the International Society on Infant Studies.

Perceptual Expertise Begins in Infancy

Saturday, May 11, 10:00 – 11:30 am, Renaissance Academy of Florida Gulf Coast University

Contrary to conventional wisdom, infants are not passive, naïve observers. Aided by prenately acquired perceptual abilities, starting at birth infants begin to interact with their world. As they grow, they rapidly learn about the faces, voices, speech, and language in their native environment. By their first birthday, infants become perceptual experts but, paradoxically, only for native faces, voices, speech, and language. This talk will show how the knowledge that we acquire as infants not only facilitates but also hinders our interactions with our world for the rest of our lives.

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

THE RENAISSANCE ACADEMY OF FLORIDA GULF COAST UNIVERSITY

FREE PUBLIC LECTURE

SATURDAY, MAY 11, 10:00 A.M. - 11:30 A.M.

PERCEPTUAL EXPERTISE BEGINS IN INFANCY

DR. DAVID J. LEWKOWICZ
FLORIDA ATLANTIC UNIVERSITY

FGCU NAPLES CENTER, 1010 5TH AVENUE SOUTH, NAPLES, FL 34102
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Poster graphics created by Guillaume Doucet, McGill University

Jointly sponsored by VSS and the Renaissance Academy of Florida Gulf Coast University



Student and Postdoc Workshops

VSS Workshop for PhD Students and Postdocs: How to deal with media?!

Sunday, May 12, 1:00 - 2:00 pm, Acacia 4-6

Chair: Frans Verstraten

Discussants: Aude Oliva, Allison Sekuler, and Jeremy Wolfe

When you have great results it sometimes (but more and more so) means that you will have to deal with journalists who want to tell their readers all about the impact of your research. The problem is that they often exaggerate and can write things that you are not happy about. What should you do to keep in charge when dealing with the media? Also, it has become more and more necessary to present your work to a larger audience. This means more lectures for a general audience, writing popular books, columns in newspapers, appearances on TV and radio programs etc. What is the best way to go here?

These questions will be addressed in a one-hour session introduced by VSS board member Frans Verstraten. His brief introduction is followed by questions and discussion featuring a panel of media experienced VSS members as well as a journalist. All participants will have the chance to ask all the questions they like!



Frans Verstraten

Before Frans Verstraten moved to the University of Sydney in 2012 he was a 'regular' on Dutch national TV. Among others, he was a member of the team of scientists in the popular science TV-show *Hoe?Zo!* (*How?So!*) which aired for 6 seasons. For several years, he wrote columns for national newspaper *De Volkskrant* and *Mind Magazine*. Frans also wrote a book (*Psychology in a nutshell*) for the general audience. He spends lots of time on scientific outreach. Recently, some of his lectures were published as a 4 CD audio box.



Aude Oliva

Aude Oliva is at the Computer Science and Artificial Intelligence Laboratory at MIT. Her work has been featured in various media outlets, including television, radio, newspapers, as well as in the scientific and popular press (i.e. *Wired*, *Scientific American*, *Discover Magazine*, *The Scientist*, *New Scientist*, *CNN*, and other equivalent outlets in Europe). Her research has made its way in textbooks, as well as in Museums of Art and

Science. Her outreach experience includes talks and reports for various companies and industrial firms, as well as governmental agencies.



Allison Sekuler

Allison Sekuler (McMaster University) has a long history of and a strong passion for science outreach, and is a frequent commentator on her own research and that of others in the national and international media. She wrote and was featured in a series of video columns for the Discovery Channel on vision,

and has recently appeared on the CBC, Discovery, and the History Channel. She has served as President of the Royal Canadian Institute for the advancement of science, and helped bring the *Café Scientifique* movement to Canada. She also was the sole scientist on the founding Steering Committee of the Science Media Centre of Canada, and she co-founded *#ScienceSunday* on Google+, which now has a following of over 65,000 people.



Jeremy Wolfe

Jeremy Wolfe (Brigham & Women's Hospital) does not consider himself a media star though he does end up in the newspaper, broadcast media, and Internet world from time to time. He has learned to be careful about what he says because, if he is not, he knows he will hear from his mother. Jeremy's primary research

focus is visual search, including search by experts like airport baggage screeners, radiologists, and spy satellite image analysts (hence the occasional media interest).

VSS Career Event for PhD Students and Postdocs: What's Next!

Sunday, May 12, 1:00 - 2:00 pm, Banyan 1-2

Chair: Suzanne McKee

Discussants: Shin'ya Nishida, Lynne Kiorpes, Gunilla Hagerstrom-Portnoy

What next? How can I prepare for my career after grad school? What opportunities are available outside academia? What are the advantages and disadvantages of academic versus other careers? How could I prepare for a career in clinical research? How could I make a contribution to solving clinical problems? What kinds of problems could I work on in industry? What do I need to know about managing a family and an academic career? Can I get a break from teaching duties?

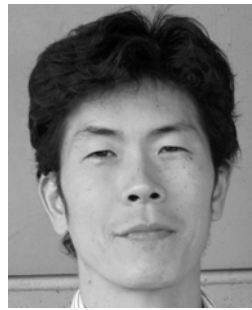
These questions and more will be addressed in a one-hour session with short introductions by our panel of experienced experts. Presentations by panel members will be followed by questions and an interactive discussion session with the audience and panel.



Suzanne McKee

Suzanne McKee is a senior scientist at Smith-Kettlewell Eye Research Institute in San Francisco, CA. She received her Ph.D. from the University of California at Berkeley. She is well-known for her psychophysical studies of all aspects of vision. She will share her experiences working on 'soft-money' at a non-profit

institution, working in industry, and balancing family and career.



Shin'ya Nishida

Shin'ya Nishida is a Senior Distinguished Scientist of NTT (Nippon Telegram and Telephone Corporation) Communication Science Laboratories, Japan. He received BA, MA and Ph.D degrees in Psychology from Faculty of Letters, Kyoto University. His research has focused on visual motion perception, material perception, time perception and cross-modal interactions.



Lynne Kiorpes

Lynne Kiorpes graduated from Northeastern University with a BS in Psychology and then earned her PhD at the University of Washington with Davida Teller. She is a Professor of Neural Science and Psychology at New York University. Her current work is focused on the development of the visual

system and the neural correlates of disorders of visual and cognitive development.



Gunilla Haegerstrom-Portnoy

Gunilla Haegerstrom-Portnoy received her OD and PhD degrees from the School of Optometry University of California, Berkeley where she is a long time faculty member with clinical and administrative responsibilities. She is also a long time consultant to Smith-Kettlewell Eye Research Institute in San

Francisco. Her research interests include anomalies of color vision, assessment/management of children with visual impairments and vision function and visual performance in the elderly.

Club Vision Dance Party

Tuesday, May 14, 10:00 pm – 2:00 am, Vista Ballroom and Sunset Deck

Club Vision, held on the last night of the meeting, is the final social event of VSS. The dance party will once again feature Kevin Smith, one of Florida's most talented and requested DJs. Kevin will offer a vast selection of music and special lighting effects to entertain and entice attendees to the dance floor.

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. You'll be happy to learn that we've negotiated reduced-priced drinks at the party.

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



Attendee Resources

Abstract Book

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

ATM

An ATM is located in the main lobby of the hotel.

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.

Baggage Check

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

Bike Rentals

In the past few years, bikes have become a popular mode of transportation between the Waldorf Astoria and the overflow hotels. The Waldorf Astoria has set up a special "bike parking" area on the first level of the garage for VSS bikes. Here is information on two local bike rental companies:

Big Momma's Bicycles (www.bigmommabicycles.com) is conveniently located down the street from the Waldorf Astoria, less than a mile from the Waldorf Astoria. Bikes can be rented by the day or by the week - delivery & pick-up are available. For reservations, call 239-263-0728 or after hours call or text 239-734-7734. Amy from Big Momma's will be glad to assist you with anything from late pickups to a flat tire!

Trek (www.trekbikesflorida.com) is located a few miles from the Waldorf Astoria. Bikes can be rented by the day or by the week and Trek has offered to deliver bikes to the Waldorf Astoria for VSS attendees. For reservations, call 239-591-8735. For online reservations, go to: www.trek-bikesflorida.com/products/rentals.

Business Center

The Business Center is located in the Orchid Foyer.

Certificates of Attendance

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

Child Care

The Waldorf Astoria Naples invites children between the ages of 4 and 12 to experience arts and crafts, sports, water

activities and fun-filled games amidst the resort's beautiful natural setting. This year the hotel is offering a full day program every day of the VSS meeting.

Open to all VSS attendees. You need NOT be staying at the Waldorf Astoria for your children to take advantage of this program.

Reservations can be made by calling Randi Durgin or Kermit Haines at the Waldorf Astoria Naples Kids Club at 239.253.1207. VSS recommends you make your reservations at least one week prior to the meeting and no less than 24 hours in advance. Drop-ins may be available, but reservations are strongly recommended at 239.253.1207.

Cost: \$49 a child

Hours: 8:30 am - 4:30 pm

The Waldorf Kids Club is operated by the Waldorf Astoria Hotel. VSS provides information for those who are interested.

Copying and Printing

Copying and printing can be done at the Business Center, located in the Orchid Foyer.

There is a boarding pass kiosk located in the main lobby.

The nearest FedEx Kinko's is approximately 2.5 miles away at 890 Neapolitan Way (cross street Tamiami Trail).

A printer will be available in the Cyber Vision Internet Café located in the Seagrape meeting room.

Disclaimer

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

Duplication/Recording

Photography, audio taping, video recording, digital taping, or any other form of duplication, is strictly prohibited in the sessions and poster areas.

Exhibits

All exhibits are located in the Orchid and Acacia Foyers.

Exhibit Hours

Friday, May 10, 5:30 – 8:00 pm

Saturday, May 11, 8:30 am – 6:45 pm

Sunday, May 12, 8:30 am – 6:45 pm

Monday, May 13, 8:30 am – 12:30 pm

Exhibitor Setup and Teardown

Setup: Friday, May 10, 12:00 – 4:30 pm

Teardown: Monday, May 13, 12:30 – 4:00 pm

Fitness Center

The Fitness Center is open 24 hours a day and is available to ALL VSS attendees. See the Reception desk if you are not staying at the Waldorf Astoria Naples and would like access to the Fitness Center.

Food Service/Catering

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

VSS provides a reception and one dinner. **Opening Night Reception** is on Friday night, during the first poster session. Each attendee is given two free drink tickets good on this night only. Appetizers will also be served. A full dinner is provided to all attendees on **Demo Night**.

The VSS schedule gives a generous two-hour lunch period to take advantage of the beautiful surroundings and amenities of the Waldorf Astoria Naples. All Waldorf Astoria facilities are open to all VSS attendees and their guests. Grab a lunch and walk down the path through the natural mangrove estuary to enjoy a break at the beach.

VSS Marketplace

The VSS Marketplace, located on the ballroom level between the Royal Palm and Orchid foyers, offers a selection of reasonably-priced breakfast, lunch and snack items. All items are between \$1 and \$6.

Open Daily 10:00 am - 3:00 pm

Spessi

Located in the resort lobby, Spessi offers a selection of hot coffee drinks and teas, light breakfast and lunch fare to go. Open 6:00 am - 9:00 pm

Paradise Grill

Located at the beach, serving salads, sandwiches, snacks and refreshing beverages. Open 11:00 am - 5:00 pm for food, and 11:00 am to sunset for beverages.

Palm Terrace Pool Bar & Grill

Informal poolside bar serving salads, sandwiches, hamburgers and snacks. Open 11:00 am - 5:00 pm for food, and 11:00 am - 6:00 pm for beverages.

Aura Restaurant

Located in the resort lobby, featuring innovative and sumptuous menus for breakfast, lunch and dinner.

Open 7:00 - 11:00 am daily for breakfast (weekends until 12:00 pm) \$19 breakfast buffet offered daily.

Open 12:00 - 3:00 pm daily for lunch.

Open 6:00 - 10:00 pm daily for dinner.

Aura Bar

Bar is open 12:00 pm-12:00 am daily.

Guests

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

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

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

Internet Access

VSS provides free wireless Internet access on the Ballroom level. You must enter the access code 1657VISION to access the wireless Internet. This code must be entered each day.

The Waldorf Astoria Naples provides wireless Internet access on the Lobby level of the hotel (in the lobby and restaurant areas). No access code is required.

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 Vision Internet Café located in the Seagrape room on the Ballroom level. A printer is also available in the Seagrape meeting room.

If you are a VSS attendee staying at the Waldorf Astoria, then free Internet access is also available in your guest room.

Lost and Found

Lost and found is located at the Registration Desk in the Royal Palm Foyer.

Message Center

Messages for registrants can be left and retrieved at the Registration Desk. A bulletin board will be available in the Royal Palm Foyer 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 inside the garage of the Waldorf Astoria Naples. Turn right off of the main entrance driveway, then look for the parking garage entrance on your left. Overflow parking is available on Seagate Drive.

Phone Charging Station

A phone charging station is located at the Registration Desk.

Pool & Beach

All hotel facilities accessible without a room key are available to all VSS attendees and their guests. Clam Pass beach is a public beach available to everyone. Free electric carts run continuously from the hotel to the beach and back.

Registration

The Registration desk is located in the Royal Palm foyer of the Waldorf Astoria Hotel, Naples. The Registration desk will be open at the following times:

Friday, May 10, 10:00 am - 9:30 pm

Saturday, May 11, 7:30 am - 6:45 pm

Sunday, May 12, 7:30 am - 6:45 pm

Monday, May 13, 7:45 am - 2:00 pm

Tuesday, May 14, 7:45 am - 6:45 pm

Wednesday, May 15, 7:45 am - 12:45 pm

Shipping

To ship your poster or other items home from the meeting ask for the Concierge at the front desk of the Waldorf Astoria.

How to Contact Us

If you need to reach VSS meeting personnel while at the meeting, call ext. 6088 from a house phone, or from outside the hotel, call 239-597-3232, ext. 6088.

The Best Student Poster Awards

Sponsored by Cambridge Research Systems

The Best Student Poster Awards, a new award sponsored by Cambridge Research Systems, will be given to nine winners at VSS 2013. The awards (one for each poster session) will recognize the most outstanding student poster presented during each poster session at VSS.

Eligibility Requirements

All students presenting posters at VSS 2013 in an undergraduate or graduate program are eligible. Post-doctoral fellows are not eligible. Students wishing to participate must be the first author and presenting author on the submitted abstract.

Award Selection Process

Students who wish to be considered for the Best Student Poster Award must place a voting sheet on their board indicating their participation. Attendees will vote for their favorite poster by placing a colored sticker on the voting sheet of the poster of their choice. Attendees can vote only once per session. Each colored sticker corresponds to a specific poster session as indicated on the voting sheet. At the end of the session, votes will be tallied and a winner chosen.

Prize

Each award winner will receive a cash prize of \$100. Winning posters will be displayed near the Registration desk for the duration of the meeting. After the meeting, electronic versions of the winning posters will be posted on the Cambridge Research Systems Ltd website (www.crsLtd.com).

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11th Annual Dinner and Demo Night

Monday, May 13, 7:00 – 10:00 pm

Buffet Dinner: 7:00 – 9:00 pm

Vista Ballroom, Sunset & Vista Decks, and Mangrove Pool

Demos: 7:30 – 10:00 pm

Royal Palm 4-5, Acacia and Cypress Meeting Rooms

Please join us Monday evening for the 11th Annual VSS 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, Gideon Caplovitz, Arthur Shapiro, Dejan Todorovic, and Maryam Vaziri Pashkam are co-curators for Demo Night.

A buffet dinner is served in the Vista Ballroom and on the Sunset Deck and Mangrove Pool area. Demos are located upstairs on the ballroom level in the Royal Palm 4-5 and Acacia and Cypress Meeting Rooms.

Some exhibitors have also prepared special demos for Demo Night.

Demo Night is free for all registered VSS attendees. Meal tickets are not required, but you must wear your VSS badge for entry to the Dinner Buffet. Guests and family members of all ages are welcome to attend the demos but must purchase a ticket for dinner. You can register your guests at any time during the meeting at the VSS Registration Desk, located in the Royal Palm Foyer. A desk will also be set up at the entrance to the dinner in the Vista Ballroom at 6:30 pm.

Guest prices:

Adults: \$25

Youth (6-12 years old): \$10

Children under 6: free

3-D Depth-Inverting and Motion-Reversing Illusions

Thomas V. Papathomas, Rutgers University; Marcel DeHeer, 3-D Graphics, Amsterdam

We will project video animations of 3-D depth-inverting illusions, including the hollow-mask illusion and variations, the “Exorcist” illusion, and various forms of reverse-perspective illusions. Generally, depth is inverted, with concavities being perceived as convexities, and vice versa. Also, the direction of rotation is reversed.

Binocular Rivalry Gets Pushy

Elan Barenholtz, Loren Kogelschatz; Dept. Psychology, Center for Complex Systems, Florida Atlantic University

Wearing red/blue 3D glasses while fixating a homogeneous background results in an interesting form of binocular rivalry: both red and blue fields appear simultaneously, with a boundary that shifts erratically, as the two eyes com-

pete for dominance. The boundary can also be ‘pushed’, by sweeping a hand across the screen.

3-D Phenakistoscope

Peter Thompson, Rob Stone; University of York, UK

The 3-D phenakistoscope generates a moving sequence of real 3-D figures. The viewer spins a vertically oriented disk and views via a series of slits a series of figures on the other side of the disk. A mirror allows the figures to be seen and set in motion. Our model is easy to construct and will thrill your family and friends.

L-POST: A Screening Test for Assessing Perceptual Organization

Karien Torfs^{1,2}, Lee de-Wit, Kathleen Vancleef², Johan Wage-mans²; ¹Université Catholique de Louvain, ²University Leuven

We will demonstrate the Leuven Perceptual Organization Screening Test (L-POST) in which a wide range of processes of perceptual organization are measured using a matching-to-sample task. The L-POST is freely available at www.gestaltrevision.be/tests, can be administered in 20 minutes, and has a neglect friendly version. Try it yourself!

Photo to Painting Techniques

Krista Ehinger, MIT; Eric Altschuler, New Jersey Medical School

Turn your photo into a painted portrait! We demonstrate how two classes of computer vision algorithms (top-down morphable 3D models and bottom-up texture synthesis) can be used to replicate the portrait painting techniques of different artists in history.

Reflections on a True Mirror

Jason Haberman, Jordan Suchow; Harvard University

Common mirrors reflect an image of the viewer that is flipped in the plane of depth. Therefore, there is a mismatch between what the viewer sees and what the rest of the world sees. With a non-reversing (i.e., “true”) mirror, a pair of angled mirrors creates an image that reflects the true self – the image as seen by others or in photographs.

Adaptation of the Vestibulo-Ocular Reflex Using Prism Goggles: An Easy and Compelling Classroom Demonstration

Carl E. Granrud, Michael Todd Allen; University of Northern Colorado

Toss balls into a trashcan while wearing prism goggles that alter the angle of visual inputs. After several misses, accuracy generally improves. When students remove the goggles, they typically miss the trashcan, but in the direction opposite to their initial misses. This demonstrates adaptation of the vestibulo-ocular reflex.

VPixx 3D Survivor Showdown

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

An exciting game in which the PROPixx 500Hz 3D DLP projector presents dynamic 3D images, and pairs of players with passive 3D glasses compete for the fastest response times. VPixx will be awarding prizes to the players with the quickest reflexes!

Virtual Reality Immersion with Cow Cost Head Mounted Displays

Matthias Pusch, Charlotte Li; WorldViz, LLC

Get fully immersed with a research quality Virtual Reality system. Based on the WorldViz Vizard VR software, the system comes with a 3D head-mounted display, motion tracking, rapid application development tools, application starter kit, support & training. Walk through high-fidelity virtual environments in full scale and fully control visual input.

Rotating Columns: Relating Structure-From-Motion, Accretion/Deletion, And Figure/Ground

Vicky Froyen, O. Daglar Tanrikulu, Jacob Feldman, Manish Singh; Rutgers University

When constant textural motion is added to figure-ground displays, the ground regions are perceived as moving as a single surface. Surprisingly, the figural regions are perceived as 3D volumes rotating in depth (like rotating columns)—despite the fact that the textural motion is not consistent with 3D rotation.

The Fuse-A-Face iPad App

Jim Tanaka Buyun Xu, Bonnie Heptonstall, Simen Hagen; University of Victoria, British Columbia, Canada

Have you ever wondered what you would look like with Angelina Jolie's lips or Johnny Depp's eyes? Take a self-photo with the iPad camera and have fun combining your face with face of your favorite celebrities. Then post your face mash-up to your Facebook page or the VSS Face Gallery.

Fabricating Transparent Liquid From Visual Motion

Takahiro Kawabe Kazushi Maruya, Shin'ya Nishida; NTT Communication Science Laboratories, Nippon Telegraph and Telephone Corporation

We will present an illusion in which an impression of transparent liquid is created from band-passed 'vector' spatiotemporal distortion of a static image. We also show that translating the image distortion produces an illusion of the flow of transparent liquid, and even triggers a motion aftereffect in the direction opposite to the apparent liquid flow.

The Influence of Local and Global Motion on Shifts in Perceived Position

Peter J. Kohler, Peter U. Tse; Dartmouth College

The perceived position of a briefly presented stimulus can be shifted in the direction of nearby motion. We present several novel versions of this phenomenon, and demonstrate that local and global motion can both have an influence on the direction of the shift in perceived position.

Some Novel Spatiotemporal Boundary Formation Phenomena

Gennady Erlikhman, Phil Kellman; University of California, Los Angeles

We present several new kinds of spatiotemporal boundary formation phenomena. In one set of demos, we show SBF with non-rigid objects of changing size, shape, and orientation. In another, we show that contour formation via SBF can serve as inputs to conventional illusory contour formation.

Color Man Walking

Gi Yeul Bae, Zheng Ma; Johns Hopkins University

A gradual color change along an iso-luminant color space creates a non-uniform percept of color change rate. Background luminance is a strong determinant for this rhythmical percept. We demonstrate this phenomenon using a variety of geometric arrangements of colored objects.

Rotation or Deformation? A Surprising Consequence of the Kinetic Depth Effect

Attila Farkas, Dr. Alen Hajnal; University of Southern Mississippi

Present illusion reveals a trade-off between several cognitive assumptions. One such bias considers the rigidity of the depicted object. A human head is considered to be a rigid object, and therefore is not expected to be seen as spontaneously changing its shape by stretching or shrinking. Stretching will become rotation.

The Garden Path Illusion - Finding Equiluminance Instantly

Bruce Bridgeman, Sabine Blaes; University of California, Santa Cruz

My garden has flickering roses on one side and flickering foliage on the other. In the middle runs a yellow garden path without flicker. Two panels with opposite brightness gradients and different colors alternate above the chromatic flicker fusion rate; where their brightnesses match, a steady band appears. Instant equiluminance!

Identifying Nonrigid 3D Shapes From Motion Cues

Anshul Jain, Qasim Zaidi; Graduate Center for Vision Research, SUNY College of Optometry

Observers will perform a shape-identification task on novel deforming and rigid shape-from-motion stimuli, which will demonstrate that humans do not make a rigidity assumption to extract 3D shape. We will also demonstrate that observers' performance does not deteriorate in the periphery if the stimuli size is adjusted for cortical magnification.

Dynamic Illusory Size Contrast

Christopher D. Blair, Kyle Killebrew, Gideon P. Caplovitz, University of Nevada Reno; Ryan Mruczek, Swarthmore College

We demonstrate a new illusion in which dynamic changes in the size of one object can induce perceived dynamic changes in another moving object of constant size.

Surface Flows

Romain Vergne, Université Joseph Fourier; Pascal Barla, Inria

In this demo, we will present two novel image deformation operators that produce the illusion of surface shape depicted through textures (e.g., pigmentation) or reflections/refractions (e.g. off glossy/translucent materials). These deformations work in real-time in our prototype software and can be controlled accurately directly in the image.

The Beuchet Chair

Peter Thompson, Rob Stone; University of York, U.K.

Back by Popular Demand! In the Beuchet chair we see two part of the chair (legs and seat) as belonging together even though they are at different distances from us. Consequently figures at different distances are perceived as being at the same distance. The more distant person appears tiny and the closer figure huge.

Tusi or Not Tusi

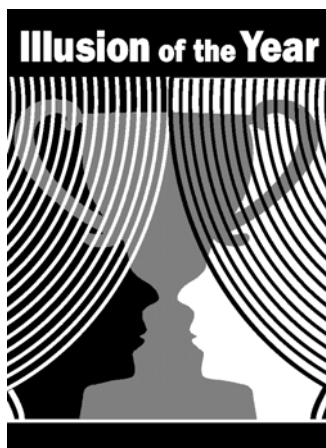
Alex Rose-Henig, Arthur Shapiro; American University

We will present several examples of surprising spatial organization. Some examples show that linear elemental motion can produce circular global motion (we call this Tusi motion, from Nasir al-Din al-Tusi, 1201-1276), and other examples show that circular elemental motion can produce linear global motion (we call this not-Tusi motion).

Leonardo da Vinci Age Regression

Christopher Tyler, Smith-Kettlewell Institute

Although only one secure portrait of Leonardo da Vinci is known, an array of putative portraits and self-portraits of Leonardo da Vinci are aligned and shown in inverse age sequence to provide a convincing age regression back to his infancy.



9th Annual Best Illusion of the Year Contest

Monday, May 13, 5:00 – 7:00 pm (Doors open at 4:30 pm) Philharmonic Center for the Arts (Less than a 10 minute walk from the Waldorf Astoria)

Organizer: Susana Martinez-Conde, Neural Correlate Society

The Best Illusion of the Year Contest is a celebration of the ingenuity and creativity of the world's premier illusion creators. Contestants from all around the world have submitted novel illusions (unpublished, or published no earlier than 2012), and an international panel of judges has narrowed them to the TOP TEN. At the Contest Gala in the Naples Philharmonic Center for the Arts, the top ten illusionists will present their creations and the attendees of the event (that means YOU!) will vote to pick the TOP THREE WINNERS!

Everybody is invited and families are welcome!



Exhibitors

VSS recognizes the following companies who are exhibiting at VSS 2013 and we thank them for their participation and support.

Exhibit Hours

Friday, May 10, 5:30 – 8:00 pm

Saturday, May 11, 8:30 am – 6:45 pm

Sunday, May 12, 8:30 am – 6:45 pm

Monday, May 13, 8:30 am – 12:30 pm

All exhibits are located in the Orchid and Acacia Foyers.

3dMD

Booth 10

With more than 1,200 3D & 4D cameras supplied worldwide, 3dMD is the most widely used 3D camera for research, computational vision, recognition and clinical documentation and is now supporting large scale subject enrollment facial recognition and biometric projects collecting high-precision anatomical information in the field. Featuring an ultra-fast capture speed of 1.5 milliseconds and anatomical precision better than 200 microns, 3dMD systems can capture hundreds of subjects in a single day without failure - eliminating errors caused by subject motion. 3dMD's modular approach means systems are portable and easily scaled for optimum face, head and full body digitization. For advanced biometric research, 3dMD also supplies 60fps 4D systems.

Arrington Research, Inc.

Booth 7

400 Hz ViewPoint EyeTracker® systems from Arrington Research available with Torsion and 3D Vergence. All systems include a Software Developers Kit (SDK), real-time Ethernet communication, built-in stimulus presentation, post-hoc data analysis tools, a MATLAB toolbox, Python, and many other 3rd Party product interfaces and examples. Great for both humans and animals and is available with Analog and TTL communication to ensure seamless communication. ViewPoint EyeTracker® systems are the easiest and best value available and include a variety of light-weight head mounted EyeFrame™, HMD, head fixed, and remote systems. Arrington Research has been providing reliable affordable eye trackers worldwide for over 16 years. Please visit www.ArringtonResearch.com for more details.

Brain Vision, LLC

Booth 5

Brain Vision is the leader for EEG applications in Vision Science. We offer a full integration of EEG with many leading eye tracking devices. We provide flexible and robust solutions for active EEG, wireless EEG, dry EEG and a wide range of bio-sensors like GSR, EKG, Respiration,

and EMG. We integrated eye tracking and EEG with 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 to pushing the edge of what is possible.

Cambridge Research Systems Ltd.

Booth 13

Cambridge Research Systems provides a range of novel solutions for vision science and human brain mapping.

Bits# (Bits Sharp) unites trusted CRS hardware features for high resolution calibrated stimulus display and synchronous data collection with software tools like Psychtoolbox-3, PsychoPy and Psykinematix. If you have a ViSaGe of any vintage, talk to us about how you can add the Bits# functionality to your existing equipment. AudioFile is an ideal companion to Bits# and ViSaGe; it makes it easy to present synchronous auditory stimuli with low-latency, deterministic timing on any computer. We also provide spectroradiometric display calibration equipment, cost-effective eye tracking, response boxes and laboratory furniture like chinrests and motorized tables.

BOLDscreen is our high brightness, high contrast, high resolution, MRI-compatible LCD monitor. The monitor is designed by CRS for scientific applications: it has a programmable LED backlight, real-time luminance calibration and a lag-free light output which is synchronous to the video input. The equipment is portable, easy to setup right at the rear of the bore and produces no interference at 3T. BOLDscreen 3D is a similar MRI-compatible LCD monitor which uses the latest passive FPR technology to display dichoptic stimuli for stereoscopic and binocular vision experiments. We also provide MRI-compatible eye tracking, a range of response devices (e.g. button boxes and joysticks), plus accessories like MRI-compatible spectacles.

To find out more, talk to Steve Elliott during VSS and visit our website: www.crsLtd.com."

Oxford University Press

Booth 8

Visit the Oxford University Press booth for a special discount on Goodale/Milner: *Sight Unseen*, Second Edition; Snowden et al: *Basic Vision*, Revised Edition; Bacci/Melcher *Art and the Senses* and many more.

The MIT Press

Booth 12

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

SensoMotoric Instruments, Inc.

Booth 2

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, torsion, etc. This includes fully remote systems, high-speed/high precision, glasses-based, and fMRI/MEG compatible systems. Experiment Center 360° continues to serve researchers worldwide by offering a powerful solution to stimulus presentation, data acquisition, and analysis.

Sinauer Associates, Inc.

Booth 3

Sinauer Associates, Inc. publishes college-level textbooks and educational multimedia in biology, psychology, neuroscience, and allied disciplines. The company strives to work with talented and knowledgeable authors, to create books and media that are handsomely designed and produced, and to communicate effectively with each title's intended audience. For information about any of our titles, or to order, please visit our website, www.sinauer.com.

SR Research Ltd.

Booth 1

SR Research provides flexible hardware and software for highly precise and accurate measurement of eye movements seamlessly across all vision science environments. Whether it is the behavioral lab, MRI/MEG, or EEG, the EyeLink provides a uniform, cutting-edge solution. Empowering success, SR Research continues to enable academics to achieve their goals, as reflected in the quantity and quality of peer-reviewed publications they produce.

SR Research welcomes our user base to VSS 2013 and wishes them a highly successful meeting! Drop by our booth to discuss new developments, and please visit <http://www.sr-research.com> for details on our eye tracking hardware and software product range, including the latest Experiment Builder software under both Windows and MacOS X!

Tobii Technology, Inc.

Booth 11

Tobii Technology is the world leader in hardware and software solutions for eye tracking, enabling a computer to tell exactly where a person is looking and thereby offering new powerful ways to understand human behavior. Products are used in hundreds of leading research labs worldwide, in domains such as development psychology, human computer interaction research, industrial design and advertising research, cognitive psychology, ophthalmology, neurophysiology and reading studies.

The company is based in Stockholm, Sweden, with branches in the US and Germany. Products are sold directly and through resellers and partners worldwide. Visit www.tobii.com for more information.

VPixx Technologies Inc.

Booths 14 & 15

VPixx Technologies welcomes the vision community to VSS 2013, and is excited to demonstrate our new PROPixx 500Hz DLP LED video projector. The PROPixx has been designed specifically for the generation of precise high refresh rate stimuli for stereoscopic, gaze-contingent, and other dynamic applications. The PROPixx is the most flexible display possible for vision research, featuring resolutions up to 1920x1080, refresh rates up to 500Hz, up to 12 bits of RGB luminance, and a perfectly linear gamma. The solid state LED light engine has 30x the lifetime of halogen projectors, a wider colour gamut, and zero image ghosting. For stereo vision applications, our high speed ferro-electric circular polarizer can project 400Hz stereoscopic stimuli for passive polarizing glasses into MRI and MEG environments. In addition, the PROPixx includes an embedded data acquisition system, permitting microsecond synchronization between visual stimulation and other types of I/O including audio stimulation, button box input, TTL trigger output, analog acquisition, and more! VPixx Technologies will be hosting the fifth annual response-time showdown during demo night this year. The demo is a fun 3D game in which you compete against a friend to press a red or green button as fast as you can when the button jumps out and you hear a simultaneous beep. Do it fast, and win a prize!

WorldViz

Booth 9

WorldViz is an industry leader in interactive virtual reality solutions. The company's flagship products are VIZARD, the VR communities favored interactive 3D content creation software, and PPT X4, the most cost effective wide-area tracking system currently available. WorldViz provides high quality, low-cost immersive 3D products to researchers, educators, designers, manufacturers, and other professionals, integrating all common VR products on the market and delivering complete turnkey solutions.

Worth Publishers

Booth 6

Worth is the publisher of Steve Yantis's *Sensation and Perception* – a text that brings together research, theory, and applications for today's students. Steve Yantis's book is accompanied by the *Sensation and Perception Tool Kit* – a collection of 50 interactive activities.



Member-Initiated Symposia

Schedule Overview

Friday, May 10, 1:00 – 3:00 pm

S1, Royal Palm 1-3

The structure of visual working memory

S2, Royal Palm 4-5

Contextual and top-down influences in vision

S3, Royal Palm 6-8

Active Perception: The synergy between perception and action

Friday, May 10, 3:30 – 5:30 pm

S4, Royal Palm 1-3

ARVO@VSS: Visual Development

S5, Royal Palm 4-5

Decoding and the spatial scale of cortical organization

S6, Royal Palm 6-8

Does appearance matter?

See the Abstracts book for the full symposium description and text of each presentation. Symposium rooms have limited capacity and fill up quickly, so plan to arrive early.

S1 The structure of visual working memory

Friday, May 10, 1:00 - 3:00 pm, Royal Palm 1-3

Organizer: Wei Ji Ma, Baylor College of Medicine

Working memory is an essential component of perception, cognition, and action. The past eight years have seen a surge of activity aimed at understanding the structure of visual working memory. Is working memory performance limited by a maximum number of objects that can be remembered, or by the quality of the memories? Does context affect how we remember objects? This symposium brings together some of the leading thinkers in this field to discuss these central theoretical issues.

