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BOARD OF DIRECTORS

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(year) denotes end of term

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2016 – 2017
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2015 – 2016
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2014 – 2015
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2013 – 2014
Karl Gegenfurtner
2012 – 2013
Marisa Carrasco
2011 – 2012
Pascal Mamassian
2010 – 2011

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Tony Movshan
2009 – 2010
Wilson (Bill) Geisler
2008 – 2009
Steve Shevell
2007 – 2008
Tatiana Pasternak
2005 – 2007
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2015 – 2018
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Norma Graham
2014 – 2017
Anthony Norcia
2013 – 2017
Frank Tong
2013 – 2016
Mary Hayhoe
2012 – 2016
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2011 – 2015
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Miguel Eckstein
2011 – 2014
Barbara Dosher
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Karl Gegenfurtner
2010 – 2014
Marisa Carrasco
2009 – 2013
Zoe Kourtzi
2009 – 2012
Pascal Mamassian
2008 – 2012
Tony Movshan
2008 – 2011
Wilson (Bill) Geisler
2007 – 2010
Allison Sekuler
2006 – 2009
Mary Peterson
2006 – 2009
Steve Shevell
2006 – 2009
Marvin Chun
2005 – 2008
Tatiana Pasternak
2002 – 2008
David Knill
2002 – 2007
Mike Paradiso
2002 – 2007
Randolph Blake
2002 – 2006
Tom Sanocki
2001 – 2005
Ken Nakayama
2001 – 2005

Vision Sciences Society
Welcome to the 19th Annual Meeting of the Vision Sciences Society

The VSS Board of Directors, with the dynamic duo of Shauney Wilson and Shawna Lampkin, ably assisted by Jeff Wilson, have organized the meeting, showcasing the scope of VSS in nearly 1,400 presentations and 6 symposia. You can enjoy 12 satellite sessions to get technical advice on various topics and network through various social events.

Beginning Saturday, you can learn about new products and services from the dozen exhibitors promoted at VSS. We are grateful to VPixx Technologies for their ongoing sponsorship of the Keynote Lecture. We are also grateful to Facebook Reality Labs (formerly Oculus) for sponsoring Demo Night.

We thank Elsevier for their continued support of the Student Travel Awards and the Young Investigator Award.

Please join me in congratulating the diverse and talented Student Travel Award winners. FoVea supports VSS with the attendance of 6 students. For the first time, VSS has obtained funds from the National Eye Institute to provide travel grants to 34 post-doctoral and 24 early career scientists.

Several events have been organized for our students. On Saturday and Sunday are Student Workshops, one on peer-networking and the other on time management as a young researcher. Monday afternoon is the Undergrad Meet & Greet, offering students an opportunity to meet peers and talk with graduate students. This is followed by Meet the Professors, a chance to chat casually with faculty.

Tuesday afternoon, Connect with Industry provides an opportunity for you to interact with representatives of industry and government agencies to discuss opportunities for vision scientists in their organizations.

Each year, VSS welcomes many colleagues with young children. The Board is pleased this year to introduce a new high-quality childcare program offered by ACCENT on Children's Arrangements, Inc. We are anxious to learn how the parents and kids like this pilot program.

We regret that some of our colleagues cannot attend due to the policies of the current United States administration and please know that the Board has instituted more flexible policies about presentation and discussed holding the meeting outside the United States.

To engage in advocacy around this and other issues, VSS is now a member of the Federation of Associations in Behavioral & Brain Sciences (FABBS), a coalition of scientific societies advocating for policies and funding from the NIH and NSF. Our FABBS membership also offers an opportunity to recognize the achievements of more VSS members. For her insightful research on how the visual system creates a percept of a continuously stable world from an ever-changing stream of sensory input, Julie Golomb, from The Ohio State University, will receive the FABBS Early Career Impact Award.

The Public Lecture will appear at a new venue, the St. Petersburg Public Library, offering new opportunities to share iconic narratives about vision research. Peter Thompson, from the University of York, will deliver this year's Public Lecture: Visual Illusion in the Real World.

The 2019 Keynote Address will be delivered by William T. Freeman, the Thomas and Gerd Perkins Professor of Electrical Engineering and Computer Science, Massachusetts Institute of Technology and Google Research. He will describe his motion microscope that enables visualization of the invisible through detection and amplification of normally imperceptible fluctuations in movies.

The Ken Nakayama Medal for Excellence in Vision Science will be awarded to Concetta Morrone for her inter-disciplinary insights into how we segment visual scenes into functional objects, how vision interacts with the motor system, and how the brain reorganizes during development and disease. The Davida Teller Award will be presented to Barbara Dosher for her investigations of cue combination in visual perception, formulation of powerful tests and models of visual attention, and network models of visual perceptual learning. The Elsevier/VSS Young Investigator Award will go to Talia Konkle for showing that object recognition depends on the physical size of objects in the world and that long-term memory retrieval is driven by conceptual more than perceptual similarities. Please join us on Monday for the Awards Ceremony, which will include presentations from the three award recipients.

Finally, with fondness and respect we remember the colleagues and pioneers lost this year: Aaron Clarke, Robert Fox, Barrie Frost, Andrei Gorea, Andrea Li, Jacob Nachmias, Jan van Gisbergen, and Charlie Gross.

Whether this is your first VSS meeting or you are a regular attendee, the VSS Board wants to hear your suggestions for improving the meeting. Please join the conversation at the Business Meeting on Tuesday.

I look forward to seeing you at VSS,

Jeffrey D. Schall, Ph.D.
President, VSS Board of Directors, 2018-2019.
COMMITTEES, STAFF, AND SPONSORS

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Jeffrey Schall, Chair
Jan Atkinson
Mike Landy
Suzanne McKee
Ruth Rosenholtz
Laurie Wilcox

Ken Nakayama Award Committee
Jeffrey Schall, Chair
Jan Atkinson
Mike Landy
Suzanne McKee
Ruth Rosenholtz
Laurie Wilcox

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Rufin Vogels
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Sophie Wuerger
Yaffa Yeshurun
Galit Yovel
Cong Yu
Qasim Zaidi

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Barbara Dosher
Pascal Mamassian
Julie Harris
Julio Martinez

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Executive Director and Event Director
Shawna Lampkin
Event Manager
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Katia Seabra
Shawn Sherbondy
Renee Smith
Rochelle Smith

Opening Night Reception
Friday, May 17, 7:00 - 9:30 pm
Save Friday evening for the spectacular VSS Opening Night Reception! The reception will take place on the beach and beachside sundecks from 7:00 – 9:30 pm.

Don't forget your drink tickets, which can be found in the back of your badge. Your drink tickets are also good at Demo Night and Club Vision. Friends and family may accompany you with the purchase of a Friends and Family Pass. See the Registration Desk to purchase passes.

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

Wednesday, May 15

9:00 am – 6:00 pm  Computational and Mathematical Models in Vision (MODVIS) VSS Satellite  Horizons

Thursday, May 16

9:00 am – 6:00 pm  Computational and Mathematical Models in Vision (MODVIS) VSS Satellite  Horizons

Friday, May 17

7:30 am – 9:30 pm  VSS Social Lounge  VSS Quiet Lounge  Banyan/Citrus  Glades
8:30 – 9:30 am  Coffee Break  Garden Courtyard
8:30 – 11:45 am  Computational and Mathematical Models in Vision (MODVIS) VSS Satellite  Horizons
8:30 am – 6:00 pm  Registration Open  Grand Palm Colonnade
9:00 – 11:00 am  Improving the Precision Of Timing-Critical Research with Visual Displays VSS Satellite  Jasmine/Palm
11:00 – 11:45 am  Psychophysics Toolbox Forum VSS Satellite  Jasmine/Palm
11:30 am – 12:00 pm  Coffee Break  Garden Courtyard
11:30 am – 2:30 pm  Grab and Go Lunch (cash)  Garden Courtyard
12:00 – 2:00 pm  Symposium 1: Reading as a Visual Act: Recognition of Visual Letter Symbols in the Mind and Brain  Talk Room 1
12:00 – 2:00 pm  Symposium 2: Rhythms of the Brain, Rhythms of Perception  Talk Room 2
2:00 – 2:30 pm  Coffee Break  Garden Courtyard
2:30 – 4:30 pm  Symposium 3: What Can Be Inferred About Neural Population Codes from Psychophysical and Neuroimaging Data?  Talk Room 1
2:30 – 4:30 pm  Symposium 4: Visual Search: From Youth to Old Age, from the Lab to the World  Talk Room 2
4:30 – 5:00 pm  Coffee Break  Garden Courtyard
5:00 – 7:00 pm  Symposium 5: What Deafness Tells Us About the Nature of Vision  Talk Room 1
5:00 – 7:00 pm  Symposium 6: Prefrontal Cortex in Visual Perception and Recognition  Talk Room 2
7:00 – 9:30 pm  Opening Night Reception  Beachside Sun Decks

Saturday, May 18

7:30 am – 6:45 pm  Registration Open  Grand Palm Colonnade
7:30 am – 9:30 pm  VSS Social Lounge  VSS Quiet Lounge  Banyan/Citrus  Glades
7:45 – 8:30 am  Morning Coffee & Continental Breakfast  Garden Courtyard and Pavilion
8:15 – 9:45 am  Morning Talk Session 1: Eye Movements: Perception  Talk Room 1
8:15 – 9:45 am  Morning Talk Session 1: Spatial Vision: Crowding, eccentricity, natural image statistics, texture  Talk Room 2
8:30 am – 12:30 pm  Morning Poster Sessions  Banyan Breezeway and Pavilion
Meeting Schedule

9:00 am – 5:30 pm Exhibits Open Pavilion
9:45 – 10:30 am Coffee Break Garden Courtyard and Pavilion
10:45 am – 12:30 pm Morning Talk Session 2: 3D Perception Talk Room 1
10:45 am – 12:30 pm Morning Talk Session 2: Attention: Animacy, attentional blink Talk Room 2
11:30 am – 2:30 pm Grab and Go Lunch (cash) Garden Courtyard
12:30 – 2:30 pm Lunch Break (on your own)
12:45 – 1:45 pm Student/Postdoc Workshop: Peer-networking for Students and Postdocs Jasmine/Palm
12:45 – 1:45 pm VSS Workshop on Funding in the US Sabal/Sawgrass
2:30 – 4:15 pm Afternoon Talk Session 1: Perception and Action: Locomotion, wayfinding Talk Room 1
2:30 – 4:15 pm Afternoon Talk Session 1: Attention: Shifting, tracking Talk Room 2
2:45 – 6:45 pm Afternoon Poster Sessions Banyan Breezeway and Pavilion
4:15 – 5:00 pm Afternoon Coffee & Snack Garden Courtyard and Pavilion
5:15 – 6:45 pm Afternoon Talk Session 2: Faces: Neural mechanisms Talk Room 1
5:15 – 6:45 pm Afternoon Talk Session 2: Development Talk Room 2
7:15 – 8:15 pm Keynote Address: William T. Freeman Talk Room 1-2
8:30 – 10:30 pm Large-scale datasets in visual neuroscience VSS Satellite Jasmine/Palm

Sunday, May 19

7:30 am – 6:45 pm Registration Open Grand Palm Colonnade
7:30 am – 9:30 pm VSS Social Lounge Banyan/Citrus
VSS Quiet Lounge Glades
7:45 – 8:30 am Morning Coffee & Continental Breakfast Garden Courtyard and Pavilion
8:15 – 9:45 am Morning Talk Session 1: Shape, Motion, Color and Depth: Integration Talk Room 1
8:15 – 9:45 am Morning Talk Session 1: Visual Memory: Neural mechanisms Talk Room 2
8:30 am – 12:30 pm Morning Poster Sessions Banyan Breezeway and Pavilion
9:00 am – 5:30 pm Exhibits Open Pavilion
9:45 – 10:30 am Coffee Break Garden Courtyard and Pavilion
10:45 am – 12:30 pm Morning Talk Session 2: Faces: Dynamics, convolutional neural networks Talk Room 1
10:45 am – 12:30 pm Morning Talk Session 2: Perceptual Organization Talk Room 2
11:30 am – 2:30 pm Grab and Go Lunch (cash) Garden Courtyard
12:30 – 2:30 pm Lunch Break (on your own) Jasmine/Palm
12:45 – 1:45 pm Student & Postdoc Workshop: How to Spend Your Time Well as a Young Researcher
12:45 – 1:45 pm VSS Workshop on Funding Outside the US Sabal/Sawgrass
2:00 – 3:00 pm Public Lecture: Peter Thompson (offsite) St. Petersburg Main Library
2:30 – 4:15 pm Afternoon Talk Session 1: Objects and Scenes: Shape categorization, scene perception Talk Room 1
2:30 – 4:15 pm Afternoon Talk Session 1: Binocular Vision Talk Room 2
2:45 – 6:45 pm Afternoon Poster Sessions Banyan Breezeway and Pavilion
4:15 – 5:00 pm Afternoon Coffee & Snack Garden Courtyard and Pavilion

Vision Sciences Society
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:15 – 7:15 pm</td>
<td>Afternoon Talk Session 2: Visual Search: Models, neural mechanisms</td>
<td>Talk Room 1</td>
</tr>
<tr>
<td>5:15 – 7:15 pm</td>
<td>Afternoon Talk Session 2: Visual Memory: Working memory</td>
<td>Talk Room 2</td>
</tr>
<tr>
<td>7:30 – 9:00 pm</td>
<td>FoVea (Females of Vision et al) Workshop VSS Satellite</td>
<td>Horizons</td>
</tr>
</tbody>
</table>

**Monday, May 20**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>7:30 am – 12:30 pm</td>
<td>VSS Social Lounge VSS Quiet Lounge</td>
<td>Banyan/Citrus Glades</td>
</tr>
<tr>
<td>7:45 – 8:30 am</td>
<td>Morning Coffee &amp; Continental Breakfast</td>
<td>Garden Courtyard and Pavilion</td>
</tr>
<tr>
<td>7:45 am – 1:30 pm</td>
<td>Registration Open</td>
<td>Grand Palm Colonnade</td>
</tr>
<tr>
<td>8:15 – 9:45 am</td>
<td>Morning Talk Session 1: Attention: Models, neural mechanisms</td>
<td>Talk Room 1</td>
</tr>
<tr>
<td>8:15 – 9:45 am</td>
<td>Morning Talk Session 1: Object Recognition: Models, neural mechanisms</td>
<td>Talk Room 2</td>
</tr>
<tr>
<td>8:30 am – 12:30 pm</td>
<td>Morning Poster Sessions</td>
<td>Banyan Breezeway and Pavilion</td>
</tr>
<tr>
<td>9:00 am – 12:30 pm</td>
<td>Exhibits Open</td>
<td>Pavilion</td>
</tr>
<tr>
<td>9:45 – 10:30 am</td>
<td>Coffee Break</td>
<td>Garden Courtyard and Pavilion</td>
</tr>
<tr>
<td>10:45 am – 12:15 pm</td>
<td>Morning Talk Session 2: Object Recognition:</td>
<td>Talk Room 1</td>
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<tr>
<td>10:45 am – 12:15 pm</td>
<td>Reading, domain-specific expertise</td>
<td>Talk Room 2</td>
</tr>
<tr>
<td>11:30 am – 2:30 pm</td>
<td>Grab and Go Lunch (cash)</td>
<td>Grand Palm Colonnade</td>
</tr>
<tr>
<td>12:30 – 1:45 pm</td>
<td>VSS Awards Session: Young Investigator Award, Davida Teller Award, Ken Nakayama Medal, Student Travel Awards, National Eye Institute Travel Grants, FABBS Early Career Impact Award</td>
<td>Talk Room 1-2</td>
</tr>
<tr>
<td>1:45 – 6:00 pm</td>
<td>Open Afternoon</td>
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<tr>
<td>2:00 – 3:30 pm</td>
<td>Aesthetics Social VSS Satellite</td>
<td>Sabal/Sawgrass</td>
</tr>
<tr>
<td>2:00 – 4:00 pm</td>
<td>A hands-on crash course in reproducible mixed-effects modeling VSS Satellite</td>
<td>Glades</td>
</tr>
<tr>
<td>2:00 – 4:00 pm</td>
<td>WorldViz VR/AR Workshop: Virtual Reality Displays</td>
<td>Jasmine/Palm</td>
</tr>
<tr>
<td>2:00 – 4:00 pm</td>
<td>VISxVISION Workshop: Novel Vision Science Research Directions in Visualization VSS Satellite</td>
<td>Royal Tern</td>
</tr>
<tr>
<td>3:30 – 4:30 pm</td>
<td>Undergrad Meet &amp; Greet</td>
<td>Banyan/Citrus</td>
</tr>
<tr>
<td>4:30 – 5:45 pm</td>
<td>Meet the Professors</td>
<td>Banyan Breezeway</td>
</tr>
<tr>
<td>6:00 – 8:00 pm</td>
<td>Demo Night Beach BBQ</td>
<td>Beachside Sun Decks, Banyan Breezeway (limited seating)</td>
</tr>
<tr>
<td>7:00 – 10:00 pm</td>
<td>Demo Night Demos</td>
<td>Talk Room 1-2, Jacaranda Hall, Royal Tern, Snowy Egret, Spotted Curlew</td>
</tr>
</tbody>
</table>

**Tuesday, May 21**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am – 9:30 pm</td>
<td>VSS Social Lounge VSS Quiet Lounge</td>
<td>Banyan/Citrus Glades</td>
</tr>
<tr>
<td>7:45 – 8:30 am</td>
<td>Morning Coffee &amp; Continental Breakfast</td>
<td>Garden Courtyard and Pavilion</td>
</tr>
<tr>
<td>7:45 am – 6:45 pm</td>
<td>Registration Open</td>
<td>Grand Palm Colonnade</td>
</tr>
<tr>
<td>8:15 – 9:45 am</td>
<td>Morning Talk Session 1: Object Recognition: Convolutional neural networks</td>
<td>Talk Room 1</td>
</tr>
</tbody>
</table>

**Vision Sciences Society**
8:15 – 9:45 am  
Morning Talk Session 1: Temporal Processing

8:30 am – 12:30 pm  
Morning Poster Sessions

9:00 am - 5:30 pm  
Exhibits Open

9:45 – 10:30 am  
Coffee Break

10:45 am – 12:30 pm  
Morning Talk Session 2: Spatial Vision: Models, neural mechanisms

10:45 am – 12:30 pm  
Morning Talk Session 2: Attention: Cues, context

11:30 am – 2:30 pm  
Grab and Go Lunch (cash)

12:30 – 1:00 pm  
VSS Business Meeting

12:30 – 2:30 pm  
Canadian Vision Social VSS Satellite

1:00 – 2:30 pm  
Connect with Industry

1:00 – 2:30 pm  
Lunch Break (on your own)

1:00 – 2:30 pm  
VSS Committees Lunch By Invitation Only

2:30 – 4:15 pm  
Afternoon Talk Session 1: Objects and Scenes: Cortical category selectivity

2:30 – 4:15 pm  
Afternoon Talk Session 1: Color and Light

2:45 – 6:45 pm  
Afternoon Poster Sessions

4:15 – 5:00 pm  
Afternoon Coffee & Snack

5:15 – 7:15 pm  
Afternoon Talk Session 1: Eye Movements: Models, neural mechanisms

5:15 – 7:15 pm  
Afternoon Talk Session 2: Visual Search: Space, time

8:30 – 10:00 pm  
Visibility: A Gathering of LGBTQ+ Vision Scientists and friends VSS Satellite

10:00 pm – 2:00 am  
Club Vision

**Wednesday, May 22**

7:30 am – 12:45 pm  
VSS Social Lounge

7:45 – 8:30 am  
Morning Coffee & Continental Breakfast

7:45 am – 12:45 pm  
Registration Open

8:15 – 10:00 am  
Morning Talk Session 1: Perception and Action: Decision making, neural mechanisms

8:15 – 10:00 am  
Morning Talk Session 1: Visual Memory: Long term memory

8:30 am – 12:30 pm  
Morning Poster Sessions

10:00 – 10:45 am  
Coffee Break

11:00 am – 12:45 pm  
Morning Talk Session 2: Perceptual Learning

11:00 am – 12:45 pm  
Morning Talk Session 2: Motion Perception

1:00 – 3:00 pm  
MacGyver-ing in vision science: interfacing systems that are not supposed to work together VSS Satellite
William T. Freeman
Thomas and Gerd Perkins Professor of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Google Research

William T. Freeman is the Thomas and Gerd Perkins Professor of Electrical Engineering and Computer Science at MIT, and a member of the Computer Science and Artificial Intelligence Laboratory (CSAIL) there. He was the Associate Department Head from 2011 – 2014.

Dr. Freeman’s current research interests include machine learning applied to computer vision, Bayesian models of visual perception, and computational photography. He received outstanding paper awards at computer vision or machine learning conferences in 1997, 2006, 2009 and 2012, and test-of-time awards for papers from 1990, 1995 and 2005. Previous research topics include steerable filters and pyramids, orientation histograms, the generic viewpoint assumption, color constancy, computer vision for computer games, and belief propagation in networks with loops.

He is active in the program or organizing committees of computer vision, graphics, and machine learning conferences. He was the program co-chair for ICCV 2005, and for CVPR 2013.

Visualizations of imperceptible visual signals
Saturday, May 18, 2019, 7:15 pm, Talk Room 1-2

Using an image representation modeled after features of V1, we have developed a “motion microscope” that rerenders a video with the small motions amplified. I’ll show motion magnified videos of singers, dancers, bridges, robots, and pipes, revealing properties that are otherwise hidden. Small photometric changes can also be measured and amplified. This can reveal the human pulse on skin, or people moving in an adjacent room.

Unseen intensity changes also occur when an occluder modulates light from a scene, creating an “accidental camera”. I’ll describe the invisible signals caused by corners and plants, and show how they can reveal imagery that is otherwise out of view.

I’ll close by describing my white whale, the Earth selfie. This is an effort to photograph the Earth from space with ground-based equipment by using the Moon as a camera. I’ll explain why this project matters, and will summarize recent progress.

Keynote Address is sponsored by VPixx Technologies, Inc.
### Monday, May 20

- **7:00 am**: Continental Breakfast
- **8:00 am**: Attention: Models, neural mechanisms
- **9:00 am**: Object Recognition: Models, neural mechanisms
- **10:00 am**: Coffee Break
- **11:00 am**: Multisensory Processing
- **12:00 pm**: VSS Awards
- **1:00 pm**: Object Recognition: Reading, domain-specific expertise
- **2:00 pm**: Social and Quiet Lounges Open
- **3:00 pm**: Eye Movements: Models, neural mechanisms
- **4:00 pm**: Objects and Scenes: Cortical category selectivity
- **5:00 pm**: Social and Quiet Lounges Open
- **6:00 pm**: Aesthetics Social
- **7:00 pm**: Meet the Professors
- **8:00 pm**: Afternoon Off
- **9:00 pm**: Demo Night Beach BBQ
- **10:00 pm**: Demo Night Demos

### Tuesday, May 21

- **7:00 am**: Continental Breakfast
- **8:00 am**: Object Recognition: Convolutional neural networks
- **9:00 am**: Temporal Processing
- **10:00 am**: Coffee Break
- **11:00 am**: Multisensory Processing
- **12:00 pm**: Spatial Models, neural mechanisms
- **1:00 pm**: Connect with Industry
- **2:00 pm**: Committees Lunch
- **3:00 pm**: Visual Search: Space, time
- **4:00 pm**: Color and Light
- **5:00 pm**: Coffee Break
- **6:00 pm**: Social and Quiet Lounges Open
- **7:00 pm**: MacGyver-ing in vision science: interfacing systems that are not supposed to work together
- **8:00 pm**: VSS Satellite
- **9:00 pm**: VSS Satellite
- **10:00 pm**: VSS Satellite

### Wednesday, May 22

- **7:00 am**: Continental Breakfast
- **8:00 am**: Attention: Cues, context
- **9:00 am**: Business Meeting
- **10:00 am**: Motion Perception
- **11:00 am**: Canadian Vision Social VSS Satellite
- **12:00 pm**: Social and Quiet Lounges Open
- **1:00 pm**: Visual Memory: Long term memory
- **2:00 pm**: Motion Perception
- **3:00 pm**: Color and Light
- **4:00 pm**: Social and Quiet Lounges Open
- **5:00 pm**: Social and Quiet Lounges Open
- **6:00 pm**: Social and Quiet Lounges Open
- **7:00 pm**: Social and Quiet Lounges Open
- **8:00 pm**: Social and Quiet Lounges Open
- **9:00 pm**: Social and Quiet Lounges Open
- **10:00 pm**: Social and Quiet Lounges Open

### Special Events

- **10:00 pm - 2:00 am**: VSS Satellite
- **10:00 pm - 2:00 am**: Club Vision Dance Party
Congratulations to this year’s winners of the annual graphics competition, Allison Bruning and Cristina R. Ceja. Each year VSS hold a graphics competition seeking interesting visual images to be used for the annual meeting. There are two graphics competitions: a T-Shirt Design Competition and a Program Cover Competition, each with a cash award for the winner.

Program Cover
Allison Bruning
University of Texas at Austin
This design is the fruition of what I believe to be one of the most beautiful processes in visual perception: the transduction of light into neural responses. It is a simple design, drawing focus to the journey of light from the environment, through the optics of the eye, to the output of the optic nerve. The visual system is a wonder in itself and it is a privilege to study this phenomenon that is perception.

T-Shirt Design
Cristina R. Ceja
Northwestern University, Department of Psychology
This design uses perceptual grouping to overlay fun, yet simple shapes in a visually appealing display. This display is comprised of small individual shapes, but our visual system has the capability to group similar shapes and colors together to perceive larger and more complex shapes. If you selectively attend to red or squares, you will easily read “VSS”. If attending instead to blue or circles, “2019” snaps into focus.

SPONSORS
VSS thanks our 2019 sponsors for their generous support.
## Talk Schedule

### Saturday, May 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk Room 1</th>
<th>Talk Room 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 – 9:45 am</td>
<td>Eye Movements: Perception</td>
<td>Spatial Vision: Crowding, eccentricity, natural image statistics, texture</td>
</tr>
<tr>
<td>10:45 am – 12:30 pm</td>
<td>3D Perception</td>
<td>Attention: Animacy, attentional blink</td>
</tr>
<tr>
<td>2:30 – 4:15 pm</td>
<td>Perception and Action: Locomotion, wayfinding</td>
<td>Attention: Shifting, tracking</td>
</tr>
<tr>
<td>5:15 – 6:45 pm</td>
<td>Faces: Neural mechanisms</td>
<td>Development</td>
</tr>
</tbody>
</table>

### Sunday, May 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk Room 1</th>
<th>Talk Room 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 – 9:45 am</td>
<td>Shape, Motion, Color and Depth: Integration</td>
<td>Visual Memory: Neural mechanisms</td>
</tr>
<tr>
<td>10:45 am – 12:30 pm</td>
<td>Faces: Dynamics, convolutional neural networks</td>
<td>Perceptual Organization</td>
</tr>
<tr>
<td>2:30 – 4:15 pm</td>
<td>Objects and Scenes: Shape categorization, scene perception</td>
<td>Binocular Vision</td>
</tr>
</tbody>
</table>

### Monday, May 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk Room 1</th>
<th>Talk Room 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 – 9:45 am</td>
<td>Attention: Models, neural mechanisms</td>
<td>Object Recognition: Models, neural mechanisms</td>
</tr>
<tr>
<td>10:45 am – 12:15 pm</td>
<td>Object Recognition: Reading, domain-specific expertise</td>
<td>Multisensory Processing</td>
</tr>
</tbody>
</table>

### Tuesday, May 21

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk Room 1</th>
<th>Talk Room 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 – 9:45 am</td>
<td>Object Recognition: Convolutional neural networks</td>
<td>Temporal Processing</td>
</tr>
<tr>
<td>10:45 am – 12:30 pm</td>
<td>Spatial Vision: Models, neural mechanisms</td>
<td>Attention: Cues, context</td>
</tr>
<tr>
<td>2:30 – 4:15 pm</td>
<td>Objects and Scenes: Cortical category selectivity</td>
<td>Color and Light</td>
</tr>
<tr>
<td>5:15 – 7:15 pm</td>
<td>Eye Movements: Models, neural mechanisms</td>
<td>Visual Search: Space, time</td>
</tr>
</tbody>
</table>

### Wednesday, May 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk Room 1</th>
<th>Talk Room 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 – 10:00 am</td>
<td>Perception and Action: Decision making, neural mechanisms</td>
<td>Visual Memory: Long term memory</td>
</tr>
<tr>
<td>11:00 am – 12:45 pm</td>
<td>Perceptual Learning</td>
<td>Motion Perception</td>
</tr>
</tbody>
</table>

### Speaker Information

Please arrive at the Talk Room no less than 30 minutes before the start of your session. Presenters are welcome to test their presentations between talk sessions. Please give priority to presenters whose talk is scheduled for the subsequent session.

The meeting rooms are equipped with a data/video projector and a projection screen. Presentations can be made from your Mac or PC laptop. A technician will be present in each room to handle any technical problems that may arise.
POSTER SCHEDULE

Saturday Morning, May 18

Banyan Breezeway
- Multisensory Processing: Auditory 1
- Faces: Disorders
- Perceptual Learning: Models, applications
- Object Recognition: Features, parts, reading

Pavilion
- Perceptual Organization: Figure ground, models, neural mechanisms
- Visual Memory: Encoding, retrieval
- Spatial Vision: Neural mechanisms
- Attention: Features and objects 1
- Temporal Processing: Mechanisms

Saturday Afternoon, May 18

Banyan Breezeway
- Object Recognition: Categories, models, neural mechanisms
- Binocular Vision: Rivalry, suppression
- Spatial Vision: Crowding, eccentricity
- Color and Light: Psychophysics, neural mechanisms

Pavilion
- Visual Memory: Working memory, individual differences
- Visual Memory: Contents, capacity
- Spatial Vision: Models
- Visual Memory: Models, mechanisms
- Eye Movements: Saccades
- Methods: Theory, experiment, software

Sunday Morning, May 19

Banyan Breezeway
- Perceptual Organization and Scene Perception: Art, aesthetics, image preference
- Attention: Selective
- Attention: Divided
- Attention
- Perception and Action: Reaching and grasping

Pavilion
- Object Recognition: Neural mechanisms
- Development: Lifespan, neural mechanisms
- Spatial Vision: Low-level coding, natural image statistics
- Eye Movements: Cognition

Sunday Afternoon, May 19

Banyan Breezeway
- Faces: Experience, expertise
- Attention: Capture
- Perception and Action: Decision making, neural mechanisms
- Eye Movements: Perception
- Eye Movements: Natural and less natural scenes
- Perceptual Organization: Grouping

Pavilion
- Faces: Social and cultural factors
- Development: Atypical
- Scene Perception: Places, spatial structure, navigation, affordances
- Temporal Processing: Duration
- Motion: Models, neural mechanisms
Monday Morning, May 20

Banyan Breezeway
- 3D Perception: Models, mechanisms
- Perception and Action: Walking, driving, navigating
- Faces: Expressions, speech
- Perceptual Learning: adaptation, neural mechanisms
- Scene Perception: Cortical coding, neural mechanisms, neural networks
- Motion: Biological

Pavilion
- Perceptual Organization: Ensemble coding, summary statistics
- 3D Perception: Shape
- Visual Memory: Objects, features
- Visual Memory: Neural mechanisms 1
- Temporal Processing: Timing

Tuesday Morning, May 21

Banyan Breezeway
- Faces: Gaze
- Perception and Action: Arm movements
- Perception and Action: Affordances
- Binocular Vision: Surfaces
- Scene Perception: Sets, gist, rapid categorization, temporal dynamics
- Faces: Wholes, parts, features
- Visual Memory: Long term memory

Pavilion
- Visual search: Dynamic fields, individual differences
- Motion: Motion in depth, optic flow
- Eye Movements: Transsaccadic vision
- Perceptual Organization: Shapes, objects, contours, surfaces
- Color and Light: Surfaces, materials
- Visual Memory: Neural mechanisms 2

Tuesday Afternoon, May 21

Banyan Breezeway
- Faces: Models, neural mechanisms
- Binocular Vision: Stereopsis
- Attention: Cues, individual differences, inattentional blindness
- Attention: Features and objects 2
- Attention: Neural mechanisms 1

Pavilion
- Multisensory Processing: Auditory 2
- Perception and Action: Models, neural mechanisms
- Attention: Shifting, tracking
- Attention: Reward
- Motion: Local, higher order

Wednesday Morning, May 22

Banyan Breezeway
- Color and Light: Adaptation, constancy, cognition, models
- Multisensory Processing: Tactile, vestibular
- Eye Movements: Pursuit, vergence
- Eye Movements: Models, neural mechanisms

Pavilion
- Visual Search: Eye movements, features, scenes
- Visual Memory: Attention, cues, search
- Visual Search: Attention, memory, cues, windows
- Visual search: Models, neural mechanisms
- Attention: Neural mechanisms 2

Abstract Numbering System

Each abstract is assigned a unique 4 or 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).

<table>
<thead>
<tr>
<th>First Digit - Day</th>
<th>Second Digit - Time</th>
<th>Third Digit - Room</th>
<th>Fourth-Sixth Digits - Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Saturday</td>
<td>1 Early AM talk session</td>
<td>1 Talk Room 1</td>
<td>1, 2, 3... For talks</td>
</tr>
<tr>
<td>3 Sunday</td>
<td>2 Late AM talk session</td>
<td>2 Talk Room 2</td>
<td>01, 02... For posters</td>
</tr>
<tr>
<td>4 Monday</td>
<td>3 AM poster session</td>
<td>3 Banyan Breezeway</td>
<td>4 Pavilion</td>
</tr>
<tr>
<td>5 Tuesday</td>
<td>4 Early PM talk session</td>
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<tr>
<td>6 Wednesday</td>
<td>5 Late PM talk session</td>
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<tr>
<td></td>
<td>6 PM poster session</td>
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</tr>
</tbody>
</table>

Examples
- 2116 Saturday, early AM talk in Talk Room 1, 6th talk
- 36.313 Sunday, PM poster in Banyan Breezeway, poster board 13
- 53.496 Tuesday, AM poster in the Pavilion, poster board 96

Note: Two digits after the period indicates a talk, three digits indicates a poster (the last two digits are the board number).
KEN NAKAYAMA MEDAL FOR EXCELLENCE IN VISION SCIENCE

The Vision Sciences Society is honored to present Concetta Morrone with the 2019 Ken Nakayama Medal for Excellence in Vision Science.

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

The winner of the Ken Nakayama Medal receives this honor for high-impact work that has made a lasting contribution in vision science in the broadest sense. The nature of this work can be fundamental, clinical or applied.

Dr. Morrone will talk during the Awards Session on Monday, May 20, 2019, 12:30 – 1:45 pm, Talk Room 1-2.

Concetta Morrone

Professor of Physiology, Department of Translational Research on New Technologies in Medicine and Surgery, University of Pisa

Concetta Morrone graduated with a degree in Physics from the University of Pisa in 1977 and trained in Biophysics at the elite Scuola Normale Superiore from 1973 to 1980. Following research positions at the University of Western Australia, the Scuola Normale Superiore and the CNR Institute of Neuroscience in Pisa, she was appointed Professor of Psycho-physiology in the Faculty of Psychology at the Università Vita-salute San Raffaele (Milan) in 2000. Since 2008, she has been a Professor of Physiology in the School of Medicine of the University of Pisa. In 2014 Concetta was elected a member of the Accademia dei Lincei, the Italian equivalent of the National Academy of Sciences or the Royal Society of London. In 2014 she was awarded an ERC-IDEA advanced grant, a distinction of excellence in Europe.

The brain architecture underlying our incredibly powerful and versatile visual system is best unravelled using multiple parallel approaches, including development, computational modelling, psychophysics, functional imaging and electrophysiology, in a truly interdisciplinary manner. This is the approach Concetta Morrone has adopted to understand how we segment visual scenes into functional objects, how the visual brain dynamically interacts with the motor system in crucial moments, such as eye-, head- and body-movements, how the brain plasticly reorganizes itself for optimal visual processing during development and neuronal diseases. Concetta, in close collaboration with David Burr, has contributed to all these fundamental questions, introducing new concepts and verifying them quantitatively. There are various examples of this approach, including the reorganization of spatio-temporal receptive fields to retune the retinotopy of associative cortex on each saccade to mediate perceptual stability; the reorganization and change of specialization of associative cortex when primary visual pathways are damaged in hemianopia or blind-sight; the dynamic selection of salient spatial features by the Local Energy Model; and how the developing brain controls and calibrates dynamic reorganization and its residual capability in adulthood.
The Vision Sciences Society is honored to present Talia Konkle with the 2019 Young Investigator Award. The Young Investigator Award is an award given to an early stage researcher who has already made a significant contribution to our field. The award is sponsored by Elsevier, and the awardee is invited to submit a review paper to Vision Research highlighting this contribution.

Dr. Konkle will give a brief talk during the Awards Session on Monday, May 20, 2019, 12:30 – 1:45 pm, Talk Room 1-2.

Talia Konkle
Assistant Professor Department of Psychology, Harvard University

Talia Konkle earned Bachelor degrees in applied mathematics and in cognitive science at the University of California, Berkeley. Under the direction of Aude Oliva, she earned a PhD in Brain & Cognitive Science at MIT in 2011. Following exceptionally productive years as a postdoctoral fellow in the Department of Psychology at Harvard and at the University of Trento, in 2015, Dr. Konkle assumed a faculty position in the Department of Psychology & Center for Brain Science at Harvard.

Dr. Konkle’s research to understand how our visual system organizes knowledge of objects, actions, and scenes combines elegant behavioral methods with modern analysis of brain activity and cutting-edge computational theories. Enabled by sheer originality and analytical rigor, she creates and crosses bridges between previously unrelated ideas and paradigms, producing highly cited publications in top journals. One line of research demonstrated that object processing mechanisms relate to the physical size of objects in the world. Pioneering research on massive visual memory, Dr. Konkle also showed that detailed visual long-term memory retrieval is linked more to conceptual than perceptual properties.

Dr. Konkle’s productive laboratory is a vibrant training environment, attracting many graduate students and postdoctoral fellows. Dr. Konkle has also been actively involved in outreach activities devoted to promoting women and minorities in science.

From what things look like to what they are
How do we see and recognize the world around us, and how do our brains organize all of this perceptual input? In this talk I will highlight some of the current research being conducted in my lab, exploring the representation of objects, actions, and scenes in the mind and brain.

VSS@ARVO 2019
Vision After Sight Restoration
Monday, April 29, 1:15 – 2:45 pm at ARVO 2019, Vancouver, Canada
Organizers: Lynne Kiorpes, Ulrike Grunert and David Brainard
Speakers: Holly Bridge, Krystel Huxlin, Sharon Gilad-Gutnick and Geoff Boynton
Visual deprivation during development can have a profound effect on adult visual function, with congenital or early acquired blindness representing one extreme regarding the degree of deprivation and adult sight loss representing another. As better treatments for blindness become available, a critical question concerns the nature of vision after the restoration of sight and the level of remaining visual system plasticity. This symposium will highlight recent progress in this area, as well as how vision therapy can best be deployed to optimize the quality of post-restoration vision. This is the biennial VSS@ARVO symposium, featuring speakers from the Vision Sciences Society.
DAVIDA TELLER AWARD

The Vision Sciences Society is honored to present Dr. Barbara Dosher with the 2019 Davida Teller Award.

VSS established the Davida Teller Award in 2013. Davida was an exceptional scientist, mentor and colleague, who for many years led the field of visual development. The award is therefore given to an outstanding female vision scientist in recognition of her exceptional, lasting contributions to the field of vision science.

Dr. Dosher will speak about her work during the Awards Session on Monday, May 20, 2019, 12:30 – 1:45 pm, Talk Room 1-2.

Barbara Dosher
Distinguished Professor, University of California, Irvine

Barbara Dosher is a researcher in the areas of visual attention and learning. She received her PhD in 1977 from the University of Oregon and served on the faculty at Columbia University (1977 – 1992) and the University of California, Irvine (1992 – present). Her early career investigated temporal properties of retrieval from long-term and working memory, and priming using pioneering speed-accuracy tradeoff methods. She then transitioned to work largely in vision, bringing some of the concepts of cue combination in memory to initiate work on combining cues in visual perception. This was followed by work to develop observer models using external noise methods that went on to be the basis for proposing that changing templates, stimulus amplification, and noise filtering were the primary functions of attention. This and similar work then constrained and motivated new generative network models of visual perceptual learning that have been used to understand the roles of feedback in unsupervised and supervised learning, the induction of bias in perception, and the central contributions of reweighting evidence to a decision in visual learning.

Barbara Dosher is an elected member of the Society for Experimental Psychologists and the National Academy of Sciences, and is a recipient of the Howard Crosby Warren Medal (2013) and the Atkinson Prize (2018).

Learning and Attention in Visual Perception

Visual perception functions in the context of a dynamic system that is affected by experience and by top-down goals and strategies. Both learning and attention can improve perception that is limited by the noisiness of internal visual processes and noise in the environment. This brief talk will illustrate several examples of how learning and attention can improve how well we see by amplifying relevant stimuli while filtering others—and how important it is to model the coding or transformation of early features in the development of truly generative quantitative models of perceptual performance.

FABBS Early Career Impact Award

Congratulations to Julie Golomb, the VSS nominee and recipient of the 2019 Federation of Associations in Behavioral & Brain Sciences (FABBS) Early Career Impact Award.

The FABBS Early Career Impact Award honors early career scientists of FABBS member societies during the first 10 years post-PhD and recognizes scientists who have made major contributions to the sciences of mind, brain, and behavior. The goal is to enhance public visibility of these sciences and the particular research through the dissemination efforts of the FABBS in collaboration with the member societies and award winners.

