Vision Sciences Society

12th Annual Meeting, May 11-16, 2012
Waldorf Astoria Naples, Naples, Florida

Program

Contents

Program and Abstracts cover design by
Asieh Zadbood, Brain and Cognitive Science Dept., Seoul National University, Psychology Dept., Vanderbilt University

T-shirt design and page graphics by
Jeffrey Mulligan, NASA Ames Research Center

Board, Review Committee & Staff

Board of Directors

Marisa Carrasco (2013), President
New York University

Karl Gegenfurtner (2014), President Elect
Justus-Liebig Universität Giessen, Germany

Barbara Dosher (2013) Treasurer
University of California, Irvine

Pascal Mamassian (2012), Past President
CNRS & Université Paris Descartes, France

Miguel Eckstein (2014)
University of California, Santa Barbara

Mary Hayhoe (2015)
University of Texas, Austin

Zoe Kourtzi (2012)
University of Birmingham, UK

Julio Martinez (2015)
McGill University, Canada

Frans Verstraten (2014)
University of Utrecht, The Netherlands

(Year denotes end of term)

Abstract Review Committee

David Alais
Barton Anderson
Irving Biederman
James Bisley
Geoff Boynton
Eli Brenner
Angela Brown
David Burr
Patrick Cavanagh
Marvin Chun
Jody Culham
Steve Dakin
Karen Dobkins
Brad Duchaine
James Elder
Steve Engel
Jim Enns
Marc Ernst
Mark Greenlee
Julie Harris
Sheng He
John Henderson
Alex Huk
Anya Hurlbert
Alan Johnston
Phil Kellman
Daniel Kersten
Fred Kingdom
Lynne Kiorpes
Rich Krauzlis
Bart Krekelberg
Margaret Livingstone
Zhong-Lin Lu
Laurence Maloney
Ennio Mingolla
Cathleen Moore
Shin'ya Nishida
Tony Norcia
Aude Oliva
Alice O'Toole
Christopher Pack
Steve Palmer
Jenny Read
Brian Rogers
Ruth Rosenholtz
Bruno Rossion
Dov Sagi
Jeff Schall
Brian Scholl
David Sheinberg
Maggie Shiffrar
Daniel Simons
Pawan Sinha
Josh Solomon
George Sperling
Jim Tanaka
Mike Tarr
Jan Theeuwes
Bosco Tjan
Rufin VanRullen
Preeti Verghese
Rufin Vogels
Rüdiger von der Heydt
William Warren
Takeo Watanabe
Michael Webster
David Whitney
Steve Yantis
Cong Yu
Qasim Zaidi

Staff

Joan Carole
Exhibits & Advertising Manager

Shawna Lampkin
Registration Manager

Jeff Wilson
Technical Manager, Website & Program

Janeen Fabulae
Event Associate

Shellie Gallegos
Event Associate

Cheryl Hoidal
Event Associate

Jesse Jones
Event Associate

Renee Smith
Event Associate

Rochelle Smith
Event Associate

Julie Wolfe
Event Associate

Founders

Ken Nakayama
Harvard University

Tom Sanocki
University of South Florida

Executive Director

Shauney Wilson

Featured Events

Special Sessions

NSF Grantsmanship Workshop
Friday, May 11, 12:00 - 1:00 pm, Acacia 4-6

NIH Grantsmanship Workshop
Friday, May 11, 5:45 - 6:45 pm, Royal Palm 1-3

VSS Public Lecture (Terri Lewis)
Saturday, May 12, 10:00 am - 12:00 pm,
Renaissance Academy of Florida Gulf Coast University (off site)

Dr. Ranulfo Romo - VSS Keynote Address
Saturday, May 12, 7:00 – 8:15 pm, Royal Palm 4-5

Career Event for Students & Postdocs
Sunday, May 13, 1:00 - 2:00 pm, Acacia 4-6

Student/Postdoc Publishing Workshop
Sunday, May 13, 1:00 - 2:00 pm, Banyan 1-2

VSS Awards & YIA Lecture (Geoff Woodman)
Sunday, May 13, 7:00 – 7:45 pm, Royal Palm 4-5

Business Meeting
Tuesday, May 15, 1:45 - 2:30 pm, Royal Palm 4-5

VSS Social Events

Opening Night Reception
Friday, May 11, 7:00 - 9:00 pm, Sunset & Vista Decks

VSS Dinner and Demo Night
Monday, May 14, 7:00 - 10:00 pm,
Dinner: Vista Ballroom, Sunset Deck, Mangrove Pool
Demos: Royal Palm 4-5 & Acacia Meeting Rooms

Open House for Graduate Students & Postdoc Fellows
Tuesday, May 15, 9:30 – 10:30 pm, Acacia 4-6

Club Vision Dance Party
Tuesday, May 15, 10:00 pm – 2:00 am,
Vista Ballroom, Sunset Deck

VSS at ARVO: Visual Rehabilitation

Wednesday, May 9, 12 - 1:30 pm, Room 315 (Fort Lauderdale Convention Center)

Chair: Pascal Mamassian, University of Glasgow
Speakers:
Dennis Levi, School of Optometry, University of California, Berkeley
Krystel R. Huxlin. Flaum Eye Institute, University of Rochester
Arash Sahraie. College of Life Sciences and Medicine, University of Aberdeen

Every year, VSS and ARVO collaborate in a symposium - VSS at ARVO or ARVO at VSS - designed to highlight and present work from one society at the annual meeting of the other. This year's symposium is at ARVO.

Experience-dependent plasticity is closely linked with the development of sensory function. However, there is also growing evidence for plasticity in the adult visual system. This symposium re-examines the notions of critical period and sensitive period for a variety of visual functions. One critical issue is the extent to which alternative neural structures are recruited to restore these visual functions. Recent experimental and clinical evidence will be discussed for the rehabilitation of amblyopia and blindsight.

For more information, go to: http://www.arvo.org/sites/annual-meeting/2012/workshops

Meeting Schedule

Thursday, May 10

9:00 am – 7:00 pm	Workshop on Mathematical & ComputationalModeling (satellite)	Edgewater Beach Hotel (See page 14)
12:00 - 5:00 pm	PsychoPy Workshop (satellite)	Banyan 1 (See page 14)
3:00 - 7:00 pm	Registration Open	Royal Palm Foyer

Friday, May 11

7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer
8:00 am – 9:00 pm	Registration Open	Royal Palm Foyer
9:00 am - 12:00 pm	Workshop on Mathematical & Computational Modeling (satellite) cont.	Edgewater Beach Hotel
10:00 am - 12:00 pm	Linking Brain Development and Visual Function: A Tribute to the Legacy of Davida Teller (satellite)	Royal Palm 4-5 (See page 14)
10:30 - 11:00 am	Coffee Break	Royal Palm Foyer
11:00 am - 12:00 pm	Publishing, Open Access, and Open Science	Royal Palm 1-3 (See page 14)
12:00 - 1:00 pm	NSF Grantsmanship Workshop	Acacia 4-6 (See page 13)
1:00 – 3:00 pm	Symposium Session 1	Royal Palm 1-3, 4-5 & 6-8 (See page 27)
3:00 – 3:30 pm	Coffee Break	Royal Palm Foyer
3:30 – 5:30 pm	Symposium Session 2	Royal Palm 1-3, 4-5 & 6-8 (See page 28)
5:45 - 6:45 pm	NIH Grantsmanship Workshop	Royal Palm 1-3 (See page 13)
6:45 - 9:30 pm	Exhibits Open	Orchid Foyer, Acacia Foyer
6:45 - 9:30 pm	Evening Poster Session	Vista Ballroom, Orchid Ballroom
7:00 - 9:00 pm	Opening Night Reception	Sunset & Vista Decks, Mangrove Pool

Saturday, May 12

7:00 am – 6:45 pm	Registration Open	Royal Palm Foyer
7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer, Orchid Foyer
8:00 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:15 am – 12:15 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
8:15 am – 6:30 pm	Exhibits Open	Orchid Foyer, Acacia Foyer
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:00 am – 12:00 pm	VSS Public Lecture	Renaissance Academy of Florida Gulf Coast University (Off Site, See page 17)
10:45 am - 12:30 pm	Talk Session	Royal Palm 1-3 & 4-5
12:30 - 2:30 pm	Lunch Break	Purchase a lunch at VSS Marketplace and head to the beach!*
12:45 - 2:00 pm	Individual Differences in Vision Brown Bag Lunch (satellite)	Banyan 1-2 (See page 14)
2:30 – 4:15 pm	Talk Session	Royal Palm 1-3 & 4-5
2:45 – 6:30 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
4:15 – 5:00 pm	Coffee Break	Royal Palm Foyer, Orchid Foyer
5:15 – 6:45 pm	Talk Session	Royal Palm 1-3 & 4-5
7:00 – 8:15 pm	Keynote Address	Royal Palm 4-5 (See page 11)

Sunday, May 13

7:00 am – 6:45 pm	Registration Open	Royal Palm Foyer
7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer, Orchid Foyer
8:00 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:15 am – 12:15 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
8:15 am – 6:30 pm	Exhibits Open	Orchid Foyer, Acacia Foyer
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer

Sunday, May 13 (continued)

10:45 am - 12:30 pm	Talk Session	Royal Palm 1-3 & 4-5
12:30 - 2:30 pm	Lunch Break	Purchase a lunch at VSS Marketplace and head to the beach!*
1:00 - 2:00 pm	Career Event for Students & Postdocs	Acacia 4-6 (See page 16)
1:00 - 2:00 pm	Student/Postdoc Publishing Workshop	Banyan 1-2 (See page 16)
2:30 – 4:15 pm	Talk Session	Royal Palm 1-3 & 4-5
2:45 – 6:30 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
4:15 – 5:00 pm	Coffee Break	Royal Palm Foyer, Orchid Foyer
5:15 – 6:45 pm	Talk Session	Royal Palm 1-3 & 4-5
7:00 – 7:45 pm	VSS Awards & YIA Lecture	Royal Palm 4-5 (See pages 12 & 15)

Monday, May 14

7:30 am – 12:30 pm	Registration Open	Royal Palm Foyer
7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer, Orchid Foyer
8:00 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:15 am – 12:15 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
8:15 am – 12:15 pm	Exhibits Open	Orchid Foyer, Acacia Foyer
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:45 am - 12:45pm	Talk Session	Royal Palm 1-3 & 4-5
12:45- 5:00 pm	Afternoon off	
5:00 – 7:00 pm	8th Annual Best Illusion of the Year Contest (satellite)	Philharmonic Center for the Arts (Off Site, See page 14)
7:00 – 9:00 pm	Demo Night Dinner	Vista Ballroom, Sunset Deck, Mangrove Pool (See page 24)
7:30 – 10:00 pm	Demo Night Demos	Royal Palm 4-5, Acacia Meeting Rooms, Cypress (See page 24)

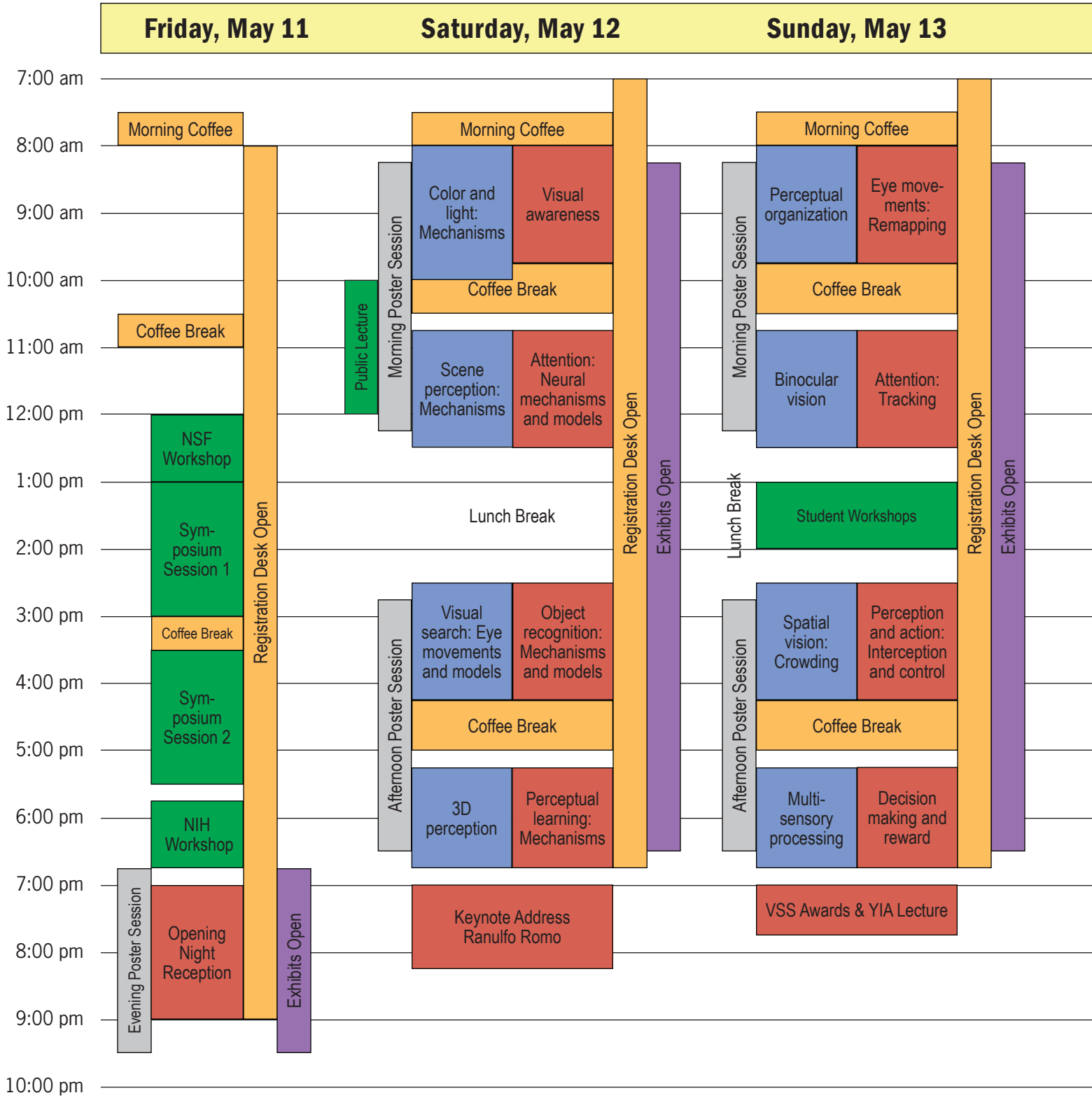
Tuesday, May 15

7:30 am – 6:45 pm	Registration Open	Royal Palm Foyer
7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer, Orchid Foyer
8:00 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:15 am – 12:15 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer, Orchid Foyer
10:45 am - 12:30 pm	Talk Session	Royal Palm 1-3 & 4-5
12:30 - 1:45 pm	Lunch Break	Purchase a lunch at VSS Marketplace and head to the beach!*
12:30 - 1:45 pm	VSS Committees Lunch	Acacia 5-6
1:45 - 2:30 pm	Business Meeting	Royal Palm 4-5
2:30 – 4:30 pm	Talk Session	Royal Palm 1-3, & 4-5
2:45 - 6:30 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom, Vista Ballroom
4:30 – 5:15 pm	Coffee Break	Royal Palm Foyer, Orchid Foyer
5:30 – 7:00 pm	Talk Session	Royal Palm 1-3 & 4-5
9:30 – 10:30 pm	Open House for Graduate Students and Postdoctoral Fellows	Acacia 4-6 (See page 16)
10:00 pm – 2:00 am	Club Vision Dance Party	Vista Ballroom, Sunset Deck

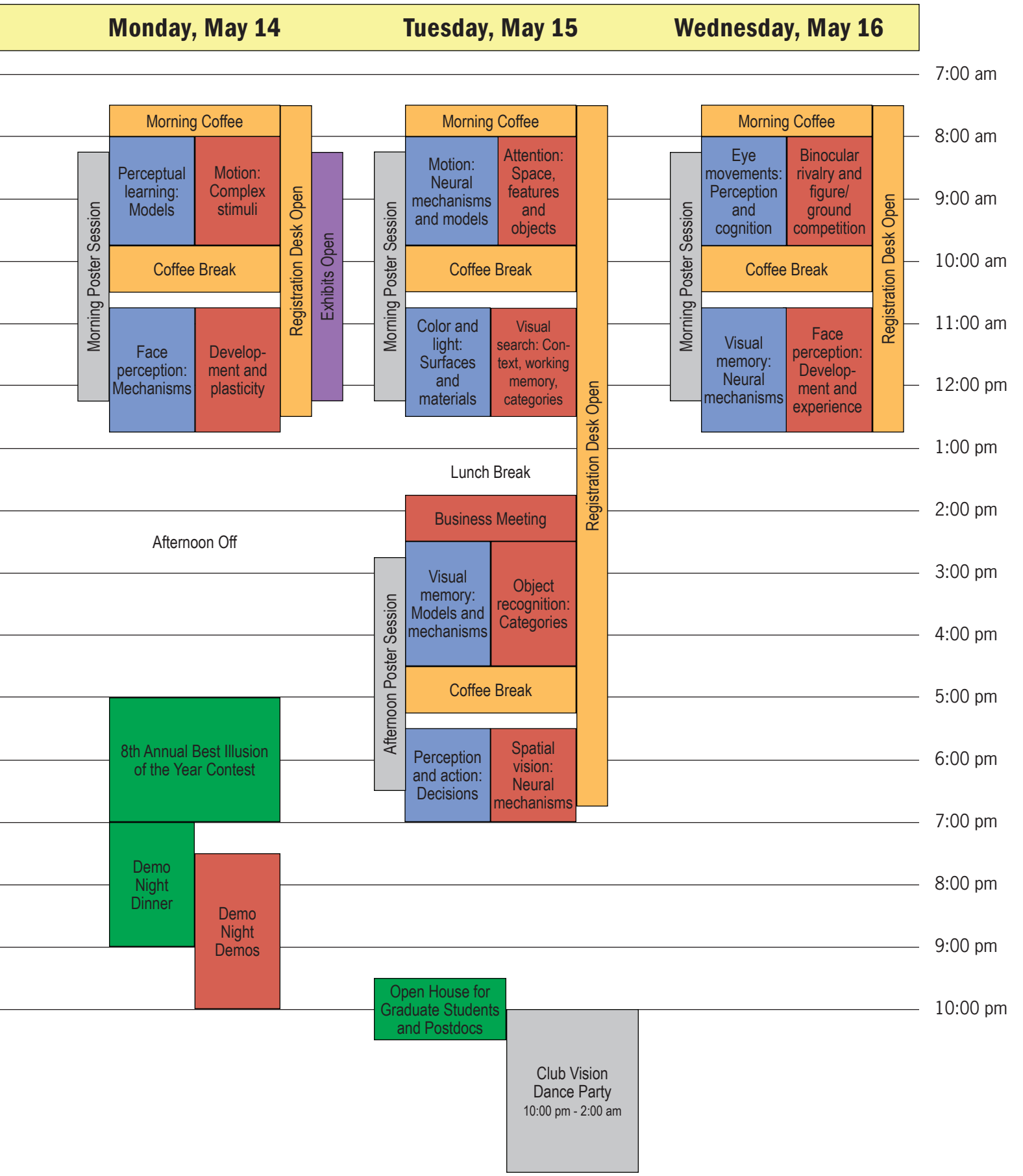
Wednesday, May 11

7:30 am – 12:45 pm	Registration Open	Royal Palm Foyer
7:30 – 8:00 am	Morning Coffee	Royal Palm Foyer, Orchid Foyer
8:00 – 9:45 am	Talk Session	Royal Palm 1-3 & 4-5
8:15 am – 12:15 pm	Poster Session	Royal Palm 6-8, Orchid Ballroom
9:45 – 10:30 am	Coffee Break	Royal Palm Foyer
10:45 am – 12:45 pm	Talk Session	Royal Palm 1-3 & 4-5
12:45 pm	Meeting Ends	
3:00 - 6:00 pm and 7:30 pm - 12:00 am	Stuart Anstis Mid-Career Intervention	Orchid Ballroom (See poage 14)

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



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


Monday, May 14
Tuesday, May 15
Wednesday, May 16
7:00 am
8:00 am
9:00 am
10:00 am
11:00 am
12:00 pm
1:00 pm
2:00 pm
3:00 pm
4:00 pm
5:00 pm
6:00 pm
7:00 pm
8:00 pm
9:00 pm
10:00 pm
Morning Coffee
Perceptual learning: Models
Motion: Complex stimuli
Coffee Break
Face perception: Mechanisms
Develop-ment and plasticity
Morning Poster Session
Registration Desk Open
Exhibits Open
Morning Coffee
Motion: Neural mechanisms and models
Attention: Space, features and objects
Coffee Break
Color and light: Surfaces and materials
Visual search: Con-text, working memory, categories
Morning Poster Session
Registration Desk Open
Morning Coffee
Eye movements: Perception and cognition
Binocular rivalry and figure/ ground competition
Coffee Break
Visual memory: Neural mechanisms
Face perception: Develop-ment and experience
Morning Poster Session
Registration Desk Open
Lunch Break
Business Meeting
Afternoon Off
Visual memory: Models and mechanisms
Object recognition: Categories
Coffee Break
Perception and action: Decisions
Spatial vision: Neural mechanisms
Afternoon Poster Session
Registration Desk Open
8th Annual Best Illusion of the Year Contest
Demo Night Dinner
Demo Night Demos
Open House for Graduate Students and Postdocs
Club Vision Dance Party
10:00 pm - 2:00 am

Poster Schedule

Poster Setup and Takedown

All poster sessions are held in the Royal Palm 6-8 and Orchid Ballrooms on the Ballroom level, and Vista Ballroom on the Lobby level. The last three digits of your poster number indicate the number of your poster board.

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

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

Push pins are available for your use and are located at the Meeting Registration Desk in the Royal Palm Foyer.

Friday Afternoon, May 11

Setup: 5:45 – 6:45 pm
Session: 6:45 – 9:30 pm
Even Authors Present: 7:30 – 8:30 pm
Odd Authors Present: 8:30 – 9:30 pm
Room: Orchid Ballroom
- Attention: Reward
- Attention: Inattention and attention blindness
- Face perception: Development and aging
- Face perception: Social cognition
- Binocular vision: Neural mechanisms and models

Room: Vista Ballroom
- Color and light: Mechanisms
- Color and light: High-level
- Spatial vision: Mechanisms
- Spatial vision: Eccentricity, flankers, and texture

Take down: 9:30 – 10:00 pm

Saturday Morning, May 12

Setup: 7:30 – 8:15 am
Session: 8:15 am – 12:15 pm
Even Authors Present: 9:15 – 10:15 am
Odd Authors Present: 10:15 – 11:15 am
Room: Royal Palm 6-8
- Temporal processing
- Motion: Higher Order

Room: Orchid Ballroom
- Decision making
- Visual memory: Neural mechanisms
- Perception and action: Navigation and locomotion

Room: Vista Ballroom
- Binocular vision: Rivalry I
- Binocular vision: Stereopsis
- 3D perception: Shape from shading and contours
- Motion: Optic Flow
- Attention: Temporal

Take down: 12:15 – 12:45 pm

Saturday Afternoon, May 12

Setup: 2:00 – 2:45 pm
Session: 2:45 – 6:30 pm
Even Authors Present: 3:45 – 4:45 pm
Odd Authors Present: 4:45 – 5:45 pm
Room: Royal Palm 6-8
- Visual memory: Load, grouping, familiarity
- Perceptual organization: Shapes and objects

Room: Orchid Ballroom
- Spatial vision: Models
- Spatial vision: Crowding
- Visual memory: Capacity and resolution I
- Visual memory: Statistics, masking, configuration
- Attention: Capture I

Room: Vista Ballroom
- Attention: Neural mechanisms and models I
- Attention: Spatial I
- Eye movements: Cognition
- Perception and action: Interception

Take down: 6:30 – 7:00 pm

Sunday Morning, May 13

Setup: 7:30 – 8:15 am
Session: 8:15 am – 12:15 pm
Even Authors Present: 9:15 – 10:15 am
Odd Authors Present: 10:15 – 11:15 am
Room: Royal Palm 6-8
- Motion: Biological I
- Development: Lifespan

Room: Orchid Ballroom
- Face perception: Disorders
- Face perception: Models
- Object recognition: Mechanisms and models
- Object recognition: Reading

Room: Vista Ballroom
- Attention: Tracking and shifting
- Attention: Spatial II
- Multisensory processing: Mechanisms and models
- Scene perception: Mechanisms and models

Take down: 12:15 – 12:45 pm

Sunday Afternoon, May 13

Setup: 2:00 – 2:45 pm
Session: 2:45 – 6:30 pm
Even Authors Present: 3:45 – 4:45 pm
Odd Authors Present: 4:45 – 5:45 pm
Room: Royal Palm 6-8
- Face perception: Wholes, parts, configurations, and features
- Motion: Biological II

Room: Orchid Ballroom
- Attention: Neural mechanisms and models II
- Attention: Exogenous and endogenous
- Binocular vision: Rivalry II
- Perceptual learning: Space and time
- Perceptual learning: Sensory plasticity/adaptation

Room: Vista Ballroom
- Visual memory: Capacity and resolution II
- Visual search
- Visual search: Eye movements
- Motion: Neural mechanisms and models

Take down: 6:30 – 7:00 pm

Monday Morning, May 14

Setup: 7:30 – 8:15 am
Session: 8:15 am – 12:15 pm
Even Authors Present: 9:15 – 10:15 am
Odd Authors Present: 10:15 – 11:15 am
Room: Royal Palm 6-8
- Scene perception: Categorization
- Object recognition: Categories

Room: Orchid Ballroom
- Perception and action: Cognitive factors
- Natural image statistics
- Visual memory: Encoding and retrieval
- Color and light: Surfaces and materials

Room: Vista Ballroom
- Perceptual organization: Grouping and segmentation
- 3D perception: Space
- Attention: Features I

Take down: 12:15 – 12:45 pm

Tuesday Morning, May 15

Setup: 7:30 – 8:15 am
Session: 8:15 am – 12:15 pm
Even Authors Present: 9:15 – 10:15 am
Odd Authors Present: 10:15 – 11:15 am
Room: Royal Palm 6-8
- Face perception: Emotion
- Face perception: Experience and learning

Room: Orchid Ballroom
- Eye movements: Pursuit and following
- Eye movements: Perception
- Eye movements: Fixational, models and methods
- Multisensory processing: Visuo-auditory interactions

Room: Vista Ballroom
- 3D perception: Stereopsis, motion, and other cues
- Object recognition: Features and parts
- Scene perception: Spatiotemporal factors
- Perception and action: Reaching and grasping

Take down: 12:15 – 12:45 pm

Tuesday Afternoon, May 15

Setup: 2:00 – 2:45 pm
Session: 2:45 – 6:30 pm
Even Authors Present: 3:45 – 4:45 pm
Odd Authors Present: 4:45 – 5:45 pm
Room: Royal Palm 6-8
- Perceptual learning: Neural mechanisms
- Perceptual learning: Specificity and transfer
- Perceptual learning: Models
- Visual search: Attention

Room: Orchid Ballroom
- Attention: Features II
- Face perception: Neural mechanisms
- 3D perception: Cue combination
- 3D perception: Neural mechanisms and models

Room: Vista Ballroom
- Color and light: Lightness and brightness
- Motion: Phenomena and Illusions
- Eye movements: Saccadic mechanisms

Take down: 6:30 – 7:00 pm

Wednesday Morning, May 16

Setup: 7:30 – 8:15 am
Session: 8:15 am – 12:15 pm
Even Authors Present: 9:15 – 10:15 am
Odd Authors Present: 10:15 – 11:15 am
Room: Royal Palm 6-8
- Perceptual organization: Grouping and wholes
- Perceptual organization: Neural mechanisms and models

Room: Orchid Ballroom
- Multisensory processing: Vision and haptics
- Attention: Divided
- Attention: Capture II
- Development: Neural mechanisms, models and disorders

Take down: 12:15 – 12:45 pm

Talk Schedule

Saturday, May 12

Time	Royal Palm 1-3	Royal Palm 4-5
8:00 – 10:00 am	Color and light: Mechanisms	Visual awareness
10:45 am – 12:30 pm	Scene perception: Mechanisms	Attention: Neural mechanisms and models
2:30 – 4:15 pm	Visual search: Eye movements and models	Object recognition: Mechanisms and models
5:15 – 6:45 pm	3D perception	Perceptual learning: Mechanisms

Sunday, May 13

Time	Royal Palm 1-3	Royal Palm 4-5
8:00 – 9:45 am	Perceptual organization	Eye movements: Remapping
10:45 am – 12:30 pm	Binocular vision	Attention: Tracking
2:30 – 4:15 pm	Spatial vision: Crowding	Perception and action: Interception and control
5:15 – 6:45 pm	Multisensory processing	Decision making and reward

Monday, May 14

Time	Royal Palm 1-3	Royal Palm 4-5
8:00 – 9:45 am	Perceptual learning: Models	Motion: Complex stimuli
10:45 am – 12:30 pm	Face perception: Mechanisms	Development and plasticity

Tuesday, May 15

Time	Royal Palm 1-3	Royal Palm 4-5
8:00 – 9:45 am	Motion: Neural mechanisms and models	Attention: Space, features and objects
10:45 am – 12:30 pm	Color and light: Surfaces and materials	Visual search: Context, working memory, categories
2:30 – 4:30 pm	Visual memory: Models and mechanisms	Object recognition: Categories
5:30 – 7:00 pm	Perception and action: Decisions	Spatial vision: Neural mechanisms

Wednesday, May 16

Time	Royal Palm 1-3	Royal Palm 4-5
8:00 – 9:45 am	Eye movements: Perception and cognition	Binocular rivalry and figure/ground competition
10:45 am – 12:45 pm	Visual memory: Neural mechanisms	Face perception: Development and experience

Speaker Information

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

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

Keynote Address

Ranulfo Romo, M.D., D.Sc.

Professor of Neuroscience at the Institute of Cellular Physiology

National Autonomous University of Mexico (UNAM)

Ranulfo Romo is Professor of Neuroscience at the Institute of Cellular Physiology of the National Autonomous University of Mexico (UNAM). He received his M.D. degree from UNAM and a D.Sc. in the field of neuroscience from the University of Paris in France. His postdoctoral work was done with Wolfram Schultz at the University of Fribourg in Switzerland and Vernon Mountcastle at The Johns Hopkins University in Baltimore. Romo has received the Demuth Prize in Neuroscience from the Demuth Foundation, the National Prize on Sciences and Arts from the Mexican government and the Prize in Basic Medical Sciences from the Academy of Sciences for the Developing World (TWAS). He is a member of the Mexican Academy of Sciences, the Neurosciences Research Program headed by Nobel Prize Gerald Edelman and a Foreign Associate of the US National Academy of Sciences. Since 1991 Romo is a Howard Hughes International Research Scholar and recently was elected member of El Colegio Nacional.

Conversion of sensory signals into perceptual decisions

Saturday, May 12, 7:00 - 8:15 pm
Royal Palm 4-5

Most perceptual tasks require sequential steps to be carried out. This must be the case, for example, when subjects discriminate the difference in frequency between two mechanical vibrations applied sequentially to their fingertips. This perceptual task can be understood as a chain of neural operations: encoding the two consecutive stimulus frequencies, maintaining the first stimulus in working memory, comparing the second stimulus to the memory trace left by the first stimulus, and communicating the result of the comparison to the motor apparatus. Where and how in the brain are these cognitive operations executed? We addressed this problem by recording single neurons from several cortical areas while trained monkeys executed the vibrotactile discrimination task. We found that primary somatosensory cortex (S1) drives higher cortical areas where past and current sensory information are combined, such that a comparison of the two evolves into a decision. Consistent with this result, direct activation of the S1 can trigger quantifiable percepts in this task. These findings provide a fairly complete panorama of the neural dynamics that underlies the transformation of sensory information into an action and emphasize the importance of studying multiple cortical areas during the same behavioral task.

Elsevier/VSS Young Investigator Award

Geoffrey F. Woodman

Vanderbilt University, Vanderbilt Vision Research Center, Center for Cognitive and Integrative Neuroscience

Dr. Geoffrey F. Woodman is the 2012 winner of the Elsevier/VSS Young Investigator Award. Dr. Woodman is Assistant Professor in the Department of Psychology and Vanderbilt Vision Research Center at Vanderbilt University, in Nashville, Tennessee. Geoff's important contributions to vision science range from fundamental insights into human visual cognition to the development of novel electrophysiological techniques. His uniquely integrated approach to comparative electrophysiology has demonstrated homologies between man and monkey in the ERP components underlying attention and early visual processes, enabling new understanding of their neural bases. Geoff has also made key breakthroughs in the understanding of visual working memory, placing it at the center of the interaction between high-level cognition and perception. In the ten years since gaining his PhD, Geoff has been exceptionally productive, moving forward the core disciplines of visual perception, attention and memory, through his many insightful and high-impact papers. His breadth, technical versatility and innovation, particularly in linking human and non-human-primate studies, represent true excellence in vision sciences research.

Attention, memory, and visual cognition viewed through the lens of electrophysiology

Sunday, May 13, 7:00 pm, Royal Palm 4-5

How do we find our children on a crowded playground, our keys in the kitchen, or hazards in the roadway? This talk will begin by discussing how measurements of electrical potentials from the brain offer a lens through which to observe the processing of such complex scenes unfold. For example, I will discuss our work showing that when humans search for targets in cluttered scenes, we can directly measure the target representations maintained in visual working memory and what information is selected by attention. Moreover, when the searched-for target is the same across a handful of trials we can watch these attentional templates in working memory handed off to long-term memory. Next, I will discuss our recent work demonstrating that redundant target representations in working and long-term memory appear to underlie our ability to exert enhanced cognitive control over visual cognition. Finally, I will discuss our work focused on understanding the nature of these electrophysiological tools. In studies with nonhuman primates we have the ability to record event-related potentials from outside the brain, like we do with humans, but also activity inside the brain revealing the neural network generating these critical indices of attention, memory, and a host of other cognitive processes.

Save The Date

VSS 2013

May 10-15, 2013

Waldorf Astoria, Naples, Florida

VSS 2014

May 16-21, 2014

Tradewinds Island Resorts, St. Pete's Beach, Florida

Funding Workshops

NSF Grantsmanship Workshop

Friday, May 11, 12:00 – 1:00 pm, Acacia 4-6

Organizer: Lawrence R. Gottlob

Dr. Gottlob will cover three main topic areas: 1) how funding decisions are made at NSF, 2) how proposals are evaluated, and 3) how to maximize your probability of success.

Workshop open to all VSS attendees. No sign-up required.

Lawrence R. Gottlob

NIH Grantsmanship Workshop

Friday, May 11, 5:45 – 6:45 pm, Royal Palm Ballroom 1-3

Organizers: Michael Steinmetz and Cheri Wiggs

Dr. Michael Steinmetz and Dr. Cheri Wiggs will provide an overview of NIH and the processes involved in the submission, review and funding of research grants. Topics will include vision-related study sections, review criteria, NEI funding programs, tips on grantsmanship, and special opportunities for new and early stage investigators.

Workshop open to all VSS attendees. No sign-up required.

Michael Steinmetz

Cheri Wiggs

Club Vision Dance Party

Tuesday, May 15, 10:00 pm – 2:00 am, Vista Ballroom and Sunset Deck

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

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

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

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

Satellite Events

Workshop on Mathematical and Computational Modeling

Thursday, May 10, 9 am -12 pm and 4-7 pm, and
Friday, May 11, 9 am - 12 pm, Edgewater Beach Hotel (Hibiscus I and II)

Organizers: Jeffrey Mulligan and Zygmunt Pizlo

Workshop to discuss and evaluate modeling techniques applied to current problems in vision. Registration is required. See: http://ace.arc.nasa.gov/modvis/

PsychoPy Workshop

Thursday, May, 10, 12:00 - 5:00 pm, Banyan 1

Organizer: Jonathan Peirce

A detailed half-day workshop on how to use PsychoPy. Mixture of demonstrations and periods of users creating their own experiment in the software. Time spent half on graphical interface and half on the scripting interface.

More information can be found at http://www.psychopy.org/resources/resources.html. Registration is required.