Continuous versus discrete models of visual working memory capacity

Speaker: Steven J. Luck, University of California, Davis

Author: Weiwei Zhang, University of California, Davis

Continuous resources and variable precision in working memory

Speaker: Wei Ji Ma, Baylor College of Medicine

Authors: Ronald van den Berg, Baylor College of Medicine; Hongsup Shin, Baylor College of Medicine

Working memory capacity and allocation reflect noise in neural storage

Speaker: Paul M. Bays, University College London

Beyond Slots vs. Resources

Speaker: George Alvarez, Harvard University

Authors: Timothy Brady, Harvard University; Daryl Fougine, Harvard University; Jordan Suchow, Harvard University

A Probabilistic Clustering Theory of the Organization of Visual Short-Term Memory

Speaker: Robert Jacobs, University of Rochester

Author: A. Emin Orhan, University of Rochester

S2 Contextual and top-down influences in vision

Friday, May 10, 1:00 - 3:00 pm, Royal Palm 4-5

Organizer: Uri Polat, Tel-Aviv University

Vision is an active process. The properties of cortical neurons are subject to learning and to top-down influences of attention, expectation and perceptual task. Even at early cortical stages of visual processing neurons are subject to contextual influences that play a role in our vision. These influences are not fixed but are subject to experience, enabling neurons to encode learned information. In the symposia we will present anatomical, physiological and psychophysical data showing contextual effects in almost every visual task. We will show that visual perception involves both instantaneous pre-attentive and attentive processes that enhance the visual perception.

Contextual modulation in the visual cortex

Speaker: Charles Gilbert, The Rockefeller University, New York

Spatial and temporal rules for contextual modulations

Speaker: Uri Polat, Tel-Aviv University, Tel-Aviv, Israel

Border ownership and context

Speaker: Rudiger von der Heydt, The Johns Hopkins University

Visual cortical mechanisms for perceptual grouping

Speaker: Pieter Roelfsema, Netherlands Institute for Neuroscience, Amsterdam, the Netherlands

Crowding in context

Speaker: Dennis Levi, UC Berkeley

Perceptual learning in context

Speaker: Dov Sagi, The Weizmann Institute of Science, Rehovot, Israel

S3 Active Perception: The synergy between perception and action

Friday, May 10, 1:00 - 3:00 pm, Royal Palm 6-8

Organizers: Michele Rucci, Boston University & Eli Brenner, VU University

Visual perception is often studied in a passive manner without consideration of motor activity. Like many other species, however, humans are not passively exposed to the incoming flow of sensory data. They actively seek useful information by coordinating sensory processing with motor activity. In fact, behavior is a key component of sensory perception, as it enables control of sensory signals in ways that simplify perceptual tasks. This workshop will focus on recent findings which have further emphasized the tight link between perception and action.

Introduction to active vision: the complexities of continuous visual control

Speaker: Eli Brenner, Human Movement Sciences, VU University

Author: Jeroen Smeets, Human Movement Sciences, VU University

Why it's good to look where you are going

Speaker: John Wann, Dept of Psychology, Royal Holloway University of London

Motor selection and visual attention in manual pointing and grasping

Speaker: Heiner Deubel, Department Psychologie, Ludwig-Maximilians-Universität München, Germany

Authors: Rene Gilster, Department Psychologie, Ludwig-Maximilians-Universität München, Germany; Constanze Hesse, School of Psychology, University of Aberdeen, United Kingdom

The function of microsaccades in fine spatial vision

Speaker: Michele Rucci, Boston University

Decorrelation of retinal response to natural scenes by fixational eye movements

Speaker: Ronen Segev, Ben Gurion University of the Negev, Department of Life Sciences and Zlotowski Center for Neuroscience

Searching for a fit between the “silent” surround of V1 receptive fields and eye-movements

Speaker: Yves Frégnac, UNIC-CNRS Department of Neurosciences, Information and Complexity Gif-sur-Yvette, France

S4 ARVO@VSS: Visual Development

Friday, May 10, 3:30 - 5:30 pm, Royal Palm 1-3

Organizers: Susana Chung, University of California, Berkeley and Anthony Norcia, Stanford University

Many visual functions continue to develop and reach adult levels only in late childhood. The successful development of normal visual functions requires ‘normal’ visual experience. The speakers of this symposium will review the time courses of normal visual development of selected visual functions, and discuss the consequences of abnormal visual experience during development on these visual functions. The prospect of recovering visual functions in adults who experienced abnormal visual experience during development will also be discussed, along with the advances made in the assessment of visual functions in children with abnormal visual development due to damage to the visual cortex and the posterior visual pathways.

Postnatal development of early visual cortex in macaque monkeys

Speaker: Yuzo Chino, University of Houston

Postnatal development of form and motion pathways in macaque monkeys

Speaker: Lynne Kiorpes, New York University

Removing the brakes on brain plasticity in adults with amblyopia

Speaker: Dennis Levi, University of California, Berkeley

Assessing visual functions in children with cortical visual impairment

Speaker: Gunilla Haegerstrom-Portnoy, University of California, Berkeley

S5 Decoding and the spatial scale of cortical organization

Friday, May 10, 3:30 - 5:30 pm, Royal Palm 4-5

Organizers: Jeremy Freeman, New York University; Elisha P. Merriam, Departments of Psychology and Neural Science, New York University; and Talia Konkle, Department of Psychology, Harvard University

With functional neuroimaging data we have incredible access to a rich landscape of neural responses, but this access comes with challenging questions: Over what expanse of cortex is information meaningfully clustered – in other words, over what scales should we expect neural information to be organized? How should inferences about cortical organization take into account the complex nature of the imaging signal, which reflects neural and non-neural signals at multiple spatial scales? In this symposium, six investigators discuss representational structure at multiple spatial scales across the cortex, highlighting the inferential strengths and weaknesses of cutting-edge analyses across multiple experimental techniques.

Orientation decoding in humans – evidence for a columnar contribution?

Speaker: Elisha P. Merriam, Department of Psychology and Neural Science, New York University

Authors: Jeremy Freeman, Departments of Psychology and Neural Science, New York University; David J. Heeger, Departments of Psychology and Neural Science, New York University

Underlying sources for decoding of oriented gratings in fMRI

Speaker: Seong-Gi Kim, Department of Neurobiology, University of Pittsburgh

Author: Amir Shmuel, Department of Neurobiology, McGill University

The relationship between the local field potential and spiking activity in primary visual cortex

Speaker: Adam Kohn, Albert Einstein College of Medicine

Authors: Xiaoxuan Jia, Albert Einstein College of Medicine

Macro-organization of object responses in occipito-temporal cortex

Speaker: Talia Konkle, Department of Psychology, Harvard University

Author: Alfonso Caramazza, Department of Psychology, Harvard University

High-resolution fMRI reveals cortical tiling of face and limb selectivity in human high-level visual cortex

Speaker: Kalanit Grill-Spector, Department of Psychology and Neuroscience Institute, Stanford University

Author: Kevin Weiner, Department of Psychology, Stanford University

Exploring the scale of common dimensions of information coding in ventral temporal cortex

Speaker: J. Swaroop Guntupalli, Department of Psychological and Brain Sciences, Dartmouth College

Authors: Andrew C. Connolly, Department of Psychological and Brain Sciences, Dartmouth College; James V. Haxby, Department of Psychological and Brain Sciences, Dartmouth College, Center for Mind/Brain Sciences, Università degli studi di Trento

S6 Does appearance matter?

Friday, May 10, 3:30 - 5:30 pm, Royal Palm 6-8

Organizer: Sarah R. Allred, Rutgers--The State University of New Jersey

Vision science originated with questions about how and why things look the way do, but phenomenology is sometimes given short shrift in the field as a whole. We discuss objective methods that capture what we mean by appearance and examine the criteria for behaviors that are best thought of as mediated by reason-

ing about appearances. By utilizing phenomenology, we provide a parsimonious understanding of many empirical phenomena, including instructional effects in lightness perception, contextual effects on color constancy, systematic biases in egocentric distance perception and predicting 3D shape from orientation flows. We also discuss contemporary interactions between appearance, physiology, and neural models.

Legitimate frameworks for studying how things look

Speaker: Benjamin T. Backus, Graduate Center for Vision Research, SUNY College of Optometry

Why do things seem closer than they are?

Speaker: Frank H. Durgin, Swarthmore College

Author: Zhi Li; Swarthmore College

How expectations affect color appearance and how that might happen in the brain

Speaker: Michael Rudd, Howard Hughes Medical Institute; University of Washington

How things look

Speaker: Alan Gilchrist, Rutgers - Newark

Phenomenology and neurons

Speaker: Qasim Zaidi, Graduate Center for Vision Research, SUNY College of Optometry

The perceptual quality of colour

Speaker: Anya Hurlbert, Institute of Neuroscience, Newcastle University

Abstract Numbering System

Each abstract is assigned a unique 4 to 5 digit number based on when and where it is to be presented. The format of the abstract numbering is DT.RN (where D is the Day, T is the Time, R is the Room and N is the Presentation number).

First Digit - Day	Second Digit - Time Period	Third Digit - Room	Fourth/Fifth Digits - Number
1 Friday	1 Early AM talk session	1 Royal Palm 1-3	1, 2, 3... For talks
2 Saturday	2 Late AM talk session	2 Royal Palm 4-5	01, 02, 03... For posters
3 Sunday	3 AM poster session	3 Royal Palm 6-8	
4 Monday	4 Early PM talk session	4 Orchid Ballroom	
5 Tuesday	5 Late PM talk session	5 Vista Ballroom	
6 Wednesday	6 PM poster session		

Examples:

21.16 Saturday, early AM talk in Royal Palm 1-3, 6th talk
 36.513 Sunday, PM poster in Vista Ballroom, poster board 513
 53.306 Tuesday, AM poster in Royal Palm 6-8, poster board 306

Note: Two digits after the period indicates a talk, three digits indicates a poster (and is also the number of the poster board).

Friday Evening Posters

Visual memory: Mechanisms and models

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Orchid Ballroom

- 16.401 **The impact of distractors on visual short-term memory representation in early visual areas** Katherine Bettencourt, Yaoda Xu
- 16.402 **Task-evoked pupillary responses in iconic memory** Sylvia Guillory, Erik Blaser, Luke Eglington, Zsuzsa Kaldy
- 16.403 **Disengagement of Sensory Regions During the Maintenance of Abstract Information in Working Memory** Akiko Ikkai, Balaji Lakshmanan, Susan Courtney
- 16.404 **Ventral visual selectivity and adaptation in amnesia.** Jiye G. Kim, Emma Gregory, Barbara Landau, Michael McCloskey, Sabine Kastner, Nicholas B. Turk-Browne
- 16.405 **Spatial Working Memory Capacity Estimates Correlate With the Structure of Frontal and Parietal Cortex** Nikos Konstantinou, Ryota Kanai
- 16.406 **Consolidation of associative face memory during sleep is related to spatial position** Elizabeth McDevitt, Arash Afraz, Sara Mednick
- 16.407 **Neural Correlates of Visual Working Memory Capacity in the Posterior Parietal Cortex** Mitchell Riley, Bryce Lambert, Xue-Lian Qi, Christos Constantinidis
- 16.408 **Testing Hemodynamic Predictions of a Dynamic Neural Field Model of Visual Working Memory** John Spencer, Aaron Buss, Vince Magnotta
- 16.409 **Reconstructing delay-period spatial representations of remembered stimuli in visual, parietal and frontal cortex** Thomas Sprague, Edward Ester, John Serences
- 16.410 **Cross-Talk Between Visual Short-Term Memory and Low-Level Vision: Evidence for Interactions Across Shared Neural Resources.** Nicholas M. Van Horn, Alexander A. Petrov
- 16.411 **Different electrophysiological correlates underlying fragile and robust Visual Short-Term Memory.** Annelinde Vandenbroucke, Ilja Sligte, Jade de Vries, Johannes Fahrenfort, Mike X Cohen, Victor Lamme
- 16.412 **Energy expended in encoding and retrieval in a visual memory task: Interactive effects of workload and body iron status** Michael Wenger, Laura Murray-Kolb, Jere Haas
- 16.413 **Oscillatory correlates of uploading long-term memory into visual working memory** Keisuke Fukuda, Geoffrey F. Woodman
- 16.414 **The contralateral delay activity is insensitive to microsaccades induced by increasing number of items in visual working memory** Min-Suk Kang, Geoffrey Woodman
- 16.415 **Interhemispheric synchrony in occipital cortex predicts mnemonic precision in working memory** David E. Anderson, Edward K. Vogel, Edward Awh
- 16.416 **Hemispheric remapping in VWM across changes in attention and eye position** Brittany J. Dungan, Atsushi Kikumoto, Edward K. Vogel
- 16.417 **Decoding trial by trial variations in VWM performance from oscillatory activity during maintenance.** Irida Mance, Keisuke Fukuda, Edward Vogel
- 16.418 **Gradual decay and death by natural causes in visual working memory.** Daryl Fougny, Jordan W. Suchow, George A. Alvarez

16.419 **Evolutionary dynamics of visual memory** Jordan W. Suchow, Benjamin Allen, Martin A. Nowak, George A. Alvarez

Development: Atypical aging and development

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Orchid Ballroom

- 16.420 **Cortical visual processing in patients with congenital achromatopsia: coherent form, motion and biological motion perception** Eliza Burton, John Wattam-Bell, Koji Nishiguchi, Venki Sundaram, Jonathan Aboshiha, Andrew Webster, Anthony Moore, Michel Michaelides, Marko Nardini
- 16.421 **Global motion coherence performance after extended congenital blindness: stretching the window** Garga Chatterjee, Amy Kalia, Tapan Gandhi, Pawan Sinha
- 16.422 **Emergence of face-localization abilities following extended congenital blindness** Tapan Gandhi, Amy Kalia, Garga Chatterjee, Pawan Sinha
- 16.423 **Hemispheric differences in the human lateral geniculate nucleus** Monica G. Chica, Keith A. Schneider
- 16.424 **Impaired Ability to Infer Intentionality in Children Born at Very Low Birth Weight** Kathryn Williamson, Lorna Jakobson
- 16.425 **Visual Motion Processing Deficits in Alzheimer's Disease Patients can be Modeled by Delayed Feedback** N. Andrew Browning
- 16.426 **The effects of Multi-Layer Release Methylphenidate on drivers with Attention-Deficit/Hyperactivity Disorder as a function of driver age** Lana Trick, Ryan Toxopeus, Umesh Jain, Kim Saliba
- ## Spatial vision: Neural mechanisms
- Friday, May 10, 5:30 - 8:00 pm
- Poster Session, Orchid Ballroom
- 16.427 **Precursors of orientation processing in the human LGN** Sam Ling, Michael Pratte, Frank Tong
- 16.428 **Neural population dynamics change perceived orientation** Maria del Mar Quiroga, Adam Morris, Bart Krekelberg
- 16.429 **Orientation-specific surround suppression is not alleviated by voluntary attention** Ariel Rokem, Ayelet Landau
- 16.430 **Optimal stimulation for population receptive field mapping in human fMRI** Ivan Alvarez, Benjamin De Haas, Chris A. Clark, Geraint Rees, D. Samuel Schwarzkopf
- 16.431 **Collinear facilitation by invisible flankers** Daisuke Hayashi, Ikuya Murakami
- 16.432 **Oriented luminance gratings, but not noise patterns, induce narrow gamma band ECoG responses in human visual cortex** Jonathan Winawer, Kai J Miller, Dora Hermes, Josef Parvizi, Brian A Wandell
- 16.433 **Examining the Laminar Profile of Surround Suppression in V1 using High Resolution fMRI at 7 Tesla** Michael-Paul Schallmo, Cheng Qiu, Essa Yacoub, Cheryl Olman
- 16.434 **Non-monotonic Contrast Tuning in macaque area V4** Ilaria Sani, Elisa Santandrea, Ashkan Golzar, Maria Concetta Morrone, Leonardo Chelazzi

16.435 **A forward model of multi-voxel pattern analysis in primary visual cortex** Rachel Millin, Bosco S. Tjan

16.436 **Increasing Velocity Postpones Responses Compared to Decreasing Distance with Time to Collision being Equivalent: Behavioural and Neural Evidence** You Li, Pengfei Wang, Xiaozhe Peng, Qi Chen

16.437 **A cortical locus for overlay suppression with broadband stimuli revealed through transcranial direct current stimulation** Bruce C Hansen, Kristin Andres, Edward A Essock, Daniel P Spiegel, Benjamin Thompson

16.438 **Assessment of Neural Mechanisms in Central Visual Function: A Visual Evoked Potential Study in Observers with and without Age-Related Macular Degeneration** Wei Gui, Vance Zemon, James Gordon, George Hu, John Huang

16.439 **Magnetoencephalographic correlates of visible persistence in transient random-dot stimuli** Maximilian Bruchmann, Kathrin Thaler, Philipp Hintze

16.440 **Second-order neuronal responses to contrast modulation stimuli in primate visual cortex** Curtis Baker, Guangxing Li, Zhengchun Wang, Zhimo Yao, Nini Yuan, Vargha Talebi, Jiabo Tan, Yongchang Wang, Yifeng Zhou

16.441 **Increasing efficiency of fMRI retinotopic mapping using Maximum Length Sequences** Daniel Berman, Xiangrui Li, Zhong-Lin Lu, Dirk Walther

16.442 **Transcranial Direct Current Stimulation over Posterior Parietal Cortex alters Perceived Position** Jessica Wright, Bart Krekelberg

16.443 **Impaired mechanisms of suppression in amblyopia** Eunice Yang, Michael Silver, Dennis Levi

16.444 **Efficacy of pupil responses elicited to grating stimuli for detection of visual processing in hemianopia** Arash Sahraie, Mary-Joan MacLeod, Ceri T. Trevelyan, Larry Weiskrantz

16.445 **Edge-based versus region-based texture perception: does the task matter?** Cassandra Diggiss, Frederick A. A. Kingdom

Object recognition: Spatial and temporal aspects

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Orchid Ballroom

16.446 **Does viewpoint dependency effect influence scene consistency effect?** Kazuhiko Yokosawa, Gergo Sastyin, Ryosuke Niimi

16.447 **Unmasking the Mask: Semantic Similarity Produces Disinhibition in a Masked Priming Paradigm** Joseph L. Sanguinetti, Mary A. Peterson

16.448 **Passively viewing a manipulable object activates its specific action representation: Evidence from a behavioral study** Long Ni, Ye Liu, Xiaolan Fu

16.449 **The Landmark Expansion Effect: Navigational Relevance Influences Memory of Object Size** Joshua Julian, Russell Epstein

16.450 **MoonBase: Generating a database of two-tone "Mooney" images** Fatma Imamoglu, Christof Koch, John-Dylan Haynes

16.451 **Fingerprint Matching Expertise and its Determinants** Gennady Erlikhman, Tandra Ghose, Patrick Garrigan, Jennifer Mnookin, Itiel Dror, David Charleton, Philip Kellman

16.452 **Basic dimensions of subjective experience of beauty** Slobodan Markovic

16.453 **Exogenous Attention Improves Object Recognition Without Affecting Apparent Contrast** Cesar Echavarria, Po-Jang Hsieh

16.454 **Dissociating intuitive physics from intuitive psychology in adults with Williams syndrome** Daniel D. Dilks, Joshua B. Julian, Peter W. Battaglia, Nancy Kanwisher

16.455 **Adaptation to the summary variance of a visual array** Elizabeth Michael, Vincent de Gardelle, Christopher Summerfield

16.456 **Subitizing occurs across features of a single object** Katharine B. Porter, Annie Garofalo, Veronica Mazza, Alfonso Caramazza

16.457 **Is confidence amodal? Confidence comparison across dimensions of a visual stimulus** Vincent de Gardelle, Pascal Mamassian

Perceptual organization: Shapes, objects

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Vista Ballroom

16.501 **Neural Correlates of Spatiotemporal Boundary Formation (SBF)** Gideon Caplovitz, Gennady Erlikhman, Jay Lago, Philip Kellman

16.502 **Seeing and liking: Biased perception of ambiguous figures based on aesthetic preferences for how objects should face within a frame** Yi-Chia Chen, Brian Scholl

16.503 **Perceptual and conceptual disorganization in schizophrenia: Two sides of the same coin?** Brian Keane, Jamie Joseph, Steve Silverstein

16.504 **The influence of visual working memory on correspondence in the Ternus display** Elisabeth Hein, Andrew Hollingworth, Cathleen M Moore

16.505 **Visual aftereffects in natural object categories** Isamu Motoyoshi

16.506 **The Perceptual Processes Underlying the Representation of Impossible Objects.** Erez Freud, Bat Sheva Hadad, Galia Avidan, Tzvi Ganel

16.507 **Shape-Induced Distortions of Spatial Judgements** Galina Goren, James H. Elder

16.508 **Go Figure: Individuation vs. Configuration in Processing Spatial Arrays** Amy M. Clements-Stephens, Amy L. Shelton

16.509 **A crescent edge-length illusion induced by object-based perception** Xiang Huang, Jun Yin, Rende Shui, Mowei Shen

16.510 **Interactions between surface material and perception of angular velocity of rotating 3D objects** Gizem Kucukoglu, Laurence Maloney

16.511 **Robust shape perception of static and rotating objects revealed by spatiotemporal form integration** J. Daniel McCarthy, Gideon P. Caplovitz

16.512 **Bites & bends: Interpreting the visual meaning of concavities** Patrick Spröte, Roland Fleming

16.513 **Quantifying Kitaoka's enhanced checkered illusion** Dejan Todorovic, Marija Milisavljevic

16.514 **Accessing meaning for the groundside of a figure: How long does it last?** Laura Cacciamani, Andrew J. Mojica, J. L. Sanguinetti, Mary A. Peterson

16.515 **Underestimation of numerosity in dynamic visual display** Ricky K. C. Au, Katsumi Watanabe

16.516 **Measuring Configural Superiority with the Capacity Coefficient** Joseph Houpt, Robert Hawkins, Devin Burns, James Townsend

16.517 **Hemispheric specialization for symmetry processing is complexity dependant** Jason Bell, Anne Wentworth-Perry, Andrew Isaac Meso, Ben Thompson

Attention: Capture

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Vista Ballroom

16.518 **Saccadic Inhibition of Return After Attention Shifts to Relevant and Irrelevant Color Singletons** Ulrich Ansorge, Heinz-Werner Priess, Dirk Kerzel

16.519 **Some effects of non-predictive cues on accuracy are mediated by feature-based attention** Josef G. Schönhammer, Dirk Kerzel

16.520 **Recent experience in a fixed search mode reduces the influence of explicit search strategies** Zachary J. J. Roper, Shaun P. Vecera

16.521 **Hand position modulates attentional capture** Daniel Vatterott, Shaun Vecera

16.522 **It's about time! Capture and disengagement from temporal attentional capture and how they are affected by visual working memory capacity** Ayala S. Allon, Roy Luria

16.523 **Motion fails to capture attention. But onset of motion succeeds.** Fook Chua

16.524 **Resisting Attentional Capture by an Additional Singleton Depends on Prior Experience With Its Salient Feature** Tashina Graves, Howard Egeth

16.525 **Effect of prior knowledge on competition for representation and attentional capture** Matthew Hilimire

16.526 **Do Negative Emotional Pictures Automatically Capture Attention?** James Hoffman, Kelsey Holiday, McKenna Erin

16.527 **Faces, emotions, & distraction: Dissociating attentional capture vs. hold** Joseph Hopfinger, Emily Parks, So-Yeon Kim

16.528 **Multiple attentional control set in rapid serial visual presentation** Jun Kawahara, Takatsune Kumada

16.529 **The relationship between attentional disengagement and inhibitory control** Jennifer Lechak, Andrew Leber

16.530 **Understanding peripheral interference: the effects of distractor relevance and eccentricity on capture** Carly J. Leonard, Steve J. Luck

16.531 **Dual-target contingent attentional capture effects are modulated by associative learning** Katherine Moore, Elizabeth Wiemers, Somin Lee, Celine Santos

16.532 **The attentional effects of single cues and color singletons on visual sensitivity** Alex White, Rasmus Lunau, Marisa Carrasco

16.533 **Cues imprecise in modality and physical appearance influence attentional disengagement and saccade direction** Timothy Wright, Walter Boot, John Jones

16.534 **The Effect of Distractor Presentation Frequency on Saccade Reaction Times and Curvature** Rebecca Goldstein, Melissa Beck

16.535 **The configuration effect in visual search** Li Jingling, Chia-Huei Tseng

16.536 **Internally Generated Simulations of Success and Failure Orient Visual Attention** Alison Chasteen, Penelope Lockwood, Nicole White, Jay Pratt, Davood Gozli

Face perception: Holistic and parts

Friday, May 10, 5:30 - 8:00 pm

Poster Session, Vista Ballroom

16.537 **Lunari Face Expertise: Holistic processing depends on experience with diagnostic parts** Kao-Wei Chua, Isabel Gauthier

16.538 **Adaptation aftereffect from faces using the bubbles technique** Hong Xu, Chengwen Luo, Qingyun Wang, Philippe Schyns, Frederick Kingdom

16.539 **The nature of 5-year-old children's holistic face processing: Evidence from eye-gaze contingency** Goedele Van Belle, Jutta Billino, Bruno Rossion, Gudrun Schwarzer

16.540 **Facial motion facilitates featural, not holistic, processing in children, adolescents, and adults** Naiqi Xiao, Paul Quinn, Liezhong Ge, Kang Lee

16.541 **Contrast negation supports the importance of the eye region for holistic representations of facial identity** Mladen Sormaz, Timothy Andrews, Andrew Young

16.542 **Global processing of Navon stimuli primes the general (face) congruency effect but not the standard composite face effect** Bruno Rossion, Zaifeng Gao, Anastasia Flevaris, Lynn Robertson, Shlomo Bentin

16.543 **Evidence for Holistic Facial Expression Processing with a Neurocomputational Model** Akinyinka Omigbodun, Garrison Cottrell

16.544 **Are Holistic and Configural Processing Distinct? A Within-Subjects Comparison of Four Common Face Processing Tasks.** Elizabeth Nelson, Nicholas Watier, Charles Collin, Isabelle Boutet

16.545 **Holistic and analytic processing of emotional expression in composite faces depends on the combination of expressions** Janice Murray, Nicole Campbell, James Tanaka

16.546 **The fate of holistic face representations in long-term memory** Bonnie Heptonstall, James Tanaka, Michael Hoven

16.547 **The Whole-Part Effect is Modulated by Spatial Cues** Sarah E. Creighton, Allison B. Sekuler, Patrick J. Bennett

16.548 **Predicting Face Recognition Skills in Children from Holistic Face Processing and Eye Tracking** Sherryse Corrow, Tobias Donlon, Jordan Mathison, Vanessa Adamson, Albert Yonas

16.549 **Featural and Configural Processing Use the Same Spatial Frequencies: A Human Observer vs. Model Observer Comparison** Charles Collin, Stéphane Rainville, Nicholas Watier, Isabelle Boutet

16.550 **Experience-dependent grouping modulates holistic face perception** Kim M. Curby, Robert Entenman, Justin Fleming

16.551 **Probit analysis for multidimensional signal detection: An evaluation and comparison with standard analyses** Tamaryn Menneer, Michael J. Wenger, Leslie M. Blaha



Saturday Morning Talks

Eye movements: Saccades, pursuit

Saturday, May 11, 8:15 - 9:45 am

Talk Session, Royal Ballroom 1-3

Moderator: Alexander Schütz

21.11, 8:15 am **Saccadic suppression comprises an active binocular mechanism** Jonas Knöll, Peter Holl, Frank Bremmer

21.12, 8:30 am **Remapping of attentionally tracked locations** Martin Szinte, Martin Rolfs, Marisa Carrasco, Patrick Cavanagh

21.13, 8:45 am **Adaptation of micro-saccades reveals active control during fixation** Katharina Havermann, Claudia Cherici, Michele Rucci, Markus Lappe

21.14, 9:00 am **Saccadic adaptation induced by a perceptual task** Alexander C Schütz, Dirk Kerzel, David Souto

21.15, 9:15 am **Concurrent manual tracking enhances pursuit eye movements** Diederick C. Niehorster, Wilfred W. F. Siu, Li Li

21.16, 9:30 am **Compensation of heading tuning for eye pursuit in Macaque area VIP: Retinal and extra-retinal contributions** Adhira Sunkara, Gregory DeAngelis, Dora Angelaki

Perception and action: Locomotion, interception, wayfinding

Saturday, May 11, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 1-3

Moderator: Jeffrey Saunders

22.11, 10:45 am **Humans perceive object motion in world coordinates during obstacle avoidance** Brett Fajen, Melissa Parade, Jonathan Matthis

22.12, 11:00 am **Visual control of precise foot placement when walking over complex terrain** Jonathan Matthis, Sean Barton, Brett Fajen

22.13, 11:15 am **Optimally adapting heuristics: humans quickly abandon the constant bearing angle strategy** Constantin Rothkopf, Paul Schrater

22.14, 11:30 am **A Dynamical Model of Collective Behavior in Human Crowds** William H. Warren, Adam W. Kiefer, Stéphane Bonneaud

22.15, 11:45 am **Inferring strategies of maze navigation from the movements of the eye and arm** Min Zhao, Andre G. Marquez, Pernille Hemmer, Eileen Kowler

22.16, 12:00 pm **Parallel formation of multiple decisions in the visual cortex** Pieter Roelfsema, Ariel Zylberberg, Brian Ouellette, Chris De Zeeuw, Mariano Sigman, Jeannette Lorteije

22.17, 12:15 pm **Visual adaptation aftereffects to actions are modulated by high-level action interpretations** Stephan de la Rosa, Stephan Streuber, Martin Giese, Cristobal Curio, Heinrich H. Bülthoff

Perceptual organization: Shapes, objects, neural mechanisms

Saturday, May 11, 8:15 - 9:45 am

Talk Session, Royal Ballroom 4-5

Moderator: James Elder

21.21, 8:15 am **Integration of orientation and spatial cues in dynamic form analysis** Steven Thurman, Hongjing Lu

21.22, 8:30 am **Effective connectivity in human primary visual cortex predicts inter-individual difference in contextual illusion** Chen Song, Sam Schwarzkopf, Antoine Lutti, Baojuan Li, Ryota Kanai, Geraint Rees

21.23, 8:45 am **A novel method for fMRI analysis: inferring neural mechanisms from voxel tuning** Rosemary Cowell, David Huber, John Serences

21.24, 9:00 am **Body-extending object effectors: organization of ventral stream object representations reflects body-object interactions** Stefania Bracci, Marius Peelen

21.25, 9:15 am **Figure-ground organization of 3D stimuli** Tadamasawa Sawada, Zygmunt Pizlo

21.26, 9:30 am **Statistical coding of natural closed contours** Ingo Fründ, James Elder

Object recognition: Mechanisms

Saturday, May 11, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 4-5

Moderator: Thomas Carlson

22.21, 10:45 am **Typicality Sharpens Object Representations in Object-Selective Cortex** Marius Cătălin Iordan, Michelle R. Greene, Diane M. Beck, Li Fei-Fei

22.22, 11:00 am **A curvature-processing network in macaque visual cortex** Xiaomin Yue, Irene Pourladian, Shahin Nasr, Roger Tootell, Leslie Ungerleider

22.23, 11:15 am **Ketamine changes the neural representation of object recognition in early visual cortex.** Anouk M. van Loon, H. Steven Scholte, Johannes J. Fahrenfort, Bauke van der Velde, Philip B. Lirk, Nienke C. Vulink, Marcus W. Hollmann, Victor A. F. Lamme

22.24, 11:30 am **The representation of object parts in the human brain** Jiedong Zhang, Yaoda Xu

22.25, 11:45 am **Computing an average over space and time** Andrei Gorea, Jan deOho Balaguer, Vincent de Gardelle, Christopher Summerfield

22.26, 12:00 pm **Reaction Time for Rapid Object Categorization is Predicted by a Representational Decision-Boundary in Inferior Temporal Cortex (IT)** J. Brendan Ritchie, Samir Durvasula, Junsheng Ma, David A. Tovar, Nikolaus Kriegeskorte, Thomas Carlson

22.27, 12:15 pm **The Temporal Dynamics of Top-Down Knowledge on Object Category Representations** David A. Tovar, Thomas Carlson

Saturday Morning Posters

Attention: Features and objects

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

23.301 **Shared mechanisms for representing the sides of the visual world and the sides of objects: Evidence from a localization deficit following parietal brain damage.** Zheng Ma, Jose Nino, Jonathan Flombaum, Michael McCloskey

23.302 **Shape-based cueing with central cues improves target identification and localization performance for voluntary and involuntary attention** Weston Pack, Thom Carney, Stan Klein

23.303 **Errors and Illusory Conjunctions in Identifying Distal Stimuli** Cynthia M. Henderson, James L. McClelland

23.304 **Automatic top-down processes mediate selective attention** Erica E. Wager, Mary A. Peterson, Jonathan R. Folstein, Paige E. Scalf

23.305 **Multi-featured objects: Parallel and serial access to all features** Amanda E van Lamsweerde, Melissa R Beck

23.306 **Interactions between perception, fixation, and attention determine the endpoint of an action** Mark Schurgin, Jonathan Flombaum

23.307 **Tracking Serial Dependence Behind an Occluder** Alina Liberman, David Whitney

23.308 **Object-Based Attention Capture is a Determinant of Object Closure Effects** Adam Greenberg, Marlene Behrmann

23.309 **When? What? The Effect of Temporal and Identity Uncertainty on Object-Based Attentional Selection** Breana Carter, Sarah Shomstein

23.310 **The Influence of Task-Irrelevant Spatial Regularities on Statistical Learning** Alex Filipowicz, Britt Anderson, James Danckert

23.311 **Do low-level visual features have a causal influence on gaze during dynamic scene viewing?** Parag Mital, Tim J. Smith, Steven Luke, John Henderson

23.312 **Influences of Object Properties to Attentional Guidance** Alexander Etz, Michelle Rattinger, Anna Byers, Sarah Shomstein

23.313 **Hierarchical binding in multi-part objects** Anina Rich, Cory Rieth, Edward Vul

23.314 **Neural correlates of tracking an object through feature space** Taosheng Liu

23.315 **Attention field size effects in transparent motion discrimination** Philipp Schwedhelm, Florian Kasten, Stefan Treue

23.316 **The effects of dyslexia on the spatial and feature-based attentional modulation in the human subcortical visual nuclei.** Scott Munro, John Patrick Hegarty, Keith A. Schneider

23.317 **A retinotopically-based compatibility bias: Task-irrelevant location information influences object identity judgments** Julie Golomb, Colin Kupitz

23.318 **Perceiving the size of individual objects in ensembles under focused and distributed attention** Maria Bulatova, Igor Utochkin

23.319 **Visual and auditory object-based attention driven by rhythmic structure over time** Julian De Freitas, Brandon Liverence, Brian Scholl

23.320 **Visual long-term memory for objects biases perceptual attention** Judith E. Fan, Nicholas B. Turk-Browne