Julie Golomb
Associate Professor, Ohio State University

Julie Golomb earned her bachelor’s degree in neuroscience from Brandeis University and her doctorate from Yale University. She completed post-doctoral research at MIT before joining the faculty at Ohio State in 2012 and receiving tenure in 2018. Her lab’s research is funded by grants from the National Institutes of Health, the Alfred P. Sloan Foundation, and the Ohio Supercomputer Center. For more information about Dr. Golomb, see the FABBS website at www.fabbs.org.
Peter Thompson  
University of York, UK  

In 1990 he was awarded a Senior Research Associateship from the U.S National Research Council to work at NASA-Ames Research Center, Moffett Field, CA.

As well as publishing widely on a variety of topics, he has acted as a managing editor of the journal Perception for over 20 years and for i-Perception since its beginning. His textbook, Basic Vision, (written with Tom Troscianko and Bob Snowden) remains a best seller.

In 2006 he was awarded a Vice-Chancellor’s teaching Award from the University of York and a National Teaching Fellowship from the English National Education Academy. In 2006 he received the British Psychological Society’s Award for Excellence in Psychology Education.

Among many outside interests, Peter enjoys cycling and in 1999 he won a Millennium Fellowship from the Royal Society and the British Association for the Advancement of Science which enabled him to create a scale model of our solar system along a 10km cycle track near York.

Peter has attended every meeting of the Vision Sciences Society since its inception.

Visual Illusion in the Real World  
Sunday, May 19, 2:00 pm, St. Petersburg Main Library, St. Petersburg, Florida  

Visual illusions have long perplexed vision scientists and delighted the general public for many years. Most of these illusions are artificially created in the laboratory and while the underlying visual processes that give rise to some illusions are well-understood by scientists, many challenge our existing theories. However visual illusions are not the exclusive reserve of lab-based scientists, indeed we can encounter many of these effects in our everyday lives. This talk will illustrate some of the occasions where what our eyes see conflicts with what we know to be true, even in the ‘real’ world.

Attending the Public Lecture  
Admission to the Public Lecture is free. The lecture will be held on Sunday, May 19 at 2:00 pm at the St. Petersburg Main Library, 3745 9th Avenue, N. St. Petersburg, FL 33713. The library is a seven mile drive from the TradeWinds Island Grand Resort (see directions).

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

Congratulations to this year’s recipients of the National Eye Institute Travel Grants.

Early Career Scientist Travel Grants

Brian Anderson
Texas A&M University

Nancy Carlisle
Lehigh University

Daniel R. Coates
University of Houston

Emily Cooper
University of California, Berkeley

Yasmine El-Shamayleh
Columbia University

Nicholas Gaspelin
Binghamton University

Sharon Gilad-Gutnick
Massachusetts Institute of Technology

Jason Haberman
Rhodes College

Andrew Haun
University of Wisconsin - Madison

Biyu He
New York University

Melissa Kibbe
Boston University

Julie Markant
Tulane University

Ashleigh Maxcay
Ohio State University

Vincent McGinty
Rutgers University - Newark

Abigail Noyce
Boston University

David Osher
The Ohio State University

Megan Peters
University of California, Riverside

Dobromir Rahnev
Georgia Institute of Technology

Karen Schloss
University of Wisconsin – Madison

Viola Stoermer
University of California, San Diego

Caglar A Tas
University of Tennessee - Knoxville

Brandon Thomas
University of Wisconsin - Whitewater

Rachel Wu
University of California, Riverside

Bei Xiao
American University

Postdoctoral Travel Grants

Kirsten Adam
University of California, San Diego

Stephen Adamo
University of Central Florida

Concetta Alberti
Northeastern University

Reem Alzahabi
Tufts University

Eleonora Bartoli
Baylor College of Medicine

Shlomit Ben-Ami
Massachusetts Institute of Technology

Tashauna Blankenship
Boston University

Andrew Coia
University of Chicago

Patrick Cox
The George Washington University

Rachel Denison
New York University

Kacie Dougherty
Vanderbilt University

Amirhossein Ghaderi
York University

Saeideh Ghahghaei
The Smith-Kettlewell Eye Research Institute

Alon Hafri
Johns Hopkins University

Taylor Hayes
University of California, Davis

Shipra Kanjlia
Johns Hopkins University

Ramisha Knight
University of Illinois at Urbana-Champaign

Brian Maniscalco
University of California, Riverside

J. Patrick Mayo
Duke University

Everett Mettler
University of California at Los Angeles

Dina Popovkina
University of Washington

Ramanujan Raghavan
New York University

Arryn Robbins
Carthage College

Zvi Roth
National Institute of Mental Health, NIH

Reshanne Ruhnau
Otto-von-Guericke University

Noelle Stiles
University of Southern California

David Sutterer
Vanderbilt University

Katherine EM Tregillus
University of Minnesota

Stefan Uddenberg
Princeton University

Alex White
University of Washington

John Wilder
University of Toronto

Bo Yeong Won
University of California, Davis

Jacob Yates
University of Rochester

Jennifer Yoon
New York University
Congratulations to this year’s recipients of the Elsevier/Vision Research Travel Awards.

Bianca Baltaretu  
York University and NSERC  
Brain-in-Action Program  
Advisor: J. Douglas Crawford

Samson Chota  
Université de Toulouse Paul Sabatier  
Advisor: Rufin VanRullen

Clara Colombatto  
Yale University  
Advisors: Brian Scholl

Cameron Ellis  
Yale University  
Advisor: Nicholas B. Turk-Browne

Jasper Hajonides  
van der Meulen  
University of Oxford  
Advisor: Kia Nobre and Mark Stokes

Rakesh Nanjappa  
SUNY College of Optometry  
Advisor: Robert M. McPeek

Stella Qian  
Michigan State University  
Advisors: Yaoda Xu

JohnMark Taylor  
Harvard University  
Advisors: Jonathan Marotta

Matsya Thulasiram  
University of Manitoba  
Advisor: Gemma Roig

Jiaxuan Zhang  
Columbia University  
Advisor: Benjamin Tamber-Rosenau

Chaipat Chunharas  
University of California, San Diego and Chulalongkorn University, Thailand  
Advisor: Timothy F. Brady

Aimee Dollman  
University of Capetown  
Advisor: Mark Solms

Monika Graumann  
Freie Universität Berlin  
Advisor: Radoslaw Martin Cichy

Lisa Kroell  
Humboldt-Universität zu Berlin  
Advisor: Martin Rolfs and Paul Bays

Mónica Otero  
Universidad Técnica Federico Santa María  
Advisor: María-José Escobar and Wael El-Deredy

Rakesh Nanjappa  
SUNY College of Optometry  
Advisor: Robert M. McPeek

Stella Qian  
Michigan State University  
Advisors: Yaoda Xu

JohnMark Taylor  
Harvard University  
Advisors: Jonathan Marotta

Matsya Thulasiram  
University of Manitoba  
Advisor: Gemma Roig

Jiaxuan Zhang  
Columbia University  
Advisor: Benjamin Tamber-Rosenau

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Freie Universität Berlin  
Advisor: Radoslaw Martin Cichy

Lisa Kroell  
Humboldt-Universität zu Berlin  
Advisor: Martin Rolfs and Paul Bays

Mónica Otero  
Universidad Técnica Federico Santa María  
Advisor: María-José Escobar and Wael El-Deredy

Zekun Sun  
Johns Hopkins University  
Advisor: Chaz Firestone

Chunyue Teng  
George Washington University  
Advisor: Dwight J. Kravitz

Rina Watanabe  
The University of Electro-Communications  
Advisor: Yoichi Miyawaki

Liron Zipora Gruber  
Weizmann Institute of Science  
Advisor: Ehud Ahissar and Shimon Ullman

Connect with Industry

Tuesday, May 21, 1:00 – 2:30 pm, Sabal/Sawgrass

To reflect the range of interests and career goals of VSS attendees, we are continuing to offer our popular ‘Connect with Industry’ event.

This is an opportunity for our members to interact with representatives of industry and government agencies. Representatives from Apple, Exponent, NIH, Facebook Reality Labs, VPixx Technologies, and WorldViz will be present to discuss opportunities for vision scientists in their companies and to answer questions about collaborating with, and working within, their organizations.

Two 45-minute sessions will be scheduled (1:00 – 1:45 pm and 1:45 – 2:30 pm). Drop in for one, or stay for both time slots. Representatives will present an introduction to their company/agency at the start of both sessions (1:00 and 1:45 pm).

No sign-ups are required. All VSS attendees are welcome. Refreshments and snacks will be provided.
SATELLITE EVENTS

Computational and Mathematical Models in Vision (MODVIS)

Wednesday, May 15 – Friday, May 17, Horizons
9:00 am - 6:00 pm, Wednesday
9:00 am - 6:00 pm, Thursday
8:30 - 11:45 am, Friday

Organizers: Jeff Mulligan, NASA Ames Research Center; Zygmunt Pizlo, UC Irvine; Anne B. Sereno, Purdue University; and Qasim Zaidi, SUNY College of Optometry

Keynote Selection Committee: Yalda Mohsenzadeh, MIT; Michael Rudd, University of Washington

The 8th VSS satellite workshop on Computational and Mathematical Models in Vision (MODVIS) will be held at the Tradewinds Island Resorts in St. Pete Beach, FL, May 15 – May 17.

A keynote address will be given by Dr. Yanxi Liu, Penn State University.

The early registration fee is $100 for regular participants, $50 for students. After March 31st, the registration fee will increase to $120 (regular) and $60 (student). More information can be found on the workshop's website: http://www.conf.purdue.edu/modvis/

Psychophysics Toolbox Forum
Friday, May 17, 11:00 – 11:45 am, Jasmine/Palm
Organizer: Vijay Iyer, MathWorks

Psychophysics Toolbox (PTB) is a widely used tool for visual stimulus generation in vision science. MathWorks is pleased to support the PTB's ongoing development, which is now hosted at the Medical Innovations Incubator (MII) in Tuebingen. A consortium led by industry is emerging to support the PTB project. Join to learn more about the new arrangement and to provide your input on future directions for PTB.

Large-Scale Datasets in Visual Neuroscience
Saturday, May 18, 8:30 – 10:30 pm, Jasmine/Palm
Organizers: Elissa Aminoff, Fordham University; John Pyles, Carnegie Mellon University
Speakers: Elissa Aminoff, Fordham University; Kendrick Kay, University of Minnesota; John Pyles, Carnegie Mellon University; Michael Tarr, Carnegie Mellon University

The future of vision science lends itself more and more to using large real-world image datasets (n > 1,000) to study and understand the neural and functional mechanisms underlying vision. As the size of such datasets (and the resulting data) increases, there are commensurate challenges to effectively and successfully collect, distribute, and analyze large-scale data. If you are interested in discussing these challenges, please join us.

The format of this event will be brief presentations by researchers who have recently collected or analyzed large fMRI datasets, followed by an open discussion.

Improving the Precision of Timing-Critical Research with Visual Displays
Friday, May 17, 9:00 – 11:00 am, Jasmine/Palm
Organizers: Sophie Kenny, VPixx Technologies; Peter April, VPixx Technologies

VPixx Technologies is a privately held company serving the vision research community by developing innovative hardware and software tools for vision scientists (www.vpixx.com).

Visual display and computer technologies have improved on many fronts over the years; however, impressive technical specifications of devices mask the fact that timing of concurrent events is not typically controlled with a high degree of precision. This is a problem for scientists whose research relies on synchronization of external recording equipment relative to the onset of a visual stimulus. During this workshop, we will demonstrate the use of hardware solutions to improve upon these issues. We will first describe the principle behind these hardware solutions. We will then showcase how experiments can be programmed to control the triggering of external devices, to play audio signals, and to record digital, analog and audio signals, all synchronized with microsecond accuracy to screen refresh.

To help us plan this event, please send an email signalling your interest to: scientist@vpixx.com.

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Organizers: Sophie Kenny, VPixx Technologies; Peter April, VPixx Technologies

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To help us plan this event, please send an email signalling your interest to: scientist@vpixx.com.

FoVea (Females of Vision et al) Workshop
Sunday, May 19, 7:30 – 9:00 pm, Horizons
Organizer: Diane Beck, University of Illinois, Urbana-Champaign; Mary A. Peterson, University of Arizona; Karen Schloss, University of Wisconsin – Madison; Allison Sekuler, Baycrest Health Sciences

Panel Discussion on Navigating Life in Science as a Woman
Panelists: Lynne Kiorpes (New York University), Ruth Rosenholtz (MIT), Preeti Verghese (Smith-Kettlewell Eye Research Institute), Emily Ward (University of Wisconsin – Madison)
The panel will begin by addressing issues they consider important/informative and then address questions.

FoVeA is a group founded to advance the visibility, impact, and success of women in vision science (www.foveavision.org). We encourage vision scientists of all genders to participate in the workshops. Please register at: http://www.foveavision.org/vss-workshops.

Aesthetics Social
Monday, May 20, 2:00 – 3:30 pm, Sabal/Sawgrass
Organizers: Edward Vessel, Max Planck Institute for Empirical Aesthetics; Karen Schloss, University Wisconsin-Madison; Aenne Brielmann (New York University); Ilkay Isik (MPIEA); Dominik Welke (MPIEA)

Our lives are full of aesthetic experiences. When we look at art, people surrounding us, or views out of the window, we cannot help but appreciate how much the sight pleases us. This social meeting brings together researchers interested in understanding such aesthetic responses. We will highlight aesthetics research being presented at VSS in a "Data Blitz" session, followed by an open discussion and time to socialize. Light refreshments will be offered.

Data Blitz presentations are open to anyone presenting aesthetics-related work at VSS. Selection for presentation will be made by the organizing committee based on scientific rigor, potential impact and interest, academic position (preference given to students/early stage researchers), and whether your work was selected for a talk or poster at VSS (priority given to posters).

This event is sponsored by the International Association of Empirical Aesthetics (IAEA; https://www.science-of-aesthetics.org) and the Max Planck Institute for Empirical Aesthetics (MPIEA; https://www.aesthetics.mpg.de/en.html).

A Hands-On Crash Course in Reproducible Mixed-Effects Modeling
Monday, May 20, 2:00 – 4:00 pm, Glades
Organizer: Dejan Draschkow, Department of Psychology, Goethe University Frankfurt; Department of Psychiatry, University of Oxford

Mixed-effects models are a powerful alternative to traditional F1/F2-mixed model/repeated-measure ANOVAs and multiple regressions. Mixed models allow simultaneous estimation of between-subject and between-stimulus variance, deal well with missing data, allow for easy inclusion of covariates and modelling of higher order polynomials. This workshop provides a focused, hands-on and state of the art treatment of applying this analysis technique in an open and reproducible way. We will provide a fully documented R pipeline, solutions for power analysis and will discuss common pitfalls and unresolved issues. It is suitable for 1) "concept attendance" – you want to be able to evaluate potential issues when reviewing a paper; 2) "implementation attendance" – strong theoretical background, low practical experience; 3) "switch attendance" – you are coming from another language or software and want to switch to R; 4) "transition attendance" – you are quite experienced in traditional analysis procedures and want to see what this is all about and 5) "refreshing attendance" – you just want to check if there are any new developments. It might not be suitable for participants with zero experience in statistics and programming and too boring for participants who perform simulation-based power analysis for mixed models or use a PCA to diagnose overfitting problems.

No registration required. First come, first served, until full. For questions or more information, please visit my website at https://www.draschkow.com/.

This event is funded by a WikiMedia Open Science grant dedicated to https://smobsc.readthedocs.io/en/latest/.

WorldViz VR/AR Workshop: Virtual Reality Displays Break New Ground for Research Purposes
Monday, May 20, 2:00 – 4:00 pm, Jasmine/Palm
Organizer: Matthias Pusch, WorldViz; Lucero Rabaud, WorldViz

Beyond the wave of consumer virtual reality displays is a new lineup of professional products that are capable of generating a new class of visual stimulus that can be used by scientists. We will show two examples of what we consider most exciting for the VSS community. The first is a multi-resolution HMD that is capable of nearly 60 cycles-per-degree over a large center field of the display which then feathers to more typical HMD resolution toward the periphery. The second is a low-latency high-resolution video-see-thru technology that converts a consumer class HMD into a sophisticated augmented reality system that can be used to combine real near field objects (e.g., one’s hands or tools) with computer graphics imagery.

In this Satellite session, we will present these technologies in action with examples of how researchers can use them in practice. There will be a technical portion of the session detailing the technologies benefits and limitations, as well as a hands-on portion for attendees to try the technologies live.

VISxVISION Workshop: Novel Vision Science Research Directions in Visualization
Monday, May 20, 2:00 – 4:00 pm, Royal Tern
Organizer: Cindy Xiong, Northwestern University; Zoya Bylinskii, Adobe Research; Madison Elliott, University of British Columbia; Christie Nothelfer, Nielsen; Danielle Szafrir, University of Colorado Boulder

Interdisciplinary work across vision science and data visualization has provided a new lens to advance our understanding of the capabilities and mechanisms of the visual system while simultaneously improving the ways we visualize data. Vision scientists can gain important insights about human perception by studying how people interact with visualized data. Vision science topics, including visual search, ensemble coding, multiple object tracking, color and shape perception, pattern recognition, and saliency, map directly to challenges encountered in visualization research.

VISxVISION (www.visvision.com) is an initiative to encourage communication and collaboration between researchers from the vision science and the data visualization research communities. Building on the growing interest on this topic and the discussions inspired by our symposium last year "Vision and Visualization: Inspiring novel research directions in vision science," this workshop aims to provide a platform to bring together vision science and visualization researchers to share cutting-edge research at this interdisciplinary...
intersection. We also encourage researchers to share vision science projects that have the potential to be applied to topics in data visualization.

This year’s workshop will consist of a series of lightning talks, followed by a Q&A session with the presenters. Attendees will then learn about conference and publication opportunities in this field: Brian Fisher will review the IEEE Vis conference and benefits of collaborating within data visualization, and Editors from the Journal of Vision’s upcoming special visualization edition will discuss publishing in this area. The workshop will conclude with a “meet & mingle” session with refreshments, intended to encourage more informal discussion among participants and to inspire interdisciplinary collaboration.


Canadian Vision Social
Tuesday, May 21, 12:30 – 2:30 pm, Jasmine/Palm
Organizer: Doug Crawford, York Centre for Vision Research
This lunch Social is open to any VSS member who is, knows, or would like to meet a Canadian Vision Scientist! This event will feature free food and refreshments, with a complementary beverage for the first 100 attendees. We particularly encourage trainees and scientists who would like to learn about the various opportunities available through York’s Vision: Science to Applications (VISTA) program. This event is sponsored by the York Centre for Vision Research and VISTA, which is funded in part by the Canada First Research Excellence Fund (CFREF).

Visibility: A Gathering of LGBTQ+ Vision Scientists and Friends
Tuesday, May 21, 8:30 – 10:00 pm (precedes Club Vision), Jasmine/Palm
Organizer: Alex White, University of Washington; Michael Grubb, Trinity College
LGBTQ students are disproportionately likely to drop out of science early. Potential causes include the lack of visible role models and the absence of a strong community. This social event is one small step towards filling that gap. All are welcome. Snacks, drinks, and camaraderie will be provided. Sponsored by Trinity College.

MacGyver-ing in Vision Science: Interfacing systems that are not supposed to work together
Wednesday, May 22, 1:00 – 3:00 pm, Chart
Organizer: Zoltan Derzsi, New York University Abu Dhabi
In research, it is sometimes necessary to push equipment beyond its design limits or to use it for something it was not designed to do. Desperation leads to creativity, and temporary workarounds end up being permanent. Usually this is the point when a design bottleneck is introduced into the experiment, which will bite back a couple of months later when nobody anticipates it, effectively ruining all the data collected (my own experience!).

This workshop will show some good practices on how to interface various systems, and how to use ordinary electronics in a vision science experiment.

You will get a free IoT (Internet of Things) kit containing a development board, some sensors, a display and light sources. The kit will contain a nodeMCU device, please make sure you pick it up on the first days of the conference. I will not be able to start from scratch on how to do programming and how to upload a firmware to the board, this will be included in the documentation and there is plenty of support online. I’d like to spend time showing how to make these bits into the cheapest calibrated D65 light source, how to automate data collection over the local network, how to build your own instruments, or simultaneously control various systems, while delivering stimuli with microsecond precision.

You will be able to adapt the workshop material for your own environment, and develop it further.

Join Us Next Year to Celebrate the 20th Anniversary of the Vision Sciences Society
VSS 2020
May 15-20, 2020
St. Pete Beach, Florida
You have a great research idea, but you need money to make it happen. You need to write a grant. This workshop will address NIH and NSF funding mechanisms for vision research. Cheri Wiggs (National Eye Institute) and Todd Horowitz (National Cancer Institute) will provide insight into the inner workings of the NIH extramural research program. Larry Gottlob will represent the Social, Behavioral, and Economic (SBE) directorate of the NSF. There will be time for your questions.

Todd Horowitz
National Cancer Institute
Todd S. Horowitz, Ph.D., is a Program Director in the Behavioral Research Program’s (BRP) Basic Biobehavioral and Psychological Sciences Branch (BBPSB), located in the Division of Cancer Control and Population Sciences (DCCPS) at the National Cancer Institute (NCI). Dr. Horowitz earned his doctorate in Cognitive Psychology at the University of California, Berkeley in 1995. Prior to joining NCI, he was Assistant Professor of Ophthalmology at Harvard Medical School and Associate Director of the Visual Attention Laboratory at Brigham and Women’s Hospital. He has published more than 70 peer-reviewed research papers in vision science and cognitive psychology. His research interests include attention, perception, medical image interpretation, cancer-related cognitive impairments, sleep, and circadian rhythms.

Cheri Wiggs
National Eye Institute
Cheri Wiggs, Ph.D., serves as a Program Director at the National Eye Institute (of the National Institutes of Health). She oversees extramural funding through three programs — Perception & Psychophysics, Myopia & Refractive Errors, and Low Vision & Blindness Rehabilitation. She received her PhD from Georgetown University in 1991 and came to the NIH as a researcher in the Laboratory of Brain and Cognition. She made her jump to the administrative side of science in 1998 as a Scientific Review Officer. She currently represents the NEI on several trans-NIH coordinating committees (including BRAIN, Behavioral and Social Sciences Research, Medical Rehabilitation Research) and was appointed to the NEI Director’s Audacious Goals Initiative Working Group.

Lawrence R. Gottlob
National Science Foundation
Larry Gottlob is a Program Director in the Perception, Action, and Cognition program at the National Science Foundation. His permanent home is in the Psychology Department at the University of Kentucky, but he is on his second rotation at NSF. Larry received his PhD from Arizona State University in 1995 and has worked in visual attention, memory, and cognitive aging.

David Brainard
University of Pennsylvania
David H. Brainard is the RRL Professor of Psychology at the University of Pennsylvania. His research interests focus on human color vision, which he studies both experimentally and through computational modeling of visual processing. He is a fellow of the Optical Society, ARVO and the Association for Psychological Science. At present, he directs Penn’s Vision Research Center, serves as Associate Dean for the Natural Sciences in Penn’s School of Arts and Sciences, is an Associate Editor of the Journal of Vision, co-editor of the Annual Review of Vision Science, and president-elect of the Vision Sciences Society.
**VSS Workshop on Funding Outside the US**

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

**Sunday, May 19, 2019, 12:45 – 1:45 pm, Sabal/Sawgrass**

**Moderator:** Laurie Wilcox, York University, Toronto

**Panelists:** Thiago Leiros Costa, KU Leuven; Anya Hurlbert, Newcastle University; Concetta Morrone, University of Pisa; and Cong Yu, Peking University

You have a great research idea, but you need money to make it happen. You need to write a grant. This funding workshop will be focused specifically on disseminating information about non-US funding mechanisms appropriate for vision research. The format of the workshop will be a moderated panel discussion driven by audience questions. The panelists are vision scientists, each of whom has experience with at least one non-US funding mechanism. Because funding opportunities are diverse and differ across countries, however, the workshop will also encourage information sharing from the audience.

**Thiago Leiros Costa**

KU Leuven

Thiago Leiros Costa is a Marie Skłodowska-Curie fellow at KU Leuven, Belgium. He is currently focused on accessing neural correlates of Gestalt-like phenomena and on the role that predictive processing plays in low and mid-level vision. Being a neuropsychologist and visual neuroscientist, he is interested in basic research in the field of perception per se, but also on opportunities for translational research in psychology (using tasks and methods derived from basic research to address clinically relevant questions). This has led him to work with different clinical populations, currently focusing on visual predictive processing in Autism. He has experience with multiple techniques, such as psychophysics, EEG, non-invasive brain stimulation and is currently planning his first study using fMRI.

**Anya Hurlbert**

Newcastle University

Anya Hurlbert is Professor of Visual Neuroscience, Director of the Centre for Translational Systems Neuroscience and Dean of Advancement at Newcastle University. She co-founded Newcastle’s Institute of Neuroscience in 2003, serving as its co-Director until 2014. Hurlbert’s research focuses on colour perception and its role in everyday visual and cognitive tasks, in normal and atypical development and ageing. She is also interested in applied areas such as digital imaging and novel lighting technologies. Professor Hurlbert is active in the public understanding of science, and has devised and co-curated several science-based art exhibitions, including an interactive installation at the National Gallery, London, for its 2014 summer exhibition Making Colour. She is former Chairman of the Colour Group (GB) and Scientist Trustee of the National Gallery, and currently on the editorial board of Current Biology as well as several international advisory boards. Funding for her personal research has come from the Wellcome Trust, UKRI (EPSRC/MRC), the European Commission (EU), charities, and industry. She is currently a PI in the EU H2020 Innovative Training Network “Dynamics in Vision and Touch”.

**Concetta Morrone**

University of Pisa

Maria Concetta Morrone is Professor of Physiology in the School of Medicine of the University of Pisa, Director of the Vision Laboratory of the IRCCS Fondazione Stella Maris, and Academic Director of the inter-University Masters in Neuroscience. She is a member of the prestigious Accademia dei Lincei and has been awarded major national and international prizes for scientific achievements. From an initial interest in biophysics and physiology, where she made many seminal contributions, she moved on to psychophysics and visual perception. Over the years her research has spanned spatial vision, development, plasticity, attention, color, motion, robotics, vision during eye movements and more recently multisensory perception and action. She has coordinated many European Community grants over many founding schemes, and was awarded in 2014 an ERC-IDEA Advanced Grant for Excellence in Science.
Cong Yu
Peking University
Cong Yu is a professor at Peking University. He studies human perceptual learning using psychophysical methods, and macaque visual cortex using two-photon calcium imaging.

Laurie Wilcox
York University
Laurie M. Wilcox is a Professor in Psychology at York University, Toronto, Canada. She uses psychophysical methods to study stereoscopic depth perception. In addition to basic research in 3D vision, Laurie has been involved in understanding the factors that influence the viewer experience of 3D media (IMAX, Christie Digital) and perceptual distortions in VR (Qualcomm Canada). Her research has been funded primarily by the Natural Sciences and Engineering Research Council (NSERC) of Canada which supports both basic and applied research programs. She is also familiar with contract-based research in collaboration with industry and government agencies.

In Memoriam

Aaron Clarke
Bilkent University, Ankara, Turkey
1977-2018

Andrea Li
CUNY Queens College
Unknown-2019

Robert Fox
Vanderbilt University
1932-2018

Jacob (Jack) Nachmias
University of Pennsylvania
1928-2019

Barrie Frost
Queen's University
1932-2018

J.A.M. (Jan) van Gisbergen
Donders Institute, Radboud University
1943-2019

Andrei Gorea
CNRS & Université Paris Descartes
1953-2019

Charles (Charlie) Gross
Princeton University
1936-2019
Peer-networking for Students and Postdocs

Saturday, May 18, 2019, 12:45 – 1:45 pm, Jasmine/Palm
No registration required. First-come, first-served, until full.
Moderators: Eileen Kowler, Talia Konkle, and Fulvio Domini

Peer-to-peer connections and networks can be the basis of your most important long-term collaborations and friendships. This workshop will help you meet and connect to your peer researchers, face to face. The format will be separate round tables dedicated to different topics, allowing opportunity for discussion and networking. Session moderators will help keep things organized. We’ll have at least one rotation during the workshop so you will have the opportunity to talk to more people and explore more topics, including topics you’re working on now and areas of interest for the future.

Eileen Kowler
Rutgers University
Eileen Kowler is a Distinguished Professor at Rutgers University and Senior Associate Dean in the School of Graduate Studies. She received her doctoral degree from the University of Maryland, and was a postdoc at NYU. She has been at Rutgers since 1980, where she maintains affiliations with the Department of Psychology and Center for Cognitive Science. Kowler’s research focuses on the planning of and generation of eye movements and their role in visual tasks. In her roles as a faculty member, VSS board member, and former principal investigator of an NSF training grant, she has a strong commitment to the topic of this workshop: creating opportunities for students and postdocs to develop their careers and collaborate with one another.

Talia Konkle
Harvard University
Talia Konkle is an Assistant Professor in the Department of Psychology at Harvard University. Her research characterizes mid and high-level visual representation at both cognitive and neural levels. She received her B.A. in Applied Math and Cognitive Science at UC Berkeley in 2004, her Ph.D. from MIT in Brain and Cognitive Science in 2011, and conducted her postdoctoral training at University of Trento and Harvard until 2015. Talia is the recipient of the 2019 Elsevier/VSS Young Investigator Award.

Fulvio Domini
Brown University
Fulvio Domini is a Professor at the department of Cognitive, Linguistic and Psychological Sciences at Brown University. He was hired at Brown University in 1999 after completing a Ph.D. in Experimental Psychology at the University of Trieste, Italy in 1997. His research team investigates how the human visual system processes 3D visual information to allow successful interactions with the environment. His approach is to combine computational methods and behavioral studies to understand what are the visual features that establish the mapping between vision and action. His research has been and is currently funded by the National Science Foundation.

Undergraduate Meet & Greet

Monday, May 20, 2019, 3:30 – 4:30 pm, Banyan/Citrus
Hosts: Laurie Wilcox, York University (VSS Board member) and Nestor Matthews, Denison University (Council for Undergraduate Research, psychology division)

Especially designed for undergrads, the Meet & Greet will take place from 3:30 – 4:30 pm, directly before Meet the Professors. This is the perfect opportunity for undergraduate students to meet current graduate students and postdocs. Discuss continuing your education in the field of vision research, while enjoying a spectacular south-of-the-border salsa bar!

All are welcome!
How to Spend Your Time Well as a Young Researcher

Sunday, May 19, 2019, 12:45 – 1:45 pm, Jasmine/Palm
No registration required. First-come, first-served, until full.

Moderator: Johan Wagemans, University of Leuven, Belgium
Panelists: Alex Holcombe, Niko Kriegeskorte, Allison Sekuler, and Kate Storrs

Graduate students and postdocs often wonder what they should spend their work time on, in addition to learning the skills of a good researcher, doing good research, and writing good papers. For instance, quite a few people write blogs or are very active on public forums (e.g., about open science, open source software, helpdesks for R, Python, etc.). Others have questions about how much time to spend on service to the profession, such as reviewing manuscripts. With all these choices, many developing researchers will be faced with the challenge of finding the right balance between diversifying their professional activities while still devoting time to the core requirements of their careers. This workshop will feature panelists who will provide perspectives on these issues and lead a discussion on the pros and cons of spending time on professional activities not directly relating to research. If you think you have no time for this, you should definitely be there!

Alex Holcombe
University of Sydney
When not teaching or working on vision experiments, Alex Holcombe works to improve transparency in and access to research. To address the emerging reproducibility crisis in psychology, in 2011 he co-created PsychFiledrawer.org. In 2013 he introduced the Registered Replication Report at the journal Perspectives on Psychological Science, and appears in this cartoon about replication. He was involved in the creation of the journal badges to signal open practices, the preprint server PsyArxiv, the new journal Advances in Methods and Practices in Psychological Science, and PsyOA.org, which provides resources for flipping a subscription journal to open access. Talk to him anytime on Twitter @ceptional.

Niko Kriegeskorte
Columbia University
Nikolaus Kriegeskorte is a computational neuroscientist who studies how our brains enable us to see and understand the world around us. He received his PhD in Cognitive Neuroscience from Maastricht University, held postdoctoral positions at the Center for Magnetic Resonance Research at the University of Minnesota and the U.S. National Institute of Mental Health in Bethesda, and was a Programme Leader at the U.K. Medical Research Council Cognition and Brain Sciences Unit at the University of Cambridge. Kriegeskorte is a Professor at Columbia University, affiliated with the Departments of Psychology and Neuroscience. He is a Principal Investigator and Director of Cognitive Imaging at the Zuckerman Mind Brain Behavior Institute at Columbia University. Kriegeskorte is a co-founder of the conference “Cognitive Computational Neuroscience”, which had its inaugural meeting in September 2017 at Columbia University.

Allison Sekuler
McMaster University
Allison Sekuler is the Sandra Rotman Chair in Cognitive Neuroscience and Vice-President Research at Baycrest Centre for Geriatric Care. She also is Managing Director of the Centre for Aging + Brain Health Innovation, and the world-renowned Rotman Research Institute. A graduate of Pomona College (BA, Mathematics and Psychology) and the University of California, Berkeley (PhD, Psychology), she holds faculty appointments at the University of Toronto and McMaster University, where she was the country’s first Canada Research Chair in Cognitive Neuroscience and established lasting collaborations with Japanese researchers. Dr. Sekuler has a notable record of scientific achievements in aging, vision science, neural plasticity, imaging, and neuroscience. Her research focuses on perceptual organization and face perception, motion and depth perception, spatial and pattern vision, and age-related changes in vision. The recipient of numerous awards for research, teaching and leadership, she has broad experience in senior academic, research, and innovation leadership roles, advancing internationalization, interdisciplinarity, skills-development, entrepreneurship, and inclusivity.

Kate Storrs
Justus-Liebig University, Giessen
Kate Storrs is currently a Humboldt Postdoctoral Fellow using deep learning to study material perception at the Justus-Liebig University in Giessen, Germany. Before that she was a postdoc at the University of Cambridge, a Teaching Fellow at University College London, and a PhD student at the University of Queensland in Australia. Her main professional hobby is science communication. Kate has performed vision-science-themed stand-up comedy in London at the Royal Society, the Natural History Museum, the Bloomsbury Theatre, and a dozen pubs and festivals across the UK. She has presented vision science segments on Cambridge TV, the Naked Scientists podcast, BBC Cambridgeshire radio, and was a UK finalist in the 2016 FameLab international science communication competition. Always happy to talk on Twitter @katestorrs.

Johan Wagemans
University of Leuven, Belgium
Johan Wagemans is a professor in experimental psychology at the University of Leuven (KU Leuven) in Belgium. Current research interests are mainly in perceptual grouping, figure-ground organization, depth perception, shape perception, object perception, and scene perception, including applications in autism, arts, and sports (see www.gestaltherevision.be). He has published more than 300 peer-reviewed articles on these topics and he has edited the Oxford Handbook of Perceptual Organization (2015). In addition to supervising many PhD students and postdocs, he is doing a great deal of community service such as coordinating the Department of Brain & Cognition, being editor of Cognition, Perception, i-Perception, and Art & Perception, and organizing the European Conference of Visual Perception (ECVP) and the Visual Science of Art Conference (VSAC) in Leuven (August 2019).
Exhibitors are located in the Pavilion.

Exhibit Hours
Saturday, May 18, 9:00 am – 5:30 pm
Sunday, May 19, 9:00 am – 5:30 pm
Monday, May 20, 9:00 am – 12:30 pm
Tuesday, May 21, 9:00 am – 5:30 pm

Brain Vision, LLC
Booth 2
Brain Vision is the leader for EEG in Vision Science. We offer full integration of EEG with many leading eye tracking systems. We provide flexible and robust solutions for high density, active EEG, wireless EEG, dry EEG, and a wide range of bio-sensors like GSR, EKG, Respiration, and EMG. We integrate eye tracking and EEG with other modalities, such as fMRI, TMS, fNIRS, tDCS/HDiDcS, and MEG. If you want to know how EEG improves Vision Science and how eye tracking improves EEG, please talk to us. Let us help you push the edge of what research is possible.

Cortech Solutions, Inc.
Booth 8
Cortech Solutions is your source for vision science and functional neuroimaging tools, including high-performance LCD displays, eye-tracking, EEG, fNIRS and TMS for the lab and for the fMRI scanner. We are your US/Canada sales and support contact for Cambridge Research Systems tools for vision science and functional neuroimaging as well as other leading brands from around the world, including Biosemi EEG, Artinis fNIRS, Mag & More TMS, and more. Stop by to see the low-cost / high-performance LiveTrack Lightning eye-tracker, Display++ calibrated LCD display, and more. We intend to exceed your expectations!

Exponent, Inc.
Booth 11
Exponent is looking for PhDs, postdocs, and early-career faculty interested in scientific consulting. Exponent’s nearly 1,000 employees comprise multidisciplinary teams of largely master’s and Ph.D.-level scientists, engineers, physicians, and regulatory consultants across more than 90 disciplines and 26 domestic offices to solve complicated problems facing corporations, insurers, government entities, associations, and individuals.

Our Human Factors practice comprises vision scientists and other cognitive psychologists, who study the safety of products and systems in use. These scientists are engaged in supporting clients in litigation matters or by conducting custom-designed user research studies. Exponent is home to the 6,000-square-foot Phoenix User Research Center (PURC), which houses six labs, many of which are highly specialized (e.g., optometry lab, motion tracking suite, etc.).

JÖRVEC
Booth 9
JÖRVEC is comprised of a team of expert biomedical engineers and neurophysiologists that design and manufacture leading-edge, high-quality instruments for electrophysiological testing in human and experimental models, including flash and pattern ERG and VEP acquisition systems. We look forward to the opportunity to discuss how our instruments can meet your specific needs.

NeuroNexus
Booth 10
NeuroNexus powers neuroscience research through innovative neural probes, systems, and data analytics software. NeuroNexus probes include a full line of high-quality, customizable microelectrode arrays for electrophysiology and optogenetics research from rodents to nonhuman primates. NeuroNexus systems provide integrated plug-and-play solutions to support diverse neurophysiology experiments and workflows with up to 512 channels and counting. The NeuroNexus data analytics software platform provides powerful, scalable, cross-platform analytical and visualization tools for managing and analyzing neurophysiological data — from individual experiments to complex multi-investigator ‘big data’

Oxford University Press
Booth 1

Psychonomic Society
Booth 13
The Psychonomic Society is the home for scientists who study how the mind works. Members of the Society are cognitive psychologists and include some of the most distinguished researchers in the field. Many of us are concerned with the application of psychology to health, technology and education. Some of the most innovative research uses converging methods such as neuroscience and computational science to achieve our research goals. But what brings us together is that we study the fundamental properties of
how the mind works by using behavioral techniques to better understand mental functioning. Members of the Society perform and promote the basic science of behavior in areas such as memory, learning, problem solving, action planning, language, and perception that connect with other fields of research. Please visit us at www.psychonomic.org.

Rogue Research Inc.

Booths 3 and 4
Rogue Research has been your partner in non-invasive brain stimulation for almost 20 years. We pioneered neuronavigation for TMS withBrainsight and continue this leadership role by developing the most advanced TMS stimulator, the Brain-sight cTMS. cTMS offers the ability to manipulate key parameters in the TMS pulse including pulse width and directionality and opens new avenues for stimulation research. Rogue Research also provides tools for basic science including our Brainsight-driven microsurgical robot and deep brain stimulator designed specifically for animal studies. We can also develop custom hardware solutions for your research needs.

SR Research Ltd.

Booth 16
SR Research, makers of EyeLink eye-trackers, is proud to announce that all users of Experiment Builder now have native support for EGI NetStation and Brain Products, Brain Vision Recorder. In addition to these network-based protocols BioSemi/ActiveTwo, Neuroscan and other biometric device support nodes have been added. All of this is available for a FREE upgrade for existing licensed Experiment Builder users. Be sure visit the SR Research booth to see the EyeLink Portable Duo – a high performance eye-tracker in a portable package – perfect for school or clinic visits. The EyeLink 1000 Plus continues to provide a uniform, cutting-edge eye-tracking solution for the behavioral lab, infant tracking, non-human primates, MRI, MEG, or EEG. With outstanding technical specifications, portable options, flexible experiment delivery software, and incredible customer support, SR Research enables academics – over 7000 peer-reviewed papers can’t be wrong.

Tucker-Davis Technologies

Booth 14
Tucker-Davis Technologies (TDT) provides products for basic and applied research in the neurophysiology, hearing, and speech sciences as well as for general data acquisition applications. We offer a complete line of modular DSP-based data acquisition and stimulus generation systems, ranging in complexity from a simple audio stimulator to a complete multichannel sensory and behavioral neurophysiology system for awake, behaving subjects.

Our goal is to offer the most powerful research instrumentation that we can imagine and back it up with the best customer support in the business. At TDT, our teams work closely to achieve our common goal: to supply you with the highest quality, most up-to-date technology available at an affordable price. We believe we can best meet this goal when all areas of our business work together in a cooperative and collaborative environment. This belief is typified by the integrated nature of our facility, which brings together our team of scientists, on-site laboratory, engineering staff, and manufacturing floor all under one roof.

VPixx Technologies Inc.

Booths 5, 6 and 7
VPixx Technologies welcomes the vision community to VSS 2019, and is excited to demonstrate our TRACKPixx 2kHz binocular eye tracker, alongside the PROPixx DLP LED video projector, now supporting refresh rates up to 1440Hz. The PROPixx has been designed specifically for the generation of precise high refresh rate stimuli for gaze-contingent, stereoscopic, and other dynamic applications. The PROPixx is the world’s most flexible display for vision research, featuring resolutions up to 1920x1080, and a perfectly linear gamma. The solid state LED light engine has 30x the lifetime of halogen projectors, a wider color gamut, and zero image ghosting for stereo vision applications. Our high speed circular polarizer can project 480Hz stereoscopic stimuli for passive polarizing glasses into MRI and MEG environments. Come and see the SHIELDPixx Faraday cage for installing the PROPixx inside an MRI/MEG room. In addition, the PROPixx includes an embedded data acquisition system, permitting microsecond synchronization between visual stimulation and other types of I/O including eye tracking, EEG, TMS, audio stimulation, button box input, TTL trigger output, analog acquisition, and more! VPixx Technologies will be using the PROPixx/TRACK-Pixx combination to demonstrate a new set of gaze-contingent paradigms!