Linking Brain Development and Visual Function: A tribute to the Legacy of Davida Teller

Friday, May, 11, 10:00 am - 12:00 pm, Royal Ballroom 4-5

Organizers: Lynne Kiorpes and Karen Dobkins

The session will be a tribute to the work of Davida Teller and highlight her scientific contributions to progress in understanding the development of visual function. We will begin the session with 10 minutes devoted to highlighting Davida's scientific legacy and end the session with 10 minutes devoted to her influence as a woman in vision science, and stellar mentor of the next generation of women in vision science.

Publishing, Open Access, and Open Science

Friday, May, 11, 11:00 am - 12:00 pm, Royal Ballroom 1-3

Organizer: Alex Holcombe

We all hope for an open system of science in which:

1. Journal articles are inexpensive or free.
2. Peer review is fair and efficient.
3. Experiments can be fully replicated by anyone.

Achieving these goals is now more feasible than ever, but most publishers, journals, and researchers have made few changes to the way they do business. This workshop will include discussion of possible solutions.

Individual Differences in Vision Brown Bag Lunch

Saturday, May, 12, 12:45 - 2:00 pm, Banyan 1-2

Organizer: Jeremy Wilmer

Gathering of those interested in individual differences in vision. Bring your lunch and share your interests. Trade tips from the trenches on studying individual differences. Topics may include linking behavior to brain and genes, associating and dissociating functions, exploring plasticity and trainability, isolating correlates of extraordinarily good or poor visual ability, or developing tests for applied and clinical use.

8th Annual Best Illusion of the Year Contest

Monday, May 14, 5:00 – 7:00 pm (Doors open at 4:30 pm)
Philharmonic Center for the Arts
(Less than a 10 minute walk from the Waldorf Astoria)

Organizer: Susana Martinez-Conde, Neural Correlate Society

The Best Illusion of the Year Contest is a celebration of the ingenuity and creativity of the world's premier illusion creators. Contestants from all around the world have submitted novel illusions (unpublished, or published no earlier than 2010), and an international panel of judges has narrowed them to the TOP TEN. At the Contest Gala in the Naples Philharmonic Center for the Arts, the top ten illusionists will present their creations and the attendees of the event (that means YOU!) will vote to pick the TOP THREE WINNERS!

Mime-matics, an incredible illusory mime group, trained by Marcel Marceau, will entertain you as the votes are counted! Everybody is invited and families are welcome! For more information, see http://illusioncontest.neuralcorrelate.com.

Stuart Anstis Mid-Career Intervention

Wednesday, May, 16, 3:00 - 6:00 pm, Orchid Ballroom 3-4
Dinner & Game, 7:30 pm - 12:00 am, Orchid Ballroom 1

Organizers: Debbie Giaschi, Patrick Cavanagh, Peter Thompson, Brian Rogers, Don MacLeod, George Mather, Christopher Tyler, Alan Gilchrist

Following the end of the regular VSS meetings, 3 hours of talks and science workshop based on Stuart Anstis's contributions to research in vision and perception.

Elsevier/ *Vision Research* Travel Awards

VSS congratulates this year's recipients of the 2012 Elsevier/ *Vision Research* Travel Awards.

Baptiste Caziot
SUNY College of Optometry
Advisor: Benjamin Backus

Kait Clark
Duke University
Advisor: Stephen R. Mitroff

Michael Cohen
Harvard University
Advisors: George Alvarez, Ken Nakayama

Emily Cooper
Helen Wills Neuroscience Institute, University of California, Berkeley
Advisor: Martin Banks

Michele Cox
Department of Psychology, Vanderbilt University
Advisor: Alexander Maier

Katharina Dobs
Max Planck Institute for Biological Cybernetics
Advisors: Isabelle Bülthoff, Johannes Schultz

Mina Gheiratmand
McGill Vision Research, McGill University
Advisor: Kathy T. Mullen

Hila Harris
Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel
Advisor: Dov Sagi

Will Harrison
School of Psychology, The University of Queensland
Advisors: Jason Mattingley, Roger Remington

Danique Jeurissen
Netherlands Institute for Neuroscience
Advisor: Pieter Roelfsema

Tim Kietzmann
Institute of Cognitive Science, University of Osnabrück; and Vanderbilt Vision Research Center, Vanderbilt University
Advisors: Peter König, Frank Tong

Elysse Kompaniez
University of Nevada, Reno
Advisor: Michael Webster

Alan Lee
Department of Psychology, University of California, Los Angeles
Advisor: Hongjing Lu

Zhicheng Lin
University of Minnesota
Advisor: Sheng He

Caitlin Mullin
York University
Advisor: Jennifer Steeves

Silvia Pagano
Center for Mind/Brain Sciences, University of Trento, Italy
Advisor: Veronica Mazza

Dobromir Rahnev
Columbia University, Department of Psychology
Advisor: Hakwan Lau

Sameer Saproo
University of California, San Diego
Advisor: John Serences

Ricky Van Yip Tso
University of Hong Kong
Advisor: Janet Hsiao

Haoran Xu
Institute of Neuroscience, Shanghai Institutes for Biological, Chinese Academy of Sciences
Advisor: Haidong Lu

Student Events

VSS Workshop for PhD Students and Post-docs: Publish or Perish?

Sunday, May 13, 1:00 - 2:00 pm, Banyan 1-2

Chair: Jeremy Wolfe
Discussants: Cathleen Moore, Eli Brenner, and Li Zhaoping

Publications are the key to success in science. How important is it to be the first author? Should I go for one big paper or two separate, smaller publications? What is the importance of bibliometric indices like the h-factor? Are the reviewers the enemy or my best friends in the publication process?

These questions will be addressed in a one-hour session headed by Dr. Jeremy Wolfe. Dr. Wolfe will give a brief introduction, which will be followed by audience questions and discussion. Three panel members will participate, who are experienced editors in all fields of vision science.

Jeremy Wolfe

Cathleen Moore

Eli Brenner

Li Zhaoping

VSS Career Event for PhD Students and Post-docs: What's Next!

Sunday, May 13, 1:00 - 2:00 pm, Acacia 4-6

Chairs: Adriane Seiffert and Jason Droll
Discussants: Ione Fine, George Alvarez, and David Burr

What will be your next step in your life? Will you pursue an academic career as a basic scientist at a university? Or do you plan on working in business? Maybe you want to combine both! And how do you combine your ambition with a partner and a family? Do women have the same opportunities as men?

These burning questions will be addressed in a one hour session with short introductions by Drs. Adriane Seiffert (Vanderbilt) and Jason Droll (MEA Forensic). After these introductions there will be a lively discussion with the audience and a small panel with Ione Fine, David Burr and George Alvarez.

Adriane Seiffert

Jason Droll

Ione Fine

George Alvarez

David Burr

Open House for Graduate Students and Postdoctoral Fellows

Tuesday, May 15, 9:30 - 10:30 pm, Acacia 4-6

Students and postdocs comprise more than half of the attendees at VSS. The Open House is an opportunity for VSS students and postdocs to have an informal discussion with members of the VSS Board of Directors. The idea for the Student workshops came out of the 2010 Open House.

Last year, more than 60 student and postdoc members attended. We look forward to another informative exchange this year. The Open House immediately precedes Club Vision.

The 2012 VSS Public Lecture

Terri Lewis

McMaster University in Hamilton, Ontario

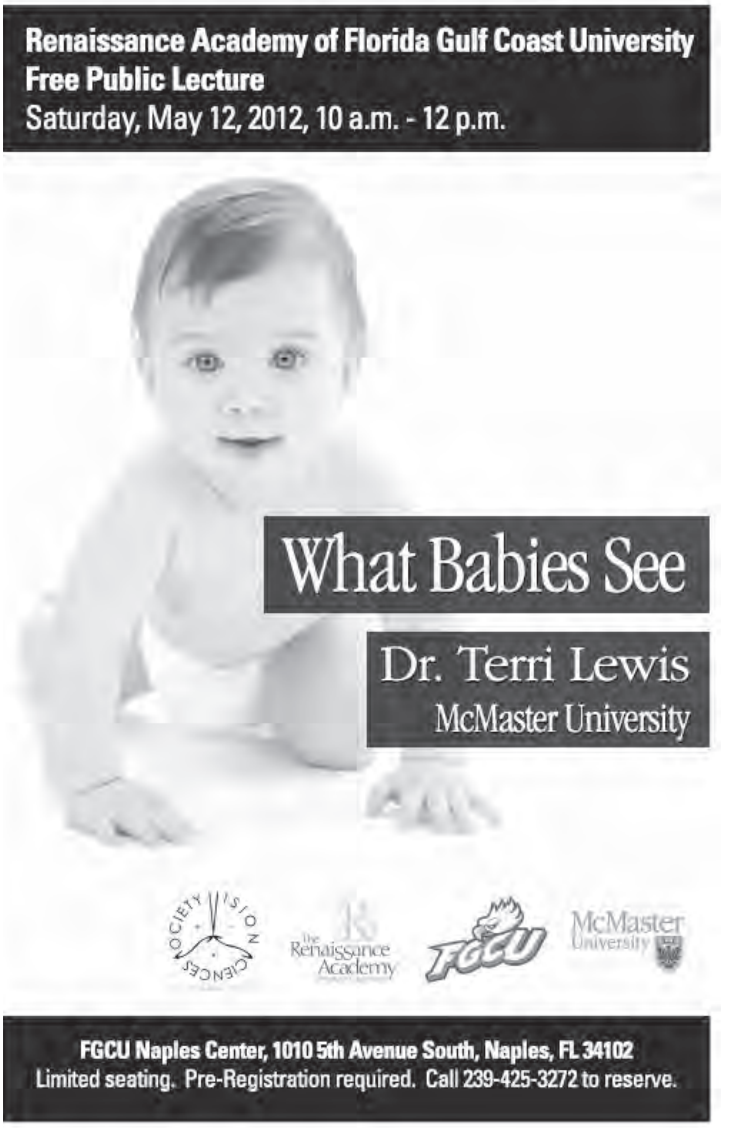
Terri Lewis is a professor of Psychology, Neuroscience & Behaviour at McMaster University in Hamilton, Ontario, with appointments in Ophthalmology at the University of Toronto and at The Hospital for Sick Children in Toronto. Dr. Lewis is a world-renowned expert in babies' vision, and is part of an international think tank on new approaches to improving poor vision in adults. She received her BA at the University of Toronto and her PhD at McMaster University, and has been invited to lecture about her work around the world. She has more than 80 publications in peer-reviewed journals and more than 200 presentations at scientific meetings. She is known for her lively and clear presentation style, and is frequently featured in the international media, including The New York Times and PBS television.

What Babies See

Saturday, May 12, 10:00 am – 12:00 pm,
Renaissance Academy of Florida Gulf Coast University

When a newborn baby looks at her mother's or grandmother's face for the first time, what does she see? For a long time, people assumed that babies were blind at birth, seeing nothing more than vague shadows. But that assumption was based only on the knowledge that the newborn's eyes and brain are very immature. In fact, babies can see much more than you might think. This lecture will describe how we can "ask" babies what they see, and how, by creating special "eye charts" for babies, we have discovered the finest detail that they can see, how well they can see color and motion, and even the age at which they might recognize their parents (and grandparents). I will dispel the myths, describe the facts, and uncover the surprises surrounding the amazing visual world of babies.

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.



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

Attendee Resources

Abstract Book

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

Airport Transportation

VSS has arranged for discounted transportation from Fort Meyers airport to the meeting hotels. Service will be provided by Naples Transportation, Tours & Event Planning (NTT&EP) and is available beginning on Tuesday, May 8 through Friday, May 18.

The one-way VSS fare is $30/person each way plus a 15% driver gratuity. The airport shuttle will be available within the hours of 9:00 am and 9:00 pm on arrival days and within the hours of 4:00 am and 4:00 pm on departure days. Roundtrip purchase is not required. Tickets must be purchased a minimum of 48 hours in advance. Individuals from VSS 2012 will be grouped together for transportation.

Transportation drop-offs (and pick-ups) will include The Waldorf Astoria Naples, The Edgewater Beach Hotel, the Hilton Naples, the Staybridge Hotel, and the Park Shore Resort.

To contact NTT&EP, call 239.262.3006.

ATM

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

Baggage Check

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

Bike Rentals

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

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

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

Business Center

The Business Center is located in the Orchid Foyer.

Child Care

The Waldorf Astoria invites children between the ages of 4 and 14 to experience arts and crafts, sports, water activities and fun-filled games amidst the resort's beautiful natural setting. 1/2 day, full-day and extended day sessions are available.

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

Reservations can be made by calling Ali at the Waldorf Kids Club at 239.253.1207.

VSS recommends that you make reservatinos 24 hours in advance.

Morning Session: 8:15 am – 1:00 pm

Morning session includes a trip through the winding mangrove forest for a visit to the secluded beach, a variety of beach activities, a tasty treat, and then returning to the Kids Club for lunch and a choice of computer games. Cost: $50 per child

Afternoon Session: 1:00 – 4:30 pm

Afternoon session includes swimming and activities at the Mangrove Mountain Pool, arts and crafts, board games and a tasty treat. (bring swimsuits for the afternoon session)
Cost: $45 per child

Full Day: 8:15 am – 4:30 pm

Cost is $80 per child.

Extended Day: 8:15 am – 6:00 pm

Cost: $170 per child

Kids Night Out: 6:00 – 9:00 pm

Kids Night Out offers a themed evening party for kids 4 - 14 including dinner, board games, video games, activities and a movie.
Cost: $60 a child

Kids Club is available on the following days:

Friday, May 11

Afternoon session, 1:00 – 4:30 pm
Kids Night Out, 6:00 – 9:00 pm
Note: The Evening Poster Session and Reception is 6:45 - 9:30 pm

Saturday, May 12

Morning session, 8:15 am – 1:00 pm
Afternoon session, 1:00 – 4:30 pm
Full Day, 8:15 am – 4:30 pm
Extended Day, 8:15 am – 6:00 pm
Kids Night Out, 6:00 – 9:00 pm

Note: The Keynote Address is 7:00 - 8:15 pm

Sunday, May 13

Morning session, 8:15 am – 1:00 pm
Afternoon session, 1:00 – 4:30 pm
Full Day, 8:15 am – 4:30 pm
Extended Day, 8:15 am – 6:00 pm

Monday, May 14

Morning session, 8:15 am – 1:00 pm

Tuesday, May 15

Morning session, 8:15 am – 1:00 pm
Afternoon session, 1:00 – 4:30 pm
Full Day, 8:15 am – 4:30 pm
Extended Day, 8:15 am – 6:00 pm

Wednesday, May 16

Morning session, 8:15 am – 1:00 pm

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

Copying and Printing

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

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

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

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

Duplication/Recording

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

Fitness Center

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

Food Service/Catering

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

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

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

VSS Marketplace

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

Open Daily 10:00 am - 3:00 pm

Spressi

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

Paradise Grill

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

Palm Terrace Pool Bar & Grill

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

Aura Restaurant

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

Open 7:00 – 11:00 am daily for breakfast (weekends until 12:00 pm) $15 breakfast buffet offered daily.

Open 12:00 – 3:00 pm daily for lunch.

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

Aura Bar

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

Guests

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

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

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

Internet Access

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

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

If you did not bring your own computer, a limited number of laptop computers with free Internet access are available for your use in the Cyber Vision Internet Café located in the Seagrape room on the Ballroom level. A printer is also available in the Seagrape meeting room.

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

Lost and Found

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

Message Center

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

Parking

Complimentary self-parking is available inside the garage of the Waldorf Astoria Naples. Turn right off of the main entrance driveway, then look for the parking garage entrance on your left. Overflow parking is available on Seagate Drive.

Pool & Beach

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

Shipping

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

VSS Trolley Shuttle

An evening trolley will run between the Waldorf Astoria Naples and downtown Naples (with several stops in between). The shuttle is complimentary to VSS attendees and guests, and will run approximately every 30 minutes from Saturday through Tuesday. The shuttle will also run on Monday afternoon. A schedule and map can be found in your tote bag or you can pick up a copy at the Registration Desk.

How to Contact Us

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

Exhibitors

VSS recognizes the following companies who are exhibiting at VSS 2012. Thank you for your participation and support.

Exhibit Hours

Friday, May 11, 6:30 – 9:30 pm
Saturday, May 12, 8:15 am – 6:30 pm
Sunday, May 13, 8:15 am – 6:30 pm
Monday, May 14, 8:15 am – 12:15 pm

All exhibits are located in the Orchid and Acacia Foyers.

3dMD

Booth 10

With more than 1,400 3D & 4D cameras supplied worldwide, 3dMD is the most widely used 3D camera for research, computational vision, recognition and clinical documentation and is now supporting large scale subject enrollment facial recognition and biometric projects collecting high-precision anatomical information in the field. Featuring an ultra-fast capture speed of 1.5 milliseconds and anatomical precision better than 200 microns, 3dMD systems can capture hundreds of subjects in a single day without failure - eliminating errors caused by subject motion. 3dMD's modular approach means systems are portable and easily scaled for optimum face, head and full body digitization. For advanced biometric research, 3dMD also supplies 60fps 4D systems.

Arrington Research, Inc.

Booth 7

220 Hz ViewPoint EyeTracker® systems from Arrington Research are now shipping. All systems include a Software Developers Kit (SDK), real-time Ethernet communication, built-in stimulus presentation, post-hoc data analysis tools, a MATLAB toolbox, many other 3rd Party product interfaces and examples. Great for both human and non-human primates and can be provided with Analog and TTL communication to ensure seamless communication with your existing equipment. ViewPoint EyeTracker® systems are the easiest and best value available and include light-weight head mounted, HMD and head fixed systems. Arrington Research has been providing reliable affordable eye trackersfor the research market worldwide for almost 15 years. Please visit www.ArringtonResearch.com for more details.

The Black Box ToolKit, Ltd.

Booth 8

As you'll be aware many paradigms are increasingly reliant on computer-based administration. Often they make use of complex multimodal stimuli, require precise control and may interact with third party hardware, e.g. fMRI, EEG, eye trackers.

Modern computers together with commercial experiment generators and bespoke software help us design and run studies with ease. However, few have independently verified that timing is as accurate as the units themselves suggest. There is a subtle difference between precision and accuracy! If you are working in units of a millisecond for presentation, synchronization or response timing you should consider some form of timing self-validation. We hope this will become the accepted practice within leading labs, be requested by academic publications and that the independent tool of choice will be the Black Box Toolkit.

Currently self-validation can only be done quickly and easily with a Black Box ToolKit. This acts as a programmable virtual human that can detect and respond to stimulus events with sub-millisecond accuracy. It enables you, the researcher, to check the accuracy of your own paradigm whilst running in-situ on your own equipment with no modification needed. Timing error means that your study is not working as you intended and that your results might be spurious. Are you putting your reputation at risk?

For more information on the issues involved feel free to talk to us during Vision Sciences or visit www.blackbox-toolkit.com.

Cambridge Research Systems

Booth 13

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

Bits# (Bits Sharp) unites trusted CRS hardware features for high resolution calibrated stimulus display and synchronous data collection with community supported tools like Psychtoolbox-3 and PsychoPy. If you have a ViSaGe of any vintage, talk to us about how you can convert your device to the Bits# platform.

BOLDscreen is our high brightness, high contrast, high resolution, MRI-compatible LCD monitor. The monitor is designed by CRS for scientific applications: it has a programmable LED backlight and a lag-free light output which is synchronous to the video input. The equipment is portable, easy to setup right at the rear of the bore and produces no interference in 3T functional sequences.

New for 2012 is the MRI-compatible BOLDscreen 3D, which uses the latest passive FPR technology to display dichoptic stimuli for stereoscopic and binocular vision experiments.

We also provide MRI-compatible eye tracking, a range of response devices (e.g. button boxes and joysticks), plus accessories like MRI-compatible spectacles.

To find out more, talk to Tom Robson during VSS and visit our website: www.toolsforvisionscience.com.

Eyetellect

Booth 14

Eyetellect's GazeTracker software excels at simplifying analysis of images, web pages and video clips. Our software makes it easy to analyze how people interact with a computer by tracking everything that the person does; all mouse movements, clicks, keystrokes, web pages, and software applications are broken out and analyzed in conjunction with the eye-tracking, EEG and other biometric data. Our unique features, such as Automated Regions of Interest (we can automatically define ROIs on any web element you choose), Conditional ROIs (fork stats based on how the test subject behaves), and simple, easy to define Moving ROIs (just trace the path of an object), can save you hundreds of hours of analysis. No coding required! With GazeTracker, we let you focus on the meaning of your study results not the process of getting to them.

The MIT Press

Booth 1

Please come by The MIT Press booth to see our newest and classic vision titles and receive a 30% discount on all titles purchased.

Oxford University Press

Booth 3

Oxford University Press is a department of the University of Oxford, and our worldwide publishing furthers the University's objectives of excellence in scholarship, research, and education. OUP USA is committed to providing the most accessible, up-to-date, and authoritative information to the scientific community from the most distinguished thought leaders in their respective disciplines. Please visit our booth for a 20% discount on new and classic vision titles, and to browse all of our books on display. www.oup.com/us

Sensics, Inc.

Booth 4

Sensics offers lightweight professional head mounted Displays (HMDs) that combine panoramic field of view, high resolution and comfort. The unique Sensics technology delivers stunning image quality, unmatched immersion and realism. Commonly-used Sensics HMDs include a single OLED based 60/70 degree Field of View (FOV) device with 1280x1024 resolution and a 120x45 degree FOV device with 1920x1080 resolution. Higher-end models are also available. Sensics also offers low latency wireless HMDs as well as Augmented Reality HMDs. The level of immersion, field of view and resolution offered by Sensics products have made them the research tool of choice in leading universities worldwide.

SensoMotoric Instruments, Inc.

Booth 5

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

Sinauer Associates, Inc., Publishers

Booth 6

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

SR Research Ltd.

Booth 2

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

SR Research welcomes our user base to VSS 2012 and wishes them a highly successful meeting! Drop by our booth to discuss new developments, and please visit http://www.sr-research.com for details on our eye tracking hardware and software product range, including the latest Experiment Builder software under both Windows and MacOS X!

Tobii Technology, Inc.

Booth 11

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

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

VPixx Technologies Inc.

Booth 15

VPixx Technologies welcomes the vision community to VSS 2012, and is excited to demonstrate our new VIEWPixx/3D LCD display. The VIEWPixx/3D has been designed specifically for the generation of stereoscopic and other dynamic visual stimuli. It has a unique combination of features including ultra-fast pixel response, high bit depth, 1920x1080 resolution, 120Hz refresh rate, scanning backlight, and deterministic display timing. In addition, the VIEWPixx/3D includes an embedded data acquisition system, permitting microsecond synchronization between visual stimulation and other types of I/O including audio stimulation, button box input, TTL trigger output, analog acquisition, LCD stereo goggles, and more! Visit our booth to see the VIEWPixx/3D, the DATAPixx, and our new 3D projection system! VPixx Technologies will be hosting the fourth annual response-time showdown during demo night this year. The demo is a fun 3D game in which you must press a red or green button as fast as you can when the button jumps out and you hear a simultaneous beep. Do it well, and win a prize!

WorldViz

Booth 9

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

Abstract Numbering System

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

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

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

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

10th Annual VSS Dinner and Demo

Monday, May 14, 7:00 – 10:00 pm

Buffet Dinner: 7:00 – 9:00 pm
Vista Ballroom, Sunset & Vista Decks, and Mangrove Pool

Demos: 7:30 – 10:00 pm
Royal Palm 4-5, Acacia Meeting Rooms, Cypress

Please join us Monday evening for the 10th Annual VSS Demo Night, a spectacular night of imaginative demos solicited from VSS members. The demos highlight the important role of visual displays in vision research and education. This year, Gideon Caplovitz, Arthur Shapiro, Dejan Todorovic, and Maryam Vaziri Pashkam are co-curators for Demo Night.

Exciting News: Two prizes will be given to the best demos, sponsored by the journal *Perception*. Please don't forget to find Pete Thompson, Tim Meese, or Amye Kenall for a ballot and vote.

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

Some exhibitors have also prepared special demos for Demo Night.

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

Guest prices

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

The Looking Glass Motion Effect

Kenneth Brecher, Boston University

A new subjective motion effect utilizing recently designed fully vectorized color images will be displayed. This effect is based on one of 9 screen prints originally created in 1966 by British artist Peter Sedgley that he called the ''Looking Glass Suite".

The phantom spokes illusion

Jeffrey Mulligan, NASA Ames Research Center

When a regular array of small bright dots is rotated in the image plane, dark ephemeral spoke-like bands are seen, radiating from the instantaneous center of rotation. The effect is easily observed with a common plastic diffusing sheet for florescent lighting.

Spin the wheel and lose the spatial relationships.

Alex Holcombe, University of Sydney

With arrays of colored discs moving together, at very slow speeds it is easy to see which are adjacent. Up the speed to discover that at which you no longer can perceive the spatial relationship among the discs. Is this speed the same as your attentional tracking speed limit?

The Money Business Illusion

Anthony S. Barnhart, Arizona State University

The Money Business Illusion demonstrates how time-tested techniques employed in stage entertainment can be infused with standard psychophysical tasks from the laboratory to create ecologically valid stimuli for empirical research.

The Spinning Chair of Motion Perception

Kyle Gagnon, Michael Geuss, Jonathan Butner, Tom Malloy, Jeanine Stefanucci, University of Utah

We present a visual display of a flow of black and white dots. The dots appear to flow like a wave in one direction. After spinning in a chair in order to alter natural eye movements, we show that the dots appear to flow in the opposite direction. We suggest that spinning in the chair changes the natural frequency of eye movements, changing the coupling ratio between the eye movements and the retinal image, ultimately changing the direction and rate of perceived motion.

The Anorthoscope and Kinetic Anamorphosis

Patrick Mor, Gideon Paul Caplovitz, University of Nevada, Reno

Here we bring to life this classic apparatus and perceptual effect developed by Joseph Plateau in the 1830s.

Continuous Transilience Induced Blindness

Seiichiro Naito, Makoto Katsumura & Ryo Shohara, Human and Information Science, Tokai University

We demonstrate the Continuous Transilience Induced Blindness, an enhanced variant of Motion-Induced Blindness (MIB).

Efficiency of motion perception from dynamic stereo cues

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

Observers will be able to measure how efficient they are (compared to an optimal observer) at discriminating global rotation direction of a deforming disparity-defined 3D shape when the local motions are entirely in depth (orthogonal to rotation), plus when local motions are in the direction opposite to global shape rotation.

Beuchet Chair

Peter Thompson, Rob Stone, University of York

Make your friends look small - just sit them on the Beuchet chair. The demonstration is akin to the Ames room but much more compact. And our version is portable and ideal for classroom demonstrations.

Eyeglass Reversal

Songjoo Oh, Department of Psychology, Seoul National University

People are familiar with stimuli such as the Necker Cube that lead to perceptual reversals. Unfortunately, constructing physical versions of such stimuli can be challenging. I will show that one's own eyeglasses are a very convenient object for experiencing perceptual reversals. In this demonstration, a pair of regular eyeglasses that are viewed inwardly are perceived as placed outwardly. Please bring your own eyeglasses and enjoy the fun!

The Magic Wand Illusion

Christopher Tyler, Smith-Kettlewell

The dynamic wand effect is the revelation of an image that is the same color as its background through wiping an object underneath it. It is a strictly dynamic illusion that requires the integration of the revealed contours over time in order to resolve the integrated image structure.

A display blank triggers a reversal of KDE

Masahiro Ishii, Sapporo City University

When a set of randomly positioned dots moves on a screen with motion paths that are projections of rigid 3D motion, we perceive an impression of depth. The object appears to reverse in depth at odd intervals, regardless of the consciousness. We demonstrate that a presentation blank triggers a reversal.

Key object feature dimensions modulate texture filling-in

Chao Chaang Mao, National Yang-Ming University, Institute of Neuroscience and Brain Research Center, Taipei, Taiwan

In this demo, we show that filling-in is faster when the background and target textures share the same key dimension features ('same' condition), versus when they have opposing features ('different').

'Pub Vision'

Peter Thompson, Rob Stone, University of York

Simple hands-on demonstrations that you can do in the pub.

Stereopsis with one eye and a pencil

Dhanraj Vishwanath, University of St. Andrews

The impression of stereopsis is generated by viewing a photograph with one eye while fixating a pencil tip.

Controlling material appearance with spatial frequency manipulations

Martin Giesel, Qasim Zaidi, Graduate Center for Vision Research, SUNY College of Optometry

Observers will be able to interactively manipulate roughness, volume and thickness of fabrics and other materials by changing the energy in bands of image frequencies. They will also see how adaptation to noise filtered into specific spatial frequency bands changes the perception of corresponding material properties.

Carrots or Cheetos: Material appearance under monochromatic light

Bei Xiao, Hanhan Wei, Xiaodan Jia, Edward Adelson, Brain and Cognitive Sciences, Massachusetts Institute of Technology

In this demo, we display translucent objects under a monochromatic light source (low-pressure sodium light) or a broad-band light source. We show that a translucent object, such as a bar of soap, looks more opaque under monochromatic light than under broad-band light. In addition, we explore how material perception of various objects is distorted under monochromatic light.

An Aftereffect Based on Texture Element Ratios

Anna Kosovicheva, Benjamin Wolfe, University of California, Berkeley

We present an aftereffect based on adaptation to the ratio of two different types of texture elements. We show the effect for textures defined by color, luminance, motion, and simple figures.

General object constancy

Yury Petrov, Jiehui Qian, Northeastern University

We will present simultaneous illusions of size, contrast, and depth created by an optic flow. The illusions manifest what we call the phenomenon of general object constancy: brain accounts for viewing distance effects in order to create a perception of the object's true appearance, including its size, contrast, and depth profile.

Attentional influences on bi-stable afterimages

Eric Reavis, Peter J. Kohler, Peter U. Tse, Dartmouth College

Attention constantly shapes our perceptual experience. See this for yourself, as you use your attention to modulate your perception of bistable afterimages.

Touching and interpreting hallucinated patterns in dynamic visual noise

Justin Jungé, Jordan Suchow, George Alvarez, Harvard University

We present a display of dynamic colorful noise that reliably produces several illusions. The display appears to interact directly with objects held and moved in front of it, across a range of stimulus properties and viewing distances (MacKay, 1965). Even without partial occlusion, the display triggers multiple interpretations that persist for long durations and which can be influenced by attention and intention.

Lack of volumetric stereo neon spreading and top-down defeating of stereo

Eric Altschuler (New Jersey Medical School), Abigail Huang(NJMS), Elizabeth Seckel (UCSD), Alice Hon (NJMS), Xintong Li (NJMS), VS Ramachandran (UCSD)

Using stereograms defined by illusory contours we show that there is no volumetric neon spreading in stereo even though stereo illusory contours and surfaces are seen. Furthermore the stereo can be subjectively destroyed by top-down imagery; a stereo illusory pyramid can be made to lose its apex simply by seeing the whole pyramid through illusory holes (''swiss cheese'').

Motion from Structure in Stereograms

Benjamin Backus, Graduate Center for Vision Research, SUNY College of Optometry

You've probably noticed this yourself: in a stereogram, objects with different binocular disparities appear to move when you move your head. Near objects move with your head, as expected from geometry. Come to our talk and then explore details of this phenomenon yourself at the demo.

Diamonds Move Forever

Oliver Flynn, Arthur Shapiro, American University

A stationary diamond appears to move continuously in a single direction. The luminance levels of the stationary background and the stationary edges that surround the diamond modulate in time. The relative phase of modulation creates motion information.

Color wagon wheels

William Kistler, Arthur Shapiro, American University

We show a series of illusions that arise when colors are added to the wagon wheel illusion. The color wagon wheel demonstrates methods for separating different motion responses, and how these responses depend on the contrast between objects, and objects and background.

Explaining Brightness illusions with Adobe Photoshop's high pass filter

Erica Dixon, Arthur Shapiro, American University

In brightness phenomena physically identical patches have different brightness levels depending on their respective backgrounds. Here I will use Adobe Photoshop's high pass filter to demonstrate that most of the differences observed in brightness illusions correspond to physical properties of the image once low spatial frequency content is removed.

Your Mind's Eye

Al Seckel, Elizabeth Seckel, UC San Diego

Your Mind's Eye is an educational application featuring perceptual illusions for both mobile and tablet platforms. Come control critical parameters thereby revealing the hidden constraints of the perceptual system in a dramatic and informative way. The application is augmented by movies of perceptual effects, both artistic and scientific. Each illusion is accompanied with explanatory text. Ideal for researchers and teachers.

Consumer Priced Immersive Virtual Reality with Kinect and Sony 3D Goggles

Michael Schaletzki, Matthias Pusch, Paul Elliott, WorldViz

Experience a new high-quality consumer priced immersive standalone VR system. Based on the WorldViz Vizard VR software, the system comes with vivid OLED display technology, 1280x720 resolution per eye, 52 degrees field-of-view, Kinect and inertial body tracking, rapid app development tools, a fun app starter kit, support & training.

VPixx 3D Survivor

Peter April, VPixx

A demonstration of 3D video projection, adapted from our own response-time game from past years. We will be handing out passive 3D glasses as people enter the room, and will be giving away prizes to the players with the fastest reaction times.

A Nomadic HMD Experience Without Carrying a Computer

Yuval Boger, Meredith Zanelotti, Sensics

We will demonstrate a battery-operated, wireless high-def HMD together with in-band head tracking driven.

Member-Initiated Symposia

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

Schedule Overview

Friday, May 11, 1:00 – 3:00 pm

S1 Pulvinar and Vision: New insights into circuitry and function, Royal Palm 1-3

S2 What does fMRI tell us about brain homologies?, Royal Palm 4-5

S3 Part-whole relationships in visual cortex, Royal Palm 6-8

Friday, May 11, 3:30 – 5:30 pm

S4 Distinguishing perceptual shifts from response biases, Royal Palm 1-3

S5 Human visual cortex: from receptive fields to maps to clusters to perception, Royal Palm 4-5

S6 Neuromodulation of Visual Perception, Royal Palm 6-8

S1

Pulvinar and Vision: New insights into circuitry and function

Friday, May 11, 1:00 - 3:00 pm, Royal Palm 1-3

Organizer: Vivien A. Casagrande, PhD, Department of Cell & Developmental Biology, Vanderbilt Medical School Nashville, TN

Presenters: Gopathy Purushothaman, Department of Cell & Developmental Biology Vanderbilt Medical School; Christian Casanova,University of Montreal, Sch Optometry, Montreal , Canada; Heywood M. Petry, Department of Psychological & Brain Sciences, University of Louisville; Robert H. Wurtz, NIH-NEI, Lab of Sensorimotor Research, Sabine Kastner, MD, Department of Psychology, Center for Study of Brain, Mind and Behavior, Green Hall, Princeton; David Whitney,Department of Psychology, University of California, Berkeley

Symposium Summary

The most mysterious nucleus of the visual thalamus is the pulvinar. In most mammals the pulvinar is the largest thalamic nucleus, and it has progressively enlarged in primate evolution so that it dwarfs the remainder of the thalamus in humans. Despite the large size of the pulvinar, relatively little is known regarding its function, and consequently its potential influence on cortical activity patterns is unappreciated. This symposium will outline new insights regarding the role of the pulvinar nucleus in vision, and should provide the VSS audience with a new appreciation of the interactions between the pulvinar nucleus and cortex.

Presentations

Gating of the Primary Visual Cortex by Pulvinar for Controlling Bottom-Up Salience

Gopathy Purushothaman, PhD, Department of Cell & Developmental Biology Vanderbilt Medical School, Roan Marion, Keji Li and Vivien A. Casagrande, Vanderbilt University

Is The Pulvinar Driving or Modulating Responses in the Visual Cortex?

Christian Casanova, PhD, Univ. Montreal, Sch Optometry, Montreal , Canada, Matthieu Vanni & Reza F. Abbas & Sébastien Thomas. Visual Neuroscience Laboratory, School of Optometry, Université de Montréal, Montreal, Canada

What is the role of the pulvinar nucleus in visual motion processing?