Visual search: Memory, attentional capture

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

23.321 **Attention and memory resolution in visual search for hierarchical objects** Markus Conci, Qi-Yang Nie, Hermann J. Müller

23.322 **Guidance of Visual Search by Working and Long-Term Memory Representations of Orientation** Mark W. Becker, Chad Peltier, Reem Alzahabi

23.323 **Incidental memory for potential targets vs. confirmed distractors** Corbin A Cunningham, Jeremy M Wolfe, Howard E Egeth

23.324 **Implicitly guided attention is immune to visual working memory load** Bo-Yeong Won, Yuhong Jiang

23.325 **The role of the parietal cortex in feature binding in visual search** Rachel A. Albert, Summer L. Sheremata, Michael A. Silver, Lynn C. Robertson

23.326 **Motor effort predicts memory use in active visual search** Grayden Solman, Alan Kingstone

23.327 **Pupil Size as a Measure of Working Memory Load During a Complex Visual Search Task** Nada Attar, Matthew Schneps, Marc Pomplun

23.328 **Cholinergic enhancement improves visual short-term memory performance** Sahar M. Yousef, Summer L. Sheremata, Rachel K. Kaneta, Adeola N. Harewood, Michael A. Silver

23.329 **Attentional Guidance in Visual Search: Examining the Interaction Between Goal Driven and Stimulus Driven Information in Natural Images** Natalie Paquette, Mark Neider

23.330 **Action video game players can perform visual search faster, but show the same attentional capture** Jonathan Orozco, Eriko Self

23.331 **Can blinking items ever capture attention in MAD search?** Melina Kunar, Derrick Watson

23.332 **The contributions of expectancy and prior exposure to the surprise response in visual search.** James Retell, Stefanie Becker, Roger Remington

Face perception: Mechanisms and models

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

23.401 **Human and computer face detection under occlusion** Sam Anthony, Ken Nakayama

23.402 **The Neural Correlates of Recognizing Facial Slivers** Sharon Gilad-Gutnick, Elia Samuel Harmatz, Kleovoulos Tsourides, Pawan Sinha

23.403 **Invariance to Linear But Not Non-Linear Changes in the Spatial Configuration of Faces in Human Visual Cortex** Timothy J Andrews, Heidi A Baseler, Richard J Harris, Rob Jenkins, A. Mike Burton, Andrew W Young

23.404 **Which feature is fixated modulates the N170 regardless of facial expression** Karly Neath, Roxane Itier

23.405 **The N250r component indexes holistic perception of individual facial identity** John Towler, Martin Eimer

23.406 **The Steady-State Visual Evoked Potential (SSVEP) response is more sensitive to face identity changes than bird identity changes** Buyun Xu, James Tanaka, Bruno Rossion

23.407 **Objective measurement of face discrimination with a fast periodic oddball paradigm** Joan Liu-Shuang, Anthony M. Norcia, Bruno Rossion

23.408 **Differential Selectivity and Representational Content of the Fine Scale Face-Responsive Regions** Hanyu Shao, Qiuping Cheng, Sheng He, Xuchu Weng

23.409 **Development Model of Face and Object Recognition Using Modular Neural Network** Panqu Wang, Garrison Cottrell

23.410 **Effects of grouping on neural competition in object category selective cortex** Michal Bernstein, Jonathan Oron, Boaz Sadeh, Galit Yovel

23.411 **Functional relationship between the left and right fusiform face areas** Michelle Shu, Zhigang Li, Chao Cheng, Ming Meng

23.412 **Neural representations in face-selective regions are affected by task, stimulus and information content** Meike Ramon, Luca Vizioli, Lars Muckli, Philippe Schyns

23.414 **Development of Right Inferior Longitudinal Fasciculus Correlates Specifically with Face Perception** Jesse Gomez, Jennifer Yoon, Golijeh Golarai, Kalanit Grill-Spector

23.415 **Robust Selectivity for Faces in the Human Amygdala** Peter Mende-Siedlecki, Sara C. Verosky, Nicholas B. Turk-Browne, Alexander Todorov

23.416 **Mostly Categorical but also Continuous Representation of Emotions in the Brain: An fMRI study** Shichuan Du, Dirk Walther, Aleix Martinez

23.417 **Neural model for the encoding of dynamic faces in primate cortex** Martin A. Giese, Girija Ravishankar, Gregor Schulz, Uwe J. Ilg

Motion: Biological motion

Saturday, May 11, 8:30 am - 12:30 pm
Poster Session, Orchid Ballroom

23.418 **Event-related alpha suppression in response to facial motion.** Christine Girges, Michael Wright, Janine Spencer, Justin O'Brien

23.419 **Retaining biological motions in working memory: an EEG study** Zaifeng Gao, Shlomo Bentin, Mowei Shen

23.420 **A data-driven approach to functional selectivity on the STS** Emily Grossman, Sarah Tyler, Samhita Dasgupta, Elizabeth Hecker, Javier Garcia

23.421 **Representations of action categories generalize across the phylum, genus, and species of the actor** Andrew C. Connolly, James V. Haxby

23.422 **Action classification through a new reverse correlation technique: the feet are important, as well as their correlated motions** Jeroen J.A. van Boxtel, Hongjing Lu

23.423 **Does a convexity prior explain the facing-the-viewer bias in the perception of biological motion?** Séamas Weech, Nikolaus F. Troje

23.424 **Can we perceive linear perspective in biological motion point-light displays?** Nikolaus Troje, Seamas Weech, Sophie Kenny

23.425 **Discriminating implicit and explicit emotions from point-light walkers in persons with schizophrenia** Justine M. Y. Spencer, Allison B. Sekuler, Patrick J. Bennett, Martin A. Giese, Bruce K. Christensen

23.426 **Recognition of emotion through point-light locomotion: gender impact** Marina A. Pavlova, Samuel Krüger, Alexander N. Sokolov, Ingeborg Krägeloh-Mann

23.427 **Tactile inputs resolve the ambiguous perception of biological point light walkers** Yiltiz Hormatshan, Lihan Chen

23.428 **Combining detection and discrimination of biological motion at low contrast** Sarah Dziura, Wendy Baccus, James Thompson

23.429 **Domain-specific genetic influence on visual ambiguity resolution** Ying Wang, Li Wang, Qian Xu, Dong Liu, Yi Jiang

23.430 **Action prediction and interaction enhances stimulus visibility during binocular rivalry** Junzhu su, Jeroen J.A. van Boxtel, Hongjing Lu

23.431 **Combining form and motion - an integrated approach for learning biological motion representations** Georg Layher, Heiko Neumann

23.433 **Display size of biological motion stimulus influences performance in a complex emotional categorization task.** Ekaterina P. Volkova, Betty J. Mohler, Heinrich H. Bühlhoff

23.434 **The contribution of movement correlation in perceptual judgments of affiliation during social interaction** Nida Latif, Kevin Munhall, Monica Castelhana

Color and light: Material properties

Saturday, May 11, 8:30 am - 12:30 pm
Poster Session, Orchid Ballroom

23.435 **Can you see what you feel? Tactile and visual matching of material properties of fabrics** Bei Xiao, Xiaodan Jia, Edward Adelson

23.436 **Visual and Haptic Representations of Material Qualities** Christiane B. Wiebel, Elisabeth Baumgartner, Karl R. Gegenfurtner

23.437 **Classification of material properties in fMRI** Elisabeth Baumgartner, Christiane B. Wiebel, Karl R. Gegenfurtner

23.438 **The perception of gloss in natural images** Karl Gegenfurtner, Elisabeth Baumgartner, Christiane Wiebel

23.439 **Lightness perception for glossy objects** Matteo Toscani, Matteo Valsecchi, Karl Gegenfurtner

23.440 **Characterization of high-level images features for surface gloss perception** Qin Wang, Isamu Motoyoshi, Shin'ya Nishida

23.441 **An fMRI Study of Cortical Responses for Reflectance-specific Image Motion** Tae-Eui Kam, Damien Mannion, Seong-Whan Lee, Katja Doerschner, Daniel Kersten

23.442 **Effects of retinal-image motion of specular highlights induced by object motion and manual control on glossiness perception.** Taiyo Uehara, Yusuke Tani, Takehiro Nagai, Kowa Koida, Shigeaki Nakauchi, Michiteru Kitazaki

23.443 **Two kinds of perceptual surface qualities: Temporal properties of surface quality perception** Takehiro Nagai, Toshiaki Matsu-shima, Yusuke Tani, Kowa Koida, Michiteru Kitazaki, Shigeaki Nakauchi

23.444 **Constituents of material property perception** Martin Giesel, Qasim Zaidi

23.445 **Material from motion – Human perception of fluid properties from motion vector fields.** Kazushi Maruya, Takahiro Kawabe, Shin'ya Nishida

23.446 **Seeing transparent liquids from dynamic image distortion** Takahiro Kawabe, Kazushi Maruya, Shin'ya Nishida

23.447 **Experts and novices use same factors but different way to grade pearls** Yusuke Tani, Takehiro Nagai, Kowa Koida, Michiteru Kitazaki, Shigeaki Nakauchi

3D perception: Space

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 23.448 **Naturalistic Depth Perception: Spatial Vision Out The Window** Brian C. McCann, Mary M. Hayhoe, Wilson S. Geisler
- 23.449 **Postural Sway is Affected by Visually Perceived Geographical Slant** Alen Hajnal, Deanna Rumble, John F. Shelley-Tremblay, Wei Liu
- 23.450 **The Scaling of Outdoor Space in Tilted Observers** Brennan Klein, Daniela Jaeger, Zhi Li, Ariana Spiegel, Frank Durgin
- 23.451 **Perceived aspect ratio on tilted surfaces supports the hypothesis that perceived slant approximates a scaled sine function of actual slant** Zhi Li, Frank Durgin
- 23.452 **Cast-body shadows compress perceived distances** Christopher Kuylen, Laura Thomas, Ben Balas
- 23.453 **The taller you are, the smaller the world appears: perceptual distortion of binocular space depends on the size of personal body space** Amanda Lee, Carlo Campagnoli, Fulvio Domini
- 23.454 **Influence of shape on stabilization of ambiguous structure from motion** Ken Sobel, Amrita Puri
- 23.455 **The Roles for Angular Declination and Gaze Direction in the Fast Extraction of Distance** Daniel A. Gajewski, Courtney P. Wallin, John W. Philbeck
- 23.456 **The Impact of Occluded Surfaces on Absolute Distance Judgments in Room Environments** Courtney P. Wallin, Daniel A. Gajewski, John W. Philbeck
- 23.457 **Viewpoint Independence in Implicit Scene Learning** Zhongting Wang, Shiyi Li, Haibo Yang, Deli Shen, Xuejun Bai, Hong-jin Sun
- 23.458 **Effects of magnification on depth perception and visually-guided reaching** Bing Wu, Roberta Klatzky, John Galeotti
- 23.459 **Expression of a 3D size illusion in the C1 component of ERPs** Yang Zhang, Yang Sun, Fang Fang, Ming Zhang

Attention: Neural mechanisms and models

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

- 23.501 **Processing of collision information in the human superior colliculus** Peng Zhang, Sheng He
- 23.502 **Impaired response-conflict resolution in ageing when high salient distracters compete for response** Lilach Shalev, Carmel Mevorach
- 23.503 **Attentional base response in intermediate layers of human superior colliculus measured using high-resolution fMRI** Sucharit Katyal, David Ress
- 23.504 **Evidence for Attentional Sampling in the MEG Gamma Band Response** Ayelet Landau, Helene Schreyer, Stan Van Pelt, Pascal Fries
- 23.505 **Selective attention modulates the nonlinear interaction between stimuli** Yee Joon Kim, Preeti Verghese
- 23.506 **Coding of changes in motion direction by local field potentials in primate area MT** Paul Khayat, Julio Martinez-Trujillo
- 23.507 **Optogenetic stimulation of the frontal eye field in an awake, behaving monkey.** Roberto A. Gulli, Sebastien Tremblay, Antoine R. Adamantidis, Julio C. Martinez-Trujillo
- 23.508 **ERP indices of reflexive attention effects on visual search** Cassie Ford, Joseph Hopfinger

- 23.509 **The neural mechanism of attention shifting triggered by eye gaze** Qing Feng, Xuemin Zhang
- 23.510 **Functional Chronometry of V5 and Middle and Posterior Intraparietal Sulcus in Motion-Driven Attention- A Neuronavigated TMS Study** Sheila Crewther, Bonnie Alexander, Robin Laycock
- 23.511 **Population Attentional Field Modeling** Edgar DeYoe, Alexander Puckett, Yan Ma
- 23.512 **Neural representation of the bottom-up saliency map of natural scenes in human primary visual cortex** Cheng Chen, Xilin Zhang, Tiangang Zhou, Yizhou Wang, Fang Fang
- 23.513 **The Attentional Attraction Field: A feed-forward model of attention** Orit Baruch, Yaffa Yeshurun
- 23.514 **Subitizing and estimation emerge from a computational saliency map model of object individuation** Rakesh Sengupta, S. Bapiraju, David P. Melcher
- 23.515 **Oscillatory coupling reveals the dynamic reorganization of networks processing reward, maintaining working memory and controlling attention** Robert M.G. Reinhart, Geoffrey F. Woodman
- 23.516 **Distracter filtering across the visual thalamocortical network** Ryan Ly, Yuri Saalman, Sabine Kastner
- 23.517 **Cognitive Programs: Towards an Executive for Visual Attention** John Tsotsos
- 23.518 **Overt Fixations Reflect a Natural Central Bias** Calden Wloka, John Tsotsos
- 23.519 **A Bayesian model for visual salience learning** Jinxia Zhang, Jundi Ding, Jingyu Yang
- 23.520 **A normalization model of attention predicts enhanced contrast appearance** Elizabeth Cutrone, David J. Heeger, Marisa Carrasco

Perceptual learning: Models, specificity

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

- 23.521 **Learning of eye movements for human and optimal models during search in complex statistical environments** Emre Akbas, Kathryn Koehler, Miguel P Eckstein
- 23.522 **Statistical learning, a singular process? Dissociating behavioral outcomes of visuo-temporal statistical learning** Brett C. Bays, Nicholas B. Turk-Browne, Aaron R. Seitz
- 23.523 **An Optimal Read-Out Model of Perceptual Learning: How to Measure Task Difficulty and Learning Specificity in a Principled Manner** Alexander A Petrov
- 23.524 **Apparent similarity in context: Similarity increases with frequent large differences between stimuli** Alexander N. Sokolov, Joachim F. Eicher, Paul Enck
- 23.525 **The acquisition of hidden models in humans** Devika Narain, Pascal Mamassian, Eli Brenner, Jeroen B.J. Smeets, Robert J. van Beers
- 23.526 **Specificity in learning: Blame the paradigm** Jacqueline Fulvio, C Shawn Green, Paul Schrater
- 23.527 **Perceptual training boosts separable aspects of visual attention and working memory** Maro Machizawa, Dongho Kim, Takeo Watanabe
- 23.528 **Modeling perceptual learning of visual motion** Émilien Tlapale, Barbara Doshier, Zhong-Lin Lu
- 23.529 **Alternating training between tasks enables visual perceptual learning** Sarit Szpiro, Young A Lee, Beverly Wright, Marisa Carrasco

23.530 **Task sets determine implicitly learned stimulus information in spatio-temporal contextual cueing** Yoko Higuchi, Yoshiyuki Ueda, Hirokazu Ogawa, Jun Saiki

23.531 **Effects of Training Difficulty and Noise on Perceptual Learning in Older Individuals** Denton J. DeLoss, George J. Andersen

23.532 **How lifelong perceptual learning shapes perception** Céline Cappe, Aaron Clarke, Christine Mohr, Michael H. Herzog

23.533 **Learning multiple tasks in roving** Fang Hou, Zhong-Lin Lu, Barbara Doshier

23.534 **Perceptual Learning of Facial Expressions** Hisa Hasegawa, Hideyuki Unuma, Philip J. Kellman

23.535 **Right brain damage failures of perceptual updating in ambiguous figures.** Elisabeth Stoettinger, James Danckert, Britt Anderson

3D perception: Shape from shading and contours

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

23.536 **Inferring Shape from Shading Flow: light source(s) as an emergent property** Benjamin Kunsberg, Steven Zucker

23.537 **When Shading Flows With Color: Grounding Shape and Material Inference** Emma Alexander, Daniel Holtmann-Rice, Steven Zucker

23.538 **Towards a unified explanation of shape from shading and texture** Steven A. Cholewiak, Roland W. Fleming

23.539 **Perceptual bias in 2D orientation is also present in obliquely-viewed planes** Frank Durgin, Zhi Li

23.540 **The role of smooth occlusions in the perception of 3D shape from shading** Eric Egan, James T. Todd

23.541 **Effect of symmetry on perception of 3D shape from stereo and shading** Young Lim Lee, Jeffrey A. Saunders

23.542 **Is there only one sun?** Giacomo Mazzilli, Andrew J. Schofield

23.543 **Perceived depth from luminance gradient and disparity** Chien-Chung Chen, Christopher Tyler

23.544 **Spatio-temporal information is not necessary for generating view-point invariant object recognition during unsupervised learning** Moqian Tian, Kalanit Grill-Spector

23.545 **Identification of Nonrigid 3D Shapes from Motion Cues in the Fovea and Periphery** Anshul Jain, Katja Doerschner, Qasim Zaidi

23.546 **The kinetic depth effect for vision and haptics** J. Farley Norman, Flip Phillips, Jacob Cheeseman, Kelsey Thomason, Cecilia Ronning, Autum Calloway, Davora Lamirande

23.547 **Shape From Very Little: The Visual and Haptic Kinetic Depth Effect** Flip Phillips, Farley Norman, Kriti Behari, Kayla Kleinman, Julia Mazzarella

23.548 **The Influence of Affect on 2D Pattern Perception** Michelle L. Fowler, Elliot Lockerman, Andrea Li

23.549 **Painted objects influence perceived depth of 3-D surfaces they are painted on – Two examples from Patrick Hughes's art pieces** Thomas V. Papathomas

23.550 **Three-dimensional depth illusions in schizophrenia and bipolar disorder** Yushi Wang, Brian Keane, Steven Silverstein, Thomas Papathomas

Spatial vision: Models

Saturday, May 11, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

23.551 **Rapid Assessment of Contrast Sensitivity with Mobile Touch-screens** Jeffrey B. Mulligan

23.552 **Cortical surface structure predicts extrastriate retinotopic function** Noah C Benson, Omar H Butt, Sandeep Jain, David H Brainard, Geoffrey K Aguirre

23.553 **Differential Properties of Narrowly-Tuned and Broad Temporal Channels** Eleanor O'Keefe, Yeon Jin Kim, Edward Essock

23.554 **A model of detectability across the visual field** Jared Abrams, Chris Bradley, Wilson S. Geisler

23.555 **External noise paradigms, contrast sensitivity and aging** Judith Renaud, Rémy Allard, Sandra Molinatti, Jocelyn Faubert

23.556 **Perception is biased by a preceding decision** Toni Saarela, Alan Stocker

23.557 **Modeling Hyperacuity Data with a Hierarchical Neural Vision Network and Modified Hebbian Learning** Harald Ruda, Ennio Mingolla, Stephen Grossberg, Arash Yazdanbakhsh

23.558 **The Psi-marginal adaptive method (or: how to give nuisance parameters the attention they deserve, no more and no less).** Nicolaas Prins

23.559 **Empirical study of the role of aesthetic issues in spatial composition, scene perception architecture, spatial-taxon distribution and entry-level object labels** Jacob Sheynin, Lauren Barghout

Saturday Afternoon Talks

Development

Saturday, May 11, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 1-3

Moderator: Pawan Sinha

24.11, 2:30 pm **Rapid Development of Feed Forward Inhibition Drives Emergence of Visual Alertness** Matthew Colonnese

24.12, 2:45 pm **Blindness subtly alters the distant functional connectivity of dorsal and ventral extra-striate cortex** Omar H Butt, Noah C Benson, Ritobrato Datta, Geoffrey K Aguirre

24.13, 3:00 pm **Development of Contrast Sensitivity Following Extended Congenital Blindness** Amy Kalia, Luis Lesmes, Michael Dorr, Tapan Gandhi, Garga Chatterjee, Peter Bex, Pawan Sinha

24.14, 3:15 pm **Video Games Training Increases Reading Abilities in Children with Dyslexia** Simone Gori, Sandro Franceschini, Milena Ruffino, Simona Viola, Massimo Molteni, Andrea Facchetti

24.15, 3:30 pm **Infants differentially anticipate the goals of ipsilateral and contralateral reaches** Alexis Barton, Bennett Bertenthal

24.16, 3:45 pm **Infants prefer faces to non-faces but their face processing is not always automatic** Mee-Kyoung Kwon, Mielle Setoodeh, Lisa Oakes

24.17, 4:00 pm **Heterogeneity in cognitive maturation and aging: Why there is no such thing as an adult control** Laura Germine, Joshua Hartshorne, Jeremy Wilmer, Christopher Chabris, Garga Chatterjee, Ken Nakayama

Color and light: Mechanisms

Saturday, May 11, 5:15 - 6:45 pm

Talk Session, Royal Ballroom 1-3

Moderator: Andrew Stockman

25.11, 5:15 pm **The Four Human Visual Mechanisms Sensitive to Gray Scale Scrambles** Charles Chubb, Andrew E. Silva

25.12, 5:30 pm **The anisotropy of color space** Marina Danilova, John Mollon

25.13, 5:45 pm **Geometrical structure of perceptual color space is affine** Robert Ennis, Qasim Zaidi

25.14, 6:00 pm **Highly-selective chromatic masking does not require large numbers of color mechanisms** Rhea T. Eskew, Jr., Timothy G. Shepard

25.15, 6:15 pm **Multiple S-cone signals inferred from flicker measurements suggest a network of indirect connections into luminance** Andrew Stockman, G. Bruce Henning, Caterina Ripamonti

25.16, 6:30 pm **Adaptation to twinkle and flicker** Stuart Anstis, Alan Ho, Neal Dykmans

Attention: Neural mechanisms and models

Saturday, May 11, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 4-5

Moderator: Lorella Battelli

24.21, 2:30 pm **Sensory Processing with Varying Degrees of Attention: Lessons from Hemispatial Neglect** Sarah Shomstein, Fatma Uyar, Adam Greenberg, Marlene Behrmann

24.22, 2:45 pm **Stimulation of the left parietal lobe improves spatial and temporal attention in right parietal lobe patients: tipping the inter-hemispheric balance with TMS** Sara Agosta, Florian Herpich, Francesco Ferraro, Gabriele Miceli, Sarah Tyler, Emily Grossman, Lorella Battelli

24.23, 3:00 pm **Mechanisms of attentional control in fronto-parietal cortex across spatial positions** Miranda Scolari, Sabine Kastner

24.24, 3:15 pm **Firing synchrony between neurons reveals proto-object representation in monkey visual cortex** Anne Martin, Rudiger von der Heydt

24.25, 3:30 pm **Effects of perceptual load on population receptive fields** Benjamin de Haas, D. Samuel Schwarzkopf, Elaine J. Anderson, Geraint Rees

24.26, 3:45 pm **Pupil Frequency Tagging: an on-line measure of visual attention** Marnix Naber, George Alvarez, Ken Nakayama

24.27, 4:00 pm **Spatial and feature-based attention enhance the Pupillary Light Reflex** Paola Binda, Maria Pereverzeva, Scott O Murray

Visual search: Guidance, efficiency

Saturday, May 11, 5:15 - 6:45 pm

Talk Session, Royal Ballroom 4-5

Moderator: Preeti Verghese

25.21, 5:15 pm **Welcome to Vowelworld: A new approach to the guidance of search in scenes.** Jeremy M Wolfe, Amanda (Min Hui) Choo

25.22, 5:30 pm **Visual Expertise: Insights Gained by Comparing Professional Populations** Kait Clark, Adam T. Biggs, Elise F. Darling, Matthew S. Cain, Tate H. Jackson, Ehsan Samei, Jay A. Baker, Stephen R. Mitroff

25.23, 5:45 pm **Effects of Bottom-Up Versus Top-Down Cueing on Conjunction Search in 3-Month-Old Infants** Christina Fuda, Scott Adler

25.24, 6:00 pm **Immediate feedback improves saccadic efficiency** Preeti Verghese, Saeideh Ghahghaei

25.25, 6:15 pm **Multimodal neuroimaging evidence for the contribution of the medial temporal lobe to modulations of electrophysiological indices of attention during contextual cueing** Ryan W Kasper, Scott T Grafton, Miguel P Eckstein, Barry Giesbrecht

25.26, 6:30 pm **Investigating low-level explanations for the angry schematic-face search advantage** Matthew Kennett, Guy Wallis



Saturday Afternoon Posters

Temporal processing

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

26.301 **The role of time in human decision-making** Marjena Popovic, Mate Lengyel, Jozsef Fiser

26.302 **Probing observer metacognition through the analysis of gaze duration estimates** Aurelio Bruno, David Souto, Aditi Rao, Alan Johnston

26.303 **How is duration information from multiple sensory sources combined?** Mingbo Cai, David Eagleman

26.304 **Spatio-temporal structure of multi-focal MEG potentials shows evidence of striate global/local signalling.** David Crewther, Alyse Brown, Laila Hugrass

26.305 **Temporal Characteristics of the Straddle Effect (Buffy Contrast Adaptation) and Modeling with On-Off Neurons** Norma Graham, S. Sabina Wolfson, Carlyn A. Patterson

26.306 **A neural correlate of the visual temporal-dilation after-effect** Jose Emmanuel Guzman-Martinez, Laura Ortega, Marcia Grabowecy, Satoru Suzuki

26.307 **Abrupt transition between an above-CFF flicker and a stationary stimulus induces twinkle perception: Evidence for high-speed visual mechanism for detecting luminance change.** Yutaka Nakajima, Yutaka Sakaguchi

26.308 **Tracking the spatio-temporal propagation of entrained alpha oscillations across the visual field** Rodika Sokoliuk, Rufin VanRullen

26.309 **The perceived onset of visual events** Chris Paffen, Ryota Kanai

26.310 **Carryover effects in temporal bisection** Martin Wiener, Branch Coslett

26.311 **A computational model of retinal circuitry predicts stimulus duration and intensity effects on visual persistence and afterimages** Jihyun Kim, Gregory Francis

26.312 **rTMS to right inferior parietal lobule dilates the subjective experience of time** Nicholas Peatfield, Lorella Battelli

26.313 **The neural basis of temporal brightness effects** Hector Rieiro, Maria Sanchez-Vives, Susana martinez-Conde, Jie Cui, Ramon Reig, Stephen Macknik

26.314 **The neural correlates of flicker fusion** Stephen Macknik, Hector Rieiro, Jie Cui, Manuel Ledo, M. Reza Afrasiabi, Susana Martinez-Conde

Visual memory: Encoding, maintenance, retrieval

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

26.315 **The influence of top-down control over visual short-term memory** Claire E. Miller, Anna C. Nobre, Kimron L. Shapiro

26.316 **Witnessing the formation of a reportable working memory trace: Evidence from retroactive dual-task interference** Mark Nieuwenstein, Brad Wyble

26.317 **Show Me the Features: Regular Viewing Patterns During Encoding and Recognition of Faces, Objects, and Places.** Makiko Fujimoto, Kalanit Grill-Spector

26.318 **There's good in disgust: Effect of an emotional memory priming on gustatory evaluation** Nicolas Dollion, Rémy Versace, Agnès Giboreau

26.319 **Detecting a pop-out visual change can impair subsequent detection of another change in change detection** Hyung-Bum Park, Joo-Seok Hyun

26.320 **Comparison limits in change detection** Jason Rajsic, Daryl Wilson

26.321 **Change detection in visual short-term memory: The relative impact of pairwise swaps and object substitutions** Raju Sapkota, Shahina Pardhan, Ian van der Linde

26.322 **Effects of meditation on decision bias induced by weak stimulus signals.** Erika Scilipoti, Dongho Kim, Takeo Watanabe

26.323 **Forget all or hold all: Difficulty in selectively dropping items from visual working memory.** Hiroyuki Tsubomi, Keisuke Fukuda, Atsushi Kikumoto, Edward Vogel

26.324 **Gradual encoding and decay in visual working memory** Hiroyuki Tsuda, Jun Saiki

26.325 **Spatiotemporal priming facilitates visual-short term memory only in a forward-direction** Ian van der Linde, Shahina Pardhan, Raju Sapkota

26.326 **Task dependent memory recall performance of naturalistic scenes: Incidental memorization during search outperforms intentional scene memorization** Dejan Draschkow, Melissa L.-H. Võ, Ray Farmer, Jeremy M. Wolfe

26.327 **What's Feedback Got To Do With It? Examining Learning Rate and Generalization in Cross-scene Statistical Learning With and Without Feedback** Lauren Emberson, Patricia Reeder, Richard Aslin, Daphne Bavelier

26.328 **Mask Similarity Impacts Short-term Consolidation in Visual Working Memory** Lisa Blalock

26.329 **Working memory consolidation does not necessarily delay response selection: Disentangling the costs of task initiation and execution** Florian Sense, Brad Wyble, Mark Nieuwenstein

26.330 **Infants use statistical regularities to chunk items in visual working memory.** Melissa Kibbe, Lisa Feigenson

26.331 **Reference frames in the integration of spatial information across views** Tobias Meilinger, Katsumi Watanabe

Perception and action: Reaching and grasping, neural mechanisms

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

26.401 **Can't Touch This: Removing haptic feedback of the goal object during visually-guided grasping induces pantomime-like grasps** Caitlin M. Byrne, Robert L. Whitwell, Tzvi Ganel, Melvyn A. Goodale

26.402 **The influence of crowding on grip scaling during grasping** Juan Chen, Irene Sperandio, Melvyn Alan Goodale

- 26.403 **How to choose where to place the fingers when grasping a small bar: Effects of object weight and movement distance on grasp point selection** Vivian C. Paulun, Urs Kleinholdermann, Karl R. Gegenfurtner, Jeroen B.J. Smeets, Eli Brenner
- 26.404 **Adaptation of reach-to-point movements changes reach-to-grasp actions** Robert Volcic, Fulvio Domini
- 26.405 **Preserved grip scaling to visual size despite non-veridical haptic feedback in a patient with visual form agnosia** Robert L. Whitwell, Cristiana Cavina-Pratesi, A. David Milner, Melvyn A. Goodale
- 26.406 **Angular spatial updating of visually-previewed targets is more precise for nearer targets** Morgan Williams, Eliza Polli, Zhi Li, Frank Durgin
- 26.407 **Reaching Into the Danger Zone: Specific Target-distractor Similarity Effects in Obstacle Avoidance** Rudmer Menger, Chris Dijkerman, Stefan Van der Stigchel
- 26.408 **Local and global motion effects in interceptive timing** Joan López-Moliner
- 26.409 **Eye-hand coordination: Differential effects of obstacle position on reach trajectories, grasp and gaze locations.** Timothy J Graham, Jonathan J Marotta
- 26.410 **Eye-hand coordination: Differential effects of object shape and surface properties on fixation and grasp locations** Loni Desanghere, Jonathan Marotta
- 26.411 **Perception and action are driven by a common representation of spatial features** Jens Christiansen, Jeppe Christensen, Thor Grünbaum, Søren Kyllingsbæk
- 26.412 **Memory-based bias for target selection transfers across different response modalities** Jeff Moher, Joo-Hyun Song
- 26.413 **Biased attention near one's own but not another's hand** Hsin-Mei Sun, Laura Thomas
- 26.414 **Interactive effects of hand-proximity and emotion on vision** Blaire Weidler, Richard Abrams
- 26.415 **Goal understanding in non-human primates: active action categorization tasks.** Koen Nelissen, Wim Vanduffel
- 26.416 **Neural correlates of target encoding for memory-guided reaching.** Gordon Binsted, Darian Cheng
- 26.417 **Preparatory neuronal activity for reaching: movement planning, target location, and attentional signals converge in macaque medial posterior parietal cortex** Patrizia Fattori, Rossella Breveglieri, Giulia Dal Bo', Kostantinos Hadjidimitrakis, Federica Bertozzi, Claudio Galletti
- 26.418 **The P300 component and the visuomotor mental rotation task: context-updating scales to angle of rotation** Matthew Heath, Stephane Maclean, Cameron Hassall, Olav Krigolson
- 26.419 **Double dissociations of Magnocellular and Parvocellular Pathways in Processing Global Topological and Local Properties** Yan Huang, Tiangang Zhou, Lin Chen
- 26.424 **Motion Silences the Perception of Changing Image Quality in Naturalistic Videos** Lark Kwon Choi, Alan Conrad Bovik, Lawrence Kevin Cormack
- 26.425 **Exploring the spatiotopic frame using motion after-effects** Brice Dassy, Simon, K, Rushton, Rob, C, Honey
- 26.426 **Transcranial electrical stimulation affects adaptation of MT/V5 neurons in awake behaving macaques** Kohitij Kar, Jacob Duijnhouwer, Bart Krekelberg
- 26.428 **Visual regions V2, V3, and MT can discriminate between visual motion trajectories even when you can't.** Diana Gorbet, Frances Wilkinson, Hugh Wilson
- 26.429 **The detection of counterchange, not motion energy, accounts for coherent motion perception in random-dot cinematograms** Joseph Norman, Howard Hock
- 26.430 **Neural correlates of speed-tuned differences in global motion and motion-defined form perception** Kimberly Meier, Marita Partanen, Ryan Lo, Deborah Giaschi
- 26.431 **Decoding pattern motion information in V1** Bianca van Keme-nade, Kiley Seymour, Marcus Rothkirch, Philipp Sterzer
- 26.432 **MT Motion integration can be explained by the spatiotemporal frequency content of V1 surround suppression** Maria-Jose Escobar, Pedro F. Toledo, Guillaume S. Masson, Pierre Kornprobst
- 26.433 **Motion-sensitive area MT+ reflects learning of implied motion in abstract paintings** Ran Lee, Min-Joo Lee, Ji-Eun Kim, Chai-Youn Kim
- 26.434 **Facilitation of rapid motion perception by a static, but not dynamic, synchronous surround** Daniel Linares, Isamu Motoyoshi, Shin'ya Nishida
- 26.435 **Noise improves sensitivity during optimized decision-making.** Adam Morris, Bart Krekelberg
- 26.436 **Measuring the spatiotemporal contrast sensitivity function in the macaque monkey** Ambarish Pawar, Paul Laddis, Sergei Gepshtein, Thomas Albright
- 26.437 **Spatial specificity of direction selectivity in the dorsolateral prefrontal cortex during memory-guided direction comparison task** Ping Ren, Avi Ben-Simon, Bingqing Wang, Phillip Spinelli, Tatiana Pasternak
- 26.438 **Rapid loss of information about motion direction but not about its location during memory-guided comparison tasks** Philip Spinelli, Bingqing Wang, Tatiana Pasternak