WorldViz

Booth 12
WorldViz is the industry leader in immersive virtual reality (VR) solutions, with hardware and software deployed across Fortune 500 companies, academic institutions, and government agencies. WorldViz’s core software products are Vizard, a specialized development platform for professional VR app development, and Visible, a simple yet powerful VR creation and collaboration tool that lets people create VR experiences with no programming and then hold collaborative meetings inside of them with people from around the world. On the hardware side, WorldViz makes high-precision, wide-area VR motion tracking systems, gorgeous VR projection systems, and VizBox, a portable VR rig built inside a pelican case.

WorldViz technology enables users to replace physical processes with immersive virtual methods. Applications range from design visualization and industrial training to interactive education, collaboration, and scientific research.
MEET THE PROFESSORS

Monday, May 20, 2019, 4:30 – 5:45 pm, Banyan Breezeway
Students and postdocs are invited to the fourth annual “Meet the Professors” event, Monday afternoon from 4:30 to 5:45 pm, immediately preceding the VSS Dinner and Demo Night. This is an opportunity for a free-wheeling, open-ended discussion with members of the VSS Board and other professors. You might chat about science, the annual meeting, building a career, or whatever comes up.

This year, the event will consist of two 30-minute sessions separated by a 15-minute snack break. Please select a different professor for each session. Space is limited and is assigned on a first-come, first-served basis.

PROFESSORS AND VSS BOARD MEMBERS

Members of the VSS Board are indicated with an asterisk*, in case you have a specific interest in talking to a member of the board.

Wendy Adams University of Southampton, UK – Studies visual and multi-sensory perception of depth and surface properties, and how these are shaped by statistical regularities of the environment.

Diane Beck University of Illinois – Studies attention, scene perception, and visual awareness, using both behavioral and cognitive neuroscience methods.

Monica Castelhano Queen’s University – Studies scene perception and complex visual information processing in visual search, visual attention, and visual memory.

Susana Chung UC Berkeley – Studies spatial vision and eye movements and how visual coding is affected by abnormal visual experience due to eye diseases or amblyopia.

Miguel Eckstein UC Santa Barbara – Studies visual search, attention, perceptual learning, eye movements and perception of medical images using psychophysics, computational modeling, neuroimaging and human electrophysiology.

Patrizia Fattori University of Bologna, Italy – Studies the neural mechanisms interlacing perception and hand actions in non-human primates and in humans.

Debbie Giaschi University of British Columbia, Vancouver Studies motion perception and binocular vision, using psychophysics and functional MRI, with a special focus on the effects of typical and atypical development in children.

Eileen Kowler* Rutgers University, New Brunswick, NJ – Studies the planning and control of eye movements (saccades and smooth pursuit), with emphasis on the roles of sensory cues and higher level influences, such as prediction, memory and attention.

Terri Lewis McMaster University, Hamilton, Canada – Studies the development of vision in normal infants, the consequences of visual deprivation during infancy, and recovery from amblyopia.

Li Li New York University Shanghai, Shanghai, PRC – Studies the perception and control of self-motion, and how visuomotor control is affected by expertise training, neuro-degenerative diseases, and drugs.

Cathy Mondloch Brock University – Studies face perception and how experience shapes our ability to recognize facial identity and other social cues.

Alice O’Toole University of Texas, Dallas – Studies high level visual perception, face recognition, computational models of face recognition, as well as body and person perception.

Jane Raymond University of Birmingham, UK – Studies how visual processing priorities are determined by attention, motivation and emotion, both in the lab and in ‘real world’ applied situations.

Ruth Rosenholtz Massachusetts Institute of Technology – Studies a range of topics, including peripheral vision, visual search, attention, perceptual organization, and visual clutter, using both behavioral and computational modeling techniques.

Jennifer Steeves York University – Studies the long term consequences of losing one eye on visual and auditory processing. She also studies biomarkers of TMS to early visual cortices.

James Todd Ohio State University – Uses a combination of psychophysics and computational modeling to study the visual perception of material properties (e.g., glass or metal), the visual perception of 3D shape from various types of optical information (e.g., shading, texture, motion and binocular disparity), and the visual control of motor behavior.

Johan Wagemans* University of Leuven, Belgium – Supervises a research program on perceptual organization (understood broadly, incl. shape, object, and scene perception), using psychophysics, modelling, and neuroimaging, and applying it to autism and visual arts.

Takeo Watanabe Brown University – Studies roles of consciousness, attention, reward, aging, sleep and environments in visual perceptual learning and plasticity using brain imaging techniques as well as psychophysics and is a pioneer of decoded online neurofeedback applied to vision and cognition.

Yaffa Yeshurun University of Haifa – Studies tradeoffs between the spatial and temporal domains and the way they are affected by attention.

Cong Yu Peking University, Beijing – Studies perceptual learning using psychophysical methods and neuronal functions in macaque V1 using two-photon imaging.

*VSS Board Member
Monday, May 20, 6:00 – 10:00 pm

Beach BBQ: 6:00 – 8:00 pm, Beachside Sun Decks and limited indoor seating in Banyan Breezeway

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

Please join us Monday evening for the 17th Annual VSS Dinner and Demo Night, a spectacular night of imaginative demos solicited from VSS members. The demos highlight the important role of visual displays in vision research and education. This year’s Demo Night will be organized and curated by Gideon Caplovitz, University of Nevada, Reno; Karen Schloss, University of Wisconsin; Gennady Erlikhman, University of Nevada, Reno; and Benjamin Wolfe, MIT.

Demos are free to view for all registered VSS attendees and their families and guests. The Beach BBQ is free for attendees, but YOU MUST WEAR YOUR BADGE to receive dinner. Guests and family members must purchase a VSS Friends and Family Pass to attend the Beach BBQ.

This year’s Demo Night is sponsored by Facebook Reality Labs. The following demos will be presented from 7:00 to 10:00 pm, in Talk Room 1-2, Royal Tern, Snowy Egret, Spotted Curlew and Jacaranda Hall:

For the Last Time: The Ever-Popular Beuchet Chair

Peter Thompson, Rob Stone, and Tim Andrews, University of York

A favorite at demo Night for many years, the Beuchet chair is back for one last hurrah. The two parts of the chair are at different distances and the visual system fails to apply size constancy appropriately. The result is people can be shrunk or made giants.

Paradoxical impact of memory on color appearance of faces

Rosa Lafer-Sousa, MIT

What is the function of color vision? In this demo we impair retinal mechanisms of color using monochromatic sodium light, and probe memory colors for familiar objects in a naturalistic setting. We showcase a surprising finding: faces, and only faces, provoke a paradoxical memory color, providing evidence that color contributes to face encoding and social communication.

Immersive and long lasting afterimages – experiences of altered self

Daw-An Wu, California Institute of Technology

Dark Adaptation + Bright Flashes = Rod Afterimages!

Shikaku no Mori: gamified vision tests

Kenchi Hosokawa, Kazushi Maruya, and Shin’ya Nishida, NTT Communication Science Laboratories

We gamified several vision tests. Those games can be played in a short time (~3 minutes) and with a more entertained way. Test sensitivities are enough to be used as initial screening tests (see pretest data on poster in Sunday Pavilion session). Those games are usable for self-check.

The UW Virtual Brain Project: Exploring the visual and auditory systems in virtual reality

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

The UW Virtual Brain Project allows you to explore the visual system and auditory system in virtual reality. It helps to visualize the flow of information from sensory input to cortex cortical processing. The ultimate aim of the project is to improve neuroscience education by leveraging natural abilities for space-based learning.

Fun with Birefringent Surfaces and Polarized Light

Gideon Caplovitz, University of Nevada Reno

What could possibly go wrong?

Generating hyper-realistic faces for use in vision science experiments

Joshua Peterson, Princeton University; Jordan Suchow, Stevens Institute of Technology; Stefan Uddenberg, Princeton University

Easily alter your photographic appearance in a bunch of interesting ways! We have developed a system to morph any face image along psychologically relevant dimensions using recent advances in deep neural networks (namely GANs).

Hidden in Plain Sight!

Peter April, Jean-Francois Hamelin, Danny Michaud, Sophie Kenny, VPixx Technologies

Can visual information be hidden in plain sight? We use the PROPixx 1440Hz projector, and the TRACKPixx 2kHz eye tracker, to demonstrate images which are invisible until you make a rapid eye movement. We implement retinal stabilization to show other images that fade during fixations. Do your eyes deceive?

The Magical Alberti Frame

Niko Troje and Adam Bebko, York University

Pictures are two things: objects in space and representations of spaces existing elsewhere. In this virtual reality experience, users use a magical frame to capture pictures that momentarily appear identical to the scene they reside in, but when users move, the pictures evoke unexpected and eerie perceptual changes and distortions.
Café-Wall illusion caused by shadows on a surface of three dimensional object
Kazushi Maruya, NTT Communication Science Laboratories; Yuki Fujita, Tokyo University of the Arts; Tomoko Ohtani, Tokyo University of the Arts
Café-Wall illusion is a famous optical illusion that parallel gray lines between displaced rows of black and white squares are appeared to be angled with respect to one another. In this demonstration, we show that the Café-wall pattern can be emerged when shadows are cast by multiple cuboids onto a 3D surface of varying depths.

Foveal Gravity: A Robust Illusion of Color-Location Misbinding
Cristina R. Ceja, Nicole L. Jardine, and Steven L. Franconer, Northwestern University
Here we present a novel, robust color-location misbinding illusion that we call foveal gravity: objects and their features can be perceived accurately, but are often mislocalized to locations closer to fovea under divided attention.

Multi Person VR walking experience with and without accuracy correction
Matthias Pusch and Andy Bell, WorldViz
Consumer VR systems are great fun but they have limited accuracy when it comes to precisely tracking research participants. This demo will allow participants to experience first hand how inaccurate these systems can be in an interactive multi-user setting within a large walkable virtual space.

Impossible Integration of Size and Weight: The Set-Subset Illusion
Isabel Won, Steven Gross, and Chaz Firestone, Johns Hopkins University
Perception can produce experiences that are impossible*, such as a triangle with three 90° sides, or a circular staircase that ascends in every direction. Are there impossible experiences that we can not only see, but also *feel*? Here, we demonstrate the “Set-Subset Illusion” — whereby a set of objects can, impossibly, feel lighter than a member of that set!

The Illusory and Invisible Audiovisual Rabbit Illusions
Noelle Stiles, University of Southern California; Armand R. Tanguay, Jr, University of Southern California, Caltech; Ishani Ganguly, Caltech; Monica Li, Caltech, University of California, Berkeley; Carmel A. Levitan, Caltech, Occidental College; Yukiyasu Kamitani, Kyoto University; Shinsuke Shimojo, Caltech
Neuroscience often focuses on the prediction of future perception based on prior perception. However, information is also processed postdictively, such that later stimuli impact percepts of prior stimuli. We will demonstrate that audition can postdictively relocate an illusory flash or suppress a real flash in the Illusory and Invisible Audiovisual Rabbit Illusions.

Chopsticks Fusion
Ray Gottlieb, College of Syntonic Optometry
Have you noticed that your normal stereoscopic perception is never as strong as the stark, solid 3-dimensionality that you see in a stereooscope or virtual reality device? Chopstick Fusion is a simple and inexpensive stereo practice that develops spatial volume perception. I’ll bring chopsticks for everyone.

Moiré effects on real object’s appearances
Takahiro Kawabe and Masataka Sawayama, NTT Communication Science Laboratories; Tamio Hoshik, Sojo University
An intriguing moiré effect is demonstrated wherein a real bar object in front of stripe motion on an LCD display apparently deforms or rotates in depth. Changing bar orientation and/or a bar-display distance drastically modulates the appearance. Even invisible stripe motion causes a vivid change in bar appearances.

The motion aftereffect without motion: 1-D, 2-D and 3-D illusory motion from local adaptation to flicker
Mark Georgeson, Aston University, UK
Adapting to a flickering image induces vivid illusory motion on an appropriate stationary test pattern: a motion aftereffect without inducing motion. Motion can be seen in 1-D, 2-D or 3-D, depending on the images chosen, but the basis for the effect is local adaptation to temporal gradients of luminance change.

Monocular rivalry
Leone Burridge
An iphone 5 drawing printed onto paper. The perceived colours fluctuate between blue/yellow and red/green.

A Fast and blurry versus slow and clear: How stationary stimuli modify motion perception
Mark Wexler, Labortatoire Psychologie de la Perception, CNRS & Université Paris Descartes
Why do shooting stars look the way they do? Why do most moving objects look clear, even at saccadic speeds? Are there motion effects waiting to be explored beyond the frequency range of computer monitors? Come and find out!

Thatcherize your face
Andre Gouws, York Neuroimaging Centre, University of York; Peter Thompson, University of York
The Margaret Thatcher illusion is one of the best-loved perceptual phenomena. Here you will have the opportunity to see yourself “thatcherized” in real time and we print you a copy of the image to take away.

The caricature effect in data visualization: typical graphs produce negative learning
Jeremy Wilmer, Wellesley College
Graphs that display summary statistics without underlying distributions (e.g. bar/line/dot graphs with error bars) are commonly assumed to support robust information transfer. We demo an array of such graphs that falsify this assumption by stimulating negative learning relative to baseline in typical viewers.
Look where Simon says without delay  
Katia Ripamonti, Cambridge Research Systems; Lloyd Smith, Cortech Solutions

Can you beat the Simon effect using your eye movements? Compete with other players to determine who can look where Simon says without delay. All you need to do is to control your eye movements before they run off. It sounds so simple and yet so difficult!

Illusory color induced by colored apparent-motion in the extreme-periphery
Takashi Suegami, Yamaha Motor Corporation, Caltech; Yusuke Shirai, Toyohashi University of Technology; Sara W. Adams, Caltech; Daw-An J. Wu, Caltech; Mohammad Shehata, Caltech, Toyohashi University of Technology; Shigeki Nakauchi, Toyohashi University of Technology; Shinsuke Shimojo, Caltech, Toyohashi University of Technology; Shinsuki Simojo, California Institute of Technology; Mohammad Shehata, California Institute of Technology; Shirai, Toyohashi University of Technology; Sara W. Adams, Caltech; Cortech Solutions

Our new demo will show that foveal/parafoveal color cue with apparent motion can produce illusory color in the extreme-periphery (approx. 70°-90°) where cone cells are less distributed. One can experience, for example, clear red color perception for extreme-parafoveal green flash, with isoluminant red cue (or vice versa).

The Magical Misdirection of Attention in Time
Anthony Barnhart, Carthage College

When we think of “misdirection,” we typically think of a magician drawing attention away from a spatial location. However, magicians also misdirect attention in time through the creation of “off-beats,” moments of suppressed attention. The “striking vanish” illusion, where a coin disappears when tapped with a pen, exploits this phenomenon.

How Can (Parts of) Planarians Survive Without their Brains and Eyes? -Hint: Its Extraocular UV-Sensitive System
Kensuke Shimojo, Chandler School; Eiko Shimojo, California Institute of Technology; Armand R. Tanguay, Jr., California Institute of Technology, University of Southern California; Mohammad Shehata, California Institute of Technology; Shinsuke Shimojo, California Institute of Technology

Planarian dissected body parts, even with incomplete eyespots, show “light avoiding behavior” long before the complete regrowth of the entire body (including the sensory-motor organs). We will demonstrate this phenomenon live (in Petri dishes) and on video under both no-UV (visible) and UV light stimulation. In a dynamic poster mode, we show some observations addressing whether or not the mechanical stress (dissection) switches dominance between the two vision systems.

The joy of intra-saccadic retinal painting
Richard Schweitzer, Humboldt-Universität zu Berlin; Tamara Watson, Western Sydney University; John Watson, Humboldt-Universität zu Berlin; Martin Rolfs, Humboldt-Universität zu Berlin

Is it possible to turn intra-saccadic motion blur – under normal circumstances omitted from conscious perception – into a salient stimulus? With the help of visual persistence, your own eye and/or head movements, and our custom-built setup for high-speed anorthoscopic presentation, you can paint beautiful images and amusing text directly onto your retina.

Build a camera obscura!
Ben Balas, North Dakota State University

Vision begins with the eye, and what better way to understand the eye than to build one? Come make your own camera obscura out of cardboard, tape, and paper, and you can observe basic principles of image formation and pinhole optics.

The Role of Color Filling-in in Natural Images
Christopher Tyler and Josh Solomon, City University of London

We demonstrate that natural images do not look very colorful when their color is restricted to edge transitions. Moreover, purely chromatic images with maximally graded transitions look fully colorful, implying that color filling-in makes no more than a minor contribution to the appearance of extended color regions in natural images.

Chopsticks trick your fingers
Songjoo Oh, Seoul National University

The famous rubber hand illusion is demonstrated by using chopsticks and fingers. A pair of chopsticks simultaneously moves back and forth on your index and middle fingers, respectively. One chopstick is actually touching the middle finger, but the other one is just moving in the air without touching the index finger. If you pay attention only to your index finger, you may erroneously feel the touch come from the index finger, not from the middle finger.

Spinning reflections on depth from spinning reflections
Michael Crognale and Alex Richardson, University of Nevada Reno

A trending novelty toy when spun, induces a striking depth illusion from disparity in specular reflections from point sources. However, “specular” disparity from static curved surfaces is usually discounted or contributes to surface curvature. Motion obscures surface features that compete with depth cues and result in a strong depth illusion.

High Speed Gaze-Contingent Visual Search
Kurt Debono and Dan McEchron, SR Research Ltd

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

Interactions between visual movement and position
Stuart Anstis, University of California, San Diego; Sharif Saleki, Dartmouth College; Mart Ozkan, Dartmouth College; Patrick Cavanagh, York University

Movement paths can be distorted when they move across an oblique background grating (the Furrow illusion). These motions, viewed the periphery, can be paradoxically immune to visual crowding. Conversely, moving backgrounds can massively distort static flashed targets altering their perceived size, shape, position and orientation.(flash-grab illusion).

StroboPong
VSS Staff

Back by popular demand. Strobe lights and ping pong!
ATTENDEE RESOURCES

Abstract Book
A printed Abstract book is no longer provided to each attendee. Printed Abstract books are available for purchase for $12 at the VSS Registration Desk or can be downloaded in PDF format from the VSS website.

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

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

For speakers who did not bring a laptop, there will be a loaner available in the talk room. Please make advance arrangements with Jeff Wilson at the VSS Registration Desk.

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

Business Center
The Business Center is located in the hotel lobby. Computer terminals are available in both the Social Lounge and the Quiet Lounge. A printer is available in the VSS Social Lounge.

Business Meeting
The VSS Business Meeting is Tuesday, May 21, 12:30 – 1:00 pm in Talk Room 2. All VSS members are encouraged to attend. This is your opportunity to hear about VSS, ask questions, and give feedback.

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

Children’s Programs/Childcare
CAMP VSS
New this year, VSS is offering "CAMP VSS," an onsite childcare program especially tailored to the needs of our attendees. CAMP VSS will feature a wide variety of activities for children, ages 6 months to 12 years (separated into age-appropriate groups).

CAMP VSS Hours
Friday, May 17, 11:30 am – 7:15 pm
Saturday, May 18, 8:00 am – 8:30 pm
Sunday, May 19, 8:00 am – 7:30 pm
Monday, May 20, 8:00 am – 2:15 pm
Tuesday, May 21, 8:00 am – 7:30 pm
Wednesday, May 22, 8:00 am – 1:00 pm

CAMP VSS is available for either 1/2-day or full-day sessions. For more information on CAMP VSS, including an overview of activities, a list of rates, and how to register, go to Childcare on the VSS website.

TradeWinds Kids Activities
Both the TradeWinds Island Grand and Guy Harvey hotels feature a number of activities for children and families. For more information on the kids activities available at the TradeWinds, call the Adventure Center at (727) 367-2294 or check the TradeWinds Island Resorts website at www.tradewindsresort.com.

Activities Overview
www.tradewindsresort.com/events-calendar

Daily Kid’s Activities Calendar
www.tradewindsresort.com/explore/kids-activities

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

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

Copying and Printing
Copy and fax services, as well as general use of printers, is available at the Business Center for a fee. Boarding passes may be printed free of charge. Large format printing for posters is available at the UPS Store, located at 4801 Gulf Blvd, approximately a half mile from the TradeWinds Resort. The UPS Store is open Monday through Friday from 8:00 am – 6:30 pm, and on Saturdays from 9:00 am – 3:00 pm. The UPS Store is closed on Sundays.
A printer is available in the VSS Social Lounge.

Cyber Lounge
The Cyber Lounge has merged with the Social Lounge this year. Computers terminals are available in both the Social Lounge and the Quiet Lounge. A printer is available in the Social Lounge.

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

Drink Tickets
Each attendee will receive two “free drink” tickets which may be redeemed at the Opening Night Reception (May 17), Demo Night (May 20), or Club Vision (May 21).
Exhibits
All exhibits are located in the Pavilion.

Exhibit Hours
Saturday, May 18, 9:00 am – 5:30 pm
Sunday, May 19, 9:00 am – 5:30 pm
Monday, May 20, 9:00 am – 12:30 pm
Tuesday, May 21, 9:00 am – 5:30 pm

Exhibitor Setup and Tear down
Setup: Friday, May 17, 4:00 – 7:00 pm
and Saturday, May 18, 7:00 – 8:30 am
Tear down: Tuesday, May 21, 5:30 – 7:30 pm

Fitness Center
The Island Grand fitness center is open daily from 6:00 am – 10:00 pm. The Center is available to attendees staying at either of the TradeWinds hotels. The Guy Harvey Outpost fitness center is open 24/7 with a room key.

Food Service/Catering
Complimentary coffee and tea, as well as a light continental breakfast is available each morning in the Garden Courtyard and the Pavilion. Coffee, tea, and refreshments will also be served each afternoon between afternoon talk sessions.

Your VSS registration includes a reception and a dinner. The Opening Night Reception is held Friday night and the Demo Night dinner is held Monday night. Both events are held on the beach (weather permitting). Attendees may purchase a Friends & Family Pass, which will allow their guests to attend the food and social events. See Friends & Family Pass for details.

Each attendee will be given two “free drink” tickets, good at the Opening Night Reception, Demo Night, or Club Vision.

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

Note: VSS meeting attendees will receive a 10% discount on all food and beverage purchases in ALL TradeWinds Islands Resorts restaurants and bars. You must present your VSS badge to receive the discount.

The 10% discount does not apply to food or drink at VSS events, such as the Opening Night Reception, Demo Night, and Club Vision or Cash Grab and Go Lunches. Discounted pricing has already been applied to these functions.

Grab and Go Lunches (cash)
Friday – Sunday, Tuesday 11:30 am – 2:30 pm, Garden Courtyard
Monday, 11:30 am – 2:30 pm, Grand Palm Colonnade

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

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

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

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

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

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

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

If you did not bring your own computer, a limited number of laptop computers with free internet access are available for your use in both the Quiet and Social Lounges.

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

Lounges
VSS offers two lounge areas exclusively for meeting attendees:

Quiet Lounge
The VSS Quiet Lounge is designed especially for attendees who need a quiet place to read, work, silently meditate, or relax. There will be several laptops available. The Quiet Lounge is located in the Glades room in Jacaranda Hall.

Quiet Lounge Hours:
Friday – Sunday, 7:30 am – 9:30 pm
Monday, 7:30 am – 12:30 pm
Tuesday, 7:30 am – 9:30 pm
Wednesday, 7:30 am – 12:45 pm

Social Lounge
The VSS Social Lounge features comfortable seating for relaxing and visiting with colleagues. There will be several laptops and a printer available, as well as phone charging stations. The Social Lounge is located in the Banyan/Citrus room in Jacaranda Hall.

Social Lounge Hours:
Friday – Sunday, 7:30 am – 9:30 pm
Monday, 7:30 am – 12:30 pm
Tuesday, 7:30 am – 9:30 pm
Wednesday, 7:30 am – 12:45 pm

Message Center
Messages for registrants can be left and retrieved at the Registration Desk. A bulletin board will be available in the Grand Palm Colonnade for announcements and job postings.
Moderators
Please arrive at the meeting room 30 minutes prior to the start of your session to allow time for setup and to check in with your speakers. Please see the Moderator Instructions given to you. Copies are available at the VSS Registration Desk.

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

In addition to the parking at the TradeWinds Island Grand, the property directly to the north of the Island Grand has been purchased by the TradeWinds and will be utilized for additional parking. Access is through the Island Grand guard gate.

Phone Charging Station
Phone charging stations will be located at the VSS Registration Desk and the VSS Social Lounge.

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

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

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

Please be courteous and take down your poster promptly at the end of the session so that the board is empty when the next presenter arrives to put up his or her poster.

Push pins are available for your use and are located in both the Banyan Breezeway and the Pavilion.

Public Transportation
Suncoast Beach Trolley
The Suncoast Beach Trolley connects St. Pete Beach with Pass-a-Grill, Treasure Island, Clearwater and other beach communities along the coast. A bus stop is located directly outside the TradeWinds Resort.
Fare: $2.25/ride or purchase an Unlimited 3-Day Flamingo Fare for $18.00

Central Avenue Trolley
The Central Avenue Trolley serves Central Avenue from The Pier in downtown St. Petersburg to Pass-A-Grille on St. Pete Beach.
Fare: multi-zone pricing ranges from free to $2.25/ride, depending on your destination

The Downtown Looper
Hop aboard the St. Petersburg Trolley/Downtown Looper route to connect you to all of the city’s major museums and attractions. The Looper runs every 15 minutes from 10:00 am – 5:00 pm, and until midnight on Friday and Saturday. Look for the bright red and yellow trolleys.
Fare: $0.50/ride, seniors & disabled: $0.25/ride

Quiet Lounge
See Lounges.

Registration
The Registration Desk is located in the Grand Palm Colonnade. The Registration Desk is open during the following times:
Friday, May 17, 8:30 am – 6:00 pm
Saturday, May 18, 7:30 am – 6:45 pm
Sunday, May 19, 7:30 am – 6:45 pm
Monday, May 20, 7:45 am – 1:30 pm
Tuesday, May 21, 7:45 am – 6:45 pm
Wednesday, May 22, 7:45 am – 12:45 pm

Restaurants and Bars at TradeWinds Island Grand

Palm Court Italian Grill
Located in the Courtyard area, the Palm Court features a fine dining experience with an extensive collection of wines, including many by the glass. Guests may eat indoors or under the stars on the courtyard patio. Dinner reservations are suggested.
Lunch: Monday – Saturday, 11:30 am – 2:00 pm
Brunch: Sunday, 10:00 am – 2:00 pm
Dinner: Monday – Saturday, 5:30 – 10:00 pm (closed Sunday)

Bermudas Steak & Seafood
Bermudas offers a casual setting with a beach view for dinner. Enjoy aged beef, fresh seafood, and regional specialties.
Breakfast: 7:00 – 11:00 am (daily)
Dinner: 5:00 – 10:00 pm (closed Tuesday and Wednesday)

Beef ‘O’ Brady’s
A casual restaurant and poolside sports pub, Beef ‘O’ Brady’s has a fun atmosphere with salads, burgers, and wraps, as well as tasty desserts and frosty island concoctions. Open daily.
Sunday – Thursday, 11:00 am – 11:00 pm
Friday and Saturday, 11:00 am – midnight
Bar Hours: 11:00 am – 2:00 am

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

**RedBeard’s Sharktooth Tavern**
Enjoy nightly live entertainment along with a nice selection of imported bottled beer, full bar, and specialty drinks. Open daily from 4:00 – 11:00 pm (11:00 am – 11:00 pm on Wednesdays and Saturdays). Nightly entertainment is from 8:00 – 9:00 pm. Monday is karaoke night!

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

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

**Room Service at the TradeWinds Island Grand**
Available daily from 6:00 am to 11:00 pm.

**Awakenings Lobby Bar**
An elegant lobby bar in the afternoon and evenings, Awakenings also offers morning coffee by Starbucks. Opens at 6:30 am. Closing varies daily.

**Pizza Hut Express**
Located onsite at the TradeWinds, Pizza Hut Express offers small, medium, and personal pan pizzas, as well as spicy chicken wings. Room delivery is available at the TradeWinds. Open daily from 8:00 am – 10:00 pm (breakfast served 8:00 am – 11:00 am).

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

**Deli**
Located just off the Grand Palm Colonnade, the Deli offers Grab and Go breakfasts, made-to-order sandwiches, salads, snacks and other foods to go. The Deli also features a selection of beverages, including wines. The Deli is open daily from 7:00 am – 2:00 am.

**Restaurants at Guy Harvey Outpost**

**Guy Harvey RumFish Grill**
Guy Harvey RumFish Grill showcases a 33,500 gallon aquarium, which was featured on Animal Planet’s hit series, “Tanked.” Dine on cutting edge seafood, explore the various tanks and enjoy nightly live entertainment with indoor and outdoor bars. Dining hours are 11:30 am – 2:00 pm and 5:00 – 10:00 pm. There is also a Sunday brunch buffet. Reservations are recommended. Bars are open late night.

**Perks Up**
Perks Up offers morning pastries, on-the-go breakfast items, and Starbucks coffee. In the afternoon, guests can stop by for ice cream or enjoy a cocktail. Open daily from 7:00 am – 2:00 pm.

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

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

**Room Service at the Guy Harvey Outpost**
Available daily from 7:00 am – 10:00 pm.

**Ride Sharing**
Ride Sharing is available by logging into your VSS account and selecting “Member Services.”

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

**Social Lounge**
See Lounges.

**Student Events**

**Student/Postdoc Workshop: Peer-networking for Students and Postdocs**
Saturday, 12:45 – 1:45 pm, Jasmine/Palm

**Student/Postdoc Workshop: How to Spend Your Time Well as a Young Researcher**
Sunday, 12:45 – 1:45 pm, Jasmine/Palm

**Undergrad Meet & Greet**
Monday, 3:30 – 4:30 pm, Banyan/Citrus

**Meet the Professors**
Monday, 4:30 – 5:45 pm, Banyan Breezeway

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**Club Vision Dance Party**
**Tuesday, May 21, 10:00 pm – 2:00 am, Talk Room 1**
Club Vision, held on the last night of the meeting, is the final social event of VSS.

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

Don’t miss the highlight of the VSS social calendar. We’ll see you at Club Vision!
S1  Reading as a Visual Act: Recognition of Visual Letter Symbols in the Mind and Brain

Friday, May 17, 2019, 12:00 - 2:00 pm
Talk Room 1

Organizer: Teresa Schubert, Harvard University
Presenters: Teresa Schubert, Alex Holcombe, Kalanit Grill-Spector, Karin James

A great deal of our time as adults is spent reading: Deriving meaning from visual symbols. Our brains, which may have evolved to recognize a lion, now recognize the written word "LION". Without recognizing the letters that comprise a word, we cannot access its meaning or its pronunciation: Letter recognition forms the basis of our ability to read. In this symposium, we will highlight work by a growing number of researchers attempting to bridge the gap in research between vision and language by investigating letter recognition processes, from both a behavioral and brain perspective.

How do we recognize letters as visual objects?
Speaker: Teresa Schubert, Harvard University
Additional Authors: David Rothlein, VA Boston Healthcare System; Brenda Rapp, Johns Hopkins University

Implicit reading direction and limited-capacity letter identification
Speaker: Alex Holcombe, University of Sydney
Additional Authors: David Rothlein, VA Boston Healthcare System; Brenda Rapp, Johns Hopkins University

How learning to read affects the function and structure of ventral temporal cortex
Speaker: Kalanit Grill-Spector, Stanford University
Additional Authors: Marisa Nordt, Stanford University; Vaidehi Natu, Stanford University; Jesse Gomez, Stanford University and UC Berkeley; Brianna Jeska, Stanford University; Michael Barnett, Stanford University

Visual experiences during letter production contribute to the development of the neural systems supporting letter perception
Speaker: Karin James, Indiana University
Additional Authors: Sophia Vinci-Booher, Indiana University

S2  Rhythms of the Brain, Rhythms of Perception

Friday, May 17, 2019, 12:00 - 2:00 pm
Talk Room 2

Organizers: Laura Dugué, Paris Descartes University & Suliann Ben Hamed, Université Claude Bernard Lyon 1
Presenters: Suliann Ben Hamed, Niko Busch, Laura Dugue, Ian Fiebelkorn

The phenomenological, continuous, unitary stream of our perceptual experience appears to be an illusion. Accumulating evidence suggests that what we perceive of the world and how we perceive it rises and falls rhythmically at precise temporal frequencies. Brain oscillations -rhythmic neural signals- naturally appear as key neural substrates for these perceptual rhythms. How these brain oscillations condition local neuronal processes, long-range network interactions, and perceptual performance is a central question to visual neuroscience. In this symposium, we will present an overarching review of this question, combining evidence from monkey neural and human EEG recordings, TMS interference studies, and behavioral analyses.

The prefrontal attentional spotlight in time and space
Speaker: Suliann Ben Hamed, Université Claude Bernard Lyon 1

Neural oscillations, excitability and perceptual decisions
Speaker: Niko Busch, WWU Münster

The rhythms of visual attention
Speaker: Laura Dugue, Paris Descartes University

Rhythmic sampling of the visual environment provides critical flexibility
Speaker: Ian Fiebelkorn, Princeton University
S3 What Can Be Inferred About Neural Population Codes from Psychophysical and Neuroimaging Data?

Friday, May 17, 2019, 2:30 - 4:30 pm, Talk Room 1
Organizer: Fabian Soto, Department of Psychology, Florida International University
Presenters: Justin L. Gardner, Rosie Cowell, Kara Emery, Jason Hays, Fabian A. Soto

Vision scientists have long assumed that it is possible to make inferences about neural codes from indirect measures, such as those provided by psychophysics (e.g., thresholds, adaptation effects) and neuroimaging. While this approach has been very useful to understand the nature of visual representation in a variety of areas, it is not always clear under what circumstances and assumptions such inferences are valid. This symposium has the goal of highlighting recent developments in computational modeling that allow us to give clearer answer to such questions.

Inverted encoding models reconstruct the model response, not the stimulus
Speaker: Justin L. Gardner, Department of Psychology, Stanford University
Additional Authors: Taosheng Liu, Michigan State University

Bayesian modeling of fMRI data to infer modulation of neural tuning functions in visual cortex
Speaker: Rosie Cowell, University of Massachusetts Amherst
Additional Authors: Patrick S. Sadil, University of Massachusetts Amherst; David E. Huber, University of Massachusetts Amherst

Inferring neural coding strategies from adaptation aftereffects
Speaker: Kara Emery, University of Nevada Reno

What can be inferred about changes in neural population codes from psychophysical threshold studies?
Speaker: Jason Hays, Florida International University
Additional Authors: Fabian A. Soto, Florida International University

What can be inferred about invariance of visual representations from fMRI decoding studies?
Speaker: Fabian A. Soto, Florida International University
Additional Authors: Sanjay Narasiwodeyar, Florida International University

S4 Visual Search: From Youth to Old Age, from the Lab to the World

Friday, May 17, 2019, 2:30 - 4:30 pm, Talk Room 2
Organizer: Beatriz Gil-Gómez de Liaño, Brigham & Women's Hospital-Harvard Medical School and Cambridge University
Presenters: Beatriz Gil-Gómez de Liaño, Iris Wiegand, Martin Eimer, Melissa L-H Võ, Lara García-Delgado, Todd Horowitz

This symposium aims to show how visual search works in children, adults and older age, in realistic settings and environments. We will review what we know about visual search in real and virtual scenes, and its applications to solving global human challenges. Insights of brain processes underlying visual search during life will also be shown. The final objective is to better understand visual search as a whole in the lifespan, and in the real world; and to demonstrate how science can be transferred to society improving human lives, involving children, as well as younger and older adults.

Visual Search in children: What we know so far, and new challenges in the real world
Speaker: Beatriz Gil-Gómez de Liaño, Brigham & Women's Hospital-Harvard Medical School and Cambridge University

Visual Search in the older age: Understanding cognitive decline
Speaker: Iris Wiegand, Max Planck UCL Center for Computational Psychiatry and Ageing Research

Component processes of Visual Search: Insights from neuroscience
Speaker: Martin Eimer, Birkbeck, University of London

Visual Search goes real: The challenges of going from the lab to (virtual) reality
Speaker: Melissa L-H Võ, Goethe University Frankfurt

Crowdsourcing Visual Search in the real world: Applications to Collaborative Medical Image Diagnosis
Speaker: Lara García-Delgado, Biomedical Image Technologies, Department of Electronic Engineering at Universidad Politécnica de Madrid, and member of Spotlab, Spain
Additional Authors: Miguel Luengo-Oroz, Daniel Cuadrado, & Maria Postigo. Universidad Politécnica de Madrid & founders of Spotlab

Discussant
Speaker: Todd Horowitz, Program Director at the National Cancer Institute, USA
**S5  What Deafness Tells Us About the Nature of Vision**

Friday, May 17, 2019, 5:00 - 7:00 pm, Talk Room 1  
Organizer: Rain Bosworth, Ph.D., Department of Psychology, University of California, San Diego  
Presenters: Matthew Dye, Ph.D., Olivier Pascalis, Ph.D., Rain Bosworth, Ph.D., Fang Jiang, Ph.D., Geo Kartheiser, Ph.D.  
It is widely believed that loss of one sense leads to enhancement of the remaining senses – for example, deaf see better and blind hear better. The reality, uncovered by 30 years of research, is more complex, and this complexity provides a fuller picture of the brain's adaptability in the face of atypical sensory experiences. In this symposium, neuroscientists and vision scientists will discuss how sensory, linguistic, and social experiences during early development have lasting effects on perceptual abilities and visuospatial cognition. Presenters offer new findings that provide surprising insights into the neural and behavioral organization of the human visual system.

**Spatial and Temporal Vision in the Absence of Audition**  
Speaker: Matthew Dye, Ph.D., Rochester Institute of Technology/National Technical Institute for the Deaf (RIT/NTID)

**What is the Impact of Deafness on Face Perception and Peripheral Visual Field Sensitivity?**  
Speaker: Olivier Pascalis, Ph.D., Laboratoire de Psychologie et NeuroCognition, CNRS, Grenoble, France

**Psychophysical Assessment of Contrast, Motion, Form, Face, and Shape Perception in Deaf and Hearing People**  
Speaker: Rain Bosworth, Ph.D., Department of Psychology, University of California, San Diego

**Measuring Visual Motion Processing in Early Deaf Individuals with Frequency Tagging**  
Speaker: Fang Jiang, Ph.D., Department of Psychology, University of Nevada, Reno, USA

**Neuroplasticity of Spatial Working Memory in Signed Language Processing**  
Speaker: Geo Kartheiser, Ph.D., NTID Center on Cognition and Language, Rochester Institute of Technology, Rochester, NY, USA

**S6  Prefrontal Cortex in Visual Perception and Recognition**

Friday, May 17, 2019, 5:00 - 7:00 pm, Talk Room 2

Organizer(s): Biyu Jade He, NYU Langone Medical Center  
Presenters: Diego Mendoza-Halliday, Vincent B. McGinty, Theofanis I Panagiotaropoulos, Hakwan Lau, Moshe Bar  
The role of prefrontal cortex (PFC) in vision remains mysterious. While it is well established that PFC neuronal activity reflects visual features, it is commonly thought that such feature encoding in PFC is only for the service of behaviorally relevant functions. However, recent emerging evidence challenges this notion, and instead suggests that the PFC may be integral for visual perception and recognition. This symposium will address these issues from complementary angles, deriving insights from the perspectives of neuronal tuning in nonhuman primates, neuroimaging and lesion studies in humans, recent development in artificial intelligence, and to draw implications for psychiatric disorders.