Heywood M. Petry, Department of Psychological & Brain Sciences, University of Louisville, Martha E. Bickford, Department of Anatomical Sciences and Neurobiology, University of Louisville School of Medicine

One message the pulvinar sends to cortex

Robert H. Wurtz, NIH-NEI, Lab of Sensorimotor Research, Rebecca Berman, NIH-NEI, Lab of Sensorimotor Research

Role of the pulvinar in regulating information transmission between cortical areas

Sabine Kastner, MD, Department of Psychology, Center for Study of Brain, Mind and Behavior, Green Hall, Princeton, Yuri B. Saalman, Princeton Neuroscience Institute, Princeton University

Visual Attention Gates Spatial Coding in the Human Pulvinar

David Whitney, The University of California, Berkeley, Jason Fischer, The University of California, Berkeley

S2

What does fMRI tell us about brain homologies?

Friday, May 11, 1:00 - 3:00 pm, Royal Palm 4-5

Organizer: Reza Rajimehr, McGovern Institute for Brain Research, Massachusetts Institute of Technology

Presenters: Martin Sereno, Department of Cognitive Science, UC San Diego; David Van Essen, Department of Anatomy and Neurobiology, Washington University School of Medicine; Hauke Kolster, Laboratorium voor Neurofysiologie en Psychofysiologie, Katholieke Universiteit Leuven Medical School; Jonathan Winawer, Psychology Department, Stanford University; Reza Rajimehr, McGovern Institute for Brain Research, Massachusetts Institute of Technology

Symposium Summary

Over the past 20 years, the functional magnetic resonance imaging (fMRI) has provided a great deal of knowledge about the functional organization of human visual cortex. In recent years, the development of the fMRI technique in non-human primates has enabled neuroscientists to directly compare visual cortical areas across species. These comparative studies have shown striking similarities ('homologies') between human and monkey visual cortex. Comparing cortical structures in human versus monkey provides a framework for generalizing results from invasive neurobiological studies in monkeys to humans. It also provides important clues for understanding the evolution of cerebral cortex in primates.

Presentations

Evolution, taxonomy, homology, and primate visual areas

Martin Sereno, Department of Cognitive Science, UC San Diego

Surface-based analyses of human, macaque, and chimpanzee cortical organization

David Van Essen, Department of Anatomy and Neurobiology, Washington University School of Medicine

Comparative mapping of visual areas in the human and macaque occipital cortex
Hauke Kolster, Laboratorium voor Neurofysiologie en Psychofysiologie, Katholieke Universiteit Leuven Medical School

The fourth visual area: A question of human and macaque homology
Jonathan Winawer, Psychology Department, Stanford University

Spatial organization of face and scene areas in human and macaque visual cortex
Reza Rajimehr, McGovern Institute for Brain Research, Massachusetts Institute of Technology

S3
Part-whole relationships in visual cortex

Friday, May 11, 1:00 - 3:00 pm, Royal Palm 6-8
Organizer: Johan Wagemans, Laboratory of Experimental Psychology, University of Leuven

Presenters: Johan Wagemans, Laboratory of Experimental Psychology, University of Leuven; Charles E. Connor, Department of Neuroscience and Zanvyl Krieger Mind/Brain Institute, Johns Hopkins University; Scott O. Murray, Department of Psychology, University of Washington; James R. Pomerantz, Department of Psychology, Rice University; Jacob Feldman, Dept. of Psychology, Center for Cognitive Science, Rutgers University New Brunswick; Shaul Hochstein, Departments of Neurobiology and Psychology, Hebrew University

Symposium Summary

In 1912 Wertheimer launched Gestalt psychology, arguing that the whole is different from the sum of the parts. Wholes were considered primary in perceptual experience, even determining what the parts are. How to reconcile this position with what we now know about the visual brain, in terms of a hierarchy of processing layers from low-level features to integrated object representations at the higher level? What exactly are the relationships between parts and wholes then? A century later, we will take stock and provide an answer from a diversity of approaches, including single-cell recordings, human fMRI, human psychophysics, and computational modeling.

Presentations

Part-whole relationships in vision science: A brief historical review and conceptual analysis
Johan Wagemans, Laboratory of Experimental Psychology, University of Leuven

Ventral pathway visual cortex: Representation by parts in a whole object reference frame
Charles E. Connor, Department of Neuroscience and Zanvyl Krieger Mind/Brain Institute, Johns Hopkins University, Anitha Pasupathy, Scott L. Brincat, Yukako Yamane, Chia-Chun Hung

Long-range, pattern-dependent contextual effects in early human visual cortex
Scott O. Murray, Department of Psychology, University of Washington, Sung Jun Joo, Geoffrey M. Boynton

The computational and cortical bases for configural superiority
James R. Pomerantz, Department of Psychology, Rice University, Anna I. Cragin, Department of Psychology, Rice University; Kimberley D. Orsten, Department of Psychology, Rice University; Mary C. Portillo, Department of Social Sciences, University of Houston–Downtown

Computational integration of local and global form
Jacob Feldman, Dept. of Psychology, Center for Cognitive Science, Rutgers University - New Brunswick, Manish Singh, Vicky Froyen

The rise and fall of the Gestalt gist
Shaul Hochstein, Departments of Neurobiology and Psychology, Hebrew University, Merav Ahissar

S4
Distinguishing perceptual shifts from response biases

Friday, May 11, 3:30 - 5:30 pm, Royal Palm 1-3
Organizer: Joshua Solomon, City University London

Presenters: Sam Ling, Vanderbilt; Keith Schneider, York University; Steven Hillyard, UCSD; Donald MacLeod, UCSD; Michael Morgan, City University London, Max Planck Institute for Neurological Research, Cologne; Mark Georgeson, Aston University

Symposium Summary

Our general topic will be the measurement of perceptual biases. These are changes in appearance that cannot be attributed to changes in the visual stimulus. One perceptual bias that has received a lot of attention lately is the change in apparent contrast that observers report when they attend (or remove attention from) a visual target. We will discuss how to distinguish reports of truly perceptual changes from changes in response strategies.

Presentations

Attention alters appearance
Sam Ling, Vanderbilt University

Attention increases salience and biases decisions but does not alter appearance.
Keith Schneider, York University

Electrophysiological Studies of the Locus of Perceptual Bias
Steven Hillyard, UCSD

Adaptive sensitivity regulation in detection and appearance
Donald MacLeod, UCSD

Observers can voluntarily shift their psychometric functions without losing sensitivity
Michael Morgan, City University London, Max Planck Institute for Neurological Research, Cologne, Barbara Dillenburger, Sabine Raphael, Max Planck; Joshua A. Solomon, City University

Sensory, perceptual and response biases: the criterion concept in perception
Mark Georgeson, Aston University

S5
Human visual cortex: from receptive fields to maps to clusters to perception

Friday, May 11, 3:30 - 5:30 pm, Royal Palm 4-5
Organizer: Serge O. Dumoulin, Experimental Psychology, Helmholtz Institute, Utrecht University, Netherlands

Presenters: Serge O. Dumoulin, Experimental Psychology, Helmholtz Institute, Utrecht University, Utrecht, Netherlands; Koen V. Haak,Laboratory for Experimental Ophthalmology, University Medical Center Groningen, University of Groningen, Groningen, Netherlands.; Alex R. Wade, Department of Psychology University of York, Heslington, UK; Mark M. Schira, Neuroscience Research Australia (NeuRA), Sydney & University of New South Wales, Sydney, Australia; Stelios M. Smirnakis,Departments of Neurosci. and Neurol., Baylor Col. of Med., Houston, TX; Alyssa A. Brewer, Department of Cognitive Sciences University of California, Irvine

Symposium Summary

This symposium will introduce current concepts of the visual cortex' organization at different spatial scales and their relation to perception. At the smallest scale, the receptive field is a property of individual neurons and summarizes the visual field region where visual stimulation elicits a response. These receptive fields are organized into visual field maps, which in turn are organized in clusters that share a common fovea. We will relate these principles to notions of population receptive fields (pRF), cortico-cortical pRFs, extra-classical contextual effects, detailed foveal organization, visual deprivation, prism-adaptation and plasticity.

Presentations

Reconstructing human population receptive field properties

Serge O. Dumoulin, Experimental Psychology, Helmholtz Institute, Utrecht University, Utrecht, Netherlands, B.M. Harvey, Experimental Psychology, Utrecht University, Netherlands

Cortico-cortical receptive field modeling using functional magnetic resonance imaging (fMRI)

Koen V. Haak, Laboratory for Experimental Ophthalmology, University Medical Center Groningen, University of Groningen, Groningen, Netherlands, J. Winawer, Psychology, Stanford University; B.M. Harvey, Experimental Psychology, Utrecht University; R. Renken, Laboratory for Experimental Ophthalmology, University Medical Center Groningen, University of Groningen, Netherlands; S.O. Dumoulin, Experimental Psychology, Utrecht University, Netherlands; B.A. Wandell, Psychology, Stanford University; F.W. Cornelissen, Laboratory for Experimental Ophthalmology, University Medical Center Groningen, University of Groningen, Netherlands

Imaging extraclassical receptive fields in early visual cortex

Alex R. Wade, Department of Psychology University of York, Heslington, UK, B. Xiao, Department of Brain and Cognitive Sciences, MIT; J. Rowland, Department of Art Practise, UC Berkeley

The human foveal confluence and high resolution fMRI

Mark M. Schira, Neuroscience Research Australia (NeuRA), Sydney & University of New South Wales, Sydney, Australia

Population receptive field measurements in macaque visual cortex

Stelios M. Smirnakis, Departments of Neurosci. and Neurol., Baylor Col. of Med., Houston, TX, G.A. Keliris, Max Planck Inst. For Biol. Cybernetics, Tuebingen, Germany; Y. Shao, A. Papanikolaou, Max Planck Inst. For Biol. Cybernetics, Tuebingen, Germany; N.K. Logothetis, Max Planck Inst. For Biol. Cybernetics, Tuebingen, Germany, Div. of Imaging Sci. and Biomed. Engin., Univ. of Manchester, United Kingdom

Functional plasticity in human parietal visual field map clusters: Adapting to reversed visual input

Alyssa A. Brewer, Department of Cognitive Sciences University of California, Irvine Irvine, CA, B. Barton, Department of Cognitive Sciences University of California, Irvine; L. Lin, AcuFocus, Inc., Irvine

S6
Neuromodulation of Visual Perception

Friday, May 11, 3:30 - 5:30 pm, Royal Palm 6-8

Organizers: Jutta Billino, Justus-Liebig-University Giessen and Ulrich Ettinger, Rheinische Friedrich-Wilhelms-Universität Bonn

Presenters: Anita A. Disney, Salk Institute; Alexander Thiele, Institute of Neuroscience, Newcastle University, Newcastle Upon Tyne, United Kingdom; Behrad Noudoost, Department of Neurobiology, Stanford University School of Medicine; Ariel Rokem, Department of Psychology, Stanford University; Ulrich Ettinger, Rheinische Friedrich-Wilhelms-Universität Bonn; Patrick J. Bennett, Department of Psychology, Neuroscience & Behaviour McMaster University

Symposium Summary

Although the neuronal bases of vision have been extensively explored over the last decades we are just beginning to understand how visual perception is modulated by neurochemical processes in our brain. Recent research provides first insights into regulation of signal processing by different neurotransmitters. This symposium is devoted to the questions (1) by which mechanisms neurotransmitters influence perception and (2) how individual differences in neurotransmitter activity could explain normal variation and altered visual processing in mental disease and during ageing. Presentations will provide an overview of state-of-the-art methods and findings concerning the complexity of neuromodulation of visual perception.

Presentations

Modulating visual gain: cholinergic mechanisms in macaque V1

Anita A. Disney, Salk Institute, Michael J. Hawken, Center for Neural Science, New York University

Differential contribution of cholinergic and glutamatergic receptors to attentional modulation in V1

Alexander Thiele, Institute of Neuroscience, Newcastle University, Newcastle Upon Tyne, United Kingdom, Jose Herreo, Institute of Neuroscience, Newcastle University, Newcastle Upon Tyne, United Kingdom; Alwin Gieselmann, Institute of Neuroscience, Newcastle University, Newcastle Upon Tyne, United Kingdom

Dopamine-mediated prefrontal control of visual cortical signals

Behrad Noudoost, Department of Neurobiology, Stanford University School of Medicine, Tirin Moore, Department of Neurobiology, Stanford University School of Medicine & Howard Hughes Medical Institute, Stanford University School of Medicine

Cholinergic enhancement of perceptual learning in the human visual system

Ariel Rokem, Department of Psychology, Stanford University, Michael A. Silver, Helen Wills Neuroscience Institute and School of Optometry, University of California, Berkeley

Pharmacological Influences on Oculomotor Control in Healthy Humans

Ulrich Ettinger, Rheinische Friedrich-Wilhelms-Universität Bonn

The effects of aging on GABAergic mechanisms and their influence on visual perception

Patrick J. Bennett and Allison B. Sekuler, Department of Psychology, Neuroscience & Behaviour McMaster University

Friday Evening Posters

Attention: Reward

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Orchid Ballroom

16.401 **Visual feedback-related probability learning and its contributions to decision from experience** Tze-Yun Wang, Shih-Wei Wu

16.402 **Temporally dynamic changes in the emotion-induced spread of target suppression** Lingling Wang, Steven Most

16.403 **When the valued meet the salient: value-driven attentional capture cannot bypass bottom-up physical salience in visual search** Lihui Wang, Hongbo Yu, Qi Chen, Xiaolin Zhou

16.404 **Unconscious control of voluntary task choice through goal priming** Hong Im Shin, Min Shik Kim

16.405 **Active attentional suppression of reward-predicting information: Electrophysiological evidence** Risa Sawaki, Jane Raymond, Steven Luck

16.406 **Perceived control and visual uncertainty** Riccardo Pedersini

16.407 **Non-Monetary Attentional Capture** Andrew Miranda, Navaneethan Siva, Evan Palmer

16.408 **Exploring the Effects of Video Game Experience and Motivation on Visual Processing** Angeliki Beyko, Cary Stothart, Walter Boot

16.409 **Self mediation of perception** Glyn Humphreys, Jie Sui

16.410 **Sharpening Orientation Tuning with Reward** Jeongmi Lee, Sarah Shomstein

16.411 **Task-irrelevant Happy Faces Facilitate Visual Search Performance** Yoshiyuki Ueda, Sakiko Yoshikawa

16.412 **Positive affect broadens perceptual tuning curves.** Stefan Uddenberg, Won Mok Shim

16.413 **Fear-Conditioned Arousing Stimuli Enhance Spatial Contrast Sensitivity: Application of the Quick Contrast-Sensitivity-Function Method** Tae-Ho Lee, Mara Mather

Attention: Inattention and attention blindness

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Orchid Ballroom

16.416 **Long Blinks and Optimal Attentional Set in the Detection of Dynamic Events in Complex Scenes** Thomas Sanocki, Noah Sulman

16.417 **Using magic to reconcile inattentional blindness and attentional misdirection** Anthony Barnhart, Stephen Goldinger

16.418 **Electrophysiological evidence for early perceptual disruption by emotional distractors** Briana L. Kennedy, Jennifer Rawding, Steven B. Most, James E. Hoffman

16.419 **Dual change detection task reveals the time course of resource demand in VWM process** Hae-In Kang, Joo-Seok Hyun

16.420 **Examining pupillary response as a psychophysiological predictor of inattentional blindness** Timothy Wright, Walter Boot

16.421 **A Flick of the Wrist: Abrupt change in direction of motion induces change blindness** Richard Yao

16.422 **The fate of visual object representations under change blindness** Niko Busch

16.423 **The difference in perceptual processing between detection and localization of a change** Takuma Murakoshi, Masako Hisa, Tomohiro Masuda, Yuji Wada, Yoshihisa Osada

16.424 **General and Specific Bottlenecks: Training Differentiates the Attentional Blink from the Psychological Refractory Period** Kelly Garner, Paul Dux

Face perception: Development and aging

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Orchid Ballroom

16.427 **Experience Affects Age Biases In Face Processing In Children And Adults** Valentina Proietti, Antonella Pisacane, Viola Macchi Cassia

16.428 **The Joint Development of Hemispheric Lateralization for Words and Faces** Eva Dundas, David Plaut, Marlene Behrmann

16.429 **The Effect of Starting School on Preschoolers' Ability to Recognize Child and Adult Faces** Ana Bracovic, Adélaïde de Heering, Daphne Maurer

16.430 **Luminance and Chromatic Negation equally affect Human and Monkey Face Recognition in Adulthood and Early Childhood** Kate Stevenson, Michael Mangini, Benjamin Balas

16.431 **Domain-specific development of face memory between age five and adulthood** Sarah Weigelt, Kami Koldewyn, Daniel Dilks, Benjamin Balas, Nancy Kanwisher

16.432 **Contact affects the own-age bias and neural correlates of face memory in elderly participants** Jessica Komes, Stefan R. Schweinberger, Holger Wiese

16.433 **Aging Faces and Aging Perceivers: Are There Developmental Changes in Face Space Later in Life?** Lindsey Short, Catherine Mondloch

16.434 **Orientation tuning for faces in the Fusiform Face Area and Primary Visual Cortex** Valerie Goffaux, Felix Duecker, Christine Schiltz, Rainer Goebel

Face perception: Social cognition

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Orchid Ballroom

16.437 **"Here's looking at you, kid": Attentional capture by the abrupt onset of direct eye gaze** Timothy Welsh, Anne Böckler, Robrecht van der Wel

16.438 **Bad boys and mean girls: Judging aggressive potential in child faces** Thalia Semplonius, Allison Mondloch, Cheryl McCormick, Cathy Mondloch

16.439 **Eyes with higher contrast look younger** Richard Russell, Aurélie Porcheron, Jennifer Sweda

16.440 **Making Sense of Others: The Neural Correlates of Perceiving Person Interactions** Susanne Quadflieg, Francesco Gentile, Bruno Rossion

16.441 **Caucasian and Asian observers used the same visual features for race categorisation.** Daniel Fiset, Caroline Blais, Ye Zhang, Kim Hébert, Frédéric Gosselin, Verena Willenbockel, Nicolas Dupuis-Roy, Daniel Bub, Qinglin Zhang, Jim Tanaka

See page 23 for Abstract Numbering System

16.442 **Judging faces on trustworthiness and emotions** Catherine Éthier-Majcher, Sven Joubert, Frédéric Gosselin

16.443 **Judgments of mean attractiveness from a set of faces** Kang Yong Eo, Sang Chul Chong

16.444 **Investigating factors influencing the perception of identity from facial motion** Katharina Dobs, Isabelle Bülthoff, Cristóbal Curio, Johannes Schultz

16.445 **Fishing for faces: Looking behaviour inside and outside the lab** Elisabeth Blagrove, Tom Foulsham, Derrick Watson, Lara Payne, Alan Kingstone

16.446 **Kids ignoring adults, and adults ignoring kids: An own-age face bias in attentional gaze cueing** Jesse Gomez, Kirsten Dalrymple, Brad Duchaine

16.447 **How to read your opponent's mind to win a game of rock-paper-scissors** Marnix Naber, Josef Stoll, Wolfgang Einhäuser, Olivia Carter

Binocular vision: Neural mechanisms and models

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Orchid Ballroom

16.450 **Processing of first and second order binocular disparity by the human visual system** Christian Quaia, Boris Sheliga, Lance Optican, Bruce Cumming

16.451 **Decoding fMRI responses to disparity-defined depth configurations** Matthew L. Patten, Andrew E. Welchman

16.452 **Investigating disparity organisation in the human early visual cortex with high resolution magnetic resonance imaging (7 Tesla)** Gaelle S. L. Coullon, Rosa M. Sanchez-Panchuelo, Sue Francis, Denis Schluppeck, Andrew J. Parker, Holly Bridge

16.453 **Boundary contour of binocular rivalry stimulus affects activities in ocular dominance columns (V1) of anesthetized macaque monkeys** Chao Han, Haoran Xu, Ming Chen, Peichao Li, Shude Zhu, Zijing He, Haidong Lu

16.454 **Cyclovergence is controlled by both interocular correlation and interocular velocity difference mechanisms.** Scott B Stevenson, Archana Bora, Maria M. Nilsson, Rune L. Brautaset

16.455 **Predictive Remapping of Binocularly Fused Images under Saccadic Eye Movements** Karthik Srinivasan, Stephen Grossberg, Arash Yazdanbakhsh

16.456 **Contrast Gain Control in Stereo Depth and Cyclopean Contrast Perception** Fang Hou, Chang-Bing Huang, Yifeng Zhou, Zhong-Lin Lu

16.457 **Reciprocal inhibition between binocular energy-model units can account for the reduced response to disparities in anti-correlated stereograms** Fredrik Allenmark, Jenny Read

16.458 **What is binocular fusion? Multiplicative combination of luminance gradients via the geometric mean** Stuart Wallis, Mark Georgeson

16.459 **Noise alters binocular combination** Jian Ding, Stanley Klein, Celia Gong, Dennis Levi

Color and light: Mechanisms

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Vista Ballroom

16.501 **The coding of hue revealed by discrimination of chromatic textures** Christian Herrera, Charles Chubb

16.502 **Testing the role of color information in primal sketch generation** Maria Michela Del Viva, Noemi Tarallo, Daniele Benedetti, Giovanni Punzi, Steve Shevell

16.503 **Normal chromatic VEPs in a case of cerebral dyschromatopsia** Hannah Shoenhard, Chad S. Duncan, Chris Jones, Michael A. Crognale

16.504 **Application of fMRI adaptation to characterize the neural representation of color.** Andrew S. Persichetti, Sharon L. Thompson-Schill, David H. Brainard, Omar H. Butt, Nina S. Hsu, Geoffrey K. Aguirre

16.505 **Peripheral photopic sensitivity to melanopsin and cone photopigments** Hiroshi Horiguchi, Jonathan Winawer, Robert F. Dougherty, Brian A. Wandell

16.506 **Quantifying the Watercolor Effect with Cortical Responses** Andrew J. Coia, Chad S. Duncan, Chris Jones, Michael A. Crognale

16.507 **Testing model predictions of induced visual fading** Cosmo Zhang, Gregory Francis

16.508 **Chromatic signal detection on a heterochromatic texture with a color distribution away from an adaptation color** Tomoharu Sato, Takehiro Nagai, Shigeki Nakauchi

16.509 **Colour constancy of liquid materials under various chromatic illuminations** Rumi Tokunaga, Ichiro Kuriki, Satoshi Shioiri

16.510 **Temporal aspects of contour induced negative and positive color afterimages.** Takao Sato, Yutaka Nakajima, Akiyo Shigeyama

16.511 **Colour Constancy by Illumination Matching in Real World Scenes** Bradley Pearce, Stuart Crichton, Michal Mackiewicz, Graham Finlayson, Anya Hurlbert

16.512 **Effect of material perception on color constancy** Yoko Mizokami, Toshiki Tsukano, Hirohisa Yaguchi

16.513 **The effect of compression in the watercolor illusion** Cornelia Fermuller, Hui Ji

16.514 **Perception of a Positive Afterimage in Neon Color Spreading Displays** Gennady Livitz, Cloud Bo Cao, Ennio Mingolla

16.515 **Connecting retinal and cortical processes to describe afterimage percepts** Jihyun Kim, Gregory Francis

16.516 **Predictions of a cortical model of induced visual fading** Gregory Francis

16.517 **Contrast adaptation reveals the contributions from chromatic channels tuned to intermediate directions of color space in the chromatic visual evoked potential** Chad S. Duncan, Eric J. Roth, Yoko Mizokami, Kyle C. McDermott, Michael A. Crognale

16.518 **The illumination correction bias of the human visual system** Stuart Crichton, Bradley Pearce, Michal Mackiewicz, Graham Finlayson, Anya Hurlbert

16.519 **Estimation of the best illumination for commercial food counters** Osamu Masuda, Sérgio Nascimento

16.520 **Object Color Preferences** Karen B. Schloss, Eli D. Strauss, Stephen E. Palmer

Color and light: High-level

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Vista Ballroom

16.521 **Color memory and perception for real illuminated objects** Jeremy R. Bell, Sarah R. Allred

16.522 **Misbinding of color and motion in human V2** Xilin Zhang, Fang Fang

16.523 **The influence of central objects on peripheral color-binding errors** Yang Sun, Steven Shevell

16.524 **Chromatic similarity affects color-motion binding errors** Wei Wang, Steven Shevell

16.525 **Semantic Effects on Aesthetic Preference for Color Harmony in Visual Displays** Stephen E. Palmer, Karen B. Schloss, Mathilde Heinemann

16.526 **Color Preference: Seasonal and Gender Differences** Rolf Nelson, Karen Schloss, Laura Parker, Stephen Palmer

16.527 **Effects of grouping on preference for color triplets** Christopher Lau, Karen B. Schloss, Stephen E. Palmer

16.528 **The Color of Musical Sounds: Color Associates of Harmony and Timbre in Non-Synesthetes** William S. Griscom, Stephen E. Palmer

16.529 **Quantification of the Synesthetic Experience with the Visual Evoked Potential** Michael A. Crognale, Melissa Chipman, Aleah Hartung, Chad S. Duncan, Chris Jones, Kyle C. McDermott, Andrew J. Coia

16.530 **Interactions between colour and synaesthetic colour: An effect of simultaneous colour contrast on synaesthetic colours** Tanja Nijboer, Titia Gebuis, Susan Te Pas, Maarten Van der Smagt

16.531 **Patterns of neural activity associated with synesthetic color perception: a case study** Youyang Hou, J. Devin McAuley, Molly Henry, Taosheng Liu

Spatial vision: Mechanisms

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Vista Ballroom

16.532 **fMRI of the magnocellular and parvocellular subdivisions of human LGN** Rachel Denison, An Vu, David Feinberg, Michael Silver

16.533 **Can principal component analysis reliably identify the temporal response of cortical area V1?** Thom Carney, David Kim, Justin Ales, Stanley Klein

16.534 **A novel shape illusion predicted by the effect of local orientation on retinotopic-scale V1 population responses** Melchi Michel, Yuzhi Chen, Wilson Geisler, Eyal Seidemann

16.535 **Reconstructing spatial maps in occipital, parietal and frontal cortex using an encoding model of spatial receptive fields** Thomas Sprague, John Serences

16.536 **An improved method for mapping neuronal receptive fields in prefrontal cortex** J. Patrick Mayo, Amie DiTomasso, Marc Sommer, Matt A. Smith

16.537 **Effect of contrast polarity and target separation on vernier performance with luminance and chromatic contrast** Bonnie Cooper, Hao Sun, Barry Lee

16.538 **Fixational eye movements predict the discrepancy between behavioral and neurophysiological measurements of contrast sensitivity** Xutao Kuang, Jonathan Victor, Michele Rucci

16.539 **The spatial tuning of perceptual serial dependence** Jason Fischer, David Whitney

16.540 **Contrast gain control alone is not enough in mid-level discrimination tasks.** Lynn Olzak, Jordan Wagge, Robin Thomas

16.541 **Dynamics of unconscious contextual effects in orientation processing** Isabelle Mareschal, Colin Clifford

16.542 **Orientation adaptation without plasticity** Maria del Mar Quiroga, Adam Morris, Bart Krekelberg

16.543 **Orientation Tuning in Schizophrenia Measured Using Reverse Correlation Psychophysics** Michael-Paul Schallmo, Scott Sponheim, Cheryl Olman

16.544 **Side-inhibition, but not end-inhibition properties of neurons in areas MT and DM are related to the contrast sensitivity** Leo Lui, Marcello Rosa

16.545 **Psychophysical Assessment of Contrast Adaptation in the Magnocellular Pathway** Christoph Teufel, Greg Davis, Paul Fletcher

16.546 **Is γ-band activity different in primary visual cortex of awake and anesthetized states** Dajun Xing, Yutai Shen, Samuel Burns, Chun-I Yeh, Robert Shapley, Wu Li

16.547 **Superiority of angle discrimination to orientation discrimination for bisecting lines** Peter Zaenen, Robbe Goris

Spatial vision: Eccentricity, flankers, and texture

Friday, May 11, 6:45 - 9:30 pm
Poster Session, Vista Ballroom

16.548 **Pre-cortical noise shapes visual performance fields** Jared Abrams, Marisa Carrasco

16.549 **Contour enhancement benefits peripheral vision task for older adults** MiYoung Kwon, Chaithanya Ramachandra, Bartlett W. Mel, Bosco S. Tjan

16.550 **topological dominance in peripheral vision** Ruijie Wu, Bo Wang, Yan Zhuo, Lin Chen

16.551 **Centre-surround interactions on apparent contrast endure with broad-band stimuli** Dave Ellemberg, Bruno Richard, Aaron Johnson, Bruce Hansen

16.552 **Local image statistics have a perceptual metric that is nearly Euclidean** Jonathan Victor, Daniel Thengone, Mary Conte

16.553 **Effects of flankers and attention on early visual adaptation** Sing-Hang Cheung, Cristy Ho

16.554 **Collinear facilitation by flankers with invisible orientation** Daisuke Hayashi, Ikuya Murakami

16.555 **Dichoptic Collinear Lateral Masking at Long Stimulus Onset Asynchronies Produces Surprising Suppression of Contrast Detection** Wesley Kinerk, Michael Martorana, Erwin Wong

16.556 **Components of the curveball illusion: changes in perceived motion of the envelope across the visual field.** Michael von Grünau, Fernando Fascina, Ryan Hanrahan, Joaquim Rossini

16.557 **Contrast-negation and texture synthesis differentially disrupt natural texture appearance** Benjamin Balas

16.558 **Contour interaction extents (in MAR) for differently-sized Cs vary little within, but lots between, LM and CM acuity systems.** Sarah J. Waugh, Monika A. Formankiewicz, M. Izzuddin Hairol

16.559 **Integration of texture and color cues for visual shape recognition** Toni Saarela, Michael Landy

16.560 **The nonlinearity in texture segregation is not rectification** Zachary Westrick, Michael Landy

See page 23 for Abstract Numbering System

Saturday Morning Talks

Color and light: Mechanisms

Saturday, May 12, 8:00 - 10:00 am
Talk Session, Royal Palm Ballroom 1-3
Moderator: Kathy Mullen

8:00 am 21.11 **Somali color vision and color naming** Delwin Lindsey, Angela Brown

8:15 am 21.12 **Colour boosts performance in visual search for natural objects** Anya Hurlbert, Paik Hwa Chow, Angela Owen

8:30 am 21.13 **Simultaneous contrast and gamut relativity in brightness and darkness perception** Tony Vladusich

8:45 am 21.14 **Two routes to suppression of signals in color vision** Kathy T. Mullen, Mina Gheiratmand, José M. Medina, Yeon Jin Kim

9:00 am 21.15 **Color confusion ellipses from absolute judgments** Jenny Bosten, Donald MacLeod

9:15 am 21.16 **S-cone pathways** Caterina Ripamonti, Gordon Henning, Andrew Stockman

9:30 am 21.17 **An Unsupervised Learning Technique for Typing Cones in the Retinal Mosaic** Noah Benson, David Brainard

9:45 am 21.18 **Contrast adaptation can make test items invisible** Stuart Anstis

Visual awareness

Saturday, May 12, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 4-5
Moderator: Jonathan Peirce

8:00 am 21.21 **Is it just motion that silences awareness of visual change?** Jonathan Peirce

8:15 am 21.22 **Graded vs. Quantal Allocation of Attention and Awareness** René Marois, Christopher Asplund, Samir Zughni, Daryl Fougnie, Justin Martin

8:30 am 21.23 **Semantic Wavelet-Induced Frequency Tagging (SWIFT) tracks perceptual awareness alternations in an all-or-none fashion.** Roger Koenig-Robert, Rufin VanRullen

8:45 am 21.24 **Are the neural correlates of conscious contents stable or plastic?** Kristian Sandberg, Morten Overgaard, Geraint Rees

9:00 am 21.25 **Unconscious contingency learning modulates conscious visual perception** Qian Xu, Li Wang, Yi Jiang

9:15 am 21.26 **Attentional allocation to unconscious faces** Eric A. Reavis, Sheng He, Peter U. Tse

9:30 am 21.27 **Revealing the face behind the mask: Emergent unconscious perception in object substitution masking** Stephanie Goodhew, Susanne Ferber, Sam Qian, David Chan, Jay Pratt

Scene perception: Mechanisms

Saturday, May 12, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Serge Dumoulin

10:45 am 22.11 **Post-detection at 13 ms/picture in RSVP** Mary C. Potter, Brad Wyble, Emily McCourt

11:00 am 22.12 **The Gist of the Abnormal: Above chance medical decision making in the blink of an eye.** Karla Evans, Jeremy Wolfe

11:15 am 22.13 **Semantic and Syntactic Inconsistencies in Scenes Elicit Differential ERP Signatures.** Melissa Vo, Jeremy Wolfe

11:30 am 22.14 **Neural Coding of Border-Ownership in Natural Scenes** Jonathan Williford, Rüdiger von der Heydt

11:45 am 22.15 **Using the population receptive field model to identify images from fMRI signals** Wietske Zuiderbaan, Ben Harvey, Serge Dumoulin

12:00 pm 22.16 **Multi-voxel pattern similarity predicts subsequent visual memory** Emily J. Ward, Brice A. Kuhl, Marvin M. Chun

12:15 pm 22.17 **rTMS to object selective cortex: Evidence of an inverse relationship between object and scene processing using fMRI** Caitlin Mullin, Jennifer Steeves

Attention: Neural mechanisms and models

Saturday, May 12, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Sam Ling

10:45 am 22.21 **Cortical Mechanisms Underlying the Attentional Selection of Objects Embedded In Visual Noise** Michael Pratte, Sam Ling, Jascha Swisher, Frank Tong

11:00 am 22.22 **Attention improves communication between V1 and MT** Sameer Saproo, John T. Serences

11:15 am 22.23 **Pre-stimulus activity in inferior temporal cortex gates attentional modulation of neural and behavioral responses.** Nazli Emadi, Hossein Esteky

11:30 am 22.24 **Violation of Bayesian Cue Integration Principle Under Attentional Cuing** Hakwan Lau, Jorge Morales, Dobromir Rahnev

11:45 am 22.25 **Left parietal patients have impaired salience suppression but only when there is response conflict** Carmel Mevorach, Lilach Shalev, Glyn Humphreys

12:00 pm 22.26 **Eccentricity representation of visual stimulation, attention, and saccades in human superior colliculus** Sucharit Katyal, Clint Greene, Evan Luther, David Ress

12:15 pm 22.27 **Distinct patterns of coherent firing for feature binding and selective attention in neurons of the visual cortex** Anne Martin, Rudiger von der Heydt

See page 23 for Abstract Numbering System

Saturday Morning Posters

Temporal processing

Saturday, May 12, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

23.301 **Cross Frequency Coupling during the resting state with and without visual input** Rodika Sokoliuk, Rufin VanRullen

23.302 **The Temporal Fusion Illusion and its neurophysiological correlates** Hector Rieiro, Manuel Ledo, Susana Martinez-Conde, Stephen Macknik

23.303 **Unconscious priming requires primary visual cortex at specific temporal phases of processing** Marjan Persuh, Tony Ro

23.304 **How does the brain learn about time?** Domenica Bueti, Stefano Lasaponara, Mara Cercignani, Emiliano Macaluso

23.305 **A Longer Look at Time: Time Slows Down During Prolonged Eye Contact** Michelle Jarick, Kaitlin Laidlaw, Vanja Alispahic, Alan Kingstone

23.306 **Back to the Future: Recalibration of visuomotor simultaneity perception to delayed and advanced visual feedback** Marieke Rohde, Marc O. Ernst

23.307 **Separate duration calibration mechanisms for dynamic and static visual stimuli** Laura Ortega, Emmanuel Guzman-Martinez, Marcia Grabowecky, Satoru Suzuki

23.308 **Changes in visual apparent motion direction by cross-modal interaction are not dependent on temporal ventriloquism** Warrick Roseboom, Takahiro Kawabe, Shin'ya Nishida

23.309 **No cue integration but cue switching in the temporal domain with stimuli exclusively presented in the visual modality** Friederike Schuur, Katja Kornysheva, David Nobbs, Patrick Haggard, Laurence Maloney, Sven Bestmann

23.310 **Spatial cueing and task difficulty effects on the temporal attention selective temporal parietal junction** Sarah C. Tyler, Samhita Dasgupta, Lorella Battelli, Sara Agosta, Emily D. Grossman

23.311 **The Straddle Effect in temporal contrast processing (Buffy adaptation) is specific for orientation and spatially local** Norma Graham, S. Sabina Wolfson