Motion: Local, adaptation

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 26.439 **A meridional anisotropy of the flash-drag effect** Anna A. Kosovicheva, David Whitney
- 26.440 **Spatio-temporal characteristics of classical apparent motion traversing vertical- and horizontal meridians** Takao Sato, Hidetoshi Kanaya, Maata Fujita
- 26.441 **Segregating Stimulus Information for Counterchange and Motion Energy Determined Motion Perception** Matthew Seifert, Howard Hock
- 26.442 **Aging does not decrease spatial suppression in a motion step task** Lindsay E. Rosen, Allison B. Sekuler, Patrick J. Bennett
- 26.443 **Cross-modal motion-induced position shift** Hsin-Hung Li, Won Mok Shim, Patrick Cavanagh
- 26.444 **Orientation dependency of motion masking relative to the direction of apparent motion** Yuki Murai, Ikuya Murakami

- 26.445 **Influences of local and global motion on perceived position** Peter J. Kohler, Leif H. Harder, Peter U. Tse
- 26.446 **The orientation tuning of motion streak mechanisms revealed by masking.** David Heslip, Timothy Ledgeway, Paul McGraw
- 26.447 **Local motion-contrast Interactions Influence Global Shape Perception** Gennadiy Gurariy, Gideon Caplovitz
- 26.448 **Effects of spatial attention on motion aftereffects.** Wendy J Adams, Tomas HJ Knapen, Erich W Graf, Jan W Brascamp
- 26.449 **Biological Motion Sex Aftereffects Are A Result Of Low-Level Adaptation** Eric Hiris, Michelle Klima, Ryan Thompson
- 26.450 **MIB as an adaptation phenomenon: evidence from the motion aftereffect** Erika Wells, Andrew Leber
- 26.451 **Linking the neural and perceptual consequences of motion adaptation.** Neil Roach, David McGovern, Ben Webb

Eye movements: Pursuit

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 26.452 **Position information improves prediction for pursuit** Amarender Bogadhi, Kurt Debono, Alexander Schütz
- 26.453 **Rolling motion makes the eyes roll: torsion during smooth pursuit eye movements** Janick Edinger, Dinesh Pai, Miriam Spering
- 26.454 **Transient contrast-induced perceived-velocity perturbations and smooth pursuit: tracking the footstep illusion** Laurent Madelain, Anna Montagnini, Guillaume Masson
- 26.455 **Different temporal integration for ocular following and speed perception** Claudio Simoncini, Laurent U. Perrinet, Anna Montagnini, Guillaume S. Masson
- 26.456 **Systematic deviation of eye-movement direction from stimulus-direction during Optokinetic Nystagmus** Andre Kaminiarz, Kathrin Bartelheimer, Frank Bremmer
- 26.457 **Attentively segregated moving elements are effortlessly integrated to drive pursuit** Scott Watamaniuk, Zhenlan Jin, Elena Potapchuk, Stephen Heinen
- 26.458 **Smooth pursuit “go” circuitry is affected by priming, “nogo” circuitry by cognitive expectation** Stephen Heinen, Elena Potapchuk, Scott Watamaniuk
- 26.459 **Feature-based attention gates motion signals for smooth pursuit** Dirk Kerzel, David Souto
- 26.460 **Bribing the eye: expected reward modulates smooth pursuit eye movements** Aenne Brielmann, Miriam Spering

Face perception: Inversion, eye movements, gaze perception

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 26.501 **The Impacts of Inversion and Thatcherisation on Face Processing: Mapping between ERP and GRT** Natalie Mestry, Michael J. Wenger, Tamaryn Menneer, Nick P. Benikos, Nick Donnelly
- 26.502 **Individual differences reveal no disproportionate inversion effect for faces** Tirta Susilo, Brad Duchaine
- 26.503 **Perceived size, depth and distance of upright and inverted faces** Yukyu Araragi
- 26.504 **Mooney face pops-out in visual search** Jessica Goold, Ming Meng

- 26.505 **The face inversion effect as an inefficiency in evidence accumulation** Maxim Bushmakin, Thomas James
- 26.506 **Spatial memory for features in upright and inverted faces.** Lawrence Symons, Cristina Sampaio
- 26.507 **Performance Consistency in Depth-Inversion Illusions: Faces and Scenes** Vanja Vlajnic, Thomas Papatthomas, Steven Silverstein, Brian Keane
- 26.508 **Eye movements for scrambled faces** William G Hayward, Junpeng Lao, Zhijie Cheng, Kate Crookes, Tina T Liu, Roberto Caldara
- 26.509 **Eye Movement Patterns Suggest Different Facial Features are Most Informative at Different Spatial Frequencies** Chantal L. Lemieux, Elizabeth A. Nelson, Charles A. Collin
- 26.510 **First fixations during face identification are invariant to rotation and scale** Matthew F Peterson, Miguel P Eckstein
- 26.511 **Where do we look when we look for emotion? The influence of cognitive and affective primes on fixations to the face and body** Catherine Reed, Amanda Blattman, Rebekka Manzella, Leigh Milne-Wright, William Reed, Daniel McIntosh
- 26.512 **A prior for direct gaze** Isabelle Mareschal, Andrew Calder, Colin Clifford
- 26.513 **Detecting Gaze Direction in the Horizontal and Vertical Periphery** Adam Palanica, Roxane Itier
- 26.514 **Revisiting the Wollaston Illusion: Categorical perception of gaze** Timothy Sweeny, Tessa Kayser, Erika Gonzalez, David Whitney
- 26.515 **Contribution of cardinal orientations to the “Stare-in-the-crowd” effect** Valerie Goffaux, Sanae Okamoto-Barth

Face perception: Identification

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 26.516 **Representations of face identity information in ventral visual stream using multi-voxel pattern analyses** Elfi Goesaert, Hans Op de Beeck
- 26.517 **Neural adaptation is sensitive to the gamut and division of a stimulus space** David Alexander Kahn, Geoffrey Karl Aguirre
- 26.518 **The neural correlates of covert recognition of familiar faces** Jiangang Liu, Lu Feng, Ling Li, Wenjuan Wei, Jie Tian, Kang Lee
- 26.519 **Normal sensitivity to facial identity in right anterior infero-temporal face-selective region in the absence of right fusiform face area** Hua Yang, Tirta Susilo, Bradley Duchaine
- 26.520 **The Relative Role of Eyes, Eyebrows, and Eye Region in Face Recognition** Charles Saavedra, Pamela Smith, Jessie Peissig
- 26.521 **Masking of individual facial features reveals the use of horizontal structure in the eyes** Matthew V. Pachai, Allison B. Sekuler, Patrick J. Bennett
- 26.522 **Temporal frequency tuning of individual faces is independent of the proportion of different face identities in a sequence of stimulation** Francesco Gentile, Joan Liu-Shuang, Bruno Rossion
- 26.523 **How Dynamic Facial Cues, Stimulus Orientation and Processing Biases Influence Identity and Expression Interference** Sarah Rigby, Brenda Stoesz, Lorna Jakobson
- 26.524 **The time course of chromatic and achromatic information extraction in a face-gender discrimination task** Kim Dufresne, Laurent Caplette, Valérie English, Maxime Fortin, Mélissa Talbot, Daniel Fiset, Frederic Gosselin, Nicolas Dupuis-Roy

26.525 **Describing the temporal dynamics of the face familiarity effect: Bootstrap analysis of single subject ERP data** Esther Alonso-Prieto, Raika Pancaroglu, Kirsten A. Dalrymple, Jason JS Barton, Ipek Oruc

26.526 **The Short-term Temporal Dynamics of the Face Identity After-effect: an Adaptation-Interference Study** Ghazal Kiani, Jodie Davies-Thompson, Jason J.S. Barton

26.527 **The dynamics of adaptation to fast periodic visual stimulation** Dan Nemrodov, Bruno Rossion

26.528 **Adaptation Aftereffects for Face-Halves and the Eye-Region** Raika Pancaroglu, Maryam Dosani, Jason JS Barton

26.529 **Fine-grained individual face discrimination as evidenced by fast periodic visual stimulation** Adelaide de Heering, Joan Liu-Shuang, Anthony Norcia, Bruno Rossion

26.530 **Contrasting the use of interattribute distances with that of all other face-gender discrimination cues** Nicolas Dupuis-Roy, Laurent Caplette, Couet-Garand Alexandre, Valérie English, Maxime Fortin, Mélissa Talbot, Daniel Fiset, Frederic Gosselin

26.531 **Photographic Clarity and Blur Influences Person Perception** James T Enns, Sarah C MacDonald

26.532 **Effect of size on the perception of identity in blurry faces** Kimia Shahangian, Ipek Oruc

26.533 **Individual face representation limits the precision of average face representation** Jason Haberman, Julie Belkova, George Alvarez

26.534 **Ensemble Crowd Perception: A Viewpoint Invariant Mechanism to Represent Average Crowd Identity** Allison Yamanashi Leib, Jason Fischer, Yang Liu, David Whitney, Lynn Robertson

26.535 **Face contour is crucial to the fat face illusion** Yu-Hao Sun, Zhe Wang, Paul Quinn, Naiqi Xiao, Huimin Shi, Ming Zhong, Haiyang Jing, Liezhong Ge, Olivier Pascalis, James Tanaka, Kang Lee

Attention: Spatial and temporal aspects

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

26.536 **Probability Cuing Improves Perceptual Judgments** Britt Anderson

26.537 **Stimulus Value Repetition in Task Switching: An ERP Analysis** Russell Costa, Jaiya Choles, Chrono Nu

26.538 **The role of prestimulus activity in visual extinction** Maren Urner, Margarita Sarri, Tom Manly, Jessica Grahn, Geraint Rees, Karl Friston

26.539 **Dissociations and suboptimalities in metacognitive performance due to unbalanced weighting of perceptual evidence can be partially remediated by task instruction and performance feedback** Brian Maniscalco, Hakwan Lau

26.540 **The effects of metacognitive awareness on top-down cognitive control.** Ai Koizumi, Brian Maniscalco, Aaron Apple, Xiaoyu Yan, Hakwan Lau

26.541 **Complex attention filters for dot contrast derived from a centroid judgment task** Howard Yang, Peng Sun, Charles Chubb, George Sperling

26.542 **Attention and spatial scale selection in scene categorization** John Brand, Aaron Johnson

26.543 **Enumeration of Illusory Contour Figures** Natasha Dienes, Lana Trick

26.544 **Blink Inhibition and Entrainment** Jack Dahlin, Emily Bach, Flip Phillips

26.545 **Consciousness During the Attentional Blink: Partial or All-or-None?** James Elliott, Benjamin Baird, Barry Giesbrecht

26.546 **Interdependencies between attentional priming and perceptual interpretation of ambiguous stimuli** Arni Kristjánsson, Sigurbjorg Egilsdóttir, Gabriela Gilmour, Omar Johannesson, Inga M Olafsdóttir, Jan Brascamp

26.547 **Heritability of reflexive attentional orienting induced by social cues** Li Wang, Ying Wang, Qian Xu, Dong Liu, Yi Jiang

26.548 **Viewing Cultural Scenery Afford Culture-Specific Visual Attention** Yoshiyuki Ueda, Asuka Komiya

26.549 **What you see is what you get: Webcam viewing angle influences social coordination** Laura Thomas, Daniel Pemstein

26.550 **Examining the influence of video game training on spatial cognition and outgroup bias** Leslie McCuller, Michael Dodd

26.551 **The dynamics of the focus of attention depend on what the observer is reading** Saeideh Ghahghaei, Karina Linnell

26.552 **Publication and verification bias in vision science** Gregory Francis

26.553 **Attentional bias for body-related visual stimuli in eating disorder tendency.** Moe Nagahata, Hiroshi Ishikane

3D perception: Neural mechanisms and models

Saturday, May 11, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

26.554 **Decomposing intensity gradients into information about shape and material** Pascal Barla, Romain Vergne, Roland Fleming

26.555 **Probabilistic Interpretation of Depth in Line Drawings due to T-junctions** Seha Kim, Manish Singh, Jacob Feldman

26.556 **The brain's 'superformula': perceptual reconstruction of complex shape spaces** Haemy Lee, Christian Wallraven

26.557 **Establishing 3D symmetry correspondence in asymmetrical perspective images** Yunfeng Li, Zygmunt Pizlo

26.558 **Extracting shapes from objects** Yun Shi, Yunfeng Li, Zygmunt Pizlo

26.559 **Categorizing three-dimensional natural scenes** Zhiyong Yang, Xiaoyuan Zhu, Julian Nussbaum

26.560 **The neural basis of 3D rotation sensitivity from self-generated Optic Flow: a Transcranial Magnetic Stimulation Study** Giovanni Mancuso, Carlo Fantoni, Fulvio Domini, Lorella Battelli



Sunday Morning Talks

Motion: Neural mechanisms and models

Sunday, May 12, 8:15 - 9:45 am

Talk Session, Royal Ballroom 1-3

Moderator: Richard Krauzlis

31.11, 8:15 am **Propagation of local adaptation is insufficient to generate repulsive motion aftereffects** Alan L. F. Lee, Hongjing Lu

31.12, 8:30 am **Bayesian observer model of the motion induced position shift** Oh-Sang Kwon, Dujie Tadin, David Knill

31.13, 8:45 am **Motion-induced position shift in stereoscopic and dichoptic viewing** Rumi Hisakata, Ikuya Murakami

31.14, 9:00 am **Optimal retinal speed estimation in natural image movies** Johannes Burge, Wilson Geisler

31.15, 9:15 am **Human cortical areas for headcentric motion in depth** A.V. van den Berg, David Arnoldussen

31.16, 9:30 am **Are basic feed-forward mechanisms masquerading as complex top-down effects in Middle Temporal (MT) neurons?** John A. Perrone, Richard J. Krauzlis

Color and light: Appearance

Sunday, May 12, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 1-3

Moderator: Roland Fleming

32.11, 10:45 am **Do asymmetric color matches predict cross-illumination color selection?** Ana Radonjić, Kira DiClemente, David Brainard

32.12, 11:00 am **Large shift in color appearance induced by motion in context** Sang Wook Hong, Min-Suk Kang

32.13, 11:15 am **Color shifts caused by perceived structure-from-motion** Sarah Elliott, Steven Shevell

32.14, 11:30 am **Effects of short-term memory on perceived hue** Maria Olkkonen, Sarah Allred

32.15, 11:45 am **Semantic effects on color afterimages** Gary Lupyan

32.16, 12:00 pm **When Color Flows With Shading: making depth disappear** Daniel Holtmann-Rice, Emma Alexander, Roland Fleming, Steven Zucker

32.17, 12:15 pm **Left middle frontal gyrus represents color categories but not metric differences in color; evidence from fMRI adaptation.** Anna Franklin, Samuel Berens, Chris M. Bird

Visual memory: Precision, capacity

Sunday, May 12, 8:15 - 9:45 am

Talk Session, Royal Ballroom 4-5

Moderator: Timothy Brady

31.21, 8:15 am **Ensemble representations inflate estimates of working memory capacity** Timothy Brady, George Alvarez

31.22, 8:30 am **Moving beyond storage limitations: Exploring the dynamic manipulation of representations in VWM** Hrag Pailian, Justin Halberda

31.23, 8:45 am **Visual short-term memory resource is not shared among features** Hongsup Shin, Ronald Van den Berg, Wei Ji Ma

31.24, 9:00 am **Working memory requires focal attention, fragile VSTM does not.** Yair Pinto, Ilja Sligte, Victor Lamme

31.25, 9:15 am **A direct link between primary visual cortex functioning and iconic memory capacity** Ilja G. Sligte, H. Steven Scholte, Anouk M. van Loon, Victor A.F. Lamme

31.26, 9:30 am **Variability in color working memory precision reflects inherent stimulus properties** Gi-Yeul Bae, Colin Wilson, Jonathan Flombaum

Attention: Spatial Selection

Sunday, May 12, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 4-5

Moderator: Ricardo Max

32.21, 10:45 am **Attention improves visual performance in amblyopic macaque monkeys** Lynne Kiorpes, Amelie Pham, Marisa Carrasco

32.22, 11:00 am **Cueing Attention Takes More Time in Strabismic Amblyopes** Xin Jie Lai, Suzanne McKee, Chuan Hou, Preeti Verghese

32.23, 11:15 am **Exact Temporal Window of Visual Distraction** Ricardo Max, Yehoshua Tsai

32.24, 11:30 am **Simultaneous cueing at two discrete locations and lag-0 sparing: breaking the attentional spotlight** Brad Wyble, Maxwell Bay

32.25, 11:45 am **Does exogenous attention modulate endogenous attention?** Michael A Grubb, Alex White, David J Heeger, Marisa Carrasco

32.26, 12:00 pm **Simultaneous enhancement and suppression of distinct spatial locations** Andrew Leber, Rachael Gwinn, Ryan O'Toole

32.27, 12:15 pm **Differential effects of transient attention on inferred parvocellular and magnocellular processing** Yaffa Yeshurun

Sunday AM

Sunday Morning Posters

Perception and action: Complex actions, clinical

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

- 33.301 **When what we need influences what we see: A demonstration of embodied perception in the built environment** Guy Taylor-Covill, Frank Eves
- 33.302 **The presence of an out-group person reduces the range of near space** Zhenzhu Yue
- 33.303 **Visual Guidance When Army Crawling Under Barriers** Shaziela Ishak, Adam Assoian, Joseph Lehan
- 33.304 **Effect of walking, running, and an end-task on object circumvention direction in soccer players and non-athletes** Erin Grand, Michael Cinelli, Pamela Bryden
- 33.305 **Athletes have superior kinesthetic feedback during the control of visually-directed action** Eliza Polli, Stephanie Lechich, Allison Coleman, Morgan Williams, Frank Durgin
- 33.306 **The effects of specific athletic training with an increase in velocity of locomotion during a collision avoidance task.** Allison Zakoor, Michael Cinelli
- 33.307 **Visually-Guided Collective Behavior in Human Swarms** Kevin W. Rio, William H. Warren
- 33.308 **A behavioral dynamics approach to obstacle detection and avoidance by patients with tunnel vision** Adam W. Kiefer, Russell L. Woods, William H. Warren
- 33.309 **The 50s cliff: Perceptuo-Motor Learning Rate Across the Lifespan** Rachel Coats, Andrew Wilson, Winona Snapp-Childs, Aaron Fath, Geoffrey Bingham
- 33.310 **Impact of Visual Mirror Therapy on Phantom Limb Pain Following Amputation: Visual Responsiveness in Somatomotor Cortex** Annie Chan, Emily Bilger, Sarah Griffin, Viktoria Elkins, Sharon Weeks, Lindsay Hussey-Anderson, Katie Hughes, Brett Monson, Molly Shaffer, Mikias Wolde, Howard Gilmer, Paul Pasquina, Jack Tsao, Chris Baker
- 33.311 **Using multiple ports to learn visuomotor transformations could reduce the risk of human error in laparoscopic surgery** O.T. Giles, R. Sutherland, A.D. White, J.P. Lodge, M. Mon-Williams, R.M. Wilkie
- 33.312 **Visual field defects, eye-movements and driving** Callum Mole, Matthew Smith, Georgios Kountouriotis, Catharine Chisholm, Bipinchandra Bhakta, Richard Wilkie
- 33.313 **Can an iPad task determine visuomotor deficits in children with ASD?** Carmen, S. Baker, Pamela, J. Bryden, Michael, E. Cinelli
- 33.314 **Exercise increases visual cognition in older adults** Rebecca Reed-Jones, Sandor Dorgo, Ashley Bangert
- 33.315 **Training of compliance control in children yields improvements in handwriting** Winona Snapp-Childs, Ian Flatters, Aaron Fath, Mark Mon-Williams, Geoffrey Bingham

Object recognition: Neural mechanisms

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

- 33.316 **Action-specific predictive coding of object states** Nicholas C. Hindy, Nicholas B. Turk-Browne
- 33.317 **Development of size- and view-invariance in LOC: an fMR-adaptation study** Mayu Nishimura, K. Suzanne Scherf, Valentinos Zachariou, Michael J. Tarr, Marlene Behrmann
- 33.318 **Neural mechanisms of dynamic object encoding** John A. Pyles, Michael J. Tarr
- 33.319 **What you find depends on how you look: Category selectivity in frontal cortex revealed by whole-brain correlation analysis** Yida Wang, Kai Li, Moses Charikar, Jonathan D. Cohen, Nicholas B. Turk-Browne
- 33.320 **Large-scale functional distinctions in object cortex are reflected in resting state networks** Talia Konkle, Alfonso Caramazza
- 33.321 **Electrocortigraphy of category-selectivity in human ventral temporal cortex: spatial organization, responses to single images, and coupling with fMRI** Corentin Jacques, Nathan Witthoft, Kevin S. Weiner, Brett L. Foster, Kai J. Miller, Dora Hermes, Josef Parvizi, Kalanit Grill-Spector
- 33.322 **Is the representation of target objects independent of their surrounding?** Galit Yovel, Yaara Erez
- 33.323 **Learning to recognize degraded objects is associated with a greater match to the objects' template fMRI activation patterns in Lateral Occipital Cortex** Zvi Roth, Ehud Zohary
- 33.324 **Object sensitivity in subcortical nuclei and their functional connections with cortical areas** Lan Wang, Zhentao Zuo, Peng Zhang, Sheng He
- 33.325 **Bringing the real world into the fMRI scanner: Real objects amplify the neural correlates of valuation compared to photos** Jody C. Culham, Jacqueline C. Snow, Antonio Rangel
- 33.326 **Suppression of visual stimuli with occipital and parietal TMS** Evelina Tapia, Dustin J Martin, Diane M Beck
- 33.327 **The P300 is an electrophysiological correlate of semantic similarity** Robert Alexander, Gregory Zelinsky
- 33.328 **Expectation induced curvature perception in V2** Carmel Mevo, Zoe Kourtzi, Yehoshua Tsal
- 33.329 **Brain of myopes dealing with blur** Konogan Baranton, Thien Huong Nguyen, Jean - Louis Stievenart, Céline Cavezian, Guillaume Giraudet
- 33.330 **Rapid object recognition in the absence of conscious awareness** Weina Zhu, Jan Drewes, Yue Li, Karl R. Gegenfurtner

Eye Movements: Cognition, models

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 33.401 **Investigating the role of event structure and task goals on oculomotor behaviour and change blindness when observing CCTV footage.** Gemma Graham, Anne Hillstrom, James Sauer, Jenny Page
- 33.402 **The Influence of Salient Distractors over the Course of a Category Learning Task** Caitlyn McColeman, Mark Blair

33.403 **Eye movements during working memory retention period influence performance** Zhenlan Jin, Yu Wang, Ling Li

33.404 **Cueing vs. familiarity: an eye movement study of colour-form binding through stored knowledge** Giles Anderson, Glyn Humphreys

33.405 **Eye movements in the number connection test: Evidence for long-term memory based control of visual selection in a sequential sensorimotor task** Rebecca M. Foerster, Werner X. Schneider

33.406 **Visual task-switching: No cost for switching to search** Mark Mills, Michael Dodd

33.407 **Distinct stages of word identification during reading: Evidence from eye movements** Heather Sheridan, Eyal M. Reingold

33.408 **Spatial Bias induced by Semantic Valence: Evidence From Eye Movement Trajectories** Davood Gozli, Amy Chow, Alison L. Chasteen, Jay Pratt

33.409 **The Influence of Scene Context on Parafoveal Processing of Objects** Effie Pereira, Monica Castelhana

33.410 **The effects of task and uncertainty on gaze while walking** Matthew Tong, Mary Hayhoe

33.411 **Target relevance modulates primate gaze behavior during natural scene search** Pavan Ramkumar, Hugo Fernandes, Mark Segraves, Konrad Kording

33.412 **Perceptual brightness decisions do not use a difference model** Dorion Liston, Leland Stone

33.413 **Probing Attention in the Human Superior Colliculus** Javier Lopez-Calderon, Steven J. Luck

33.414 **Oculomotor strategies for rapid identification of large visual stimuli** Anna Montagnini, Jonathan Mirault, Laurent Madelain

33.415 **Modified visuomotor optimization theory to explain Listing's Law** Sarah Marzen, Joel Zylberberg, Mike DeWeese

33.416 **Statistics of spatial-temporal concatenations of features at human fixations in action classification** Xin Chen, Xiaoyuan Zhu, Weibing Wan, Zhiyong Yang

33.417 **Perisaccadic predictive remapping: a neural model of thalamo-cortical interactions** Nan Jia, Arash Yazdanbakhsh

Visual search: Eye movements

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

33.418 **Visual search in natural scenes: efficient allocation of fixations to horizontal support surfaces** Elan Barenholtz, Brad Nemire

33.419 **Different functional roles of dopamine and acetylcholine in visual selection: Simulations of visual search in Alzheimer's and Parkinson's Diseases.** Eirini Mavritsaki, Glyn Humphreys

33.420 **The Effects of Target Typicality on Guidance and Verification in Categorical Search** Justin T. Maxfield, Westri Stadler, Gregory J. Zelinsky

33.421 **Relating peripheral processing ability to learning in a visual search task** Kathryn Koehler, Emre Akbas, Miguel P. Eckstein

33.422 **Towards a Better Understanding of Eye-Movement Strategies in Multiple Target Search** Christian P. Janssen, Preeti Verghese

33.423 **Eye movements during highly inefficient visual search: What determines search efficiency differences in blank trials?** Gernot Horstmann, Arvid Herwig

33.424 **Weakened Target Representations in Low Prevalence Visual Search** Hayward J. Godwin, Tamaryn Menneer, Nick Donnelly

33.425 **Constant fixation strategies underlying visual search in natural scenes** David H. Foster, Kinjiro Amano

33.426 **Contribution of head movements to gaze shift during visual search in a large visual field** Yu Fang, Ryoichi Nakashima, Kazumichi Matsumiya, Rumi Tokunaga, Ichiro Kuriki, Satoshi Shioiri

33.427 **Searching for many targets: What can eye-movements tell us about hybrid visual and memory search?** Trafton Drew, Jeremy M. Wolfe

33.428 **Template-based guidance in visual search is independent of influence from properties of currently or recently fixated objects** Valerie Beck, Andrew Hollingworth

33.429 **Optimal search by initially looking away from the target in the presence of remote cues** Stephen C. Mack, Emre Akbas, Miguel P. Eckstein

Binocular vision: Rivalry

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

33.430 **Winner-take-all circuits exhibit key hallmarks of binocular rivalry** Svenja Marx, Gina Gruenhagen, Daniel Walper, Ueli Rutishauser, Wolfgang Einhauser

33.431 **Constraining the dynamics of multi-stable perception** Jochen Braun, Gustavo Deco, Alexander Pastukhov

33.432 **A Common Mechanism for Perceptual Reversals in Motion-induced Blindness, the Troxler Effect, and Perceptual Filling-In** Dina Devyatko, L. Gregory Appelbaum, Stephen R. Mitroff

33.433 **A Neural Network for Modulation of Perceptual Rivalry by Social Face Traits** Spas Getov, Bahador Bahrami, Joel Winston, Geraint Rees

33.434 **Visual and haptic priming of binocular rivalry** Erich W Graf, Kieran Rones, Daniel H Baker, Wendy J Adams

33.435 **Shape binds to surface, surface not to shape** Richard Jacobs

33.436 **Efficient activation of letter-level representation in binocular rivalry with familiar letters** Eiji Kimura, Ken Goryo

33.437 **What determines the depth of interocular suppression during continuous flash suppression?** Timothy Ledgeway, Paul McGraw, Ben Thompson

33.438 **Exploring the phenomenology of a visual change in VWM change detection: A comparison of a perceived change triggered by a VWM-perception mismatch versus a binocular sensory mismatch** Youngseon Shin, Joo-Seok Hyun

33.439 **Perceptual suppression during stimulus rivalry diminishes contrast adaptation at eye-specific processing stages** Jan Brascamp, Hansem Sohn, Sang-Hun Lee, Randolph Blake

33.440 **Use of dichoptic random dot kinematograms to assess amblyopic suppression** Cristina Llerena Law, Benjamin Backus, Alexander Yuan, Oksana Natanelova, Lisa Steele, Ivan Tseng, Lanya Cai

33.441 **Alcohol promotes piecemeal percept during binocular rivalry** Para Kang, Xiaohua Zhuang, Sang Wook Hong, Andrea King, Dingcai Cao

33.442 **Age-related effects of size and contrast on binocular rivalry** Amanda M. Beers, Patrick J. Bennett, Allison B. Sekuler

33.443 **Neuronal correlates of binocular rivalry in the human medial temporal lobe** Hagar Gelbard-Sagiv, Liad Mudrik, Christof Koch, Itzhak Fried

33.444 **Functionally imaging the magno- and parvocellular layers of the human LGN during binocular rivalry** Debra W. Soh, M.A., Keith A. Schneider, Ph.D.

Binocular vision: Neural mechanisms and models

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

33.445 **Measurement of interocular suppression across the binocular visual field using luminance-modulated and contrast-modulated noise stimuli** Akash S Chima, Sarah J Waugh, Monika A Formankiewicz

33.446 **Binocular contrast discrimination needs monocular multiplicative noise** Jian Ding, Stanley Klein, Dennis Levi

33.447 **Dynamic properties in broadband pattern masking: Comparison between monocular, binocular and dichoptic viewing conditions.** Pi-Chun Huang, Robert Hess

33.448 **Evidences of bidirectional eye suppression in amblyopia** Dave Saint-Amour, Laura Lefebvre, Mathieu Simard, Reza Farivar, Robert F. Hess

33.449 **Dichoptic Orientation Summation** Oren Yehezkel, Uri Polat, Dennis Levi

33.450 **Resolving the individual layers of the human lateral geniculate nucleus using high-resolution structural MRI** Larissa McKetton, Joseph Viviano, Keith Schneider

Perceptual learning: Plasticity, adaptation

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

33.501 **Visual attention is necessary for the motor-visual temporal recalibration** Masaki Tsujita, Makoto Ichikawa

33.502 **When is old better? Task Irrelevant Perceptual Learning with older people** Li-Hung Chang, Kazuhisa Shibata, Yuko Yotsumoto, John Andersen, Yuka Sasaki, Takeo Watanabe

33.503 **The boosting effect of negative feedback on perceptual learning** Hoon Choi, Takeo Watanabe

33.504 **Modification of spontaneous oscillatory activity in the visual cortex during non-rapid eye movement sleep associated with adaptation process to a first-night sleep environment** Masako Tamaki, Ji Wong Bang, Takeo Watanabe, Yuka Sasaki

33.505 **Do video game players resist interference with perceptual learning by training on a new task?** Aaron Berard, Matthew Cain, Takeo Watanabe, Yuka Sasaki

33.506 **Detection reveals multiple temporally tuned mechanisms controlling contrast adaptation** Elizabeth Fast, Yihwa Baek, Juraj Mesik, Koen Haak, Stephen Engel

33.507 **Sequence is necessary for multi-stimulus perceptual learning** Lin-Juan Cong, Jun-Yun Zhang, Cong Yu

33.508 **Hemifield-specific offline learning of coherent motion detection** Matthew S. Cain, Sumire D. Sato, Takeo Watanabe, Yuka Sasaki

33.509 **Visual Improvements Through the Perceptual Learning Based Training Program UltimEyes™** Jenni Deveau, Gary Lovcik, Aaron Seitz

33.510 **Learning reconfigures surround modulation of orientation discrimination performance** Ben S. Webb, Neil W. Roach

33.511 **Learning to discriminate crowded orientations** Zhenzhi Fan, Fang Fang

33.512 **Perceptual learning of direction discrimination reduces bilateral motion repulsion** Ke Jia, Sheng Li

Spatial vision: Crowding, eccentricity

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

33.513 **Acuity, contrast, eccentricity, and crowding** Daniel R. Coates, Jeremy M. Chin, Susana T. L. Chung

33.514 **Orientation Discrimination in Periphery: Surround Suppression or Crowding?** Mingliang Gong, Lynn Olzak

33.515 **Electrophysiological signatures of crowding are similar in foveal and peripheral vision** Vitaly Chicherov, Michael H. Herzog

33.516 **Sparse coding as a tool for gathering image statistics in peripheral vision** John R. Shee, Bosco S. Tjan

33.517 **Large Interaction Zones for Visual Crowding for Briefly Presented Peripheral Stimuli** Srimant Tripathy, Patrick Cavanagh, Harold Bedell

33.518 **Visual acuity performance for luminance-modulated and contrast-modulated Cs and letters in the periphery: what crowds best?** Sarah J Waugh, Monika A Formankiewicz, Hannah Warner

33.520 **The radial and tangential extent of spatial metamers** Jeremy Freeman, Eero Simoncelli

33.521 **Temporal processing overcomes spatial crowding in the fovea** Mara Lev, Oren Yehezkel, Uri Polat

33.522 **Orientation discrimination in complex stimuli: Crowding or surround suppression?** Lynn A. Olzak, Patrick J. Hibbeler, Michael L. Kramer, Jordan R. Wagge

33.523 **A high-dimensional pooling model accounts for seemingly conflicting substitution effects in crowding** Shaiyan Keshvari, Ruth Rosenholtz

33.524 **Redefining the Metric of Visual Space: Visual Field Boundaries Influence Attentional Resolution and Crowding Performance** Francesca Fortenbaugh, Michael Silver, Lynn Robertson

33.525 **Crowding with invisible flankers – a reexamination** Kilho Shin, Bosco S. Tjan

33.526 **Dynamic components modulate crowding** Deyue Yu, Jesse Husk

33.527 **Saccades affect crowding, but crowding does not affect saccades** Girish Kumar, Susana T. L. Chung

33.528 **Visual crowding is altered during smooth pursuit eye movements** William Harrison, Roger Remington, Jason Mattingley

33.529 **The meridian effect on the cortical magnification factor for visual word form identification** Li-Ting Tsai, Chien-Chung Chen, Yuh Jang, Kuo-Meng Liao

Face perception: Emotion

Sunday, May 12, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

33.530 **Exploring the left eye bias for faces** Elina Birmingham, Dawn Chan, Victoria Kling, Dominic Trevisan

33.531 **Fear recognition in four patients with focal bilateral amygdala damage** Frederic Gosselin, Michael Spezio, Ralph Adolphs