**Partially-segregated population activity patterns represent perceived and memorized visual features in the lateral prefrontal cortex**  
Speaker: Diego Mendoza-Halliday, McGovern Institute for Brain Research at MIT, Cambridge MA  
Additional Authors: Julio Martinez-Trujillo, Robarts Research Institute, Western University, London, ON, Canada

**Mixed selectivity for visual features and economic value in the primate orbitofrontal cortex**  
Speaker: Vincent B. McGinty, Rutgers University - Newark, Center for Molecular and Behavioral Neuroscience Rutgers University - Newark, Center for Molecular and Behavioral Neuroscience

**Mapping visual consciousness in the macaque prefrontal cortex**  
Speaker: Theofanis I Panagiotaropoulos, Neurospin, Paris, France

**Persistent confusion on the role of the prefrontal cortex in conscious visual perception**  
Speaker: Hakwan Lau, UCLA, USA

**What's real? Prefrontal facilitations and distortions**  
Speaker: Moshe Bar, Bar-Ilan University, Israel  
Additional Authors: Shira Baror, Bar-Ilan University, Israel

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**Society for Vision Sciences**  
**Vision Sciences Society**  
**VSS 2019 Program**

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Vision Sciences Society
**Eye Movements: Perception**

**Saturday, May 18, 8:15 - 9:45 am, Talk Room 1**  
**Moderator: Doris Braun**

21.11, 8:15 am The Effect of Extended Target Concealment on Motion Extrapolation  
Carlene A Horner, Julia E Schroeder, Stephen R Mitroff, Matthew S Cain

21.12, 8:30 am Eye decide: eye movement initiation relates to decision accuracy in a go/no-go interception task  
Jolande Fooken, Miriam Spering

21.13, 8:45 am Preparing to act: Modulations of visual perception across the foveola associated with microsaccade preparation.  
Natalya D Shelchkova, Martina Poletti

21.14, 9:00 am Resource limitations in transsaccadic integration  
Lisa M Kroell, David Aagten-Murphy, Paul M Bays

21.15, 9:15 am Object identity determines transsaccadic integration  
Michael H Herzog, Leila Drissi Daoudi, Haluk Ögmen, Guido Marco Cicchini

21.16, 9:30 am Face familiarity revealed by ocularmotor inhibition on the fringe of awareness  
Yoram S Bonneh, Gal Rosenzweig

**3D Perception**

**Saturday, May 18, 10:45 am - 12:30 pm, Talk Room 1**  
**Moderator: Jody Culham**

22.11, 10:45 am Does the world look flat? Sustained representation of perspectival shape  
Jorge Morales, Chaz Firestone

22.12, 11:00 am Perceived distance to augmented reality images is influenced by ground-contact  
Grant Pointon, Carlos Salas, Haley Adams, Sarah Creem-Regehr, Jeanine Stefanucci, Bobby Bodenheimer, William B Thompson

22.13, 11:15 am Real-time blur with chromatic aberration drives accommodation and depth perception  
Steven A Cholewiak, Peter Shirley, Morgan McGuire, Martin S Banks

22.14, 11:30 am Which aspects of size and distance for real objects are coded through the hierarchy of visual areas?  
Margarita V Maltseva, Derek J Quinlan, Kevin M Stubbs, Talia Konkle, Jody C Culham

22.15, 11:45 am The size of objects in visual space compared to pictorial space  
Adam O Bebko, Nikolaus F Troje

22.16, 12:00 pm The Intrinsic Constraint Model: A non-Euclidean approach to 3D shape perception from multiple image signals  
Jovan T Kemp, Evan Cesanek, Fulvio Domini

22.17, 12:15 pm Influence of 2D Shape on Contour Depth Perception  
Krista A Ehinger, Yiming Qian, Laurie M Wilcox, James H Elder

**Spatial Vision: Crowding, eccentricity, natural image statistics, texture**

**Saturday, May 18, 8:15 - 9:45 am, Talk Room 2**  
**Moderator: David Whitney**

21.21, 8:15 am The gradient of parafoveal crowding  
Daniel R Coates, Dennis M Levi, Ramkumar Sabesan

21.22, 8:30 am Lost lines in warped space: Evidence for spatial compression in crowded displays  
Fazilet Zeynep Yildirim, Daniel R. Coates, Bilge Sayim

21.23, 8:45 am Inhomogeneous Visual Acuity Correlated With Idiosyncratic Mislocalization  
Zixuan Wang, Yuki Murai, David Whitney

21.24, 9:00 am Using fMRI to link crowding to hV4  
Augustin Burchell, Noah C Benson, Jing Y Zhou, Jonathan A Winawer, Denis G Pelli

21.25, 9:15 am A canonical computational model of cortical area V2  
Timothy D Oleskiw, Eero P Simoncelli

21.26, 9:30 am Extracting image statistics by human and machine observers  
Chien-Chung Chen, Hsiao Yuan Lin, Charlie Chubb

**Attention: Animacy, attentional blink**

**Saturday, May 18, 10:45 am - 12:30 pm, Talk Room 2**  
**Moderator: Yaffa Yeshurun**

22.21, 10:45 am Are familiar rhythms a top-down – bottom-up hybrid cue of visual temporal attention?  
Asaf Elbaz, Yaffa Yeshurun

22.22, 11:00 am Ensemble perception of faces within the focus of attention is biased towards unattended and task-irrelevant faces  
Viola S Störmer

22.23, 11:15 am High-level interference and low-level priming in the Attentional Blink  
Daniel Lindh, Ilja Sligte, Kimron Shapiro, Ian Charest

22.24, 11:30 am Visual search proceeds concurrently during the attentional blink and response selection bottleneck  
JongMin Lee, Suk Won Han

22.25, 11:45 am Do Non-Target Emotional Stimuli Modulate the Attentional Blink?  
Lindsay A Santacroce, Nathan Petro, Christopher Walker, Benjamin J Tamber-Rosenau

22.26, 12:00 pm The Cognitive Architecture of Intentionality Perception: Animacy, Attention and Memory  
Ning Tang, Haokui Xu, Chris Baker, Josh Tenenbaum, Tao Gao

22.27, 12:15 pm Intrinsic curiosity may give rise to animate attention  
Julian De Freitas, Kun Ho Kim, Nick Haber, Colin Conwell, George A Alvarez, Daniel L.K. Yamins
Saturdays Morning Posters

Multisensory Processing: Auditory 1
Saturday, May 18, 8:30 am - 12:30 pm, Banyan Breezeway

23.301 Bayesian causal inference modeling of attentional effects on the temporal binding window of multisensory integration
Leslie D Kwakye, Victoria Fisher, Margaret Jackson, Oona Jung-Beeman

23.302 Temporal binding across senses facilitates change detection within senses
Thomas P.F. Schaffhauser, Yves Boubenech, Pascal Mamassian

23.303 Time Dependence of Predictive and Postdictive Auditory-Visual Processing: The Temporally Extended Audiovisual Rabbit Illusion
Armand R. Tanguay, Jr, Noelle R. B. Stiles, Ishani Ganguly, Shinuksne Shimojo

23.304 Vision in the extreme-periphery (2): Concurrent auditory stimuli degrade visual detection
Takashi Suegami, Christopher C Berger, Daw-An Wu, Mark Changizi, Shinuksne Shimojo

23.305 Human sensory dominance is modulated by stimulus temporal uncertainty rather than by spatial uncertainty
P-Chun Huang, Yi-Chuan Chen

23.306 Time-resolved discrimination of audiovisual expressions of emotion in children with and without autism
Kirsty Ainsworth, Federica Falagiarda, Victoria Fisher, Margaret Jackson, Oona Jung-Beeman

23.307 Modality switch effects and the impact of predictability of the sensory environment
Maria Bianca Amadeo, Michael C. Crosse, Monica Gori, Claudio Campus, John J. Foxe, Sophie Molholm

23.308 Auditory information facilitates sensory evidence accumulation during visual object recognition
Jamal R Williams, Viola S Störmer

23.309 Visual-auditory crossmodal priming affects visual texture recognition
Kohta Wakamatsu, Michael J. Proulx, Shigeki Nakauchi

Faces: Disorders
Saturday, May 18, 8:30 am - 12:30 pm, Banyan Breezeway

23.310 Development of facial expression recognition following extended blindness: The importance of motion
Sharon Gilad-Gutnick, Grace Kurian, Priti Gupta, Kashish Tiwari, Pragya Shah, Sruti Raja, Shlomit Ben-Ami, Tapan Gandhi, Suma Ganesh, Pawan Sinha

23.311 Effects of simulated visual impairment on orientation, shape, and emotion perception
Andrea Li, Byron Johnson, Carolyn Ortiz-Wood, Monika Devi, Chayala Friedman, Silvia Calderon, Khalid Barnes, Chananya Stern, Michael Martinez, Brianna Bisogno, Hafsah Khan, Nicole Cavallo

23.312 Behavioural profiles and neural correlates of higher-level vision after posterior cerebral artery stroke
Grace E Rice, Sheila J Kerry, Ro Julia Robotham, Alex P Leff, Matthew A Lambon Ralph, Randi Starrfelt

23.313 Face processing in patients with Parkinson’s disease and dementia: examined with morphing face discrimination, dynamic emotion recognition, and expression imitation tasks
Wen Reng Mary Ho, Sarina Hui-Lin Chien, Chon-Haw Tsai, Hsien-Yuan Lane

23.314 Impairment in facial expression perception but normal biological motion perception in a patient with a lesion to right posterior STS
Sharon Gilaie-Dotan, Sarah B Herald, Neta Yitzhak, Hillevi Aviezer, Brad Duchaine

23.315 Evidence for separate processing of facial identity and expression information in an acquired prosopagnosia
Marie-Luise Kieseler, Sarah B Herald, Guo Jiahui, Bradley C Duchaine

23.316 Congenital Prosopagnosics Show Reduced Configural Effects in an Odd-Man-Out Detection Task
Rafael S Maarek, Emily X Meschke, Irving Biederman

23.317 Differences in representational geometries of prosopagnosics and neurotypical controls
Mirta Stantic, Michael A Cohen, George A Alvarez

23.318 Facial gender discrimination in developmental prosopagnosia
Katie L.H. Gray, Jade E. Marsh, Richard Cook

23.319 The prevalence and nature of face perception impairments in developmental prosopagnosia
Eunmyoung Lee, Maruti Mishra, Anna Stumps, Elyana Saad, Joseph Arizpe, Joseph DeGutis

23.320 The temporal limits of the face inversion effect in developmental prosopagnosia
Jade E Marsh, Richard Cook, Peter Scarfe, Katie L.H. Gray

23.321 Developmental prosopagnosics have impaired collection but intact aspects of familiarity during recognition of newly-learned faces
Anna D Stumps, Elyana Saad, EunMyoung Lee, Joseph Arizpe, Joseph DeGutis

23.322 Prosopagnosia without object agnosia? A systematic study of a large sample of developmental cases
Tirta Susilo, Hazel K Godfrey

23.323 Is Grapheme Colour Synesthesia linked to Prosopagnosia? Thea K Ulmio, Thomas Alrik Sørensen

23.324 The neural basis underlying impaired recognition of angry expression in ADHD children measured by near-infrared spectroscopy
Megumi Kobayashi, Masako Nagashima, Tatsuya Tokuda, Takahiro Ikeda, Yukifumi Monden, So Kanazawa, Masami K Yamaguchi, Ryoiichi Sakuta, Takanori Yamagata, Ippeita Dan

23.325 Red background facilitates low spatial frequency fearful face processing in groups with high autistic tendency
Eveline Mu, Laila Hugrass, David P Crewther

23.326 Slow segmentation of faces in Autism Spectrum Disorder
Carlijn van den Boomen, Johannes J Fahrenfort, Tineke M Snijders, Chantal Kemner

23.327 Fast periodic visual stimulation EEG reveals reduced social bias in autism
Sofie Vettori, Milena Dzhelyova, Stephanie Van der Donck, Corentin Jacques, Jean Steyaert, Bruno Rossion, Bart Boets

23.328 Trait anxiety is associated with an enhanced perceptual sensitivity for negative facial expressions.
Li-Chuan Hsu, Yi-Min Tien, Chia-Yao Lin, Ya-Ting Wu

23.329 The role of attachment style in the holistic perception of expression
Elizabeth C Gregory, Xiaoyi Liu, James W Tanaka

Perceptual Learning: Models, applications
Saturday, May 18, 8:30 am - 12:30 pm, Banyan Breezeway

23.330 Transfer of Expertise in Deep Neural Networks
Sumit Binnani, Tejas Desai, Garrison Cottrell

23.331 Leveling the Field: Comparing the Visual Perception of Stability across Humans and Machines
Colin Conwell, George A Alvarez

23.332 Evolution of decision weights and eye movements through learning in visual search
Ilmari Kurki, Miguel P Eckstein

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23.333 How do regularities bias attention to visual targets? Ru Qi Yu, Jiaying Zhao
23.334 Does exogenous spatial attention facilitate perceptual learning transfer in acuity and hyperacuity tasks? Ian Donovan, Angela Shen, Antoine Barbot, Marisa Carrasco
23.335 Trial-by-trial feedback does not improve performance or metacognition in a large-sample perceptual task Nadia Haddara, Dobromir Rahnev
23.336 Persistent and flexible perceptual training effect in simulated retinal implant vision Lihui Wang, Fariba Sharifi, Jonathan Napp, Carola Nath, Stefan Pollmann
23.337 Differences in Task-Relevant Perceptual Learning For Older Adults Ryan V Ringer, Dominic Canare, Jake Ellis, Inga Sogaard, Rui Ni
23.338 Training with simulated lung nodules in X-rays can improve the localization performance of radiology residents Malerie G McDowell, William R Winter, Edwin F Donnelly, Frank Tong
23.339 Perceptual Learning of Optical Coherence Tomography Image Classification Evan M Palmer, Elnaz Amiri, Patty Sha, Sophia Yu, Gregory Anderson, Gary C Lee
23.340 Perceptual learning of chest X-ray images Sha Li, Roger W Remington, Yuhong V Jiang
23.341 Examining Class Dependant Sub-Paths in Deep Neural Networks Mathew Monfort, Kandan Ramakrishnan, Alex Andonian, Aude Oliva
23.342 Category learning enhances visual perception at the boundary Sean R O’Bryan, Anto Jude Mohan, Hao Nguyen, Tyler Davis, Miranda Scolari
23.343 Properties of invariant object recognition in human one-shot learning suggests a hierarchical architecture different from deep convolutional neural networks Yena Han, Gemma Roig, Gad Geiger, Tomas A Poggio
23.344 Evaluating the performance of the staircase and qCD methods in measuring specificity/transfer of perceptual learning Pan Zhang, Yukai Zhao, Barbara Dosher, Zhong-Lin Lu
23.345 Generalization of learning in n-AFC orientation identification Jiajuan Liu, Barbara A. Dosher, Zhong-Lin Lu
23.346 Cholinergic facilitation of visual perceptual learning of texture discrimination Kelly N Byrne, Michael A Silver
23.347 Different but complementary roles of NREM and REM sleep in facilitation of visual perceptual learning associated with neurotransmitters changes revealed by magnetic resonance spectroscopy. Masako Tamaki, Zhiyan Wang, Tyler Barnes-Diana, Takashi Yamada, Edward G Walsh, Takeo Watanabe, Yuka Sasaki
23.348 Evidence Supporting Neuro-modulator Release as a Function Perceptual Learning. Steven R Holloway, José E Náñez, Sr, Michael K McBeath
23.349 Alcoholic drink preferences modulate acquired salience Kristen L Sanders, Thomas W James

Object Recognition: Features, parts, reading

23.350 How are spatial relations among object parts represented? Evidence from a shape recall experiment Thitaporn Chaissirprungraung, Gillian Miller, Michael McCloskey
23.351 Behavioral and Neural Associations between Object Size and Curvature Caterina Magri, Bria Long, Rocco Chiou, Talia Konkle
23.352 Diagnostic Features for Visual Object Recognition in Humans Quentin Wohlfarth, Martin Arquín
23.353 The dominance of spatial information in location judgments: A persistent congruency bias even amidst conflicting statistical regularities Anisha S Babu, Paul S Scotti, Julie D Golomb
23.354 Expectations modulate the time course of information use during object recognition Laurent Caplette, Greg L West, Frédéric Gosselin
23.355 Impact of Developing Perceptual Expertise on Eye Fixations Adam H Dickter, Chris I Baker
23.356 The Role of Awareness in Figure-ground Segregation in Human Visual System Ling Huang, Xilin Zhang
23.357 Stimulus-specific learning facilitates ensemble processing of cars Oakyoon Cha, Randolph Blake, Isabel Gauthier
23.358 The effect of spatial properties on trypophobia Kanichi Fukumoto, Mototsugu Hayashi, Kenji Yokoi
23.359 Categorical perception in data visualizations Caitlyn M McCooleman, Steven L Franconeri
23.360 Can we improve the perception of crowded digits with a new font using vertical shifts? Sofie Beier, Jean-Baptiste Bernard
23.361 Shape features learned for object classification can predict behavioral discrimination of written symbols Daniel Janini, Talia Konkle
23.362 EEG-based decoding of visual words from perception and imagery Shouyu Ling, Andy C.H. Lee, Blair C. Armstrong, Adrian Nestor
23.363 Visual Word Recognition as a Means of Addressing Top-Down Feedback Simon M Kaplan, Chunyue Teng, Dwight J Kravitz
23.364 Effort and Effortlessness in Visual Word Recognition Adi Shechter, Tami Katzir, David L. Share
23.365 Training peripheral vision to read: is the improvement due to increased temporal processing? Deyue Yu, Ryan R Loney
23.366 Inter-hemispheric comparison of population receptive fields for visual cortical responses to words Zhiheng Zhou, Lars Strother
23.367 The spatiotemporal deployment of processing resources in developmental dyslexia Simon Fortier-St-Pierre, Martin Arquín
23.368 Atypical topography of high-level visual cortex is associated with reading difficulty Emily Kubota, Jason D Yeatman

Perceptual Organization: Figure ground, models, neural mechanisms

Saturday, May 18, 8:30 am - 12:30 pm, Pavilion
23.401 Exploring perceptual illusions in deep neural networks Emily J Ward
23.402 Primary Visual Cortex is Active in Response to Stimulation of Phenomenally Blind Areas of the Visual Field in Patients with Cortical Blindness Colleen L Schneider, Emily K Prentiss, Ania Busza, Kelly Matmati, Nabil Matmati, Zoe R Williams, Bogachan Sahin, Bradford Z Mahon
23.403 Convexity vs. Implied-Closure in Figure-Ground Organization Tanvika Ghose, Ananya Mukherjee
23.404 Impact of the watercolor illusion on figure-ground reversibility Ralph G Hale
23.405 The Influence of Semantics on Figure Assignment: Unmasked Primes, Masked Primes, and Context Rachel M Skocypec, Mary A Peterson
23.406 Further exploration of antagonistic interactions in figure-ground perception Jaeseon Song, James M Brown
23.407 Response dependence of reversal-related ERP components in perception of Ambiguous Figures  
Diane Abdallah, Joseph Brooks

23.408 Concentric Bias of Surround Suppression in Early Human Visual Cortex  
Juhuyong Ryu, Sang-Hun Lee

23.409 Dissociable properties of gamma range activity in human early visual cortex when viewing gratings and natural images  
Eleonora Bartoli, William Bosking, Ye Li, Michael Beauchamp, Daniel Yoshor, Brett Foster

23.410 Defining the locus of adaptive changes in visual cortex during associative learning  
Maev R Boyle, Harold A Rocha, Andreas Keil

23.411 Attenuated brain responses to Gestalts at threshold: differential predictive processing behind Gestalt phenomena?  
Thiago L. Costa, Andrey R Nikolaev, Cees van Leeuwen, Johan Wagemans

23.412 Word signs recruit the visual word form area in proficient signers  
Jodie Davies-Thompson, Carly Anderson, Douglas EH Hartley, Olivier Collignon

23.413 What can be inferred about independence and invariance of brain representations from fMRI decoding studies?  
Sanjay Narasiwodeyar, Fabian A. Soto

23.414 Perception of Apparent Motion is Constrained by Geometry, not motion  
Yaxin Liu, Stella F. Lourenco

23.415 An image computable model of visual shape similarity  
Yaniv Morgenstern, Filip Schmidt, Frieder Hartmann, Henning Tiedemann, Eugen Prokott, Guido Maiello, Roland Fleming

**Visual Memory: Encoding, retrieval**

Saturday, May 18, 8:30 am - 12:30 pm, Pavilion

23.416 An investigation on the influence of prior experience on working memory representations  
Diana C Perez, Mary A Peterson

23.417 Comparing the categorical structure of perceived and recalled images in visual cortex and hippocampus  
Wilma A Bainbridge, Elizabeth H Hall, Chris I Baker

23.418 Temporal Boundary Extension in the Representation of Actions  
Gennady Erlikhman, Hongjing Lu

23.419 More than statistics: Active hypothesis testing during visual learning  
Kathryn N Graves, Nicholas B Turk-Browne

23.420 Encoding context overlap facilitates learning of common structures among similar visual events  
Ghooatam Kim, Su Keun Jeong, Brice Alan Kuhl

23.421 Are eye movements beneficial for memory retrieval?  
Hikari Kinjo, Jolande Fooko, Miriam Spering

23.422 Low-level object properties impact memory recollections  
Jean-Maxime Larouche, Frederic Gosselin

23.423 The effect of unprovoked eye movements during visual working memory retention  
Carly J. Leonard, Alexander S. Morales

23.424 Unintentional forgetting is beyond cognitive control  
Emma Megla, Bernadette Dezso, Ashleigh M Maxcey

23.425 Younger and older adults utilize dissociable neural mechanisms to up-regulate encoding of visual long-term memory.  
April E Pereira, Caitlin Tozios, Keisuke Fukuda

23.426 Consolidating Multiple Items Into Visual Working Memory is a Parallel and Remarkably Fast Process  
Michael S Pratte, Marshall L Green

23.427 Is “confirmation bias” always a bad thing?  
Cheng Qiu, Long Luu, Alan A Stocker

23.428 Spatial biases in visual working memory encoding persist despite controlled gaze position  
Colin Quirk, Albert Chen, Edward K Vogel

**Spatial Vision: Neural mechanisms**

Saturday, May 18, 8:30 am - 12:30 pm, Pavilion

23.429 Perceived metamorphopsia and orientation discrimination threshold before and after the surgical removal of epiretinal membrane  
Ruijing Xia, Birbin Su, Tianyu Chen, Jia Zhou, Hua Bi, Bin Zhang

23.430 The relation of individual variation in total retinal ganglion cell layer thickness to post-retinal anatomy  
Geoffrey K Aguirre, Ritabrato Datta, Min Chen, Kara Cloud, Jessica I. W. Morgan

23.431 Surface area and cortical magnification of V1, V2, and V3 in a large sample of human observers  
Noah C Benson, Davie Yoon, Dylan Forenzo, Stephen A Engel, Jonathan Winawer, Kendrick N Kay

23.432 Heritability of V1/V2/V3 surface area in the HCP 7T Retinotopy Dataset  
Jennifer M Yoon, Noah C Benson, Dylan Forenzo, Jonathan Winawer, Stephen A Engel, Kendrick N Kay

23.433 A cell population model of retinal ganglion cell layer thickness  
Kara N Cloud, Min Chen, Jessica I. W. Morgan, Geoffrey K. Aguirre

Yingchen He, Jonathon Toft-Nielsen, Susan Sun, Arup Roy, Avi Caspi, Sandra R. Montezuma

23.435 Estimating the bandwidth of tuned normalization within human visual cortex  
Michaela Klimova, Ilona Bloem, Sam Ling

23.436 Improved methods for decoding sensory uncertainty from activity in the human visual cortex  
Ruben S. van Bergen, Janneke F.M. Jehee

23.437 Population contrast response functions in human visual cortex  
Louis N Vinke, Ilona M Bloem, Sam Ling

23.438 Distinct mechanisms limit contrast sensitivity across retinal eccentricity and polar angle  
Antoine Barbot, Jared Abrams, Marisa Carrasco

23.439 Contrast-dependent spatial frequency selectivity in macaque V1 neurons explained with tuned contrast gain control  
Paul G Levy, Eero P Simoncelli, J. Anthony Movshon

23.440 Normalization by the variance across orientation channels in human V1-V3  
Jonathan Winawer, Zeming Fang, Wei Ji Ma

23.441 Neural correlates of the double-drift illusion  
Noah J. Steinberg, Zvi N. Roth, J. Anthony Movshon, Elisha P. Merriam

23.442 Impaired egocentric spatial representations by congenital deafness: neural evidence from a multimodality neuroimaging study  
Hui Li, Xiaolin Zhou, Qi Chen

23.443 Saliency and the population receptive field model to identify images from brain activity  
Alex Hernandez-Garcia, Wietske Zuiderbaan, Akhil Edadan, Serge O. Dumoulin, Peter König

23.444 The north effect is more pronounced for orientation discrimination than simple detection of spatial frequency gratings.  
Leslie Cameron, Michael W Levine, Jennifer E Anderson

23.445 Differential involvement of EEG oscillations in identity vs. spatial-relation reasoning tasks  
Andrea Alamia, Matthew Ricci, Junkyung Kim, Thomas Serre, Rufin VanRullen

23.446 Sharpening Vision by Adapting to flicker  
Derek H Arnold, Eleanor Moses, Melvyn A Goodale

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Attention: Features and objects 1
Saturday, May 18, 8:30 am - 12:30 pm, Pavilion

23.447 Feature-based attention resolves differences in target-distractor similarity through multiple mechanisms  
Angus F Chapman, Frederik Geweke, Viola S Störmer

23.448 Does Global Precedence Occur with Displays of Multiple Hierarchical Objects?  
Jong Han Lee, Thomas Sanocki

23.449 Feature-specific preparatory signals across the visual hierarchy  
Taosheng Liu, Mengyuan Gong

23.450 Surface-Object Interactions in Object-Based Attention  
Taissa Lytchenko, Genna Erlikhman, Nathan H Heller, Marvin R Macchler, Gideon P Caplovitz

23.451 Understanding failures to replicate the influence of grouping cues on the flanker-congruency effect  
Cathleen M Moore, Sihan He, J Toby Mordkoff

23.452 Semantic Associations Between Scenes and Objects  
Bias Attention Even When Task-irrelevant  
Joseph C Nah, George L Malcolm, Sarah Shomstein

23.453 Object-based Attentional Modulation of EEG Alpha is Related to Task Difficulty  
Sean L Noah, Travis Powell, Natalia Khodayari, Diana Olivan, Mingzhou Ding, George R Mangun

23.454 How to create objects with your mind: From object-based attention to attention-based objects  
Joan Danielle K Ongchoco, Brian Scholl

23.455 Effects of semantic information on task-irrelevant attentional processing  
Ellie R Robbins, Andrew J Collegio, Joseph C Nah, Dick Dubbelde, Sarah Shomstein

23.456 The binding between representations of own team and self in perceptual matching  
Yang Sun, Wei Huang, Haixu Wang, Changhong Liu, Jie Sui

23.457 Object-based templates for rejection  
Tomoyuki Tanda, Jun Kawahara

23.458 Gaze attraction toward higher-order image features generated by deep convolutional neural network  
Rina Watanabe, Tomohiro Nishino, Kazuaki Akamatsu, Yoichi Miyawaki

23.459 Costs of attentional set-shifting during dynamic foraging, controlled by a novel Unity3D-based integrative experimental toolkit  
Marcus R Watson, Benjamin Voloh, Christopher Thomas, Asif Hasan, Thilo Womelsdorf

23.460 Averaging is not a coarse processing  
Jihong Lee, Sang Chul Chong

Temporal Processing: Mechanisms
Saturday, May 18, 8:30 am - 12:30 pm, Pavilion

23.461 Less Efficient Magnocellular Processing: A Common Deficit in Neurodevelopmental Disorders  
Alyse C Brown, Jessica Peters, Carl Parsons, David P Crewther, Sheila G Crewther

23.462 Visual discrimination of spatiotemporal average orientation.  
Hiromi Sato, Takumi Oide, Ryuto Yashiro, Isamu Motoyoshi

23.463 Measuring the Information Content of Visually-Evoked Neuroelectric Activity  
Michelle R Greene, David J Field, Bruce C Hansen

23.464 Entrainment of brain oscillations persists after the entrainer removal  
Mónica Otero, Pavel Prado, Alejandro Weinstein, María-José Escobar, Wael El-Deredy

23.465 Behavioural oscillations in subjective timing: the intentional binding effect modulates over time  
Huihui Zhang, David Alais

23.466 Dissociable effects of attention and expectation on perceptual decision making  
Nuttida Rungratsameetaweeman, Sirawaj Itthipuripat, John T. Serences

23.467 tBS to V1 alters GABA and Glx  
Karlene Stoby, Sara Rafique, Georg Oeltzschner, Jennifer Steeves

23.468 Occipital Alpha-TMS causally modulates Temporal Order Judgements: Evidence for discrete temporal windows in vision  
Samson Chota, Phillipe Marque, Rufin VanRullen

23.469 An EEG investigation of tactile duration adaptation  
Baolin Li, Lihan Chen, Jianrong Jia

23.470 fMRI signatures of perceptual echoes in early visual cortex  
Canhuang Luo, Sasskia Brüers, Isabelle Berry, Rufin VanRullen, Leila Reddy

23.471 Predictive coding reduces metabolic costs  
Blake W Saurels, Derek H Arnold
SATURDAY AFTERNOON TALKS

Perception and Action: Locomotion, wayfinding
Saturday, May 18, 2:30 - 4:15 pm, Talk Room 1
Moderator: Jeffrey Saunders
24.11, 2:30 pm Modeling Gaze and Foothold Selection in Outdoor Walking Dawei Liang, Ruohan Zhang, Jonathan S. Matthis, Karl S. Muller, Edison Thomaz, Dana H. Ballard, Mary M. Hayhoe
24.12, 2:45 pm The Embodied Semantic Fovea - real-time understanding of what and how we look at things in-the-wild Aldo A Faisal, John A Harston, Chaiyawan Auepanwiriyakul, Mickey Li, Pavel Orlov
24.13, 3:00 pm Effects of head and body orientation on center bias and serial dependence in heading perception Qi Sun, Li Li
24.14, 3:15 pm Predicting driving impairment from visual and oculomotor impairment after alcohol intake Jing Chen, Yinghua Yang, Rui Jin, Leland S Stone, Li Li
24.15, 3:30 pm The relative rate of optical expansion controls speed in 1D pedestrian followin Jiuyang Bai, William H Warren
24.16, 3:45 pm Collective Decision Making in Human Crowds: Majority Rule Emerges From Local Averaging Trenton D Wirth, William H Warren
24.17, 4:00 pm Updating Perception and Action Across Real-World Viewpoint Changes Andrew Clement, James R Brockmole

Faces: Neural mechanisms
Saturday, May 18, 5:15 - 6:45 pm, Talk Room 1
Moderator: Isabelle Buelthoff
25.11, 5:15 pm Strong face selectivity in the fusiform can develop in the absence of visual experience N Apurva Ratan Murty, Santani Teng, David Beeler, Anna Mynick, Aude Oliva, Nancy Kanwisher
25.12, 5:30 pm Differential white matter connections to ventral and lateral occipito-temporal face-selective regions underlie differences in visual field coverage Dawn Finzi, Jesse Gomez, Vaidehi Natu, Brianna Jeska, Michael Barnett, Kalanit Grill-Spector
25.13, 5:45 pm Decoding the Viewpoint and Identity of Faces and Bodies Celia Foster, Mintao Zhao, Timo Bolkart, Michael J Black, Andreas Bartels, Isabelle Bulthoff
25.14, 6:00 pm Distinct spatiotemporal profiles for identity, expression, gender, and gaze information during face perception from intracranial EEG recordings Brett B Bankson, Michael J Ward, R. Mark Richardson, Avnii S Ghuman
25.16, 6:30 pm Seeing (social) relations: human visual specialization for dyadic interactions Liuba Papeo

Attention: Shifting, tracking
Saturday, May 18, 2:30 - 4:15 pm, Talk Room 2
Moderator: Brian Anderson
24.21, 2:30 pm Hemifield-specific information is exchanged as targets move between the hemifields Roger W Strong, George A Alvarez
24.22, 2:45 pm Assessing the Competition Between Location-Based Selection History and Explicit Goals Nick Gaspelin, Travis N. Talcott, Steven J. Luck
24.23, 3:00 pm Distinguishing Between Punishment vs Negative Reinforcement in the Control of Attention Brian A Anderson, Haena Kim, Mark K Britton, Andy J Kim
24.24, 3:15 pm A delay in sampling information from temporally autocorrelated visual stimuli Chloe Callahan-Flinton, Alex O Holcombe, Brad Wyble
24.25, 3:30 pm Unlike saccades, quick phases of optokinetic nystagmus (OKN) are not preceded by shifts of attention Nina M Hanning, Heiner Deubel
24.26, 3:45 pm Eye tracking supports active attentional suppression from negative templates Nancy B Carlisle, Ziyao Zhang
24.27, 4:00 pm Tracking the item in focus of attention in working memory through pupillometry Nahid Zokaei, Alexander Board, Sanjay Manohar, Anna C Nobre

Development
Saturday, May 18, 5:15 - 6:45 pm, Talk Room 2
Moderator: Laura Emberson
25.21, 5:15 pm Top-down perception at 6 months of age: Evidence from motion perception Naiqi G Xiao, Lauren L Emberson
25.22, 5:30 pm Decoding the contents of the developing visual system with fMRI in awake infants Cameron T Ellis, Lena J Skalaban, Tristan S Yates, Vikranth R Bejjanki, Javier S Turek, Nicholas B Turk-Browne
25.23, 5:45 pm Brain damage and early visuospatial problems: a structure-function coupling in very preterm born children Maud M van Gils, Jeroen Dudink, Irwin KM Reiss, Johannes van der Steen, Johan JM Pel, Marloj Kooiker
25.24, 6:00 pm Is higher susceptibility to attentional deficits in children related to lower susceptibility to Inattentinal Blindness in visual search Beatriz Gil-Gómez de Líaño, Elena Pérez-Hernández, María Quiró’s-Godoy, Jeremy M Wolfe
25.25, 6:15 pm A Rare Visuospatial Disorder Aimee K Dollman, Mark L Solms
25.26, 6:30 pm Quantified visuospatial attention & motion processing in very preterm born children from 1y to 2y corrected age is related to neurodevelopmental outcome Marloj Kooiker, Maud M van Gils, Irwin KM Reiss, Johannes van der Steen, Johan JM Pel
Object Recognition: Categories, models, neural mechanisms

Saturday, May 18, 2:45 - 6:45 pm, Banyan Breezeway

26.301 Distinguishing the effects of object-scene association strength and real-world object size in scene priming  Wei Chen, Olivia S. Cheung

26.302 Does Semantic Activation Affect Human Object Detection in Natural Scenes?  Colin S Flowers, Rachel M Skoccypec, Mary A Peterson

26.303 Sexualization leads to the visual processing of bodies as objects  Ruth M Hofrichter, M.D., R. Rutherford

26.304 Adults prefer to look at real objects more than photos  Jody C Culham, Stephanie M. Schumacher, Derek J. Quinlan, Kevin M. Stubbs, Judy Basmaji, Cosette L. Leblanc, Romy E. Segall, Valentina Parma

26.305 Generating visual stimuli that vary in recognisability  Kevin H Roberts, Alan Kingstone, Rebecca M Todd

26.306 Here’s a novel object: draw variants from the same class.  Henning Tiedemann, Yaniv Morgenstern, Filipp Schmidt, Roland W Flemming

26.307 Taking a machine’s perspective: Humans can decipher adversarial images  Zhenglong Zhou, Chaz Firestone

26.308 Developmental changes in the ability to draw distinctive features of object categories  Bria L Long, Judith E Fan, Xizian Chai, Michael C Frank

26.309 Reliability-based arbitration between noise and event-based component of observers’ internal model during perceptual decision making  Jozsef Fiser, Adam Koblinger, Jozsef Arato

26.310 Everyday hallucinations?: Strong expectations lead to the misperception of faces in visual noise  Reshanne R Reeder, Johannes Salge

26.311 Learning to generalize like humans using basic-level object labels  Joshua C Peterson, Paul Soulos, Aida Nematzadeh, Thomas L Griffiths

26.312 Neural Dynamics of Category Representations Across Space and Time in the Ventral Visual Cortex  Yalda Mohsenzadeh, Caitlin Mullin, Benjamin Lahner, Aude Oliva


26.314 Relating category-selective regions in biological and artificial neural networks  Jacob S Prince, Talia Konkle

26.315 A cognitively-aligned representational space for DNNs  Kandan Ramakrishnan, Yalda Mohsenzadeh, Mathew Monfort, Aude Oliva

26.316 The time course of novel visual object recognition.  Martin Arguin, Justine Massé

Binocular Vision: Rivalry, suppression

Saturday, May 18, 2:45 - 6:45 pm, Banyan Breezeway

26.317 Pupillometry and Microsaccade Responses Reveal Unconscious Processing of Face Information Under Interocular Suppression  Yung-Hao Yang, Hsin-I Liao, Shimpei Yamagishi, Shigeto Furukawa

26.318 Underlying mechanisms of temporal dynamics in bistable perception  Yijun Ge, Ruanyuan Zhang, Chencan Qian, Chen Chen, Juraj Mesik, Stephen Engel, Sheng He

26.319 Bi-stable perception as a bridge between vision and decision making  Jan Brascamp, Amanda L McGowan, Matthew B Pontifex

26.320 Pre-stimulus connectivity patterns predict perception at binocular rivalry onset  Elie Rassi, Andreas Wutz, Nicholas Peatfield, Nathan Weisz

26.321 Lateralized occipitotemporal tDCS modulates dynamics of binocular rivalry between faces and words  Linan Shi, Zhouyuan Sun, Geoffrey F. Woodward, Peng Zhang, Sheng He


26.323 Natural-scene-based SSVEPs revealed effects of short-term monocular deprivation  Lili Lu, Sheng He, Yi Jiang, Stephen A Engel, Min Bao

26.324 Homeostatic control of interocular balance revealed with contrast mismatch  Daniel Y Tso, Ronald A Miller

26.325 Re-balancing the eyes using monocularity-directed attention  Sandy Wong, Alex Baldwin, Kathy Mullen, Robert Hess

26.326 Unconscious meridional rivalry in oblique astigmatism  Gad Serero, Maria Lev, Uri Polat

26.327 Novel Procedure for Generating Continuous Flash Suppression: Seurat Meets Mondrian  Randolph Blake, Oakyooyn Cha, Gaeun Son, Sang Chul Chong

26.328 A Signal Detection Analysis of Nonconscious Perception of Orientation with Continuous Flash Suppression  Ali Pournaghdeli, Bennett L. Schwartz

26.329 V1 Laminar Activation during Binocular Rivalry Flash Suppression  Brock M Carlson, Michele A Cox, Kacie Dogherty, Alexander Maier

26.330 Using pattern classification and EEG to reveal the temporal characteristics of categorical processing during interocular suppression  Dustin Cox, Edward Ester, Sang Wook Hong, Yosun Yoon

26.331 Multi-center mapping of human ocular dominance columns with BOLD fMRI  Gilles de Hollander, Wietske van der Zwaag, Chencan Qiang, Peng Zhang, Tomas Knapen

26.332 Depth Estimates in Half Occlusions in Natural Scenes  David N White, Johannes Burge

Spatial Vision: Crowding, eccentricity

Saturday, May 18, 2:45 - 6:45 pm, Banyan Breezeway

26.333 Pre-saccadic isotropization of crowding zones  Mehmet N Ağaoglu, Drew J Wodecki, Susana T L Chung

26.334 Offline transcranial direct current stimulation (tDcS) can improve the ability to perceive crowded targets  Guanpeng Chen, Ziyun Zhu, Fang Fang


26.336 Visual crowding disrupts the cortical representation of letters in early visual areas  Hojin Jang, Frank Tong

26.337 Two eyes are not better than one with crowded targets  Maria Lev, Jian Ding, Uri Polat, Dennis Levi
26.338 The occurrence of illusory conjunctions correlates with the spatial noise in peripheral vision Yuri A. Markov, Liitt G. Dulyan, Ruth Rosenholtz, Igor S. Utochkin
26.339 Direct capture of peripheral appearance reveals what is lost and retained in peripheral vision Natalia Melnik, Daniel R. Coates, Bilge Sayim
26.340 The cost of using several crowding units to recognize a complex object Denis P G Pelli, Darshan Thapa
26.341 When detrimental crowding becomes beneficial uniformity in peripheral letter recognition Koen Rummons, Bilge Sayim
26.342 Differences and similarities between temporal crowding, spatial crowding and masking Yaffa Yeshurun, Shira Tkacz-Domb
26.343 Humans trust central vision more in the light and the dark Alejandro H. Gloriani, Alexander C. Schütz
26.344 Radial-tangential anisotropy of bisection thresholds in the normal periphery Robert J Green, Susana T L Chung
26.345 Under-confidence in peripheral vision Matteo Toscani, Karl R Gegenfurtner, Pascal Mamassian, Matteo Valsecchi
26.346 Vision in the extreme-periphery (1b): perception of rotation rate Daw-An Wu, Takashi Suegami, Shinsuke Shimojo
26.347 Exploring the effects of gaze-contingent rendering on reading performance Angelica Godinez, Rachel Albert, David Leubke
26.348 Perceptual factors in mental maze solving Dian Yu, Qianqian Wan, Benjamin Balas, Ruth Rosenholtz

Color and Light: Psychophysics, neural mechanisms

Saturday, May 18, 2:45 - 6:45 pm, Banyan Breezeway
26.349 A Quadratic Model of the fMRI BOLD Response to Chromatic Modulations in V1 Michael A Barnett, Geoffrey K Aguirre, David H Brainard
26.350 fMRI responses to foveal versus peripheral chromatic and achromatic stimuli Erin Goddard, Kathy T Mullen
26.351 Cortically-stimulating gratings reveal non-cardinal colors better than do LGN-stimulating spots Karen L Gunther, Colby Dunigan, Carson Powell, Jorge Rodriguez
26.352 Hue selective masking: an SSVEP study Sae Kaneko, Ichiro Kuriki, Søren K Andersen
26.353 The effect of emotion on neural representations of color. Yelim Lee, Daehyun Kim, Won Mok Shim
26.355 Decomposing chromaticity and luminance information with multivariate EEG David W Sutterer, Andrew Coia, Vincent Sun, Steven Shevell, Edward Awh
26.356 Dynamic of ON and OFF chromatic adaptation Clemente Paz-Filgueira, Michael R. Tan, Dingcai Cao
26.357 Luminance and chromatic contrast sensitivity at high light levels Sophie Wuerger, Rafal Mantiuk, Maria Perez-Ortiz, Jasna Martinovic
26.358 Comparison of three methods for determining equiluminance Jingyi He, Yesenia Taveras Cruz, Rhea T Eskew
26.359 Spectral Luminance Filtration’s Effect on Color Contrast Sensitivity in Color Normal and Color Deficient Observers Johnathan W Hoopes, Patricia M Cisarik
26.360 Blue light effects on the gap effect Hsiao-Hong Lee, Su-Ling Yeh
26.361 Minimum (motion) measurements of human color matching functions Alex J Richardson, Cassandra R Lee, Eric Walowit, Michael A Crognaile, Michael A Webster
26.362 Vision in the extreme-periphery (3a): color perception is induced by foveal input Mohammad Shehata, Takashi Suegami, Yusuke Shirai, Daw-An Wu, Shigeki Nakauchi, Shinsuke Shimojo
26.363 Vision in the extreme-periphery (3b): effects of eccentricity and foveal input on color perception Yusuke Shirai, Takashi Suegami, Mohammad Shehata, Shinsuke Shimojo, Shigeki Nakauchi
26.366 Adaptation to melanopic stimulation does not affect cone-mediated flicker sensitivity Joris Vincent, Geoffrey K Aguirre, David H Brainard
26.367 The Potential Contribution of Melanopsin to Steady-State Electroretinogram and VEP Responses Michael R Tan, Clemente Paz-Filgueira, Dingcai Cao