23.312 **How long depends on how fast – perceived flicker frequencies dilate subjective duration** Sophie Herbst, Amir Homayoun Javadi, Niko A. Busch

23.313 **Neural mechanisms of action recognition and implied motion** Georg Layher, Heiko Neumann

23.314 **Time estimation in perception and anticipatory action** Welber Marinovic, Derek Arnold

23.315 **Slowing down appears to last longer than speeding up.** Aurelio Bruno, Inci Ayhan, Alan Johnston

23.316 **Temporal Limit for Individuation of a Face** Faraz Farzin, Anthony Norcia

23.317 **Self awareness induces distortion of time perception** Li Wang, Yi Jiang

Motion: Higher Order

Saturday, May 12, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

23.322 **Effects of Aging on the Integration of Inter- and Intra-modal Motion Cues** Robert Sekuler, Eugenie Roudaia, Patrick J. Bennett, Pragya Jalan, Allison B. Sekuler

23.323 **Neural correlates of non-retinotopic motion integration** Evelina Thunell, Gijs Plomp, Haluk Öğmen, Michael H. Herzog

23.324 **A synchronous surround increases motion sensitivity** Daniel Linares, Isamu Motoyoshi, Shin'ya Nishida

23.325 **Periodic motion trajectory detection: Effects of frequency and radius** Yousra Haque, Frances Wilkinson, Charles Or, Hugh Wiilson

23.326 **Interactions of depth order and numerosity in transparent motion** Alexander C. Schütz

23.327 **How many motion directions can be simultaneously perceived?** Mark Edwards, Reuben Rideaux

23.328 **Efficiency of object motion extraction using disparity signals** Anshul Jain, Qasim Zaidi

23.329 **Global motion persists when local motion signals are canceled between color and luminance** Toshiki Sakai, Ikuya Murakami

23.330 **The flash-lag effect is reduced in patients with cerebellar atrophy** Gerrit Maus, Richard Ivry, David Whitney

23.331 **Social cues help us construct the causal perception of physical events** Jifan Zhou, Zaifeng Gao, Ning Tang, Mowei Shen

23.332 **When two causes compete for the same effect: How the visual system deals with different streams of event.** Florent Levillain

Decision making

Saturday, May 12, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

23.401 **Risk Averse Visual Decision Making Model** Ruixin Yang, Garrison Cottrell

23.402 **The relation of decision-making and endogenous covert attention to sampling-based neural representations** Ralf M. Haefner, Pietro Berkes, Jozsef Fiser

23.403 **Using decision models to study the time course of visual recognition** Imri Sofer, Thomas Serre

23.404 **Individual differences in working memory capacity predict the speed of perceptual decision making** Tiffany Ho, Edward Ester, Newton Abuyo, Shaheen Modir, John Serences

23.405 **Contributions of signal strength and reliability to performance and confidence** Vincent de Gardelle, Pascal Mamassian

23.406 **Attentional capture in an online decision-making task** Dirk Kerzel, Josef Schönhammer

23.407 **The Vancouver Roulette test: a new measure of decision-making under risk** Paul Seunghyun Nho, Jayalakshmi Viswanathan, Jason J. S. Barton

23.408 **Decision-making in visual working memory** Benjamin Pearson, Paul Bays, Masud Husain

See page 23 for Abstract Numbering System

23.409 **Contributions of Sensory Precision and Learning Rate to the Optimality of Dynamic Criterion Setting in Perceptual Decision Making** Issac Rhim, Sang-Hun Lee

23.410 **Integration of dynamic reward schedules and speed-accuracy tradeoff in perceptual decision making** Ya-Hsuan Liu, Shih-Wei Wu

23.411 **The effect of visual salience on multiple-alternative, value-based decisions** R. Blythe Towal, Milica Milosavljevic, Christof Koch

23.412 **Pupil dilation reflects the difficulty of evaluations in decisions under risk** Jayalakshmi Viswanathan, Madeleine Sharp , Jason J. S. Barton

23.413 **Groups detect wholes better than parts** Shawn Barr, Jason Gold

23.414 **Rapid coding of novelty-induced orienting in the parietal lobe** Nicholas C. Foley, Christopher J. Peck, David C. Jangraw, Jacqueline Gottlieb

23.415 **Reward Prompts Visual Short-Term Memory Consolidation** Mengyuan Gong, Sheng Li

23.416 **fMRI evidence for robust perceptual judgements in human observers.** Elizabeth Michael, Vincent de Gardelle, Christopher Summerfield

Visual memory: Neural mechanisms

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

23.420 **Stable Visual Working Memory Representations Across Changes in Eye Position** Brittany Dungan, Edward Vogel

23.421 **The Representation of Stimulus Identity for Multiple Items in Short-Term Memory Revealed Using fMRI Classification** Stephen M. Emrich, Adam C. Riggall, Joshua J. LaRocque, Bradley R. Postle

23.422 **The neural correlates of visual working memory decline in normal aging.** Philip Ko, Bryant Duda, Erin Hussey, Emily Mason, Geoffrey Woodman, Brandon Ally

23.423 **Spike count correlations in visual, visuomotor, and motor neurons of macaque prefrontal area 8A during working memory maintenance** Matthew Leavitt, Florian Pieper, Adam Sachs, Julio Martinez-Trujillo

23.424 **Improving visual working memory performance with transcranial direct current stimulation** Philip Tseng, Tzu-Yu Hsu, Chi-Fu Chang, Ovid Tzeng, Daisy Hung, Chi-Hung Juan

23.425 **Decoding concepts for famous people from BOLD responses in the left anterior temporal lobe** Julien Dubois, Ralph Adolphs, Christof Koch

23.426 **Incidental reactivation of visual event features promotes long-term remembering** Brice Kuhl, Marcia Johnson, Marvin Chun

23.427 **Assessing the necessity of the medial temporal lobes in visual probability learning** Joshua Cosman, Shaun Vecera

23.428 **Hemispheric differences in visual working memory maintenance indexed by contralateral delay activity** Maro Machizawa, Crystal Goh, Jon Driver, Masud Husain

Perception and action: Navigation and locomotion

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

23.431 **Vection in depth during treadmill locomotion** April Ash, Stephen Palmisano, Robert Allison

23.432 **What infants see depends on locomotor posture** Kari Kretch, John Franchak, Julia Brothers, Karen Adolph

23.433 **Obstacle detection during walking by patients with tunnel vision** Adam Kiefer, Hugo Bruggeman, Russell Woods, William Warren

23.434 **Avoiding Two Vertical Obstacles: An Age-Related Comparison** Amy Hackney, Michael Cinelli

23.435 **Assessing Spatial Updating Using Continuous Pointing: Effects of Age and Expertise** Jennifer Campos, Luke Dennome, Larissa Vassos, Michael Cinelli

23.436 **The visual control of locomotion during interception and avoidance of moving objects** Brett Fajen, Melissa Parade

23.437 **Optic flow has an immediate and an enduring effect on the perceived straight ahead in the visual control of steering toward a goal** Li Li, Joseph Cheng, Lei Zhang

23.438 **Visual control of speed in side-by-side walking** Zachary Page, William Warren

23.439 **On-line steering to occluded goals can be modeled by positional uncertainty** Huaiyong Zhao, William Warren

23.440 **Speed coordination in pedestrian groups: Linking individual locomotion with crowd behavior** Kevin Rio, Stéphane Bonneaud, William H. Warren

23.441 **Does optic flow calibrate foot placement when stepping on a target?** Melissa Parade, Brett R. Fajen

23.442 **Discovering Optical Control Strategies: A Data-Mining Approach** Romann Weber, Brett Fajen

23.443 **Self-motivated visual exploration of the environment predicts subsequent navigational performance and style.** James Thompson, Elisabeth Ploran, Jaris Oshiro, Elizabeth Hussey, David Hawkins, Raja Parasuraman

23.444 **One thing at a time: Sequential coordination in visual guidance of locomotion-to-reach** Aaron Fath, Geoffrey Bingham

23.445 **The Role of Perceptual Features vs. Learned Associations in Utilizing Directional Indicators** Amanda Hahn, Anna Cragin, James Pomerantz

23.446 **Horizontal fixation point oscillation and simulated viewpoint oscillation both increase vection in depth** Stephen Palmisano, Juno Kim, Tom Freeman

23.447 **Step Perception in Older Adults: The Effect of Support on Perceived Height** Mila Sugovic, Jessica Witt

23.448 **Does Path Integration Serve as a "Reference System" for Detecting Landmark Instability?** Mintao Zhao, William Warren

23.449 **The influence of cast shadows on learning a non-Euclidean virtual hedge maze environment.** Jonathan Ericson, William H. Warren

23.450 **Mobile Robot Vision Navigation Based on Road Segmentation and Boundary Extraction Algorithms** Chin-Kai Chang, Christian Siagian, Laurent Itti

23.451 **Visual Search and Spatial Learning in Teleoperation** Whitney Street, Chad Burns, Frances Wang, Dusan Stipanović

23.452 **Effectiveness Of 2D Camera System In Assisting Operators In Visual Tasks** Frederick Tey, Mellisa Tan, Tong Lee, Adeline Yang

23.453 **Contributions of attention and decision-making to spatial learning** Elizabeth Chrastil, William Warren

Binocular vision: Rivalry I

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

23.501 **Testing the Nature of the Representation for Binocular Rivalry** Yang Chen, Dmitriy Lisitsyn, József Fiser

23.502 **What next? Binocular rivalry is biased by motion direction but not motion pattern** Mouna Attarha, Cathleen M. Moore

23.503 **Neural correlates of adaptation within an episode of binocular-rivalry suppression** Urte Roeber, Robert P. O'Shea

23.504 **Complementary spatial interactions between binocular rivalry and stimulus rivalry** Hansem Sohn, Sang-Hun Lee, Randolph Blake

23.505 **Monocularaly unpaired regions do not resist suppression in absence of an explicit occluder.** Paul Miller, Philip Grove

23.506 **Binocular rivalry between spiral stimuli and linear motion in human observers.** Nour Malek, Julio Martinez-Trujillo

23.507 **Spatial-frequency selectivity of interocular suppression caused by dynamic stimuli** Eiji Kimura, Masataka Sawayama, Ken Goryo

23.508 **Binocular Rivalry with Peripheral Prisms for Treatment of Hemianopia** Andrew Haun, Eli Peli

23.509 **Discriminating the eye-specific layers of the human lateral geniculate nucleus using high-resolution fMRI** Larissa McKetton, Keith A. Schneider

23.510 **Comparison of Binocular Rivalry and Stimulus Rivalry with Manipulation of Interocular Grouping.** Janine D. Mendola, Lisa Kirsch

Binocular vision: Stereopsis

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

23.511 **Constraints on perceiving camouflage in da Vinci stereopsis** Susan Wardle, Barbara Gillam

23.512 **Is depth in monocular regions processed by disparity detectors? A computational analysis.** Inna Tsirlin, Robert Allison, Laurie Wilcox

23.513 **On the allocation of attention in stereoscopic displays** Andrea Carey, Laurie Wilcox, Robert Allison

23.514 **The effect of expectancies on stereoacuity** Marina Zannoli, Pascal Mamassian

23.515 **Occlusion-based stereopsis with alternating presentation of the stereo half images** Philip Grove, Hiroshi Ono

23.516 **Fine and coarse stereopsis follow different developmental trajectories in children** Sathyasri Narasimhan, Laurie Wilcox, Aliya Solski, Emily Harrison, Deborah Giaschi

23.517 **What's captured in Binocular Capture: Envelope or carrier?** Avesh Raghunandan, Jason Andrus

23.518 **Representation of Stereoscopic Volumes** Ross Goutcher, Lisa O'Kane, Laurie M. Wilcox

23.519 **Contours and Surfaces Affect Stereoscopic Depth Perception in Dynamically Specified Displays** Gennady Erlikhman, Tandra Ghose, Philip Kellman

23.520 **Temporal Characteristics of Stereomotion Direction Perception** Joel Persinger, Rui Ni

23.521 **A Comparison of Self-Reported and Measured Autostereogram Skills with Clinical Indicators of Accommodative Function** Patricia Cisarik, Bret Butterfield

23.522 **Effects of monocular distractors on monocular and binocular visual search.** Katharina M. Zeiner, Manuel Spitschan, Kotryna K. Grinkevičiūtė, Julie M. Harris

3D perception: Shape from shading and contours

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

23.523 **Inferring 3D Surface Shape from 2D Contour Curvature** Wendy J. Adams, Erich W. Graf, James H. Elder, Jenny A. E. Josephs

23.524 **"To bite, or not to bite": Perceived causality in the perception of negative parts** Patrick Spröte, Roland Fleming

23.525 **A computational model of recovering the 3D shape of a generalized cone** Yun Shi, TaeKyu Kwon, Tadamasa Sawada, Yunfeng Li, Zygmunt Pizlo

23.526 **Visual aftereffects in 3D shape and material of a single object** Isamu Motoyoshi

23.527 **Learning to use illumination gradients as shape cues.** Marina Bloj, Glen Harding, Julie M. Harris

23.528 **Orientation fields in shape from shading** Romain Vergne, Roland W. Fleming

23.529 **Qualitative shape from shading, specular highlights, and mirror reflections** Michael Langer, Arthur Faisman

23.530 **Shape-from-Shading and Cortical Computation: a new formulation** Benjamin Kunsberg, Steven Zucker

23.531 **The effects of lighting direction and elevation on judgements of shape-from-shading.** Giacomo Mazzilli, Andrew J. Schofield

Motion: Optic Flow

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

23.532 **Effects of flow field noise and density on optic flow parsing** Andrew Foulkes, Simon Rushton, Paul Warren

23.533 **Role of Occipital Cortex in the Perception of Depth-order from Motion: A Human fMRI Study** Jay Hegdé, Xin Chen

23.534 **Both changes in projected size and speed affect the judged height of objects moving over a ground surface** Junjun Zhang, Myron Braunstein, George Andersen

23.535 **The role of presentation and depth singletons in the prioritization of approaching but not receding motion in depth** Nonie Finlayson, Roger Remington, Philip Grove

23.536 **The motion of form features provides a cue to angular velocity** Christopher Blair, Jessica Goold, Kyle Killebrew, Gideon Caplovitz

23.537 **Visual and non-visual contributions to perception of object movement during observer movement** Paul A. Warren, Rebecca A. Champion, Andrew J. Foulkes, Simon K. Rushton, Tom C. A. Freeman

See page 23 for Abstract Numbering System

23.538 **Non-informative components of retinal and extra-retinal signals affect perceived surface orientation from optic flow** Giovanni Mancuso, Carlo Fantoni, Corrado Caudek, Fulvio Domini

23.539 **The Structure of Optical Flow for Figure-Ground Segregation** Stephan Tschechne, Heiko Neumann

23.540 **Children's cortical responses to optic flow patterns show differential tuning by pattern type, speed, scalp location and age group** Amanda Thomas, Alice Mancino, Heidi Elnathan, Jeremy Fesi, Kenneth Hwang, Rick Gilmore

23.541 **Visual perception of object motion during self-motion is not accurate** Diederick C. Niehorster, Li Li

23.542 **Patterns of optic flow experienced by infants and their mothers during locomotion** Rick Gilmore, Florian Raudies, Kari Kretch, John Franchak, Karen Adolph

23.543 **Visual Processing of Impending Collision: Differential Processing of Object Motion and Self-motion** Jing-Jiang Yan, Bailey Lorv, Hong Li, Hong-Jin Sun

23.544 **Time-Variable Motion Parallax Cues** Keith Stroyan, Mark Nawrot

23.545 **Effect of image size on speed estimation for real world moving scenes** Dekuang Yu, Gang Luo

23.546 **Less ecologically valid optic flow causes more postural sway** Vivian Holten, Stella F. Donker, Frans A.J. Verstraten, Maarten J. van der Smagt

23.547 **Long-range relationship between separated local motion signals is rapidly encoded in a point-to-point manner.** Kazushi Maruya, Shin'ya Nishida

23.548 **Motion parallax, pursuit eye movements and the assumption of stationarity** Brian Rogers

23.549 **The effect of monocular depth cues on the detection of moving objects by a moving observer** Constance Royden, Daniel Parsons, Joshua Travatello

Attention: Temporal

Saturday, May 12, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

23.551 **How the attentional blink interacts with the object-based attention?** Dexuan Zhang, Qiuping Cheng

23.552 **Visual entrained attention is not location specific, but it is voluntary.** Tim Martin

23.553 **Effects of stimulus energy on the attentional blink** Rasmus Lunau, Claus Bundesen

23.554 **Detecting to the beat of your own drum: the phase of low-delta oscillations leads a subject-specific mix of higher frequencies in the determination of visual-target detection** Ian Fiebelkorn, Adam Snyder, Manuel Mercier, John Butler, Sophie Molholm, John Foxe

23.555 **Attentional rhythm: A temporal analogue of object-based attention** Julian De Freitas, Brandon M. Liverence, Brian Scholl

23.556 **The long life of conspicuity: bottom-up factors play a role beyond the initial saccade.** Jelmer De Vries, Stefan Van der Stigchel, Ignace Hooge, Frans Verstraten

23.557 **Effect of lateralization of emotional faces and letters on the attentional blink.** Marcia Grabowecky, Laura Ortega, Chika Nwosu, Satoru Suzuki

23.558 **Detecting temporal misorderings requires more effort than detecting the misordered actions** Alicia Hymel, Daniel Levin

23.559 **Performance on Multiple Different Global/Local Processing Measures Predict Individual Differences in the Attentional Blink** Gillian Dale, Karen M. Arnell

23.560 **Resting EEG in alpha and beta bands predicts individual differences in attentional blink magnitude** Mary H. MacLean, Karen M. Arnell, Kimberly A. Cote

Saturday Afternoon Talks

Visual search: Eye movements and models

Saturday, May 12, 2:30 - 4:15 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Ignace Hooge

2:30 pm 24.11 **Ineffective visual search: Search performance deteriorates near borders due to inappropriate fixation durations and saccade amplitudes.** Ignace Hooge, Eelco Over, Casper Erkelens

2:45 pm 24.12 **Searching for objects in a virtual apartment: the effect of experience on scene memory** Leor Katz, Dmitry Kit, Brian Sullivan, Kat Snyder, Mary Hayhoe

3:00 pm 24.13 **Inhibition of gaze promotes exploration and search of natural scenes** Paul Bays, Masud Husain

3:15 pm 24.14 **Visual Foraging Behavior: When are the berries riper on the other side of the screen?** Jeremy Wolfe, Jasper Danielson

3:30 pm 24.15 **Predicting Performance in Natural Scene Searches** Matthew Asher, Iain Gilchrist, Tom Troscianko , David Tolhurst

3:45 pm 24.16 **Peripheral representation by summary statistics: An alternative to 3-D shape and lighting direction as basic features for search** Ruth Rosenholtz, Xuetao Zhang, Jie Huang

4:00 pm 24.17 **Periodic involvement of early visual cortex during attentional visual search: a TMS study** Laura Dugué, Philippe Marque, Rufin VanRullen

3D perception

Saturday, May 12, 5:15 - 6:45 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Lawrence Cormack

5:15 pm 25.11 **A unified approach to estimating shape from images** Phillip Isola, Forrester Cole, Bill Freeman, Fredo Durand, Edward Adelson

5:30 pm 25.12 **Perceived depth in photographs: humans perform close to veridical on a relative size task.** Maarten Wijntjes, Sylvia Pont

5:45 pm 25.13 **Estimating Range From Luminance** Che-Chun Su, Alan Bovik, Lawrence Cormack

6:00 pm 25.14 **Human defocus blur discrimination in natural images** Stephen Sebastian, Johannes Burge, Wilson Geisler

6:15 pm 25.15 **What can observation variance tell us about the visual system's use of shape information?** Glen Harding, Julie Harris, Marina Bloj

6:30 pm 25.16 **The perception of shape from shading for Lambertian surfaces and range images** James Todd, Eric Egan

Object recognition: Mechanisms and models

Saturday, May 12, 2:30 - 4:15 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Chris Baker

2:30 pm 24.21 **Image Parsing, From Curves to Natural Images** Danique J.J.D.M. Jeurissen, Pieter R. Roelfsema

2:45 pm 24.22 **Object Recognition is an Interactive Iterative Process** Orit Baruch, Ruth Kimchi, Morris Goldsmith

3:00 pm 24.23 **Holistic object representation in human visual cortex** Jiedong Zhang, Yiying Song, Jia Liu, Yaoda Xu

3:15 pm 24.24 **The evolving representation of objects in the human brain.** Thomas Carlson, Arjen Alink, David Tovar, Nikolaus Kriegeskorte

3:30 pm 24.25 **Task-dependent representations of visual objects** Assaf Harel, Dwight Kravitz, Chris Baker

3:45 pm 24.26 **The reference frame of object files: robust coupling of object information to the reference frame** Zhicheng Lin, Sheng He

4:00 pm 24.27 **The cortical demands of two kinds of perceptual task** Denis G. Pelli, Martin T. Barlow, Horace B. Barlow

Perceptual learning: Mechanisms

Saturday, May 12, 5:15 - 6:45 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Vikranth R. Bejjanki

5:15 pm 25.21 **Perceptual learning incepted by decoded fMRI neurofeedback without stimulus presentation** Kazuhisa Shibata, Yuka Sasaki, Mitsuo Kawato, Takeo Watanabe

5:30 pm 25.22 **The differing effects of REM and non-REM sleep on performance in visual statistical learning** Kimberly J. MacKenzie, Elizabeth A. McDevitt, Jozsef Fiser, Sara C. Mednick

5:45 pm 25.23 **Spontaneous Recovery of the Motion Aftereffect** Juraj Mesik, Stephen Engel

6:00 pm 25.24 **Perceptual learning in amblyopes: A cautionary tale** Lynne Kiorpes, Paul Mangal

6:15 pm 25.25 **Decoupling orientation specificity from perceptual learning in amblyopic vision** Jun-Yun Zhang, Lin-Juan Cong, Stanley Klein, Dennis Levi, Cong Yu

6:30 pm 25.26 **Evidence for action video game induced 'learning to learn' in a perceptual decision-making task** Vikranth R. Bejjanki, Chris R. Sims, C. Shawn Green, Daphne Bavelier

See page 23 for Abstract Numbering System

Saturday Afternoon Posters

Visual memory: Load, grouping, familiarity

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

26.301 **Rapid forgetting due to binding failures in working memory** Yoni Pertzov, Sabine Joseph, Mia Dong, Elke Reunis, M. Paul Bays, Masud Husain

26.302 **Distractor processing in low perceptual load is determined by the availability of visual short-term memory resources** Zachary Roper, Shaun Vecera

26.303 **Task-dependent representations in Visual and Frontal Cortex during Working Memory** Sue-Hyun Lee, Dwight Kravitz, Chris Baker

26.304 **Working Memory Load Increase Predicts Visual Search Efficiency** Nada Attar, Matthew Schneps, Marc Pomplun

26.305 **A load-specific influence of stimulus category on short-term memory for object and position** Raju Sapkota, Shahina Pardhan, Ian van der Linde

26.306 **Selective Impact of Mental Abstract Tasks on Visuospatial Short-Term Memory** Nader Noori, Laurent Itti

26.307 **Grouping Principles in Visual Working Memory** Marian Berryhill, Dwight Peterson

26.308 **Impact of Gestalt Grouping on Objects in Spatial Working Memory** Melissa A.B. Smith, Eric Blumberg, Matthew S. Peterson

26.309 **Influence of category knowledge on change detection performance** Melinda S. Jensen, Erin L. Jones

26.310 **Object identities facilitate response to a target in spatio-temporal contextual cuing** Yoko Higuchi, Hirokazu Ogawa, Yoshiyuki Ueda, Jun Saiki

26.311 **Recollection and familiarity for rotated objects** William Hayward

26.312 **Pre-experimental familiarity modulates the effects of item repetition on source memory** Hongmi Lee, Juyoun Jung, Do-Joon Yi

26.313 **Does memory enhancement training alter perceptual representations?** Juliana Rhee, Talia Konkle, Timothy Brady, George Alvarez

26.314 **Object-based benefits without object-based representations.** Sarah Cormiea, Daryl Fougnie, George A. Alvarez

26.315 **Attention and Information Transfer from Visual Sensory to Visual Working Memory** Jane Jacob, Shon MonDragon, Bruno Breitmeyer

26.316 **Implicit memory representations in the oculomotor system** Artem Belopolsky, Stefan Van der Stigchel

Perceptual organization: Shapes and objects

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

26.320 **Inhibitory mechanisms for visual form perception in the human visual cortex** Adrian Garcia, Shu-Guang Kuai, Richard Edden, Martin Wilson, Nigel Davies, Andrew Peet, Theo Arvanitis, Zoe Kourtzi

26.321 **Visual adaptation to physical stability of objects** Steven A. Cholewiak, Manish Singh, Roland Fleming

26.322 **Meaning can be Accessed for the Groundside of a Figure** Laura Cacciamani, Andrew J. Mojica, J. L. Sanguinetti, Mary A. Peterson

26.323 **Figure-ground organization tested using a 3D shape constancy task** Tadamasa Sawada, Yun Shi

26.324 **Recognition of Amodal and Modally Completed Shapes by a Grey Parrot (Psittacus erithacus)** Irene M. Pepperberg

26.325 **Attention is allocated to figures only under conditions of uncertainty** Andrew J. Mojica, Elizabeth Salvagio, Mary A. Peterson

26.326 **The window of 'postdiction' in visual perception is flexible: Evidence from causal perception** Jonathan Kominsky, Brian Scholl

26.327 **Negative parts and local reversal of figure and ground** Seha Kim, Manish Singh, Jacob Feldman

26.328 **Impaired shape integration but normal illusory contour formation in schizophrenia: Evidence for a high-level grouping deficit** Brian Keane, Deepthi Mikkilineni, Thomas Papathomas, Steven Silverstein

26.329 **When topological change diminishes visual masking** Yan Huang, Tiangang Zhou, Lin Chen

26.330 **Shape Similarity Judgments Under Conditions of Uncertainty** Patrick Garrigan

26.331 **A Temporal Window of Facilitation in the Formation of Shape Percepts** Jan Drewes, Galina Goren, James H. Elder

26.332 **Systematic differences in perceptual salience among different types of nonaccidental properties** Eric Weismantel, James T. Todd, James C. Christensen

Spatial vision: Models

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

26.401 **Nonadditivity of stochastic and deterministic masks: suppression may contaminate estimates of equivalent noise** Daniel H. Baker, Tim S. Meese

26.402 **Using Repeated Noise to Look Inside the Box** Stanley Klein, Thom Carney, Hairan Zhu, Sean Bupara

26.403 **A model of target detectability across the visual field in naturalistic backgrounds** Chris Bradley, Wilson S. Geisler

26.404 **Mach bands and models of spatial vision: the role of 1st, 2nd and 3rd derivative operators in encoding edges and bars** Mark Georgeson, Stuart Wallis

26.405 **Simple line-length estimation not so simple** Kyriaki Mikellidou, Peter Thompson

26.406 **Spatio-temporal characteristics of a rotating segmented ring.** John Hayes

26.407 **The Adaptive Psi Method and the Lapse Rate** Nicolaas Prins

Spatial vision: Crowding

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

26.408 **The visual system obligatorily integrates information over a greater spatial extent when attention is divided** Jason Haberman, Daryl Fougnie, George Alvarez

26.409 **Crowding is consequence of attentional failure** Felix Bacigalupo, Steven Luck

26.410 **Crowding of parafoveal targets without focal attention** Laura Renninger, Saeideh Ghahghaei

26.411 **Presaccadic Foveal Priming Diminishes Crowding** Benjamin Wolfe, David Whitney

26.412 **Presenting a target and its surrounding flankers in different eyes reduces visual crowding, even though eye of origin difference is imperceptible** Xiaomeng Zhang, Gao Meng, Li Zhaoping

26.413 **An early cortical suppression might contribute to crowding** Juan Chen, Qing Yu, Yingchen He, Fang Fang

26.414 **Perceptual Crowding in a Neural Model of Feedforward-Feedback Interactions** Tobias Brosch, Heiko Neumann

26.415 **Jiggling the crowding away: improving letter recognition in peripheral vision** Deyue Yu

26.416 **Contributions of target and flanker features to crowding** Jean-Baptiste Bernard, Daniel R. Coates, Susana T. L. Chung

26.417 **A "fuller" report on mislocation errors in visual crowding** Susana T.L. Chung, Roger W. Li, Dennis M. Levi

26.418 **When masking is like crowding** Maria Lev, Uri Polat

26.419 **When the picture is complete, crowding disappears, and grouping rules** Mauro Manassi, Frouke Hermens, Gregory Francis, Michael H. Herzog

26.420 **Visual Crowding in Area V4 Neurons is a Stimulus Integration Effect** Brad Motter

26.421 **Crowding in individuals with age-related macular degeneration** Julian M. Wallace, Susana T. L. Chung, Bosco S. Tjan

26.422 **Lighting Interpretation Within Scenes Affects Crowding** Wesley Chaney, David Whitney

26.423 **The contributions of confusion and position swapping to crowding between letter-like symbols: Evidence and a Confusion-and-Position-Swapping model** Lin-Juan Cong, Cong Yu, Lei Liu

26.424 **How Recurrent Dynamics Explain Crowding** Aaron Clarke, Michael Herzog, Frouke Hermens

26.425 **Common Spatial Characteristics of Illusory Conjunctions and Crowding** Cynthia M. Henderson, James L. McClelland

26.426 **In the averaged crowd, children are better than adults in size discrimination** C. Holley Pitts, Melanie Palomares

26.427 **Chinese-reading expertise leads to holistic crowding between faces and Chinese characters** Hsin-Mei Sun, Benjamin Balas

26.428 **Semantic processing for crowded words: Evidence from fMRI** Su-Ling Yeh, Shu-Hui Lee, Yun-An Huang, Tai-Li Chou, Sheng He, Shuo-Heng Li

Visual memory: Capacity and resolution I

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

26.429 **Load-induced transient perceptual neglect is insensitive to reference frame manipulations** Davood Gozli, Kristin Wilson, Jay Pratt, Susanne Ferber

26.430 **Estimating the quantity and quality of working memory representations with continuous report versus change detection** Eve Ayeroff, Jonathan Gill, George Alvarez

26.431 **Oscillatory mechanism underlying the VSTM capacity limit: In mind, out of phase** Keisuke Fukuda, Edward K. Vogel

26.432 **An Emergent Hemifield Asymmetry for Visual Short-Term Memory Capacity** Christine M. Gamble, David C. Somers

26.433 **Visual working metamemory** Jordan W. Suchow, Daryl Fougnie, George A. Alvarez

26.434 **Retro-cue improves visual working memory performance without changing the number of items being maintained** Hiroyuki Tsubomi, Keisuke Fukuda, Edward K. Vogel

26.435 **Dopamine modulates visual working memory precision** Nahid Zokaei, Nikos Gorgoraptis, Masud Husain

Visual memory: Statistics, masking, configuration

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

26.436 **Does variability affect statistical averaging of length and orientation?** Jesse Moyer, Anne Payne, C. Holley Pitts, Melanie Palomares

26.437 **The Reliance on Ensemble Statistics in VWM Varies According to the Quality of Item Memory** Seongmin Hwang, Andrew Hollingworth

26.438 **Statistical regularities about features are incidentally learned and used to improve change detection performance only when features are unique** Amanda E. van Lamsweerde, Melissa R. Beck

26.439 **Knock-Out: A New Form of Visual Masking** Emily S. Cramer, Ronald A. Rensink

26.440 **The effect of masking on working memory for emotional faces.** Paul Thomas, Margaret Jackson, Jane Raymond

26.441 **The temporal dynamics of feature integration for color and form** Karin S. Pilz, Janine Scholz, Christina Helduser, Michael H. Herzog

26.442 **Updating visual working memory is both object-based and feature-selective** Hyunyoung Park, Adriane E. Seiffert

26.443 **Effects of inter-item configuration on relation working memory** Akiko Ikkai, Christopher Ackerman, Susan Courtney

26.444 **Enhanced Familiarity with Sequential Presentations in Visual Working Memory** Andrew Yonelinas, Weiwei Zhang, Kimron Shapiro

26.445 **Features or levels? Evidence for binding levels better than features.** Justin M. Ericson, Melissa R. Beck

26.446 **Investigating the role of spatial location in surface-feature binding: The retrieval of features and objects as a function of spatial proximity** Jane Elsley, Fabrice Parmentier, Murray Maybery, Robert Udale

Attention: Capture I

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

26.447 **Attentional capture correlates with inter-individual distractibility in everyday life: an electrophysiological investigation** Nicolas Burra, Dirk Kerzel

26.448 **Working memory load and attentional capture by unpredicted color changes** Adrian von Muhlenen, Markus Conci

26.449 **Non-salient pop-out attracts attention and the eyes** Ulrich Ansorge, Isabella Fuchs

See page 23 for Abstract Numbering System

26.450 **Parametric manipulation of attentional conflict in the additional-singleton paradigm** Harriet Goschy, Hermann J. Müller, Michael Zehetleitner

26.451 **The Capture Of Attention By Abruptly Onsetting New Objects Under Conditions Of Unexpectedness And Unpreparedness** Gernot Horstmann

26.452 **The transfer of abstract attentional sets across different types of visual search** Tashina Graves, Howard Egeth

26.453 **Action video game players resist oculomotor capture, but only when told to do so** Joseph Chisholm, Alan Kingstone

26.454 **Missed rewards capture attention** Sanjay Manohar, Masud Husain

26.455 **The role of reward in driving attention shifts.** James Retell, Ashleigh Kunde, Mei-Ching Lein, Roger Remington

26.456 **Value-driven Attentional Capture by Rewarded Orientations** Patryk Laurent, Brian Anderson, Michelle Hall, Steven Yantis

26.457 **Value-Driven Oculomotor Capture** Brian Anderson, Steven Yantis

26.458 **Inhibition of distractor features in the attentional control setting** Fook Chua

Attention: Neural mechanisms and models I

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

26.501 **Flat BOLD-o-metric functions in motion direction discrimination in human visual cortex** Taiyong Bi, Zili Liu, Fang Fang

26.502 **Overlapping neural circuits for visuospatial attention and eye movements in human cerebellum.** Christopher L. Striemer, Melvyn A. Goodale, Sandrine de Ribaupierre

26.503 **The effect of competition on early visual ERP components** Claire Miller, Kimron Shapiro, Steven Luck

26.504 **Real-time decoding and training of attention** Megan T. deBettencourt, Ray F. Lee, Jonathan D. Cohen, Kenneth A. Norman, Nicholas B. Turk-Browne

26.505 **Population receptive field estimation of visuotopic areas in the human intraparietal sulcus** Masanori Kanazu, Hiroyuki Yamashiro, Hiroki Yamamoto, Nobukatsu Sawamoto, Hidenao Fukuyama, Jun Saiki

26.506 **Neural correlates of multiple object processing in the absence of awareness** Silvia Pagano, Veronica Mazza

26.507 **The role of attention in repetition attenuation and pattern similarity during visual learning** Katherine Moore, Do-Joon Yi, Samuel Cartmell, Marvin Chun

26.508 **Effects of ongoing brain oscillations on psychometric functions** Maximilien Chaumon, Niko Busch

26.509 **Intrinsic functional connectivity of the humans lateral geniculate nucleus** Joseph Viviano, Kevin DeSimone, Keith Schneider

26.510 **In the zone or zoning out? Behavioral and neural evidence for distinct attentional states** Michael Esterman, Sarah Noonan, Monica Rosenberg

26.511 **Three measures of ongoing neural activity examined in retinotopically mapped visual cortex** Abdurahman Elkhetali, Ryan Vaden, Sean Pool, Kristina Visscher

26.512 **fMRI reveals the neural basis for the distractor preview effect** Paige Scalf, Jeewon Ahn, Diane Beck, Alejandro Lleras

26.513 **Should I switch or should I focus? Switching boosts audio-visual attention** Joaquin Rapela, Klaus Gramann, Marissa Westerfield, Jeanne Townsend, Scott Makeig

26.514 **Attentional control network dynamics in response to a target-similar distractor** Nicholas DiQuattro, Risa Sawaki, Joy Geng

Attention: Spatial I

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

26.515 **Stronger Inhibition of Return Revealed for Identification Accuracy in the Presence of High External Noise** Richard S. Hetley, Barbara Anne Dosher, Zhong-Lin Lu