- 33.532 **Implicit facial emotion recognition in a case of cortical blindness** Christopher L. Striemer, Robert L. Whitwell, Melvyn A. Goodale
- 33.533 **Fearful faces: no emotion-based processing without awareness under continuous flash suppression.** Nicholas Hedger, Wendy J. Adams, Matthew Garner
- 33.534 **Ensemble coding of facial emotion and social anxiety** Sang Chul Chong, K. Lira Yoon, Jae-Won Yang
- 33.535 **Singular or Summary: Averaging of Facial Expression in Sets is Modulated by Eccentricity** Katherine M. Fielding, Richard J. Carvey, Chang Hong Liu
- 33.536 **Emotion recognition (sometimes) depends on horizontal orientations** Carol Huynh, Benjamin Balas
- 33.537 **Using Reverse Correlation to let Adults and Children Show us their Emotional Expression Templates** Daniel Hipp, Alecia Moser, Xing Zhang, Lijun Yin, Peter Gerhardstein
- 33.538 **Was “seeing the mean emotion” indeed a high level analysis?** Luyan Ji, Wenfeng Chen, Xiaolan Fu
- 33.539 **Recognizing Expressions: Are Static Displays Good Enough?** Nicole Nelson, Catherine Mondloch
- 33.540 **Dynamic mental models of culture-specific emotions** Wei Sun, Oliver G.B.Garrod, Philippe G.Schyns, Rachael E.Jack
- 33.543 **Are compound emotions also basic emotion categories?** Pamela Pallett, Aleix Martinez
- 33.544 **Look out! Gaze-cueing is greater from fearful faces in a dangerous context for children and adults** Amy Dawel, Elinor McKone, Jessica Irons, Richard O’Kearney, Romina Palermo
- 33.545 **Evidence for the Development of the Extended Face Network, Executive Function, and Response Inhibition: An FMRI Study of the Emotional Go/No-Go Task** Elizabeth Toomarian, Jarnet Han, Maha Adamo, Frank Haist
- 33.546 **Matching emotional expressions of faces within an olfactory context: Does my own emotion matter?** Arnaud Leleu, Jefferson Virgile, Caroline Demily, Nicolas Franck, Jean-Yves Baudouin
- 33.547 **Own-gender effects in post-adaptation changes to facial expression discrimination performance.** Jay Zhang, Ipek Oruc
- 33.548 **Gender differences in the visual strategies underlying facial expression categorization** Caroline Blais, Daniel Fiset, Frédéric Gosselin
- 33.549 **Show Me Your Poker Face: Are Poker Players Better at Recognizing Emotional Expressions?** Erin Browning, Carol Huynh, Jessie Peissig

Sunday Afternoon Talks

Perceptual learning: Neural mechanisms

Sunday, May 12, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 1-3

Moderator: Kazuhisa Shibata

34.11, 2:30 pm **Experience-based development of internal probabilistic representations in the primary visual cortex** József Fiser, Cristina Savin, Pietro Berkes, Chiayu Chiu, Máté Lengyel

34.12, 2:45 pm **No transfer from visual to visuomotor perceptual learning and vice versa** Michael Herzog, Lukasz Grzeczowski, Fred Mast

34.13, 3:00 pm **Anodal tDCS to V1 blocks visual perceptual learning consolidation** Megan A.K. Peters, Benjamin Thompson, Lotfi B. Merabet, Allan D. Wu, Ladan Shams

34.14, 3:15 pm **Improving visual cognition through stroboscopic training** Lawrence Appelbaum, Matthew Cain, Julia Schroeder, Elise Darling, Stephen Mitroff

34.15, 3:30 pm **Perceptual learning is associated with different types of plasticity at different stages – revealed by fMRI** Kazuhisa Shibata, Yuka Sasaki, Mitsuo Kawato, Takeo Watanabe

34.16, 3:45 pm **How to make a grandmother cell using Spike-Time Dependent Plasticity (STDP)** Simon Thorpe, Olivier Bichler

34.17, 4:00 pm **Retinotopy of the cortical lesion projection zone in macular degeneration** Koen V. Haak, Antony B. Morland, Frans W. Cornelissen

Multisensory processing

Sunday, May 12, 5:15 - 7:00 pm

Talk Session, Royal Ballroom 1-3

Moderator: David Burr

35.11, 5:15 pm **Blindness produces yoked changes in V1 cortical thickness, cross-modal responses, and resting metabolism.** Ritabrato Datta, Aleksandra B. Daina, Lauren Brandes, Efsthathios D. Gennatas, Sashank Prasad, Omar H. Butt, Geoffrey K. Aguirre

35.12, 5:30 pm **Reorganization of auditory motion direction encoding in early blind humans** Fang Jiang, G.C. Stecker, Ione Fine

35.13, 5:45 pm **The face and voice of multisensory integration: prior knowledge affects multisensory integration from early childhood** Karin Petrini, Georgina Denis, Scott Love, Marko Nardini

35.14, 6:00 pm **Changing pitch modulates motion-direction information in V1** Won Mok Shim, Stefan Uddenberg, Yune-Sang Lee

35.15, 6:15 pm **Evidence for an abstract multi-modal sense of number** David Burr, Irene Togoli, Roberto Arrighi

35.16, 6:30 pm **Are synesthetes different beyond their synesthetic associations?** Charlotte Chun, Jean-Michel Hupe

35.17, 6:45 pm **Neural correlates of time marker for simultaneity judgment** Kaoru Amano, Liang Qi, Tsunehiro Takeda, Shin'ya Nishida

3D Perception

Sunday, May 12, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 4-5

Moderator: Jenny Read

34.21, 2:30 pm **Pupil shape is adaptive for many species.** William Sprague, Zachary Helft, Jared Parnell, Jurgen Schmoll, Gordon Love, Martin Banks

34.22, 2:45 pm **Neuronal selectivity for directions of 3D motion in area MT** Thaddeus Czuba, Lawrence Cormack, Alexander Huk, Adam Kohn

34.23, 3:00 pm **Grouping Disrupts Depth Magnitude Percepts from Stereopsis** Lesley Deas, Matthew Cutone, Laurie M. Wilcox

34.24, 3:15 pm **Luminance-disparity interaction in edge localization** Alan Robinson, Stuart Anstis, Donald MacLeod

34.25, 3:30 pm **Predicting the effects of illumination in shape from shading** Roland Fleming, Romain Vergne, Steven Zucker

34.26, 3:45 pm **Is stereopsis optimized for our natural environment?** Emily A. Cooper, William W. Sprague, Ivana Tošić, Martin S. Banks

34.27, 4:00 pm **Pictorial depth is not statistically optimal** Dhanraj Vishwanath, Fulvio Domini

Spatial vision: Crowding, texture

Sunday, May 12, 5:15 - 7:15 pm

Talk Session, Royal Ballroom 4-5

Moderator: Hakwan Lau

35.21, 5:15 pm **Inflation of subjective perception in peripheral vision** Guillermo Solovey, Brian Maniscalco, Dobromir Rahnev, Hakwan Lau

35.22, 5:30 pm **A release from crowding using task-irrelevant object parts** John Greenwood, Patrick Cavanagh

35.23, 5:45 pm **Quantifying Error Distributions in Crowding** Deborah Hanus, Edward Vul

35.24, 6:00 pm **When crowding of crowding leads to uncrowding** Mauro Manassi, Bilge Sayim, Michael H Herzog

35.25, 6:15 pm **The role of perceptual organization in crowding** Cathleen M Moore, Anthony Chung

35.26, 6:30 pm **SSVEPs indicate that grouping limits resolving power of attention inducing crowding** Jeff Nador, Yury Petrov, Jiehui Quian

35.27, 6:45 pm **The power of pooling in high dimensions** Ruth Rosenholtz

35.28, 7:00 pm **Texture mechanisms pool multiple first-order channels** Michael Landy, Zachary Westrick



Sunday Afternoon Posters

Attention: Spatial Selection 1

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

- 36.301 **A unified framework for multiple-alternative detection in birds and primates** Devarajan Sridharan, Nicholas Steinmetz, Tirin Moore, Eric Knudsen
- 36.302 **Perifoveal spatial compression** Eckart Zimmermann, Gereon Fink, Patrick Cavanagh
- 36.303 **Sustained spatial attention excludes external noise** Yukai Zhao, Zhong-Lin Lu, Alexandre Pouget, Barbara Anne Doshier
- 36.304 **Pre-cues alleviate supercrowding without attracting focal attention** Joshua Solomon
- 36.305 **The influence of graded spatial attention on human direction discrimination thresholds as a function of stimulus motion coherence** Vera Marks, Stefan Treue
- 36.306 **Object substitution masking depends on the sizes of both stimulus and attention field** Si On Kim, Sang Chul Chong
- 36.307 **The effect of spatial attention on adaptation induced by visible and invisible stimuli** Yaelan Jung, Sang Chul Chong
- 36.308 **Examining the Locus of the Attentional Attraction Effect** Amy Chow, Davood Gozli, Jay Pratt
- 36.309 **Depth Modulation of Attentional Repulsion and Attraction Effects** Sung-en Chien, Katsumi Watanabe
- 36.310 **Pupil size reflects the strategic allocation of spatial attention** Zachary Blumenfeld, Terence L. Tyson, Joy J. Geng
- 36.312 **When diverting attention improves performance: Attention trades off spatial resolution** Antoine Barbot, Laura Bustamante, Marisa Carrasco
- 36.313 **Evidence for dissociable endogenous and exogenous attentional maps** Donatas Jonikaitis, Heiner Deubel
- 36.314 **Differential effects of one versus two hands on discriminating temporal gaps.** William Bush, Shaun Vecera
- 36.315 **Cross-modal preparatory attention is reduced in amblyopes: An ERP Study** Christina Gambacorta, Mor Nahum, Julia Foecker, Dennis Levi

Attention: Divided, resource competition

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

- 36.316 **Hemifield effect for high-level, but not low-level, visual stimuli.** Michael Cohen, Julianna Rhee, George Alvarez
- 36.317 **Simultaneous selection of multiple targets and the role of hemifield-specific resources** Patrick T. Goodbourn, Alex O. Holcombe
- 36.318 **Attentional Boost and Attentional Load: A Study of their Interaction** Khena Swallow, Yuhong Jiang
- 36.319 **The Benefits of Automatic Inhibition** Liat Goldfarb
- 36.320 **Programming the Brain** Shaul Hochstein, Keren Haroush
- 36.321 **Short-term fatigue of perceptual decision making and metacognition** Hakwan Lau, Brian Maniscalco

- 36.322 **Divided Attention While Walking: Examining Functional Changes in Prefrontal Activity in Translational Contexts** Joanna Lewis, Audrey Hill, Corey Bohil, Mark Neider
- 36.323 **Does the disadvantage of media multitaskers in task switching lie in the change of cue or task?** Kelvin F. H. Lui, Alan C.-N. Wong
- 36.324 **Some visual relation judgments are limited to a single dimension at a time** Audrey G. Lustig, Steven L. Franconeri
- 36.325 **Individual differences in electrophysiological responses to performance feedback predict AB magnitude** Mary MacLean, Karen Arnell
- 36.326 **Investigating the flanker effect with high-level visual stimuli** Hagit Magen
- 36.327 **Blur Detection In Natural Scenes Is Not Affected By Cognitive Load** Ryan V. Ringer, Kevin E. Dean, Adam M. Larson, Gabriel A. Hughes, Allison M. Coy, Tera B. Walton, Jordan Spratt, Lydia Clark-Hargreaves, Aaron Johnson, Mark Neider, Arthur F. Kramer, Lester C. Loschky
- 36.328 **Cross-Modal effects of different auditory stimuli on visual attention** Valéria Reis do Canto Pereira, Maria Angela Guimarães Feitosa, Wânia Cristina de Souza, Luiz Henrique Canto-Pereira
- 36.329 **Effects of attentional states on visuomotor learning** Joo-Hyun Song, Patrick Bédard
- 36.330 **Attention modulates generalization of visuomotor learning** Patrick Bédard, Joo-Hyun Song
- 36.331 **The distribution of covert visual attention during multidigit grasping** Rene Gilster, Heiner Deubel

Object recognition: Categories

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 36.401 **Understanding the nature of the visual representations underlying rapid categorization tasks.** Imri Sofer, Kwang Ryeol Lee, Pachaya Sailamul, Sébastien Crouzet, Thomas Serre
- 36.402 **Mapping visual object recognition in the human brain with combined MEG and fMRI** Radoslaw Cichy, Dimitrios Pantazis, Aude Oliva
- 36.403 **Influence of contextual priming on rapid visual categorization in monkey** Anne-Claire Collet, Denis Fize
- 36.404 **Early categorical ERP differences: how early, how strong, how different?** Guillaume Rousselet, Magdalena Bieniek, Nicola van Rijsbergen, Philippe Schyns
- 36.405 **From stimulus onset to category selectivity in 100ms: category-selective visually evoked responses as a result of extensive category learning** Tim Christian Kietzmann, Benedikt Ehinger, Danja Porada, Andreas Engel, Peter König
- 36.406 **More Blobs: A Training Study Examining the Role of Medial-Frontal Cortex in the Development of Perceptual Expertise** Olav Krigolson, Heather Gallant, Cameron Hassall
- 36.407 **Birds of a Feather Flock Together...for Novices** Cindy M. Bukach, Tracey A. Sohner, Alan C. N. Wong, Jessie J. Peissig
- 36.408 **Category learning off of fixation causes a selective perceptual advantage for relevant dimensions.** Jonathan R. Folstein, John J. Allen, Paige E. Scalf

Sunday PM

36.409 The role of sleep in consolidating semantic knowledge

Anna Schapiro, Timothy Rogers, Kenneth Norman, Lang Chen, Elizabeth McDevitt, Sara Mednick

36.410 The Color of Perceptual Expertise Simen Hagen, Quoc Vuong, James Tanaka**36.411 Impairments in pre-semantic processing contribute to category-specific recognition deficits** Katrien Torfs, Sven Panis, Johan Wagemans, Glyn W. Humphreys**36.412 Sensorimotor activation for printed words in the brains of adults and children** Tessa Dekker, Mark Johnson, Denis Mareschal, Marty Sereno**36.413 Coding of Visual Stimuli for Size and Animacy** Xiaokun Xu, Manan Shah, Irving Biederman**36.414 Real-world size influences visual search efficiency** Bria Long, Talia Konkle, Michael A. Cohen, George A. Alvarez**36.415 Hysteresis in the Perception of Objects and Scenes** Sonia Poltoratski, Frank Tong**36.416 Can I find my pants in the kitchen? Electrophysiological markers of categorical search using pictorial stimuli.** Rebecca Nako, Rachel Wu, Tim J. Smith, Martin Eimer**36.417 Intrinsic Structure of Visual Exemplars and Category Representations in Macaque Brain** Ning Liu, Nikolaus Kriegeskorte, Marieke Mur, Fadila Hadj-Bouziane, Wen-Ming Luh, Roger Tootell, Leslie Ungerleider**36.418 Normal body perception without the right fusiform body area** Brad Duchaine, Tirta Susilo, Hua Yang**36.419 Stimulus representations in body-selective regions of the macaque and human cortex assessed with event-related fMRI** Jan Jastorff, Ivo Popivanov, Natalie Caspari, Guy Orban, Wim Vanduffel, Rufin Vogels**36.420 Visual categorization and identification of unattended objects: are faces unique?** Nurit Gronau, Rotem Amar, Anna Izoutcheev, Vladimir Kalendarev**Object recognition: Frames of reference**

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

36.421 A comparison between mental object and viewer rotation reveals a substantial difficulty for viewer rotations greater than 90° Thitaporn Chaisilprungraung, David Rothlein, Michael McCloskey**36.422 Environmental orientation influences novel shape learning** Nicolas Davidenko, Stephen Flusberg**36.423 Relative Throw-ability of Objects of Varying Size and Weight Is Perceivable As Revealed By Magnitude Estimation Methods** Todd Mirich, Qin Zhu, Geoffrey Bingham**36.424 Non-Retinotopic Perception: Predictions and Empirical Tests of a Reference-Frame Metric Field Theory** Haluk Ogmen, Michael Herzog, Babak Noory**36.425 The neural correlates of non-retinotopic processing in human visual cortex: a 7T fMRI study** Evelina Thunell, Wietske van der Zwaag, Gijs Plomp, Haluk Ogmen, Michael H. Herzog**Visual search: Spatial and temporal aspects**

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

36.426 Visual Searches Need Their Own Personal Space: The Importance of Spacing Between Simultaneously Presented Search Arrays. Stephen Adamo, Adam Biggs, Stephen Mitroff**36.427 Perceptual exposure does not alter advantage for familiar brand logos in visual search** Xiaoyan (Angela) Qin, Wilma Koutstaal, Stephen Engel**36.428 Effects of Foveation on Visual Search Task with Visual Prosthesis Simulation** Ben P. McIntosh, Noelle R. B. Stiles, Mark S. Humayun, Armand R. Tanguay, Jr.**36.429 The effect of task difficulty on visual search strategy** Johan Hulleman**36.430 Is an Image Worth a Phonological Representation? Investigating the effect of target-distractor phonological similarity in multiple-target search** Stephen Walenchok, Michael Hout, Stephen Goldinger**36.431 Does the direction of dimensional changes influence reaction time costs in visual search?** Sandra Utz, Claus Christian Carbon**36.432 Visual Search Efficiency for Features in Chernoff Faces** Navaneethan Siva, Alex Chaparro, Duy Nguyen, Evan Palmer**36.433 Is search over time functionally equivalent to search over space?** Nicole L. Jardine, Cathleen M. Moore**36.434 Parallel Processing in Difficult Visual Search in both Noisy and Noiseless Displays** Richard S. Hetley, Barbara Anne Doshier, Zhong-Lin Lu**36.435 Hide and Seek: Searching for Poorly Defined Camouflaged Targets** Alyssa Hess, Andrew Wismer, Pooja Patel, Kirsten Orlandella, Corey Bohil, Mark Neider**36.436 Global - Not Local - Variance Impacts Search** Steve Haroz, David Whitney**36.437 Contextual cueing in patients with age-related macular degeneration** Franziska Geringwald, Anne Herbig, Michael Hoffmann, Stefan Pollmann**36.438 I still haven't found what you're looking for: Searching for myself and then searching for you too** Michael Dodd, Mark Mills, Gerald McDonnell**36.439 The effects of searching for something you love (or hate): Duke and UNC students search for rival team logos.** Adam Biggs, Thomas Spaventa, Joseph Hopfinger, Stephen Mitroff**36.440 Adaptive group integration rules in a signal detection task** Mordechai Z. Juni, Miguel P. Eckstein**36.441 How long does it take to create a solid target template in visual search?** Junha Chang, Joo-Seok Hyun**36.442 The contents of the search template for naturalistic visual search** Reshanna Reeder, Marius Peelen**Motion: Optic flow**

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

36.443 Speed tuning of optic flow parsing Andrew J. Foulkes, Simon K. Rushton, Paul A. Warren

- 36.444 **Characteristics of the optic flow parsing mechanism for different simulated observer movements** Paul A. Warren, Simon K. Rushton, Andrew J. Foulkes
- 36.445 **Perception of smooth and perturbed vection in short-duration microgravity** Ramy Kirolos, Robert Allison, James Zacher, Pearl Gutterman, Stephen Palmisano
- 36.446 **Spontaneous postural instability predicts susceptibility to smooth vection** Stephen Palmisano, Deborah Apthorp, Takeharu Seno, Paul Stapley
- 36.447 **Combining depth and motion to detect moving objects in an optic flow field** Constance Royden, Laura Webber, Sean Sannicandro
- 36.448 **Effect of Local Motion Averaging on the Detection of an Impending Collision** Carissa M. Lemon, George J. Andersen
- 36.449 **The curvature of the background affects the perception of 3D object motion** Junjun Zhang, Myron Braunstein, George Andersen
- 36.450 **Path Is Encoded by Spiral-Selective Cells in MSTd** Oliver W. Layton, N. Andrew Browning
- 36.451 **Embodied Memory Allows Low Vision to Perform Like High Vision When Perceiving Events** Jing Samantha Pan, Geoffrey Bingham

Perceptual organization: Surfaces, segmentation

Sunday, May 12, 2:45 - 6:45 pm
Poster Session, Vista Ballroom

- 36.502 **Real-world scene perception and perceptual organization: Lessons from Computer Vision** Lauren Barghout, Jacob Sheynin
- 36.503 **Beyond Fixation: Ensemble Coding and Eye Movements** Benjamin Wolfe, Anna A. Kosovicheva, Allison Yamanashi Leib, David Whitney
- 36.504 **Multi-scale selectivity to figures in primate V4** Arash Yazdanbakhsh, Oliver Layton
- 36.505 **Why is the tilt after-effect selective to local but not global luminance-contrast polarity?** Elena Gheorghiu, Jason Bell, Frederick A.A. Kingdom
- 36.506 **Representations of shape in modal and amodal completion conditions tested with shape frequency adaptation** Naoki Kogo, Aniko Lovik, Vicky Froyen, Johan Wagemans
- 36.507 **Semantic Priming Affects Figure Assignment** Andrew J. Mojica, Mary A. Peterson
- 36.508 **Anomalous 3D structure-from-motion arises from accretion-deletion and figure-ground cues** Vicky Froyen, Jacob Feldman, Manish Singh
- 36.509 **Infants (5.5 months old) use shape regularity to segment objects from their backgrounds** Elizabeth Salvagio, Rebecca L. Gomez, Mary A. Peterson
- 36.510 **Surprising Evidence of Competition in a Classic Figure-Ground Stimulus Supports a Role for Background Priors in Figure Assignment** Mary A Peterson, Elizabeth Salvagio
- 36.511 **Convexity as a Cue to Figure-Ground Segmentation in Children** Michael Slugocki, Daphne Maurer, Mary A. Peterson, Terri L. Lewis
- 36.512 **The effects of aging on figure/ground perception: Reduced competition resolution in older observers.** Jordan W. Lass, Patrick J. Bennett, Mary A. Peterson, Allison B. Sekuler
- 36.513 **Geometric figure-ground cues override standard depth from accretion-deletion** Ö. Dağlar Tanrıku, Vicky Froyen, Jacob Feldman, Manish Singh

- 36.514 **Kanizsa shape discrimination and contour integration deficits in schizophrenia: What is the role of spatial frequency?** Timur Suhail-Sindhu, Brian P. Keane, Danielle Paterno, Genna Erlikhman, Sabine Kastner, Steven M. Silverstein
- 36.515 **Temporal facilitation in the integration of contours** Jose F Barraza, Javier G Chambeaud
- 36.516 **A neuro-computational model for the perception of contours defined by motion** Javier G. Chambeaud, José F. Barraza
- 36.517 **Integration of Contour Shape Information** Patrick Garrigan, Christina Hamilton
- 36.518 **Peripheral contour integration favors convex contours** Bart Machilsen, Maarten Demeyer, Johan Wagemans
- 36.519 **Contour integration and perceptual fading** Lars Strother, Danila Alferov, Tuti Vilis
- 36.520 **Detecting shapes in noise: the role of contour-based and region-based representations** John Wilder, Manish Singh, Jacob Feldman

Development: Typical development across the lifespan

Sunday, May 12, 2:45 - 6:45 pm
Poster Session, Vista Ballroom

- 36.522 **Differentiation of Impossible and Possible Figures Through the Exploration of Ocular Movements in Young Children.** Vanessa Adamson, Sherryse Corrow, Sarah Shuwairi, Jordan Mathison, Albert Yonas
- 36.523 **The role of heterophoria and its adaptation in typically developing children** Erin Babinsky, Vidhyapriya Sreenivasan, T. Rowan Candy
- 36.524 **Signal Clarity for Infant Numerical Representation** Lisa Cantrell, Ty Boyer, Linda Smith
- 36.525 **Exploring the visual sensitivity for topological property in 0-4 day-old newborn infants** Sarina Hui-Lin Chien, Yun-Lan Lin, Wan-Ting Yeh, Yun Lin, Hsin-Yueh Hsu, Bai-Horng Su
- 36.526 **The relationship between postural stability, head movements and visuomotor performance in children aged 3-11 years** I. J. Flatters, P. Culmer, R. M. Wilkie, M. Mon-Williams
- 36.527 **Modulations of visual scanning of face by olfactory context in young infants** Ornella Godard, Jean-Yves Baudouin, Nicolas Dollion, Sylviane Martin, Karine Durand, Benoist Schaal
- 36.528 **A Developmental Functional MRI Study of the Approximate Number System: Age and Math Achievement Associations to Parietal Lobe Activity** Jarnet Han, Elizabeth Toomarian, Maha Adamo, Frank Haist
- 36.529 **Differential Oculomotor Activity in Young Infants Viewing Pictures of Possible and Impossible Objects** Sarah Shuwairi, Scott Johnson
- 36.530 **Visual statistics of infants' ordered experiences** Swapna Jayaraman, Caitlin M. Fausey, Linda B. Smith
- 36.531 **Evidence for a general convexity assumption in 6-month-old infants.** Jordan Mathison, Sherryse Corrow, Vanessa Adamson, Carl Granrud, Al Yonas
- 36.532 **Investigating infants' inhibitory control and fixation durations in complex naturalistic and non-naturalistic scenes** Irati Rodriguez Saez de Urabain, Mark H. Johnson, Tim J. Smith
- 36.533 **Bimodal Affective Stimuli Do Not Always Enhance Infant's Rule Learning: Congruency And Relevance Matter Too** Chia-huei Tseng, Yuen Ki Ma, Hui Mei Chow

- 36.534 **Anticipatory Eye Movements, Pupil Size Changes, and Long-Term Memory in Infants** Audrey Wong Kee You, Scott Adler
- 36.535 **The Santa Barbara Solids Test as a predictor of spatial visualization in older adults** Shannon Bailey, Alexis Dewar
- 36.536 **Age-related differences in the control of braking** Zheng Bian, George Andersen
- 36.537 **Age-related differences in distance perception during remote tool-use** Matthew Costello, Christopher Davoli, Nicholas Panting, James Brockmole
- 36.538 **Does better performance mean better learning in visuo-motor tasks?** Mark Mon-Williams, Rachael Raw, Richard Allen, Richard Wilkie
- 36.539 **Peripheral Motion Contrast Thresholds as a Predictor of Older Drivers' Performance During Simulated Driving** Heather Woods-Fry, Misha Voloaca, Charles Collin, Steven Henderson, Sylvain Gagnon, John Grant, Ted Rosenthal, Wade Allen
- 36.553 **Adaptation to temporal delays generalises to new circumstances but is task-specific** Cristina de la Malla, Joan López-Moliner, Eli Brenner
- 36.554 **Learning and the Role of Visual Information in Calibrating the Forces of Throws** John Rieser, Ngoc-Thoa Khuu, Aysu Erdemir
- 36.555 **Manual tracing facilitates comparison of linear trends from multiple scatterplots** Stacey Parrott, Mark Huntington, Marcia Grabowecky, Satoru Suzuki
- 36.556 **Common Coding Not Supported: Expert and Novice Throwers Viewing Point-Light Displays of Self vs Other's Throwing Motions to Judge Target Locations** Qin Zhu, Andrew Wilson, Geoffrey Bingham

Perception and action: Models, adaptation

Sunday, May 12, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 36.540 **Me - Not Me - Or In Between? Comparison of Causal Inference Models for Agency attribution in goal-directed actions** Tobias F Beck, Carlo Wilke, Barbara Wixel, Dominik Endres, Axel Lindner, Martin A Giese
- 36.541 **Learning and optimal inference in a novel spatial localization task** Vikranth R. Bejjanki, David C. Knill, Richard N. Aslin
- 36.542 **Response to perturbation in constant tau-dot versus constant proportional rate models of visually guided braking** Aaron Fath, Brian Marks, Geoffrey Bingham
- 36.543 **Reaching With Altered-Grip-Spans: How Altering Effectivities (But Not Affordances) Influences Behavior** Emel Gencer, Winona Snapp-Childs, Mark Mon-Williams, Geoffrey Bingham
- 36.544 **Using Dynamical Simulations to Quantify Affordances in the Task Space for Throwing to Hit Distant Targets** Andrew Wilson, Andrew Weightman, Qin Zhu, Geoffrey Bingham
- 36.545 **Learning of likelihoods for Bayesian computations** Yoshiyuki Sato, Konrad Kording
- 36.546 **Are Radiologists Ideal Observers? --Evidence from Observer Studies in Radiology** Xin He, Brandon Gallas, Frank Samuelson, Berkman Sahiner, Kyle Myers
- 36.547 **Examining the Neural Correlates of Updating Mental Representations** Derick Valadao, Britt Anderson, James Danckert
- 36.548 **Towards a biologically-inspired vision system for the control of locomotion in complex environments** Stephane Bonneaud, William H. Warren, Kerwin Olfers, Gerrit Irwin, Thomas Serre
- 36.549 **The impact of intention, action, and learnt contingency on visual perception.** Joel Adams-Bedford, Guy Wallis, Benjamin Backus
- 36.550 **The Effect of Action on Perception is Really the Effect of Information on Memory** Bruce Bridgeman, Sabine Blaesi
- 36.551 **The Relative Influences of Form and Action Information on Object Identification and Action Production** Genevieve Desmarais, Pamela Hudson, Eric Richards
- 36.552 **Deciding When To Act: Sub-Optimal Selection Strategies In Motion Estimation** Ross Goutcher, Laura Phalp



Monday Morning Talks

Motion: Biological, optic flow

Monday, May 13, 8:15 - 9:45 am

Talk Session, Royal Ballroom 1-3

Moderator: Simon Rushton

41.11, 8:15 am **Recovery of biological motion processing and network plasticity after cerebellar lesion** Arseny Sokolov, Michael Erb, Wolfgang Grodd, Marcos Tatagiba, Richard Frackowiak, Marina Pavlova

41.12, 8:30 am **Perception with an eye for motion: seeing the world through a 3D motion filter** Simon Rushton, Andrew Foulkes, Paul Warren

41.13, 8:45 am **Reliable non-veridical perception of brief moving stimuli** Davis M. Glasser, Duje Tadin

41.14, 9:00 am **Perception of global trend from dynamic stimuli** Hiromi Sato, Isamu Motoyoshi, Takao Sato

41.15, 9:15 am **No dedicated second-order motion system in the periphery** Rémy Allard, Jocelyn Faubert

41.16, 9:30 am **The perceived motion of three varieties of moving barberpole stimuli** George Sperling, Peng Sun, Charles Chubb

Perception and action: Mechanisms and models

Monday, May 13, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 1-3

Moderator: Gabriel Diaz

42.11, 10:45 am **Unconscious mimicry limits success in a competitive visual reaching task** Ken Nakayama, Maryam Vaziri Pashkam, Marnix Naber

42.12, 11:00 am **Learning category contingent speed priors for object interception** David Knill, Oh-Sang Kwon

42.13, 11:15 am **Rational delusions: changing subjects' beliefs about the dynamics of probabilistic environments determines sequential effects in reaction times** Friederike Schuur, Brian Tam, Laurence T. Maloney

42.14, 11:30 am **Physical prediction biases are faithful physics plus visual uncertainty** Kevin Smith, Edward Vul

42.15, 11:45 am **Prediction compensates for occlusion of a bounced ball** Gabriel Diaz, Joseph Cooper, Mary Hayhoe

42.16, 12:00 pm **Quantifying changes in the kinesthetic percept under a 3D perspective visual illusion** Jillian Nguyen, Robert Isenhour, Polina Yanovich, Jay Ravaliya, Thomas Pappathomas, Elizabeth Torres

42.17, 12:15 pm **'Top-down' effects where none should be found: The El Greco fallacy in perception research** Chaz Firestone, Brian Scholl

Attention: Features and objects

Monday, May 13, 8:15 - 9:45 am

Talk Session, Royal Ballroom 4-5

Moderator: Stefanie Becker

41.21, 8:15 am **Effects of image content and content-selective attention on the form-evoked BOLD response in the ventral visual areas: a linear sum-of-components model** Pinglei Bao, Bosco S. Tjan

41.22, 8:30 am **Object-based selection is not mandatory: Perceptual load reduces the attentional boost of task-irrelevant features in the human visual cortex.** Jocelyn Sy, Janneke Jehee, Frank Tong

41.23, 8:45 am **High-Level Semantic Information Affects Attentional Allocation Within and Between Objects** George Malcolm, Sarah Shomstein

41.24, 9:00 am **Functional activity patterns encoding the identity of anticipated objects are marked by converging shape and color decoding in early visual areas during preparatory visual attention** Marc N Coutanche, Sharon L Thompson-Schill

41.25, 9:15 am **Everything is relative: Contingent capture depends on feature relationships.** Stefanie I. Becker, Charles L. Folk, Roger W. Remington

41.26, 9:30 am **Attending to what and where: Background connectivity integrates category-based and spatial attention** Naseem Al-Aidroos, Alexa Tompary, Nicholas B. Turk-Browne

Object recognition: Higher order

Monday, May 13, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 4-5

Moderator: Maryam Vaziri Pashkam

42.21, 10:45 am **Object interaction space represented in scene-selective regions** Wilma Bainbridge, Aude Oliva

42.22, 11:00 am **Inferring "hidden" parts by learning hierarchical representations of objects** Hongjing Lu, Alan Lee

42.23, 11:15 am **Complex object representations in the medial temporal lobe: Feature conjunctions and view invariance** Jonathan Erez, Rhodri Cusack, Will Kendall, Morgan Barense

42.24, 11:30 am **The representation of face identity in human parietal cortex** Su Keun Jeong, Yaoda Xu

42.25, 11:45 am **The role of the orbitofrontal cortex in visual prediction** Olivia S. Cheung, Moshe Bar

42.26, 12:00 pm **The similarity structure of distributed neural responses reveals abstract and modality-specific representations of letters** David Rothlein, Brenda Rapp

42.27, 12:15 pm **The contribution of human parietal cortex to conceptual categorization** Maryam Vaziri Pashkam, Yaoda Xu

Monday Morning Posters

Eye Movements: Methodology, clinical

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

43.301 **Constraining Eye Movements When Redirecting Walking Trajectories in People With Parkinson's Disease** V.N.Pradeep Ambati, Marlina Ponce De Leon, Fabricio Saucedo, Douglas Powell, Rebecca Reed-Jones

43.302 **E-readers configured for short lines facilitates reading in those who struggle.** Matthew Schneps, Jenny Thomson, Gerhard Sonnert, Marc Pomplun, Chen Chen, Amanda Heffner-Wong

43.303 **Instrumental activities of daily life in individuals with central visual field loss** Céline Delerue, Mary Hayhoe, Miguel Thibaut, Thi Ha Chau Tran, Muriel Boucart

43.304 **Visual exploration of objects and scenes in people with Stargardt disease and macular degeneration** Miguel Thibaut, Thi Ha Chau Tran, Céline Delerue, Muriel Boucart

43.305 **Eye Movements in Patients with Hemispatial Neglect: Why is Information Neglected?** Louise-Ann Leyland, Hayward J. Godwin, Valerie Benson, Simon P. Liversedge

43.307 **Online Ocular Artifact Detection and Rejection** Cameron Hassall, Chelsey Michaud, Olave Krigolson

43.308 **Camera-based eye tracking improves the signal-to-noise ratio of EEG** Jason Satel, Cameron Hassall, Olav Krigolson, Raymond Klein

43.309 **Co-registration of eye movements and event-related potentials in reading** Joseph Schmidt, Steven G. Luke, John E. Richards, John M. Henderson

43.310 **iMap Motion: Validating a Novel Method for Statistical Fixation Mapping of Temporal Eye Movement Data** Yingdi Liu, Junpeng Lao, Sébastien Miellet, Gustav Kuhn, Roberto Caldara