Visual Memory: Working memory, individual differences

Saturday, May 18, 2:45 - 6:45 pm, Pavilion
26.401 Detrimental Effects of Effortful Physical Action on Cognitive Control in Younger and Older Adults Lilian Azer, WeiZhen Xie, Hyung-Bum Park, Weiwei Zhang
26.402 The association between visual working and long-term memory across normal ageing Giedre Cepukaityte, Nahid Zokaei, Anna C. Nobre
26.403 What and where: The influence of attention on visual short-term memory for item and spatial location information, and the relationship to autism traits. Dana A Hayward, Jenella Ristic
26.404 Memory capacity meets expertise: increased capacity for abnormal images in expert radiologists Hayden Schill, Jeremy M Wolfe, Timothy F Brady
26.405 The importance of distinguishing between subjective and objective guessing in visual working memory Timothy F Brady, Mark W Schurgin, John T Wixted
26.406 Capacity Limits on Visual Imagination Cristina R Ceja, Steven L. Franzonri
26.407 Did I guess that? Event-related potentials reveal no differences in error-monitoring following correct responses and forced guesses in a visual working memory task. Elizabeth M Clancy, Naseem Al-Aidroos
26.408 The content of visual working memory regulates the priority to access visual awareness, including bound memoranda with multiple features Yun Ding, Andre Sahakian, Chris L. E. Paffen, Marnix Naber, Stefan Van der Stigchel
Visual Memory: Contents, capacity
Saturday, May 18, 2:45 - 6:45 pm, Pavilion

26.412 Neural evidence reveals two types of rotations in visual working memory during a mental rotation task Maya Ankaoua, Roy Luria

26.413 Spatial working memory representations are resistant to an intervening stimulus and behavioral task Thomas C Sprague, Mash Rahmati, Kartik K Sreenivasan, Clayton E. Curtis


26.416 High-fidelity visual features form complex objects in memory Aedan Y Li, Keisuke Fukuda, Morgan D Barense

26.417 What can half a million change detection trials tell us about visual working memory? Roy Luria, Keisuke Fukuda, Halely Balaban

26.418 Working memory distraction resistance depends on prioritization Remington Mallett, Jarrod A Lewis-Peacock

26.419 Flexible reaprioritization of information in visual working memory Paige Pytel, Edward F Ester

26.420 Relational Interactions between Visual Memory Representations Increase with Maintenance Duration Paul S Scotti, Yoolim Hong, Andrew B Leber, Julie D Golomb

26.421 Clustering based on multiple features in visual working memory Gaeun Son, Sang Chul Chong

26.422 Working memory resources can be efficiently deallocated from items that become obsolete Robert Taylor, Paul M Bays

26.423 Evidence for the world as an external memory: A trade-off between internal and external visual memory storage Stefan Van der Stigchele, Martijn Schut, Rosyl Somai

Visual Memory: Models, mechanisms
Saturday, May 18, 2:45 - 6:45 pm, Pavilion

26.426 The Alignment of Systemic Low Frequency Oscillations with VI Retinotopic Organization Ezgi I Yucel, Noah C Benson, Yunjie Tong, Blaise Frederick, Ione Fine, Ariel Rokem

26.427 A divisive model of midget and parasol ganglion cells explains the contrast sensitivity function Heiko H Schütt, Felix A Wichmann


26.430 Probing blur adaptation with reverse correlation Keith A May, William H McIlhagga

26.431 Effects of Target Amplitude Uncertainty, Background Contrast Uncertainty, and Prior Probability Are Predicted by the Normalized Template-Matching Observer Can Oluk, Wilson S Geisler


Spatial Vision: Models
Saturday, May 18, 2:45 - 6:45 pm, Pavilion

26.424 The spatiotemporal dynamic of attention in normal reading Augustin Achouline

26.425 Spatial memory biases reflect encoding precision and not categorical perception Thomas A Langlois, Nori Jacoby, Jordan W Suchow, Thomas L Griffiths

26.426 Sensitivity to global form in the presence of noise is stimulus dependent Mahesh Raj Joshi, Anita J Simmers, Seong T Jeon

26.427 Lateral modulation of orientation discrimination of center-surround sinusoidal stimuli in peripheral vision Yih-Shiuan Lin, Chien-Chung Chen, Mark W. Greenlee

26.428 The asymmetric mixed-category advantage in visual working memory: a domain-general, not domain-specific account Nurit Gronau, Rotem Avital-Cohen

26.429 Visual working memory representations during a change detection task persist in long-term memory Praveen K Kenderla, Melissa M Kibbe

26.430 Spatial working memory and visual working memory share common storage resources Zeyu Li, Zhi Li

26.431 Visual Working Memory Directly Alters Perception Chunyaue Teng, Dwight J Kravitz

26.432 Retroactive interference demonstrates a flexible relationship between dual-task demands and the temporal dynamics of visual working memory consolidation Brandon J Carlos, Benjamin J Tamber-Rosenau

26.433 Unambiguous evidence in favor of a signal detection model of visual working memory Mark W Schurgin, John T Wixted, Timothy F Brady

26.434 Attraction and Response Probe Similarity Effects in a Multiple Ensemble Judgment Task Cindy Xiong, Cristina R Ceja, Casimir Ludwig, Steven Franconeri

26.435 I won't forget that: Partial forgetting in visual working memory is not due to binding errors. Katherine C Moen, Melissa R Beck

26.436 Neural evidence for a dissociation between the pointer system and the representations of visual working memory Halely Balaban, Trafton Drew, Roy Luria
Eye Movements: Saccades
Saturday, May 18, 2:45 - 6:45 pm, Pavilion

26.446 Rapid and robust online saccade detection Richard Schweitzer, Martin Rolfs

26.447 Competition of salience and informational value in saccadic adaptation Alexander C Schütz, Ilja Wagner, Christian Wolf

26.448 Saccadic adaptation driven by attentional selection in visual working memory Ilja Wagner, Christian Wolf, Alexander C. Schütz

26.449 Alternating Between Stimulus-Driven and Minimally-Delayed Prosaccades: Switch-Costs Manifest via Response Suppression Benjamin Tari, Mohammed Fadel, Matthew Heath

26.450 Online perturbations of illusory size and actual size affect saccades with the same time course Zhongting Chen, Pin Yang, Jing Chen

26.451 Dynamic interplay of position- and velocity signals during interceptive saccades in monkeys and humans Jan Churan, Alexander Goettker, Doris I. Braun, Karl R. Gegenfurtner, Frank Bremmer

26.452 From Gaussian Blobs to Natural Scenes: Comparable results for saccade-pursuit interactions across stimuli of different complexity Alexander Goettker, Ioannis Agtzidis, Doris I Braun, Michael Dorr, Karl R Gegenfurtner

26.453 The Spatiotemporal Influences of Bottom-up Input on double-step Saccade Planning Shane Kelly, Matt S Peterson, Wilsaan M Joiner

26.454 Pre-saccadic enhancement and suppression as continuous shifts in spatial information weighting Frederik Geweke, Martin Rolfs

26.455 Effects of saccades and contrast steps on visual sensitivity Zhetuo Zhao, Giorgio Merli, Michele Rucci

26.456 Mental Model Updating and Eye Movement Metrics Hanbin Go, Britt Anderson, James Danckert

26.457 Visual processing of symbology in head-fixed large Field-of-View displays Frank L Kooi, Alexander Toet, Sofie Hoving

26.458 Fixational eye movements index slow fluctuations of activity in macaque visual cortex Richard Johnston, Matthew A Smith

26.459 Impaired anti-saccade production in posterior parietal cortex damaged patients Julie Querfelli-Ethier, Aarlenne Z. Khan, Laure Plaiella

26.460 Demonstration and quantification of memory-guided saccades in the common marmoset (with comparison to the macaque) Hayden C Carney, Eric Hart, Alexander C Huk

Methods: Theory, experiment, software
Saturday, May 18, 2:45 - 6:45 pm, Pavilion

26.461 An open-source implementation of the Quick CSF method Dominic Canare, Rui Ni, Tianshi Lu

26.462 AutoExperiment: A program for easy creation and sharing of psychophysical studies Sarah B Herald, Brad Duchaine

26.463 Test-retest reliability for common tasks in vision science Kait Clark, Charlotte R Pennington, Craig Hedge, Joshua T Lee, Austin C P Petrie

26.464 A new method to compute classification error Abhranil Das, R Calen Walshe, Wilson S Geisler

26.465 Is there a reproducibility crisis around here? Maybe not, but we still need to change. Alex O Holcombe, Charles Ludowici, Steve Haroz

26.466 The influence of observer lapses on maximum-likelihood difference scaling Bernhard Lang, Guillermo Aguilar, Marianne Maertens, Felix A Wichmann

26.467 Linking assumptions: towards reliable measurements of perceptual scales Guillermo Aguilar, Marianne Maertens

26.468 Linking general recognition theory and classification images to study invariance and configurality of visual representations Fabian A Soto
SUNDAY MORNING TALKS

Shape, Motion, Color and Depth: Integration
Sunday, May 19, 8:15 - 9:45 am, Talk Room 1
Moderator: Talia Konkle
31.11, 8:15 am Perceptual Resolution with Simultaneous Ambiguous Color and Form Andrew J Coia, Steven K Shevell
31.12, 8:30 am The Coding of Color, Shape, and their Conjunction Across the Human Ventral Visual System JohnMark E Taylor, Yaoda Xu
31.13, 8:45 am Slant-dependent image modulation for perceiving translucent objects Masataka Sawayama, Taiki Fukiage, Shin’ya Nishida
31.14, 9:00 am Perceived shape from motion parallax and stereopsis in physical and virtual objects Brittney A Hartle, Laurie M Wilcox
31.16, 9:30 am Emergence of Multiple Retinotopic Maps Without a Feature Hierarchy Talia Konkle

Visual Memory: Neural mechanisms
Sunday, May 19, 8:15 - 9:45 am, Talk Room 2
Moderator: John Serences
31.21, 8:15 am Neural markers of visual working memory encoding and maintenance track attentional prioritization Christine Salahub, Holly A Lockhart, Blaire Dube, Naseem Al-Aidroos, Stephen M Emrich
31.22, 8:30 am The influence of task-relevant vs. task-irrelevant interruption on dissociable sub-component processes of the focus of attention Nicole Hakim, Tobias Feldmann-Wustefeld, Edward Awh, Edward K Vogel
31.23, 8:45 am Complementary visual and motor-based strategies for encoding information in working memory Margaret M Henderson, Rosanne L Rademaker, John T Serences
31.24, 9:00 am Transformation of event representations along middle temporal gyrus Anna Leshinskaya, Sharon L Thompson-Schill
31.25, 9:15 am Neural encoding models of color working memory reveal categorical representations in sensory cortex Thomas B Christophei, Chang Yan, Carsten Allefeld, John-Dylan Haynes
31.26, 9:30 am A neural correlate of image memorability in inferotemporal cortex Vahid Mehrpour, Yalda Mohsenzadeh, Andrew Jaegle, Travis Meyer, Aude Oliva, Nicole C. Rust

Faces: Dynamics, convolutional neural networks
Sunday, May 19, 10:45 am - 12:30 pm, Talk Room 1
Moderator: Chris Baker
32.11, 10:45 am Holistic perception of faces in 17 milliseconds: Evidence from three measures Xiaoyi Liu, James W. Tanaka
32.12, 11:00 am Spatial frequency tuning of single-glance familiar face recognition in a dynamic visual stream Xiaooqian Yan, Valérie Goffaux, Bruno Rossion
32.13, 11:15 am Rapid processing of illusory faces in inanimate objects by the human brain Susan G Wardle, Jessica Taubert, Lina Teichmann, Chris I Baker
32.14, 11:30 am Setting the Record Straight: Dynamic but not Static Facial Expressions are Better Recognized Anne-Raphaelle Richoz, Valentina Ticcinelli, Pauline Schaller, Junpeng Lao, Roberto Caldara
32.15, 11:45 am The Sustained Familiarity Effect: A robust neural correlate of familiar face recognition Holger Wiese, Simone C. Tüttenberg, Mike Burton, Andrew W. Young
32.16, 12:00 pm A Human-like View-invariant Representation of Faces in Deep Neural Networks Trained with Faces but not with Objects Naphthai Abudarham, Galit Yovel
32.17, 12:15 pm Facial Expression Information in Deep Convolutional Neural Networks Trained for Face Identification Y. Ivette Colon, Matthew Q Hill, Connor J Parde, Carlos D Castillo, Rajeev Ranjan, Alice J O’Toole

Perceptual Organization
Sunday, May 19, 10:45 am - 12:30 pm, Talk Room 2
Moderator: Sung-Ho Kim
32.21, 10:45 am Adaptation to non-numeric features reveals mechanisms of visual number encoding Cory D Bonn, Darko Odic
32.22, 11:00 am Constant Curvature Representations of Contour Shape Nicholas Baker, Philip J. Kellman
32.23, 11:15 am The judgment of causality for deformations of stretchy materials Takahiro Kawabe
32.24, 11:30 am Objects with salient parts break apart easily: The influence of object shape in the perceptual organization of a dynamic event and its causal structure Jaehee Lee, Yoonsang Lee, Sung-Ho Kim
32.25, 11:45 am Large physical size and viewing distance enhance contour integration Anthony D Cate, Alexander J Hawk, James M Brown
32.26, 12:00 pm When illusions merge Aline F. Cretenoud, Michael H. Herzog
32.27, 12:15 pm Integration and segmentation Eric Elias, Timothy D. Sweeney

See page 15 for Abstract Numbering System
SUNDAY MORNING POSTERS

Perceptual Organization and Scene Perception: Art, aesthetics, image preference
Sunday, May 19, 8:30 am - 12:30 pm, Banyan Breezeway
33.301 Effect of presentation duration of artworks on aesthetic judgment and its positive serial dependence Su Jin Kim, David Burr, David Alais
33.302 Measuring complexity of images using Multiscale Entropy Elizabeth Y Zhou, Claudia Damiano, John Wilder, Dirk B Walther
33.303 What makes an image interesting? Bhavin Sheth, Maham Gardezi, King Hui Fung, Mariam Ismail, Mirza Baig
33.304 Tracking aesthetic engagement: Behavioral and brain responses to artistic landscape videos Ilkay Isik, Edward A Vessel
33.305 Preference of facing/lighting direction for portraits paintings Sho Kishigami, Yuma Taniyama, Shigeki Nakauchi, Tetsuto Minami
33.306 The power of visual art: Higher felt inspiration following aesthetically pleasing visual prompts in a creative writing task Dominik Welke, Isaac Purton, Edward A Vessel
33.307 Fractal statistics in the aesthetic appreciation of images, textures and sound Catherine Viengkham, Zoey J Isherwood, Branka Spehar
33.308 The interaction between spectral slope and symmetry on visual aesthetic preference Chia-Ching Wu, Chien-Chung Chen
33.309 The default mode network, but not ventral occipitotemporal cortex, contains a domain-general representation of visual aesthetic appeal Edward A Vessel, Ayse Ilkay Isik, Amy M Belfi, Jonathan L. Stahl, G. Gabrielle Starr
33.310 Contour features predict positive and negative emotional valence judgements Claudia Damiano, Dirk B Walther, William A Cunningham
33.311 Feeling beauty requires the ability to experience pleasure Aenne A Brielmann, Denis G Pelli
33.312 Absolute beauty ratings predict mean relative beauty ratings Qihan Wu, Aenne A Brielmann, Denis G Pelli
33.313 Preference judgement for art paintings: large-scale subjects (30K) experiment revealing age-dependency Shigeki Nakauchi, Masaya Nishimoto, Hideki Tamura
33.314 The role of warmth and complexity in aesthetic evaluation of color photographs, Alexander J Bies, Margaret E Sereno
33.315 P3 asymmetry elicited by original-pseudo art paintings using an oddball paradigm Yuma Taniyama, Yuji Nihei, Tetsuto Minami, Shigeki Nakauchi

Attention: Selective
Sunday, May 19, 8:30 am - 12:30 pm, Banyan Breezeway
33.316 The magnitude of the Double-Drift illusion is lessened by a reference object with high positional certainty Sharif Saleki, Marvin Maechler, Patrick Cavanagh, Peter Tse
33.317 Attending to individual size modulates mean size computation Yong Min Choi, Sang Chul Chong
33.318 Characterizing the influence of spatial attention on stimulus-evoked cortical representations Joshua J Foster, Edward Awh
33.319 How exogenous attention alters perceived contrast Lucas Huszar, Antoine Barbot, Marisa Carrasco
33.320 Visual short-term memory load weakens attentional selection by increasing the size of attentional zoom Hyukso Lee, Su Keun Jeong
33.321 How exogenous spatial attention affects visual representation Antonio Fernandez, Hsin-Hung Li, Marisa Carrasco
33.322 The effect of exogenous spatial attention on the contrast sensitivity function across eccentricity Michael Jigo, Marisa Carrasco
33.323 Switch costs of reorientation between different depth planes Thorsten Plewan, Magali Kreutzfeldt
33.324 Does the near/far effect on target detection depend on distance from the observer or from the fixation plane? The case of a simulated driving task with distance indicated by pictorial cues and forward motion Jiali Song, Hong-Jin Sun, Patrick J. Bennett, Allison B. Sekuler
33.325 Rapid covert visual attention to conceptual targets Brad Wyble, Michael Hess, Chloe Callahan-Flintoft, Charles Folk
33.326 Oculomotor behavior is inhibited during duration estimation Noam Tal, Shlomit Yuval-Greenberg
33.327 Can the N2pc ERP component track visual attention? Pénélope Pelland-Goulet, Pierre Jolicoeur, Martin Arguin
33.328 Induced pupil oscillations characterize the size of the attentional window at different levels of attentional load Monique Michl, Shira Tkacz-Domb, Yaffa Yeshurun, Wolfgang Einhäuser
33.329 Bias in space and time: the reliability of pseudoneglect Alexander G Mitchell, Sarah Benstock, Justin M Ales, Julie M Harris
33.331 Our own perceptual experience, but not that of others, influences object detection Andreas Falck, Ghislaine Labouret, Manali Draperi, Brent Strickland
33.332 Distractor filtering via Suppression History: transient, short or long-term plasticity? Valeria Di Caro, Chiara Della Libera
33.333 Visual Working Memory Capacity Load Does Not Modulate Distractor Processing Yang Guo, Nailang Yao, Yang Liu, Zaifeng Gao, Mowei Shen, Rende Shui
33.334 Tracking the content of spatial working memory during a bout of acute aerobic exercise. Jordan Garrett, Tom Bullock, Barry Giesbrecht

Attention: Divided
Sunday, May 19, 8:30 am - 12:30 pm, Banyan Breezeway
33.335 How much does divided attention limit object recognition? Dina V Popovkina, John Palmer, Geoffrey M Boynton
33.336 Identification and localization tasks reveal the role of strength of association in Stroop and reverse Stroop effects Amrita M Puri, Kenith V Sobel, Alexandr Kane York
33.337 The automatic and non-automatic aspects of unconscious visual processing Shao-Min (Sean) Hung, Daw-An Wu, Shinsuke Shimojo
33.338 How is Attention Deployed in a Complex Visual Environment? Karla K Evans, Lucy S Spencer, Annakaisa Ritala
Perception and Action: Reaching and grasping

Sunday, May 19, 8:30 am - 12:30 pm, Banyan Breezeway

33.361 Grasping 2-D Targets in Motion: The Influence of a Preferable Central Grasp Location on Eye-Hand Coordination  
Ryan W. Langridge, Jonathan J. Marotta

33.362 Eye-hand Coordination in Reaching and Grasping Vertically Translating Targets  

33.363 Interaction of eye and hand movements during visual control of human reaching  
Yan Yang, Dongbiao Sun

33.364 Grasping complex 3D shapes  
Zoltan Derzsi, Robert Volcic

33.365 Sensory feedback reduces scalar variability effects in perception and action tasks  
Ailin Deng, Evan Cesanek, Fulvio Domini

33.366 Perceiving and grasping the equiluminant Ebbinghaus illusion  
Sofia Lavrenteva, Ikuya Murakami

33.367 Which brain areas are responsible for which aspects of grasping?  
Lina K Kleiman, Guido Maiello, Daria Proklova, Vivian C Paulun, Jody C Culham, Roland W Fleming

33.368 The timing of ‘vision for action’ and ‘vision for perception’ magnetoencephalography (MEG) responses during real and pantomimed grasps  
Rosa M Sola Molina, Laila Hugrass, Gemma Lamp, David P Crewther, Melvyn A Goodeal, Sheila G Crewther

33.369 Investigating common coding of action execution and observation in the macaque monkey using cross-modal fMRI adaptation.  
Saloni Sharma, Koen Nelissen

33.370 What’s in the mirror? FMRI responses in the monkey action observation network while observing conspecific transitive and intransitive hand and tail actions.  
Ding Cui, Mathias Vissers, Saloni Sharma, Koen Nelissen

33.371 Monkey fMRI brain responses to different viewpoints of observed hand actions.  
Koen Nelissen, Prosper A. Fiave

33.372 The deployment of spatial attention during goal-directed action alters audio-visual integration  
Tristan Loria, Joëlle Hajj, Kanji Tanaka, Katsumi Watanabe, Luc Tremblay

33.373 Prediction shapes visually-guided grasping and modulates somatosensory perception  
Maximilian D. Broda, Dimitris Voudouris, Katja Fiehler

33.374 Object encoding but not action understanding in the macaque medial reach-to-grasp network  
Patrizia Fattori, Rossella Breveglieri, Francesco E Vaccari, Annalisa Bosco, Michelja Gamberini, Claudio Galletti

Object Recognition: Neural mechanisms

Sunday, May 19, 8:30 am - 12:30 pm, Pavilion

33.401 Mapping information accumulation and integration dynamics across ventral temporal cortex  
Matthew J Boring, Michael J Ward, R. Mark Richardson, Avniel Singh Ghuman

33.402 Connectivity Fingerprints for the Visual Brain and Behavior  
David E Osher, Zeynep M Saygin

33.403 Assessing Reproducibility of MEG and fMRI Data Fusion Method in Neural Dynamics of Object Vision  
Benjamin Lahner, Yalda Mohsenzadeh, Caitlin Mullin, Radoslav Cichy, Aude Oliva

33.404 Roles of animacy, shape, and spatial frequency in shaping category selectivity in the occipitotemporal cortex  
Chenxi He, Shao-Chin Hung, Olivia S. Cheung

Attention

Sunday, May 19, 8:30 am - 12:30 pm, Banyan Breezeway

33.342 On the interaction between Visual Working Memory and pre-saccadic attention.  
Soazig Casteau, Charlotte Bush, Mary Chalkley, Natalie Rogerson, Daniel T Smith

33.343 Pupil dilation as a predictor of perceptual capacity in subitizing  
Joshua O Eayrs, Nilli Lavie

33.344 Both exhaustive processing and limited-sample amplification contribute to ensemble averaging  
Alexey U. Yakovlev, Igor S. Utochkin

33.345 The number of visible victims shapes visual attention and compassion  
Brandon M Tomm, Paul Slovic, Jiayjing Zhao

33.346 Spatial distribution of attention under varying task demands  
Suhyeon Jo, Suk Won Han

33.347 The effect of monetary reward on visual awareness  
Claudia Lunghi, Arezoo Pooresmaeili

33.348 Task-dependent effects of volitional visuospatial orienting on perception  
Ralph S. Redden, Drake Mustafa, Raymond M. Klein

Sunday, May 19, 8:30 am - 12:30 pm, Pavilion

33.406 Dividing attention across opposing features normalizes fMRI responses in visual cortex  
Geoffrey M Boynton, James M Moreland

33.407 Conflation of canonical patterns during enumeration under attentional load  
Gordon Briggs, Christina Wasylyshyn, Paul F Bello

33.408 How does the visual system handle spatially predictable visual interference during a non-visual task?  
Dekel Abeles, Shlomit Yuval-Greenberg

33.409 Light Diffusion Model Analysis  
Christina J Vissers, Saloni Sharma, Koen Nelissen

33.410 Modeling attention during visual search with hierarchical Bayesian inference  
Justin Theiss, Michael Silver

33.411 Cueing Effects in the Attentional Network Test: a Spotlight Diffusion Model Analysis  
Ryan A Curl, Corey N White

33.412 Neural mechanisms underlying individual differences in attentional blink  
Liqin Zhou, Zonglei Zhen, Jia Liu, Ke Zhou

33.413 An attentional blink for ensemble representations  
Sneha Suresh, John W Roberts, Jason Haberman

33.414 Attentional blink in preverbal infants  
Shuma Tsurumi, So Kanazawa, Masami K Yamaguchi, Jun Kawahara

33.415 Differences in attention in switching speeds predict the magnitude of the attentional blink.  
Matthew S. Peterson, Eric L. Russell, Erika De Los Santos

33.416 A compartmental model of feedback modulation in visual cortex  
Christian Jarvers, Heiko Neumann

33.417 Selective Attention Desynchronizes Automatic Movements  
Xilei Zhang, Wenming Zheng, Xiangyong Yuan

Sunday, May 19, 8:30 am - 12:30 pm, Pavilion

33.405 Mapping information accumulation and integration dynamics across ventral temporal cortex  
Matthew J Boring, Michael J Ward, R. Mark Richardson, Avniel Singh Ghuman

33.406 Connectivity Fingerprints for the Visual Brain and Behavior  
David E Osher, Zeynep M Saygin

33.407 Assessing Reproducibility of MEG and fMRI Data Fusion Method in Neural Dynamics of Object Vision  
Benjamin Lahner, Yalda Mohsenzadeh, Caitlin Mullin, Radoslav Cichy, Aude Oliva

33.408 Roles of animacy, shape, and spatial frequency in shaping category selectivity in the occipitotemporal cortex  
Chenxi He, Shao-Chin Hung, Olivia S. Cheung
33.425 The spatio-temporal dynamics of personally-meaningful objects Jasper JF van den Bosch, Ian Charest
33.406 Alpha bursts in inferior parietal cortex underlie object individuation in dynamic scenes Andreas Wutz, Agnese Zazio, Nathan Weisz
33.407 The role of body partonomic and biological class in the representation of animacy in the ventral visual pathway J.Brendan W Ritchie, Joyce Bozsans, Shuo Sun, Kirsten Verhaegen, Astrid Zeman, Hans Op de Beeck
33.408 Do responses in nonhuman primate inferior temporal cortex reflect external variables or internal dynamics? Marieke Mur, Andrew Bell, Nicholas J Malecek, Elyse L Morin, John Duncan, Nikolaus Kriegeskorte
33.409 Comparing novel object learning in humans, models, and monkeys Michael J Lee, James J DiCarlo
33.410 Category-selective patterns of neural response to objects with similar image properties, but different semantic properties. Timothy J Andrews, Afrodite Giannkopoulou, Sanah Ali, Burcu Goz, David D Coggan
33.411 Object Semantic Knowledge Can Bias Visual Processing Toward the Dorsal and Ventral Stream Dick Dubbelde, Sarah Shomstein
33.412 Parahippocampal cortex represents the natural statistics of object context Michael F Bonner, Russell A Epstein
33.413 Meta-analyses support the expertise hypothesis of the right fusiform face area Edwin J Burns, Cindy Bukach
33.414 Modeling voxel visual selectivities through convolutional neural network clustering Daniel D Leeds, Amy Feng

Development: Lifespan, neural mechanisms
Sunday, May 19, 8:30 am - 12:30 pm, Pavilion
33.415 Children’s use of local and global visual features for material perception Benjamin Balas, Amanda Auern, Josselyn Trash, Sheal Lammers
33.416 The inatteness of visual number: A case study using children’s counting books Emily M Sanford, Justin Halberda
33.417 An Objective and Sensitive Visual Acuity Assessment Method for Preverbal and Infantile Children Based on Steady-State Motion Visual Evoked Potentials Xiaowei Zheng, Guanghua Xu, Yunyun Wang, Si Cong Zhang, Chengdu Du, Long Hao
33.418 Differences in Visual Search and Eye Movements Between Caesarean-Section and Vaginally-Delivered Infants and Adults Maryam Rahimi, Scott A. Adler
33.419 Adults’ Selective Attention and Eye Movements as a Function of Birth Experience Scott A Adler, Kyle J Comishen, Audrey M B Wong-Kee-You
33.420 Developmental changes in connectivity between the amygdala subnuclei and visual regions Heather A Hansen, Zeynep M Saygin
33.421 Guided visual search in junior schoolchildren: Slow but sure Maria Falikman, Igor Utochkin, Yury Markov, Natalia Tiurina, Olga Khasina
33.422 Effects of age and target modality on spatial localization on the horizontal plane Douglas A Addleman, Yingzi Xiong, Gordon E Legge
33.423 Occipital alpha changes in response to label-learning during infancy Ryan A Barry-Anwar, Gabriella Silva, Andreas Keil, Lisa S Scott
33.424 The Global Precedence Effect in Children With and Without the Use of Complex Instructions Emily C Blakley, Nicholas Duggan, Sarah Olsen, Alecia Moser, Peter Gerhardtstein
33.425 Aging and the perception of global structure Alexia Higginbotham, Farley Norman
33.426 Development of Face Discrimination in Infancy: An Eye Tracking Study Andrew T Marin, Karen Dobkins, Rain Bosworth
33.427 The development of form and motion perception from school-age to adulthood: comparing sensitivity to luminance- and texture-defined stimuli. Margarita Miseros, Domenico Tullo, Jocelyn Faubert, Armando Bertone
33.428 Development of human infants' receptive field mechanisms in motion processing Yusuke Nakashima, So Kanazawa, Masami K Yamaguchi
33.429 Temporal contrast sensitivity is associated with retinal thickness Nancy J Coletta
33.430 Grouping of flankers is similar in children to adults and does not break crowding. Sarah J Waugh, Monika A Formankiewicz
33.431 Development of entorhinal grid-cell-like representations of visual space Joshua B Julian, Matthias Nau, Christian F Doeller
33.432 Tactile influences on visual processing of bodily information in infants Jiale Yang, Natasa Ganea, So Kanazawa, Masami K Yamaguchi, Andrew Brenmer
33.433 How mature are connectivity patterns in the neonate brain? Jin Li, Athena L. Howell, Micah R. Rhodes, Zeynep M. Saygin
33.434 Predicting individual reading ability based on anatomical and functional neural connectivity Carver B. Nabb, Heather A. Hansen, Stephen A. Petrell, Zeynep M. Saygin
33.435 Investigating the influence of early life touchscreen use on screen-based attention control Ana M Portugal, Rachael Bedford, Celeste Cheung, Tim J. Smith
33.436 Test battery for daily self-assessment of visual abilities Kenchi Hosokawa, Kazushi Maruya, Shin’ya Nishida, Satoshi Nakadomari
33.437 Better statistical regularity with aging? Age-related differences in the neural processing of idioms Su-Ling Yeh, Shuo-Heng Li, Li Jingling, Joshua Oon Soo Goh, Yi-Ping Chao, Arthur C. Tsai

Spatial Vision: Low-level coding, natural image statistics
Sunday, May 19, 8:30 am - 12:30 pm, Pavilion
33.438 What surface in the world is in best focus for the human eye? Vivek Labhisetty, Agostino Gibaldi, Larry N Thibos, Martin S Banks
33.439 Measuring the field of contrast sensitivity via saccadic foraging. Concetta F Aliberti, Anna Kosovicheva, Peter J Bex
33.440 Quick contrast sensitivity assessment in primates using an exploratory search task Mariana Cardoso, Najib J. Majaj, Gerick M. Lee, Krysten Garcia, Lynne Kiorpes
33.441 The extent of the vertical meridian asymmetry in spatial frequency sensitivity Shutian Xue, Antoine Barbot, Marisa Carrasco
33.442 Temporal property of the density-size adaptation effect Rumi Hisakata, Hirohiko Kaneko
33.443 Eccentricity-dependent differences in cross-orientation adaptation Yi Gao, Fang Jiang, Michael A. Webster
33.444 Fixation-Related Potentials and Oculomotor Dynamics reveal Contrast Response and Adaptation in Free Viewing Oren S Kadosh, Yoram Bonneh
A continuum in the retinal modulations resulting from eye movements
Michele Rucci, Janis Intoy, Zhetuo Zhao, Jonathan D Victor

A Comparison of Receptive Field Structures of Hierarchical Models of V2
Joshua Bowren, Luis Sanchez Giraldo, Odellia Schwartz

The critical reliance of early visual cortex on the fractal structure of natural scenes
Zoey J Isherwood, Colin WG Clifford, Mark M Schira, Branka Spehar

Comparing population receptive fields in human and macaque visual cortex
Edward H Silson, Susheel Kumar, Benjamin Jung, Elissa Koele, Clarissa James, Adam Messinger, Chris I Baker, Jessica Taubert

Visual evoked potentials elicited by complex scenes are regulated by high spatial frequency content
Andrew M Haun, Bruce C Hansen

Image-statistics correlates of visual evoked potentials to natural texture images
Taiki Orima, Isamu Motoyoshi

Sensitivity of inferotemporal cortex to naturalistic image statistics in developing macaques

The role of local image statistics in separating figure from ground
Jonathan Victor, Mary M Conte

Deep neural network features predict perceptual sensitivity and cortical responses to visual textures
Akshay V Jagadeesh, Justin L Gardner

Contrast Sensitivity in Naturalistic Images Measured Using Generative Adversarial Nets
Elee D Stalker, Jaykithan Y Patel, Ingo Fruend

Invariance of Human Image Recognition Measured Using Generative Adversarial Nets
Jaykithan Y Patel, Elee D Stalker, Ingo Fruend

Partial awareness based on the parallel processing of spatial frequency
Cheongil Kim, Sang Chul Chong

Eye Movements: Cognition
Sunday, May 19, 8:30 am - 12:30 pm, Pavilion

Re-re-considering Yarbus: Predicting observer “taskiness” from eye movement patterns
Dylan Rose, Peter Bex

Investigating volitional attentional control during film viewing
Taylor L. Simonson, John P Hutson, Shunsuke Kumakiri, Ryoh Takamori, Ella Mcleod, Hudson Treyu, Yuhang Ma, Anna Cook, Katherine Kolze, Kenzi Kriss, Ost Nicholas, Yoshiyuki Uehara, Jun Saiki, Lester C Loschky

Gaze bias during preference-based decision making
James P Wilmott, Rachel Souza, Carolina Haas-Koffler, Joo-Hyun Song

The effect of eye movements in preferential decision
Dan Uemura, Shouta Katayama, Kenji Yokoi

Examining whether eye movement behavior contributes to in-group bias in memory
Mengzhu Fu, Matthew G Rhodes, Michael D Dodd

Examining the relationship between eye movement kinematics and schizotypy in the normal population
Lauren N Bandel, Marian E Berryhill, Michael D Dodd

Distinct pupil features correlate with between-participant and across-session performance variability in a 16-week, longitudinal data set
Russell A Cohen Hoffing, Steven M Thurman, Nina Lauharatanahirun, Daniel E Forster, Javier O Garcia, Nick Wasylshyn, Barry Giesbrecht, Scott T Grafton, Jean M Vettel

Ocular Motor Function and Information Processing in Young and Older Adults
Sheila Crewther, Deena Ebaid

Congruency Effects in the Attention Network Task: The Influence of Stimulus Onset Asynchrony and Eye Movements
Anthony J Ries, David Slayback, Erika Fulbright, Marisa Sligh, Kaliyah Gorman, Jon Touryan

Eye-movement analysis of training effectiveness for microexpression recognition
Xunbing Shen, Gaojie Fan

Predicting Mental States from Eye Movements During Reading
Seoyoung Ahn, Gregory J. Zelinsky

iMap4D: an Open Source Toolbox for Statistical Fixation Mapping of Eye-Tracking Data in Virtual Reality
Valentina Ticcinelli, Peter De Lissa, Denis Lalanne, Sebastien Miellet, Roberto Caldara
SUNDAY AFTERNOON TALKS

Objects and Scenes: Shape categorization, scene perception

Sunday, May 19, 2:30 - 4:15 pm, Talk Room 1
Moderator: Michelle Greene
34.11, 2:30 pm Perceiving Sets and Categories Noam Khayat, Shaul Hochstein
34.12, 2:45 pm Shape similarity and shape categorization using Bayesian shape skeletons Nathan R J Destler, Manish Singh, Jacob Feldman
34.13, 3:00 pm Fast Periodic Visual Stimulation EEG as an implicit measure for perceptual discrimination and categorization of mid-level objects. Jaana Van Overwalle, Stephanie Van der Donck, Sander Van de Cruys, Bart Boets, Johan Wagemans
34.14, 3:15 pm What is a scene? Concavity as an intrinsic property of a scene Annie Cheng, Dirk B Walther, Soojin Park, Daniel D Dilks
34.15, 3:30 pm Perceptual grouping aids recognition of line drawings of scenes by CNNs Morteza Rezanejad, Gabriel Downs, John Wilder, Dirk B. Walther, Allan Jepson, Sven Dickinson, Kaleem Siddiqi
34.16, 3:45 pm High-def memories of low-def scenes: A new phenomenon of “vividness extension” Jose Rivera-Aparicio, Chaz Firestone
34.17, 4:00 pm The role of recurrent processing in visual scene categorization Jamie L Siegart, Wuyue Zhou, Enton Lam, Munashe Machoko, Michelle R Greene

Visual Search: Models, neural mechanisms

Sunday, May 19, 5:15 - 7:15 pm, Talk Room 1
Moderator: Stefanie Becker
35.11, 5:15 pm Selection and Enhancement: Modeling Attentional Capture during Visual Search Andrew Lovett, Will Bridewell, Paul Bello
35.12, 5:30 pm The psychophysics of visual search with heterogeneous distractors: effects of set size, task, temporal order and stimulus spacing Andrea L Mihali, Wei Ji Ma
35.13, 5:45 pm Computational strategies used during hybrid visual search Farahnaz A. Wick, Gabriel Kreiman, Jeremy M. Wolfe
35.14, 6:00 pm Scene context does not necessarily limit processing to target-consistent regions in visual search. Gavin JP Ng, Jiahao Zhou, Simona Buetti, Alejandro Lleras
35.15, 6:15 pm At what stage of the visual processing hierarchy is visual search relational and context-dependent vs. feature-specific? Stefanie I. Becker, Aimee Martin, Nonie J Finlayson
35.16, 6:30 pm Induction of Shape Selectivity in Macaque Frontal Eye Field Dissociates Perceptual and Motor Processing Stages of Visual Search Kaleb A Lowe, Jeffrey D Schall
35.17, 6:45 pm Inhibitory tagging of previously-foveated locations in the superior colliculus during visual search Rakesh K Nanjappa, Robert M McPeek
35.18, 7:00 pm Laminar organization of the superior colliculus priority map Brian J White, Janis Y Kan, Laurent Itti, Douglas P Munoz

Binocular Vision

Sunday, May 19, 2:30 - 4:15 pm, Talk Room 2
Moderator: Alexander Maier
34.21, 2:30 pm Monovision and the misperception of motion Johannes Burge, Victor Rodriguez-Lopz, Carlos Dorrorsoro
34.22, 2:45 pm Nasotemporal Division of Retina is Well Suited for Disparities of Natural Scenes Agostino Gisalditi, Martin S Banks
34.23, 3:00 pm Playing 3-dimensional (3D), but not 2D video games can improve stereocuity in neurotypical observers. Dennis Levi, Roger W Li
34.24, 3:15 pm Can human stereopsis improve by making the eyes optically perfect? Cherlyn J Ng, Martin S Banks, Duje Tadin, Randolph Blake, Geunyoung Yoon
34.25, 3:30 pm Binocular Modulation of Monocular Neurons in the Primary Visual Pathway Kacie Dougherty, Michele A Cox, Jacob A Westerberg, Alexander Maier
34.26, 3:45 pm Interocular conflict predicts individual differences in binocular rivalry Janine D Mendola, Elizabeth A Bock, Jeremy D Fesi, Sylvain Baillet
34.27, 4:00 pm The Attentional Modulation of Binocular Rivalry: an OKN Approach Stella C Qian, Jan W Brascamp

Visual Memory: Working memory

Sunday, May 19, 5:15 - 7:15 pm, Talk Room 2
Moderator: Keisuke Fukuda
35.21, 5:15 pm Human gaze tracks the focusing of attention within the internal space of visual working memory Freek van Ede, Sammi R Chekroud, Anna C Nobre
35.22, 5:30 pm Real-time triggering reveals sustained attention and working memory lapse together Megan T deBettencourt, Paul A Keene, Edward Awh, Edward K Vogel
35.23, 5:45 pm Representation of active and latent items in working-memory-guided behavior Paul S Muhle-Karbe, Nicholas E Myers, Mark G Stokes
35.24, 6:00 pm Is set size six really set size six? Relational coding in visual working memory. Chaipat Chunharas, Timothy F Brady
35.25, 6:15 pm Serial dependence requires retrieval of relevant information from the previous trial Giyeul Bae, Steven J. Luck
35.26, 6:30 pm Consolidation: How information limits visual working memory capacity Qian Yu, Justin Halberda
35.27, 6:45 pm Visual ZIP files: Mental rotation overcomes capacity limits by compressing objects Hauke S Meyerhoff, Nicole Jardine, Mike Steff, Mary Hegarty, Steve Franconeri
35.28, 7:00 pm Evolution and Development of Signature Limits in Mental Manipulation Irene M Pepperberg, Melissa Libertus, Lisa Feigenson, Justin Halberda, Hrag Pailian
Faces: Experience, expertise
Sunday, May 19, 2:45 - 6:45 pm, Banyan Breezeway

36.301 Individual Differences in Holistic Processing of Mooney Faces Teresa Canas Bajo, Mauro Manassi, David Whitney

36.302 Normative data for two ecologically valid tests of face identity matching Lisa Stacchi, Eva Huguenin-Elie, Roberto Caldara, Meike Ramon