26.516 **Endogenous attention optimizes performance by adjusting spatial resolution: evidence from selective adaptation** Antoine Barbot, Barbara Montagna, Marisa Carrasco

26.517 **Understanding the failures of selective attention: The flanker congruency effect is consistent with failures of selection not perceptual interactions** Serap Yigit-Elliott, John Palmer, Cathleen Moore

26.518 **The spatio-temporal profile of attention to targets in texture** Preeti Verghese, Saeideh Ghahghaei

26.519 **The role of motor response in feature repetition priming: Encoding of search-relevant information is not contingent on links between features and motor responses.** Amit Yashar, Tal Makovski, Dominique Lamy

26.520 **Attentional sets interact with load but not with dilution** Hanna Benoni, Alon Zivony, Yehoshua Tsal

26.521 **Rapid acquisition but slow extinction of an attentional bias in space** Yuhong V. Jiang, Khena M. Swallow, Gail M. Rosenbaum

26.522 **Successful Countermanding Affects Presaccadic Attention At The Saccade Goal** Aarlenne Khan, Gunnar Blohm, Doug Munoz

26.523 **Pre-saccadic perceptual facilitation: top-down covert shift of attention or automatic enhancement of visual processing?** Annabelle Blangero, Mark Harwood, Josh Wallman

26.524 **Dilution and redundancy effects on Stroop interference** Ji Young Lee, Soojung Min, Do-Joon Yi

26.525 **The head turn cueing effect is sustained at longer SOA's in the presence of an object distractor** Buyun Xu, James Tanaka, Kristy Mineault

26.526 **Spatial probabilities modulate repetition effects in target detection** Yile Sun, Arni Kristjansson, Joy Geng

26.527 **When Information Matters: The Effects Of Cue Predictability And Distractors On The Allocation Of Attention** Willliam Prinzmetal, Kelly Whiteford, Joseph Austerweil, Ayelet Landau

26.528 **Attentional Filtering and Friend vs. Foe Discrimination in Action Video Games** Evan Palmer, Christopher Brown

26.529 **Handcuffing visual attention: Selection is narrowed and slowed near the hands** Christopher Davoli, James Brockmole

26.530 **Time course of visual orienting to subliminal central events** Roman Vakhrushev, Igor S. Utochkin

Eye movements: Cognition

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

26.531 **The effects of potential social interactions and implied social presence on social attention** Alessandra DiGiacomo, Kaitlin Laidlaw, Alan Kingstone

26.532 **Animated character appearance affects viewing patterns and subjective ratings of personality characteristics** Elizabeth Carter, Diane Williams, Moshe Mahler, Jessica Hodgins

26.533 **Looking from different viewpoints: an eye movement study on novel object and face recognition.** Filipe Cristino, Candy Patterson, Charles Leek

26.534 **Gaze patterns during observation of emotional bodily movements reveal individual lateral biases** Martin A. Giese, Kathrin Festl, Andrea Christensen

26.535 **Mind the curve: What saccadic curvature can tell us about face processing** Kaitlin Laidlaw, Thariq Badiudeen, Alan Kingstone

26.536 **The relationship between overt attention and event perception during dynamic social scenes** Tim Smith

26.537 **The Death of of General Wolfe: Investigating the influence of artistic compositional techniques on eye movement control and interpretation of paintings** Nida Latif, Paul M.J. Plante, K.G. Munhall, Monica S. Castelhano

26.538 **Dysmetric saccades to targets moving in predictable but nonlinear trajectories** Reza Azadi, Alex Holcombe, Jay Edelman

26.539 **Planning of saccadic eye movements in an evaluation task** Louis-Alexandre Etezad-Heydari, Hang Zhang, Rob Morris, Laurence Maloney

26.540 **Target predictability and eye-hand coordination in a rapid reaching task** He Huang, Markus Plank, Sergei Gepshtein, Howard Poizner

26.541 **Are experience-dependent eye movements determined by implicit or explicit memory processes?** Benjamin Reichelt, Sina Kühnel

26.542 **Reading unsegmented text: The impact on fixation location and duration** Heather Sheridan, Eyal M. Reingold

26.543 **Oculomotor Inhibition of Return in Normal and Mindless Reading** John M. Henderson, Steven G. Luke

26.544 **The Influence of Target and Distractor Location Bias on Oculomotor Capture and Distractor Dwell Times** John L. Jones, Walter R. Boot, Michael P. Kaschak

26.545 **Gaze behavior of adults with Autism Spectrum Disorder does not explain change detection in dynamic scenes** Rebecca Nako, Antje Nuthmann, Teodora Gliga, Tim J. Smith

26.546 **Gaze Pattern Differences Between Objective and Subjective Search of E-Commerce Web Pages** Duy Nguyen, Evan Palmer

Perception and action: Interception

Saturday, May 12, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

26.547 **Independent Feature Processing in both Vision for Perception and Vision for Action** Jens H. Christiansen, Jeppe H. Christensen, Søren Kyllingsbæk

26.548 **The temporal profile of attention in a perceptual task shifts with a concurrent reach** Emma Stewart, Anna Ma-Wyatt

26.549 **The Human Homologue of Macaque Area V6A** Sabrina Pitzalis, Marty Sereno, Giorgia Committeri, Patrizia Fattori, Gaspare Galati, Annalisa Tosoni, Claudio Galletti

26.550 **Attention distorts reach space** Katharina Anton-Erxleben, Stephanie Westendorff, Stefan Treue, Alexander Gail

26.551 **Different control modes of temporal and spatial variability in reaching movements** Cristina de la Malla, Joan López-Moliner

26.552 **Online visual feedback of the hand suppresses gaze-dependent overshoots in memory-guided reach** Joost C. Dessing, Masahiro Kokubu, Armin Abadeh, Patrick A. Byrne, J. Douglas Crawford

26.553 **Hit me with your best shot: Optimal movement planning with constantly changing decision parameters.** Heather Neyedli, Timothy Welsh

26.554 **Effects of visual induction on egocentric perception and manual behavior are short-lived** Ethel Matin, Wenxun Li, Leonard Matin

26.555 **Temporal dependency in estimation of target velocity disappears in self-generated stimuli** Oh-Sang Kwon, David Knill

26.556 **Hand-specificity in gaze-dependent memory-guided reach errors** Masahiro Kokubu, Joost C. Dessing, J. Douglas Crawford

26.557 **Terminal, but not concurrent, prism exposure produces perceptual aftereffects in healthy young adults.** Tracey, A. Herlihey, Susanne Ferber

26.558 **The same object and at least three different grip apertures** Carlo Campagnoli, Robert Volcic, Fulvio Domini

26.559 **Flexible adaptation of hand orientation to changes of object orientation during grasping** Owino Eloka, Volker H. Franz

See page 23 for Abstract Numbering System

Sunday Morning Talks

Perceptual organization

Sunday, May 13, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 1-3
Moderator: Mary Peterson

8:00 am 31.11 **Emergent Features Predict Grouping in Search and Classification Tasks** Anna Cragin, Amanda Hahn, James Pomerantz

8:15 am 31.12 **P[A and B] > P[A]P[B] for independent events A,B: erroneous use of probability in a simple visual task** James Tee, Hang Zhang, Laurence T. Maloney

8:30 am 31.13 **Invariance of Correlation Perception** Ronald A. Rensink

8:45 am 31.14 **Feedback from Domain-Specific Visual Recognition Processes: Evidence from Selective Digit Metamorphopsia** Michael McCloskey, Teresa Schubert, David Rothlein, Brenda Rapp, Jason Brandt, Xi Sheng

9:00 am 31.15 **Increases in alpha-band electrocorticographic oscillations and decreases in fMRI signals reflect surround suppression in V1 but not extra-striate cortex** Ben Harvey, Mariska Vansteensel, Chris Dijkerman, Martine van Zandvoort, Cyrille Ferrier, Natalia Petridou, Wietske Zuiderbaan, Frans Leijten, Nick Ramsey, Serge Dumoulin

9:15 am 31.16 **Stimulus predictability affects early sensory components of the ERP response** Sung Jun Joo, Geoffrey M. Boynton, Scott O. Murray

9:30 am 31.17 **The neural correlates of spatiotemporal form integration in object and motion perception** J. Daniel McCarthy, Peter J. Kohler, Peter U. Tse, Gideon P. Caplovitz

Binocular vision

Sunday, May 13, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Ben Backus

10:45 am 32.11 **The Functional Advantage of Slit Pupils** Martin Banks, Robert Held

11:00 am 32.12 **Explaining stereopsis in the absence of binocular disparities** Dhanraj Vishwanath, Paul Hibbard

11:15 am 32.13 **No role for early stereo in scene recognition** Matteo Valsecchi, Baptiste Caziot, Benjamin T. Backus, Karl R. Gegenfurtner

11:30 am 32.14 **Stereoscopic Latency** Baptiste Caziot, Matteo Valsecchi, Karl Gegenfurtner, Benjamin Backus

11:45 am 32.15 **Hysteresis in Stereoscopic Surface Interpolation: A New Paradigm** Christopher Tyler, Navdeep Gill, Spero Nicholas

12:00 pm 32.16 **Depth Spreading through Empty Space Induced by Sparse Disparity Cues** Xintong Li, Abigail E. Huang, Eric L. Altschuler, Christopher W. Tyler

12:15 pm 32.17 **Depth from diplopic stimuli without vergence eye movements** Arthur Lugtigheid, Laurie Wilcox, Robert Allison, Ian Howard

Eye movements: Remapping

Sunday, May 13, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 4-5
Moderator: Michele Rucci

8:00 am 31.21 **The cost of making saccades** Martina Poletti, David Burr, Michele Rucci

8:15 am 31.22 **Task-relevant remapping of peripheral information at the time of saccades.** Stefano Baldassi, Michela Panichi, Miguel P. Eckstein

8:30 am 31.23 **Allocation of attention across saccades** Martin Szinte, Donatas Jonikaitis, Martin Rolfs, Patrick Cavanagh

8:45 am 31.24 **Remapping of attentional priority across the entire visual field** Koorosh Mirpour, James Bisley

9:00 am 31.25 **Effects of motion-induced perceptual mislocalizations on saccade landing position** Anna A. Kosovicheva, Benjamin Wolfe, David Whitney

9:15 am 31.26 **Retinotopic Interference: Systematic misperception of colors after a saccade** Julie Golomb, Nancy Kanwisher

9:30 am 31.27 **Predictive remapping preserves elementary visual features across saccades** William Harrison, James Retell, Roger Remington, Jason Mattingley

Attention: Tracking

Sunday, May 13, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Alex Holcombe

10:45 am 32.21 **The world's spinning backwards because it's too fast to track** Derek Arnold, Sam Pearce, Welber Marinovic

11:00 am 32.22 **A hemisphere-specific attentional resource supports tracking only one fast-moving object.** Wei-Ying Chen, Alex O. Holcombe

11:15 am 32.23 **Attentional selection increases the refresh rate of perception: Evidence from multiple-object tracking** Brandon M. Liverence, Brian Scholl

11:30 am 32.24 **Capacity & Resolution of Multi-object Tracking** Weiwei Zhang, Andrew Yonelinas

11:45 am 32.25 **Revisiting Target Merging In Multiple Object Tracking (MOT)** Piers Howe, Natalie Incledon, Daniel Little

12:00 pm 32.26 **Splitting attention slows attention: poor temporal resolution in multiple object tracking** Alex Holcombe, Wei-Ying Chen

12:15 pm 32.27 **Further evidence for automatic, feature-based grouping in multiple object tracking** Everett Mettler, Gennady Erlikhman, Brian Keane, Todd Horowitz, Philip Kellman

Sunday Morning Posters

Motion: Biological I

Sunday, May 13, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

33.301 **The global and local effects on biological motion perception in squirrel monkeys (Saimiri sciureus)** Takeshi Atsumi, Yoshihisa Osada

33.302 **The effect of stimulus contrast on action discrimination** Sarah Dziura, Wendy Baccus, James Thompson

33.303 **Intersubject variability in the use of form and motion cues during biological motion perception** Luke Miller, Ayse P. Saygin

33.304 **Efficiencies for parts and wholes in biological motion perception** W. Drew Bromfield, Christopher Taylor, Jason Gold

33.305 **"What" and "when" in action prediction** Junzhu Su, Jeroen J.A. van Boxtel, Hongjing Lu

33.306 **Just walk away: Reference repulsion in the perception of crowd behavior** Timothy Sweeny, Steve Haroz, David Whitney

33.307 **Perceived direction of human, robot and point-light walkers modulated by head direction** Yuta Murofushi, Kazuya Ono, Takao Sato, Michiteru Kitazaki

33.308 **Exploring Individual Differences in Perceptual Biases in Depth-Ambiguous Point-Light Walkers** Adam Heenan, Nikolaus F. Troje

33.309 **Perceived naturalness of human motion depends on internal consistency** Nikolaus F. Troje, Stephanie Lau

33.310 **The temporal structure of social reflexive orienting from point-light biological motion** Emily Grossman, Eugene Kim, Elizabeth Hecker, Sarah Tyler

33.311 **Psychosocial Resources Affect Biological Motion Perception** Jamie Gorman, Kent Harber, Maggie Shiffrar, Karen Quigley

33.312 **Position-specific and position-invariant action adaptation correlates with the Autism Spectrum Quotient** Jeroen J.A. van Boxtel, Hongjing Lu

Development: Lifespan

Sunday, May 13, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

33.315 **Perceptual and cognitive performance in Indian female tea-pluckers are improved with iron-fortified salt** Julie Hammons, Michael Wenger, Laura Murray-Kolb, Sudha Venkatramanan, Jere Haas

33.316 **Measuring Spatial Contrast Sensitivity in Adults and Children by Combining Sine Waves with Landolt Cs.** Russell J. Adams, Avery E. Earle, Mary L. Courage

33.317 **Age-related changes in suprathreshold contrast perception in the upper and lower visual field: Effects of temporal/spatial frequency and contrast** Lynnette Leone, Barbara Blakeslee, Mark E. McCourt

33.318 **Magnified visual feedback alters the neural activation of muscles and impairs motor control and learning in older adults** Evangelos Christou, Harsimran Baweja, Yen Ting Chen, Emily Fox, Changki Kim, MinHyuk Kwon, Kelly Larkin, Tanya Onushko

33.319 **Development of visual texture segregation during early childhood** Melissa Sue Sayeur, Michelle McKerral, Emmanuel Tremblay, Phetsamone Vannasing, Franco Lepore, Maryse Lassonde

33.320 **Genetic and Environmental Contributions to Chromatic and Luminance Contrast Sensitivity in Infant Twins** Emily Blumenthal, Rain Bosworth, Karen Dobkins

33.321 **Cortical representation for the categorical color perception in infants investigated by near-infrared spectroscopy** Jiale Yang, So Kanazawa, Masami K. Yamaguchi, Ichiro Kuriki

33.322 **Contour integration and aging: effects of inter-element distance, distracter density, and stimulus duration** Eugenie Roudaia, Allison Sekuler, Patrick Bennett

33.323 **A Comparison of VEP and Behavioral Responses to Global Form and Motion in Infant Macaque Monkeys** Angela C. Voyles, Lynne Kiorpes

33.324 **The influence of accommodation and vergence coupling during visual development.** Eric Seemiller, Danielle Teel, Erin Babinsky, Tawna Roberts, T. Rowan Candy

33.325 **Accommodation and vergence: comparing 3-month-old infant responses to oculomotor model performance** Erin Babinsky, Tawna Roberts, Eric Seemiller, T. Rowan Candy

33.326 **Infants' Visual Attention While Viewing Naturalistic Actions** Ty W. Boyer, Tian (Linger) Xu, Chen Yu, Bennett I. Bertenthal

33.327 **Developmental Changes in Infants' Visual Attention to Pointing** Bennett Bertenthal, Ty Boyer

33.328 **Where do mothers point their head when they walk and where do babies point their head when they are carried?** Florian Raudies, Kari Kretch, John Franchak, Ennio Mingolla, Rick Gilmore, Karen Adolph

33.329 **Words cue children's attention in a visual search task** Catarina Vales, Linda Smith

33.330 **Prevention of Glaucoma through Exercise: A meta-analysis** Gabrielle Roddy, Dave Ellemberg

33.331 **Poorer face recognition in left-eye amblyopes** Garga Chatterjee, Laura Germine, Abigail Novick, Ken Nakayama, Jeremy Wilmer

33.332 **The Development of Sensitivity to the Direction of Motion** Terri L. Lewis, Lisa R. Betts, Daphne Maurer

Face perception: Disorders

Sunday, May 13, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

33.401 **Recovery from achromatopsia and prosopagnosia is not reflected by corresponding changes in the response to color or faces in human visual cortex** Timothy J. Andrews, Andre Gouws, Edward H. Silson, Jessica Rodgers, Heidi Baseler, Andrew W. Young, Simon J. Hickman, Antony B. Morland

33.402 **The Prosopagnosic Profile of Patients Deprived of Early Vision by Bilateral Congenital Cataracts** Adélaïde de Heering, Daphne Maurer

33.403 **Face Detection Deficits in Acquired Prosopagnosia** Xiaokun Xu, Irving Biederman

See page 23 for Abstract Numbering System

33.404 **Prosopagnosia Following Epilepsy Surgery: What You See Is Not All They Have** Raika Pancaroglu, Samantha Johnston, Alla Sekunova, Bradley Duchaine, Jason J. S. Barton

33.405 **Dissociations of face and body perception in acquired prosopagnosia** Tirta Susilo, Lucia Garrido, Richard Cook, Galit Yovel, Jason Barton, Brad Duchaine

33.406 **Social perception of faces in acquired prosopagnosia** Constantin Rezlescu, Tirta Susilo, Jason Barton, Brad Duchaine

33.407 **CFMT-Kids: A new test of face memory for children** Kirsten Dalrymple, Jesse Gomez, Brad Duchaine

33.408 **Don't look at the mouth, but then where? – Orthogonal task reveals latent eye avoidance behavior in subjects with high Autism Quotient scores.** Eiko Shimojo, Daw-An Wu, Shinsuke Shimojo

33.409 **Group Difference in Feature Scanning While Learning Novel Faces** M.D. Rutherford, Jennifer A. Walsh

33.410 **Sad benefit on self-face working memory: the effect of depression vulnerability** Alessandra Monni, Corrado Caudek, Fulvio Domini

Face perception: Models

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

33.413 **Low sensitivities but surprisingly high efficiencies for face-gender discrimination from interattribute distances** Nicolas Dupuis-Roy, Kim Dufresne, Alexandre Couet-Garand, Daniel Fiset, Frédéric Gosselin

33.414 **Congruency effects in the identification of upright versus inverted faces** Fakhri Shafai, Ipek Oruc

33.415 **Tolerance is tolerance of similarities: behavioral and computational evidence for a view-tolerant identity representation in face-space** Idan Blank, Lior Wolf, Galit Yovel

33.416 **Neural theories for the recognition of dynamic faces in monkey cortex** Girija Ravishankar, Gregor Schulz, Uwe J. Ilg, Martin A. Giese

33.417 **Comparing computer and human performance on identical face detection tasks** Samuel E. Anthony, Maryam Vaziri Pashkam, Ken Nakayama

33.418 **Neuro-anatomic correlates of the feature-saliency hierarchy in face processing: An fMRI-adaptation study** Joshua Lai, Raika Pancaroglu, Ipek Oruc, Jason Barton, Jodie Davies-Thompson

33.419 **A large-scale computational investigation of face space** Adrian Nestor, David Plaut, Marlene Behrmann

33.420 **Applying multidimensional signal detection models of the uncertainty task: As example using face recognition** Michael Wenger, Robin Thomas, Nick Altieri

33.421 **Both low- and high-level vision factors account for visual search efficiency** Tal Golan, Assaf Harel, Joseph DeGutis, Lynn Robertson, Shlomo Bentin

33.422 **Seeing sets for famous faces: power and limits of summary representations** Markus F. Neumann, Stefan R. Schweinberger, A. Mike Burton

33.423 **Dissociations in emotion, gender, and object processing** Pamela Pallett, Ming Meng

33.424 **Sex and sexual orientation differences in perceptual processing.** Alex Giffard, Caitlin Mullin, Jennifer Steeves

33.425 **A Model of Facial Expressions of Grammar** Carlos Fabian Benitez-Quiroz, Aleix Martinez

33.426 **Holistic perception of interocular distance in synthetic faces.** Michael Vekser, Hugh Wilson

Object recognition: Mechanisms and models

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

33.428 **Form Perception through Phase Relations of Retina Ganglion Cell Firing and Extraocular Muscle Contractions** Jonathan Butner, Kyle Gagnon, Michael Geuss, Thomas Malloy, Michael Kramer, Jeanine Stefanucci

33.429 **Small collections violate Weber's law during relative number judgments.** Heeyoung Choo, Steven Franconeri

33.430 **How independent are form and color in the ventral visual pathway?** Jacqueline C. Snow, Lars Strother, Alexandra C. Coros, Jody C. Culham

33.431 **Looking for the LOC with MEG using frequency-tagged natural objects** Frederic Benmussa, Jean-Gabriel Dornbierer, Stephane Buffat, Anne-Lise Paradis, Jean Lorenceau

33.432 **ERP and EEG correlates of bottom-up and top-down image recognition in early visual areas** Yury Petrov, Jiehui Qian, Jeffrey Nador

33.433 **Exploring computational models of visual object perception** Darren Seibert, Daniel Leeds, John Pyles, Michael Tarr

33.434 **Neural coding of dynamic articulating objects** John A. Pyles, Michael J. Tarr

33.435 **Object representaion in human parietal cortex and its functional significance** Maryam Vaziri Pashkam, Katherine Bettencourt, Yaoda Xu

33.436 **The case against normalization in fMRI pattern analysis** Lúcia Garrido, Maryam Vaziri-Pashkam, Ken Nakayama, Jeremy Wilmer

33.437 **Recognizing objects based on location** Derrick Schlangen, Elan Barenholtz

33.438 **Improving object classification by simultaneously learning object and contextual cues** Sophie Marat, Laurent Itti

33.439 **A Poisson Counter Model for Visual Identification of Stimuli with Varying Contrast in Pure Accuracy Tasks** Søren Kyllingsbæk, Jeppe H. Christensen, Bo Markussen, Claus Bundesen

33.440 **Single trial analysis of individual items across the ventral visual pathway with high-field fMRI** Dwight Kravitz, Souheil Inati, Sean Marrett, Chris Baker

33.441 **Critical timing of dorsal and ventral visual streams in abrupt and ramped onset object recognition** Robin Laycock, Bonnie Alexander, David Crewther, Sheila Crewther

33.442 **Object recognition under little or no visibility** Radoslaw Martin Cichy, Stefan Bode, Philip Sterzer, John-Dylan Haynes

33.443 **Cortical surface-based meta-analysis of human visuotopic regions from published stereotaxic coordinates.** Anthony Cate, Timothy Herron, Xiaojian Kang, David Woods

33.444 **Pre-Existing Unconscious Brain States Predict Aesthetic Judgments** Po-Jang Hsieh, Jaron Colas

Object recognition: Reading

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

33.447 **Dynamic dichoptic masking: luminance vs. contrast** Pi-Chun Huang, Robert Hess

33.448 **Accommodative Lag is Not Predictive of Diminished Reading Speeds in Natural Settings** Stefanie A. Drew, Amy E. Escobar, Chris Chase

33.449 **Weak Accommodation in Asymptomatic Young Adults** Amy E. Escobar, Stefanie A. Drew, Chris Chase

33.450 **Both abrupt and ramped onset of contrast reversing phantom contours reveals a magnocellular impairment in dyslexia.** Sheila Crewther, Robin Laycock, David Crewther

33.451 **Evaluating a neural shape-based framework for the emergence of visual word form representations using fMRI and the HMAX model** Hans Op de Beeck, Jonas Kubilius, Johan Wagemans, Wouter Braet

33.452 **Is Letter Recognition more "Ideal" than Face Recognition?** Girish Kumar, Gregory Wingren, Deyue Yu, Susana T.L. Chung

33.453 **Writing facilitates learning to read in Chinese through reduction of holistic processing: A developmental study** Ricky Van Yip Tso, Terry Kit-fong Au, Janet Hui-wen Hsiao

33.454 **One-back task functional localizer for visual word form area reveals inverse pattern of activation in readers of Russian** Ekaterina Pechenkova, Rosa Vlasova, Yuliya Berezutskaya, Valentin Sinitsyn

33.455 **From letter features to syllables to words, without a letter stage** Xavier Morin-Duchesne, Daniel FIset, Martin Arguin, Frédéric Gosselin

33.456 **The perception of simplified and traditional Chinese Characters in the eye of simplified and traditional Chinese readers** Tianyin Liu, Janet Hsiao

33.457 **A right visual field advantage without left hemisphere lateralization in music notation reading** Janet H. Hsiao, Yetta Kwailing Wong

33.458 **Reduced Crowding Accounts for Enlargement of the Visual Span After Training** Yingchen He, Gordon Legge

33.459 **Reduction of the lateral geniculate nucleus volume in subjects with dyslexia compared to matched controls** Monica Giraldo, John P. Hegarty II, Keith A. Schneider

33.460 **Evaluation of a biologically-inspired neural network for letter recognition** Daniel Coates, Susana T. L. Chung

Attention: Tracking and shifting

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

33.501 **Using Eye-Tracking to Detect Vigilance** Lindsey McIntire, Andy McKinley, Chuck Goodyear

33.502 **Do you know how many objects you were tracking? Evidence for enumeration errors in MOT** Zheng Ma, Jonathan Flombaum

33.503 **Visual Task Inference in Conjunction Search Using Hidden Markov Models and Token Passing** Amin Haji-Abolhassani, James Clark

33.504 **Temporal Dynamics of Shifting Visual Attention Between Cerebral Hemispheres** Irida Mance, Edward Vogel

33.505 **Recently disoccluded objects are preferentially attended during multiple-object tracking** Aysu Suben, Brian Scholl

33.506 **Multitasking Preferences, Multitasking Behaviors, and Dot Probe Detection in Multiple Object Tracking** Sarah Fouquet, Evan Palmer

33.507 **Recurrence Quantification Analysis of Scan Patterns** Nicola Anderson, Kaitlin Laidlaw, Walter Bischof, Alan Kingstone

33.508 **Vision for stimuli on the hands: Evidence for an attentional boundary** J. Eric T. Taylor, Jessica K. Witt

33.509 **PERCLOS Threshold for Drowsiness Detection during Real Driving** Sheng Tong Lin, Ying Ying Tan, Pei Ying Chua, Lian Kheng Tey, Chie Hui Ang

33.510 **Training 3D-MOT improves biological motion perception in aging: evidence for transferability of training.** Isabelle Legault, Jocelyn Faubert

33.511 **Perception of apparent motion in a split-brain observer.** Tomas Knapen, Yair Pinto, H. Steven Scholte, Victor Lamme, Nicoletta Foschi, Mara Fabri

33.512 **Goal Objects Reduce Accuracy in Multiple Object Tracking** Stephen Killingsworth, Daniel Levin

33.513 **Effect of Occlusion and Landmarks on Single Object Tracking During Disrupted Viewing** Meriam Naqvi, Kevin Zish, Ronald Planer, Deborah Aks, Zenon Pylyshyn

33.514 **Tonic and phasic influences on perceived size: Effects of visual field, stimulus eccentricity, and smooth pursuit eye movements** Katsumi Minakata, Yamaya Sosa, Mark McCourt

33.515 **Orthographic familiarity of word N affects attentional disengagement from word N-1 in reading** Saeideh Ghahghaei, Karina Linnell

33.516 **Maintaining selection of multiple moving objects** Steven Franconeri, Jason Scimeca, Sumeeth Jonathan

33.517 **Do the two cerebral hemispheres act as independent tracking mechanisms?** Scott McLean, Sarah Wells, Elizabeth Postell, Matt Doran, James Hoffman

33.518 **Spacing and set size effects in MOT may reflect different underlying mechanisms.** Annie Tran, Mandy Skoranski, Sarah Wells, James Hoffman

33.519 **People are sensitive to distractor motion in multiple object tracking** Rebecca St. Clair, Adriane E. Seiffert

Attention: Spatial II

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

33.521 **Spatial Cueing of Infants' Target Selection and Eye Movements** Audrey Wong Kee You, Scott Adler

33.522 **Single-pulse TMS on the FEF area induces a "narrow" focus of attention** Luca Ronconi, Demis Basso, Simone Gori, Andrea Facoetti

33.523 **Go Your Own Way: IOR Effects in a Social Free-Choice Task.** Connor Reid, Jay Pratt, Timothy N. Welsh

33.524 **To the end! Distribution of attention along a tool in peri- and extrapersonal space** Catherine Reed, George Park

33.525 **More & Most: spatial vision affects word understandings on an iPad** Justin Halberda, Paul Pietroski, Tim Hunter, Darko Odic, Alexis Wellwood, Jeffrey Lidz

See page 23 for Abstract Numbering System

33.526 **Ensemble statistics and attentional selection** Woon Ju Park, Hee Yeon Im, Sang Chul Chong

33.527 **Selection Modulated by Inter-Trial Discriminability: Robust Reversals of Perceptual Load Effects** Ricardo Max, Yehoshua Tsal

33.528 **Developing a New Measure of the Useful Field of View for Use in Dynamic Real-World Scene Viewing** Lester Loschky, Ryan Ringer, Adam Larson, Gabriel Hughes, Kevin Dean, Jamie Weiser, Lori Flippo, Aaron Johnson, Mark Neider, Arthur Kramer

33.529 **Visual Configuration affects spatial distribution of the attentional blink** Feng Du, Kan Zhang

33.530 **Spatial Allocation of Attention: Motor Conflict Contributions** Jason Rajsic, Yena Bi, Daryl Wilson

33.531 **Comparing the resolution of a working memory-based target template with the resolution of visual working memory itself** Carly J. Leonard, Nancy B. Carlisle, Steven J. Luck

33.532 **The breadth of attention modulates visible persistence** Lisa Jefferies, Leon Gmeindl, Steven Yantis

33.533 **Alerting trumps space and time in social orienting** Dana Hayward, Jelena Ristic

33.534 **Selective attention in two hemispheres: How basic is the bilateral field advantage in object processing?** Andreas Wutz, David Melcher

33.535 **Stimulus- and state-dependence of systematic bias in spatial attention: Additive effects of stimulus-size and time-on-task** Christopher Benwell, Monika Harvey, Stephanie Gardner, Gregor Thut

33.536 **Directing selective attention influences the perception of apparent motion** Yangqing Xu, Satoru Suzuki, Steven Franconeri

Multisensory processing: Mechanisms and models

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

33.537 **An alternative to explicit divisive normalization models** Gunnar Blohm, Timothy Lillicrap, Dominic Standage

33.538 **V1 resting-state functional connectivity reflects polar angle and eccentricity both within and between hemispheres** Omar H. Butt, Noah Benson, Ritobrato Datta, Geoffrey Karl Aguirre

33.539 **Exocentric reference frames determine 2D orientation bias** Frank Durgin, Zhi Li

33.540 **Postural and viewpoint oscillation effects on the perception of self-motion.** Pearl S. Guterman, Robert S. Allison, Stephen Palmisano, James E. Zacher

33.541 **Unraveling the Hong Kong Peak Tram Illusion** Matt Oxner, Hiu Mei Chow, Chufu Zhong, Lothar Spillmann, Chia-Huei Tseng

33.542 **Learning and memory consolidation effects of a drawing paradigm in the congenitally blind** Lora Likova, Spero Nicholas

33.543 **Blind Individuals Experience a Larger Body-Tilt Illusion than do the Sighted** Michael McBeath, Yoko Naylor

33.544 **Functional imaging of shape processing in a blind echolocation expert** Stephen Arnott, Lore Thaler, Jennifer Milne, Daniel Kish, Melvyn Goodale

33.545 **Parahippocampal cortex is involved in material processing through echolocation in blind echolocation experts** Jennifer L. Milne, Melvyn A. Goodale, Stephen R. Arnott, Daniel Kish, Lore Thaler

Scene perception: Mechanisms and models

Sunday, May 13, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

33.547 **Neural Mechanisms of Camouflage-Breaking: A Human fMRI Study** Xin Chen, Jay Hegdé

33.548 **TOS is causally involved in scene processing** J. B. Julian, N. Kanwisher, D. D. Dilks

33.549 **The contribution of object layout and object identity to scene representations in the brain** Xiaoyu Zhang, Yaoda Xu

33.550 **The Impact of Density and Ratio on Object-Ensemble Representation in Anterior-Medial Ventral Visual Cortex** Jonathan S. Cant, Yaoda Xu

33.551 **TMS over extrastriate body area (EBA) impairs person detection in briefly-presented real-world scenes** Martijn van Koningsbruggen, Marius Peelen, Paul Downing

33.552 **Transcranial Magnetic Stimulation to the Transverse Occipital Sulcus Affects Scene but not Object Processing** Rachel E. Ganaden, Caitlin R. Mullin, Jennifer K. E. Steeves

33.553 **Neural basis of affective visual processing for fearful scenes** Bingbing Guo, Anne Boguslavsky, Ming Meng

33.554 **Recent experience shapes current perception: Perceptual autocorrelation of visual samples is indexed by the P300.** Jennifer Corbett, David Melcher

33.555 **Intuitive mechanics in visual reasoning about complex scenes with unknown forces** Peter Battaglia, Jessica Hamrick, Joshua Tenenbaum

33.556 **Physics knowledge aids object perception in dynamic scenes** Jessica Hamrick, Peter Battaglia, Joshua Tenenbaum

33.557 **Interrupting foveal feedback representation impairs visual discrimination in the periphery** Qing Yu, Edmund Chong, Won Mok Shim

33.558 **Categorization of line drawings of natural scenes using non-accidental properties matches human behavior** Dandan Shen, Dirk Walther

33.559 **Spatiotemporal dynamics and neural synchrony during perception of threatening vs. merely negative visual scenes** Kestas Kveraga, Jasmine Boshyan, Reginald Adams, Matti Hamalainen, Nouchine Hadjikhani, Moshe Bar, Lisa Feldman Barrett

33.560 **Automatic neural coding of open and closed scenes in RSC and PPA during visual search** Fei Guo, Tim Preston, Barry Giesbrecht, Miguel P. Eckstein

Sunday Afternoon Talks

Spatial vision: Crowding

Sunday, May 13, 2:30 - 4:15 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: John Greenwood

2:30 pm 34.11 **A remote target repetition reduces crowding** Bilge Sayim, John Greenwood, Patrick Cavanagh

2:45 pm 34.12 **Reading faster by reducing crowding** Sarah Rosen, Denis G. Pelli

3:00 pm 34.13 **Crowding modulates activity in V1** Bosco S. Tjan, MiYoung Kwon, Rachel Millin, Pinglei Bao

3:15 pm 34.14 **Shared spatial uncertainty for crowding and saccades** John Greenwood, Martin Szinte, Bilge Sayim, Patrick Cavanagh

3:30 pm 34.15 **Orientation tuning in color vision measured in the absence of contrast gain control** Mina Gheiratmand, Kathy T. Mullen

3:45 pm 34.16 **Theory and data for area summation of contrast with and without uncertainty: Evidence for a noisy integrator model** Tim Meese, Rob Summers, Alex Baldwin

4:00 pm 34.17 **Adaptation aftereffects in the perception of radiological images** Elysse Kompaniez, Craig K. Abbey, John M. Boone, Michael A. Webster

Multisensory processing

Sunday, May 13, 5:15 - 6:45 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Maggie Shiffrar

5:15 pm 35.11 **Impact of early versus late acquired blindness on the functional organization and connectivity of the occipital cortex** Olivier Collignon, Christophe Phillips, Giulia Dormal, Geneviève Albouy, Gilles Vandewalle, Patrice Voss, Franco Lepore

5:30 pm 35.12 **When correlation implies causation in multisensory integration** Cesare Parise, Charles Spence, Marc Ernst

5:45 pm 35.13 **The temporal resolution of binding brightness and loudness in dynamic random sequences** Daniel Mann, Charles Chubb

6:00 pm 35.14 **An invisible face facilitates speech perception** Emmanuel Guzman-Martinez, Laura Ortega, Marcia Grabowecky, Satoru Suzuki

6:15 pm 35.15 **Seeing the song: Left auditory cortex tracks auditory-visual dynamic congruence** Julia Mossbridge, Marcia Grabowecky, Satoru Suzuki