43.311 **An information theory based technique to improve eye fixation clustering and salient region discovery** Harish Katti

43.312 **Visual fixation parameters predict decisional outcomes better than preference** Eve Isham, Joy Geng

43.313 **Pupillometry as a method for tracking shifts in control state during visual relational reasoning** Taylor R. Hayes, Alexander A. Petrov

Visual memory: Objects, features

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

43.314 **Ensemble-based Change Detection** Robert Eisinger, Hee Yeon Im, Hrag Pailian, Justin Halberda

43.315 **Visual Processing Stages: Beyond Two Seconds** Jane Jacob, Bruno Breitmeyer

43.316 **Working memory modulates unconscious visual processing** Dong Liu, Li Wang, Yi Jiang

43.317 **Changing a memory is dissociable from forming a new memory** Hyunyoung Park, Geoffrey F. Woodman, Adriane E. Seiffert

43.318 **Properties of high-fidelity visual working memory representations for orientation** Rosanne L. Rademaker, Ilona M. Bloem, Peter De Weerd, Alexander T. Sack

43.319 **Perceptual Organization Influences Memory, Search, and Aesthetic Judgment** Karen B. Schloss, Madeline McComb

43.320 **Learning beyond the prototype: Implicit learning of principal components in dot patterns** Xiaoqing Gao, Hugh Wilson

43.321 **Visible persistence in transient random dot stimuli** Kathrin Thaler, Maximilian Bruchmann

43.322 **Congruence with items held in visual working memory boosts invisible stimuli into awareness: Evidence from motion-induced blindness** Hui Chen, Brian Scholl

43.323 **Object persistence enhances spatial navigation in visual menus: A case study in smartphone vision science** Brandon Liverence, Brian Scholl

43.324 **Context messes with massive memory** Karla K Evans, Jeremy M Wolfe

43.325 **Visual search for multiple targets remains efficient when supported by recollective long-term memory** Emma B. Guild, Jenna M. Cripps, Naseem Al-Aidroos

Perceptual organization: Grouping

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

43.401 **Visual and emotional analysis of symmetry** Alexis Makin, Anna Pecchinenda, Marco Bertamini

43.402 **Illusory motion and motion capture for various numbers of superimposed elements in terms of oblique components.** Makoto Ichikawa, Yuko Masakura

43.403 **Artificial Neural Networks Susceptible to Geometric Visual Illusions** Steven R. Holloway, Flavio J.K. da Silva, Michael K. McBeath

43.404 **Re-pairing: Perceptual reorganization of moving visual patterns from sensory fusion.** Alan Ho, Stuart Anstis

43.405 **Translational pattern discovery: evidence of a two-stage global-local strategy** Tom Collins, Joy Geng

43.406 **Contextual effects in human visual cortex depend on surface structure** Sung Jun Joo, Scott O. Murray

43.407 **Surface Configuration Effect on Surround Modulation in Glass Patterns** Pei-Yin Chen, Chien-Chung Chen

43.408 **A comparison of hypocycloid perception produced by two different elemental constructions** Alexander Rose-Henig, Arthur Shapiro

43.409 **Common fate versus cast shadows as influences on perceived motion direction and depth** Marouane Ouhanna, Frederick Kingdom

43.410 **Cooperative but not Competitive Relationship Drives Perceptual Grouping of Objects** Jun Yin, Xiang Huang, Rende Shui, Mowei Shen

43.411 **The Effect of Grouping on Knock-out** Ronald A. Rensink, Emily S. Cramer

43.412 **Competition Between Grouping Principles** Einat Rashal, Ruth Kimchi, Yaffa Yeshurun

43.413 **Conflating Kanizsa Figures with Perceptual Grouping?** Amy Kaplan, Gideon Caplovitz

43.414 **The Global Precedence Effect and Differences in Political Temperament** Dillon Cornett, Melissa Beck

- 43.415 **How the global layout of the mask influences masking strength** Tandra Ghose, Frouke Hermens, Michael Herzog
- 43.416 **Emergent Features Help Resolve Ambiguous Apparent Motion** Anna Cragin, Belicia Ding, James Pomerantz
- 43.417 **False Pop Out and "Anti-metamers"** Kimberley Orsten, James Pomerantz
- 43.418 **Biases in human number estimation are well-described by clustering algorithms from computer vision** Hee Yeon Im, Sheng-hua Zhong, Justin Halberda
- 43.419 **What makes people see patterns?** Bjorn Hubert-Wallander, Geoffrey M. Boynton

Development: Autism Spectrum Disorders

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 43.420 **Visual cortical architecture in high-functioning autism spectrum disorders** D. Samuel Schwarzkopf, Elaine J. Anderson, Benjamin de Haas, Sarah J. White, Geraint Rees
- 43.421 **The Functional Organization of the Ventral Visual Pathway in Adults with Autism** Alexander J E Kell, Kami Koldewyn, Nancy G Kanwisher
- 43.422 **Neural Correlates of Congruency Sequence Effects in Autism Spectrum Disorders** Kristina Denisova, Zhishun Wang, Yuankai Huo, Bradley Peterson
- 43.423 **Neuropsychological differences between Asperger syndrome and high functioning autism** Elaine Zachi, Dora Ventura
- 43.424 **Atypical visio-temporal processing in Schizophrenia and Autism Spectrum Disorders revealed by the continuous Wagon Wheel Illusion** Jasin Wong, Ya-Ping Chen, Susan Shur-Fen Gau, Yi-Ling Chien, Rufin VanRullen, Chien-Te Wu
- 43.425 **Atypical Lateral Interactions in Autism** Caroline Robertson, Dwight Kravitz, Freyberg Jan, Simon Baron-Cohen, Chris Baker
- 43.426 **Assessing lateral interactions within the early visual areas of adults with autism.** Sabrina Censi, Mathieu Simard, Laurent Mottron, Dave Saint-Amour, Armando Bertone
- 43.427 **Development of Kanizsa Illusory Contour perception in Autism Spectrum Disorder** Angela Voyles, Kritika Nayar, F. Xavier Castellanos, Adriana Di Martino, Lynne Kiorpes
- 43.428 **Visual Scanning Patterns During Facial Identity and Emotion Processing in Typically Developing Individuals and those along the Autism Spectrum** Patricia A. McMullen, Heath E. Matheson, Jillian H. Filliter, Shannon A. Johnson
- 43.429 **High Autism Spectrum Individuals Use Configural Information More than Neurotypical Individuals When Recognizing Faces** Sarah Adams, Geneva Polser, Cory Katona, Paige Daniels, Alie Plott, Noah Schwartz
- 43.430 **Low- and high-level vision in individuals with autism spectrum disorder** Fakhri Shafai, Kimberly Armstrong, Grace Iarocci, Ipek Oruç
- 43.431 **Abnormality in face scanning by children with Autism Spectrum Disorder is limited to the eye region: Evidence from multi-method analyses of eye tracking** Li Yi, Yubing Liu, Paul Quinn, Yuebo Fan, Cong Feng, Guoquan Mao, Kang Lee
- 43.432 **Don't look at the face – social inhibition task reveals latent avoidance of social stimuli in gaze orientation in subjects with high Autism Quotient scores.** Eiko Shimojo, Daw-An Wu, Shinsuke Shimojo

- 43.433 **Gaze-oriented Attention in fearful and happy facial expressions varies with autistic traits** Amandine Lassalle, Roxane Jeanne Itier
- 43.434 **Embedded Figures Performance is Modulated by an 'Analytical Tendencies' Factor within the Systemizing Trait of Autism** Scott Reed, Paul Dassonville
- 43.435 **Core and Extended Face-Processing Regions are Hypoactive in Autism and Related to Symptom Severity** K. Suzanne Scherf, Daniel Elbich, Nancy Minshew, Marlene Behrmann
- 43.436 **Gender aftereffects in adults with autism spectrum disorder** Jennifer Walsh, M.D. Rutherford, Mark Vida
- 43.437 **Exploring the pattern of other-race effect in autistic and typically developing children** Liang-Hui Wang, Sarina Hui-Lin Chien, Tzu-Yun Chen, Hsin-Shui Chen
- 43.438 **Stimulus-driven visual attention engages subcortical visual areas in typical development but not autism** Vanessa Troiani, Robert Schultz
- 43.439 **Audiovisual temporal integration in Autism Spectrum Disorder** Paula Regener, Scott Love, Karin Petrini, David Simmons, Frank Pollick

Face perception: Social cognition

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 43.440 **Culture shapes interbrain synchronization during human goal decoding** Luca Vizioli, Junpeng Lao, Helen Rodger, Roberto Caldara
- 43.441 **Regional Differences in the Effects of Makeup on Attractiveness** Amanda C. Killian, Jessie J. Peissig
- 43.442 **The Cheerleader Effect: Hierarchical Encoding of Individuals In Groups** Drew Walker, Edward Vul
- 43.443 **Disagreements about the attractiveness of faces arise largely from past experiences: evidence from twins** Jeremy Wilmer, Richard Russell, Matthew Bronstad, Holum Kwok, Samuel Anthony, Laura Germine
- 43.444 **Above Average? Perceptions of attractiveness in children and adults** Larissa Vingilis-Jaremko, Marlette Ravelo, Daphne Maurer
- 43.445 **The Effect of Motion on Facial Attractiveness Ratings** John M. Knoch, Jessie J. Peissig
- 43.446 **Cues to health impact perceived trustworthiness and attractiveness** Milena Dzhelyova, Carmen Lefevre, David Perrett
- 43.447 **Rapid Summarisation of Attractiveness in Groups** Richard J Carvey, Katherine M Fielding, Chang Hong Liu
- 43.448 **Culture shapes neural representations for faces: an eye movement and fMRI study** Xinyi Ouyang, Luca Vizioli, Meike Ramon, Roberto Caldara
- 43.449 **No role for lightness in adaptation for Black and White: Race-contingent face aftereffects depend on facial morphology, not skin tone** O. Scott Gwinn, Kevin R. Brooks
- 43.450 **The Role of Race in Summary Representations of Faces** Won-Mo Jung, Isabelle Bühlhoff, Ian Thornton, Seong-Whan Lee, Regine Armann
- 43.451 **Reducing the other-race effect requires childhood visual experience, not increased social motivation** Lulu Wan, Elinor McKone, Jessica L. Irons, Kate Crookes
- 43.452 **Multiracial experience leads to increased discriminability of facial features but not configural dimensions** Ayla Byrd, Noah Schwartz

43.453 **Individual differences in holistic processing predict the own-race advantage in recognition memory** Andrew Rosenblatt, Rogelio J. Mercado, Jeremy Wilmer, Joseph DeGutis

43.454 **The eye-size illusion is affected by face race, but not face orientation** Wen Sara Xiao, Yu-Hao Sun, Paul C. Quinn, Justine M. Thacker, Naiqi G. Xiao, Genyue Fu, Kang Lee

43.455 **Social group knowledge biases face perception** Sara C. Verosky, Nicholas B. Turk-Browne, Alexander Todorov

43.456 **Bubblizing social face perception** Karolann Robinson, Justin Duncan, Caroline Blais, Forget H el ene, Fiset Daniel

43.457 **Reduced Interference Between Identity and Expression Processing With Dynamic Faces** Brenda Stoesz, Lorna Jakobsona

43.458 **Invariant properties of detecting personal familiarity in "thin slices" of behavior** Alyson Saville, Benjamin Balas

Multisensory processing: Sensory interaction

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

43.501 **Exploiting Crossmodal Correspondences To Make Auditory Sensory Substitution Interpretation Effortless** Noelle Stiles, Shinsuke Shimojo

43.502 **Vision vs. Hearing: Direct Comparison of the Human Contrast Sensitivity and Audibility Functions.** Russell J. Adams, Paul Sheppard, Avineet Cheema, Michele E. Mercer

43.503 **Long-term change of vestibular state alters the visual responses to biological motion** Xue Zhang, Ying Wang, Dong Liu, Qian Xu, Yi Jiang

43.504 **Modulation of Vestibular Evoked Reflexes in Postural Muscles During Self-Motion Experiences in a Virtual Simulation** Fabricio Saucedo, Rebecca Reed-Jones

43.505 **Human cortical responses to congruent and incongruent combinations of visual and vestibular stimuli** Jac Billington, Andrew Smith

43.506 **Effects of head orientation on the perceived tilt of a static line and 3D global motion.** Pearl S. Guterman, Robert S. Allison, James E. Zacher

43.507 **Decoding visual objects in somatosensory cortex: the effect of prior visuo-haptic experience** Fraser Smith, Melvyn Goodale

43.508 **Are visual texture-selective areas recruited during haptic texture discrimination?** Samantha Podrebarac, Melvyn Goodale, Jacqueline Snow

43.509 **Handedness and the weighting of visual- proprioceptive information in position estimation: the effect of illusory visual position information.** Harriet Dempsey-Jones, Ada Kritikos

43.510 **Comparison of Visual and Somatosensory Thresholds in Human Adults** Michele E. Mercer, Paul A.S. Sheppard

43.511 **Audiovisual synchrony drives visual search with a right visual field bias** David Alais, Erik van der Burg, John Cass, Jan Theeuwes

43.512 **Frequency-Based Synesthetic Associations between Letters and Colors** Laura Herman, Jordan Suchow, George Alvarez

43.513 **The role of biological motion in audio-visual integration** Michael Schutz, Jonathan Vaisberg

43.514 **Multisensory redundancy gain partially mediated by stimulus detectability** David Brang, Satoru Suzuki, Marcia Grabowecky

43.515 **Supramodal number-selective representation in human left parietal lobe at 7T** Lixia He, Zhentao Zuo, Lin Chen

43.516 **Congruent Auditory Input Can Bias Bistable Vision without Voluntary Attentional Control** John Plass, Emmanuel Guzman-Martinez, Satoru Suzuki, Laura Ortega, Marcia Grabowecky

43.517 **Comparisons of temporal frequency limits for cross-attribute binding tasks in vision and audition** Shoko Kanaya, Waka Fujisaki, Shin'ya Nishida, Shigeto Furukawa, Kazuhiko Yokosawa

43.518 **Sound delay in audiovisual events can signal object depth** Philip Jaekl, Jakob Maxwell Seidlitz, Duje Tadin

43.519 **The Development of Cross-Modal Attention: When can a sound impair visual detection?** Vivian Ciaramitaro, Karen Dobkins

43.520 **Using the population receptive field method to assess auditory frequency tuning in early blind individuals** Elizabeth Huber, Jessica M. Thomas, Ione Fine

43.521 **The effect of body orientation on the perception of depth** Charles Mander, Laurence Harris

Attention: Reward, motivation, emotion

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

43.522 **ERPs suggest that visual feedback processing in decision-making is modulated by subjective perception of outcome** Faisal Mushtaq, Richard Wilkie, Mark Mon-Williams, Alexandre Schaefer

43.523 **Task information overrides attentional capture by reward-associated stimuli** Beth A Stankevich, Kyle Pugh, Joy J Geng

43.524 **The Role of Predictable and Unpredictable Reward in the Control of Attention** Anthony W. Sali, Brian A. Anderson, Steven Yantis

43.525 **Reward-based Transfer from Bottom-up to Top-down Search Tasks** Jeongmi Lee, Sarah Shomstein

43.526 **Investigating the Temporal Dynamics of Rewarded Stimuli in an RSVP Task** Andrew Miranda, Sarah Fouquet, Evan Palmer

43.527 **Learned Reward Association Acts as "Template for Rejection" in Visual Search Task** Mengyuan Gong, Sheng Li

43.528 **Learned Emotional Associations Influence Visual Processing, Eventually** Jessica Collins, Kara Blacker, Kim Curby

43.529 **Rapid self-tagging to sensory stimuli: Functional and neural effects** Jie Sui, Glyn Humphreys

43.530 **When actions have no consequences: Rewards in visual search and the role of contingencies** Arni Asgeirsson, Arni Kristjansson

43.531 **Dissociating the Effects of Reward on Sustained Attention to Visual Scenes** Michael Esterman, Joseph DeGutis, Andrew Reagan

43.532 **Visual orienting biases during reward learning** Jess R. Kerlin, Esra H. Oğuz, Jane E. Raymond

43.533 **Irrelevant emotional content in working memory biases visual attention** Jane Raymond, Anthony Brennan-Craddock

43.535 **Perceptual gating of value-driven attentional capture** Lihui Wang, Hongbo Yu, Xiaolin Zhou

43.536 **Inhibition of return to emotional faces** Yuanyuan Zhao, Jing Tian, Lei Lei, Shihui Han

43.537 **The Role of Feature Saliency in Emotion-induced Blindness** Steven B. Most, Sage Boettcher, James E. Hoffman

43.538 **Dissociating stimulus visibility and fear related processing using metacontrast masking** Philipp Hintze, Markus Junghöfer, Maximilian Bruchmann

43.539 Neural Mechanisms of Value-Driven Attentional Capture

Brian A. Anderson, Patryk A. Laurent, Steven Yantis

43.540 The Neural Response to Visual Insight and Humor

Ori Amir, Irving Biederman, Zhuangjun Wang, Xiaokun Xu

Perceptual learning: Neural mechanisms

Monday, May 13, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom**43.541 Motion perceptual learning in noise improves neural****sensitivity in human MT+ and IPS** Nihong Chen, Hanyu Shao, Xuchu Weng, Fang Fang**43.542 ERP C1 changes associated with transfer of perceptual****learning at an untrained retinal location** Gong-Liang Zhang, Hao Li, Yan Song, Cong Yu**43.543 Reconsolidation in visual perceptual learning**

Ji Won Bang, Sumire Sato, Takeo Watanabe, Yuka Sasaki

43.544 Using Melatonin to Study the Role of Sleep Architecture in**Visual Perceptual Learning.** Joseph Arizpe, Madhumita Shrotri, Chris Baker, Vincent Walsh**43.545 Does perceptual learning require consciousness or atten-****tion?** Julia Meuwese, Steven Scholte, Victor Lamme**43.546 The role of awareness on visual perceptual learning of****inhibition : a fMRI study.** Yuko Yotsumoto**43.547 Unconscious Reward Signal Promotes Motion Perceptual****Learning** Xin Xue, Sheng Li**43.548 The role of rSMG in volitional eye movements**

M. R. Burke, P. Bramley, C. Gonzalez, D. J. McKeefry

43.549 No Stress With Perceptual Learning

Aaron Clarke, Kristoffer Aberg, Carmen Sandi, Michael Herzog

43.550 Functional and structural correlates of face view percep-**tual learning in human brain** Taiyong Bi, Juan Chen, Tiangang Zhou, Yong He, Fang Fang**43.551 Reading Speed in Peripheral Vision Improves with Practice:****Investigation of the Involved Cortical Sites** Aurelie Calabrese, Tingting Liu, Sheng He, Gordon E. Legge**43.552 Training-induced recovery of low-level vision followed by****high-level perceptual improvements in an adult with developmental object and face agnosia** Sharon Gilaie-Dotan, Maria Lev, Dana Gotthilf-Nezri, Oren Yehezkel, Anat Perry, Shlomo Bentin, Yoram Bonne, Uri Polat

Tuesday Morning Talks

Eye Movements: Targeting

Tuesday, May 14, 8:15 - 9:45 am

Talk Session, Royal Ballroom 1-3

Moderator: Constantin Rothkopf

51.11, 8:15 am **A modular soft barrier model combines uncertainty and reward to predict human eye movements in a two-task driving environment** Leif Johnson, Brian Sullivan, Mary Hayhoe, Dana Ballard

51.12, 8:30 am **Temporal Oculomotor Inhibition of Return and Spatial Facilitation of Return in a Visual Encoding Task** Steven G. Luke, Joseph Schmidt, John M. Henderson

51.13, 8:45 am **Infants in Control - Rapid Learning of Action Outcomes by 6 and 8-Month-Olds in a Gaze-Contingent Paradigm** Quan Wang, Jantina Bolhuis, Constantin Rothkopf, Thorsten Kolling, Monika Knopf, Jochen Triesch

51.14, 9:00 am **If you cannot see it, you look at it: Visual conspicuity in real-world scenes is correlated with fixations** Lavanya Sharan, Ruth Rosenholtz

51.15, 9:15 am **Task-dependent priming of fixation selection for recognition of natural scenes** Christian Valuch, Stefanie I. Becker, Ulrich Ansorge

51.16, 9:30 am **Reconsideration of the functionality of human Frontal Eye Fields.** Christopher Tyler, Lora Likova, Spero Nicholas

Binocular Vision

Tuesday, May 14, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 1-3

Moderator: Ben Backus

52.11, 10:45 am **Binocular Vision: In the Beginning** Allan Dobbins

52.12, 11:00 am **Solving the binocular correspondence problem with ghost matches** Bart Farell

52.13, 11:15 am **Motion perception in RDK with signal and noise dots distributed across eyes** Lanya Tianhao Cai, Alexander Yuan, Benjamin Backus

52.14, 11:30 am **Color and Luminance Influence, but Can Not Explain, Binocular Rivalry Onset Bias** Jody Stanley, Jason Forte, Patrick Cavanagh, Olivia Carter

52.15, 11:45 am **Multi-stable perception of structure-from-motion: differential priming selectivity distinguishes sensory memory and neural fatigue** Alexander Pastukhov, Jana Füllekrug, Jochen Braun

52.16, 12:00 pm **Neural Correlates of Binocular Rivalry as measured in fMRI are partially confounded by observers' active report** Stefan Frässle, Jens Sommer, Marnix Naber, Andreas Jansen, Wolfgang Einhäuser

52.17, 12:15 pm **Altered perceptual bistability in binocular rivalry through neurofeedback training of high order visual areas** Jinendra Ekanayake, Ged Ridgway, Frank Scharnowski, Joel Winston, Koush Yury, Nikolaus Weiskopf, Geraint Rees

Visual memory: Mechanisms

Tuesday, May 14, 8:15 - 9:45 am

Talk Session, Royal Ballroom 4-5

Moderator: Nicholas B. Turk-Browne

51.21, 8:15 am **At the interface of visual perception and long-term memory: Object knowledge and the medial temporal lobe** Michael F. Bonner, Amy R. Price, Jonathan E. Peelle, Murray Grossman

51.22, 8:30 am **Decoding invariant representations in visual working memory** Thomas Christophel, Christian Endisch, John-Dylan Haynes

51.23, 8:45 am **Memory for Size vs. Memory for Relative Size** Pamela Glosson, John Hummel

51.24, 9:00 am **Image Memorability in the Eye of the Beholder: Tracking the Decay of Visual Scene Representations** Melissa Vo, Zoya Gavrilov, Aude Oliva

51.25, 9:15 am **Pruning of visual memories based on contextual prediction error** Ghootae Kim, Jarrod A. Lewis-Peacock, Kenneth A. Norman, Nicholas B. Turk-Browne

51.26, 9:30 am **The content of visual working memory is prioritized for conscious access.** Surya Gayet, Chris Paffen, Stefan Van der Stigchel

Attention: Temporal selection, tracking

Tuesday, May 14, 10:45 am - 12:30 pm

Talk Session, Royal Ballroom 4-5

Moderator: Edward Vul

52.21, 10:45 am **The development of a novel visuo-motor task for measuring visual attention** L. J. B. Hill, J. H. G. Williams, L. Aucott, M. Mon-Williams

52.22, 11:00 am **Cognitive processing of value-associated distractors: Electrophysiological evidence** Risa Sawaki, Steven J. Luck, Jane E. Raymond

52.23, 11:15 am **Why the self stands out: Self conditioning to sensory stimuli alters perceptual salience** Glyn Humphreys, Jie Sui

52.24, 11:30 am **Children with autism spectrum disorder demonstrate normal attentional preference for faces and normal attentional disengagement** Jason Fischer, Kami Koldewyn, Yuhong Jiang, Nancy Kanwisher

52.25, 11:45 am **Pulsed re-sampling of cued object during 'inhibition of return': new behavioral evidence** Huan Luo, Kun Song, Rui-Huai Zhang, Ke Zhou

52.26, 12:00 pm **What is the marginal advantage of extrapolation during multiple object tracking? Insights from a Kalman filter model** Jonathan Flombaum, Sheng-hua Zhong, Zheng Ma, Colin Wilson, Yan Liu

52.27, 12:15 pm **Multiple object tracking difficulty accounted for by an ideal observer** Cory Rieth, Edward Vul

Tuesday Morning Posters

Perception and action: Locomotion, navigation

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

53.301 **Visually guided overtaking behavior understood in relation to the maximal acceleration of vehicle: an affordance-based approach** Numa Basilio, Antoine H.P. Morice, Geoffrey Marti, Gilles Montagne

53.302 **Effect of travel speed on visual control of steering toward a target** Rongrong Chen, Diederick Christian Niehorster, Li Li

53.303 **On-road steering is biased by asymmetrical optic flow** Georgios Kountouriotis, Katy Shire, Callum Mole, Peter Gardner, Natasha Merat, Richard Wilkie

53.304 **Differential effects of reduced contrast on perception of self-motion vs. object-motion** D. Alfred Owens, Jingyi Gu, Rebecca Patterson

53.305 **Speed-matching strategy used to regulate speed in side-by-side walking** Zachary Page, William Warren

53.306 **Interception of a speed-varying target: On-line or model-based control?** Huaiyong Zhao, William Warren

53.307 **Optic flow, heading and steering: 'joining the dots'** Richard Wilkie, Georgios Kountouriotis

53.308 **Accuracy of walking direction with and without visual feedback** Jeffrey Saunders

53.309 **The relationship between performance on 2D shape perception and steering control** Bobby Nguyen, Yan Zhuo, Rui Ni

53.310 **Additivity of vection speed induced by fast and slow spatially-overlapped optical flows** Yuki Kawashima, Kazuho Fukuda, Hirohiko Kaneko, Yasuki Yamauchi, Keiji Uchikawa

53.311 **The inverted vection caused by expanding/contracting random-dot patterns** Yasuhiko Saito, Kenzo Sakurai

53.312 **Indoor Spatial Updating with Visual and Auditory Restriction** Tiana Bochsler, Gordon Legge, Rachel Gage

53.313 **Human Strategies Used to Navigate a Real-World 50-Foot Diameter 11-Arm Radial-Arm Maze** Michael K. McBeath, Leslie C. Baxter, Itamar S. Grunfeld, Bryan W. Camp, Sarah E. Mennenga, Gene A. Brewer, Heather A. Bimonte-Nelson

53.314 **Development of spatial orientation and path integration in immersive virtual reality** Marko Nardini, Karin Petrini, Hey Tou Chiu, Celia Foster

53.315 **When is visual information about obstacle size needed to step over an obstacle?** Melissa Parade, Brett Fajen

53.316 **Perceived Hill Slant and Obesity: Perception Does Not Care about How You Feel** Mila Sugovic, Jessica Witt

Motion: Depth, higher order

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

53.317 **Integrating information from invisible signals: the case of implied motion** Nathan Faivre, Christof Koch

53.318 **Noise plaids reveal differences between motion and disparity computations** Christian Quaia, Boris Sheliga, Lance Optican, Bruce Cumming

53.319 **Motion pop-out is determined by extra-retinal coordinate** Ryohei Nakayama, Isamu Motoyoshi, Takao Sato

53.320 **Color updating on the apparent motion path** Edmund Chong, Sang Wook Hong, Won Mok Shim

53.321 **Constraints on dynamical evolution of motion perception** Christopher Blair, Gideon Caplovitz

53.322 **Angular motion discrimination thresholds in amblyopic non-human primates and their implications for motion decoding** Michael Caruso, Najib Majaj, Lynne Kiorpes

53.323 **Lower visual field advantage in multiple object tracking is mediated by a non-attentive motion mechanism** Hidetoshi Kanaya, Takao Sato

53.324 **Depth perception in color-interlaced stereoscopic 3D displays** Joohwan Kim, Paul Johnson, Martin Banks

53.325 **Roles of perspective and pursuit cues in the disambiguation of depth from motion parallax** Marcus Mahar, Gregory DeAngelis, Mark Nawrot

53.326 **Are we blind to three-dimensional acceleration?** Arthur J. Lutgheid, Robert S. Allison, Laurie M. Wilcox

53.327 **Manual depth estimation for binocular disparity and motion parallax** Zachary Leonard, Mark Nawrot, Keith Stroyan

53.328 **Velocity constancy for familiar and unfamiliar objects** Andrés Martín, José Barraza

53.329 **Perception of bidirectional transparent-motion requires a bimodal population response** Mark Edwards, John Greenwood, Alyssa Morse, Carlos Cassanello

53.330 **Computation of high-order correlations underlies edge-polarity selective motion processing** Justin Ales, Damon Clark, James Fitzgerald, Daryl Gohl, Marion Silies, Thomas Clandinin, Anthony Norcia

Face perception: Experience and learning

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

53.401 **Time Course of Person Recognition in a Naturalistic Environment** Carina A. Hahn, Eric Hart, Kate Flanagan, P. Jonathon Phillips, Alice J. O'Toole

53.402 **Fast and Famous: Looking for the fastest speed at which a face can be recognized** Emmanuel J. Barbeau, Gabriel Besson, Gladys Barragan-Jason

53.403 **Variable use of the face and body in person identification** Allyson Rice, P. Jonathon Phillips, Alice O'Toole

53.404 **High-performing face recognizers use eye-eye distance and eye-nose distance more than low-performing face recognizers** Laura Rabbitt, Cassady McDonald, Sean Savage, Melissa Walter, Chelsea Rubis, Noah Schwartz

53.405 **Subjective self-assessment of face recognition ability is only weakly related to objective measures of face recognition performance** Renaud Laguesse, Tolga Tez, Bronwyn Hall, Jessica Irons, Elinor McKone, Roberta Daini, Andrea Albonico, Manuela Malaspina, Elisabeth Taylor, Gillian Rhodes, Alexandra Charpentier, Bruno Rossion, Romina Palermo

53.406 **Reduction of the face inversion effect in adulthood following training with inverted faces** Giulia Dormal, Renaud Laguesse, Aurélie Biervoeye, Dana Kuefner, Bruno Rossion

53.407 **Perceptual Attention to Features versus Traits May Affect How Faces Are Represented in Memory** Dawn Weatherford, James Bartlett, Curt Carlson

53.408 **Experience with objects moderates the overlap between object and face recognition performance, suggesting a common ability** Isabel Gauthier, Rankin McGugin, Jennifer Richler, Grit Herzmann, Magen Speegle, Ana Van Gulick

53.409 **Experience Predicts Other-Race Effects for both Identification and Holistic Processing** Yiran Duan, Sara Barth, Justin Turpin, Malcolm Nimick, Emily Ahern, Harry Hoke, Alexis Taddonio, Cindy Bukach

53.410 **Measurement of visual and semantic knowledge for cars and estimation of experience** Ana Van Gulick, Isabel Gauthier

53.411 **Categorizing racially ambiguous faces as own- versus other-race influences how those faces are scanned** Kang Lee, Qiandong Wang, Genyue Fu, Naiqi Xiao, Chao Hu, Paul C. Quinn

53.412 **Increasing attentional competition and uncertainty: An ecological approach to the cross-race effect** Thalia Semplonius, Catherine Mondloch

53.413 **Adding years to your life (or at least looking like it): The form of age aftereffects in face adaptation** Sean F. O'Neil, Amy Mac, Gillian Rhodes, Michael A. Webster

53.414 **Differential Attentional Allocation and Subsequent Recognition for Young versus Older Adult Faces** Lindsey Short, Valentina Proietti, Thalia Semplonius, Catherine Mondloch

53.415 **Visual recognition of the "silent generation": Understanding the recognition advantage for young versus older adult faces.** Valentina Proietti, Viola Macchi Cassia, Catherine Mondloch

53.416 **Searching for own- and other-age faces: evidence for the role of experience** Viola Macchi Cassia, Lucia Gava, Emanuela Bricolo

53.417 **The Joint Influence of Expression Variation and Exposure Frequency on Face Recognition and Generalization: An ERP Study** Gary C.-W. Shyi, Julia W.-J. Lin

53.418 **Face animacy perception is species-specific** Benjamin Balas, Kami Koldewyn

Face perception: Disorders

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

53.419 **Even you, greebles? Normal greeble performance in acquired prosopagnosia supports face specificity** Constantin Rezlescu, Jason J. S. Barton, David Pitcher, Brad Duchaine

53.420 **Facial expression training improves emotion recognition and changes neural tuning in a patient with acquired emotion recognition deficits and prosopagnosia** Joseph DeGutis, Sarah Cohan, David Alexander Kahn, Geoffrey K. Aguirre, Ken Nakayama

53.421 **Varied behavioral profiles in children with developmental prosopagnosia reveal dissociations in the developing face processing system** Kirsten Dalrymple, Brad Duchaine

53.422 **Functional neuroimaging and behavioural classification of a case of prosopagnosia with classic bilateral occipitotemporal lesions** Charlotte Hills, Raika Pancaroglu, Esther Alonso-Prieto, Jodie Davies-Thompson, Ipek Oruç, Brad Duchaine, Jason J S Barton

53.423 **Caricaturing improves face recognition in simulated age-related macular degeneration.** Elinor McKone, Jessica Irons, Xuming He, Nick Barnes, Jan Provis, Rachael Dumbleton, Callin Ivanovici, Alisa Kwa

53.424 **Electrophysiological Findings of Visual Attention Bias Away from Angry Faces in Patients with PTSD** Dhraști Shah, Colin Cameron, Dylan Smith, Natalia Jaworska, Crystal Blais, Derek Fisher, Verner Knott, Charles Collin

Object recognition: Features, parts

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

53.425 **Independence Between Shape and Texture Processing in Single-Object but not in Object-Ensemble Perception** Jonathan Cant, Yaoda Xu

53.426 **A hierarchical model of the early mammalian visual system that learns appropriate features for object recognition** Jeremy Wurbs, N. Andrew Browning

53.427 **Representation of object contour features in intermediate visual areas in the human brain** Mark D. Lescroart, Shinji Nishimoto, Jack L. Gallant

53.428 **The role of the type of local contour in global shape discrimination.** Gunnar Schmidtmann, Graeme J. Kennedy, Harry S. Orbach, Gunter Loffler

53.429 **Representation of object parts and wholes in V2 modified by medial temporal lobe structures** Paige Scalf, Laura Cacciamani, Morgan Barense, Mary Peterson

53.430 **Time to wave goodbye to phase scrambling – creating unrecognizable control stimuli using a diffeomorphic transform.** Bobby Stojanoski, Rhodri Cusack

53.431 **Monkey neuronal assemblies predict (across objects) human fMRI and behavior** Chou Hung, Chang Mao Chao, Li-feng Yeh, Yueh-peng Chen, Chia-pei Lin, Yu-chun Hsu, Ding Cui

53.432 **The artist's advantage: better spatial and temporal integration of object structure** Florian Perdreau, Patrick Cavanagh

53.433 **Different neural processing of hole and no-hole stimuli in early stages of cortical and subcortical visual pathway** Qianli Meng, Yan Huang, Ke Zhou, Ding Cui, Yuanye Ma, Lin Chen

53.434 **Action Influences Object Perception** David Chan, Mary Peterson, Morgan Barense, Jay Pratt

53.435 **How does the brain integrate banana with yellowness: The neural architecture of object colour knowledge requires left anterior temporal lobe** Rocco Chiou, Paul F. Sowman, Andy C. Etchell, Anina N. Rich

53.436 **The color "fruit": Object memories defined by color** David Lewis, Sieu Khuu, Joel Pearson

53.437 **The contribution of color to detect edges in natural scenes** Thorsten Hansen, Karl Gegenfurtner

Color and light: Mechanisms and models

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

53.438 **Opposed interaction of rods and long-wavelength-sensitive cones under mesopic lighting conditions** Florian Bayer, David Weiss, Karl Gegenfurtner

53.439 **Color filling-in percepts from an S-cone pattern** Xiaohua Zhuang, Dingcai Cao

53.440 **Color mechanisms revealed by measuring detection and discrimination together.** Timothy G. Shepard, Emily A. Swanson, Rhea T. Eskew, Jr.