36.303 The Cost of Matching Depth-Derotated Faces: A Simple Function of Image Similarity Irving Biederman, Tianyi Zhu, Miles Nelken, Emily X Meschke, Catrina M Hacker

36.304 High test-retest reliability of a neural index of rapid automatic discrimination of unfamiliar individual faces Milena Dzhelyova, Giulia Dormal, Corentin Jacques, Caroline Michel, Christine Schiltz, Bruno Rossion

36.305 The two-faces of recognition ability: better face recognizers extract different physical content from left and right sides of face stimuli Simon Faghel-Soubeyrand, Arjen Alink, Eva Bamps, Rose-Marie Gervais, Frédéric Gosselin, Ian Charest

36.306 The Good, the Bad, and the Average: Characterizing the Relationship Between Face and Object Processing Across the Face Recognition Spectrum Christian Gerlach, Rebecca Hendel, Randy Stawarff

36.307 Super-Recognizers in Criminal Investigation – Hype or Hope? Meike Ramon

36.308 Not just in FFA: becoming an expert also drives the activity, and changes the pattern, of early visual cortex Chien-Shu Chu, Kuo Liu, Chun-Chia Kung

36.309 Beyond activity changes: appropriate expertise training not just drives higher activities, but also faster BOLD onset and better classifications for Greebles Chun-Chia Kung, Chien-Shu Chu, Yi Lin, Hanshin Jo, Kuo Liu

36.310 A direct support for the perceptual expertise hypothesis of FFA: interactive face- and bird-selectivity in bird experts. Nian Ting Yang, Chun Chia Kung, Chien Shu Chu

36.311 The dynamics of face learning: Insights from similarity ratings. Kristen A Baker, Catherine J Mondloch

36.312 Inducing the use of information for face identification Jessica Tardif, Caroine Blais, Frédéric Gosselin

36.313 The Development of Emotion Perception: Evidence from an Unconstrained Sorting Task Catherine J Mondloch, Claire M Matthews, Shelby Howlett

36.314 The Importance of Within-Person Variability in Appearance in Adults’ and Children’s Face Learning Claire M Matthews, Kay L Ritchie, Sarah Laurence, Catherine J Mondloch

36.315 Learning newly encountered faces from variable images in adults and children Sarah Laurence, Nicola Ralph, Eloise De Carvalho, Valentina Prieto, Catherine J Mondloch

36.316 The Capacity for Face Perception is Independent of the Capacity for Face Memory Catrina M Hacker, Irving Biederman

Attention: Capture
Sunday, May 19, 2:45 - 6:45 pm, Banyan Breezeway

36.317 Testing a Priming Account of the Contingent-Capture Effect Ulrich Ansorge, Tobias Schoeberl, Florian Goller

36.318 Statistical learning can modulate contingent attentional capture Matthew D Hilchey, Blaire J Weidler, Jay Pratt

36.319 Context-specific long-term habituation of attentional capture Francesca Bonetti, Cinzia Chianietti, David Pascucci, Massimo Turatto

36.320 Surprise capture of the eyes can be (almost) as reliable and fast as top-down contingent capture Gernot Horstmann, Daniel Ernst

36.321 The role of attention in the action effect So Ri Jung, Ki Bum Lee, Myeongjin Lee, Eunhee Ji, Min-Shik Kim

36.322 Influences of Prediction Errors in Establishment of Attentional Control Settings during Incidental Associative Learning Sunghyun Kim, Melissa R. Beck

36.323 Electrophysiological Evidence for Competition in Spatial Attention by Entirely Irrelevant Unisensory and Multisensory Distractors Jessica Lunn, Jamie Ward, Salvador Soto-Faraco, Nick Berggren, Sophie Forster

36.324 Acute stress, either social or physical, alters the priority of salient feared distractors but not neutral salient distractors Mary H MacLean, Alex P Boone, Tom Bullock, Tyler Santander, Jamie Raymer, Liann Jimmons, Alex Stuber, Gold N Okafor, Scott T Grafton, Michael B Miller, Barry Giesbrecht

36.325 Prior reward learning biases selective attention among 9-12-month-old infants Julie Markant, Brianna Keenan, Kelsey Offen

36.326 Frequency of exposure and target salience affect the extinction of value-driven attention capture Anne E Milner, Mary H MacLean, Barry Giesbrecht

36.327 Modulating attentional capture via Transcranial Magnetic Stimulation (TMS) of right TPJ Carlotta Lega, Oscar Ferrante, Elisa Santandrea, Luigi Cattaneo, Leonardo Chelazzi

36.328 Under Load: Attentional Capture for a Dynamic Looming Singleton in a Dual-Task Paradigm Joanna E Lewis, Mark B Neider

36.329 Dimensional constraints on distractor handling during pop-out search Heinrich R. Liesefeld, Hermann J. Müller

Perception and Action: Decision making, neural mechanisms
Sunday, May 19, 2:45 - 6:45 pm, Banyan Breezeway

36.330 Confidence and perceptual judgments are based on different internal representations Kyuin Kim, Sang Chul Chong

36.331 Comparing visual discrimination and detection: the special status of ‘no’ responses Matan Mazor, Lucie Charles, Karl J. Friston, Stephen M. Fleming

36.332 ‘Priors’ need not occur at perception: Pre vs. Post-stimulus cueing in a delayed matching task Syaheed B Jabar, Daryl Fougnie


36.334 Confidence as a priority signal in perceptual decision-making David Aguilar Lleyda, Maxime Lemarchand, Vincent de Gardelle

36.335 Making a sound decision from temporally accumulated conflicting visual information Viola Mocz, Yaoda Xu
Sunday Afternoon Posters

36.336 Overlapping and unique neural circuits support perceptual decision making and confidence  Jiwon Yeon, Dobromir Rahnev

36.337 Mixing different contrasts inflates estimated metacognitive ability in perceptual decision making  Dobromir Rahnev, Stephen M Fleming

36.338 The nature of metacognitive imperfection in perceptual decision making  Medha Shekhar, Dobromir Rahnev

36.339 All-optical stimulation and imaging in macaque V1 reveals neural and behavioral masking effects of optogenetic stimulation in a threshold detection task  Spencer C Chen, Giacomo Benvenuti, Matthew P Whitmire, Yuzhi Chen, Eyal Seidemann, Wilson S Geisler

36.340 Title: Trading off probability and reward in structured lottery tasks  Laurence Maloney, Mordechai Z Juni, Denise Bercovitch, Todd M Gureckis

36.341 Monitoring and proactive control of visual search speed-accuracy tradeoff by supplementary eye field  Thomas Reppert, Richard P Heitz, Jeffrey D Schall

36.342 Decision threshold in a perceptual task is influenced by information content of a pre-training stimulus  Tyler Barnes-Diana, Yuka Sasaki, Takeo Watanabe

Eye Movements: Perception

Sunday, May 19, 2:45 - 4:45 pm, Banyan Breezeway

36.343 Control and coordination of fixational eye movements in the Snellen acuity test  Janis Intoy, Michele A Cox, Michele Rucci

36.344 Perceptual sensitivity to fine detail across the foveola  Martina Poletti, Natalya Shelchkova

36.345 Oculomotor strategy classification in simulated central vision loss  Marcello Maniglia, Kristina M Visscher, Aaron R Seitz

36.346 The robust vertical visual field asymmetry for presaccadic fixation durations: A meta-analysis  Harold H Greene, James M Brown, Gregory P Strauss

36.347 Age effects on saccadic suppression  Doris Braun, Alexander C Schütz, Jutta Billino, Karl R Gegenfurtner

36.348 Novel offline technique to process and understand interaction with printed imagery  Anjali K Jogeshwar, Gabriel J. Diaz, Jeff B. Pelz

36.349 Controlling readability of head-fixed large field-of-view displays  Alexander Toet, Frank L. Kooi

Eye Movements: Natural and less natural scenes

Sunday, May 19, 2:45 - 6:45 pm, Banyan Breezeway

36.350 Evidence for closed-loop visual acquisition  Liron Zipora Gruber, Ehud Ahissar

36.351 Towards End to End head-free gaze classification  Rakshit S Kothari, Zhizhuo Yang, Chris Kanan, Jeff Pelz, Reynold Bailey, Gabriel J Diaz

36.352 Hardware Modification for Improved Eye Tracking with the Pupil Labs Virtual-Reality Integration  Clara Richter, Catherine A Fromm, Gabriel J Diaz


36.354 Cognitive and Perceptual Influences on Eye Movements and Object Memory in Real Environments  Sara Spotorno, Ioana Dragusin, Clare Kirtley, Benjamin W Tatler

36.355 Characterization of natural head and eye movements driving retinal flow  Paul R MacNeillage, Luan Nguyen, Christian Sinnott

36.356 Decoupling eye movements from retinal image motion reveals active fixation control  Michele A Cox, Norick R Bowers, Janis Intoy, Martina Poletti, Michele Rucci

36.357 Initial fixations differ for brightness and stiffness judgments  Lorlei M Alley, Matteo Toscani, Robert J Ennis, Katja Doerschner

36.358 Gaze Behavior During 360°, Naturalistic Scene-Viewing  Thomas L Botch, Jeff Mentch, Caroline E Robertson

36.359 The effect of the Pre-Flight Introduction training (PFI) on gaze behavior and flight performance of student pilots  Stephanie Brams, Rafael R Reijman, Ignace TC Hooge, Gal Ziv, Oron Levin, Ken Evans, Tony De Wolf, Werner F Helsen


Perceptual Organization: Grouping

Sunday, May 19, 2:45 - 4:45 pm, Banyan Breezeway

36.361 The Effect of Visual Long-Term Memory on Eye Movements over Time  Lisa F Schwetlick, Hans A Trukenbrod, Ralf Engelbrennner

36.362 How body movements in a task predict visual attention dynamically  John A Harston, William W Abbott, Aldo Faisal

36.363 The fixation-related N400 during natural scene viewing: Investigating the foveal vs. extrafoveal processing of object semantics  Moreno I Coco, Antje Nuthmann, Olaf Dimigen

36.364 A striking discontinuity in visual number estimation at 20 is unaffected by extended exposure time  Frank Durgin, Makayla Portley

36.365 Displaying Variability Better: Can We Leverage Gestalt Principles to Aid Display Comprehension?  Mike Tymoski, Jessica K Witt

36.366 Color tuning mechanisms for perceptual grouping in the chromatic Glass patterns  Lee Lin, Chien-Chung Chen

36.367 A Neural Circuit for Perceptual Grouping, Segmentation, and Selection  Maria Kon, Gregory Francis

36.368 Competing unconscious reference-frames shape conscious motion perception  Oh-hyeon Choung, Marc M Lauffs, Haluk Öğmen, Dirk Kerzel, Michael H Herzog

36.369 Perception With and Without Attention: Neural Correlates of Grouping by Similarity in Preattentive and Divided-Attention Conditions  Tiffany A Carther-Krone, Jane Lawrence-Dewar, Andrew J Collegio, Joseph C Nah, Sarah Shomstein, Jonathan J Marotta

36.370 A Model with Top-down Control of the Range of Perceptual Grouping  Gregory Francis, Alban Bornet

36.371 Spatial mechanisms underlying the detection and localisation of mirror-symmetry  Elena Gheorghiu, Rebecca J Sharman

36.372 Orientation of pattern elements does not influence mirror-symmetry perception  Rebecca J Sharman, Elena Gheorghiu

36.373 Remembered Together: Recognition accuracy for visual features of interacting partners is enhanced in the presence of outgroup distractors, but decreased in the presence of ingroup distractors.  Tim Vestner, Jonathan C Flavel, Richard Cook, Steven P Tipper

36.374 Biases in the perception of the ambiguous motion quartet across spatial scale  Charlotte Boeykens, Johan Wagemans, Pieter Moors
Faces: Social and cultural factors
Sunday, May 19, 2:45 - 6:45 pm, Pavilion

36.401 Manipulating social perceptions with an autoencoding model of faces - ModifAE, a useful tool for face perception studies. Amanda Song, Chad Atalla, Bartholomew Tam, Garrison Cottrell

36.402 An Own-Age Bias in Mixed- and Pure-List Presentations: No Evidence for the Social-Cognitive Account Sophie L Cronin, Belinda M Craig, Ottmar V Lipp

36.403 The impact of race and affect on infant visual attention to faces Kelly C Roth, Emily K Grimes, William J Chollman, Jennifer Shearon, Cathryn Pryor, Cole Green, Greg D Reynolds

36.404 Race categories and implicit biases in children and adults Arushi Sachdeva, Melissa Mildort, Gizelle Anzures

36.405 Event-related potentials, race categorization, and implicit racial biases in children and adults Haylee F Trulson, Melissa Mildort, Gizelle Anzures

36.406 Evaluating Trustworthiness: Differences in Visual Representations as a Function of Face Ethnicity Francis Gingras, Karolann Robinson, Daniel Fiset, Caroline Blais

36.407 Perceptual Experience and Within-Person Variability Affect the Magnitude of the Other-Race Effect Xiaomei Zhou, Chun-Man Chen, Catherine J. Mondloch, Sarina Hui-Lin Chien, Margaret Mouison

36.408 Learning own- and other-race facial identities through exposure to natural variability: Evidence from behavioural and ERP measures Simone C Tuttonberg, Holger Wiese

36.409 Recognition of faces despite changes in appearance: How similarity and race affect our tolerance for within-person variability Alexandra R Marquis, Xiaomei Zhou, Margaret C Mouison

36.410 Evidence of an other race effect for video game character faces Jennifer A Day, Nicolas Davidenko, Hannah Hart-Pomerantz

36.411 The impact of gender on visual strategies underlying the discrimination of facial expressions of pain. Camille Saumure, Marie-Pier Plouffe-Demers, Daniel Fiset, Stéphanie Cormier, Miriam Kunz, Caroline Blais


36.413 Cross-species differences in the perception of dynamic facial expressions Nick Taubert, Michael Stettler, Louisa Sting, Ramona Siebert, Silvia Spadacenta, Peter Dicke, Hans P. Thier, Martin A. Giese

36.414 Facial features for age judgments across cultures Nicolas Dupuis-Roy, Frederic Gosselin, Qin Lin Zhang, Zach Schendel, Amir Ashkenazi, Ed Covell, Kevin Blot, Jean-Marc Descrissier, Helen Meldrum

36.415 Religious-Contingent Aftereffects for Christian and Muslim Faces Victoria Foglia, M.D. Rutherford

36.416 The Relationships Between Waist-to-Hip Ratio (WHR), Waist-to-Statute Ratio (WSR), and Body Mass Index (BMI) on Ratings of Women’s Body Attractiveness and Health Amanda D Golden Eddy, Jessie J Peissig

36.417 “You’re my doctor?”: Stereotype-incongruent identities impair recognition of incidental visual features Austin A. Baker, Jorge Morales, Chaz Firestone

36.418 A Quick Read: Affective Empathy Reduces the Time to Recognize Identity in Video Morphs Pascaline Mugiranze Munezero, Olivia Stibolt, Kendall Stewart, Jane Song, Thalia Viranda, Christopher Cotter, Cindy M. Bukach

36.419 Variation of empathy in viewers impacts facial features encoded in their mental representation of pain expression. Marie-Pier Plouffe Demers, Camille Saumure, Daniel Fiset, Stéphanie Cormier, Miriam Kunz, Caroline Blais

36.420 Role of implicit social attitude on holistic face perception Olivia S. Cheung, Wei Chen, Mahlet T. Kassa

36.421 Individual differences in attractiveness perception predict social inferences, but not all altruistic desires Glenn Rose, Edwin J Burns, Cindy Bukach

Development: Atypical
Sunday, May 19, 2:45 - 6:45 pm, Pavilion

36.422 Learning and visual attention across neurodevelopmental conditions: Using Multiple Object-Tracking as a descriptor of visual attention Domenico Tullo, Jocelyn Faubert, Armando Bertone

36.423 Implicit learning of perceptual distributions in children with ASD Lisa Lemmens, Sander Van de Cruys, Andrey Chetverikov, Laurie-Anne Sapye-Triomphe, Ilse Noens, Johan Wagemans

36.424 Learning during noisy vision in 3-year-olds at high and low risk for autism Emma K Ward, Jan K Buitelaar, Sabine Hunnius

36.425 Differences in Naturalistic Scene-Viewing in Individuals with Genetic Variations Linked to Autism Jeff Mentch, Caroline E. Robertson

36.426 Pupil response trajectories as an index of visual processing across the autism phenotype Antoinette Sabatino DiCriscio, Yirui Hu, Vanessa Troiani

36.427 Visual temporal integration windows in 2-year-old toddlers with and without ASD Julie Freschl, David Melcher, Alice Carter, Sangya Dhungana, Zsuzsa Kaldy, Erik Blaser

36.428 Motion sensitivity and perceptual decision making in developmental dyslexia Gabrielle O’Brien, Sung Jun Joo, Jason Yeatman

36.429 Action Video Games Improve Multi-sensory Perceptual Noise-Exclusion in Developmental Dyslexia Simone Gori, Sara Bertone, Sandro Franceschini, Andrea Faccoetti

36.430 Selective loss of fMRI response to sustained chromatic stimuli In the Parvocellular Layers of the LGN and the Superficial Layer of the SC of Unilateral Adult Amblyopia Yue Wang, Wen Wen, Hong Liu, Peng Zhang

36.431 Intuitive psychophysics: designing new tests of contrast sensitivity, eye movements, and visual field asymmetry for children with cerebral visual impairment Scott W.J. Mooney, N. Jeremy Hill, Nazia M. Alam, Glen T. Prusk y

36.432 Multisensory Perception for Action in Newly Sighted Individuals Marc O. Ernst, Irene Senna, Sophia Pfister

36.433 Visual cortex connectivity variability in congenitally blind individuals Elia Striem-Amit, Smadar Ovadia-Caro, Ningcong Tong, Xiaoying Wang, Yancho Bi, Alfonso Caramazza

36.434 Psychophysical Assessment of Contrast Sensitivity Functions in Surface and Hybrid Mexican Tetras Ashley Rohacek, Brittany Smith, Amy Lindsey

36.435 Spatial and Temporal Visual Perception of Infantile Nyctagmus Avital Moshkovitz, Inbal Ziv, Maria Lev, Uri Polat
Scene Perception: Places, spatial structure, navigation, affordances
Sunday, May 19, 2:45 - 6:45 pm, Pavilion
36.436 When a phone in a basket looks like a knife in a cup: Perception and abstraction of visual-spatial relations between objects Alon Hafri, Barbara Landau, Michael F Bonner, Chaz Firestone
36.437 Hole-in-the-wall: Perception of 3D shape and affordances from static images in humans and machines Thomas S Wallis, Marlene Weller, Christina M Funke, Matthias Bethge
36.438 Reachable or Not? Perceptual judgments of reachability along the object-scene continuum Jeongho Park, Emilie Josephs, Talia Konkle
36.439 Large-scale neural dissociations between views of objects, scenes, and reachable spaces Emilie L Josephs, Talia Konkle
36.440 Scene feature preferences found in scene selective cortex Elissa Aminoff, Howard Hughes
36.441 What lies beyond: Representations of the connectivity structure of the local environment Rachel C Metzgar, Michael F Bonner, Russell A Epstein
36.442 Scene semantics outperform center bias during scene memorization, image saliency models do not Taylor R. Hayes, John M. Henderson
36.443 A scene with an invisible wall - Does navigation experience influence scene perception? Shi Pui Li, Zhengang Lu, Soojin Park
36.444 Learning to Integrate Egocentric and Allocentric Information using a Goal-directed Reward Signal Arthur W Juliani, Joseph P Yaconelli, Margaret E Sereno
36.445 Representation of scene navigability and structure in two distinct cortical pathways Yoonjung Lee, Soojin Park
36.446 A voxel-wise encoding model for VR-navigation maps view-direction tuning at 7T-fMRI Matthias Nau, Tobias Navarro Schröder, Markus Frey, Christian F. Doeller
36.447 Why Uber Drivers Scare You: Detecting Road Hazards With Peripheral Vision Benjamin A Wolfe, Ruth Rosenholtz

Temporal Processing: Duration
Sunday, May 19, 2:45 - 6:45 pm, Pavilion
36.448 Time after time: Repeated failure to support the space/time claims of Cassandro and Boroditsky (2008) Shelby N Billups, Augustin Burchell, Elisabeth A Gilhool, Maya Smith, Frank H Durgin
36.449 Duration of a time interval is perceived longer when you know when it ends Seonggyu Choe, Oh-Sang Kwon
36.450 Time (The 'Audiovisual Rule' Remix) Simon J Cropper, LiHeng W Xu, Aurelio M Bruno, Alan Johnston
36.451 Effects of the irrelevant duration information on duration perception Hitomi Kawahara, Yuko Yotsumoto
36.452 Ensemble perception for durations of visual stimuli Teruaki Kido, Yuko Yotsumoto
36.453 Object substitution occurs when a masker and a target are presented to different eyes Tomoya Nakamura, Sofia Lavrenteva, Ikuya Murakami
36.454 Association between temporal perception and pupillary response in Red/Blue stimuli Yuya Kinzuka, Fumiaki Sato, Tetsuto Minami, Shigeki Nakauchi
36.455 Motor adaptation affects perception of time and numerosity David Burr, Giovanni Anobile, Irene Togoli, Nicola Domenici, Roberto Arrighi

Motion: Models, neural mechanisms
Sunday, May 19, 2:45 - 6:45 pm, Pavilion
36.456 A motion aftereffect induced without motion: spatial, temporal and binocular properties, and a computational model Mark A Georgeson, George Mather
36.457 Adaptation-induced changes to the ‘intrinsic’ occipital alpha rhythm Wiremu D Hohaia, Alan Johnston, Kielan Yarrow, Derek H Arnold
36.458 Top-down Influence of Global Motion Patterns on Local Motion Patterns Darwin Romulus, Sang W Hong, Howard Hock
36.459 Decoding of retinal motion signals by cells in macaque MT Ramanujan T. Raghavan, J. Anthony Movshon, E. J. Chichilnisky
36.460 Centre-surround Suppression of Contrast through the Form and Motion Pathways Daisy J Phillips, Thomas J McDougall, David R Badcock
36.461 Neural, functional, and aesthetic impact of spatially heterogeneous (multistable) flicker Melisa Menceloglu, Marcia Grabowecky, Satoru Suzuki
36.462 Temporal dynamics in MT during motion discrimination with varied temporal weighting strategies Aaron J Levi, Alexander C Huk
36.463 Apparent motion of double drift target originates from physical location at short delays but from closer to perceived location at longer delays Jianhan Hui, Peng Zhang, Sheng he, Peter Ulric Tse, Patrick Cavanagh
36.464 Activity in human visual areas reflects the precision of motion perception Andrey Chetverikov, Janneke F.M. Jehee
36.465 Evidence from amblyopia for shared processing of motion perception and stereopsis Arijit Chakraborty, Farnaz Javadian, Laurie M. Wilcox, Deborah Giaschi
36.466 Enhanced auditory segregation in early blind individuals Jasmine F Awad, Woon Ju Park, Ione Fine
36.467 Theoretical predictions of the perceived motion-direction of same-spatial-frequency plaids George Sperling, Dantian T. Liu, Peng Sun, Ling Lin
36.468 Dynamic non-linear interactions serving speed estimation inferred from channel interactions during ocular following Guillaume S Masson, Nikos Gekas, Andrew I Meso, Claudio Simoncini, Pascal Mamassian
36.469 Motion Integration and Disambiguation concerted by Feedforward-Feedback Interactions of V1-MT-MSTl Maximilian P.R. Lohr, Daniel Schmid, Heiko Neumann
36.470 The construction of global shape with the Tusi and Not-Tusi configurations Arthur Shapiro, Alex Rose-Henig
36.471 Exploring how distance and duration information contributes to speed change discrimination Abigail RI Lee, Justin M Ales, Julie M Harris
36.472 Human sensitivity to task-relevant features in speed discrimination Benjamin M Chin, Johannes Burge
Monday Morning Talks

Attention: Models, neural mechanisms

Monday, May 20, 8:15 - 9:45 am, Talk Room 1
Moderator: Diane Beck

41.11, 8:15 am Layer-specific modulation of top-down spatial attention in human early visual cortex Peng Zhang, Chengwen Liu, chencan Qian, Zihao Zhang, Sheng He, Yan Zhuo

41.12, 8:30 am A TMS-EROS investigation of the role of feedback to early visual cortex in visual awareness. Ramisha Knight, Gabriele Gratton, Monica Fabiani, Diane M Beck

41.13, 8:45 am Pre-stimulation alpha phase/power and gamma power modulate the strength of feedback and feedforward in human visual areas Lu Shen, Biao Han, Qi Chen, Rufin VanRullen

41.14, 9:00 am Biased neural coding of feature-based attentional priority along the visual hierarchy Mengyuan Gong, Taosheng Liu

41.15, 9:15 am Attention is a prerequisite for the neural effects of perceptual predictions David Richter, Floris P. de Lange

41.16, 9:30 am Pulvinar modulation of the contrast response function of cortical neurons along the ventral pathway Christian Casanova, Bruno Oliveira Ferreira de Souza, Cortes Nelson

Object Recognition: Reading, domain-specific expertise

Monday, May 20, 10:45 am - 12:15 pm, Talk Room 1
Moderator: Geoffrey Boynton

42.11, 10:45 am Domain-specific experience determines individual differences in holistic processing Isabel Gauthier, Kao-Wei Chua

42.12, 11:00 am Linking occipital callosal white matter to cortical responses and reading skill Elizabeth Huber, Emily C Kubota, Jason D Yeatman

42.13, 11:15 am A precursor of reading: Neural responses to letters strings in the untrained primate inferior temporal cortex predict word recognition behavior Rishi Rajalingham, Kohitij Kar, Sachi Sanghavi, Stanislas Dehaene, James J DiCarlo

42.14, 11:30 am Visually driven reading deficits: The role of object perception and visual attention Heida M Sigurdardottir, Alexandra Arnardottir, Eydis T Halldorsdottir, Hilma R Omsardottir, Anna S Valgeirsdottir

42.15, 11:45 am Word and face recognition in posterior stroke – behavioural patterns and lesion lateralization Randi Starrfelt, Ro J Robotham, Sheila J Kerry, Grace E Rice, Matthew A Lambon Ralph, Alex P Leff

42.16, 12:00 pm Parallel spatial channels for word recognition converge at a bottleneck in anterior word-selective cortex Alex L White, John Palmer, Geoffrey M Boynton, Jason D Yeatman

Object Recognition: Models, neural mechanisms

Monday, May 20, 8:15 - 9:45 am, Talk Room 2
Moderator: Biyu He

41.21, 8:15 am Revealing the behaviorally-relevant dimensions underlying mental representations of objects Martin N Hebart, Charles Y Zheng, Francisco Pereira, Chris I Baker

41.22, 8:30 am Unique contributions of skeletal structure for object recognition in the visual system Vladislav Azyenberg, Frederik S Kamps, Daniel D Dilks, Stella F Lourenco

41.23, 8:45 am The representation of simultaneously-presented multiple categories in category-selective cortex Libi Kliger, Galit Yovel

41.24, 9:00 am Scene Clutter and Attention Differentially Affect Object Category and Location Representations Monika Graumann, Caterina Ciuffi, Radoslaw M Cichy

41.25, 9:15 am A dual role of spontaneous neural activity in object recognition Ella Podvalny, Matthew W Flounders, Leana E King, Tom Holroyd, Biyu J He

41.26, 9:30 am Low-frequency oscillations track the contents of visual perception and mental imagery Siying Xie, Daniel Kaiser, Polina Iamshchinina, Radoslaw Cichy

Multisensory Processing

Monday, May 20, 10:45 am - 12:15 pm, Talk Room 2
Moderator: Shinsuke Shimojo

42.21, 10:45 am Visual Judgements of Grasp Optimality Guido Maiello, Marcel Schepeko, Lina K Klein, Vivian C Paulun, Roland W Fleming

42.22, 11:00 am The Ventriloquist Illusion in the Blind with Retinal Prostheses: Are Auditory-Visual Interactions Restored After Decades of Blindness? Noelle R B Stiles, Vivek R. Patel, James D. Weiland

42.23, 11:15 am Spatiotemporal neural representations in high-level visual cortex evoked from sounds Matthew X Lowe, Yaida Mohsenzadeh, Benjamin Lahner, Santani Teng, Ian Charest, Aude Oliva


42.25, 11:45 am Are you the sort of person who would like this? Quantifying the typicality of aesthetic taste across seeing and hearing Yi-Chia Chen, Andrew Chang, Monica Rosenberg, Brian Scholl, Laurel J. Trainor

42.26, 12:00 pm Motor and vestibular self-motion signals drive perceptual alternations of opposed motions in binocular rivalry David Alais, Chris Paffen, Robert Keys, Hamish MacDougall, Frans Verstraten
MONDAY MORNING POSTERS

3D Perception: Models, mechanisms
Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.301 Monocular depth discrimination in natural scenes: Humans vs. deep networks Kedarnath Vilankar, Hengchao Xiang, Krista Ehinger, Wendy Adams, Erich Graf, James Elder

43.302 Optimal spatial integration: How to pool local estimates into a global percept Seha Kim, Johannes Burge

43.303 A Realistic Cue Combination Rule for Multi-Cue Depth Perception Christopher W Tyler

43.304 TMS induced slowing of pursuit and depth from motion parallax Mark Nawrot, Andrew Heinz, Shanda L Dauer, Jeffrey S Johnson

43.305 Neural correlates of contextually modulated depth perception Nicole Wong, Dorita H.F. Chang

43.306 Contribution of stereopsis and motion parallax to fear response in the pit room environment Siavash Eftekharifar, Nikolaus Troje

43.307 Generalized representation of shapes from different cues in parts of IPS areas Zhen Li, Hiroaki Shigemasu

43.308 Characterizing a snapshot of perceptual experience Michael A Cohen, Caroline Ostrand, Nicole Frontero

43.309 Does experience of stereoblindness change use of texture cues in slant perception? Pin Yang, Zhongtong Chen, Jeffrey Allen Saunders

43.310 The face narrowing caused by the Mona Lisa effect Marie Morita, Yoshitaka Fuji, Takao Sato

Perception and Action: Walking, driving, navigating
Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.311 The span of visible terrain for walking over multiple raised obstacles Brett Fajen, Scott T Steinmetz, Mark J Uszacki, Sean L Barton, Gabriel J Diaz

43.312 A role for stereopsis in walking over complex terrains Kathryn Bonnen, Jonathan S Matthis, Agostino Gibaldi, Martin S Banks, Dennis Levi, Mary Hayhoe

43.313 Both optical expansion and depth information are used to control 2D pedestrian following Gregory C Dachner, William H Warren

43.315 Retinal optic flow and the control of locomotion Jonathan Samir Matthis, Karl S Muller, Mary M Hayhoe

43.316 The role of optic flow and visual direction in locomotion Daniel P Panfili, Jonathan Samir Matthis, Mary M Hayhoe

43.317 Invisible social space alters human walking behaviours Chen Zhou, Ming-Cheng Miao, Yi-Fei Hu, Shu-Guang Kuai

43.318 How do people drive a car to cross a road intersection between incoming vehicles? Huaiyong Zhao, Dominik Straub

43.319 The Influence of Space Semantics on Navigational Choices in Virtual Settings Serena De Stefani, Davide Schaumann, Xun Zhang, Jacob Feldman, Mubbasir Kapadia

43.320 Spatial learning from navigation in a virtual environment: effect of previewing a top-down map Jie Ding, Jeffrey A Saunders

43.321 Effects of degraded vision on the use of landmarks in spatial learning Holly C Gagnon, Erica M. Barhorst-Cates, Sarah H. Creem-Regehr

43.322 Where did I park my car? Influence of visual landmark permanency on navigation Charlotte E. Roy, Dennis Wiebusch, Marc O. Ernst

Faces: Expressions, speech
Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.323 Discrimination of facial expressions and pain through different viewing distances Isabelle Charbonneau, Joël Guérette, Caroline Blais, Stéphanie Cormier, Fraser Smith, Daniel Fiset

43.324 Spatial frequencies underlying the detection of basic emotions and pain Joël Guérette, Isabelle Charbonneau, Caroline Blais, Stéphanie Cormier, Daniel Fiset

43.325 The Peripheral View Melts Facial Emotion into a Blur: Investigating the Role of Spatial Frequency in Younger and Older Adults’ Peripheral Emotion Detection Andrew Mienaltowski, Alyssa R Minton, Connor Rogers, J. Farley Norman

43.326 The discrimination ability of human visual system for facial expression, identity and gender Hui Zhang, Zixiang Wei, Xueping Wang, Yunhong Wang

43.327 The importance of stimulus variability when studying face processing using Fast Periodic Visual Stimulation: A novel ‘Mixed-Emotions’ paradigm Rebecca Brewer, Michel-Pierre Coll, Jennifer Murphy, Caroline Catmur, Geoffrey Bird

43.328 Natural brief facial expression changes detection at a single glance: evidence from Fast Periodic Visual Stimulation Stéphanie Matt, Milena Dzhelyova, Louis Maillard, Joëlle Lighezzolo-Alnot, Bruno Rossion, Stéphanie Caharel

43.329 The Neural Underpinning of Abstractioning Emotion from Facial Expressions Yi-Chen Kuo, Ya-Yun Chen, Gary C.-W. Shyi

43.330 The acute effects of intranasal oxytocin on EEG mu responses to emotional faces Laila E Hugrass, Ariane Price, Eveline Mu, David P Crewther

43.331 Visual context in emotion recognition is more powerful, prevalent and efficient than we thought Zhimin Chen, David Whitney

43.332 Investigating the contribution to emotional response of facial information in the context of natural scenes Cristina-Bianca Denk-Florea, Professor Frank Pollick

43.333 The effect of auditory semantic cues on face expression processing: An EEG investigation Anna Hudson, Heather Hender-son, Roxane Itier

43.334 Dorsal face-movement and ventral face-form regions are functionally connected during visual—speech recognition Kamila Borowiak, Katharina von Kriegstein

43.335 The relationship between facial speech cues and vocal tract configuration Alan Johnston, Christopher Scholes, Ben B Brown, Jeremy Skipper
Perceptual Learning: adaptation, neural mechanisms

Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.336 The transfer of perceptual learning to a physically and orientation different stimulus requires triple training Jun-Yun Zhang, Guo-Zhen Liu, Cong Yu

43.337 Adaptive Changes in the Visuocortical Contrast Response to Spatial Frequency Stimuli: Dissociation Between Alpha-band Power and Driven Oscillations. Wendel M Friedl, Andreas Keil

43.338 Rapid reorganization in the adult human primary visual cortex following non-invasive and reversible visual cortical deprivation in healthy subjects Yaseen A Jamal, Daniel D Dilks

43.339 Sharpness discrimination as an effective perceptual training task for presbyopia Suriaya Jahan Liza, Liana Nafisa Saftari, Hyun-Jun Jeon, Oh-Sang Kwon

43.340 Single-session expertise training leads to competition between object and face representations in visuo-cortical processing Gabriella Silva, Lisa S Scott, Andreas Keil

43.341 Seeing, fast and slow: effects of processing time on perceptual bias Ron Dekel, Dov Sagi

43.342 Extensive training with feedback reduces attentional demand in visual feature binding Yoko Higuchi, Naotsugu Tsuchiya, Ryota Kanai, Kazuhiisa Shibata

43.343 Different types of response feedback in perceptual training are necessary to improve the detection of different types of breast cancer Sebastian M Frank, Andrea Qi, Daniela Ravasio, Yuka Sasaki, Eric Rosen, Takeo Watanabe

43.344 The influence of self-construct priming on visual perceptual learning Stephanie Yoke Ping Chua, Panagiotis Rentzelas, Zoe Kourtzi, Maxine Lintern, Eirini Mavritsaki

43.345 Effects of Daily Training Amount on Visual Perceptual Learning Yongqian Song, Nihong Chen, Fang Fang

43.346 Individual differences in learning: Relations between cognition, personality, and responsiveness to perceptual training Aaron K Cochrane, C. Shawn Green

43.347 Ultra-high field imaging of perceptual learning in the human visual cortex Ke Jia, Elisa Zamboni, Nuno Reis Goncalves, Catarina Rua, Valentin Kemper, Guy Williams, Chris Rodgers, Zoe Kourtzi

43.348 Using Closed-Loop Real-Time fMRI Neurofeedback to Induce Neural Plasticity and Influence Perceptual Similarity Marius Cătălin Iordan, Victoria J. H. Ritvo, Kenneth A. Norman, Nicholas B. Turk-Browne, Jonathan D. Cohen

43.349 Statistical learning enables implicit subadditive predictions Yu Luo, Jaying Zhao

43.350 Visuo-motor adaptation during interaction with a user-adaptive system Priscilla Balestrucci, Marc O. Ernst

43.351 Decrease of the tilt illusion effect through perceptual learning Nari Jeong, Soojin Lee, Kyou Dong Lee, Hoon Choi

43.352 Direction selective habituation of motion adaptation Xue Dong, Min Bao

43.353 Visual representations outside of conscious awareness can support sensory preconditioning Cody A Cushing, Mouslim Cherkaoui, Mitsuo Kawato, Jesse Rissman, Hakwan Lau

43.354 Unitization of audio-visual conjunctions is reflected by shifts in processing architecture Jackson C Liang, Layan A Elfaki, Morgan D Barense

43.355 Learning to calibrate age estimates Jordan W Suchow, Thomas L Griffiths

Scene Perception: Cortical coding, neural mechanisms, neural networks

Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.356 Adaptation to the Amplitude Spectrum Slope of Natural Scenes in Modified Reality Bruno Richard, Patrick Shafto

43.357 Assessing the similarity of cortical object and scene representations through cross-validated voxel encoding models Nicholas M. Blauch, Filipe De Avila Belbute Peres, Juhi Farooqui, Alireza Chaman Zar, David Plaut, Marlene Behrmann

43.358 Organization of population receptive fields in the parahippocampal place area Charlotte A Leferink, Claudia Damiano, Dirk B Walther

43.359 The neural basis of local contour symmetry in scene perception John D Wilder, Mortezha Rezanejad, Kaleem Siddiqi, Allan Jepson, Sven Dickinson, Dirk B Walther

43.360 Neural coding of non-visual properties inferred from images of natural scene Yaelan Jung, Dirk B Walther

43.361 Task demands flexibly change the dynamics of feature use during scene processing Bruce C Hansen, Michelle R Greene

43.362 Early electrophysiological correlates of scene perception are sensitive to inversion Assaf Harel, Hamada Al Zoubi

43.363 Seeing the world from above: Uncovering the neural basis of aerial scene recognition Joseph D Borders, Bethany M Dennis, Birken Noesen, Assaf Harel

43.364 Explaining Scene-selective Visual Area Using Task-specific and Category-specific DNN Units Kshitij Dwivedi, Michael F Bonner, Gemma Roig

43.365 Adversarial examples influence human visual perception Gamaleldin F Elsayed, Shreya Shankar, Brian Cheung, Nicolas Papernot, Alexey Kurakin, Ian Goodfellow, Jascha Sohl-Dickstein

Motion: Biological

Monday, May 20, 8:30 am - 12:30 pm, Banyan Breezeway

43.366 Spatiotemporal characteristics of cortical responses to biological motion Dorita H. F. Chang, Nikolaus F. Troje, Hiroshi Ban

43.367 How the Brain Learns to See Biological Motion After Recovering from Visual Deprivation Shlomit Ben-Ami, Nikolaus F. Troje, Pawan Sinha

43.368 Social Threat Perception from Body Movements Akila Kadambi, Hongjing Lu

43.369 Perception of continuous movements from causal actions Yujia Peng, Nicholas Ichien, Hongjing Lu

43.370 Connectivity in cortex sensitive to biological motion in those high and low in autistic tendency. David P Crewther, Svjetlana Vukusic


Perceptual Organization: Ensemble coding, summary statistics

Monday, May 20, 8:30 am - 12:30 pm, Pavilion

43.401 Independent and parallel visual processing of mean, variance, and numerosity: Evidence from dual tasks Vladislav A Khvostov, Igor S Utochkin
3D Perception: Shape

Monday, May 20, 8:30 am - 12:30 pm, Pavilion

43.422 Perception of 3D slant from textures with and without aligned spectral components Jeffrey A. Saunders, Zhongtong Chen

43.423 Contextual influences on shape perception Elise J. Garmon, Nicole A. Liaw, Alexander J. Bies, Kelly E. Robles, Margaret E. Sereno

43.424 Drawing ability predicts flexibility in the use of context to accurately perceive shape Kelly E. Robles, Rebecca Florentine, Audrey Sherman, Alexander J. Bies, Margaret E. Sereno

43.425 The Effects of Bilateral Symmetry, Viewing Distance, and Scene Context on Apparent 3D Shape Ying Yu, James T Todd, Alexander A Petrov

43.426 Perceptual biases in the interpretation of non-rigid structure from motion Ryne Choi, Jacob Feldman, Manish Singh

43.427 The strong influence of contour geometry in Structure from Motion (SFM) Xiaoli He, Jacob Feldman, Manish Singh

43.428 Haptic-visual crossmodal shape matching Farley Norman, Sydney P Wheeler, Lauren E Pedersen

43.429 Using psiTurk to explore correlations between delusional ideation and perceiving depth-inversion illusions Attila Farkas, Thomas Papatheodos, Steven Silverstein, Hristiyan Kourtev, John Papayanopoulos, Dylan Forenzo

43.430 Perceived distortions of 3D shapes are based on miscalculations of viewpoint applied to correct mental geometry Akihito Maruya, Qasim Zaidi

43.431 Bulging out of the picture - or not? Oblique viewing effects on the convex-concave ambiguity, Sylvia C Pont, Huib de Ridder