6:30 pm 35.16 **Audiovisual action priming: meaning, time, and signal strength** James Thomas, Maggie Shiffrar

Perception and action: Interception and control

Sunday, May 13, 2:30 - 4:15 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Joan Lopez-Moliner

2:30 pm 34.21 **Interception of parabolic balls: uncertainty of arrival time modulates hand closure movements** Joan Lopez-Moliner

2:45 pm 34.22 **The motor error distribution implicit in planning of movement in a speeded reaching task compared to the true error distribution** Hang Zhang, Nathaniel Daw, Laurence Maloney

3:00 pm 34.23 **Systematic biases occur when variability is compared across early and late portions of grasp trajectories** Rachel M. Foster, Volker H. Franz

3:15 pm 34.24 **Internal Models for Predictive Saccades In a Natural Interception Task** Gabriel Diaz, Joseph Cooper, Constantin Rothkopf, Mary Hayhoe

3:30 pm 34.25 **Multiple coordinate frames for reaches revealed through adaptation** Michael Landy, Todd Hudson

3:45 pm 34.26 **The influence of optic flow on control of walking gradually increases over the course of a movement** Jeffrey Saunders

4:00 pm 34.27 **Visually-guided reaching movements in depth: spatial tuning of single cell activity in the in monkey superior parietal area V6A.** Patrizia Fattori, Kostas Hadjidimitrakis, Rossella Breveglieri, Federica Bertozzi, Giulia Dal Bo', Annalisa Bosco, Claudio Galletti

Decision making and reward

Sunday, May 13, 5:15 - 6:45 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Matteo Carandini

5:15 pm 35.21 **Time to decide: sampling based representation of uncertainty in human vision** Marjena Popović, Dmitriy Lisitsyn, Máté Lengyel, József Fiser

5:30 pm 35.22 **Direct injection of neural noise leads to double dissociation between accuracy and confidence** Dobromir Rahnev, Brian Maniscalco, Hakwan Lau

5:45 pm 35.23 **Active visual sampling in uncertain environments** David Evens, Tom Cassey, James Marshall, Rafal Bogacz, Casimir Ludwig

6:00 pm 35.24 **A new 2AFC method for the comparison of stimuli that differ along multiple stimulus dimensions** Matjaz Jogan, Alan Stocker

6:15 pm 35.25 **Vision and Superstition in Mouse and Man** Matteo Carandini, Laura Silva, Laura Busse, Steven Dakin

6:30 pm 35.26 **Reward learning increases visual salience** Jan Theeuwes, Artem Belopolsky, Erik Van der Burg

See page 23 for Abstract Numbering System

Sunday Afternoon Posters

Face perception: Wholes, parts, configurations, and features

Sunday, May 13, 2:45 - 6:30 pm

Poster Session, Royal Palm Ballroom 6-8

36.301 **An adaptation study of internal and external features in face representations** Charlotte Hills, Kali Romano, Jodie Davies-Thompson, Jason J. S. Barton

36.302 **Top and bottom half faces influence equally and interact nonlinearly in face-identity adaptation** Pan Liu, Johnathan Ong, Hong Xu

36.303 **Exploring the relationship between the N170 inversion effect and horizontal tuning** Ali Hashemi, Matthew V. Pachai, Patrick J. Bennett, Allison B. Sekuler

36.304 **Reduction of the perceptual field for inverted faces: evidence from gaze contingency with full view stimuli** Goedele Van Belle, Philippe Lefèvre, Bruno Rossion

36.305 **The role of symmetry in the efficiency of detecting, discriminating and identifying human faces** Jennifer L. Bittner, Michael Simmons, Jason M. Gold

36.306 **Influences of Familiarity on the Face-Inversion and Other-Race Effects** Katie Wagner, Shereen Cohen, Dobkins Karen

36.307 **The Role of Attention in Face Perception: Cuing to Spatial Location versus Type of Information** Simen Hagen, Jim Tanaka

36.308 **Facial coding at isoluminance: Face recognition relies disproportionately on shape from shading** Samuel Pearce, Derek Arnold

36.309 **Recognition memory is more accurate when faces are inverted than when they are upright** Corrado Caudek, Martina Lorenzino

36.310 **A face inversion effect without a face** Talia Brandman, Galit Yovel

36.311 **Classification image analysis reveals different cognitive strategies for symmetry and face processing** Rebecca M. Jones, Jonathan D. Victor, Mary M. Conte

36.312 **Navon effect on face recognition does not depend on eye movements** Linda Toscani, Corrado Caudek, Fulvio Domini

36.313 **Fine-grained sensitivity to vertical differences in triadic gaze is slow to develop** Mark Vida, Daphne Maurer

36.314 **Tests for Configural processing in the Thatcher Illusion** Tamaryn Menneer, Natalie Mestry, Michael Wenger, Nick Donnelly

36.315 **Increased Contrast using Computer Manipulations: An Exploitation of an Innate Attractiveness Preference in Female Faces?** Amanda C. Killian, James L. Guidangen, Jessie J. Peissig

36.316 **Individuation Experience Predicts Other-Race Effects in Holistic Processing** Cindy Bukach, Jasmine Cottle, Joanna Ubiwa, Jessica Miller

36.317 **Resolving the Holistic Processing/Face Recognition Debate** Rogelio J. Mercado, Joseph M. DeGutis, Jeremy Wilmer, Sarah Cohan, Ken Nakayama

36.318 **Holistic face processing induces perceptual shifts in face perception** Thomas Busigny, Choiamy So Jeong, Jason J. S. Barton

36.319 **Clinical bias in holistic face perception** Andreas Fried, Malte Persike, Günter Meinhardt

36.320 **Facial Motion Influences Featural, But Not Holistic, Face Processing** Naiqi Xiao, Paul Quinn, Liezhong Ge, Kang Lee

36.321 **A new fat face illusion: Psychophysical evidence** Yu-Hao Sun, Liezhong Ge, Paul Quinn, Zhe Wang, Naiqi Xiao, Hui-Min Shi, Olivier Pascalis, James Tanaka, Kang Lee

Motion: Biological II

Sunday, May 13, 2:45 - 6:30 pm

Poster Session, Royal Palm Ballroom 6-8

36.322 **Temporal Characteristics of Neural Processing During Action Perception: The Role of Biological Form and Biological Motion** Burcu A. Urgen, Markus Plank, Marta Kutas, Howard Poizner, Ayse P. Saygin

36.323 **Increment threshold functions for radial frequency motion trajectories exhibit a dipper function above threshold** Marwan Daar, Charles C.-F. Or, Hugh Wilson

36.324 **Recognizing activities and poses: lessons from computer vision** Lavanya Sharan, Leonid Sigal, Jessica Hodgins

36.325 **The Role of Motion and Form in the Sex Aftereffect in Biological Motion.** Eric Hiris, Aaron Mirenzi

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

36.327 **Heritability of local but not global biological motion processing in the human brain** Ying Wang, Li Wang, Qian Xu, Dong Liu, Sheng He, Yi Jiang

36.328 **Perception of emotion from interactive body movement: influence of emotion congruency** Andrea Christensen, Nick Taubert, Elisabeth M.J. Huis in't Veld, Beatrice de Gelder, Martin A. Giese

36.329 **A model of three-dimensional biological motion perception from two-dimensional views** Stefanie Theusner, Marc H. E. de Lussanet, Markus Lappe

36.330 **Position and size invariance in the mechanisms of biological motion perception** Karin Wittinghofer, Markus Lappe

36.331 **Biological motion as a cue for spatial attention: Walking** Ayse P. Saygin, Angela Chan

36.332 **Biological motion as a cue for spatial attention: Pointing** Angela S. Chan, Ayse P. Saygin

Attention: Neural mechanisms and models II

Sunday, May 13, 2:45 - 6:30 pm

Poster Session, Orchid Ballroom

36.401 **Opposite neural responses for visual stimuli above and below perceptual threshold** Isabelle Bareither, Arno Villringer, Niko Busch

36.402 **Sluggish Attentional Shifting Seems Genetically Determined in Developmental Dyslexia: Evidence from the Nicotinergic Receptor Alpha 4 Subunit Gene** Andrea Facoetti, Simone Gori, Valentina Riva, Cecilia Marino

36.403 **Attentional shifts underlie hemispheric asymmetries in topographic parietal cortex** Summer Sheremata, Michael Silver

36.404 **Top-down attentional selection as a marker of learning: An ERP study** Rachel Wu, Gaia Scerif, Richard Aslin, Tim Smith, Martin Eimer

36.405 **The effects of selective and divided attention on sensory integration** Brian Odegaard, David R. Wozny, Ladan Shams

36.406 **Divided attention limits perception of object shapes but not simple features** Alec Scharff, John Palmer, Cathleen M. Moore

36.407 **Multiple roles of attention: physiological evidence from a change blindness task** Fabrice Arcizet, James Bisley

36.408 **Covert attention to bright and dark surfaces drives pupillary responses** Maria Pereverzeva, Paola Binda, Scott O. Murray

36.409 **Space-based and Feature-based Attention in a Realistic Layered-microcircuit Model of Visual Cortex** Nobuhiko Wagatsuma, Tobias Potjans, Markus Diesmann, Ko Sakai, Tomoki Fukai

36.410 **Which side are you on? An exploration of hemispheric specialization and visual attention.** Bonnie Angelone, Vincent Coppola

Attention: Exogenous and endogenous

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

36.412 **Opposite effects of external and internal conflict on subsequent behavior** Jeff Moher, Joo-Hyun Song

36.413 **Shape beyond recognition: How object form biases spatial attention and motion perception** Heida M. Sigurdardottir, Suzanne M. Michalak, David L. Sheinberg

36.414 **Non-predictive cueing produces perceptual enhancement for both endogenous and exogenous attention.** Weston Pack, Thom Carney, Stanley Klein

36.415 **Awareness of Attentional System and Spatial Judgments** Jean-Paul Noel, Anthony Mefford, Lauren Hecht

36.416 **Awareness of cue directionality is important for orienting visual attention, but conscious awareness is not.** Sophie Lanthier, David Wu, Craig Chapman, Erin Maloney, Alan Kingstone

36.417 **When old meets new: Repetition enhances encoding of competing novel items** J. Benjamin Hutchinson, Sarah S. Pak, Nicholas B. Turk-Browne

36.418 **Changes in Perceptual Sensitivity in an Inhibition of Return Paradigm** Benjamin A. Guenther, James M. Brown

36.419 **A Gene X Gene Interaction Between COMT and DAT1 in the Attentional Cost of an Invalid Visual Cue** James Dannemiller

36.420 **The effects of sustained attention, spacing and type of presentation on reading comprehension in adolescents with and without ADHD** Lilach Shalev, Pnina Shtern

36.421 **The influence of attentional interactions on perceptual processing** Mathieu Landry, Jelena Ristic

36.422 **The Eccentricity Effect of Inhibition of Return Is Independent of Cortical Magnification** Quan Lei, Yan Bao

36.423 **Modulation of Neuronal Responses in the Primary Visual Cortex by Exogenous Attention** Wu Li, Minggui Chen, Yin Yan, Feng Wang, Li Zhaoping

36.424 **Visuospatial bias due to stimulus valence requires conceptual processing** Alison Chasteen, Davood Gozli, Nicole White, Penelope Lockwood, Jay Pratt

36.425 **Mask-target color congruency enhances object substitution masking in the presence of an attentional control set** Sam Qian, Stephanie Goodhew, David Chan, Jay Pratt

Binocular vision: Rivalry II

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

36.427 **Perceptual Filling-In During Binocular Rivalry Relates to Variation in Working Memory Capacity** Elizabeth Allen, Andrew Mattarella-Micke, Sian Beilock, Steven Shevell

36.428 **Advantage of fearful faces in breaking interocular suppression is preserved after amygdala lesions** Eunice Yang, Maureen McHugo, Mildred Dukic, Randolph Blake, David Zald

36.429 **Enhanced Attentional Control of Binocular Rivalry in Action Video Game Players** Kevin C. Dieter, Aaron Levi, Daphne Bavelier, Duje Tadin

36.430 **Is attention modulation of binocular rivalry identical for eye-based and stimulus-based competition?** Audrey Doualot, Mathieu Simard, Stéphanie Galarneau, Dave Saint-Amour

36.431 **Color-grapheme synesthesia affects binocular vision** Chris Paffen, Maarten van der Smagt, Tanja Nijboer

36.432 **The role of parietal visual cortex in perceptual transitions during bistable perception** Hamed Bahmani, Nikos K. Logothetis, Georgios A. Keliris

36.433 **Normalization regulates competition for visual awareness** Sam Ling, Randolph Blake

36.434 **Unconscious processing of affordance information of tool images** Shinho Cho, Sheng He

36.435 **Object-level properties influence the temporal dynamics of binocular rivalry: a test using Chinese characters** Tingting Liu, Xinghuai Sun, Sheng He

36.436 **Unattended and crowded dochoptic stimuli lead to mixed and patchy percept** Peng Zhang, Sheng He

Perceptual learning: Space and time

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

36.439 **Perceptual Learning in Jigsaw Puzzle** Hideyuki Unuma, Hisa Hasegawa, Philip Kellman

36.440 **Video game training improves visual cognition: a multiple game study** Adam Oei, Michael Patterson

36.441 **Action videogame playing improves visual-motor control before it improves vision** Chen Rongrong, Chen Jing, Li Li

36.442 **Fast Task-Irrelevant Learning: How different types of attention and task-relevance impact memorization of rapidly presented images.** Aaron Seitz, Virginie Leclercq

36.443 **Learning to predict: unsupervised training of temporal sequences** Yang Zhang, Tom Hardwicke, Aimee Goldstone, Josie Harding, Matthew Dexter, Zoe Kourtzi

36.444 **Failure to learn unusual optimal points of fixation during face identification** Matthew F. Peterson, Miguel P. Eckstein

See page 23 for Abstract Numbering System

36.445 **There is more to statistical learning than associative learning: Predictable items are enhanced even when not predicted** Brandon Barakat, Aaron Seitz, Ladan Shams

36.446 **Do Infants Demonstrate Perceptual Learning?** Rain G. Bosworth, Cristina Farkas, Karen R. Dobkins

36.447 **Individual variability in learning ability across the lifespan.** Aimee Goldstone, Shu-Guang Kuai, Julie Christian, Zoe Kourtzi

36.448 **Pupil diameter changes non-monotonically with perceptual learning** Taylor R. Hayes, Alexander A. Petrov

Perceptual learning: Sensory plasticity/ adaptation

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

36.451 **Distinct mechanisms control contrast adaptation over different timescales.** Min Bao, Stephen Engel

36.452 **How the perceptual template expands across the visual field with learning: a classification image study.** Ilmari Kurki, Miguel P. Eckstein

36.453 **Dynamic coding of sinusoidal brightness variation in time** Arni Kristjansson

36.454 **Reliability-based calibration of vision and proprioception following exposure to in-depth prismatic distortion** Anne-Emmanuelle Priot, Claude Prablanc, Corinne Roumes

36.455 **The effects of adaptation on visual search.** Stephanie Wissig, Adam Kohn

36.456 **Behavioral and fMRI Measures of "Visual" Processing with a Sensory Substitution Device** Noelle Stiles, Vikram Chib, Shinsuke Shimojo

36.457 **Improving Reading Speed in Peripheral Vision with Perceptual Learning: A Behavioral and fMRI Investigation** Aurelie Calabrese, Tingting Liu, Yingchen He, Sheng He, Gordon E. Legge

36.458 **The "pull" in the push-pull perceptual learning protocol to reduce sensory eye dominance underscores the role of interocular inhibition** Teng Leng Ooi, Jingping Xu, Zijiang He

36.459 **Opposite Training Effect in the Ventral Pathway for Tactile Face Perception in Congenital and Late-Onset Blindness** Ming Mei, Lora Likova

36.460 **Visual influences on selective adaptation in speech perception** James W. Dias, Theresa C. Cook, Lawrence D. Rosenblum

Visual memory: Capacity and resolution II

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

36.501 **Working memory is integral to visual search** David E. Anderson, Edward K. Vogel, Edward Awh

36.502 **Does displaying visual information in depth improve iconic memory?** Adam Reeves, Lei Quan

36.503 **Effect Of Distractors On Encoding And Memorization Of Direction-of-motion Information During Tracking** Haluk Ogmen, Onur Ekiz, Srimant Tripathy, Harold Bedell

36.504 **Structured representations in visual working memory: Using results from individual displays to constrain cognitive theory** Timothy Brady, George Alvarez

36.505 **Measuring the Coefficient of Variation with continuously varying arrays** Ryan Ly, Hee Yeon Im, Robert Eisinger, Justin Halberda

36.506 **Integrated Model of Visual Working Memory** Wilson Chu, Barbara Dosher, Zhong-Lin Lu

36.507 **The Cost of Manipulating Representations in Visual Working Memory** Hrag Pailian, Justin Halberda

36.508 **Both Precision and Capacity of Visual Working Memory Are Impaired by Face Inversion** Elizabeth Counterman, Frank Tong

36.509 **It's not easy to forget** Shaul Hochstein, Volodya Yakovlev

36.510 **Is visual working memory capacity driven by mental imagery strength?** Joel Pearson, Rebecca Keogh

36.511 **The effect of retrocues depends on the response mode: the influence of visual pathways** Michael D. Patterson, Shanshan Yang

36.512 **Memory For Directions Of Motion Of Multiple Objects Undergoing Bilinear Motion** Srimant Tripathy, Haluk Ogmen, Jerome Gabarretta, Mark Baresh

Visual search

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

36.513 **Visual search at the airport: Testing TSA officers** Stephen R. Mitroff, Adam T. Biggs, Matthew S. Cain, Elise F. Darling, Kait Clark, Stephen H. Adamo, Emma W. Dowd

36.514 **Finding what is new in hybrid visual and memory search: a new search asymmetry.** Corbin Cunningham, Jeremy Wolfe

36.515 **A search model for imperfectly detected targets** Albert Ahumada

36.516 **How visual set statistics adjust an 'attentional window': An information theory of visual search** Igor Utochkin

36.517 **A unilateral field advantage in visual search and detection** Jie Huang, Ruth Rosenholtz

36.518 **Modeling Inefficiencies in Visual Search** Alvin Raj, Jie Huang, Ruth Rosenholtz

36.519 **Detrimental effect of spatial cues predicted by a foveated Maximum a Posteriori eye movement model** Stephen C. Mack, Miguel P. Eckstein

36.520 **Symbolic distractor cues facilitate search** Mary Bravo, Hany Farid

36.521 **Contextual cues must be visible to be effective** Hunjae Lee, Sang Chul Chong

36.522 **A neural marker of the representation used to guide visual search** Joseph Schmidt, Annmarie MacNamara, Greg Hajcak, Gregory Zelinsky

36.523 **Visual Surveillance: The effect of delayed target onset in a change-detection task** Emily Skow, Cathleen M. Moore

36.524 **Zooming in and out: Global-local shifts in large scale visual search** Grayden Solman, Daniel Smilek

36.525 **Collaborative coactivation in search** Allison A. Brennan, Christopher H. Yeh, James T. Enns

36.526 **Hide and Seek: The Ultimate Mind Game** Giles Anderson, Eleni Nasiopoulos, Tom Foulsham, Craig Chapman, Alan Kingstone

36.527 **Visual search and visual discomfort** Louise O'Hare, Alasdair Clarke, Paul Hibbard

Visual search: Eye movements

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

36.529 **Timing of saccadic eye movements during an accumulative visual search task** Chia-Chien Wu, Eileen Kowler

36.530 **Hide and Seek: Amodal Completion During Visual Search** Robert Alexander, Gregory Zelinsky

36.531 **Search is guided by two targets: Evidence from a combined fMRI and eye movements study** Anna Huang, Joseph Schmidt, Hyejin Yang, Hwamee Oh, Hoi Chung Leung, Gregory Zelinsky

36.532 **Searching Through the Hierarchy: How a Target's Categorization Level Affects Categorical Search** Justin Maxfield, Gregory Zelinsky

36.533 **Does Context act like a Spatial Attentional Set?: Exploring attentional control during visual search in scenes.** Jordan A. Bawks, Monica S. Castelhano

36.534 **On-Line Contributions of Peripheral Information to Visual Search in Scenes: Further Explorations of Object Content and Scene Context** Effie Pereira, Monica Castelhano

36.535 **Guiding Attention in Realistic Scenes: Older Adults Capitalize on Context During Visual Search** Mark Neider, Arthur Kramer

36.536 **The influence of Experience upon Threat Assessment and Visual Search in Complex Scenes** Hayward J. Godwin, Simon P. Liversedge, Julie A. Kirkby, Katherine Cornes, Michael Boardman, Nick Donnelly

36.537 **Weaker interference from non-targets, rather than novelty, makes a reversed letter easier to find in visual search** Liang Ming, Gao Meng, Fu Hualing, Li Zhaoping

36.538 **Visual surveillance: What limits the perception of instantaneous information in dynamic displays?** Nicole L. Jardine, Cathleen M. Moore

36.539 **Conjunction Search in Infants and Adults: An Eye Movement Study** Christina Fuda, Scott Adler

Motion: Neural mechanisms and models

Sunday, May 13, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

36.541 **Psychophysical reverse correlation of motion perception** Jacob Yates, Alexander Huk, Lawrence Cormack, Jonathan Pillow

36.542 **The effects of dynamic background noise on speed perception** Jason Chuang, Xin Huang

36.543 **Perceptual transition dynamics of a multi-stable visual motion stimulus I: experiments** Andrew Isaac Meso, James Rankin, Pierre Kornprobst, Olivier Faugeras, Guillaume Masson

36.544 **Perceptual transition dynamics of a multi-stable visual motion stimulus II: modelling** James Rankin, Andrew Isaac Meso, Guillaume S. Masson, Olivier Faugeras, Pierre Kornprobst

36.545 **Aging reduces surround suppression effects in a perceived speed task** Lindsay E. Farber, Allison B. Sekuler, Patrick J. Bennett

36.546 **Where two eyes are better than one for processing heading** David Arnoldussen, Jeroen Goossens, A. V. van den Berg

36.547 **Resolving an occluded stimulus on the human cortical surface using pRF estimates** Kevin DeSimone, Keith A. Schneider

36.548 **Representation of stimulus features in V1 along the apparent motion path** Edmund Chong, Qing Yu, Won Mok Shim

36.549 **The impact of optical blur on cortical responses to global form and motion** Eliza Burton, John Wattam-Bell, Marko Nardini

36.550 **Neural correlates of induced motion revealed by fMRI.** Hiromasa Takemura, Hiroshi Ashida, Kaoru Amano, Akiyoshi Kitaoka, Ikuya Murakami

36.551 **Effects of transcranial electrical stimulation on human motion detection** Kohitij Kar, Bart Krekelberg

36.552 **Shape-From-Motion is intact even when motion perception is impaired: a TMS study** Yutaka Nakajima, Takao Sato, Keiko Hara, Yuko Yotsumoto

36.553 **Cortical origin of contextual modulations in motion integration: linking V1 population response to the behavioral ocular following response** Frédéric Chavane, Alexandre Reynaud, Quentin Montardy, Guillaume Masson

36.554 **A neural model of border-ownership and motion in early vision** Arash Yazdanbakhsh, Oliver Layton, Ennio Mingolla

36.555 **Speed tuning of cortical responses to 2D figures defined by motion contrast is non-uniform across contrast types.** Jeremy Fesi, Justin Stiffler, Rick Gilmore

36.556 **Time-To-Contact estimation in the ViSTARS model of primate motion processing** N. Andrew Browning

36.557 **Modeling a space-variant cortical representation for motion under continuous and phi motion conditions** Jeremy Wurbs, Ennio Mingolla, Arash Yazdanbakhsh

36.558 **Modelling adaptation using the Adelson-Bergen energy sensor** George Mather, Andrea Pavan, Adriano Contillo

36.560 **Speed discrimination performance in adults but not children correlates with single-word reading rate** Franco Pestilli, Keith Main, Jason Yeatman, Aviv Mezer, Ryan Martin, Stephanie Phipps, Brian Wandell

See page 23 for Abstract Numbering System

Monday Morning Talks

Perceptual learning: Models

Monday, May 14, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 1-3
Moderator: Daniela Pamplona

8:00 am 41.11 **Neural Correlates of Learning During a Visual Search Task** Kait Clark, L. Gregory Appelbaum, Stephen R. Mitroff, Marty G. Woldorff

8:15 am 41.12 **Unnaturalness Modeling of Image Distortions** Anish Mittal, Rajiv Soundararajan, Gautam Muralidhar, Joydeep Ghosh, Alan Bovik

8:30 am 41.13 **Perceptual learning of task mixtures** Barbara Dosher, Wilson Chu, Jiajuan Liu, Zhong-Lin Lu

8:45 am 41.14 **Comparing Reweighting Models in Perceptual learning: Optimal vs Proportional Hebbian** Craig Abbey, Miguel Eckstein

9:00 am 41.15 **A Dual Process Model of Perceptual Learning** Alexander Petrov

9:15 am 41.16 **Specificity in texture learning is a result of uninterrupted stimulus repetition** Hila Harris, Michael Gliksberg , Dov Sagi

9:30 am 41.17 **The statistics of looking: Deriving properties of retinal ganglion cells across the visual field** Daniela Pamplona, Jochen Triesch, Constantin A. Rothkopf

Motion: Complex stimuli

Monday, May 14, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 4-5
Moderator: Stuart Anstis

8:00 am 41.21 **The perceived motion of moving barber poles** Charles Chubb, Peng Sun, George Sperling

8:15 am 41.22 **No second-order motion system sensitive to high temporal frequencies** Remy Allard, Jocelyn Faubert

8:30 am 41.23 **Motion from structure** Benjamin Backus, Baptiste Caziot

8:45 am 41.24 **The positional motion aftereffect is spatially selective in world coordinates** David Burr, Marco Turi

9:00 am 41.25 **Illusory biological motion in the periphery** Steven Thurman, Hongjing Lu

9:15 am 41.26 **A Flicker Detector Model of the Motion Silencing Illusion** Lark Kwon Choi, Alan Conrad Bovik, Lawrence Kevin Cormack

9:30 am 41.27 **The Flash Grab Effect** Patrick Cavanagh, Stuart Anstis

Face perception: Mechanisms

Monday, May 14, 10:45 - 12:45 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Tim Andrews

10:45 am 42.11 **Objective Measurement of Face Detection Thresholds using Sweep VEP** Justin Ales, Faraz Farzin, Bruno Rossion, Anthony Norcia

11:00 am 42.12 **Intra-cerebral electrical stimulation of a face-sensitive cortical area causes transient specific impairment in face recognition** Jacques Jonas, Laurent Koessler , Médéric Descoins, Sophie Colnat-Coulbois, Maxime Guye, Jean-Pierre Vignal, Hervé Vespignani, Bruno Rossion, Louis Maillard

11:15 am 42.13 **Varying object identity while maintaining the continuity of its movement breaks position invariant perception** Edith Reshef, Arash Afraz, James J. DiCarlo

11:30 am 42.14 **Identity modulates pSTS response to changeable aspects of faces.** Heidi A. Baseler, Richard J. Harris, Andrew W. Young, Timothy J. Andrews

11:45 am 42.15 **The role of the pSTS in the pre-categorical coding of emotional expression** Richard J. Harris, Andrew W. Young, Timothy J. Andrews

12:00 pm 42.16 **Gender-selective neural populations within the occipital and fusiform face-areas: Evidence from rapid event-related fMRI** Samantha Podrebarac, Melvyn Goodale, Rick van der Zwan, Jacqueline Snow

12:15 pm 42.17 **Happily surprised or angrily surprised: A cognitive model for the recognition of a large number of facial expressions of emotion** Aleix Martinez, Shichuan Du

12:30 pm 42.18 **Neural correlates of the own-race bias in face recognition memory: Evidence from event-related potentials** Holger Wiese, Jürgen M. Kaufmann, Stefan R. Schweinberger

Development and plasticity

Monday, May 14, 10:45 - 12:45 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Bosco Tjan

10:45 am 42.21 **Functional organisation of visual pathways in a patient with no optic chiasm** Jodie Davies-Thompson, Linda J. Lanyon, Jason J.S. Barton

11:00 am 42.22 **Visual cortex representation of achiasmic retinal inputs** Chris Purington, Pinglei Bao, Bosco S. Tjan

11:15 am 42.23 **Brain morphological changes associated with normal aging in the early visual cortex** Li-Hung Chang, Yuko Yotsumoto, Takeo Watanabe, Yuka Sasaki

11:30 am 42.24 **Overlap but not interact: fine grain organization of neural populations in the visual cortex of achiasmia revealed with long-term fMRI adaption** Pinglei Bao, Chris Purington, Bosco S. Tjan

11:45 am 42.25 **The Correlation Between Accommodation and Vergence Responses in Three-Month-Old Human Infants** T. Rowan Candy, Erin Babinsky, Tawna Roberts, Eric Seemiller

12:00 pm 42.26 **What can dots tell us about development of form and motion processing?** Melanie Palomares, Sarah Ramsey, Julia Englund

12:15 pm 42.27 **Brightness local bias in children with autism spectrum disorder** Simone Gori, Luca Ronconi, Francesca Abalti, Massimo Molteni, Tiziano Agostini, Andrea Facoetti

12:30 pm 42.28 **Visual development of contrast, orientation, and motion: comparison of VEP latencies** Jin Lee, John Wattam-Bell, Janette Atkinson, Oliver Braddick

See page 23 for Abstract Numbering System

Monday Morning Posters

Scene perception: Categorization

Monday, May 14, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

43.301 **Measuring the temporal order of feature processing in natural scene categorization** Bart Larsen, Dirk Walther

43.302 **Global, but not focused attention impairs the ultra-rapid categorization of natural scenes** John Brand, Aaron Johnson, Michael von Grünau

43.303 **The role of attention in the perception of good and bad exemplars of natural scene categories** Eamon Caddigan, Li Fei-Fei, Diane Beck

43.304 **A large-scale taxonomy of real-world scenes** Michelle Greene, Li Fei-Fei

43.305 **Learning perceptual relations for categorizing natural scenes from few training examples** Ilan Kadar, Ohad Ben-Shahar

43.306 **Beyond Gist: Diagnostic Information Changes with Level of Scene Categorization** George L. Malcolm, Antje Nuthmann, Philippe G. Schyns

43.307 **Fixation patterns predict scene category** Thomas O'Connell, Dirk Walther

43.308 **Exploring the contents of the category-specific attentional search template** Katharina Seidl, Sabine Kastner

43.309 **Probabilistic, ultra-sparse, structural representations of natural scene categories** Zhiyong Yang, Xin Chen

43.310 **Scene Understanding for the Visually Impaired Using Visual Sonification by Visual Feature Analysis and Auditory Signatures** Jason Clemons, Yingze Bao, Mohit Bagra, Todd Austin, Silvio Savarese

Object recognition: Categories

Monday, May 14, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

43.317 **Representations of Difficulty and Confidence in Numerical Discrimination** Darko Odic, Justin Halberda

43.318 **Coding object size based rules in 3D visual scenes** Johanna Ledley, Kimberly MacKenzie, József Fiser

43.319 **The role of low-level features for rapid object detection and guidance of gaze in natural scenes** Bernard 't Hart, Hannah Schmidt, Ingo Klein-Harmeyer, Christine Roth, Wolfgang Einhäuser

43.320 **Creating domains of perceptual processing through category learning** Ana Van Gulick, Isabel Gauthier

43.321 **Presentation time does not affect superordinate-level advantage in ultra-rapid categorization** Marlene Poncet, Leila Reddy, Michele Fabre-Thorpe

43.322 **The contribution of general object recognition abilities to face recognition** Rankin McGugin, Jennifer Richler, Grit Herzmann, Magen Speegle, Isabel Gauthier

43.323 **Uncovering the time course of categorization with object-substitution masking** Michael Mack, Thomas Palmeri

43.324 **Auditory Scene context, visual object identification, and spatial frequency** Mohammed Islam, Thomas Sanocki

43.325 **Dissociating contextual and semantic priming in object recognition** Olivia Cheung, Stephanie Gagnon, Matthew Panichello, Moshe Bar

43.326 **Visual and Semantic Contributions to Object Perception** Lindsay W. Victoria, Michael J. Tarr

43.327 **Equally invisible but neurally unequal: Cortical responses to invisible objects differ as a function of presentation method** Sergey Fogelson, Kevin Miller, Peter Kohler, Richard Granger, Peter Tse

43.328 **A test of the embodied simulation theory of object perception: Motor simulations in response to artifacts and animals** Heath Matheson, Patricia McMullen

43.329 **Testing within-category exemplar discriminability in pattern-information analysis** Hamed Nili, Alexander Walther, Arjen Alink, Nikolaus Kriegeskorte

43.330 **Re-thinking the functional organization of human visual cortex** Kevin Weiner, Kalanit Grill-Spector

43.331 **The Neural Correlates of Feedback Information Processing in Visual Category Learning Tasks** Rubi Hammer, Vladimir Sloutsky, Kalanit Grill-Spector

43.332 **Effect of Target/Non-Target Similarity on the Timecourse of Visual Object Recognition: An ERP investigation** Amy Guthormsen, Michael Ham, Brenna Fearey, Luis Bettencourt, John George

Perception and action: Cognitive factors

Monday, May 14, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

43.401 **Armed and attentive: Holding a weapon can alter attentional priorities in scene viewing** Adam Biggs, James Brockmole, Jessica Witt

43.402 **"You were always on my mind": Action co-representation in Joint Simon tasks.** Dovin S. Kiernan, Heather F. Neyedli, Matthew Ray, Andrew Potruff, Jay Pratt, Daniel J. Weeks, Timothy N. Welsh

43.403 **A simple, intuitive method for computing confidence intervals in within-subject designs: Generalizing Loftus & Masson (1994) and avoiding biases of alternative accounts** Volker Franz, Geoffrey Loftus

43.404 **Delays in using chromatic and luminance information for a simple reaction time task** Anna Ma-Wyatt, Adam Kane, Alex Wade

43.405 **Visual and embodied perception of others: The neural correlates of the "Body Gestalt" effect** Sébastien Miellet, Nienke Hoogenboom, Klaus Kessler

43.406 **Reliability of actors' and observers' gaze during natural tasks** John Franchak, Uri Hasson, David Heeger, Karen Adolph

43.407 **Motor capability enhances visual sensitivity in the extrapersonal space** Jeongho Park, Hyojeong Kim, Do-Joon Yi

43.408 **Hand position alters vision by biasing processing through different visual pathways** Jay Pratt, Davood Gozli, Stephanie Goodhew, Penelope Lockwood, Alison Chasteen

43.409 **Visual Control of Posture is Not Affected by Challenging Cognitive Tasks** D. Alfred Owens, Kathleen Hoffman, Travis Catania

See page 23 for Abstract Numbering System

43.410 **Changes in visual performance and appearance before manual reach movements** Martin Rolfs, Bonnie Lawrence, Marisa Carrasco

43.411 **Prediction of action's visual Consequences: Preactivation Model & Psychophysics** Cédric Roussel, Florian Waszak, Gethin Hughes

43.412 **When is error-correction just error-correction?** Jacqueline M. Fulvio, Paul R. Schrater

43.413 **Hand dominance influences outcome predictions when observing self-generated actions** Christopher Kuylen, Benjamin Balas, Laura Thomas

43.414 **Perceptual learning of bimanual coordinated rhythmic movements: Information matters more than movements** Jack D. Leech, Andrew D. Wilson

43.415 **Statistics of natural action structures and human action recognition** Xiaoyuan Zhu, Zhiyong Yang, Joe Tsien

43.416 **Hand Representations in Parietal versus Temporal Cortex: Seeing You Touching Me?** Annie Chan, Sandra Truong, Chris Baker

43.417 **The effects of TMS over PPC in a visual feature memory/ saccade task** David C. Cappadocia, Khashayar Gharavi, Michael Vesia, Joost C. Dessing, Xiaogang Yan, J. Douglas Crawford

43.418 **Preservation of size constancy for action, but not perception, in a patient with bilateral occipital lesions** Irene Sperandio, Robert Whitwell, Philippe A. Chouinard, Melvyn A. Goodale

43.419 **On the Relationship Between Execution, Perception, and Imagination of Action.** Lok Man Wong, Gerome Manson , Timothy N. Welsh