53.441 **Tilt illusion and aftereffect from invisible flickering chromatic gratings** Jinyou Zou, Sheng He, Peng Zhang

53.443 **Non-cardinal Mechanism Visual Search Performance Parallels Cardinal Mechanism Performance Across the Retina, but may be Weaker in the Non-isoluminant Planes of Color Space** Karen L. Gunther

53.444 **Unperceived patterned chromatic backgrounds induce large shifts in color appearance** Yanyu Zhang, Fang Fang, Yang Sun

53.445 **Does "Cortical Yellow" Exist?** Kenneth Brecher

53.446 **Colour constancy in real world scenes: 3D shape -material & object knowledge** Annette Werner, Lara Zebrowski, Ismael Kelly-Perez

53.447 **Stable short-term dynamics of color contrast adaptation** Katherine E. Mussell, Michael A. Webster, Christy S. Violago

53.448 **Perceptual luminosity threshold on the surround stimulus that simulates luminance-chromaticity distributions in natural scene** Kazuho Fukuda, Ai Numata, Keiji Uchikawa

53.449 **How do the S-, M- and L-cones contribute to motion luminance assessed using minimum motion?** Christian Herrera, Peng Sun, Kier Groulx, Charles Wright, Charles Chubb, George Sperling

53.450 **Perceptual consequences of temporal differences in ON and OFF channels** Stanley Kombar, Jianzhong Jin, Yushi Wang, Reza Lashgari, Jens Kremkow, Jose-Manuel Alonso, Qasim Zaidi

53.451 **A novel colour discrimination test suitable for low vision observers** Caterina Ripamonti, Sarah Kalwarowsky, Marko Nardini

53.452 **Rendering Ishihara color plates on a computer screen using hyperspectral images: will the scores be the same as the traditional paper test?** Joao Linhares, Sergio Nascimento

53.453 **Functional Architecture of the Foveal Confluence in Macaque Visual Cortex** Brandon Moore, Ming Chen, Haidong Lu, Anna Roe

53.454 **Neural Sensitivity in the Lateral Geniculate Nucleus (LGN) of Awake, Behaving Monkeys during a Contrast Detection Task: Comparison of Neurometric and Psychometric Functions** Yaoguang Jiang, Dmitry Yampolsky, Gopathy Purushothaman, Vivien Casagrande

53.455 **The Retinotopy of a Prosimian (Bush Baby) Pulvinar** Keji Li, Jay Patel, Gopathy Purushothaman, Roan Marion, Vivien Casagrande

Perceptual organization: Neural mechanisms and models

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

53.501 **Correlation Analysis for Multidimensional Signal Detection Evaluation and Comparison with Standard Analyses** Leslie Blaha, Tamaryn Menneer, Michael Wenger, Jennifer L. Bittner

53.502 **Spontaneous pre-stimulus oscillations predict direction of ambiguous figure-ground assignment** Joseph Brooks, Angus Chadwick, Vincenzo Romei, Geraint Rees

53.503 **Role of gamma oscillations in visual awareness.** Yuranny Cabral-Calderin, Carsten Schmidt-Samoa, Melanie Wilke

53.504 **Determining Decision Rules and Decision Noise in Signal Detection Tasks** Carlos Cabrera, Zhong-Lin Lu, Barbara Doshier

53.505 **Asymmetry in lateral connections can account for lateralization of local/global and face processing** Ben Cipollini, Garrison Cottrell

53.506 **Neuronal integration in visual cortex elevates face category tuning to conscious face perception** Johannes Fahrenfort, Tineke Snijders, Klaartje Heinen, Simon van Gaal, Steven Scholte, Victor Lamme

53.507 **Neural substrates of perceptual integration during bistable object perception** Anastasia Flevaris, Antigona Martinez, Steven Hillyard

53.508 **Population-code representations of natural images across human visual areas** Linda Henriksson, Seyed-Mahdi Khaligh-Razavi, Nikolaus Kriegeskorte

53.509 **Roles of subcortical processing in Visual Perceptual Learning** Dongho Kim, Li-Hung Chang, José Nájuez, Yuka Sasaki, Takeo Watanabe

53.510 **Face profiles versus non-face shapes: Does meaning influence border ownership assignment in the visual cortex?** Hee-kyoung Ko, Rüdiger von der Heydt

53.511 **Cortically-inspired inhibition subtends better contour integration** David A. Mély, Thomas R. Serre

53.512 **Interregional connections across early visual areas in contour processing** Cheng Qiu, Philip Burton, David Do, Daniel Kersten, Cheryl Olman

53.513 **Neural Preference for Vertical Symmetry** Ruosi Wang, Yaoda Xu

53.514 **Testing the sampling model of frequency and probability distortion in a visual numerosity task** Hang Zhang, Laurence Maloney

Scene perception: Spatiotemporal factors

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

53.515 **Texture statistics predict human performance on a range of scene-perception tasks** Krista Ehinger, Ruth Rosenholtz

53.516 **Summary statistics support spatiotemporal stability.** Jennifer Corbett, David Melcher

53.517 **Errors in numerosity estimation arise from slow drive in magnitude-number mapping** Edward Vul, Jess Sullivan, Dave Barner

53.518 **Disrupting local structure impairs human scene categorization more than disrupting global texture.** Heeyoung Choo, Dirk Walther

53.519 **How Unitary is Rapid Scene Gist Processing? An Individual Differences Approach** Anne Hillstrom, Davina Patel

53.520 **Twelve-picture RSVP sequences support feed-forward models of detection at 75 Hz** Mary C. Potter, Carl Erick Hagmann, Brad Wyble

53.521 **Oddness at a glance: Unraveling the time course of typical and atypical scene perception** Abraham Botros, Michelle Greene, Li Fei-Fei

53.522 **Space-time characteristics of visual input modulations resulting from saccades** Naghmeh Mostofi, Marco Boi, Martina Poletti, Jonathan D. Victor, Michele Rucci

53.523 **Great expectations guide eye movements in real-world scenes** Tom Foulsham

53.524 **Do Scenes Facilitate Action Categorization?** Adam Larson, Ryan Ringer, John Hutson, Jared Peterson, Tera Walton, Conor O'Dea, Karen Akao, Patrick Strouts, Lester Loschky

53.525 **The influence of scene context on object recognition** Jaap Munneke, Valentina Brentari, Marius V. Peelen

53.526 **Statistical Separation Of Compressed And Uncompressed Natural Color Images** Michele Saad, Alan Bovik, Lawrence Cormack

53.527 **Structural, not spectral properties underlie human categorization of natural scenes** Dirk Walther, Dandan Shen

53.528 **Natural scenes as spatial concatenations of multi-size, multi-scale visual features** Xiaoyuan Zhu, Zhiyong Yang

53.529 **Prediction of Image Naturalness and Quality** Anish Mittal, Rajiv Soundararajan, Alan Bovik

53.530 **The Intrinsic Reference System in Spatial Learning: Evidence from a Contextual Cueing Paradigm** Shiyi Li, Zhongting Wang, Haibo Yang, Deli Shen, Xuejun Bai, Hong-jin Sun

Scene perception: Neural mechanisms

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

53.531 **Is perceptual averaging an ability or a reflex?: Electrophysiological evidence for automatic averaging** Alice R. Albrecht, Brian Scholl, Gregory McCarthy

53.532 **Two stages in scene gist processing revealed by evaluating summary statistics with single-image ERPs** Iris Groen, Sennay Ghebreab, Victor Lamme, H. Steven Scholte

53.533 **The time course of natural scene categorization in human brain: simple line-drawings vs. color photographs** Qiufang Fu, Yong-jin Liu, Wenfeng Chen, Xiaolan Fu

53.534 **Human visual areas invariant to eye movements during natural vision** Shinji Nishimoto, Alexander Huth, Natalia Bilenko, Jack Gallant

53.535 **Outside looking in: Searching for abstract representations of "place" in scene-selective cortex.** Steven Marchette, Lindsay Morgan, Jack Ryan, Russell Epstein

53.536 **Neural representations of object identity and layout are not separable during scene processing** Xiaoyu Zhang, Yaoda Xu

53.537 **The anterior parahippocampal cortex processes contextual incongruence in a scene** Florence Rémy, Nathalie Vayssière, Laure Saint-Aubert, Emmanuel Barbeau, Michèle Fabre-Thorpe

53.538 **Investigating the spatial precision of cortical feedback using fMRI** Lucy S. Petro, Fraser W. Smith, Victoria Shellia, Lars Muckli

53.539 **fMRI repetition suppression for scenes in PPA depends on identical feature representation** Thomas O'Connell, Per Sederberg, Dirk Walther

53.540 **Investigating the spatial frequency content of cortical feedback using fMRI** Lars Muckli, Lucy S Petro, Hans-Christian Rath, Fraser W Smith

53.541 **Convergence of object and scene layout information in parahippocampal place area** Drew Linsley, Sean MacEvoy

53.542 **Frontal Contributions to Natural Scene Processing** Manoj Kumar, Fei-Fei Li, Diane Beck

53.543 **Spatial size defined by different boundary cues** Katrina Ferrara, Soojin Park

53.544 **Using V1-Based Models to Detect Changes in Natural Scenes** Pei Ying Chua, Kenneth Kwok

Multisensory processing: Cognitive, orienting

Tuesday, May 14, 8:30 am - 12:30 pm

Poster Session, Vista Ballroom

53.545 **To Look or to Listen: Evaluating Visual and Auditory Contributions to the Cognitive Restoration Effect** Adam Emfield, Mark Neider

53.546 **Unconscious imitation as a metric for crossmodal influences: Visibility of the mouth can enhance alignment to audiovisual speech.** James W. Dias, Lawrence D. Rosenblum, Theresa C. Cook

53.547 **Introducing a Quadristable Auditory Spatial Illusion: Imagining objects moving through space** Constance Bainbridge, Wilma Bainbridge, Aude Oliva

53.548 **Visual and Cognitive Predictors of Speech Intelligibility in Noisy Listening Conditions** Samantha Jansen, Evan Palmer, Alex Chaparro

53.549 **Neuropsychological evidence for separate shape representations in vision and touch: a study using the Judd variant of the Muller-Lyer illusion.** Jacqueline Snow, Marlene Behrmann, Melvyn Goodale

53.550 **Where I touch is where I see: Visuotactile integration and functional representations of hands and tools.** Hayley Colman, Roger Remington, Ada Kritikos

53.551 **Effects of Visual Texture on Food Perception** Katsunori Okajima, Junya Ueda, Charles Spence

53.552 **'When I Move, You (cognitively) Move': action observation and the fusion illusion.** Connor Reid, Gerome A Manson, Luc Tremblay, Timothy N Welsh

53.553 **Cognitive style predicts the perception of visual apparent motion** Lihan Chen, Xuena Wang, Lin Yao, Xiaolin Zhou

53.554 **Eye fixations during encoding of familiar and unfamiliar language** Lauren Mavica, Elan Barenholtz, David Lewkowicz

53.555 **Multisensory Integration in Visual Pattern Recognition: Music Training Matters** Avi Aizenman, Jason Gold, Robert Sekuler

53.556 **Arbitrary sounds facilitate visual search for congruent objects** L. Jacob Zweig, Satoru Suzuki, Marcia Grabowecky

53.557 **The cat and the fiddle: Task difficulty and semantic congruency of multimodal stimuli.** Bonnie L. Angelone, Lyle Zanca

53.558 **Music facilitates mental rotation performance in women** Julia Mossbridge, Marcia Grabowecky, Satoru Suzuki



Tuesday Afternoon Talks

Perceptual learning: Specificity and transfer

Tuesday, May 14, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 1-3

Moderator: Jun Yun Zhang

54.11, 2:30 pm **Training of Number Sense Transfers Broadly** Justin Halberda, Daphne Bavelier, Barbara Landau, Kerstin Hellgren, Lea Forsman, Ted Jacques, Melissa Libertus

54.12, 2:45 pm **When numbers and statistics collide: Competition between numerosity perception and statistical learning** Jiaying Zhao, Liat Goldfarb, Nicholas B. Turk-Browne

54.13, 3:00 pm **Non-retinotopic, object-centered visual perceptual learning** Mark Vergeer, Izabela Szumska, Haluk Ögmen, Michael H. Herzog

54.14, 3:15 pm **Speeding up Learning: Action Video Games and Perceptual Learning** Ruyuan Zhang, Shawn Green, Zhonglin Lu, Daphne Bavelier

54.15, 3:30 pm **The time-course of rapid stimulus-specific perceptual learning** Ali Hashemi, Jordan W. Lass, David Truong, Allison B. Sekuler, Patrick J. Bennett

54.16, 3:45 pm **Spatial Specificity in a 3-dot Hyperacuity Task after Double Training** Shao-Chin Hung, Aaron Seitz

54.17, 4:00 pm **Push-pull training suppresses the interocular suppression in amblyopic vision** Jun-Yun Zhang, Yu-Xiang Yang, Stanley Klein, Dennis Levi, Cong Yu

Visual awareness

Tuesday, May 14, 5:15 - 7:15 pm

Talk Session, Royal Ballroom 1-3

Moderator: Rachel Denison

55.11, 5:15 pm **Unconscious orientation exposure in TPE training enables transfer of foveal orientation learning to orthogonal orientations** Ying-Zi Xiong, Jun-Yun Zhang, Cong Yu

55.12, 5:30 pm **Motion-induced blindness without awareness or attention** Kevin Dieter, Duje Tadin, Joel Pearson

55.13, 5:45 pm **Visual statistical learning guides perceptual selection** Rachel Denison, Maxwell Schram, Jacob Sheynin, Michael Silver

55.14, 6:00 pm **Knowing where without knowing what: partial awareness and high-level processing in continuous flash suppression** Liad Mudrik, Hagar Gelbard-Sagiv, Nathan Faivre, Christof Koch

55.15, 6:15 pm **Binding-by-bursting: A new theory of attentional binding and the neural correlates of consciousness** Peter Tse

55.16, 6:30 pm **Emergence of illusory shapes from invisible inducers** Marjan Persuh, Tatiana Aloï Emmanouil, Tony Ro

55.17, 6:45 pm **High-level visual processing despite lack of awareness: Evidence from event-related potentials in a case of selective metamorphopsia** Teresa Schubert, David Rothlein, Trevor Brothers, Kerry LeDoux, Barry Gordon, Michael McCloskey

55.18, 7:00 pm **Making the switch: Transient unconscious cues can disambiguate bistable images** Emily Ward, Brian Scholl

Scene perception

Tuesday, May 14, 2:30 - 4:15 pm

Talk Session, Royal Ballroom 4-5

Moderator: Michelle Greene

54.21, 2:30 pm **Discovering mental representations of complex natural scenes** Michelle Greene, Abraham Botros, Diane Beck, Li Fei-Fei

54.22, 2:45 pm **Match-On-Action: The role of motion and audio in limiting awareness of film cuts.** Tim J. Smith, Janet Yvonne Martin-Portugues Santacreu

54.23, 3:00 pm **Perceptual consequences of temporal modulations resulting from eye movements** Marco Boi, Martina Poletti, Michele Rucci

54.24, 3:15 pm **Differential Connectivity Within the Parahippocampal Place Area** Christopher Baldassano, Diane M. Beck, Li Fei-Fei

54.25, 3:30 pm **Neural representation of the navigability in a scene** Soojin Park, Matthew Levine, Matthew Dunne

54.26, 3:45 pm **The posterior part of the lateral occipital complex analyzes the spatial correlation structure of natural visual scenes.** H.Steven Scholte, Ilja Sligte, Iris Groen, Victor Lamme, Sennay Ghebreab

54.27, 4:00 pm **Neural correlates of affective judgments with visual stimuli** Kleovoulos Tsourides, Evan Ehrenberg, Christopher Simons, Pawan Sinha

Face perception: Neural mechanisms

Tuesday, May 14, 5:15 - 7:15 pm

Talk Session, Royal Ballroom 4-5

Moderator: Nikolaus Kriegeskorte

55.21, 5:15 pm **The face network estimated by intrinsic functional connectivity employing a large sample (N = 296)** Lúcia Garrido, Avram Holmes, Marisa Hollinshead, Randy Buckner, Ken Nakayama

55.22, 5:30 pm **A novel functional connectivity analysis of the development of face-processing networks: Independent component analysis of task and resting-state data** Maha Adamo, Frank Haist

55.23, 5:45 pm **Neural Coding of Individual Faces in the Human Right Inferior Occipital Cortex: Direct Evidence from Intracerebral Recordings and Stimulations** Jacques Jonas, Bruno Rossion, Julien Krieg, Laurent Koessler, Sophie Colnat-Coulbois, Jean-Pierre Vignal, Médéric Descoins, Corentin Jacques, Hervé Vespignani, Louis Maillard

55.24, 6:00 pm **The effect of fast periodic stimulation on the face-selective patches of the monkey superior temporal sulcus: An fMRI adaptation study** Jessica Taubert, Francesco Gentile, Ivo D. Popivanov, Bruno Rossion, Rufin Vogels, Wim Vanduffel

55.25, 6:15 pm **Faciotopy – a face-feature map with face-like topology in the occipital face area** Nikolaus Kriegeskorte, Marieke Mur, Linda Henriksson

55.26, 6:30 pm **A Neurocomputational Basis for Face Configural Effects** Irving Biederman, Xiaokun Xu

55.27, 6:45 pm **What are you looking at? The necessity of Eye-tracking use in ERP face-research** Thomas Anderson, Dan Nemrodov, Frank Preston, Roxane Itier

55.28, 7:00 pm **A multichannel model of face processing based on self-organizing principles** Guy Wallis

Tuesday Afternoon Posters

Attention: Spatial Selection 2

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

- 56.301 **Saccadic adaptation modulates inhibition of return** Farahnaz Ahmed Wick, Tyler Garaas, Marc Pomplun
- 56.302 **Differential effects of road situations and driving behaviors on eye movements in experienced and novice drivers** Ling Li, Zhenlan Jin, Dengmiao Yu
- 56.303 **The effect of local-global processing on contextual learning** Lauren Bellaera, Adrian von Mühlenen, Derrick Watson
- 56.304 **EEG pattern classification reveals the scope of local vs. global attention** Alexandra List, Monica Rosenberg, Aleksandra Sherman, Marcia Grabowecy, Satoru Suzuki, Michael Esterman
- 56.305 **The contribution of scene gist and spatial dependency of objects to semantic guidance of attention** Chia-Chien Wu, Hsueh-Cheng Wang, Marc Pomplun
- 56.306 **3D spatial attention effects are independent of projected 2D size and location for older and younger observers** Russell Pierce, G. John Andersen
- 56.307 **Previewing distractors reduce efficiency of visual processing at previewed locations** Takayuki Osugi, Ikuya Murakami
- 56.308 **Less of a Pop-Out? Spatial-VSTM is Critical For Priming of Pop-Out to Emerge.** Alejandro Lleras, JeeWon Ahn
- 56.309 **Novel Color Stimuli for Studying Spatial Attention** James Herman, Amarendra Bogadhi, Rich Krauzlis
- 56.310 **Involuntary Inhibition of Motor Responses Contingent on Top-Down Goals** Charles Folk, Brian Anderson
- 56.311 **'Don't Look' Inhibition: Attentional and oculomotor inhibition at locations forbidden to saccades** Saurabh Dhawan, Donatas Jonikaitis, Heiner Deubel
- 56.312 **Object position biases in viewing and naming** Alasdair Clarke
- 56.313 **A Comparison of Covert and Overt Orienting of Social Attention** Ty W. Boyer, Bennett I. Bertenthal
- 56.314 **Social and temporal orienting: Linked or independent?** Dana Hayward, Jelena Ristic
- 56.315 **The effect of preterm birth and low birth weight on visual attention in adults** Adrian von Mühlenen, Nicole Baumann, Dieter Wolke
- 56.316 **Individual differences in the scope of spatial attention** Kristin E. Wilson, Justin Ruppel, Matthew Lowe, Mark Shaw, Rayan Kosnik, Jay Pratt, Susanne Ferber

Attention: Inattention, attention blindness

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Royal Ballroom 6-8

- 56.317 **Externalizing internal states with real-time neurofeedback to train visual attention** Megan T. deBettencourt, Ray F. Lee, Jonathan D. Cohen, Kenneth A. Norman, Nicholas B. Turk-Browne
- 56.318 **Using Magic to Influence Choice in the Absence of Visual Awareness** Jay Olson, Alym Amlani, Ronald Rensink

- 56.319 **Brain oscillatory activity related to biologically relevant visual stimuli in a patient with affective blindsight.** Marzia Del Zotto, Marie-Pierre Deiber, Lore B. Legrand, Alan J. Pegna
- 56.320 **The role of distractors' categorical distinctiveness in emotion-induced blindness** Briana L. Kennedy, Steven B. Most
- 56.321 **The Persistence of Inattentional Blindness and the Absence of Priming by Natural Scenes** Jason Clarke, Tony Ro, Arien Mack
- 56.322 **Disruptions of spatial continuity increase awareness of scene properties** Lewis Baker, Daniel Levin
- 56.323 **Voluntary disattention facilitates global motion detection** Miyuki G. Kamachi, Taichi Ishii, Isamu Motoyoshi
- 56.324 **Hiding a tree in a forest: Change camouflage as a mechanism for change blindness** Yao Richard
- 56.325 **Strategic games around the "centre of interest": Regulation of the dead zone of attention** Yulia Stakina, Igor Utochkin
- 56.326 **Why do drivers fail to see pedestrians and other vulnerable road users?** Thomas Sanocki, Mohammed Islam, Jonathan Doyon, Chanyoung Lee
- 56.327 **Individual differences may reveal distinct mechanisms of attentional guidance** Emma W. Dowd, Anastasia Kiyonaga, Tobias Egner, Stephen R. Mitroff
- 56.328 **Logical semantic operations in the absence of visual awareness** Simon van Gaal, Lionel Naccache, Julia Meuwese, Laurent Cohen, Stanislas Dehaene

Color and light: Lightness and brightness

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 56.401 **Effect of Smooth Shape on Lightness Processing in Human Visual Cortex** Hongfan Shen, Damien Mannion, Seong-Whan Lee, Huseyin Boyaci, Fang Fang, Daniel Kersten
- 56.402 **Humans correct contrast for defocus blur: a new kind of contrast constancy** Stephen P. Sebastian, Johannes Burge, Wilson S. Geisler
- 56.403 **Mach Bands: Contrast normalization?** Frederick Kingdom
- 56.404 **Blur and object layering in the barbell illusion** Oliver Flynn, Arthur Shapiro
- 56.405 **Why might black tetragons be more effective than white for inducing blanking?** Jennifer E. Anderson, Michael W. Levine, J. Jason McAnany
- 56.406 **Neural Correlates of Vasarely's Nested Squares and the Alternating Brightness Star Illusion in area V1** Jie Cui, Stephen Macknik, Xoana Troncoso, Jorge Otero-Millan, Susana Martinez-Conde
- 56.407 **Human lightness perception is guided by simple assumptions about reflectance and lighting** Richard Murray
- 56.408 **Enhancement of simultaneous contrast with spatially uniform and spatially noisy transparent layers** Erica Dixon, Arthur Shapiro
- 56.409 **X-Junction Patterns Support Edge Classification** Alan Gilchrist, Stephen Ivory
- 56.410 **Koffka's invariance theorem, highest luminance anchoring, and the area rule apply to both lightness and perceived illumination.** Stephen Ivory, Alessandro Soranzo, Alan Gilchrist

- 56.411 **Lighting direction and visual field modulate the brightness of 3D objects** Mark E. McCourt, Barbara Blakeslee, Ganesh Padmanabhan
- 56.412 **Effect of the apparent brightness of a space on lightness and saturation perception** Yoko Mizokami, Haruka Maruyama, Hirohisa Yaguchi
- 56.413 **Figural organization determines the edge integration path in lightness** Michael Rudd
- 56.414 **Effects of changes in atmosphere on lightness perception** Katharina Zeiner, Marianne Maertens
- 56.415 **Interaction of Ambient Lighting and LCD Display Polarity on Text Processing and Viewing Comfort** Yu-Chi Tai, Shun-nan Yang, Kevin Larson, James Sheedy
- 56.416 **Network Connections That Evolve to Contend With the Inverse Optics Problem** Cherlyn Ng, Janani Sundararajan, Michael Hogan, Dale Purves
- 56.417 **Accidental Cameras. Revealing the scene outside the picture.** Antonio Torralba, William T. Freeman
- 56.418 **Early level receptive field properties emerge from artificial neurons evolved on the basis of accumulated visual experience with natural images** Yaniv Morgenstern, Dhara Venkata Rukmini, Dale Purves
- 56.419 **The effect of stimulus visibility on visual field inhomogeneities.** Leslie Cameron, Michael Levine, Jennifer Anderson

Color and light: High level

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 56.420 **Attention Filters for Colors: Isolating Single Colors** Peng Sun, Christian Herrera, Charles Chubb, Charles Wright, George Sperling
- 56.421 **Remembering colors: Bias and variability** Jessica McLaren, Jeremy Bell, Sarah Allred
- 56.422 **Focal colors as perceptual anchors of color categories** Christoph Witzel, John Maule, Anna Franklin
- 56.423 **Numbering by color: the perception of summary statistics in color distributions** Jacquelyn Webster, Cody Nolan, Holly Sternberg, Paul Kay, Michael Webster
- 56.424 **Are Somali color categories fuzzy?** Delwin Lindsey, Angela Brown
- 56.425 **Exploring the use of big data in color preference research** Casey McGlasson, Jared Lorince, David J. Crandall, Peter M. Todd
- 56.426 **The functional effects of colour perception and colour imagery** Shuai Chang, David Lewis, Joel Pearson
- 56.427 **Violins are Green, Pianos are Blue: Cross-modal Sound-to-Sight Associations with Timbre in Synesthetes & Non-Synesthetes** William Griscom, Stephen Palmer

Binocular vision: Stereopsis

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 56.428 **Short-term visual memory for stereoscopically-defined depth** Adam Reeves, Quan Lei
- 56.429 **An evaluation system for stereopsis of beach volleyball players measuring perception time as a function of disparity within a virtual environment** Jan Paulus, Joachim Hornegger, Michael Schmidt, Bjoern Eskofier, Georg Michelson

- 56.430 **Estimating depth magnitude for flat, forced and reverse perspectives** Joshua Dobias, Geetika Baghel, Daniel Moritz, Mark Theiler, Thomas Papatomas
- 56.431 **A novel stereoscopic display technique that minimizes perceptual artifacts** Paul Johnson, Joohwan Kim, Martin Banks
- 56.432 **Binocular visual direction is displaced by the slant of surrounding surfaces** Tsutomu Kusano, Koichi Shimono, Saori Aida
- 56.433 **Stereopsis depends on a matched interocular mean luminance** Alexandre Reynaud, Jiawei Zhou, Robert Hess
- 56.434 **Testing the horizontal-vertical stereo anisotropy with the power-spectrum model of visual masking** Ignacio Serrano-Pedraza, Claire Brash, Jenny C. A. Read
- 56.435 **Combining occlusion and disparity information: a computational model of stereoscopic depth perception.** Inna Tsirlin, Laurie M. Wilcox, Robert S. Allison
- 56.436 **Does the loss of sensory fusion demarcate fine vs coarse processing?** Laurie M. Wilcox, Jennifer Redwood, Deborah Giaschi
- 56.437 **Stereoanomaly for crossed disparity in the upper visual field and uncrossed disparity in the lower visual field** Akiko Yasuoka, Masahiro Ishii, Shuhei Matsuda

3D Perception: Cue combination

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 56.438 **Depth percept from motion parallax by backward/forward head movements** Masahiro Ishii, Minoru Fujii
- 56.439 **Perceived depth magnitude with a combination of motion parallax and binocular disparity cues** Mark Nawrot, Jessica Holmin, Keith Stroyan
- 56.440 **Functional Use of Monocular Depth Perception in the Low Resolution Limit** Armand R. Tanguay, Jr., Noelle R. B. Stiles, Ben P. McIntosh, Mark S. Humayun
- 56.441 **Isaac Newton assists, Michael Jordan jams - training of perceived distance anisotropy** Oliver Toskovic
- 56.442 **Integration of stereo and texture slant cues measured with a slant estimation task** Zhongting Chen, Jeffrey Saunders
- 56.443 **The Interaction of Changing Disparity and Interocular Velocity Difference in Motion in Depth Perception** Joel Persinger, Rui Ni
- 56.444 **Individual Differences in the Development of Depth Cue Combination** Bauke van der Velde, Tessa Dekker, Georgina Aisbitt, Marko Nardini

Attention: Temporal

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Orchid Ballroom

- 56.445 **Temporal order of attentional disengagement and reengagement investigated by steady-state visual evoked potentials and event-related potentials** Satoshi Shioiri, Yoshiyuki Kashiwase, Nobutaka Omori, Kazumichi Matsumiya, Ichiro Kuriki
- 56.446 **Hybrid search meets the Attentional Blink: How does searching through memory influence blink magnitude?** Sage Boettcher, Trafton Drew, Ashley Sherman, Jeremy Wolfe
- 56.447 **Task demands modulate the late posterior N1, but not the C1 ERP components evoked by task-irrelevant information presented during the attentional blink** Tom Bullock, James Elliott, Barry Giesbrecht

- 56.448 **A daytime nap reduces the attentional blink** Nicola Cellini, Patrick T. Goodbourn, Elizabeth A. McDevitt, Alex O. Holcombe, Paolo Martini, Sara C. Mednick
- 56.449 **Revisiting the spread of sparing in attentional blink: Attentional selection or resource limitation?** Xi Chen, Xiaolin Zhou
- 56.450 **Individual Differences Within and Across Attentional Blink Tasks Revisited** Gillian Dale, Paul E. Dux, Karen M. Arnell
- 56.451 **An attentional blink for moving stimuli and for tasks combining form and motion perception** Janina Hueer, Sonia Baloni, Nils Müller, Stefan Treue
- 56.452 **A cause for non-Granger causality** Yury Petrov
- 56.453 **The time course of attention, cueing, and competition** Anna Wilschut, Jan Theeuwes, Christian N.L. Olivers
- 56.454 **Electrophysiological signatures of temporal segregation and integration of visual information – an MEG study** Andreas Wutz, Nathan Weisz, David Melcher
- 56.455 **Remapping Time Across Space** Nestor Matthews, Leslie Welch, Elena Festa, Andrew Clement
- 56.456 **Reduced temporal fusion in near-hand space** Stephanie Goodhew, Davood Gozli, Susanne Ferber, Jay Pratt
- 56.457 **Right hemisphere dominance in temporal attention: a TMS study** Lorella Battelli, Florian Herpich, Sarah Tyler, Emily Grossman, Sara Agosta

Eye Movements: Neural mechanisms, perception

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 56.501 **Visual Sensitivity of Frontal Eye Field Neurons During the Preparation of Saccadic Eye Movements** Rebecca Krock, Tirin Moore
- 56.502 **Temporal structure in the lateral intraparietal area (LIP) neuronal activity during dynamic visual search** Koorosh Mirpour, James Bisley
- 56.503 **Neuronal population activity in area 8a of macaques predicts saccade end point** Sebastien Tremblay, Lia Asquini, Adam Sachs, Florian Pieper, Julio Martinez
- 56.504 **Distributed cortical representation of eye gaze directions during free viewing of a feature-length movie** Florian Baumgartner, Michael Hanke, Stefan Pollmann
- 56.505 **Peri-microsaccadic modulation of visual activity in the primate superior colliculus: dependence on movement direction and neuronal cell type** Chih-Yang Chen, Ziad M. Hafed
- 56.506 **Shared neural sensory signals for eye-hand coordination in humans** Li Li, Diederick C. Niehorster, Dorion Liston, Wilfred W.F. Siu, Lee Stone
- 56.507 **How does implicit learning of search regularities alter the manner in which you search?** Gerald McDonnell, Mark Mills, Leslie McCuller, Mike Dodd
- 56.508 **Characteristics of ambient and focal processing during the visual exploration of aerial and terrestrial scenes** Sebastian Pannasch, Jens R. Helmert, Bruce C. Hansen, Adam M. Larson, Lester C. Loschky
- 56.509 **Visual search during motion perception** Mariagrazia Benassi, Giulia Baroni, Luisa Lugli, Roberto Bolzani, Roberto Nicoletti
- 56.510 **Effects of spatial frequency on fixation durations within scenes** Jennifer Olejarczyk, Steven G. Luke, Joseph Schmidt, John M. Henderson
- 56.511 **Fractal Dynamics of Visual Search as a Function of the Gestalt Law of Proximity** Attila Farkas, Alen Hajnal
- 56.512 **The perception of depth induced by texture gradient can partly control vergence.** Kristin Osk Ingvarsdottir
- 56.513 **Allocation of attention during cognitive conflict: Evidence from eye movement patterns during a Stroop task** Bettina Olk
- 56.514 **The difference between temporal order judgment during voluntary and automatic saccades** Yoshiko Yabe, Hiroaki Shigemasa
- 56.515 **Contextual adaptation in saccades to moving targets** Reza Azadi, Mark Harwood
- 56.516 **Ultra-rapid Saccade Adaptation: Effective in Under Three Minutes** Michael Gray, Annabelle Blangero, James Herman, Mark Harwood
- 56.517 **Retention of oculomotor changes after adaptive lengthening of voluntary saccades** Ouazna Habchi, Roméo Salemme, Christian Urquizar, Denis Pelisson
- 56.518 **Adaptation of saccadic eye movements involves different coordinate systems** Delphine Lévy-Bencheton, Denis Péliesson, Muriel Panouillères, Christian Urquizar, Caroline Tilikete, Laure Pisella
- 56.519 **Effect of sensorimotor adaptation of saccades on covert attention.** Denis Pelisson, Ouazna Habchi, Christian Urquizar, Alessandro Farnè
- 56.520 **Does orientation influence saccade metrics irrespective of its relevance for the task?** Delphine Massendari, Christophe Tandonnet, Bruno Nazarian, Francoise Vitu
- 56.521 **Population averaging in the distorted map of the superior colliculus: A new and simple account of systematic saccadic undershoot.** Françoise Vitu, Soazig Casteau
- 56.522 **The gap effect is predominantly determined by the awareness of the fixation disappearance** Hiroshi Ueda, Kohske Takahashi, Katsumi Watanabe
- 56.523 **Target range properties do not influence oculomotor under-shooting bias.** Caitlin Gillen, Jeffrey Weiler, Matthew Heath
- 56.524 **Shared positional noise in manual reaching and saccadic eye movements** Donald Kalar, Dorion Liston, Bernard Adelstein, Leland Stone
- 56.525 **Learning of peri-saccadic visual stimuli** Yuval Porat, Ehud Zohary
- 56.526 **The role of temporal information in perisaccadic mislocalization** Maria Matziridi, Eli Brenner, Jeroen Smeets
- 56.527 **Role of peripheral vision in the representation of objects' spatial location** Damien Camors, Christophe Joffrais, Jean-Baptiste Durand
- 56.528 **Transsaccadic memory for multiple features** Aarlenne Khan, Kim YoungWook, Yoongoo Nam, Gunnar Blohm
- 56.529 **Parallel attentional allocation in antisaccades** Anna Klapetek, Heiner Deubel