43.432 Size Estimation of Visual Stimuli on Computer Screens Emily L Laitin, Jessica K Witt

43.433 Basketball Hoop Illusion Verified both Empirically and through Comic Strip Caricatures Michael K. McBeath, Ty Y Tang

Visual Memory: Objects, features

Monday, May 20, 8:30 am - 12:30 pm, Pavilion

43.434 Are task-irrelevant object features stored in working memory in a hidden state? Andrea Bocincova, Jeffrey S. Johnson

43.435 The Interaction of Time and Depth: Visual Working Memory in Depth Across Multiple Retention Intervals Dawn M Sarno, Mark B Neider

43.436 Visual working memory for stimulus feature saturation Weizhen Xie, Wewei Zhang, Kareem Zaghloul

43.437 Contextual Relearning Following Target Relocation in Visual Search Elizabeth G Esser-Adomako, Patrick Mead, Shane Kelly, Matthew S Peterson

43.438 Do we actively inhibit recently attended but no longer relevant information? Yingtao Fu, Jiahun Yu, Rende Shui, Mowei Shen, Hui Chen

43.439 Free-Floating Features in Visual Working Memory Conne A George, Michael S Pratte

43.440 Dissociating visual working memory for objects and scene layout Anna Shafer-Skelton, Timothy F Brady

43.441 Investigating visual free recall of highly similar competing scene stimuli Elizabeth H. Hall, Wilma A Bainbridge, Chris I Baker

43.442 Incongruent Objects in Real-World Scenes Distort Visual Memory Recall Wan Y Kwok, Wilma A Bainbridge, Chris I Baker

43.443 Neural Mechanisms Underlying Reviewing Feature Binding of Color and Letter in Visual Working Memory Jun Suai, Bo-Cheng Kuo, Ya-Ping Chen, Tomoya Kawashima

43.444 Simultaneous recall procedure reveals integrated object representations in VWM Hirotaka Sone, Aedan Li, Keisuke Fukuda

43.446 Systematic biases in the representation of visual space
Sami R Yousif, Yi-Chia Chen, Brian Scholl

43.447 Visual statistical regularities aid visual working memory
of objects in a task-dependent manner
Gregory L Wade, Timothy J Vickery

Visual Memory: Neural mechanisms 1
Monday, May 20, 8:30 am - 12:30 pm, Pavilion

43.448 Synthesizing images with deep neural networks to
manipulate representational similarity and induce represen-
tational change
Jeffrey D Wammes, Kenneth A Norman, Nicholas B Turk-Browne

43.449 Multifaceted integration – memory for faces is subserved
by widespread connections between visual, memory and social
processing networks
Michal Ramot, Catherine Walsh, Alex Martin

43.450 Deep learning fMRI classification of temporal codes
during naturalistic movie viewing and memory recall
Matthew R Johnson, Thomas P O’Connell, Marvin M Chun, Marcia K Johnson

43.451 Theory of neural coding predicts an upper bound on esti-
mates of memory variability
Paul Bays, Robert Taylor

43.452 Contralateral delay activity indexes the number of items
stored in working memory, not the current focus of spatial attention
Tobias Feldmann-Wüstefeld, Edward K Vogel, Edward Awh

43.453 Recall of people and places reveals regions showing dis-
tinct effects of category and familiarity in high-level cortex
Adam Steel, Edward H Silson, Alexis Kidder, Adrian W Gilmore, Chris I Baker

43.454 Examining the effects of memory compression with the
contralateral delay activity
William X Ngiam, Edward Awh, Alex O Holcombe

43.455 Encoding of spatial working memory in virtual reality in
the primate prefrontal cortex
Megan Roussy, Rogelio Luna, Lena Palaniyappan, Julio C. Martinez-Trujillo

43.456 The contralateral delay activity tracks the storage of
sequentially presented colors and letters
Sisi Wang, Jason Rajsic, Geoffrey F. Woodman

43.457 Prioritization affects working memory precision and
neural population gain
Aspen H Yoo, Alfredo Bolaños, Grace E Hal-
lenbeck, Masah Rahmati, Thomas C Sprague, Clayton E Curtis

43.458 Top-down control of spatial memory visualization in early
visual cortex
Lora T Likova, Spero Nicolas, Christopher W Tyler, Kris Mineff

43.459 Neural networks supporting input gating and output
gating in visual working memory
Emily J Levin, David Badre

43.460 Manipulating attentional priority creates a trade-off
between memory and sensory representations in human visual
cortex
Rosanne L Rademaker, John T Serences

43.461 The spatiotemporal profile of diffusion MRI based mea-
sures of microstructural changes in white matter evoked by
learning novel visual scenes
Cibu P Thomas, Mitchell Moyer, Brian Coleman, Philip Browning, Frank Ye, David Yu, Alexander Avram, Chris I Baker, Elisabeth A Murray

43.462 Reference Frames for Spatial Working Memory in the
Lateral Prefrontal Cortex of primates
Rogelio Luna, Megan Roussy, Stefan Treue, Julio C. Martinez-Trujillo

43.463 Accurate Classification in Frontoparietal Network for
Visually Identical Tasks at Varying Levels of Relational Abstrac-
tion
Kevin C Hartstein, David M Kraemer, Peter U Tse

43.464 The benefits of combined brain stimulation and cognitive
training: a pilot study in the elderly
Sara Assefendi, Rong Hu, Gail Eskes, Jakob Kreober, Kim Shapiro

Temporal Processing: Timing
Monday, May 20, 8:30 am - 12:30 pm, Pavilion

43.465 Temporal consequences of spatial acuity reduction
Pawan Sinha, Sidney P Diamond, Frank Thorn, Sharon Gilad-Gutnick, Shlomit Ben-Ami, Sruti Raja

43.466 Feeling the beat (and seeing it, too)
Robert Sekuler, Mer-
cedes B Villalonga, Rachel F Sussman

43.467 Depth from Motion Alters Radial & Rotational Motion-De-
finite Temporal Order Judgments
Nestor Matthews, Leslie Welch, Elena Festa, Anthony Bruno

43.468 The temporal profile of visual encoding in the recognition
of familiar objects
Roxanne Fernandez, Martin Arguin

43.469 Detecting time distortion in emotional context induced
by visual stimuli: a new Subjective Time Adjustment paradigm
Tiziano A Agostini, Giulio Baldassi, Mauro Murgia

43.470 Both Low and High Contrast Flicker Fusion Sensitivity
Differentiate Dyslexic and Typically Developing Children
Jessica L Peters, Alyse Brown, Edith L Bavin, Sheila Crewther

43.471 Asymmetric time perception across visual depth planes
and degrees of spatial certainty
Howard P Collins, Neil W Roach, Andrew J Logan, Samantha L Strong, James Heron

43.472 Saccades vs. Novelty: the joint influence of saccades and
repetition on perceived stimulus duration
Amirhossein Ghaderi, George Tomou, John Douglas Crawford
Object Recognition: Convolutional neural networks

Tuesday, May 21, 8:15 - 9:45 am, Talk Room 1
Moderator: Gemma Roig

51.11, 8:15 am Eccentricity Dependent Neural Network with Recurrent Attention for Scale, Translation and Clutter Invariance  
Jiaxuan Zhang, Yena Han, Tomaso Poggio, Gemma Roig

51.12, 8:30 am Zero-shot neural decoding from rhesus macaque inferior temporal cortex using deep convolutional neural networks  
Thomas P O’Connell, Marvin M Chun, Gabriel Kreiman

51.13, 8:45 am Enhancement of Representational Sparsity in Deep Neural Networks Can Improve Generalization  
Hongjing Lu, Gennady Erlikhman

51.14, 9:00 am Inducing a human-like shape bias leads to emergent human-level distortion robustness in CNNs  
Robert Geirhos, Patricia Rubisch, Jonas Rauber, Carlos R Medina Temme, Claudio Michaelis, Wieland Brendel, Matthias Bethge, Felix A Wichmann

51.15, 9:15 am Generative adversarial networks can visualize information encoded by neurons  
Katerina Malakhova

51.16, 9:30 am Adaptation in models of visual object recognition  
Kasper Vinken, Gabriel Kreiman

Spatial Vision: Models, neural mechanisms

Tuesday, May 21, 10:45 am - 12:30 pm, Talk Room 1
Moderator: Tomas Knapen

52.11, 10:45 am A model-based approach to link MEG responses to neuronal synchrony in visual cortex  
Eline R Kupers, Noah C Benson, Jonathan Winawer

52.12, 11:00 am The visual selectivity of the default mode network  
Martin Szinte, Daniel M van Es, Tomas Knapen

52.13, 11:15 am Local variability causes adaptive spatial integration  
Takahiro Doi, Johannes Burge

52.14, 11:30 am A Natural Experiment in Aberrant Retino-Cortical Organization  
Edgar A DeYoe, Ethan Duwell, Erica N Woertz, Joseph Carroll

52.15, 11:45 am DC-balanced filtering in pRF maps of Human Primary Visual Cortex  
Daniel G Kristensen, Kristian Sandberg

52.16, 12:00 pm Two-photon imaging of V1 responses to complex stimulus patterns in awake macaque monkeys  
Cong Yu, Nian-Sheng Ju, Shu-Chen Guan, Shi-Ming Tang

52.17, 12:15 pm Unsupervised Neural Networks Learn Idiosyncrasies of Human Gloss Perception  
Katherine R Storr, Roland W. Fleming

Temporal Processing

Tuesday, May 21, 8:15 - 9:45 am, Talk Room 2
Moderator: Tiziano Agostini

51.21, 8:15 am Directional congruency effect in subjective time dilation induced by looming and receding images with implied motion  
Euisun Kim, Joohee Seo, Sung-Ho Kim

51.22, 8:30 am The duration aftereffect does not reflect adaptation to perceived duration  
Chris Paffen, Jim Maarseveen, Frans AJ Verstraten, Hinze Hogendoorn

51.23, 8:45 am Sensitivity of confidence judgments for different duration estimations  
Ljubica Jovanovic, Pascal Mamassian

51.24, 9:00 am Serial dependence in orientation perception alters perceptual templates: a classification image approach  
Yuki Murai, David Whitney

51.25, 9:15 am How do temporal mechanisms influence numerosity perception?  
Andromachi Tsooli, Maarten J van der Smagt, Serge O Dumoulin, Susan F te Pas

51.26, 9:30 am Dramatic effect of duty-cycle on brain response and motion perception  
Marlene Poncet, Justin Ales

Attention: Cues, context

Tuesday, May 21, 10:45 am - 12:30 pm, Talk Room 2
Moderator: Andrew Hollingworth

52.21, 10:45 am Learned Distractor Rejection during Strong Target Guidance  
Brad T Stilwell, Shaun P Vecera

52.22, 11:00 am Passive Suppression of Distractors in Visual Search  
Bo- Yeong Won, Joy Geng

52.23, 11:15 am The Architecture of Interaction between Visual Working Memory and Attention: Features from Multiple Remembered Objects Produce Parallel, Coactive Guidance  
Andrew Hollingworth, Brett Bahlke, Daniel Thayer, J. Toby Mordkoff

52.24, 11:30 am Eye Movement Patterns to Social and Non-social Cues in Early Deaf Adults  
Claudia Bonmassar, Francesco Pavi, Cristina Caselli, Alessio Di Renzo, Wieske van Zoest

52.25, 11:45 am Attentional (mis)guidance by a contextual memory template in early vision  
Markus Conci, Artyom Zinchenko, Thomas Töllner, Hermann J. Müller, Thomas Geyer

52.26, 12:00 pm Voluntary and involuntary attention elicit distinct biasing signals in visual cortex  
Jonathan M Keefe, Viola S. Störmer

52.27, 12:15 pm Metacognitive estimates of time during spatial orienting of attention  
Samuel Recht, Vincent de Gardelle, Pascal Mamassian
Faces: Gaze
Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeaway
53.301 Looking at the preferred point of fixation mediates the composite face effect
Puneeth N Chakravarthula, Araks Ghazaryan, Miguel P Eckstein
53.302 Link between initial fixation location and spatial frequency utilization in face recognition
Amanda Estéphan, Carine Charbonneau, Virginie Leblanc, Daniel Fiset, Caroline Blais
53.303 Individuals with low other race effect employ a global eye movement strategy when recognizing other race faces.
Yavin Alwis, Lisa Hsi, Jason Haberman
53.304 Visual scanning of faces, race contact, and implicit racial bias
Elizabeth S Soethe, Melissa Mildort, Eli Fennell, Arushi Sachdeva, Gizelle Anzuers
53.305 A cross-cultural comparison of face scanning strategies in infancy: screen-based paradigms and live dyadic interactions
Jon X Haensel, Mitsuhiko Ishikawa, Shojo Itakura, Nadia Neesgaard, Raffaele Tucciarelli, Tim J Smith, Atsushi Senju
53.306 Smile and the world watches: Capture by happy gaze cues outside an attentional control set.
Lindsay Plater, Akshu Valecha, Rashmi Gupta, Jay Pratt, Naseem Al-Aidroos
53.307 Positive and negative empathy exert different effects on the perception of neutral faces with direct and averted gaze
Sarah D McCrackin, Roxane J Itier
53.308 Gazing into Space: Systematic biases in determining another’s fixation distance from eye vergence
Alysha Nguyen, Colin Clifford
53.309 Biases in perceived gaze direction using 3D avatars and immersive virtual reality environments.
Brynna M Koschinsky-Boffa, Diego Buitrago-Piza, Julio Martinez-Trujillo
53.310 Unconscious pupillometry: Faces with dilated pupils gain preferential access to visual awareness.
Clara Colombatto, Brian Scholl

Perception and Action: Arm movements
Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeaway
53.311 Oculomotor behavior during eye-hand coordination tasks
Tiffany Arango, Peter J Bex
53.312 Improved motor timing enhances time perception
Jianfei Guo, Zhaoran Zhang, Dagmar Sternad, Joo-Hyun Song
53.313 Esports Arms Race: Latency and Refresh Rate for Competitive Gaming Tasks
Joohwan Kim, Josef Spjut, Morgan McGuire, Alexander Majercik, Ben Boudaoud, Rachel Albert, David Luebke
53.314 How spatial coding is affected by mid-level visual object properties within and outside of peripersonal space.
Harun Karimpur, Filipp Schmidt, Katja Fiehler
53.315 Humans and Machine Learning Classifiers Can Predict the Goal of an Action Regardless of Social Motivations of the Actor
Emalie G McMahon, Charles Y Zheng, Francisco Pereira, Gonzalez Ray, Ken Nakayama, Leslie G Ungerleider, Maryam Vaziri-Pashkam
53.316 Weight and see: vicarious perception of physical properties in an object lifting task
Andy Zhang, Sarah Cormiea, Jason Fischer
53.317 Influence of Gaze Direction on Hand Location and Orientation in a Memory-Guided Alignment Task
Gaelle N. Luabeya, Xiaogang Yan, J. D. Crawford
53.318 Effects of Observation on Visuomotor Generalization
Miles Martinez, Tony Wang, Joo-Hyun Song
53.319 Compulsory social interpretation of giving but not of taking actions: Evidence from modulation of lower alpha oscillations
Jun Yin, Gergely Csibra

Perception and Action: Affordances
Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeaway
53.320 Seeing what’s possible: Disconnected visual ‘parts’ are confused for their potential ‘wholes’
Chenxiao Guan, Chaz Firestone
53.321 Processing Speed for Semantic Features and Affordances
Tyler A Surber, Mark Huff, Mary Brown, Joseph D Clark, Catherine Dowell, Alen Hajnal
53.322 Near-hand effects are robust: Three OSF pre-registered replications of visual biases in perihand space
Morgan N Jacoby, Stephen J Aguas, Laura E Thomas
53.323 Posture Affects Affordance Perception of Reachability in Virtual Reality
Hannah L Masoner, Joseph D Clark, Catherine J Dowell, Tyler A Surber, Alen Hajnal
53.324 Graspable objects grab attention more than images do — even when no motor response is required
Pedro Sztybel, Michael A. Gomez, Jacqueline C. Snow
53.325 Similarities and differences in the representation of real objects, 2-D images, and 3-D augmented reality displays:
Insights from inverse multidimensional scaling
Desiree E Hollier, Sara Fabbri, Jacqueline C. Snow
53.326 Maintaining the ability to pursue moving targets during repeated interception tasks
Nathaniel V Powell, Scott T Steinmetz, Oliver W Layton, Brett R Fajen
53.327 Does Avatar Presence Facilitate Affordance Judgments from Different Perspectives?
Morgan A Saxon, Brandon J Thomas, Jeanine K Stefanucci, Sarah H Creem-Regehr
53.328 The activation of structure- and function-based action representations in manipulable object naming: An EEG study
Wenyuan Yu, Ye Liu, Xiaolan Fu

Binocular Vision: Surfaces
Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeaway
53.329 Slant perception in the presence of curvature distortion
Jonathan Tong, Robert S Allison, Laurie M Wilcox
53.330 The Role of Binocular Vision in Stepping over Obstacles and Gaps in Virtual Environment
Robert Allison, Jingbo Zhao
53.331 Contrast scaling of perceived depth from disparity depends on both global surface configuration and disparity gradient
Pei-Yin Chen, Chien-Chung Chen, Christopher W Tyler
53.332 The role of boundary contours in suprathreshold binocular perception of contrast and spatial phase
Chao Han, Wanyi Huang, Zijiang J He, Teng Leng Ooi
53.333 Effects of context on the visual stability of depth edges in natural scenes
Zeynep Başgöze, David N White, Johannes Burge, Emily A Cooper

See page 15 for Abstract Numbering System
53.334 Perceptual grouping disrupted by neural processing at different levels of the visual system
Emily Sleza, Steven K Shevell

53.335 High processing load of foveal crowding affects binocular summation but can be eliminated by target's tagging
Ziv Siman-Toy, Maria Lev, Uri Polat

53.336 An unexpected spontaneous Pulfrich phenomenon in amblyopia
Alexandre Reynaud, Robert F Hess

53.337 The Origins of Human Complex Arithmetic Abilities: Involvement of Evolutionarily Ancient Brain Circuits
William Saban, Asael Y. Sklar, Ran R. Hassin, Shai Gabay

53.338 How ambiguity helps to understand metapercussion - Similar EEG correlates of geometry and emotion processing
Ellen Joos, Anne Giersch, Lukas Hecker, Julia Schipp, Ludger Tebart van Elst, Juergen Kormmeier

53.339 Resolution of multiple ambiguous feature representations: Does it depend on whether features are bound to a single object? Ryan Lange, Steven K Shevell

53.340 Seeing the fruit on the trees: Amplified perceptual differences from ambiguous neural representations
Jaelyn Peiso, Steve Shevell

Scene Perception: Sets, gist, rapid categorization, temporal dynamics

Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeway

53.341 The visual system precisely represents complex scene ensembles
Vignash Thamaratnam, Jason Haberman, Jonathan S. Cant

53.342 Perceiving Category Set Statistics On-the-fly
Shaul Hochstein, Noam Khayat, Marina Pavlovskaya, Yoram Bonneh, Nachum Soroker, Stefano Fusi

53.343 Representational form of perceptual average
MyoungAh Kim, Sang Chul Chong

53.344 Different time courses for object individuation and estimation of object quantities
David P Melcher, Andreas Wutz

53.345 Does the Brain's Sensitivity to Statistical Regularity Require Attention?
Evan G Center, Kara D Federmeier, Diane M Beck

53.346 Searching for the gist of the prostate
Todd Horowitz, Melissa Treviño, Marcin Czarnecki, Ismail B Turkbey, Peter L Choyke

53.347 Is Rapid Efficient Scene Perception Also Deep, and Does Attention Help?
Thomas Sanocki, Han Lee

53.348 Stereopsis Improves Rapid Scene Categorization
Matt D Anderson, Wendy J Adams, Eric W Graf, James H Elder

53.349 Priming of scene gist through sequential expectations: Both prediction and target/prime image similarity contribute to rapid scene gist categorization
Maverick E Smith, Yuhang Ma, Kenzie J Kriss, Katherine E Kolze, Lester C Loschky

53.350 Diagnostic Objects Contribute to Late -- But Not Early-- Visual Scene Processing
Julie S. Self, Jamie Siegart, Munashe Zvobgo, Thomas Sanocki, Han Lee

Faces: Wholes, parts, features

Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeway

53.351 A free and open-source toolkit of three-dimensional models and software to study face perception
Jason S Hays, Claudia Wong, Fabian Soto

53.352 Extracting modes of variation of natural facial motion using PCA
Ben B Brown, Alan Johnston

53.353 More Makeup, More Attractiveness? Self-applied Heavy Cosmetics Yield Higher Attractiveness Ratings than Light Cosmetics
Erick R. Aguinaldo, Jessica J. Peissig

53.354 Hair color modulates skin appearance
Richard Russell, Carlota Batres

53.355 Characteristics of color discrimination on a face image
Yoko Mizokami, Mako Yoshida, Kumiko Kikuchi, Yoshihisa Aizu, Hirohisa Yaguchi

53.356 Human perception of localized skin features
Matjaz Jogan, Benjamin Serbiak, Laura Higgins

53.357 Identity specific orientation tuning for faces revealed by morphing Angelina into Jessica
Gabrielle Dugas, Justin Duncan, Caroline Blais, Daniel Fiset

53.358 Horizontal selectivity during face perception in the visual periphery
Matthew P Pachai, Mitchel Downham, Jennifer K E Steeves

53.359 Right hemisphere horizontal tuning during face processing
Justin Duncan, Caroline Blais, Daniel Fiset

53.360 Asymmetric representation of sex from body shape
Paul Downing, Marco Gandolfo

53.361 Contextual Modulation in High-Level Vision: Evidence for a Spatial Viewpoint Illusion in the Perception of Faces
Kieran J Pang, Colin W G Clifford

53.362 The speed of individual face recognition
Talia L Retter, Caroline Michel, Fang Jiang, Michael A Webster, Bruno Rossion

53.363 The Speed of Demography in Face Perception
Stefan Uddenberg, Clara Colombatto, Brian Scholl

53.364 Why does aperture viewing disrupt face perception?
Jennifer J Murphy, Katie L. H Gray, Richard Cook

53.365 Direct Evidence that Inversion of Faces Disrupts Configural Processing
Emily X Meschke, Irving Biederman

53.366 Holistic processing of faces in the absence of awareness
Shiwen Ren, Hanyu Shao, Sheng He

Visual Memory: Long term memory

Tuesday, May 21, 8:30 am - 12:30 pm, Banyan Breezeway

53.367 A new category-based image set to study image memorability
Lore Goetschalckx, Johan Wagemans

53.368 Recognition-induced forgetting of temporally related visual long-term memories
Yoolim Hong, Ashleigh M. Maxcey, Andrew B. Leber

53.369 Forgetting unpleasant visual memories
Ashton Schneider, Ashleigh Maxcey

53.370 Orienting attention within long-term memories
Nora M Roia, Anna-Katharina Bauer, Nahid Zokaei, Anna C Nobre

53.371 The effect of time and repeated retrieval on long-term memory representations
Maria V. Servetnik, Igor S. Utochkin

53.372 Regularity-induced attentional biases and their mnemonic consequences
Brynn E Sherman, Nicholas B Turk-Browne

53.373 Examining limits of encoding into visual long-term memory
D. Alexander Varakin, Derek McClellan

53.374 Arbitrary Groupings Modulate Visual Statistical Learning
Leeland L Rogers, Su Hyoun Park, Timothy J Vickery
Visual search: Dynamic fields, individual differences

Tuesday, May 21, 8:30 am - 12:30 pm, Pavilion

53.401 And just like that, everybody searches optimally: how changing task irrelevant details remove individual differences in visual search Alasdair DF Clarke, Anna Nowakowska, Amelia R Hunt

53.402 Reduction of attentional bias through gradual signal change Injaa Hong, Min-Shik Kim, Su Keun Jeong

53.403 Adapting target selection in dynamically changing visual scenes Nils Bergmann, Jan Tunnermann, Anna Schubö

53.404 Concurrent attentional template activation during preparation for multiple-colour search Anna Grubert, Martin Eimer

53.405 Noise and motion: A new visual search paradigm with multiple random dot kinematograms (RDKs) Dietmar Heinke, Jordan Deakin, Dominic Standage, Andrew Schofield

53.406 Do people’s visual ability skill predict search efficiency under difficult search conditions? Jing Xu, Kirk Ballew, Alejandro Lleras, Simona Buetti

53.407 Visual Foraging with Dynamic Stimuli Jan Tunnermann, Anna Schubö

53.408 When do you find the next item?: Using occluders to uncover the time course of visual foraging Anna Kosovicheva, Jeremy M. Wolfe

53.409 What not to look for: electrophysiological evidence that searchers prefer positive template Jason Rajacic, Geoffrey F Woodman

53.410 The role of executive functions in foraging throughout development Inga M Ölafsdóttir, Steinunn Gestsdóttir, Árni Kristjánsson

53.411 Intelligence, Impulsivity and Selective Attention have something to tell us about Hybrid Foraging performance Adrián R. Muñoz-García, Jeremy M. Wolfe, Beatriz Gil-Gómez de Liaño

53.412 An exploration of trait variables predicting the goal-directed control of visual attention Molly R McKinney, Heather A Hansen, Jessica L Irons, Andrew B Leber

53.413 Opposing effects of stimulus-driven and memory-driven attention in visual search Koeun Jung, Suk Won Han, Yoonki Min

Motion: Motion in depth, optic flow

Tuesday, May 21, 8:30 am - 12:30 pm, Pavilion

53.414 Temporal integration of isolated 3D motion cues Jake A Whrtiler, Thaddeus B Czuba, Lawrence K Cormack, Alexander C Huk

53.415 Perception of Ambiguous Motion Biased by Dimensional Cues Joshua E Zosky, Michael D Dodd

53.416 Testing for a lingering monocular basis in 3D motion perception Neil D Shah, Jake A Whrtiler, Lawrence K Cormack, Alexander C Huk

53.417 ‘Explaining Away’ Cue Conflicts for Motion-in-Depth Ross Goucher, Lauren Murray, Brooke Benz

53.418 Functional architecture and mechanisms for 3D direction and distance in middle temporal visual area. Thaddeus B Czuba, Lawrence K Cormack, Alexander C Huk

53.419 Encoding- and decision-related brain activity during a motion judgment task Peter J Kohler, Elham Barzegaran, Brandon E Davis, Anthony M Norcia

53.420 Neural correlates of path integration during visually simulated self-motion Constanze Schmitt, Milosz Kraka, Frank Bremmer

Temporal dynamics of heading perception and identification of scene-relative object motion from optic flow Li Li, Mingyang Xie

When Gravity Is Not Where It Should Be: Effects On Perceived Self-Motion Meaghan McManus, Laurence R Harris

Computational investigation of sparse MT-MSTd connectivity and heading perception Oliver W Layton, Scott Steinmetz, Nathaniel Powell, Brett R Fajen

Eye Movements: Transsaccadic vision

Tuesday, May 21, 8:30 am - 12:30 pm, Pavilion

53.424 The role of color in transsaccadic object correspondence Lindsey Bailey, Michaela Thordarson, Caglar Tas

53.425 Transsaccadic prediction of real-world objects Corinna Osterbrink, Arvid Herwig

53.426 Spatiotopic memory is more precise than retinotopic memory in the context of natural images Zvi N Roth, Noah J Steinberg, Elisha P Merriam

53.427 Effects of Saccade Size, Target Position, and Allocentric Cues in Transsaccadic Motion Perception Amanda J Sinclair, Kelsey K Mooney, Steven L Prime

53.428 Trans-saccadic integration occurs across the visual field Emma E.M. Stewart, Alexander C Schütz

53.429 Transsaccadic Motion Tracking in a Time-to-Contact Task Gloria Sun, Steven L. Prime

53.430 Transsaccadic object updating depends on visual working memory: An fNIRS study Kaleb T Kinder, Brett T. Eschman, Shannon Ross-Sheehy, Aaron T. Buss, Caglar A. Tas

53.431 Functional connectivity for updating grasp plans across saccades: An fMRIa study. Bianca R. Baltaretu, Simona Monaco, Jena Velji-Ibrahim, Gaele N. Luabeya, J. D. Crawford

Perceptual Organization: Shapes, objects, contours, surfaces

Tuesday, May 21, 8:30 am - 12:30 pm, Pavilion

53.432 The extrapolation effect: an illusory experience of extended feature space beyond reality Marnix Naber, Tijn Knaap, Stefan Van der Stigchel

53.433 Independent mechanisms for implicit ensemble learning and explicit ensemble perception? Sabrina Hansmann-Roth, Árni Kristjánsson, David Whitney, Andrey Chetverikov

53.434 Number and cumulative area are represented as integral dimensions Lauren S Aulet, Colin R Jacobs, Stella F Lourenco

53.435 Inferring transformations from shape features Filipp Schmidt, Yaniv Morgenstern, Roland W Fleming

53.436 From Early Contour Linking to Perception of Continuous Objects: Specifying Scene Constraints in a Two-Stage Model of Amodal and Modal Completion Susan B Carrigan, Philip J Kellman

53.437 Electrophysiological investigation of posterior curvature-biased patches in monkeys Xiaomin Yue, Sophia Robert, Marissa Yetter, Leslie G Ungerleider

53.438 Why is contour integration impaired in schizophrenia? New insights from a cross-diagnostic parametrically varying behavioral task Brian P Keane, Laura P Crespo, Dillon T Smith, Deanna M Barch, Michael W Cole, Bart Krekelberg, Brendon M Coughlin, Thomas V Papathomas, Attila J Farkas, Steven M Silverstein
Recursive Networks Reveal Illusory Contour Classification Images  Philip J Kellman, Gennady Erlikhman, Nicholas Baker, Hongjing Lu

Age-related Differences in Edge Discrimination through Kinetic Occlusion  Benjamin A Miller, George J Andersen

Bouba and Kiki inside objects: Sound-shape correspondence for objects with a hole  Sung-Ho Kim

Considering the Characterization of Complex Properties of Objects  Evan N Lintz, Matthew R Johnson

Speaking about seeing: Verbal descriptions of images reflect their visually perceived complexity  Zekun Sun, Chaz Fitzstone

Recursive Networks Reveal Illusory Contour Classification Images  Philip J Kellman, Gennady Erlikhman, Nicholas Baker, Hongjing Lu

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Speaking about seeing: Verbal descriptions of images reflect their visually perceived complexity  Zekun Sun, Chaz Fitzstone

Color and Light: Surfaces, materials

Perceived transmittance and perceived contrast in variegated checkerboards  Marianne Maertens, Guillermo Aguilar

Visual perception of liquids: insights from deep neural networks  Jan Jaap R Van Assen, Shin’ya Nishida, Roland W Fleming

The colors of three-dimensional transparent objects  Robert J Ennis, Katja Doerschner

Motion generated scission of surface color from transparent layer  Zhehao Huang, Qasim Zaidi

Effects of the Spatial Spectrum on the Perception of Reflective and Refractive Materials  Flip Phillips, J Farley Norman, James T Todd

Refractive-index perception of thick transparent materials modulated by object motion and self-motion  Maruta Sugiuara, Michiteru Kitazaki

Online shopping and the visual perception of fabric qualities  Maarten W.A. Wijntjes, Robert Volcic

Lighting effects on the perception of fresh produce  Fan Zhang, Sylvia Pont

The perceptual identification of glass  James Todd, Farley Norman

Visual Memory: Neural mechanisms 2

Neural oscillatory processes underlying context binding in visual working memory  Qing Yu, Bradley R Postle

Negative impacts of iron deficiency on visual category learning quantified in terms of dopaminergic status and brain energy expenditure  Michael Wenger, Rachel Sharp, Amanda McCollem, Lisa De Stefano, Stephanie Rhoten, Tory Worth

Prioritizing relevant information in visual working memory: neural representations in retinotopic cortex to reduce their uncertainty  Thomas C Sprague, Aspen H Yoo, Masih Rahmati, Grace E Hallenbeck, Wei Ji Ma, Clayton E Curtis

Spatial location does not elicit normalization in visual memory  Luis D Ramirez, Julia Schwartz, Ilona Bloem, Sam Ling, Melissa M Kibbe

The nature of top-down signals during non-spatial working memory  Masih Rahmati, Thomas C Sprague, Kartik K Sreenivasan, Clayton E Curtis

Attention and selection in visual working memory  Matthew F Panichello, Timothy J Buschman

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Attention and selection in visual working memory  Matthew F Panichello, Timothy J Buschman
TUESDAY AFTERNOON TALKS

Objects and Scenes: Cortical category selectivity

Tuesday, May 21, 2:30 - 4:15 pm, Talk Room 1
Moderator: Aude Oliva

54.11, 2:30 pm An object-topic map in primate inferotemporal cortex
Pinglei Bao, Liang She, Doris Y. Tsao

54.12, 2:45 pm Ultra-high-resolution fMRI reveals differential representation of categories and domains across lateral and medial ventral temporal cortex
Eshed Margalit, Keith W Jamison, Kevin S Weiner, Luca Vizioli, Ruyuan Zhang, Kendrick N Kay, Kalanit Grill-Spector

54.13, 3:00 pm Rapid onset of category-selective biases in human cortex.
Edward Ester, Jordan Camp, Tayna Latortue, Tommy Sprague, John Serences

54.14, 3:15 pm Comparing visual object representational similarity in convolutional neural networks and the human ventral visual regions
Yaoda Xu, Maryam Vaziri-Pashkam

54.15, 3:30 pm Representation of scene layout in human OPA is fast and invariant to surface-texture
Linda Henriksson, Marieke Mur, Nikolaus Kriegeskorte

54.16, 3:45 pm Spatial schemata determine cortical representations of the environment
Daniel Kaiser, Jacopo Turini, Radoslaw M Cichy

54.17, 4:00 pm Reliability-Based Voxel Selection for Condition-Rich Designs
Leyla Tarhan, Talia Konkle

Color and Light

Tuesday, May 21, 2:30 - 4:15 pm, Talk Room 2
Moderator: Angela Brown

54.21, 2:30 pm A neural correlate of heterochromatic brightness
Jing Chen, Karl Gegenfurtner

54.22, 2:45 pm What is halfway between a starfish and a locomotive? Studies of the intrinsic geometric structure of Hering color-opponency.
Lindsey N Hutchinson, Angela M Brown, Delwin T Lindsey

54.23, 3:00 pm Material property space analysis for depicted materials
Mitchell van van Zuijlen, Paul Upchurch, Sylvia Pont, Maarten Wijnjtes

54.24, 3:15 pm Effects of ipRGCs and rods on color matching between object and luminous colors
Akari Kagimoto, Katsunori Okajima

54.25, 3:30 pm Sensitivity to gloss
Jacob R. Cheeseman, Roland W. Fleming

54.26, 3:45 pm Chocolate, chrome, or cloth? The appearance of specular highlights determines perceived material category
Alexandra C Schmid, Katja Doerschner

54.27, 4:00 pm Investigating the influence of surface properties on reaching movements
Martin Giesel, Karina Kangur, Julie M. Harris, Constanze Hesse
Eye Movements: Models, neural mechanisms

Tuesday, May 21, 5:15 - 7:15 pm, Talk Room 1
Moderator: Jude Mitchell

55.11, 5:15 pm **Saccade adaptation alters smooth pursuit velocity of small, but not large objects** Scott Watamaniuk, Jeremy B Badler, Stephen J Heinen

55.12, 5:30 pm **Pupil size, locus coerules, emotional intensity, and eye movements during unconstrained movie viewing** Sebastián Mathôt, Adina Wagner, Michael Hanke

55.13, 5:45 pm **Selective peri-saccadic suppression of low spatial frequencies is a visual phenomenon** Matthias Ph Baumann, Saad Idrees, Thomas Münch, Ziad Hafed

55.14, 6:00 pm **Visual space generated by saccade motor plans** Eckart Zimmermann, Marta Ghio, Giulio Pergola, Benno Koch, Michael Schwarz, Christian Bellebaum

55.15, 6:15 pm **Consideration of eye movements reconciles behavioral and neuronal measures of contrast sensitivity** Antonino Casile, Jonathan D. Victor, Michele Rucci

55.16, 6:30 pm **Meaning maps and deep neural networks are insensitive to meaning when predicting human fixations** Marek A. Pedzwiitr, Thomas S.A. Wallis, Matthias Kümmerer, Christoph Teufel

55.17, 6:45 pm **Multiplexed allocentric and egocentric signals in the primate frontal eye fields during a cue-conflict saccade task** J Douglas Crawford, Vishal Bharmuaria, Amir Sajad, Xiaogang Yan, Hongying Wang

55.18, 7:00 pm **V1 neurons tuned for high spatial frequencies show pre-saccadic enhancement** Jacob L Yates, Shanna H Coop, Jude F Mitchell

Visual Search: Space, time

Tuesday, May 21, 5:15 - 7:15 pm, Talk Room 2
Moderator: Anna Kosovicheva

55.21, 5:15 pm **Visual search for categorical targets is biased toward recently viewed exemplars** Brett Bahle, Andrew Hollingworth

55.22, 5:30 pm **Reliance on central vs. peripheral vision for visual search in younger and older adults** Anne-Sophie Laurin, Julie Ouerfell-Éthier, Laure Pisella, Aarlenne Zein Khan

55.23, 5:45 pm **A novel learning-based paradigm to investigate the visual-cognitive bases of lung nodule detection** Frank Tong, Malerie G. McDowell, William R. Winter, Edwin F. Donnelly

55.24, 6:00 pm **Accurately Quantifying the Subsequent Search Miss Effect in Multiple-Target Visual Search** Stephen Adamo, Patrick H Cox, Dwight J Kravitz, Stephen R Mitroff

55.25, 6:15 pm **Right time, right place: implicit learning of target onsets in a visual search task** Nir Shalev, Sage E.P. Boettcher, Anna C. Nobre

55.26, 6:30 pm **Pick up your bricks! Interactive visual search in a familiar real-world environment** Marian Sauter, Wolfgang Mack

55.27, 6:45 pm **Automatic pre-saccadic selection of stimuli perceptually grouped with saccade targets** Olga Shurygina, Arezoo Pooresmaeili, Martin Rolfs

55.28, 7:00 pm **Memory for distractors during hybrid search: The effect of target template specificity** Stephanie M Saltzmann, Melissa R Beck
Faces: Models, neural mechanisms
Tuesday, May 21, 2:45 - 6:45 pm, Banyan Breezeway

56.301 Intersubject multivariate connectivity reveals optimal denoising strategies for visual category-specific regions Yichen Li, Rebecca Saxe, Stefano Anzellotti

56.302 Connectivity at the origins of domain specificity: the case of the cortical face network Frederik S Kamps, Cassandra L Hendrix, Patricia A Brennan, Daniel D Dilks

56.303 Electrophysiological responses to the own-face differ in magnitude and scalp topography compared to personally familiar faces Alison C. Campbell, James W. Tanaka

56.304 The spatiotemporal characteristics of brain signals in race perception: Insights from a magnetoencephalography study Sarina Hui-Lin Chien, Chun-Man Chen, Chien-Hui Tancy Kao, En-Yun Hsiung

56.305 ERP responses to race and implicit bias in children and adults Eli Fennell, Melissa Mildort, Elizabeth Soethe, Arushi Sachdeva, Gizelle Anzures

56.306 Category-selective response to periodic face stimulations in natural-image sequence degrades nonlinearly with face omission Charlene C.-F. Or, Bruno Rossion

56.307 An EEG-based investigation of the contribution of shape and surface properties in ensemble face processing Marco A Sama, Jonathan S Cant, Adrian Nestor

56.308 Population receptive field measurements of stimulus-driven effects in face-selective areas Sonia Poltoratski, Kendrick Kay, Kalanit Grill-Spector

56.309 A Dynamic Representation of Orientation and Identity in Human Ventral Face Processing Areas as Revealed by Intracranial Electroencephalography Anish Alreja, Michael J. Ward, R. Mark Richardson, Avniel S. Ghuman

56.310 Typical unfamiliar face discrimination ability in anterior temporal lobe epilepsy Angelique Volfart, Jacques Jonas, Louis Maillard, Bruno Rossion, Hélène Brissart

56.311 Local image features dominate responses of AM and AF face patch neurons Elena Waidmann, Kenji W Koyano, Julie J Hong, Brian E Russ, David A Leopold

56.312 The neurons that mistook Stuart’s hat for his face Michael J Arcaro, Carlos R Ponce, Margaret S Livingstone

56.313 How does the macaque brain characterize face pareidolia? Jessica Taubert, Susan G Wardle, Susheel Kumar, Clarissa James, Elissa Koelke, Adam Messinger, Leslie G Ungerleider

56.314 Neural circuitry for conscious and unconscious face processing in typical subjects Daylin Góngora, Ana M Castro-Laguardia, Agustín Lage-Castellanos, Mitchell Valdés-Sosa, Maria A Bobes

56.315 Spatial organization of face part representations within face-selective areas revealed by 7T fMRI Jiedong Zhang, Peng Zhang, Sheng He

56.316 Neural Encoding and Decoding with Convolutional Autoencoder for Predicting Emotional Judgment of Facial Expressions Gary C.W. Shyi, Wan-Ting Hsieh, Felix F.-S. Tsai, Jeremy C.-C. Lee, Shih-Tseng Tina Huang, Joshua O. S. Goh, Ya-Yun Chen, Chi-Chuan Chen, Yu Song Haw

56.317 fMRI responses by face-like objects: the effect of task modulation revealed by ROI time courses, MVPA searchlight mapping, and Granger Causality. Hsiao-Hsin Wang, Chun-Chia Kung

56.318 fMRI mapping of retinotopy using face and object stimuli in rhesus monkeys Adam Messinger, Benjamin Jung, Caleb Spohnheim, Leslie G Ungerleider

56.319 Causal evidence for expectancy effects in body selective cortex Marco Gandolfo, Paul E. Downing

56.320 Deaf individuals show enhanced face processing in the periphery Kassandra R Lee, Elizabeth Groesbeck, O. Scott Gwinn, Fang Jiang