43.420 **Functional Dissociation between Perception and Action is Evident Early in Life** Batsheva Hadad, Galia Avidan, Tzvi Ganel

Natural image statistics

Monday, May 14, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

43.421 **Interpolation of Luminance at Missing Points in Natural Images** Anthony D'Antona, Jeffrey Perry, Wilson Geisler

43.422 **The gist of the organized is more precise than the gist of the random** Ashley M. Sherman, Karla K. Evans, Jeremy M. Wolfe

43.423 **Regularities in the Anisotropic Content of Portrait and Landscape Paintings: A Corollary to the Horizontal Effect Anisotropy of Visual Processing** April Schweinhart, Marina Dubinchik, Eleanor O'keefe, Hillary Williams, Edward Essock

43.424 **Three-Dimensional Natural Scene Statistics: Dependencies between Luminance and Range Contrasts** Michele Saad, Anish Mittal, Alan Bovik, Lawrence Cormack

43.425 **Amplitude Spectrum Slope is More Important than Orientation in Rapid Scene Categorization** Ryan V. Ringer, Bruce C. Hansen, Kelly Byrne, Adam M. Larson, John Zuercher, Lester C. Loschky

43.426 **Size matters: Increasing stimulus size reduces thresholds in an amplitude spectrum discrimination task.** Bruno Richard, Bruce Hansen, Dave Ellemberg, Aaron Johnson

43.427 **Natural image statistics based population coding for local edge probability** Chaithanya Ramachandra, Bartlett Mel

43.428 **Phase Randomization of Natural Color Images with Simultaneous Preservation of First and Second Order Statistics** Alik Mokeichev, Ohad Ben-Shahar

43.429 **Surround suppression of contrast sensitivity with natural scene stimuli** Bruce Hansen, Bruno Richard, Aaron Johnson, Dave Ellemberg

43.430 **Statistics of edge profiles in natural scenes** Kedarnath Vilankar, James Golden, Damon Chandler, David Field

Visual memory: Encoding and retrieval

Monday, May 14, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

43.431 **Presenting and testing sets of memory items simultaneously or sequentially do not affect change detection performance** Junha Chang, Joo-Seok Hyun

43.432 **Active retrieval from long-term memory aids change detection** Melissa R. Beck, Amanda E. van Lamsweerde

43.433 **Saccade execution, not covert attention, leads to automatic encoding of distractors into VWM** Caglar A. Tas, Steven J. Luck, Andrew Hollingworth

43.434 **Obligatory encoding of task-irrelevant features depletes working memory resources** Louise Marshall, Paul Bays

43.435 **Central attentional limitations in visual short-term memory retrieval** Hagit Magen

43.436 **Implicit processing of labels facilitates the formation of compressed working memory representations** Bria L. Long, George A. Alvarez

43.437 **Effects of verbalization on repetition priming of faces** Ye Ran Jung, Sang Chul Chong

43.439 **On the Nature of Prototype Effects in Visual Working Memory for Motion** Chad Dube, Robert Sekuler

43.440 **Accurately modeling Visual Working Memory performance at the individual trial level** Hee Yeon Im, Justin Halberda

43.441 **On successive memories** Andrei Gorea, Patrick Cavanagh, Joshua Solomon

Color and light: Surfaces and materials

Monday, May 14, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

43.442 **Influence of bright surrounding colors appearing in the illuminant-mode on color constancy** Kazuho Fukuda, Keiji Uchikawa, Donald I.A. MacLeod

43.443 **Differential Processing of Material and Object Images: Evidence from ERP Recordings** Christiane Wiebel, Matteo Valsecchi, Karl Gegenfurtner

43.444 **Perceptual information about surface qualities used in material discrimination** Yusuke Tani, Toshiki Matsushima, Takehiro Nagai, Kowa Koida, Michiteru Kitazaki, Shigeki Nakauchi

43.445 **Luminance Constrains Colour Edge Information** Rebecca Sharman, Paul McGraw, Jonathan Peirce

43.446 **Eye movements reveal inter-observer processing differences in a color appearance task** Ana Radonjić, David Brainard

43.447 **Luminance Information Suffices to Model Vegetable Freshness Perception** Carlos Arce-Lopera, Katsunori Okajima, Yuji Wada, Tomohiro Masuda

43.448 **Influence of complexity and memory color on naturalness judgments in color rendering** Sérgio Nascimento, Osamu Masuda

43.449 **Perceptual matching of translucent materials under different illuminant conditions.** Shigeki Nakauchi, Ryo Nishijima, Takehiro Nagai, Yusuke Tani, Kowa Koida, Michiteru Kitazaki

43.450 **Extraction of CG image regions contributing to translucency perception using a psychophysical reverse correlation method** Takehiro Nagai, Yuki Ono, Kowa Koida, Michiteru Kitazaki, Shigeki Nakauchi

43.451 **Binocular cues for glossiness** Alexander A. Muryy, Roland W. Fleming, Andrew E. Welchman

43.452 **Colour constancy measured via partial hue matching** Alexander Logvinenko, Anja Beer

43.453 **The role of dynamic visual information in the estimation of liquid viscosity** Takahiro Kawabe, Kazushi Maruya, Shin'ya Nishida

43.454 **Visual adaptation to reflectance-specific image motion** Tae-Eui Kam, Daniel Kersten, Roland Fleming, Seong-Whan Lee, Katja Doerschner

43.455 **Through a glass brightly: seeing beyond the surface in image quality** James Ferwerda

43.456 **Scotopic hue percepts in natural scenes** Sarah Elliott, Dingcai Cao

43.457 **Glossiness of layered materials** Peter Vangorp, Roland W. Fleming

43.458 **Cone contrast magnitude and spatial arrangement affect color filling-in modes** Xiaohua Zhuang, Dingcai Cao

Perceptual organization: Grouping and segmentation

Monday, May 14, 8:15 - 12:15 pm

Poster Session, Vista Ballroom

43.501 **Neuronal representation of subjective shapes in area V4** Michele Cox, Michael Schmid, Andrew Peters, Richard Saunders, David Leopold, Alexander Maier

43.502 **Decoding global contour perception in the human visual cortex** Shu-Guang Kuai, Alan Meeson, Zoe Kourtzi

43.503 **Detection of natural shapes in noise** John Wilder, Manish Singh, Jacob Feldman

43.504 **Translation invariance with a contour integration task** David J. Field, Desmond C. Ong, Anthony Hayes

43.505 **Neural patterns of minimal bending as perceptual curve completion** Guy Ben-Yosef, Ohad Ben-Shahar

43.506 **Modeling Spatiotemporal Boundary Formation** Philip Kellman, Gennady Erlikhman, Max Mansolf, Renato Fillinich, Ariella Iancu

43.507 **Tilt aftereffects with orientations defined by motion or subjective contours** Gurjyot Singh, Gennady Erlikhman, Tandra Ghose, Zili Liu

43.508 **Edge co-alignment facilitates short-term perceptual memory of global form** Lars Strother, Alexandra M. Coros, Tutis Vilis

43.509 **Motion direction and temporal frequency tuning of texture-surround capture of contour-shape** Elena Gheorghiu, Frederick A. A. Kingdom

43.510 **Effects of contrast on spatial and temporal integration in 2D shape perception from dynamic occlusion** Bobby Nguyen, Rui Ni

43.511 **Emergent features in object detection** Matthew Inverso, John Wilder, Jacob Feldman, Manish Singh

43.512 **Revealing the Temporal Dynamics of Competitive Interactions in Figure-Ground Perception** Elizabeth Salvagio, Mary A. Peterson

43.513 **Texture-modulation channels for spatial frequency and orientation** Alexandre Reynaud, Simon Clavagnier, Robert Hess

43.514 **Reduced crowding and poor contour detection in schizophrenia are consistent with weak surround inhibition** Valentina Robol, Elaine J. Anderson, Marc S. Tibber, Tracy Bobin, Patricia Carlin, Sukhi Shergill, Steven C. Dakin

43.515 **Continuous Transilience Induced Blindness — H-V Anisotropy and Luminance Asymmetry of disappearance** Ryo Shohara, Makoto Katsumura, Seiichiro Naito

43.516 **Test-Retest Reliability of a Contour Integration Test in Samples of Healthy Control and Schizophrenia Subjects** Steven M. Silverstein, Brian P. Keane, Deanna M. Barch, Cameron S. Carter, James M. Gold, Ilona Kovács, Angus MacDonald III, J. Daniel Ragland, Milton E. Strauss

43.517 **Continuous Transilience Induced Blindness Annulus, Sectors, and near fovea elements disappearance** Makoto Katsumura, Ryo Shohara, Seiichiro Naito

43.518 **Measuring the effects of belief on Kanizsa shape discrimination and illusory contour formation: A replication** Thomas Papathomas, Brian Keane, Hongjing Lu, Steven Silverstein, Philip Kellman

43.519 **Perceiving Statistical Significance** Jasmine Patel, Bhavin Sheth, Quang-Tuan Tran, Haluk Ogmen

43.520 **Are We Biased to Perceive Normality?** Quang-Tuan Tran, Jasmine Patel, Bhavin Sheth, Bruno Breitmeyer

43.521 **Do We See a Least Squares World Around Us?** Bhavin Sheth, Jasmine Patel, Quang-Tuan Tran

3D perception: Space

Monday, May 14, 8:15 - 12:15 pm

Poster Session, Vista Ballroom

43.524 **Perception of depth in pictures when viewed from the wrong distance** Emily A. Cooper, Martin S. Banks

43.525 **Euclidean geometry of binocular space under natural viewing conditions** Taekyu Kwon, Tadamasa Sawada, Yun Shi, Yunfeng Li, Zygmunt Pizlo

43.526 **Shadow-Induced Jumping in Depth** Allan Dobbins

43.527 **Signal detection theory cannot distinguish perceptual and response-based biases: Evidence from the Muller-Lyer illusion and application for action-specific effects** Jessica Witt, Eric Taylor, Mila Sugovic, John Wixted

43.528 **The dependence of the perception of distance on the height of the observer's vantage point** Dejan Todorovic, Oliver Toskovic

43.529 **Perceptual Dependence of Size and Distance? A Within Subjects Variability Approach** Kristina Rand, Jon Bakdash, Jeanine Stefanucci, Sarah Creem-Regehr, Woodrow Gustafson

43.530 **The Role of Visual Foot Size in Perceiving Object Size from Texture Gradient** Sally Linkenauger, Betty Mohler, Dennis Proffitt, Heinrich Bülthoff

43.531 **Do athletes see space differently?** Owen Masters, Brittany Schmelz, Keenan Leonard-Solis, Frank Durgin

43.532 **The effects of aging on egocentric distance judgments in 3-D scenes** Zheng Bian, George Andersen

See page 23 for Abstract Numbering System

43.533 **Estimates of visual slant are affected by beliefs about sugar intake** Morgan Williams, Nicholas Ciborowski, Frank Durgin

43.534 **Judgment of angular declination, but not of vertical angular size, is accurate** Ruohai Wang, Brendan McHugh, Teng Leng Ooi, Zijiang He

43.535 **Perception of inclination as a function of eye and head inclination** Yoshitaka Fujii, Ian P. Howard

43.536 **The Perception of Distance on a Slope** David Bunch, Alen Hajnal, Damian Stephens, Attila Farkas, Andras Csanadi

43.537 **Size judgments for nearby and distant objects: A test of the perceptual learning and metacognitive theories of size constancy development** Carl Granrud, Michael Kavšek

43.538 **An angular expansion hypothesis quantitatively accounts for several well-documented biases in space perception** Zhi Li, Frank Durgin

43.539 **Differential Detection of Visual Targets Presented in Near and Far Space and its Dependence on the Chromatic Properties of the Targets** Hong-jin Sun, Tao Li

43.540 **A comparison of size perception in real and virtual environments using judgments of action capability.** Michael Geuss, David Lessard, Jeanine Stefanucci, Sarah Creem-Regehr, William Thompson

43.541 **Frontal extents are compressed in virtual reality** Cassandra Strawser, Brennan Klein, Ariana Speigel, Zhi Li, Frank Durgin

43.542 **Perceptual space asymmetry above and below the eye level reveals ground superiority in the reduced cue environment** Liu Zhou, Pan Shi, Teng Leng Ooi, Zijiang He

Attention: Features I

Monday, May 14, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

43.544 **Effects of feature-based attention on voxel tuning curves for individual faces** Caterina Gratton, Kartik Sreenivasan, Michael Silver, Mark D'Esposito

43.545 **Switching between optimal feature-based attentional gain patterns according to task demands** Miranda Scolari, Newton A. Abuyo, John T. Serences

43.546 **Running the figure to the ground: Camouflaging targets during visual search** Brandon Ralph, Paul Seli, Vivian Cheng, Grayden Solman, Daniel Smilek

43.547 **Stress and Visual Attention** Helene L. Gauchou, Ronald A. Rensink

43.548 **Change detection without localization in a change blindness task is based on pre-attentive registration of new features** Felix Ball, Niko A. Busch

43.549 **Spatially selective visual attention in the real world** Bruce Bridgeman, Cassidy Sterling

43.550 **Attending to one green item while ignoring another: Costly, but with curious effects of stimulus arrangement** Shih-Yu Lo, Alex Holcombe

43.551 **Amodal completion of unconsciously processed objects** Tatiana Aloi Emmanouil, Tony Ro

43.552 **Attentional Selection of Simple and Complex Objects** Lauren Hecht, Shaun Vecera

43.553 **Feature based attention and visual stability** Donatas Jonikaitis, Jan Theeuwes

43.554 **Phasic modulation of tonic attentional biases in horizontal and vertical dimensions: A cued visual line bisection study** Yamaya Sosa, Mark E. McCourt

43.555 **Integrating Bottom-up and Top-down Visual Attention for Object Segmentation** Zhengping Ji, Steven P. Brumby, Garrett Kenyon, Luis M. A. Bettencourt

43.556 **Online Discriminative Sparse Coding as a Systems-level Model of the Primate's Dorsal and Ventral Pathways** Linbo Qing, Zhengping Ji, Xiaohai He

43.557 **The capacity limit of feature-based attention: a cueing study** Taosheng Liu, Michael Jigo, Mark Becker

43.558 **Constraining Attentional Selection by Two Orientation Cues: An Eye Tracking Study** Mark W. Becker, Reem Alzahabi, Chad Peltier

43.559 **Perceptual size averaging: It's not just for circles anymore** Alice R. Albrecht, Brian Scholl

43.560 **The weight of the visual world is modified by recent experience : Modeling repetition priming in a partial report task** Árni Ásgeirsson, Søren Kyllingsbæk, Árni Kristjánsson, Claus Bundesen

Tuesday Morning Talks

Motion: Neural mechanisms and models

Tuesday, May 15, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 1-3
Moderator: Bart Krekelberg

8:00 am 51.11 **A contrast-sensitive, redundancy reduction mechanism acting on MT neurons can explain global motion direction biases without the need for Bayesian priors** John A. Perrone, Richard J. Krauzlis

8:15 am 51.12 **Synchrony and firing rate modulation in area MT at the time of saccades** Till Hartmann, Bart Krekelberg

8:30 am 51.13 **Dissociating mechanisms of spatial suppression and summation in human MT: a tDCS study** Sara Agosta, Duje Tadin, Alvaro Pascual-Leone, Lorella Battelli

8:45 am 51.14 **Recurrent competition explains temporal effects of attention in MSTd** Oliver Layton, N. Andrew Browning

9:00 am 51.15 **Adapting to imperceptible multidirectional motion yields perceptible aftereffects: A psychophysical and computational investigation** Alan L. F. Lee, Hongjing Lu

9:15 am 51.16 **Double dissociation between the extrastriate body area and the posterior superior temporal sulcus during biological motion perception: converging evidence from TMS and fMRI** Joris Vangeneugden, Marius Peelen, Duje Tadin, Lorella Battelli

9:30 am 51.17 **Neural correlates of perceptually bistable motion-based grouping.** Peter J. Kohler, Gideon P. Caplovitz, Sergey V. Fogelson, Peter U. Tse

Color and light: Surfaces and materials

Tuesday, May 15, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Roland Fleming

10:45 am 52.11 **Estimating material by estimating shape** Edward Adelson, Forrester Cole, Phillip Isola, William Freeman, Fredo Durand

11:00 am 52.12 **Disentangling 3D Shape and Perceived Gloss** Barton L. Anderson, Phillip J. Marlow, Juno Kim

11:15 am 52.13 **Effects of shape and color on the perception of translucency** Bei Xiao, Ioannis Gkioulekas, Shuang Zhao, Edward Adelson, Todd Zickler, Kavita Bala

11:30 am 52.14 **Goop! On the visual perception of fluid viscosity** Roland Fleming, Vivian Paulun

11:45 am 52.15 **Adaptation reveals frequency band based inferences of material properties** Martin Giesel, Qasim Zaidi

12:00 pm 52.16 **Real world colour constancy – the effect of surface material** Annette Werner, Lara Zebrowski

12:15 pm 52.17 **Surrounding colours influence judgments of surface lightness** Eli Brenner, Sérgio Nascimento

Attention: Space, features and objects

Tuesday, May 15, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 4-5
Moderator: Edward Awh

8:00 am 51.21 **Attentional capture by images that match a conceptual target set** Brad Wyble, Charles Folk, Mary Potter

8:15 am 51.22 **Visual object categorization: is it indeed an attention-free process?** Nurit Gronau, Yifat Rosenberg, Meytal Shachar

8:30 am 51.23 **It's all in your head: Distractor interference produced by top down expectations.** Yehoshua Tsal, Rotem Avital

8:45 am 51.24 **Relevance-based control over visual attention is fast and interdependent with stimulus-driven capture** Maria Nordfang, Claus Bundesen

9:00 am 51.25 **Obligatory global feature gain conflicts with task requirements** Søren K. Andersen, Matthias M. Müller, Steven A. Hillyard

9:15 am 51.26 **Attention is drawn spontaneously to regularities during statistical learning** Jiaying Zhao, Naseem Al-Aidroos, Nicholas B. Turk-Browne

9:30 am 51.27 **Neural measures reveal a fixed item limit in subitizing.** Edward Ester, Trafton Drew, Edward Vogel, Edward Awh

Visual search: Context, working memory, categories

Tuesday, May 15, 10:45 - 12:30 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Gregory Zelinsky

10:45 am 52.21 **The guidance of attention is dominated by task relevance and not simply maintenance in working memory** Nancy Carlisle, Geoffrey Woodman

11:00 am 52.22 **Attentional guidance by working memory overrides saliency cues in visual search** Emma W. Dowd, Stephen R. Mitroff

11:15 am 52.23 **Category-based attention shifts tuning toward the target object category during natural visual search** Tolga Çukur, Shinji Nishimoto, Alex Huth, Jack Gallant

11:30 am 52.24 **Simultaneous Control of Attention by Multiple Working Memory Representations** Valerie M. Beck, Andrew Hollingworth, Steven J. Luck

11:45 am 52.25 **Modeling Guidance and Recognition in Categorical Search: Bridging Human and Computer Object Detection** Gregory Zelinsky, Yifan Peng, Alexander Berg, Dimitris Samaras

12:00 pm 52.26 **Object-based Implicit Learning in Visual Search: Perceptual Segmentation constrains Contextual Cueing** Markus Conci, Hermann J. Müller, Adrian von Mühlenen

12:15 pm 52.27 **Contextual cueing-associated activation in working-memory-supporting brain areas** Stefan Pollmann, Angela A. Manginelli, Florian Baumgartner

See page 23 for Abstract Numbering System

Tuesday Morning Posters

Face perception: Emotion

Tuesday, May 15, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

53.301 **Dissociating conscious perception of fearful faces and bodies by transient inhibition of right pSTS** Bernard Stienen, Matteo Candidi, Salvatore Aglioti, Beatrice de Gelder

53.302 **The Role of Facial Context in Affective Categorical Perception of Simple Geometric Shapes** Zhengang Lu, Xueting Li, Ming Meng

53.303 **Emotional vs. Linguistic Salience in Audiovisual Integration** Theresa Cook, James Dias, Lawrence Rosenblum

53.304 **Approaching the good and avoiding the bad is more automatic for emotional words than for emotional faces** Xiaowen Zhang, Yuming Xuan, Xiaolan Fu

53.305 **The Role of Familiarity and Sex in Recognizing Spontaneous Emotional Expressions** Jessie J. Peissig, Shiela Kelley, Carol M. Huynh, Erin D. Browning

53.307 **The effect of orientation and stimulus duration on older and younger adults' ability to identify facial expressions.** Sarah E. Creighton, Allison B. Sekuler, Patrick J. Bennett

53.308 **Do Children Recognize Dynamic Emotional Expressions Better than Static Ones?** Nicole Nelson, James Russell

53.309 **Dynamic and static expressions of emotion are recognized with equal efficiency** Jarrett Barker, Shawn Barr, Jennifer Bittner, Drew Bromfield, Austin Goode, Doori Lee, Michael Simmons, Jason Gold

53.310 **The development of the ability to process facial emotion in infancy.** Jean-Yves Baudouin, Jennifer Monnot, Karine Durand, Benoist Schaal

53.311 **Emotion Perception by Recently Incarcerated Males** Ashley Blanchard, Ashley Schapell, James P. Thomas, Maggie Shiffrar, Paul Boxer

53.312 **Individual differences in somatosensory processing and the recognition of complex emotional states** Laura Germine, Taylor Benson, Francesca Cohen, Christine Hooker

53.313 **Sad Faces and Fearful Bodies: A test of two models of emotion perception** Matt Horner, Cathy Mondloch

53.314 **Beyond Darwin: revealing culture-specificities in the temporal dynamics of 4D facial expressions.** Rachael Jack, Oliver Garrod, Hui Yu, Roberto Caldara, Philippe Schyns

53.315 **Categorical structure and perception of facial expressions in dyadic same-different task** Olga Kurakova, Alexander Zhegallo

53.316 **Face space is not linear: Empirical evidence of curvature and compression** Frédéric J.A.M. Poirier, Jocelyn Faubert

Face perception: Experience and learning

Tuesday, May 15, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

53.317 **Implicit learning of geometric eigenfaces: evidence for the formation of face space dimensions** Xiaoqing Gao, Frances Wilkinson, Hugh Wilson

53.318 **Practice with inverted faces selectively increases the use of horizontal information** Matthew V. Pachai, Allison B. Sekuler, Patrick J. Bennett

53.319 **Effects of spatial caricaturing and anti-caricaturing on face learning** Claudia Schulz, Jürgen M. Kaufmann, Lydia Walther, Stefan R. Schweinberger

53.320 **Behavioral and Neural Markers of Perceptual Expertise with Faces and Chess** Amy L. Boggan, Joseph P. Dunlop, Daniel C. Krawczyk, James C. Bartlett

53.321 **Spatial and temporal characteristics of the neural representation of face familiarity** Vaidehi Natu, Alice O'Toole

53.322 **Unconscious use of the body in identifying the face** Allyson Rice, Jonathon Phillips, Vaidehi Natu, Xiaobo An, Alice O'Toole

53.323 **Title: Familiarity and the Recognition of Disguised Faces** Amy Douma, Erin Moniz, Mike Tarr, Jessie Peissig

53.324 **Movement helps famous and unfamiliar face matching: Evidence from a sorting task** Rachel Bennetts, Darren Burke, Kevin Brooks, Jeesun Kim, Simon Lucey, Jason Saragih, Rachel Robbins

53.325 **Serial Dependence of Face Identity** Alina Liberman, Jason Fischer, David Whitney

53.326 **Efficiency of face recognition depends critically on size** Ipek Oruc, Nan Yang, Fakhri Shafai

53.327 **The 'other-species effect' in chimpanzees but not rhesus monkeys** Lisa Parr

53.328 **Evidence for an own-age-bias to face stimuli in the distributed responses of fusiform gyrus** Golijeh Golarai, Alina Liberman, Kalanit Grill-Spector

53.329 **Adults Scan Own- and Other-Race Faces Differently** Kang Lee, Genyyue Fu, Cao Hu, Paul Quinn

53.330 **A test of the perceptual expertise hypothesis with novel race faces** James Tanaka, Blaire Webster, Iris Gordon, Tamara Meixner

53.331 **Race differences in eye movements to three-quarter view faces** Kate Crookes, William Hayward

53.332 **Developmental prosopagnosia in children: A case study of improvement in face recognition as a result of training.** Jordan Mathison, Sherryse Corrow, Albert Yonas

Eye movements: Pursuit and following

Tuesday, May 15, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

53.401 **Localization of visual targets during open-loop smooth pursuit** Marius Blanke, Jonas Knöll, Frank Bremmer

53.402 **Dynamics of oculomotor direction discrimination** Doris Braun, Karl Gegenfurtner

53.403 **Continuous updating of superior colliculus visuospatial memory responses during smooth pursuit eye movements.** Suryadeep Dash, Xiaogang Yan, Hongying Wang, J. Douglas Crawford

53.404 **Relative contributions of stimulus motion and VOR to eye movement during gaze pursuit** Jared Frey, Abtine Tavassoli, Dario Ringach

53.405 **The oculomotor system can discriminate perceptually suppressed motion: an oculometric analysis** Davis M. Glasser, Duje Tadin

See page 23 for Abstract Numbering System

53.406 **Attention modulates anticipatory eye movements** Stephen Heinen, Zhenlan Jin, Scott Watamaniuk

53.407 **Anticipatory smooth eye movements with passive and actively-controlled target motions** Elio M. Santos, Nicholas M. Ross, Cordelia D. Aitkin, Adrianna Torres-Garcia, Eileen Kowler

53.408 **Like a rolling stone: naturalistic kinematics influence tracking eye movements** David Souto, Dirk Kerzel

53.409 **Attention for saccades and foveal pursuit is shared** Scott Watamaniuk, Zhenlan Jin, Stephen Heinen

53.410 **Pursuit eye movements and motion prediction in patients with schizophrenia** Miriam Spering, Elisa C. Dias, Jamie L. Sanchez, Alexander C. Schütz, Daniel C. Javitt

Eye movements: Perception

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

53.413 **Feature-based effects in the coupling between attention and saccades** Sabine Born, Dirk Kerzel, Ulrich Ansorge

53.414 **Attentional modulation of saccadic inhibition during scene viewing** Mackenzie Glaholt, Eyal Reingold

53.415 **The Role of Photographic Clarity and Blur in Guiding Visual Attention** Sarah C. MacDonald, James T. Enns

53.416 **Eye movement patterns during judgments of absolute distance in natural environments** Courtney Wallin, Daniel Gajewski, John Philbeck

53.417 **Visual search in natural scenes: fixation positions predicted by local color properties** David H. Foster, Kinjiro Amano, Matthew S. Mould, John P. Oakley

53.418 **Linking eye fixation strategies to experience in visual statistical learning.** Dmitriy Lisitsyn, Henry Galperin, Jozsef Fiser

53.419 **Eye movements during object recognition in a case of integrative visual agnosia** Charles Leek, Candy Patterson, Robert Rafal, Filipe Cristino

53.420 **Saccadic luminance detection across visual space** Marc Zirnsak, Roozbeh Kiani, Lars Michels, Tirin Moore

53.421 **Gaze behavior during motion parallax.** Ahmad Yoonessi, Curtis Baker

53.422 **Experience Visual Qualia without Conscious Percept?** Rong Zhou, Michael von Grünau

53.423 **What eye-tracking can tell us about multiple-target visual search** Matthew S. Cain, Stephen H. Adamo, Stephen R. Mitroff

Eye movements: Fixational, models and methods

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

53.426 **Time course of spatial frequency sensitivity during natural fixation** Marco Boi, Martina Poletti, Michele Rucci

53.428 **Modulation of visually-driven cortical activity by microsaccades and voluntary saccades.** Elisha Merriam, Shlomit Yuval-Greenberg, David Heeger

53.429 **Microsaccades and blinks trigger illusory rotation in the "Rotating Snakes" illusion** Jorge Otero-Millan, Stephen L. Macknik, Susana Martinez-Conde

53.430 **Effect of image statistics on fixational eye movements** Claudio Simoncini, Anna Montagnini, Laurent U. Perrinet, Guillaume S. Masson

53.431 **Microsaccadic efficacy and contribution to foveal and peripheral vision** Michael McCamy, Jorge Otero-Millan, Stephen Macknik, Yan Yang, Xoana Troncoso, Steven Baer, Sharon Crook, Susana Martinez-Conde

53.432 **Cortical activity in visual cortex coincident with microsaccades** Shlomit Yuval-Greenberg, Elisha P. Merriam, David J. Heeger

53.433 **Distributed processing in a sequential scanning task** Hans Trukenbrod, Ralf Engbert

53.434 **Optimization of Fixations during Scene Viewing** Esther Xiu Wen Wu, Syed Omer Gilani, Jeroen J.A. van Boxtel, Ido Amihai, Fook Kee Chua, Shih-Cheng Yen

53.435 **Continuous Time Infomax Models of Oculomotor Control** Walter Talbott, He Huang, Javier Movellan

53.436 **Bayesian saccade planning as a universal visuomotor principle** André Krügel, Ralf Engbert

53.437 **Parameter distribitions of eye-movements based on 1,000,000 trials.** Aaron Johnson, John Brand, Bruno Richard

53.438 **Visual processing in the primate superior colliculus during freeviewing of natural stimuli** David Berg, Brian White, Douglas Munoz, Laurent Itti

53.439 **Scanpath similarity in sequential sensorimotor tasks: Comparing a sub-action sequenced linear distance method to string edit methods** Rebecca M. Foerster, Elena Carbone, Hendrik Koesling, Werner X. Schneider

53.440 **Fixation patterns as point processes** Simon Barthelmé, Hans Trukenbrod, Ralf Engbert, Felix Wichmann

Multisensory processing: Visuo-auditory interactions

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

53.444 **Matching voice and face identity from static images** Lauren Kogelschatz, Elan Barenholtz

53.445 **Cross-modal transfer without concurrent stimulation: a challenge to a hidden assumption** Carmel A. Levitan, Yih-Hsin A. Ban, Noelle R. B. Stiles, Shinsuke Shimojo

53.446 **Implicit multisensory statistical learning influences visual perceptual selection** Elise Piazza, Rachel Denison, Maxwell Schram, Michael Silver

53.447 **Temporal frequency limits for within- and cross-attribute binding in vision and audition** Shoko Kanaya, Waka Fujisaki, Shin'ya Nishida, Kazuhiko Yokosawa

53.448 **Visual Signals Bias Auditory Targets in Azimuth and Depth** James Schirillo, Ramnarayan Ramachandran, Amanda Bowen

53.449 **Amplitude-modulated sounds influence visual inspection of natural scenes** Aleksandra Sherman, Marcia Grabowecky, Satoru Suzuki

53.450 **Adaptation to temporal interval modulates the perception of visual apparent motion** Lihan Chen, Huihui Zhang, Xiaolin Zhou

53.451 **Hearing where the eyes see: influence of an uninformative visual cue on sound localisation in adults and children** Karin Petrini, Louise Smith, Marko Nardini

See page 23 for Abstract Numbering System

53.452 **Age-related changes in multimodal integration are not due to attentional load** Denton J. DeLoss, Russell S. Pierce, George J. Andersen

53.453 **The Shifting and Dividing of Attention Between Visual and Auditory Tasks** Russell Costa, Nathan Medeiros-Ward, Nicholas Halper, Lindsay Helm, Amanda Maloney

53.454 **The Effects of Spatial Cues on Age-Related Changes in Audio-Visual Temporal Order Judgments** Emilie C. Harvey, Paul Sirek, Patrick J. Bennett, Allison B. Sekuler

53.455 **Atypical development of temporal perception in ASD is associated with deficits in audiovisual speech integration.** Ryan Stevenson, Justin Siemann, Haley Eberly, Brittany Schneider, Stephen Camarata, Mark Wallace

53.456 **Categorical Distinctions and Image Differences in Cross-modal Working Memory** Anne Gilman

53.457 **Grasping semantic information with and without vision** Christian Floss, Volker H. Franz

53.458 **Auditory input modulates striate visual cortex activity: cortical multisensory integration begins** Manuel Mercier, John Foxe, Ian Fiebelkorn , John Butler, Theodore Schwartz, Sophie Molholm

53.459 **No Colavita effect: Lack of visual dominance in people with autism spectrum disorder** Stefania S. Moro, Adam A. Ghemraoui, Jennifer K.E Steeves

53.460 **Cross-modal, positional, and semantic effects in visual extraction of slope** Stacey Parrott, Emmanuel Guzman-Martinez, Laura Ortega, Marcia Grabowecky, Satoru Suzuki

3D perception: Stereopsis, motion, and other cues

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

53.501 **Distributed representations for 3D perceptual judgments in human visual cortex** Hiroshi Ban, Andrew E. Welchman

53.502 **The interaction between visual mechanisms for 2D and 3D information processing** Chien-Chung Chen, Lok-Ting Sio

53.503 **Perceived 3D shape from continuous and static perspective changes** Young Lim Lee, Jeffrey A. Saunders

53.504 **The role of stereoscopic depth cues in shape constancy** Mercédès Aubin, Sacha Zahabi, Martin Arguin

53.505 **Stereo information benefits view generalization in object recognition** Candy Patterson, Filipe Cristino, William Hayward, Charles Leek

53.506 **Humans can use information beyond 2 frames in structure from motion** David Bennett, Huaiyong Zhao, Zili Liu

53.507 **Linear egomotion signals are mostly ignored in the interpretation of the self-generated optic flow** Carlo Fantoni, Giovanni Mancuso, Corrado Caudek, Fulvio Domini

53.508 **The effects of age upon the perception of 3-D shape from motion** J. Farley Norman, Jacob Cheeseman, Jessica Pyles, Hideko Norman

53.509 **The role of symmetry in 3D shape discrimination across changes in viewpoint** Eric Egan, James Todd, Flip Phillips

53.510 **Reduced depth illusions in schizophrenia: The state of the illness matters but the kind of object may not** Yushi Wang, Brian Keane, Vanja Vlajnic, Steven Silverstein, Deepthi Mikkilineni, Anna Zalokostas, Thomas Papathomas

53.511 **Compression of motor space expands perceptual spaces** Robert Volcic, Carlo Fantoni, Corrado Caudek, Fulvio Domini

53.512 **Holistic representations of impossible objects** Erez Freud, Galia Avidan, Tzvi Ganel

Object recognition: Features and parts

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

53.513 **Adapting to an incomplete curve generates the same curvature aftereffect as a complete curve** Hong Xu, Pan Liu

53.514 **Two perceptual anomalies explained by a statistically optimal model** Steven Buckingham, Vincent de Gardelle, Sophie Avery, Christopher Summerfield

53.515 **The markedly greater sensitivity to nonaccidental vs. metric shape properties is not reflected in HMAX calculation of shape similarity** Ori Amir, Irving Biederman

53.516 **Perceptual prevalence of first-order information in letter identification showed using visual chimeras** Ignacio Serrano-Pedraza, Vicente Sierra-Vázquez

53.517 **The integration of parts during visual completion is inefficient** Jason Gold, Michael Simmons

53.518 **Recognizing real-world objects: the role of familiarity, context and features** Elan Barenholtz, Evangelie Daskagianni

53.519 **The "Gist" of Visual Processing** David Chan, Mary Peterson, Sam Qian, Jay Pratt

53.520 **Dynamic Visual Representations of Scenes and Objects: The Forest to the Tree** Sonia Poltoratski, Frank Tong

53.521 **Text adaptation: Aftereffects for word-identity and handwriting-style, and the effect of the orthogonal variable.** Hashim M. Hanif, Brielle Perler, Jason J. S. Barton

53.522 **Contour change detection in the periphery: threshold as a function of temporal interval** Desmond C. Ong, Anthony Hayes, David J. Field

53.523 **The flash-lag effect for two features changing simultaneously: a test of alternative hypotheses** Para Kang, Steven Shevell

53.524 **Key object feature dimensions modulate texture filling-in** Chang mao Chao, Li-Feng Yeh, Chou P. Hung

53.525 **Feature combination produces stimulus quality-dependent changes in object inversion effects** Maxim Bushmakin, Thomas James

53.526 **A gaze contingent object recognition paradigm for testing the advantage of viewing specific regions of novel objects.** Stephen Johnston, Charles Leek, Filipe Cristino