Eye movements: Saccades

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

Spatial vision: Natural image statistics

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 56.530 **Overestimation of the numbers of elements in a three-dimensional stimulus compared with a two-dimensional stimulus** Saori Aida, Tsutomu Kusano, Koichi Shimono
- 56.531 **Least squares noise in images of natural scenes is not the be all and end all** Bhavin Sheth, Jasmine Patel, Khushboo Pal, Ysabelle Abraham
- 56.532 **Temporal whitening of retinal input during natural head-free fixation** Michele Rucci, Jonathan D. Victor, Murat Aytekin
- 56.533 **Independence of luminance and chromatic edge orientations in natural scenes** Alik Mokeichev, Ohad Ben-Shahar
- 56.534 **Adaptation and visual search in medical images** Elysse Kompaniez, Criag K. Abbey, John M. Boone, Michael A. Webster
- 56.535 **Local image statistics: A highly conserved perceptual space encompassing statistics of low and high order** Jonathan Victor, Daniel Thengone, Charles Chubb, Mary Conte
- 56.536 **Perceptual salience of fourth-order visual textures and natural scene statistics** John Briguglio, Ann Hermundstad, Mary Conte, Jonathan Victor, Gasper Tkacik, Vijay Balasubramanian
- 56.537 **Does V1 primarily encodes Spatial Frequencies or Features ?** Simon Clavagnier, Reza Farivar-Mohseni, Bruce C Hansen, Robert F Hess
- 56.538 **Preference for higher-order luminance regularities in natural scenes** Daniel Graham, Bianca Schwarz, Anjan Chatterjee, Helmut Leder
- 56.539 **Eccentricity-dependent sensitivity loss of amplitude spectrum slope discrimination.** Aaron Johnson, Bruno Richard, Dave Ellemborg, Bruce Hansen
- 56.540 **Size dependent increase in sensitivity to the slope of the amplitude spectrum is not solely dependent on the increased low spatial frequency representation of larger stimuli.** Bruno Richard, Bruce Hansen, Dave Ellemborg, Aaron Johnson
- 56.541 **Optimal Contour Interpolation Using Natural Scene Statistics** Anthony D. D'Antona, Wilson S. Geisler
- 56.542 **Painting What We See: Painters Over-Regularize Structure in the Environment** April Schweinhart, Edward Essock
- 56.543 **Aesthetic Judgment of Texture Patterns: Beauty is in the Perceived Density of the Beholder.** Jay Friedenber, Ashley Wasilewski, Erin Donahue

Visual search: Attention

Tuesday, May 14, 2:45 - 6:45 pm

Poster Session, Vista Ballroom

- 56.544 **The effects of grouping search elements by depth on target selection** Nonie Finlayson, Roger Remington, James Retell, Philip Grove
- 56.545 **Attentional salience as a function of visual statistical properties: A visual search study** Natalia Tiurina, Igor Utochkin
- 56.546 **Transition features facilitate visual search in heterogeneous displays** Maria Yurevich, Igor Utochkin
- 56.547 **Collinear contour integration impairs visual search before binocular fusion** Hiu Mei Chow, Chia-huei Tseng
- 56.548 **Abolition of Asymmetry: the Impact of Pre-task on Visual Search** Emily S. Cramer, Ronald A. Rensink
- 56.549 **Visual search for chasing objects among distractors** Hauke Meyerhoff, Markus Huff, Stephan Schwan
- 56.550 **The Statistical Saliency Model can choose colors for items on map displays** Joshua Shive, Sharra Rosichan, Sherika Austin, Christena Wade
- 56.551 **Stimulus context controls the speed of attentional spotlight shifts in human visual cortex** Thomas Töllner, Markus Conci, Hermann J. Müller
- 56.552 **Searching for single or multiple exemplars and categories: Electrophysiological markers of category-based attentional guidance** Rachel Wu, Rebecca Nako, Gaia Scerif, Martin Eimer

Wednesday Morning Talks

Visual search

Wednesday, May 15, 8:15 - 9:45 am

Talk Session, Royal Ballroom 1-3

Moderator: Todd Horowitz

61.11, 8:15 am **Visual foraging: Quitting behavior when searching aerial maps follows the Marginal Value Theorem** Todd Horowitz, Kilian Semmelmann, Sage Boettcher, Jeremy M Wolfe

61.12, 8:30 am **Tortoise or hare? Picture-derived target “templates” quicken search but are prone to decay. Word-derived templates slow search, but are stable over time.** Michael Hout, Stephen Goldinger

61.13, 8:45 am **Conjunction-guided selection in visual search** Igor Utochkin

61.14, 9:00 am **Visuotopic mapping of the parietal cortex distinguishes areas involved in synesthetic feature binding** Summer Sheremata, Bryan Alvarez, Luis Zertuche, Michael Silver, Lynn Robertson

61.15, 9:15 am **Cultural differences in visual search with culturally neutral items** Jun Saiki, Yoshiyuki Ueda, Rai Chen, Jonathon Kopecky, Ronald Rensink, David Meyer, Shinobu Kitayama

61.16, 9:30 am **Searching for riches in a changing world** Yuhong V. Jiang, Khen M. Swallow, Christian G. Capistrano

Spatial vision: Neural mechanisms and models

Wednesday, May 15, 10:45 - 12:45 pm

Talk Session, Royal Ballroom 1-3

Moderator: Michael Pratte

62.11, 10:45 am **Investigating Inhibitory Circuits of Visual Cortex** David Lyon, Yongjun Liu, Moritz Negwer, Hanjuan Shao, Markus Ehrenguber

62.12, 11:00 am **Identifying the relationship between fMRI BOLD response and neuronal activity with an achiasmatic human subject** Bosco S. Tjan, Pinglei Bao, Chris Purington

62.13, 11:15 am **Decomposition of stimulus representations and decision-bias signatures in population activity of human primary visual cortex** Kyoung whan Choe, Randolph Blake, Sang-Hun Lee

62.14, 11:30 am **Assessing Tilt Illusions in Human Visual Cortex Using fMRI and Multivariate Pattern Analysis** Michael Pratte, Frank Tong

62.15, 11:45 am **Combining Perceptual Estimates Using Recursive Conditional Means (RCM)** Wilson Geisler, Jeffrey Perry

62.16, 12:00 pm **What Determines Contrast Sensitivity: An External Noise Study Across Spatial Frequencies?** Chang-Bing Huang, Ge Chen, Fang Hou, Fangfang Yan, Pan Zhang, Zhong-Lin Lu

62.17, 12:15 pm **Extracting Modulation Transfer Function of the Visual System from Contrast Sensitivity Function in External Noise** Zhong-Lin Lu, Fang Hou, Chang-Bing Huang

62.18, 12:30 pm **Modeling letter identification: contrast thresholds as a function of size** Andrew Watson, Albert Ahumada

Perceptual organization: Grouping, segmentation

Wednesday, May 15, 8:15 - 9:45 am

Talk Session, Royal Ballroom 4-5

Moderator: Jonathan Peirce

61.21, 8:15 am **Stereoscopy facilitates objects recognition in natural pictures** Baptiste Caziot, Benjamin Backus

61.22, 8:30 am **Cue combination of conflicting color and luminance edges** Rebecca J. Sharman, Paul V. McGraw, Jonathan W. Peirce

61.23, 8:45 am **As the nose on your face: face-superiority context effect in a simple line orientation detection task** Thomas Busigny, Jason JS Barton, Linda Lanyon, Bruno Rossion

61.24, 9:00 am **The Independence of Visual Number and Area Processing: Evidence from Psychophysics, Development, and Eye-Tracking** Darko Odic, Justin Halberda

61.25, 9:15 am **Opposing dorsal/ventral stream dynamics during figure-ground segregation** Martijn E. Wokke, H. Steven Scholte, Victor A.F. Lamme

61.26, 9:30 am **Reduced Sensitivity to the Ebbinghaus Illusion is State Related in Schizophrenia** Steven Silverstein, Brian Keane, Keith Feigenson, Yushi Wang, Deepthi Mikkilineni, Danielle Paterno

Face perception: Expressions, social

Wednesday, May 15, 10:45 - 12:45 pm

Talk Session, Royal Ballroom 4-5

Moderator: Rachael Jack

62.21, 10:45 am **Beyond Facial Morphology: Social Impressions from Dynamic Face Gestures** Daniel Gill, Oliver Garrod, Rachael Jack, Philippe Schyns

62.22, 11:00 am **Social Perception Deficits in Children with Autism Spectrum Disorder** Kami Koldewyn, Sarah Weigelt, Nancy Kanwisher

62.23, 11:15 am **Individual differences in the ability to recognize facial expressions are associated with the strength of adaptive expression coding but not the strength of holistic expression coding.** Romina Palermo, Linda Jeffery, Jessica Lewandowsky, Chiara Fiorentini, Elinor McKone, Jessica L. Irons, Andrew L. Skinner, Christopher P. Benton, Nichola Burton

62.24, 11:30 am **Asian and Caucasian observers' initial eye movements during face identification are similar and optimal** Charles C.-F. Or, Matthew F. Peterson, Miguel P. Eckstein

62.25, 11:45 am **Fast and slow object priming of fearful and happy facial expressions** James Tanaka, Buyun Xu, Meredith Hughes, David Fainstein, Terry Lin

62.26, 12:00 pm **Behavioral The Behavioral Effects of Adaptation to Facial Expressions are Explained by Changes in the Decision-Making Process** Nathan Witthoft, Jonathan Winawer, Roozbeh Kiani

62.27, 12:15 pm **Contrast negation reveals a dissociation in the neural representations underlying the perception of facial identity and expression** Richard Harris, Andy Young, Timothy Andrews

62.28, 12:30 pm **Dynamic signaling of facial expressions transmit social information in a hierarchical manner over time** Rachael Jack, Oliver Garrod, Philippe Schyns



Wednesday Morning Posters

Attention: Tracking, shifting

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

- 63.301 **Role of attention, eye-movements, and landmarks in tracking an occluded object.** Deborah Aks, Meriam Naqvi, Ronald Planer, Kevin Zish, Zenon Pylyshyn
- 63.302 **Capture and tracking: Where does attention go?** Justin M. Ericson, Rebecca R. Goldstein, Melissa R. Beck
- 63.303 **Load-dependent but short-range spatial interference in multiple object tracking** Alex Holcombe, Piers Howe, Wei-Ying Chen
- 63.304 **Attention restores awareness of changing colors in moving objects** Scott McLean, James E. Hoffman
- 63.305 **Visual Attention is Required for Multiple Object Tracking** Annie Tran, James Hoffman
- 63.306 **The profile of multifocal attention: surround-suppression between and within hemifields** Viola Störmer, Patrick Cavanagh, George Alvarez
- 63.307 **Visual attention and willpower: Shared resources between ego depletion and multiple-object tracking?** Aysu Suben, Brian Scholl
- 63.308 **Exploring the Body Boundary: How visual attention treats stimuli on the hands.** Eric Taylor, Jessica Witt
- 63.309 **Spatial attention selection guides object correspondence in apparent motion** Yangqing Xu, Satoru Suzuki, Steven Franconeri
- 63.310 **Are basketball players just dots? Comparing multiple object tracking in real and simple contexts** Ashley M. Sherman, Todd S. Horowitz, Horesh Ben Shitrit, Gregory J. Zelinsky
- 63.311 **Lost, but not forgotten: Extra guesses reveal knowledge of lost targets in multiple object tracking** Rose Schneider, Zheng Ma, Jonathan Flombaum
- 63.312 **Multiple-object tracking across various fields of view** James Reed-Jones, Lana Trick
- 63.313 **Motion Factors other than spacing may affect MOT performance** Allan Kugel
- 63.314 **Tracking Deforming Items** Piers Howe, Alex Holcombe, Mark Lapierre, Simon Cropper
- 63.315 **Object Tracking via Spatiotemporal Continuity vs. Surface Features** Samuel Harding, Ty Boyer, Bennett Bertenthal
- 63.316 **Stereoscopy benefits processing of dynamic visual scenes by disambiguating object occlusions** Jocelyn Faubert, Rémy Allard
- 63.317 **Perceived Size of a Moving Target** Alexandria Boswell, Gennadiy Gurariy, Gideon Caplovitz
- 63.318 **Interactions between Global and Local Motions during Object Tracking** Bennett Bertenthal, Sam Harding, Rob de Ruyter
- 63.319 **Multiple Object Tracking: Support for Hemispheric Independence** Daryl Wilson, Michael O'Grady, Jason Rajscik
- 63.320 **Hemifield asymmetries in attention-based motion discrimination** Leslie Welch, Nestor Matthews

Object recognition: Reading

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Royal Ballroom 6-8

- 63.321 **Units of word recognition** Xavier Morin Duchesne, Daniel Fiset, Martin Arguin, Frédéric Gosselin
- 63.322 **Using abbreviations to increase reading speed in low vision** Steve Mansfield, Katie Tiffit, Pei Ning Lee, Stephanie Crocco, Jordan Wendling
- 63.323 **Uncrowding the Visual Span: Does It Improve Reading?** Yingchen He, Gordon Legge
- 63.324 **Predicting reading performance for different fonts using physical and perceptual properties of letters** Jean-Baptiste Bernard, Daniel R. Coates, Susana T. L. Chung
- 63.325 **Effect of Complexity on the Visual Span for Chinese and Alphabetic Characters** Hui Wang, Xuanzi He, Gordon Legge
- 63.326 **Coarse-to-fine spatial analysis for identifying multiple letters?** Susana T. L. Chung, Girish Kumar, Daniel R. Coates
- 63.327 **Fast and slow temporal integration in visual word recognition: A demonstration of the Presentation of Parts in Noise (POPIN) paradigm** Ronald Chu, Steve Joordens
- 63.328 **The components and modality-specificity of word representations in the human visual system: an adaptation study** Diana Choi, Hashim Hanif, Charlotte Hills, Jason J S Barton
- 63.329 **Representation of word parts and wholes in occipitotemporal cortex** Alexandra Coros, Lars Strother, Tutis Vilis
- 63.330 **Hemispheric lateralization of visual word and face activation in the fusiform gyri** Jodie Davies-Thompson, Samantha Johnston, Yashar Tashakkor, Raika Pancaroglu, Jason J.S. Barton

Scene perception: High level

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 63.401 **Interaction Between Visual and Conceptual Processing in Art Appreciation** Gabriela Duran, Mary A. Peterson
- 63.402 **Visual-object working memory affects aesthetic judgments** Aleksandra Sherman, So Yum Lim, Marcia Grabowecy, Satoru Suzuki
- 63.403 **Specifying the relationships between objects, gaze, and descriptions for scene understanding** Kiwon Yun, Yifan Peng, Hossein Adeli, Tamara Berg, Dimitris Samaras, Gregory Zelinsky
- 63.404 **SceneNet: A Perceptual Ontology Database for Scene Understanding** Ilan Kadar, Ohad Ben-Shahar
- 63.405 **Measuring information acquisition during viewing of dynamic scenes using free, natural-language descriptions** Daniel R. Saunders, Peter J. Bex, Russell L. Woods
- 63.406 **Rapid semantic categorization of scenes: an advantage for emotional images?** Tiffany S Pan, Anne T Sokolich, Patricia Lin, Samy Abdel-Ghaffar, Sonia J Bishop
- 63.407 **Testing the influence of stimulus variability on visual memory for scenes** Benjamin A. McDunn, James M. Brown, Siddiqui P. Aisha, Ralph G. Hale
- 63.408 **Capture by object exemplars during category-based search of real-world scenes** Katharina N. Seidl, Nicholas B. Turk-Browne, Sabine Kastner

- 63.409 **Neural coding of location, facing direction, and views during spatial imagery** Lindsay Morgan, Russell Epstein
- 63.410 **Processing images in a masked BE paradigm: Does emotion matter?** Aisha P Siddiqui, Benjamin McDunn, James M. Brown
- 63.411 **Taking boundary extension to the extreme** Ralph Hale, James Brown, Benjamin McDunn, Aisha Siddiqui
- 63.412 **Are Neuronal Representations of Fearful Scenes in the Ventral Visual Pathway Size-invariant?** Zhengang Lu, Bingbing Guo, Ming Meng
- 63.413 **Spatial and identity associative processing in scene selective cortex** Elissa Aminoff, Michael Tarr
- 63.414 **Mental representations of layout prime reaching in 3D real world scenes** Carmela Gottesman

Multisensory processing: Synesthesia, attention, sensory interaction

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 63.415 **Music-Color Associations from Bach to the Blues: Emotional Mediation in Synesthetes and Non-synesthetes** Kelly Whiteford, Karen Schloss, Stephen Palmer
- 63.416 **Context-dependent suppression of color information in grapheme-color synesthesia** Michiko Asano, Manabu Shimizu, Kazuhiko Yokosawa
- 63.417 **Music-Color Associations to Classical Music in Synesthetes and Non-synesthetes: The Surprising Role of Emotion** Stephen Palmer, Karen Schloss, Kelly Whiteford
- 63.418 **Traits of grapheme-color synesthesia in non-synesthetes** Jun-ichi Nagai, Kazuhiko Yokosawa, Michiko Asano
- 63.419 **Music-Color Associations to Simple Melodies in Synesthetes and Non-synesthetes** Thomas Langlois, Karen Schloss, Stephen Palmer
- 63.420 **Blindsight: enhanced visual puzzle-solving and memory in synesthesia** Elizabeth Seckel, V.S. Ramachandran
- 63.421 **Capture of positive afterimages by the other senses: Extension of the body schema?** Brian Stone, Jessica Tinker
- 63.422 **Components of Attention in Synesthesia** Thomas Alrik Sørensen, Maria Nordfang, Michael Nygaard Pedersen, Morten Storm Overgaard, Árni Gunnar Asgeirsson
- 63.423 **Visual search based on synesthetic color without overt attention** Eun-hye Shin, Chai-Youn Kim
- 63.424 **Visuohaptic Crossmodal Matching: A Developmental fMRI Study** R. Joanne Jao, Thomas James, Karin James
- 63.425 **No visual-proprioceptive re-weighting after removal of vision** Brendan Cameron, Joan López-Moliner
- 63.426 **Caught off-balance by the motion aftereffect** Vivian Holten, Stella F. Donker, Maarten J. van der Smagt, Frans A.J. Verstraten
- 63.427 **Acute Disturbances of Vision during Walking and Turning** Nicholas Murray, Marlina Ponce de Leon, V.N. Pradeep Ambati, Fabricio Saucedo, Evan Kennedy, Rebecca Reed-Jones
- 63.428 **Is there a 'retinotopic' representation of echo locations in the calcarine cortex of the blind brain?** Jennifer L. Milne, Melvyn A. Goodale, Lore Thaler

Eye movements: Microsaccades

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 63.429 **Microsaccades correct fixation errors due to blinks** Francisco Costela, Jorge Otero-Millan, Michael McCamy, Stephen Macknik, Xoana Troncoso, Susana Martinez-Conde
- 63.430 **Space-time dependence of fixational saccades** Claudia Cherici, Michele Rucci
- 63.431 **Microsaccadic efficacy and contribution to the prevention of visual fading** Michael McCamy, Stephen Macknik, Susana Martinez-Conde
- 63.432 **Suppressive interactions underlying visually evoked miniature saccades** Helena X Wang, Shlomit Yuval-Greenberg, David J Heeger
- 63.433 **Accuracy and precision of microscopic saccades** Martina Poletti, Michele Rucci
- 63.434 **An Eye Movement Continuum from Exploration to Fixation** Jorge Otero-Millan, Stephen L Macknik, Rachel E Langston, Susana Martinez-Conde
- 63.435 **Implications of Microscopic Eye Movements for Retinal Encoding** John George, Jennifer Schei, Peter Schultz, Garrett Kenyon
- 63.436 **Microsaccade latency uncovers stimulus predictability: Faster and longer inhibition for unpredicted stimuli** Yoram Bonneh, Yael Adini, Dov Sagi, Misha Tsodyks, Moshe Fried, Amos Arieli
- 63.437 **Adaptivity of fixational saccadic eye movements in a visual detection task** Sara Spotorno, Anna Montagnini, Laurent Madelein, Guillaume Masson
- 63.438 **Microsaccades Boost Face Identification** Junpeng Lao, Lingnan He, Roberto Caldara
- 63.439 **Perceptual rivalry and the relationship between microsaccades and pupil dilation** Brian Metzger, Diane Beck, Daniel J. Simons
- 63.440 **Microsaccade and drift dynamics reflect mental fatigue during visual search** Leandro L. Di Stasi, Michael B. McCamy, Andrés Catena, Stephen Macknik, Jose J. Cañas, Susana Martinez-Conde
- 63.441 **Cognitive Load Modulates Microsaccade Rate and Pupil Size** Xin Gao, Chao-yi Li, Yong-chun Cai, Hong-jin Sun

Visual memory: Precision, capacity

Wednesday, May 15, 8:30 am - 12:30 pm

Poster Session, Orchid Ballroom

- 63.442 **Individual differences in perceptual memory for an ambiguous figure are predicted by individuals' working memory capacity** Elizabeth Allen, Andrew Mattarella-Micke, Sian Beilock, Steven Shevell
- 63.443 **Anatomy of early visual cortex predicts visual working memory capacity** Johanna Bergmann, Erhan Genç, Axel Kohler, Wolf Singer, Joel Pearson
- 63.444 **The Multiple Change Detection Approach to Estimating Visual Working Memory Capacity** Nancy Carlisle, Britta Hahn Hahn, Benjamin Robinson, James Gold, Steven Luck
- 63.445 **The Influence of Saccade Execution on Spatial Working Memory Precision** Andrew Hollingworth, Seongmin Hwang, Steven J. Luck
- 63.446 **Quality vs. Quantity: Strategic tradeoffs in working memory** Sarah Cormiea, Daryl Fougny, George A. Alvarez
- 63.447 **Looking into training effects on visual working memory capacity: With individualized training and performance trends.** Hunjae Lee, Sang-Ah Yoo, Eunsam Shin, Sang Chul Chong

- 63.448 **Enumeration performance modulated by spatial working memory load** Jesse Moyer, Melanie Palomares
- 63.449 **Statistical Inferences Depend on Working Memory Capacity Estimates** Melissa Trevino, Jane Jacob
- 63.450 **Low capacity for visual spatial relation memory** Lei Yuan, Audrey Lustig, David Uttal, Steven Franconeri
- 63.451 **Discarding Information from Visual Working Memory** Melonie Williams, Geoffrey Woodman
- 63.452 **High and low: The resolution of representations in visual working memory** Tina T Liu, Zhongting Chen, William G Hayward
- 63.453 **Parallel extraction of summary information across multi-element arrays** Jan Balaguer, Andrei Gorea, Elizabeth Michael, Christopher Summerfield
- 63.454 **Perceptual Precision Predicts Visual Working Memory Precision** David W. Sutterer, David E. Anderson, Edward Awh
- 63.455 **Simultaneously and sequentially presented colors exhibit similar within-task interference for working memory representations.** Garrett Swan, Brad Wyble
- 63.456 **Whole-report procedures reveal bimodal distribution of visual memory precision within a single array.** Kirsten Adam, Irida Mance, Edward Awh, Edward Vogel
- 63.457 **The question is not if you've seen this picture, but when! Recency memory for large image sets is relatively imprecise.** Stephen Maher, Todd Horowitz, Aude Oliva
- 63.458 **Comparing memory for colored patches, image textures, and photographs** Nickolas A. Iannetti, Sarah R. Allred

Topic Index

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3D Perception: Cue combination

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3D perception: Neural mechanisms and models

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3D perception: Shape from shading and contours

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3D perception: Space

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Attention: Capture

Poster Presentation (16.518-16.536)
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Attention: Divided, resource competition

Poster Presentation (36.316-36.331)
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Attention: Features and objects

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Poster Presentation (63.301-63.320)
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Binocular Vision

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Color and light: Appearance

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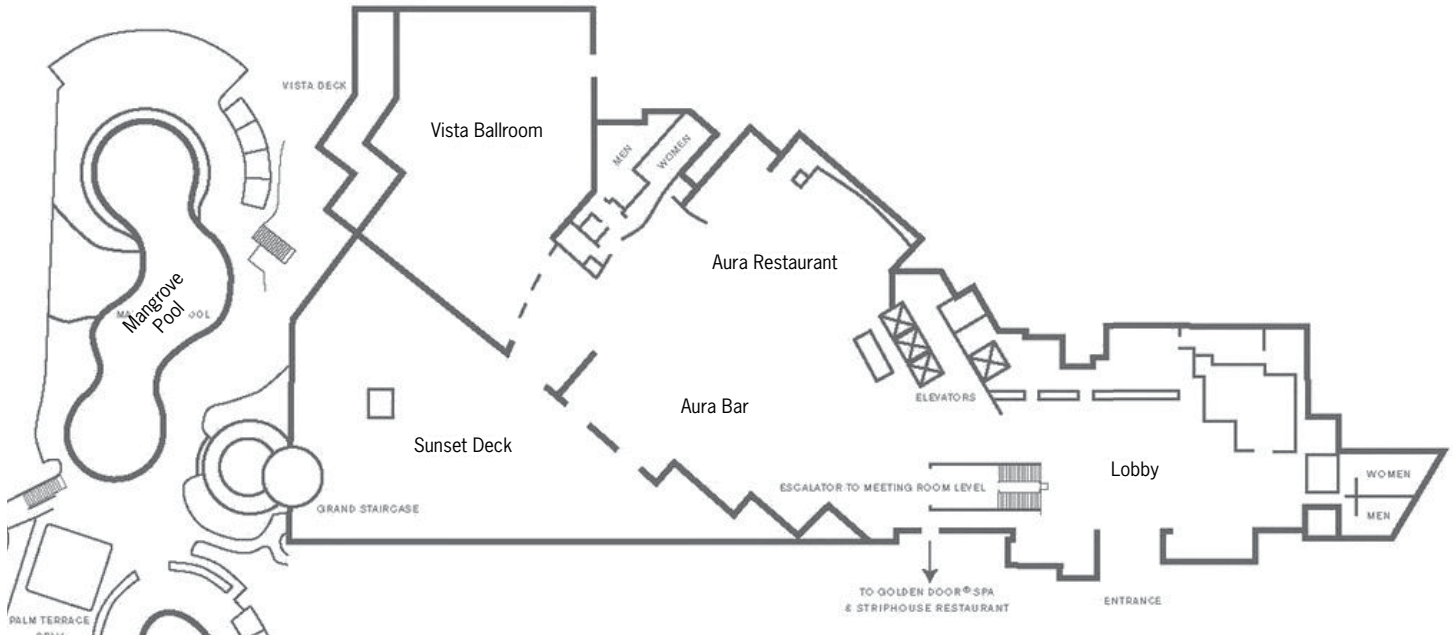
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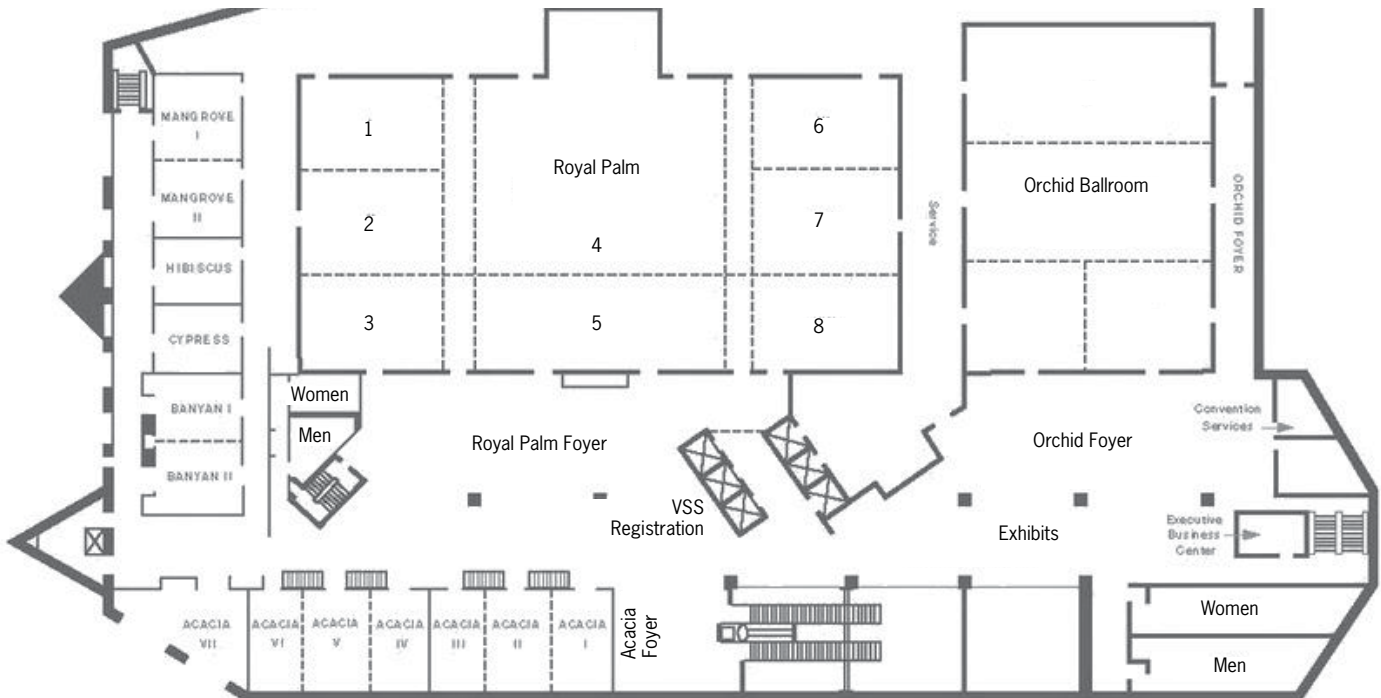
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Hotel Floorplan

Lobby Level (1st Floor)



Ballroom Level (2nd Floor)





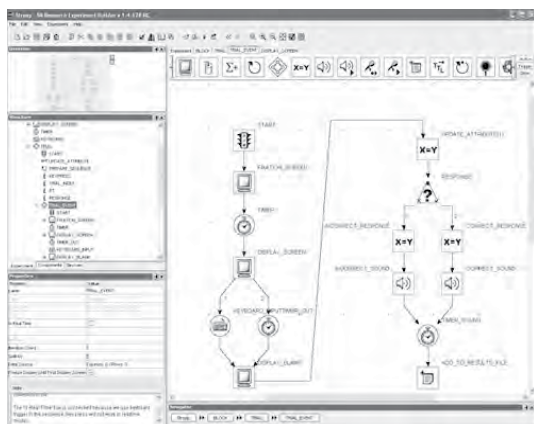
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- Functionally identical across lab and MRI/MEG

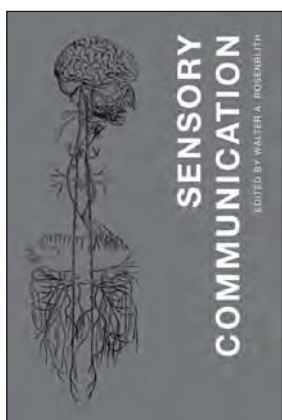
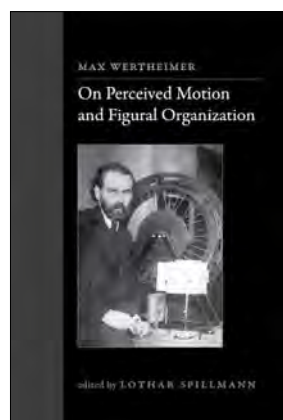
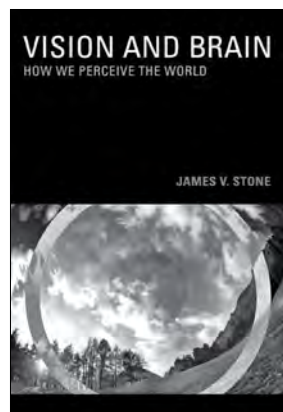
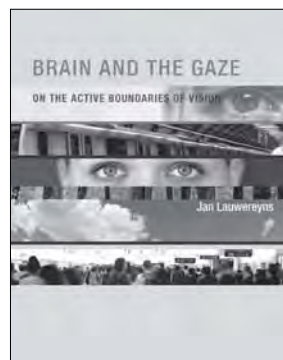
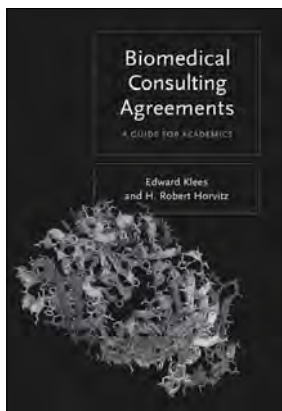
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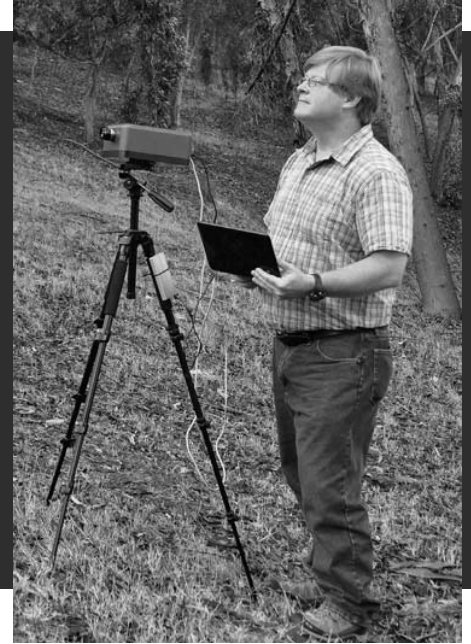


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