56.321 Density of Top-Layer Codes in Deep Convolutional Neural Networks Trained for Face Identification Connor J Parde, Y. Ivette Colon, Matthew Q Hill, Rajeev Ranjan, Carlos Castillo, Alice J O’Toole

56.322 Deep networks trained to recognize facial expressions spontaneously develop representations of face identity Kathryn C O’Neill, Rebecca Saxe, Stefano Anzellotti

Binocular Vision: Stereopsis
Tuesday, May 21, 2:45 - 6:45 pm, Banyan Breezeway

56.323 The neural basis of the high degree of stereoaanomaly present in the normal population Sara Alarcon Carrillo, Alex S. Baldwin, Robert F. Hess

56.324 The prevalence and diagnosis of “stereoblindness”: A best evidence synthesis Adrien Chopin, Daphne Bavelier, Dennis M Levi

56.325 Abnormal Sensory Eye Dominance in Stereoaanomalous Philip R. Cooper, Janine D. Mendola

56.326 Contrast suppression and stereoblind zones in amblyopia Saeideh Ghahghaei, Preeti Vergheese

56.327 A comprehensive depth perception model with filter/cross-correlation/filter (F-CC-F) structure Jian Ding, Dennis M. Levi

56.328 A model that recovers depth from stereo without using any oculomotor information Tadamasa Sawada

56.329 A Computational Model for Local Stereo Occlusion Boundary Detection Jialiang Wang, Todd Zickler

56.330 The information value of stereotoposis determines its contribution to shape constancy Marie-Audrey Lavoie, Mercédès Aubin, Martin Arguin

56.331 The Effect of Depth on Divided Attention in a Stereoscopic Useful Field of View Test Jake Ellis, John P. Plummer, Ryan V. Ringer, Shivani Nagrecha, Rui Ni

Attention: Cues, individual differences, inattentional blindness
Tuesday, May 21, 2:45 - 6:45 pm, Banyan Breezeway

56.332 The role of color preference under interocular suppression Albert J Zhai, Shao-Min (Sean) Hung, Shin suke Shimojo

56.333 Exogenous Covert Orientation of Attention to the Center of Mass Max K Smith, Satoru Suzuki, Marcia F Grabowecky

56.334 Exogenous attention and anticipatory fixational stability Mariel S Roberts, Marisa Carrasco
Tuesday Afternoon Posters

56.335 The Role of Attention in Amblyopic Global Form Perception Priyanka V Ramesh, Cindy Forestal, Mark A Steele, Lynne Kiorpes

56.336 Does endogenous attention compensate for spatial performance fields? Simran Purokayastha, Mariel S Roberts, Marisa Carrasco

56.337 Truly independent? Stimulus- and goal-driven orienting interact at the level of sensory processing Mathieu Landry, Jason Da Silva Castanheira, Amir Raz

56.338 Endogenous and exogenous control of visuospatial attention in freely behaving mice. Wen-Kai You, Shrees P Mysore

56.339 Does a history of involuntary selection generate attentional biases? Michael A Grubb, John Albanese, Gabriela Christensen

56.340 Pedestrians on our campus use “safe enough” crossing behaviors Bonnie Angelone

56.341 Mind-Controlled Motion Paradigm Allison K. Allen, Matthew T. Jacobs, Rupsha Panda, Jocelyn Carroll, Kathleen Spears, Stephanie Chen, Nicolas Davidenko

56.342 Subtle social cues: Does another person’s body orientation direct our attention? Carmela Gottesman

56.343 Does everyone see the forest before the trees? An order-constrained analysis of precedence and interference effects in a hierarchical letter task. Pieter Moors, Johan Wagemans

56.344 Influences of Depression on Sustained Attention and Cognitive Control Max J Owens

56.345 Comorbidity in Anxiety and Depression Influence Neural Responses to Errors: An ERP Study Catherine L Reed, Madison Lodge, Audrey Siqui-Liu, Morgan Berlin, Emilia Hagen, Adrienne Jo, Anthony Burre, Jackson Zeladon, Abraham Saikley, Jessica Kim, Cindy M Bukach, Jane W Couperus

56.346 Has Social Media Altered Our Ability to Determine If Pictures Have Been Photoshopped? Nicole A Thomas, Ellie Aniulis, Alessia Mattia, Elizabeth Matthews

Attention: Features and objects 2

56.347 Attentional dynamics during physical prediction Li Guo, Jason Fischer

56.348 Contrasting Relational and Optimal Tuning Accounts in Attentional and Perceptual Selection Zachary Hamblin-Frohman, Stefanie Becker

56.349 Attribute Amnesia Reveals a Dependency on Conceptual Activation for Memory Consolidation Michael G Allen, Timothy F Brady

56.350 Independent attentional resources explains the object-based shift direction anisotropy Adam J Barnas, Adam S Greenberg

56.351 The Symmetry of Deception: Symmetrical Action Influences Awareness by Shifting Event Boundaries Anthony S. Barnhart, Dillon Krupa, Cheyenne Duckert

56.352 Putting spatial and feature-based attention on a shared perceptual metric Daniel Birman, Justin L Gardner

56.353 Development of children's capacity for multiple object tracking via multifocal attention Tashauna L Blankenship, Roger W Strong, Melissa M Kibbe

56.354 Neural reconstructions of attended object features using fMRI and EEG Jiageng Chen, Emma W Dowd, Maurryce D Starks, Julie D Golomb

56.355 Multiple-object Control Predicts Movements of Attention During Free Viewing Yupei Chen, Gregory Zelinsky

56.356 Crossmodal correspondences between abstract shapes and nonsense words modulate a neuronal signature of visual shape processing Vivian Ciaramitaro, Hiu Mei Chow, Erinda Morina

56.357 Saccadic Pre-attentive Measures Provide Insight into Illusory Contour Detection in Children Nicholas C Duggan, Emily C Blakley, Alecia Moser, Sarah Olsen, Peter Gerhardtstein

56.358 Attentional Color Selection Depends on Task Structure Madison Elliott, Ronald Rensink

56.359 Surround Suppression in Attention to Spatial Frequency Ming W.H. Fang, Taosheng Liu

56.360 Item-based and feature-based selection in working memory Jasper E Hajonides vd Meulen, Freek Van Ede, Mark G Stokes, Anna C Nobre

56.361 Examining the Role of Objects versus Location in Visual Selection Using Dynamic Displays Qingzi Zheng, Cathleen M Moore

Attention: Neural mechanisms 1

56.362 Neuronal Mechanisms of Attention Shifted Across Multi-unit Recordings in LGN and V1 Makaila Banks, Abhishek Dedhe, Tanique McDonald, Brianna Carr, Marc Mancarella, Jackie Hembrook-Short, Farran Briggs

56.363 A new method to analyze the variations of neural tuning and its application to primate V1 Xuexin Wei, Rong Zhu, Liam Paninski

56.364 No modulation by expectation of the sensory response to object images as measured by MEG Ying Yozi Zhou, Alexis Pérez-Bellido, Saskia Haegens, Floris P de Lange

56.365 Effects of random fluctuations in alpha oscillations on orientation detection: an EEG study Sarah S Sheldon, Kyle E Mathewson

56.366 The effect of eccentricity on electrophysiological markers of attention Orestis Papaioannou, Steven J Luck

56.367 Select, response, repeat: Electrophysiological measures of location and response repetition Hayley EP Lagroix, Matthew D Hilchey, Jay Pratt, Susanne Ferber

56.368 Post-stimulus, but not pre-stimulus alpha power changes track visual associative learning. Kierstin Riels, Rafaela Campagnoli, Nina N Thipgen, Andreas Keil

56.369 Voluntary attention modulates eye-specific neural responses without awareness of eye-of-origin information Hongtao Zhang, Sheng He, Peng Zhang

56.370 The effect of perceptual load on gaze and EEG signals in multi-target visual search with free eye-movements Anthony M Harris, Joshua O Eayrs, Nili Lavi

56.371 Neural correlates of target enhancement Janir R da Cruz, Ophélie Favrod, Phillip R Johnston, Patrícia Figueiredo, Michael H Herzog

Multisensory Processing: Auditory 2

56.401 Microsaccades and pupillary responses represent the focus of auditory attention Hsin-I Liao, Haruna Fujihira, Shimpei Yamagishi, Shigeto Furukawa

56.402 Neurophysiological responses on size perception: the influence of sound and visual adaptation. Alessia Tonelli, Maria Bianca Amadeo, Claudio Campus, Monica Gori

56.403 Auditory modulations on visual perception and metacognition Da Li, Yi-Chuan Chen, Su-Ling Yeh
56.404 Multisensory Integration of Visual and Auditory Signals during Second Language Learning Guangsheng Liang, Vinh Nguyen, Kimi Nakatsukasa, Aaron Braver, Tommy Dang, Miranda Scolari

56.405 Statistical learning of cross-modal correspondence with non-linear mappings Kazuhiko Yokosawa, Asumi Hayashi, Ryotaro Ishihara

56.406 Visual signals removed by opaque contact lens blocks alpha oscillations: Resting state EEG effects. Joseph FX DeSouza, Nevena Savija, Rebecca Barnstaple

56.407 Multimodal brain regions that process faces and voices Olga A. Korolkova, Maria Tsantani, Nadine Lavan, Lúcia Garrido

56.408 Altered Visual Processing in Migraine Not Associated with Auditory Abnormalities Sarah M Haigh, Alireza Chamanzar, Praveen Venkatesh, Pulkit Grover, Marlene Behrmann

56.409 Maximal Spatial Resolution Predicts Maximal Auditory Sensitivity in Human Adults Russell Adams, Michele Mercer

Perception and Action: Models, neural mechanisms

Tuesday, May 21, 2:45 - 6:45 pm, Pavilion

56.410 Re-analyzing unconscious priming: Is there really an indirect task advantage? Sascha Meyen, Iris Zerweck, Catarina Amado, Ulrike von Luxburg, Volker Franz

56.411 Is there evidence for unconscious processing of digits? Iris Zerweck, Sascha Meyen, Catarina Amado, Maren Klimm, Volker Franz

56.412 Testing accuracy, additivity, and sufficiency of human use of probability density information in a visuo-cognitive task Keiji Ota, Jakob Phillips, Laurence T Maloney

56.413 Closed-loop vs predictive control characterized by inverse reinforcement learning of visuomotor behavior during target interception Kamran Binaee, Rakshit S Kothari, Gabriel J Diaz

56.414 Alpha Desynchronization is Modulated by Kinematic and Contextual Properties of the Observed Reach Rebecca E Hailperin-Lausch, Elizabeth B daSilva, Bennett I Bententhal

56.415 Decision making and avoidance of multiple moving objects Cristina de la Malla, Albert Castells, Joan López-Moliner

56.416 How to move to catch flying balls with updating predictions Borja Aguado, Joan López-Moliner

56.417 Attentional updating of perceived position can account for a dissociation of perception and action Ryuhei Nakayama, Alex O. Holcombe

56.418 Iron Deficiency Is Related to Altered Behavior After Rewards and Penalties Lisa De Stefano, Stephanie E Rhoten, Michael J Wenger, Laïli Boozary, Amy Barnett, Tony P Worth

56.419 Ineffective single-blinding during 1mA transcranial direct current stimulation. Gemma Learmonth, Larissa Buhölt, Lisa Möller, Robert Greinacher

56.420 White-Matter Plasticity Following Sight-Restoration in Congenitally Blind Patients Nathaniël P Miller, Tapan Gandhi, Pawan Sinha, Bas Rokers

56.421 An fMRI study identifying brain regions activated when performing well-learned versus newly learned visuomotor associations Elizabeth J Saccone, Sheila G Crewther, Melvyn A Goodale, Philippe A Chouinard

56.422 Motion perception, form discrimination and visual motor integration abilities in mTBI patients Mariagrazia Benassi, Davide Frattini, Roberto Bolzani, Sara Giovagnoli, Tony Pansell

56.423 A novel approach for the assessment of population receptive field mapping results Allan Hummer, Markus Ritter, Michael Woletz, Maximilian Pawloff, Martin Tik, Ursula Schmidt-Erfurth, Christian Windischberger

56.424 Neural model of the visual recognition of social intent Martin A Giese, Mohammad Hovaidi-Ardestani, Nitin Saini

Attention: Shifting, tracking

Tuesday, May 21, 2:45 - 6:45 pm, Pavilion

56.425 Opposing Contextual Effects of High Dynamic Range (HDR) Luminance Dynamics on Orientation Discrimination Chou Po Hung, Paul D Fedele, Kim F Flutt, Anthony J Walker, Min Wei

56.426 Effect of blue light on the speed of attention shift Chien-Chun Yang, Su-Ling Yeh

56.427 Oscillations modulate attentional search performance periodically Garance Merholz, Rufin VanRullen, Laura Dugué


56.429 Pre-target oculomotor inhibition reflects temporal certainty Shlomit Yuval-Greenberg, Noam Tal

56.430 Selection from concurrent RSVP streams: attention shift or buffer read-out? Charles J H Ludowici, Alex O. Holcombe

56.431 TVA in action: Attention capacity and selectivity during coordinated eye-hand movements Philipp Kreyenmeier, Nina M Hanning, Heiner Deubel

56.432 Effects of Wider Fields-of-View on Multiple-Object Tracking Daniel Smith, Rui Ni, Dominic Canare, Brad Weber

56.433 Jointly perceiving physics and mind Haokui Xu, Ning Tang, Mowei Shen, Tao Gao

56.434 Multitasking and MOT in bilinguals Josee Rivest, Ana Janic, Patrick Cavanagh

56.435 Tracking multiple moving auditory targets Lauri O Oksama, Timo Heikkilä, Lauri Nummenmaa, Jukka Hyönä, Mikko Sams

56.436 Orienting attention based on the gaze of a dog Tazeen Isham, Muna Amry, Shane Baker, D. Alexander Varakin

56.437 The Influence of Context Representations on Cognitive Control States Reem Alzahabi, Erika Hussey, Matthew S Cain, Nathan Ward

56.438 Hierarchical motion structure is employed by humans during visual perception Johannes Bill, Hrag Pailian, Samuel J Gershman, Jan Drugowitsch

56.439 Effects of task difficulty and attentional breadth on tonic and phasic pupil size Yavor Ivanov, Ana Lazović, Sebastiaan Mathôt

56.440 Processing capacity for moving objects in artificial worlds Nicole L Jardine, Steven L Franconeri

Attention: Reward

Tuesday, May 21, 2:45 - 6:45 pm, Pavilion

56.441 Emotional Primes Affects Global versus Local Processing Differently: The Effect of Arousal Michaela Porubanova, Maria Kuvaldina, Andrey Chetverikov

56.442 Learning to Attend in a Brain-inspired Deep Neural Network Gregory J. Zelinsky, Hossein Adeli
56.443 Physical, mental and social stress selectively modulate inhibitory control during search of natural scenes  Tom W Bullock, Mary H MacLean, Alex P Boone, Tyler Santander, Jamie Raymer, Alex Stuber, Liann Jimmons, Gold N Okafor, Scott T Grafton, Michael B Miller, Barry Giesbrecht

56.444 Reward learning biases the direction of saccades in visual search Ming-Ray Liao, Brian A Anderson

56.445 Reward Experience Modulates Endogenous Attentional Cueing Effects Chisato Mine, Jun Saiki

56.446 Incentive Cue Related Signal Suppression in Adolescents and Adults: An EEG study Daniel B Dodgson, Jane E Raymond

56.447 Automatic biases of attention towards positive and negative stimuli: the role of individual differences Ludwig P Barbaro, Marius V Peelen, Clayton M Hickey

56.448 Watch Out - Snake! Threat Captures Attention Independent of Low-Level Features Drew Weller, Joanna Lewis

56.449 Association between a spatial preference toward highly rewarded locations and explicit awareness Caitlin Sisk, Roger W Remington, Yuhong V Jiang

56.450 The influence of hunger on visual processing of objects Elizabeth E Kruhm, Antoinette DiCriscio, Vanessa Troiani

56.451 Reactivation of reward-color association reduces retroactive inhibition from new learning Zhibang Huang, Sheng Li

56.452 EEG and fMRI Decoding of Emotional States: Temporal Dynamics and Neural Substrate Ke Bo, Siyang Yin, Yuelu Liu, Jacob Jenkins, Andreas Keil, Mingzhou Ding

56.453 Immersive experience of awe increases the scope of visuospatial attention: A VR study Muge Erol, Arien Mack

Motion: Local, higher order

Tuesday, May 21, 2:45 - 6:45 pm, Pavilion

56.454 Embeddedness of Local Gravity in Perception & Action Abdul H Deeb, Evan Cesanek, Fulvio Domini

56.455 Characterizing Global Motion Perception Following Treatment for Bilateral Congenital Cataracts Sruti Raja, Sharon Gilad-Gutnick, Shlomit Ben-Ami, Priti Gupta, Pragya Shah, Kashish Tiwari, Soma Ganesh, Pawan Sinha

56.456 Effects of local motion ambiguity on perceptual confidence Angela M.W. Lam, Alan L.F. Lee

56.457 Reverse Phi: Effect of Contrast Reversals on Perceived Speed Mohana Kuppuwswamy Parthasar, Vasudevan Lakshminarayanan

56.458 Orthogonal and parallel rebounding aftereffects produced by adaptation to back-and-forth apparent motion Nathan H Heller, Patrawat Samermit, Nicolas Davidenko

56.459 Manual tracking of the double-drift illusion Bernard M ‘t Hart, Denise Y.P. Henriques, Patrick Cavanagh

56.460 Aftereffects of apparent motion adaptation depends on adaptation duration Wei Wei, Teng Leng Ooi, Zijiang J He

56.461 Motion-Defined Form Discrimination in Human V5/MT+ Samantha L Strong, Edward H Silson, André D Gouws, Antony B Morland, Declan J McKeefry

56.462 The history of the elements influences object correspondence in the Ternus display Madeleine Y Stepper, Bettina Rolke, Elisabeth Hein

56.463 Hierarchical Bayesian modeling of the psychometric function (and an example application in an experiment on correspondence matching in long-range motion). Nicolaas Prins

56.464 Adaptation to an illusory aspect ratio distorted by motion induced position shift Sirui Liu, Peter U. Tse, Patrick Cavanagh

56.465 Distance not time imposes limits on accumulation of illusory position shifts in the double-drift stimulus Sirui Liu, Peter U. Tse, Patrick Cavanagh

56.466 Attention filters for motion tracking Austin Kuo, Kathryn L. Bonnen, Alexander C. Huk, Lawrence K. Cormack

56.467 Rebounding illusory apparent motion in three dimensions using virtual reality Benjamin P Hughes, Hunter Delattre, Nathan H Heller, Patrawat Samermit, Nicolas Davidenko

56.468 Fast motion drags shape Mark Wexler, Patrick Cavanagh
Perception and Action: Decision making, neural mechanisms

Wednesday, May 22, 8:15 - 10:00 am, Talk Room 1
Moderator: Megan Peters

61.11, 8:15 am Rythmic modulation of V1 BOLD response (7T) after a Voluntary action Maria Concerta Morrone, Alessandro Benedetto, Mauro Costagli, Michela Tosetti, Paola Binda

61.12, 8:30 am Graded, multidimensional representations of sensory evidence allow for dissociable performance in second-choice and confidence judgments. Tarryn Balsdon, Valentin Wyart, Pascal Mamassian

61.13, 8:45 am Tuned normalization in perceptual decision-making circuits can explain seemingly suboptimal confidence behavior Brian Maniscalco, Brian Odegaard, Piercesare Grimaldi, Seong Hah Cho, Michele A. Basso, Hakwan Lau, Megan A.K. Peters

61.14, 9:00 am Speed-accuracy tradeoff heightens serial dependence Farshad Rafiei, Dobromir Rahnev

61.15, 9:15 am Pointing adaptation changes visual depth perception Tatiana Kartashova, Maryvonne Granowski, Eckart Zimmermann

61.16, 9:30 am Predictive eye and head movements when hitting a bouncing ball David L Mann, Hiroki Nakamoto, Nadine Logt, Lieke Sikkink, Eli Brenner

61.17, 9:45 am Action-based predictions affect visual perception, neural processing, and pupil size, regardless of temporal predictability Bianca M van Kemenade, Christina Lubinus, Wolfgang Einhauser, Florian Schiller, Tilo Kircher, Benjamin Straube

Visual Memory: Long term memory

Wednesday, May 22, 8:15 - 10:00 am, Talk Room 2
Moderator: John Wixted

61.21, 8:15 am Image memorability is driven by visual and conceptual distinctiveness Qi Lin, Sami R Yousif, Brian Scholl, Marvin M Chun

61.22, 8:30 am Iterated learning Revealed Color-contingent Structured Priors in Visual Memory Yang Wang, Edward Vul

61.23, 8:45 am Generating reliable visual long-term memory representations for free: Incidental learning during natural behavior Dejan Draschkow, Melissa L.-H. Võ

61.24, 9:00 am The Number of Encoding Opportunities, but not Encoded Representations in Visual Working Memory Determines Successful Encoding into Visual Long-Term Memory Caitlin J. I. Tozios, Keisuke Fukuda


61.26, 9:30 am The contributions of visual details vs semantic information to visual long-term memory Kelvin Lam, Mark W Schurgin, Timothy F Brady

61.27, 9:45 am The extraordinary capacity of visual long-term memory (including eyewitness memory) John Wixted
Perceptual Learning

Wednesday, May 22, 11:00 am - 12:45 pm, Talk Room 1
Moderator: Takeo Watanabe

62.11, 11:00 am Orientation specificity and generalization of perceptual learning in n-AFC spatial frequency identification. Barbara Dosher, Jiajuan Liu, Zhong-Lin Lu

62.12, 11:15 am Increasingly complex internal visual representations in honeybees, human infants and adults Beáta T Szabó, Aurore Avarguès-Weber, Gergő Orbán, Valerie Finke, Márton Nagy, Adrian Dyer, József Fiser


62.14, 11:45 am An expert advantage on detection of unfamiliar patterns before and after practice Zahra Hussain

62.15, 12:00 pm Trans-saccadic perceptual learning of orientation discrimination is not location specific Lukasz Grzeczkowski, Heiner Deubel

62.16, 12:15 pm A new type of long-lasting adaptation that is feature-unspecific, task-specific and occurs only in a plastic state Andreas Marzoll, Isha Chavva, Takeo Watanabe

62.17, 12:30 pm Learning to ignore: Neural mechanisms underlying expectation-dependent distractor inhibition Dirk van Moorselaar, Heleen A Slagter

Motion Perception

Wednesday, May 22, 11:00 am - 12:45 pm, Talk Room 2
Moderator: Larry Cormack

62.21, 11:00 am An integrated neural model of robust self-motion and object motion perception in visually realistic environments Scott T Steinmetz, Oliver W Layton, N. Andrew Browning, Nathaniel V Powell, Brett R Fajen

62.22, 11:15 am Subjective confidence judgments for motion direction discrimination are centrally biased despite matched objective performance in the periphery JD Knotts, Alan L.F. Lee, Hakwan Lau

62.23, 11:30 am Dynamics of Motion Induced Position Shifts Revealed by Continuous Tracking Lawrence Cormack

62.24, 11:45 am Octopuses perceive second order motion: Evidence for convergent evolution of visual systems Marvin R Macchler, Marie-Luise Kieseler, Jade E Smith, Shae K Wolfe, Mark A Taylor, Matthew D Goff, Jean Fang, David B Edelman, Peter U Tse

62.25, 12:00 pm Global motion identification is incredibly precise, but lowering coherence increases the probability of total identification failures Marshall L Green, Michael S Pratte

62.26, 12:15 pm Additivity of attractive and repulsive sequential effects in motion direction estimation Jongmin Moon, Oh-Sang Kwon

62.27, 12:30 pm Adaptive center-surround mechanisms in non-retinotopic processes Boris I Penalosa, Michael H Herzog, Haluk Ogmen
WEDNESDAY MORNING POSTERS

Color and Light: Adaptation, constancy, cognition, models
Wednesday, May 22, 8:30 am - 12:30 pm, Banyan Breeze-way

63.301 Colour constancy measured by achromatic adjustment in immersive illumination Anya C Hurlbert, Gaurav Gupta, Naomi Gross, Ruben Pastilha
63.302 Color and Brightness constancies as functions of test saturation Adam Reeves, Kinjiro Amano
63.303 Blue-yellow asymmetries in the perception of illuminant vs. surface color Ivana Ilic, Jiale Yang, Masami K Yamaguchi, Katsumi Watanabe, Yoko Mizokami, Michael A Webster
63.304 Cross-Media Colour Matching under Chromatic Lights Jan Kučera, Gaurav Gupta, James Scott, Anya Hurlbert
63.305 Speed limits on seeing temporal changes in daylight Ruben C Pastilha, Gaurav Gupta, Anya Hurlbert
63.306 Large enhancement of simultaneous color contrast by surrounding white gap, but not by black gap Tama Kanematsu, Kowa Koida
63.307 Neurocomputational model explains the lightness scaling of illuminated simultaneous contrast, staircase-Gelb, and scrambled Gelb displays Michael E. Rudd
63.308 Predicting Human Perception of Glossy Highlights using Neural Networks Konrad E Prokott, Roland W Fleming
63.309 Understanding Information Processing Mechanisms for Estimating Material Properties of Cloth in Deep Neural Networks Wenyan Bi, Gaurav Kumar, Hendrikje Nienborg, Bei Xiao
63.310 Color Constancy in Deep Neural Networks Alban C Flachot, Heiko H Schuett, Roland W Fleming, Felix Wichmann, Karl R Gegenfurtner
63.311 A probabilistic graphical model of lightness and lighting Richard F Murray
63.312 A Comparison of Two Methods of Hue Scaling Courtney Matera, Kara J Emery, Vicki J Volbrecht, Kavita Vemuri, Paul Kay, Michael A Webster
63.313 Developing a peripheral color tolerance model for gaze-contingent rendering Lili Zhang, Rachel Albert, Joo-hwan Kim, David Luebke
63.314 What color are cantaloupes? The role of relative color-concept associations on interpretations of information visualizations Zachary T Leggon, Ragini Rathore, Laurent Lessard, Karen B Schloss
63.315 Building color-concept association distributions from statistical learning Melissa A Schoenlein, Karen B Schloss
63.316 The trajectories of conceptual change: mouse-tracking prevalence-induced concept change Michael Dieciuc, Walter R Boot
63.317 The role of spatial organization for interpreting colormap data visualizations Shannon C Sibrel, Ragini Rathore, Lauren Lessard, Karen B Schloss

Multisensory Processing: Tactile, vestibular
Wednesday, May 22, 8:30 am - 12:30 pm, Banyan Breeze-way

63.318 Spatiotemporal mechanisms of multisensory integration Majed J Samad, Cesare V Parise
63.319 Everyday haptic experiences influence visual perception of material roughness Karina Kangur, Michal Toth, Julie Harris, Constanze Hesse
63.320 Haptic discrimination of 3D-printed patterns based on natural visual textures Scinob Kuroki, Masataka Sawayama, Shin’ya Nishida
63.321 Unimodal and Cross-Modal Shape Recognition Ashley E Peterson, Farley Norman, Hannah K Shapiro, Matthew D Hall
63.322 Visual-vestibular conflict detection is best during active head movement with scene-fixed fixation Savannah J Halow, Jax D Skye, James Lui, Paul R MacNeilage
63.323 Impossible integration of size and weight Isabel Won, Steven Gross, Chaz Firestone
63.324 Perceived timing of passive self-motion relative to auditory stimuli with and without vision William Chung, Michael Barnett-Cowan
63.325 A virtual reality approach identifies flexible inhibition of motion aftereffects induced by head rotation Xin He, Jianying Bai, Min Bao, Tao Zhang, Yi Jiang
63.326 Updating the position of eccentric targets during visually-induced lateral motion Jong-Jin Kim, Laurence R Harris
63.327 Underwater virtual reality for spatial orientation research. Christian B Sinnott, James Liu, Courtney Matera, Savannah Halow, Ann E Jones, Matthew Moroz, Jeff Mulligan, Michael Crognale, Eelke Folmer, Paul MacNeilage

Eye Movements: Pursuit, vergence
Wednesday, May 22, 8:30 am - 12:30 pm, Banyan Breeze-way

63.328 Earth Gravity-Congruent Motion Benefits Pursuit Gain for Parabolic Trajectories Björn Jörges, Joan López-Moliner
63.329 Microsaccades, Pursuit and Drift Modulations During Smooth Pursuit Inbal Ziv, Yoram S Bonneh
63.330 The Quantification of Smooth Pursuit Eye Movements Inge L Wilms
63.331 Smooth pursuit of two-dimensional target motion: Pursuit speed varies with turning angle for predictable and unpredictable motion paths Jie Wang, Morgan T. M. McCabe, Renee J. Tournoux, Eileen Knobler
63.332 Effect of priors on smooth pursuit of clear and noisy random dot kinematograms Jason F Rubinstein, Manish Singh, Eileen Knobler
63.333 Pre-saccadic attention to motion initiates predictive oculomotor following Sunwoo Kwon, Martin Rolfs, Jude F. Mitchell
63.334 Smooth Pursuit Eye Movements in Patients with Schizophrenia and Bipolar Disorder Roberto Bolzani, Giovanni Piraccini, Jan Ygge, Rosa P. Sant’Angelo, Roberta Raggini, Sara Garofalo, Maria-grazia Benassi
63.335 Following Forrest Gump: Smooth pursuit related brain activation during free movie viewing Ioannis Agtzidis, Inga Meyhoefer, Michael Dorr, Rebekka Lencer

63.336 A covered eye does not always follow objects moving smoothly in depth Stephen Heinen, Scott NJ Watamaniuk, T. R Candy, Jeremy B Badler, Arvind Chandna

63.337 When intercepting an approaching ball in flight, only some individuals compensate for its acceleration through head-centered spherical space. Gabriel J Diaz, Catherine A Fromm

63.338 Blink adaptation for vergence eye movements Arnab Biswas, Gerrit W. Maus

63.339 Measuring the Vergence Horopter Ashleigh L Harrold, Philip M Grove

63.340 Factors Influencing Webcam Eye-tracking Brooke Bullek, Vanessa Troiani, Evan Peck, Brian King

Eye Movements: Models, neural mechanisms
Wednesday, May 22, 8:30 am - 12:30 pm, Banyan Breeze-way

63.341 Behavioural evidence for the existence of a spatiotopic free-viewing saliency map Matthias Kümmerer, Thomas S.A. Wallis, Matthias Bethge

63.342 Microsaccade inhibition inhibited upon visual transients in the fovea Katharina Rifai, Denitsa Dragneva, Siegfried Wahl

63.343 Applying linear additive models to isolate component processes in task-evoked pupil responses Steven M Thurman, Russell A Cohen Hoffing, Nina Lauharatanahirum, Daniel E Forster, Kanika Bansal, Scott T Grafton, Barry Giesbrecht, Jean M Vettel

63.344 Modeling and removal of eye signals does not abolish visual cortex resting state correlation structure Harrison M McAdams, Geoffrey K Aguirre

63.345 Estimation of pupillary responses to rapid events Rachel Denison, Jacob Parker, Marisa Carrasco

63.346 I see what you did there: Deep learning algorithms can classify cognitive tasks from images of eye tracking data Zachary J. Cole, Karl M. Kuntzelman, Michael D. Dodd, Matthew R. Johnson

63.347 Cortical microcircuitry of gaze monitoring in supplementary eye field Steven P Errington, Amirsaman Sajad, Jeffrey D Schall

63.348 Topographic maps of visual space in the human cerebellum Tomas Knapen, Wietske Van Der Zwaag, Daan Van Es

63.349 Identifying Scanpath Trends using a Frequent Trajectory Pattern Mining Approach Brian R King, Vanessa Troiani

Visual Search: Eye movements, features, scenes
Wednesday, May 22, 8:30 am - 12:30 pm, Pavilion

63.401 Eye Tracking During Search for Two Unique Targets to Investigate Categorical Effects in Subsequent Search Misses Mark W. Becker, Kaitlyn Anderson

63.402 Does the relationship between incidental fixations and distractor recognition depend on target consistency across visual search trials? David F Alonso, Steffi Y Falla, Anna Vaskevich, Roy Luria, Trafcon Drew

63.403 Target-distractor similarity and distractor heterogeneity affect the number of fixations, refixations, and dwell times in visual search Daniel Ernst, Gernot Horstmann

63.404 Temporal integration negates pop-out and reveals attentive blank stares Tess White, David Sheinberg, Vanessa Godina, Gideon P Caplovitz

63.405 Explicit Sequence Learning in Hybrid Visual Search in Younger and Older Age Erica Westenberg, Jeremy M Wolfe, Iris Wiegand

63.406 Contextual Cueing in a Comparative Visual Search task. M Pilar Alvar, Sandra Miguel, Elena Sanz

63.407 Search termination when target is absent: the prevalence of coarse processing and its inter-trial influence Jieun Cho, Sang Chul Chong

63.408 The effects of information integration on categorical visual search Clay D Killingsworth, Ashley Ercolino, Schmidt Joseph, Mark Neider, Corey Bohil

63.409 Changes in target-distractor similarity space with experience in complex visual search Patrick H Cox, Stephen R Mitroff, Dwight J Kravitz

63.410 Are conjunctions of motion and orientation special? Evidence from singleton interference effects Kevin Dent

63.411 Examining the Utility of Negative Search Cues with Real-World Object Categories Samantha D Lopez, Ashley M Ercolino, Joseph Schmidt

63.412 Comparing Search Strategies of Humans and Machines in Clutter Claudio Michaelis, Marlene Weller, Christina Funke, Alexander S. Ecker, Thomas S.A. Wallis, Matthias Bethge

63.413 Metacognitive estimates predict detection accuracy in low prevalence search Michael T Mucchio, Joseph Schmidt

63.414 The gist in prostate volumetric imaging Melissa Trevino, Todd S Horowitz, Marcin Czarniecki, Ismail B Turkbey, Peter L. Choyke

63.415 The effect of spatial organization in the design of visual supports for adults with communicative disorders Yiming Qian, Krista Wilkinson, Rick Gilmore

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63.416 Too little too late: No flexible control of memory by retro-cues Blaire Dube, Stephanie Rak, Liana Iannucci, Naseem Al-Aidroos

63.417 More than a button response: How saccades and fixations can inform our interpretation of VWM quantification Bret T Eschman, Shannon Ross-Sheehy

63.418 The precision of attentional selection is far worse than the precision of the underlying memory representation Dirk Kerzel

63.419 Shifts of Attention in Working Memory Space Differ from Those in Perceptual Space: Evidence from Memory Search Garry Kong, Daryl Fougnie

63.420 Visual working memory representations are shifted toward irrelevant features of distractors in intervening visual search tasks Zachary A Lively, Gavin JP Ng, Simona Buetti, Alejandro Lleras

63.421 Time-dependent saccadic selection in analogue and categorical visual short-term memory tasks Sven Ohl, Martin Rolfs

63.422 Attention for feature-context binding in working memory Frida AB Printzlau, Nicholas E Myers, Sanjay G Manohar, Mark G Stokes

63.423 Directing retrospective attention in visual working memory in a graded manner Timothy C Sheehan, John T Serences

63.424 Facial Emotions Guide Attention to Task-Irrelevant Color Cues Thaatsha Sivanathan, Steven B. Most, Kim M. Curby
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63.425 Visual Search Revisited in East Asia: Experience Matters
Yoshiyuki Ueda, Chia-Chun Tsai, Sung-En Chien, Su-Ling Yeh, Jun Saiki

63.426 From the clinic to the lab and back: Fixing the problem of missed “incidental findings”
Makaela S. Nartker, Jeremy M. Wolfe

63.427 Large attentional window produces contextual cueing effects on target absent trials
Jeunghwan Choi, Sang Chul Chong

63.428 Leveling the viewing field: The influence of target prevalence on the attentional window
Juan D Guevara Pinto, Megan H Papesh

63.429 What are the features of shapes easy to remember in the visual search?
Kazuki Konno, Ruggero Micheletto

63.430 Mere presence effects of entirely task-irrelevant but significant real objects on visual search performances
Motohiro Ito, Jun I Kawahara

63.431 Concreteness Versus Complexity: Similarly Named Icon Features Elicit Dissimilar Performance During Visual Search
Jessica Nguyen, Mark B Neider

63.432 Occlusion and object specific effects on visual search for complex objects
Rachel T Nguyen, Matthew S Peterson

63.433 Perceived rather than physical direction of the double-drift stimulus pops out in visual search
Mert Ozkan, Peter U Tse, Patrick Cavanagh

63.434 Grouping does not help you to guide conjunction visual search
Igor S. Utochkin, Vladislav A Khvostov, Jeremy M Wolfe

63.435 Useful Field of View shows why we miss the search target when we “look at” it
Chia-Chien Wu, Jeremy M Wolfe

63.436 Probing the early attentional benefits of negative templates
Ziyao Zhang, Nicholas Gaspelin, Nancy B. Carlisle

63.437 Learned Feature Variability Predicts Visual Search and Working Memory Precision
Phillip P Witkowski, Joy J Geng

63.438 How does the bzzzzzzzzzzzz influence search? - The effects of sound on memory and visual search
Caroline D. Seidel, Sage E.P. Boettcher, Dejan Draschkow, Melissa L.-H. Võ

63.439 A secondary task stunts the development of contextual cueing
Lisa M Heisterberg, Andrew B Leber

63.440 An individual differences investigation of the relationship between visuospatial working memory capacity and inefficient search.
Kirk Ballew, Jing Xu, Alejandro Lleras, Simona Buetti

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63.441 Information processing architectures across the visual field: an EEG study
Gaojie Fan, Gamble Heather, Robin Thomas

63.442 Performance monitoring signals during visual priming
Jacob A Westerberg, Geoffrey F Woodman, Alexander Maier, Jeffrey D Schall

63.443 Neural Evidence for Interference in Contextual Cueing
Anna Vaskevich, Roy Luria

63.444 Perceptual expectancy is revealed by pupillometry and correlates with autistic traits
Antonella Pome, Paola Binda, Guido Marco Cicchini, David Charles Burr

63.445 Collinear grouped items are more distracted for older adults: Behavior and neural imaging evidence on the collinear masking effect
Li Jingling, Yi-Ping Chao, Shuo-Heng Li, Joshua O. S. Goh, Arthur C. Tsai, Su-Ling Yeh

63.446 How do you know if you saw that? Electrophysiological correlates of searching through memory.
Trafton Drew, Lauren H. Williams, Jeremy M. Wolfe, Iris Wiegand

63.447 Local and global dynamics of fixation-related brain activity during visual search
Matias J Ison, Juan E Kamienkowski, Alexander Varatharajah, Mariano Sigman

63.448 Ultrafast object detection in naturalistic vision relies on ultrafast distractor suppression
Clayton M Hickey, Daniele Pollicino, Giacomo Bertazzoli, Ludwig Barbaro

63.449 Flipped on its Head: Deep Learning-Based Saliency Finds Asymmetry in the Opposite Direction Expected for Singleton Search of Flipped and Canonical Targets
Calden Wloka, John K Tsotsos

63.450 Theory of Covert Search in Noise Backgrounds Correctly Predicts Asymmetrical Spatial Distributions of Misses and False Alarms
Calen Walsh, Wilson S. Geisler

63.451 Using Multidimensional Scaling to Quantify Category Heterogeneity Effects in Visual Search
Arryn S Robbins, Kory Scherer, Edin Sabic, Justin MacDonald, Ashley Ercolino, Joseph Schmidt, Michael C. Hout

63.452 Efficient search for unknown targets amongst known and unknown distractors
Alejandro Lleras, Yujie Shao, Simona Buetti

63.453 The effect of distractor statistics in visual search
Joshua M Calder-Travis, Wei Ji Ma
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63.454 Awareness-dependent Distribution of Visual Bottom-up Attention
Lijuan Wang, Xilin Zhang

63.455 Cue-evoked pupillary response reveals a left visual field bias in covert spatial visual attention
Sreenivasan Meyyappan, Abhijit Rajan, Harrison Walker, Yuelu Liu, George Mangun, Mingzhou Ding

63.456 When Emotional Valence Matters: the Speed of Feature Binding in Object-based Attention
Mengsha Li, Xilin Zhang

63.457 Neural representations of attention across saccades: More similar to shifting or to holding covert attention?
Xiaoli Zhang, Julie D Golomb

63.458 Role of superior longitudinal fasciculus in visual spatial attention
Xiangfei Hong, Liyun Zheng, Abhijit Rajan, Mingzhou Ding

63.459 Phasic alerting effects on visual processing speed are associated with intrinsic functional connectivity in the cingulo-opercular network
Marleen Haupt, Adriana L. Ruiz Rizzo, Christian Sorg, Kathrin Finke

63.460 Functional Differentiation of Visual Attention Processing Within Human Cerebellum
Ryan D Marshall, James A Brissenden, Kathryn J Devaney, Abigail L Noyce, Maya L Rosen, David C Somers

63.461 Individual retinotopic organization in human intraparietal sulcus predicted by connectivity fingerprinting
James A Brissenden, Sean M Tobyne, Ray W Lefco, David C Somers

63.462 Stimulus presentation type effects in retinotopic parietal cortex
Summer Sheremata

63.463 Using Frequency Tagging to Understand the Impact of Bilingualism on Visual Attention
Ethan Kutlu, Ryan Barry-Anwar, Lisa S. Scott

63.464 Measuring the fidelity and connectivity of stimulus representations provides a richer neural characterization of attentional fluctuations
David Rothlein, Joseph DeGutis, Michael Esterman
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**3D Perception: Models, mechanisms**
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**3D Perception: Shape**
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**Attention**
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**Attention: Animacy, attentional blink**
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**Attention: Capture**
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**Attention: Cues, context**
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**Attention: Cues, individual differences, inattentive blindness**
- **Poster Presentation (56.332-56.346)**
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**Attention: Features and objects 1**
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**Color and Light: Adaptation, constancy, cognition, models**
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**Faces**
- **Disorders**
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**Faces: Disorders**
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**Faces: Neural mechanisms**
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