53.527 **Greater modulation of LO responses to changes in nonaccidental than metric relations between simple shapes.** Jiye G. Kim, Irving Biederman

53.528 **The effects of age, luminance and pupil size on visual ERPs.** Magdalena Bieniek, Luisa Frei, Guillaume Rousselet

53.529 **The Artist's visual span: better performance through smaller windows.** Florian Perdreau, Patrick Cavanagh

Scene perception: Spatiotemporal factors

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

53.530 **What's "up" in boundary extension? Brief rotated views are remembered as more expansive** Steve Beighley, Helene Intraub

53.531 **Boundary extension in children vs. adults: What developmental differences may tell us about scene representation** Erica Kreindel, Helene Intraub

53.532 **Using Boundary Extension To Assess Memory For Scene Views Across Changes In Object Orientation** Christopher Dickinson, Dan LaCombe, John Nichols, Sarah Hinnant, Elizabeth Rickard, Xenophon Sternbergh

53.533 **Quantifying boundary extension in scenes** Krista A. Ehinger, Ruth Rosenholtz

53.534 **Effects of Clutter on Boundary Extension: Volume or Detail effects?** Carmela Gottesman

53.535 **Seeking the boundary for boundary extension** Aisha P. Siddiqui, Benjamin McDunn, James M. Brown

53.536 **The Relative Effectiveness of Different vs. Shared Mask Features on the Processing of Scene Gist** Richelle Witherspoon, Michelle Greene, Monica Castelhano

53.537 **It's not just gist! Recognition memory for scrambled scenes with limited attentional resources** Jeffrey Y. Lin, Bjorn Hubert-Wallander, Sung Jun Joo, Scott O. Murray, Geoffrey M. Boynton

53.538 **Scene Gist Meets Event Perception: The Time Course of Scene Gist and Event Recognition** Adam Larson, Joshua Hendry, Lester Loschky

53.539 **Viewpoint dependent and independent contextual cuing effect** Satoshi Shioiri, Taiga Tsuchiai, Kazumichi Matsumiya, Ichiro Kuriki

53.540 **The influence of stimulus duration on visual illusions and simple reaction time** Thorsten Plewan, Ralph Weidner, Gereon R. Fink

53.542 **Evidence for perceptual convergence of object- and layout-based scene representations** Drew Linsley, Sean MacEvoy

53.543 **Effects of object facing direction and implied motion on preferences for spatial composition** Thomas Langlois, Jonathan Sammartino, Stephen Palmer

53.544 **Understanding the intrinsic memorability of images** Devi Parikh, Phillip Isola, Antonio Torralba, Aude Oliva

53.545 **Is color information important for fearful scene perception?** Anne Boguslavsky, Bingbing Guo, Ming Meng

53.547 **Aesthetic preference of oriented content in broadband images** Hillary Williams, April Schweinhart, Eleanor O'Keefe, Andrew Haun, Edward Essock

Perception and action: Reaching and grasping

Tuesday, May 15, 8:15 - 12:15 pm
Poster Session, Vista Ballroom

53.548 **When reaching is risky, disgust influences estimates of exocentric distance.** Kyle Gagnon, Michael McCardell, Samantha Fuhrman, Jeanine Stefanucci

53.549 **Behavioural and electrophysiological evidence of visual vector inversion in antipointing** Matthew Heath, Jon Bell, Clay Holroyd, Olav Krigolson

53.550 **Updating of motor specifications in open-loop conditions during movement time** Jeppe H. Christensen, Jens H. Christiansen, Søren Kyllingsbæk

53.551 **Intended and spontaneous motor behavior under a 3D perspective visual illusion** Jillian Nguyen, Robert Isenhower, Joshua Dobias, Polina Yanovich, Jay Ravaliya, Elizabeth Torres, Thomas Papathomas

53.552 **Distractor Interference in one- and two-handed selective reaching tasks.** Matthew Ray, Daniel Weeks, Gerome Manson, Luc Tremblay, Heather Neyedli

53.553 **Another attempt to measure tool-based compression of visual space (N=50)** Max Rennebohm, Tyler Woollard, Frank Durgin

53.554 **In the palm of my hand: hand functionality biases shifting of exogenous visual spatial attention** Ada Kritikos, Hayley Colman

53.555 **Effects of environment constraints and judgments about action on distance judgments** David Lessard, Sarah Creem-Regehr, Jeanine Stefanucci

53.556 **Sequence effects in grasping: evidence for an implicit location-unspecific action memory** Michael Hegenloh, Constanze Hesse, Hermann J. Müller, Michael Zehetleitner

53.557 **Practice Reduces the Effect of a Ponzo Illusion on Precision Grasping but not Manual Estimation** Robert, L. Whitwell, Gavin Buckingham, Philippe, A. Chouinard, Jesica M. Mikkila, Stephanie Fortunato, Goodale, A. Melvyn

53.558 **Visuomotor priming effects in grasping depend on the quality of cue processing** Lisa Pfannmüller, Michael Hegenloh, Hermann J. Müller, Michael Zehetleitner

53.559 **Goal-directed grasping: Visual and haptic percepts of object size influence early but not late aperture shaping** Kendal Marriott, Scott Holmes , Jonathon Tay, Matthew Heath

53.560 **Distinct visual metrics support the late stages of aperture shaping for 2D and 3D target objects** Scott Holmes, Kendal Marriott, Alisha Mackenzie, Maggie Sin, Matthew Heath

See page 23 for Abstract Numbering System

Tuesday Afternoon Talks

Visual memory: Models and mechanisms

Tuesday, May 15, 2:30 - 4:30 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Daryl Fougnie

2:30 pm 54.11 **Image memorability differences are stable over time delay** Aude Oliva, Phillip Isola

2:45 pm 54.12 **Accessing visual memory distorts object representations** Judith E. Fan, Nicholas B. Turk-Browne

3:00 pm 54.13 **Two objects remembered as precisely as one: Evidence that correspondence errors limit visual working memory** Gi Yeul Bae, Jonathan Flombaum

3:15 pm 54.14 **Working memory resolution increases faster than capacity in visuomotor sequence learning** Abigail Noyce, Robert Sekuler

3:30 pm 54.15 **The volatility of working memory** Daryl Fougnie, Jordan W. Suchow, George A. Alvarez

3:45 pm 54.16 **Variability in encoding precision accounts for the limitations of visual short-term memory** Wei Ji Ma

4:00 pm 54.17 **"Event type" representations in vision are triggered rapidly and automatically: A case study of containment vs. occlusion** Brent Strickland, Brian Scholl

4:15 pm 54.18 **Homologous mechanisms of visuospatial working memory maintenance in macaque and human: Properties and sources** Robert M.G. Reinhart, Richard P. Heitz, Braden A. Purcell, Pauline K. Weigand, Jeffrey D. Schall, Geoffrey F. Woodman

Perception and action: Decisions

Tuesday, May 15, 5:30 - 7:00 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Brett Fajen

5:30 pm 55.11 **Rhythmic fluctuations in evidence accumulation during decision making in the human brain** Valentin Wyart, Vincent de Gardelle, Jacqueline Scholl, Christopher Summerfield

5:45 pm 55.12 **An oculomotor trace of implicit perceptual predictions** Yoram Bonneh, Yael Adini, Dov Sagi, Misha Tsodyks, Moshe Fried, Amos Arieli

6:00 pm 55.13 **Dual tasks affect movement latency but not movement time during rapid pointing** Heidi Long, Anna Ma-Wyatt

6:15 pm 55.14 **The development of visuomotor decision making under risk** Tessa Dekker, Esther Cheung, Marko Nardini

6:30 pm 55.15 **Failure is unavoidable: The effects of reward, reward-learning and penalty on rapid reaching** Craig Chapman, Jason Gallivan, Jim Enns

6:45 pm 55.16 **Humans exploit the biomechanics of bipedal gait during visually guided walking over rough terrain** Jonathan Matthis, Brett Fajen

Object recognition: Categories

Tuesday, May 15, 2:30 - 4:30 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Talia Konkle

2:30 pm 54.21 **Neural Representations of Object Categories at Multiple Taxonomic Levels** Marius Cătălin Iordan, Michelle R. Greene, Diane M. Beck, Li Fei-Fei

2:45 pm 54.22 **Category learning causes long-term changes to similarity gradients in the ventral stream: A multivoxel pattern analysis at 7T** Jonathan Folstein, Allen Newton, Ana Beth Van Gulick, Thomas Palmeri, Isabel Gauthier

3:00 pm 54.23 **Fast Access to Category Level Representations Can Be Dissociated From Perception** Joseph L. Sanguinetti, Mary A. Peterson

3:15 pm 54.24 **Brain activity shows that mammals are more animate than reptiles and bugs** Andrew Connolly, James Haxby

3:30 pm 54.25 **Comparing Animacy and Real-World Size Object Topography In Occipito-Temporal Cortex: a "Coarse MVPA" approach** Talia Konkle, Alfonso Caramazza

3:45 pm 54.26 **Investigating the relationship between visual object category selectivity measured with functional neuroimaging and electrocorticography in the human ventral temporal cortex** Corentin Jacques, Nathan Witthoft, Kevin S. Weiner, Brett L. Foster, Kai J. Miller, Dora Hermes, Josef Parvizi, Kalanit Grill-Spector

4:00 pm 54.27 **Neural Representation of Human-Object Interactions** Christopher Baldassano, Diane M. Beck, Li Fei-Fei

4:15 pm 54.28 **Early visual areas recruited in automatic contextual processing of words** Elissa Aminoff, Michael Miller, Scott Grafton, Michael Tarr

Spatial vision: Neural mechanisms

Tuesday, May 15, 5:30 - 7:00 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Luke Hallum

5:30 pm 55.21 **Retinally stabilized stimulation reveals mismappings between retinal and perceived location** Wolf Harmening, Azalea Lee, Thom Carney, Austin Roorda

5:45 pm 55.22 **Mechanisms of selectivity for orientation-defined form in macaque visual cortex** L.E. Hallum, J.A. Movshon

6:00 pm 55.23 **Avoiding biases in estimating cortical reorganization using fMRI population receptive field mapping** Paola Binda, Jessica Thomas, Geoffrey M. Boynton, Ione Fine

6:15 pm 55.24 **Retinotopic mapping in a patient with optic chiasm compression: converging evidence from visual field testing and fMRI** Anat Fintzi, Eric Hintz, Duje Tadin, George Vates, Zoe Williams, Bradford Mahon

6:30 pm 55.25 **Contributions of fixational eye movements to the early encoding of visual information** Michele Rucci, Martina Poletti, Jonathan Victor, Xutao Kuang

6:45 pm 55.26 **More than maps: the fMRI orientation signal persists after removal of radial bias** Jascha Swisher, Frank Tong

Tuesday Afternoon Posters

Perceptual learning: Neural mechanisms

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

56.301 **MEG slow activity in V1 during sleep and perceptual learning** Ji Won Bang, Omid Khalilzadeh, Daniel Wakeman, Masako Tamaki, Matti Hämäläinen, Takeo Watanabe, Yuka Sasaki

56.302 **Neural mechanisms of motion perceptual learning** Nihong Chen, Taiyong Bi, Zili Liu, Fang Fang

56.303 **Perceptual Learning alters Neural Tuning in Large-Scale Fronto-Parietal Brain Networks** Marcus Grueschow, John-Dylan Haynes, Christian Ruff

56.304 **Roles of inhibitory processes in perceptual learning** Dongho Kim, Hisato Imai, Yuka Sasaki, Takeo Watanabe

56.305 **Visual art training in young adults changes neural circuitry in visual and motor areas** Alexander Schlegel, Sergey Fogelson, Xueting Li, Zhengang Lu, Prescott Alexander, Ming Meng, Peter Tse

56.306 **Action Video Games playing improves learning to learn in perceptual learning** Ruyuan Zhang, Vikranth R. Bejjanki, Zhonglin Lu, Shawn Green, Alexandre Pouget, Daphne Bavelier

56.307 **Learning-Dependent Changes in Brain Responses While Learning to Break Camouflage: A Human fMRI Study** Nicole Streeb, Xin Chen, Jay Hegdé

56.308 **Men need a nap to show perceptual learning of motion direction discrimination, but women do not.** Elizabeth McDevitt, Brett Bays, Ariel Rokem, Michael Silver, Sara Mednick

56.309 **Pharmacologically enhanced naps modulate perceptual learning and verbal memory** Sara C. Mednick, Elizabeth A. McDevitt, Sean P.A. Drummond

Perceptual learning: Specificity and transfer

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

56.310 **Implicit Learning and Memory for Random Visual Noise** Avigael Aizenman, Stephanie Bond, Robert Sekuler, Jason Gold

56.311 **Learning to attend transfers across spatial locations** Anna Byers, John T. Serences

56.312 **Attention enhances perceptual learning and transfers it to untrained locations** David Carmel, Marisa Carrasco

56.313 **Investigating the specificity of experimentally induced expectations in motion perception** Nikos Gekas, Aaron Seitz, Peggy Seriès

56.314 **Right Hemifield Deficits in Judging Simultaneity: A Perceptual Learning Study** Nestor Matthews, Michael Vawter, Jenna Kelly

56.315 **Perceptual learning of motion directions transfers to smooth pursuit eye movements** Sarit Szpiro, Miriam Spering, Marisa Carrasco

56.316 **Spatiotopic location specificity of perceptual learning in orientation discrimination** En Zhang, Gong-Liang Zhang, Wu Li

56.317 **Orientation discrimination and learning may not rely on direct sensory inputs from orientation detectors** Rui Wang, Jie Wang, Shu-Han Luo, Cong Yu, Wu Li

Perceptual learning: Models

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

56.318 **Human versus Bayesian Optimal Learning of Eye Movement Strategies During Visual Search** Kathryn Koehler, Emre Akbas, Matthew Peterson, Miguel P. Eckstein

56.319 **A Regression Based Method for Time Series Analysis of Perceptual Learning Data** Jordan Meyer, Alexander Petrov

56.320 **Dealing with sequential dependencies in psychophysical data** Ingo Fründ, Felix Wichmann, Jakob Macke

56.321 **Perceptual Learning, Roving, and Synaptic Drift** Michael H. Herzog, Aaron M. Clarke

56.322 **Evidence for High-Level Influences and Changes in Decision Criteria on Low-Level Visual Perceptual Learning** Nicholas Altieri, Michael Wenger

Visual search: Attention

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Royal Palm Ballroom 6-8

56.323 **Attentional Effects of Working Memory Load and Consolidation During Visual Search** Mazviita Chirimuuta, Kamen Tsvetanov, Glyn Humphreys

56.324 **Parietal substrates for dimensional effects in visual search: evidence from lesion-symptom mapping** Sandra Utz, Magda Chechlacz, Glyn Humphreys

56.325 **Investigating the neural correlates of visual attention and response selection in contextual cueing** Ryan W. Kasper, Scott T. Grafton, Miguel P. Eckstein, Barry Giesbrecht

56.326 **Targets Need Their Own Personal Space** Stephen H. Adamo, Matthew S. Cain, Stephen R. Mitroff

56.327 **When four, six, eight, or sixteen hearts beat as one: Effects of perceptual organization on search for temporal frequency outliers** Todd Horowitz, Ashley Sherman, Erica Kreindel, Jeremy Wolfe

56.328 **Toddlers with ASD are better at visual search without trying harder: a pupillometric study** Erik Blaser, Luke Eglington, Zsuzsa Kaldy

56.329 **RSVPupillometry: Incidental memory and psychophysiology in rapid-serial multiple-target search.** Michael Hout, Megan Papesh, Stephen Goldinger

56.330 **Age-related effects in previewing emotional faces in visual search** Xiaoang Wan, Lin Tian, Alejandro Lleras

56.331 **Dependence of Perceptual Style on Culture** Michelle J. Dusko, Emily S. Cramer, Ronald A. Rensink

See page 23 for Abstract Numbering System

Attention: Features II

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

56.401 **Does practice make perfect: an examination of performance during the Emotional Stroop paradigm** Joseph DeSouza, Charles Leger

56.402 **"Please tap the shape, anywhere you like": The psychological reality of shape skeletons** Chaz Firestone, Brian Scholl

56.403 **Object-Based Attention is Impervious to Nearby Targets During Visual Search** Adam Greenberg, Maya Rosen, Kayla Zamora, Elizabeth Cutrone, Marlene Behrmann

56.404 **Subitizing is resource-limited and not preattentive** Bjorn Hubert-Wallander, Jeffrey Y. Lin, Sung Jun Joo, Scott O. Murray, Geoffrey M. Boynton

56.405 **Multiple target individuation with and without distracters** Veronica Mazza, Silvia Pagano, Alfonso Caramazza

56.406 **Decoding location and category information in human parietal cortex** Su Keun Jeong, Yaoda Xu

56.407 **V1 saliency theory makes quantitative, zero parameter, prediction of reaction times in visual search of feature singletons** Li Zhaoping, Li Zhe

56.408 **Individual differences in object-based selection are predicted by visual short-term memory capacity** Audrey G. Lustig, Daniel J. Simons, Alejandro Lleras, Diane M. Beck

56.409 **Attention and feature misbinding in visual working memory** Mia Y. Dong, Nahid Zokaei, Masud Husain

56.410 **Object state-change predicts neural similarity of visual representations before and after a described event** Nicholas C. Hindy, Gerry T.M. Altmann, Emily Kalenik, Sharon L. Thompson-Schill

56.411 **Counting multidimensional objects – implications for the neural synchrony theory** Liat Goldfarb, Anne Treisman

56.412 **Ensemble-based Subitizing** Robert Eisinger, Ryan Ly, Hee Yeon Im, Justin Halberda

56.414 **Interactions between space-, surface-, and object-based attention** Tong Liu, William Hayward

56.415 **Uncertainty Reduction: The guiding principle of object-based selection** Sarah Shomstein

56.416 **Effects Of Metacontrast And Object-substitution Masking On Subliminal Priming** W. Trammell Neill, George Seror, Katherine Weber

Face perception: Neural mechanisms

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

56.419 **Frequency-tagging EEG stimulation reveals integration of facial parts into a unified perceptual representation** Adriano Boremanse, Anthony Norcia, Bruno Rossion

56.420 **Adaptation of the steady-state visual potential response to face identity: generalization and temporal dynamics** Esther Alonso Prieto, Bruno Rossion

56.421 **Temporal frequency tuning of the cortical face-sensitive network for individual face perception** Francesco Gentile, Bruno Rossion

56.422 **Evidence from the EEG frequency tagging stimulation technique for a unified representation of faces independently of the amount of border between top and bottom halves** Renaud Laguesse, Adriano Boremanse, Anthony M. Norcia, Bruno Rossion

56.423 **Investigating face identity matching and discrimination using event-related steady-state visual evoked potentials** Joan Liu-Shuang, Anthony M. Norcia, Bruno Rossion

56.424 **Decoding EEG data reveals dynamic spatiotemporal patterns in perceptual processing** Monica Rosenberg, Alexandra List, Aleksandra Sherman, Marcia Grabowecky, Satoru Suzuki, Michael Esterman

56.425 **Factors affecting inter-hemispheric transfer of categorical visual information** Shlomo Bentin, Yonathan Shalev, Nachum Soroker

56.426 **The brain basis of emotional aftereffects: An ERP study** Jennifer A. Walsh, Jenna Cheal, Jennifer Heisz, Judith Shedden, M.D. Rutherford

56.427 **Parametric face-to-hand transformations reveal shape-tuned representations in human high-level visual cortex.** Nicolas Davidenko, Kevin Weiner, Kalanit Grill-Spector

56.428 **Anatomy, Retinotopy, & Category Selectivity in Human Ventral Visual Cortex** Nathan Witthoft, Golijeh Golarai, Mai Nguyen, Karen LaRocque, Alina Liberman, Mary E. Smith, Kalanit Grill-Spector

56.429 **Effect of context on the N170 for low spatial frequency filtered faces** Chang Lu, Patrick Bennett, Allison Sekuler

56.430 **Decoding orientation-invariant information about individual faces in the ventral stream** Stefano Anzellotti, Scott Fairhall, Alfonso Caramazza

56.431 **Translation tolerant and category-selective encoding of orientation in the fusiform face area** Fernando Ramirez, Radoslaw M. Cichy, Carsten Allefeld, John-Dylan Haynes

56.432 **A pattern classification approach to discriminating neural responses to faces and bodies in motion** Alice O'Toole, Vaidehi Natu, Allyson Rice, P. Jonathon Phillips, Xiaobo An

56.433 **The neural correlates of illusory face perception: An fMRI study** Lu Feng, Jiangang Liu, David Huber, Cory Rieth, Ling Li, Jie Tian, Kang Lee

56.434 **Face-voice integration in person recognition** Stefan R. Schweinberger, Nadine Kloth, David M. C. Robertson

56.435 **Not All High-Level Aftereffects are Equal (And Perhaps None is Opponent Coded)** Katherine Storrs, Derek Arnold

56.436 **The "informational correlates" of consciousness** Verena Willenbockel, Franco Lepore, Benoit Bacon, Frédéric Gosselin

56.437 **Emotional Saliency Allows for Unconscious Face Adaptation** Cesar Echavarria, Po-Jang Hsieh

56.438 **The neural correlates of own- and other-race face recognition and categorization: A fMRI study** Jiangang Liu, Lu Feng, Ling Li, Jie Tian, Kang Lee

56.439 **Selectivity for Mirror-Symmetric Views of Faces in the Ventral and Dorsal Streams of the Human Visual System** Tim C. Kietzmann, Jascha D. Swisher, Peter König, Frank Tong

56.440 **The role of the uncinate fasciculus in human visual-associative learning** Cibu Thomas, Lindsay Walker, Carlo Pierpaoli, Chris Baker

3D perception: Cue combination

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

56.444 **Size, shading and disparity: studying cue combination using visual search** P. George Lovell, Marina Bloj, Julie M. Harris

56.445 **Perceptual integration of specular highlight and shading** Ko Sakai, Ryoko Meiji, Tstsuya Abe

56.446 **The integration of disparity and shading cues to 3D shape in dorsal visual cortex** Dicle N. Dovencioglu, Hiroshi Ban, Andrew J. Schofield, Andrew E. Welchman

56.447 **The integration of texture- and disparity-defined slant in the human brain** Aidan P. Murphy, Hiroshi Ban, Andrew E. Welchman

56.448 **The role of binocular disparity and projected size in the detection of curved trajectories** Russell Pierce, Zheng Bian, Myron Braunstein, George Andersen

56.449 **Persistence of Monocular Depth Perception in the Low Resolution Limit** Armand R. Tanguay, Jr., Noelle R. B. Stiles, Jennifer Crisp, Benjamin P. McIntosh

56.450 **Familiarity Dominates Shape-From-Motion Signals in the Concave-to-Convex 3D illusion** Jordan Ash, Jay Ravaliya, James Hughes, Brian Keane, Anshul Jain, Qasim Zaidi, Thomas Papathomas

3D perception: Neural mechanisms and models

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Orchid Ballroom

56.453 **Navigating in a changing world: enhancing the discrimination between view-based and Cartesian models.** Lyndsey Pickup, Andrew Glennerster

56.454 **How do we point at an unseen object?** Jenny Vuong, Lyndsey C. Pickup, Andrew Glennerster

56.455 **The Generic Linear Motion Assumption for the interpretation of the optic flow** Fulvio Domini, Carlo Fantoni, Corrado Caudek, Giovanni Mancuso

56.456 **Assessing extra-retinal signal magnitude in the perception of depth from motion parallax** Mark Nawrot, Mik Ratzlaff, Zachary Leonard, Joshua Johnson, Keith Storyan

56.457 **Learning reorganizes the cortical circuits involved in depth perception: evidence from human TMS** Dorita H. F. Chang, Carmel Mevorach, Zoe Kourtzi, Andrew E. Welchman

56.458 **Neural correlates of ground plane perception revealed using multivariate pattern analysis** Katharine B. Porter, Peter J. Kohler, Caeli E. P. Cavanagh, Peter U. Tse

56.459 **Statistics of three-dimensional natural scene structures** Weibing Wan, Zhiyong Yang

56.460 **A Bayesian Approach to the 3D Aperture Problem** Hongfang Wang, Suzanne Heron, Martin Lages

Color and light: Lightness and brightness

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

56.501 **Relative brightness in natural images depends upon object size, not visual angle.** Erica Dixon, Arthur G. Shapiro, Zhong-Lin Lu

56.502 **The optimal estimator of lightness** Matteo Toscani, Matteo Valsecchi, Karl Gegenfurtner

56.503 **Stain or shadow? Perception of a dark spot on textured backgrounds** Masataka Sawayama, Eiji Kimura

56.504 **Luminance range mapping in lightness computation: a novel role for attentional modulation** Michael E. Rudd

56.505 **Brightness induction by contextual influences in V1: a neurodynamical account** Xavier Otazu , Olivier Penacchio, Laura Dempere-Marco

56.506 **Bias and precision in the perception and memory for stimulus lightness** Maria Olkkonen, Sarah Allred

56.507 **Filling in or filling out – color in the center of gaze** Sean F O'Neil, Michael A Webster

56.508 **The phantom spokes illusion** Jeffrey B. Mulligan

56.509 **Contrast Polarity Preservation's Role in Perception: Explained and Unexplained Stimuli** Meghan McCormick, Alice Hon, Abigail Huang, Eric Altschuler

56.510 **When luminance increment thresholds depend on apparent lightness** Marianne Maertens, Felix Wichmann

56.511 **Alterations of the contrast gain during normal aging: a dissociation between the Magnocellular and Parvocellular signatures for old and very-old groups** Quentin Lenoble, Helene Amieva, Sandrine Delord

56.512 **Both 3D Orientation and Local Contrast Affect Surface Lightness** Thomas Y. Lee, David H. Brainard

56.513 **Effective ranges of shorter durations yielding greater simultaneous contrast of brightness and color** Sae Kaneko, Ikuya Murakami

56.514 **Relationship between perceived lightness and the luminance statistics of the surrounding natural image** Kei Kanari, Hirohiko Kaneko, Makoto Inagami

56.515 **Black rooms seen through a veiling luminance: gradient amplitude vs highest luminance** Stephen Ivory, Alan Gilchrist

56.516 **Perceptual consequence of normalization revealed by a novel brightness illusion** Sang Wook Hong, Min-Suk Kang

56.517 **The role of feedback and long-range horizontal connections in brightness-related responses in visual cortex: a computational model** Bo Cao, Ennio Mingolla, Arash Yazdanbakhsh

Motion: Phenomena and Illusions

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

56.521 **Involuntary attention can modulate the disappearance in motion-induced blindness** Hui Chen, Liqiang Huang

56.522 **Motion parallax, pursuit eye movements and night vision goggles** Jonathon George, Mark Nawrot

56.523 **Behavioral measurement of RDK velocity discrimination thresholds in the tree shrew.** Heywood M. Petry, Chelsea Clark, Jonathan Day-Brown, R. T. Bolin, Martha Bickford

56.524 **Visual Evaluation of Gesture Motion and Walking Difficulty Using Singular Value Decomposition** Isao Hayashi, Yinlai Jiang, Shuoyu Wang

56.525 **Motion path misidentification in the periphery** Alexander Rose-Henig, Arthur G. Shapiro, Zhong-Lin Lu

See page 23 for Abstract Numbering System

56.526 **Integration of motion signals in the absence of changes in spatial position** Oliver Flynn, Arthur G. Shapiro

56.527 **The Recovery of Shape from 3rd-order Counter-change Specified Motion vs. 1st-order Motion Energy** Joseph Norman, Howard Hock

56.528 **Local form-motion interactions influence global form perception** Gideon Caplovitz, Diana Cordeiro, J. Daniel McCarthy

56.529 **The role of adaptation in Motion-induced Blindness: Evidence from a mask coherence manipulation** Erika Wells, Andrew Leber

56.530 **Features bias correspondence in apparent motion over short distances in the Ternus display but long distances in split motion** Elisabeth Hein, Patrick Cavanagh

56.531 **The flash-drag effect and the illusory position shift induced by motion on a different depth plane** Rumi Hisakata, Ikuya Murakami

56.532 **The flash-drag effect is observed somewhat before, but never after, the display period of a moving stimulus** Yuki Murai, Ikuya Murakami

56.533 **A paradoxical peripheral plaid motion phenomenon** Peng Sun, Charles Chubb, George Sperling

56.534 **Wriggling Motion Trajectory Illusion** Yuko Yotsumoto, Meeko Kuwahara, Takao Sato

56.535 **The Looking Glass Motion Effect** Kenneth Brecher

Eye movements: Saccadic mechanisms

Tuesday, May 15, 2:45 - 6:30 pm
Poster Session, Vista Ballroom

56.539 **Finding the target as a reinforcer of saccadic amplitude variability in a visual search task.** Celine Paeye, Laurent Madelain

56.540 **Internal Noise Mechanisms of Intra-Saccadic Suppression** Jon Guez, Adam Morris, Bart Krekelberg

56.541 **The attribution of non-foveal saccade endpoints to internal or external causes in saccadic adaptation** Thérèse Collins, Pascal Mamassian

56.542 **Saccadic adaptation induced by perceptual goal** Laurent Madelain, Anna Montagnini

56.543 **Saccadic Adaptation with an Adapted Visual Error** Svenja Wulff, Markus Lappe

56.544 **Saccadic error information from second order motion** Katharina Havermann, Markus Lappe

56.545 **Electrophysiological evidence for feature remapping in macaque MST** Jacob Duijnhouwer, Bart Krekelberg

56.546 **Saccadic motor priority trumps visual salience in a free choice task** Mark Harwood, Annabelle Blangero, Josh Wallman

56.547 **Changing target size affects saccade preparation: motor re-planning or attentional rescaling?** Afsheen Khan, Mark Harwood, Annabelle Blangero, Josh Wallman

56.548 **Destination of information transfer across saccades** Si On Kim, Sang Chul Chong

56.549 **Parallel extraction of information for foveal analysis and peripheral selection of where to look next** Casimir Ludwig, Rhys Davies, Miguel Eckstein

56.550 **The dynamic representation of eye position in primary visual cortex.** Adam P. Morris, Bart Krekelberg

56.551 **Eye position distribution depends on head orientation** Yu Fang, Ryoichi Nakashima, Kazumichi Matsumiya, Rumi Tokunaga, Ichiro Kuriki, Satoshi Shioiri

56.552 **Motion correspondence based on the perisaccadically compressed space** Masahiko Terao, Ikuya Murakami, Shin'ya Nishida

56.553 **Priming of popout is preserved across eye movements** Sarah Tower-Richardi, Andrew Leber, Julie Golomb

56.554 **The role of the frontal eye fields in oculomotor competition: image-guided TMS enhances contralateral target selection** Stefan Van der Stigchel, Sebastiaan F. W. Neggers, Sander E. Bosch

56.555 **Distributed spatial coding accounts for saccades made to singleton targets as well as eye movements during reading** Françoise Vitu

56.556 **The prior-antisaccade effect: Decoupling stimulus and response inhibits the planning and control of subsequent prosaccades** Jeffrey Weiler, Matthew Heath

56.557 **Pupil dilation evoked by a salient auditory stimulus facilitates saccade reaction times to a visual stimulus.** Chin-An Wang, Susan Boehnke, Douglas Munoz

Wednesday Morning Talks

Eye movements: Perception and cognition

Wednesday, May 16, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 1-3
Moderator: Alejandro Lleras

8:00 am 61.11 **Visual perception at the time of successive saccades** Eckart Zimmermann, M. Concetta Morrone, David C. Burr

8:15 am 61.12 **Eye movements play an active role when visuospatial information is recalled from memory** Roger Johansson, Jana Holsanova, Mikael Johansson, Richard Dewhurst, Kenneth Holmqvist

8:30 am 61.13 **Action Affordance Influences on Eye-Movements and Object Prioritisation in Real World Scenes.** Konstantinos Tsagkaridis

8:45 am 61.14 **Automatic selection of eye tracking variables uncovers similar mechanisms for visual categorization in adults and infants** Samuel Rivera, Catherine Best, Hyungwook Yim, Dirk Walther, Vladimir Sloutsky, Aleix Martinez

9:00 am 61.15 **The effect of uncertainty and reward on fixation behavior in a driving task** Brian Sullivan, Leif Johnson, Constantin Rothkopf, Dana Ballard, Mary Hayhoe

9:15 am 61.16 **Dopaminergic modulation of saccadic control** Jutta Billino, Jürgen Hennig, Karl Gegenfurtner

9:30 am 61.17 **Where do the eyes go when you think? Away from visually salient information.** Alejandro Lleras, Simona Buetti

Visual memory: Neural mechanisms

Wednesday, May 16, 10:45 - 12:45 pm
Talk Session, Royal Palm Ballroom 1-3
Moderator: Timothy Vickery

10:45 am 62.11 **High-level neural similarity predicts perceptual competition during encoding of different object categories** Michael Cohen, Talia Konkle, Juliana Rhee, Ken Nakayama, George Alvarez

11:00 am 62.12 **Working memory requirements influence the strength of visual motion direction representations in dorsolateral prefrontal cortex neurons** Diego Mendoza-Halliday, Julio Martinez-Trujillo

11:15 am 62.13 **Working memory for complex objects revealed by fMRI decoding of human visual cortical activity** Frank Tong, Rosanne Rademaker, Elias Cohen

11:30 am 62.14 **Temporally specific visual working memory representations revealed by multivoxel pattern analysis** Timothy Vickery, Brice Kuhl, Marvin Chun

11:45 am 62.15 **Maintenance of feature conjunctions in visual working memory: Evidence from response time analysis and event-related potential** Jun Saiki, Hiroki Koga

12:00 pm 62.16 **Neural signature for the temporal dynamics of online visual object binding.** Roy Luria, Edward Vogel

12:15 pm 62.17 **The heritability and specificity of change detection ability** Jeremy B. Wilmer, Laura Germine, Ryan Ly, Joshua K. Hartshorne, Holum Kwok, Hrag Pailian, Mark A. Williams, Justin Halberda

12:30 pm 62.18 **Hybrid search in the temporal domain: Monitoring an RSVP stream for multiple targets held in memory.** Trafton Drew, Jeremey M. Wolfe

Binocular rivalry and figure/ground competition

Wednesday, May 16, 8:00 - 9:45 am
Talk Session, Royal Palm Ballroom 4-5
Moderator: Jan Brascamp

8:00 am 61.21 **Perceptual proof that inattention abolishes binocular rivalry** Jan Brascamp, Randolph Blake

8:15 am 61.22 **Disentangling the influences of different cues on perceptual grouping during binocular rivalry** Sjoerd Stuit, Chris Paffen, Maarten van der Smagt, Frans Verstraten

8:30 am 61.23 **Spatial motion coordinates that determine perceptual dominance in binocular rivalry** Ryohei Nakayama, Isamu Motoyoshi, Tsutomu Kusano, Takao Sato

8:45 am 61.24 **Binocular suppression occurs in object-centered coordinates** Mark Vergeer, Marco Boi, Haluk Öğmen, Michael H. Herzog

9:00 am 61.25 **Preserved local but disrupted contextual figure-ground influences in a patient with abnormal function of intermediate visual areas** Joseph Brooks, Sharon Gilaie-Dotan, Geraint Rees, Shlomo Bentin, Jon Driver

9:15 am 61.26 **Binocular rivalry-like neural activities in anesthetized macaque V1** Haoran Xu, Chao Han, Ming Chen, Peichao Li, Shude Zhu, Zijiang He, Haidong Lu

9:30 am 61.27 **Predicting binocular rivalry alternations from brain activity** Robert P. O'Shea, Urte Roeber, Jürgen Kornmeier

Face perception: Development and experience

Wednesday, May 16, 10:45 - 12:45 pm
Talk Session, Royal Palm Ballroom 4-5
Moderator: Isabelle Bülthoff

10:45 am 62.21 **Infants' perception of the hollow-face illusion: Examining evidence for an inversion effect.** Sherryse Corrow, Jordan Mathison, Carl Granrud, Albert Yonas

11:00 am 62.22 **Holistic Face Deficits in Developmental Prosopagnosia: Abnormal Processing of the Eyes** Sarah Cohan, Joseph M. DeGutis, Rogelio J. Mercado, Jeremy Wilmer, Ken Nakayama

11:15 am 62.23 **Recovering sight in adulthood leads to rapid neurofunctional reorganization of visual functions** Giulia Dormal, Franco Lepore, Mona Harissi-Dagher, Armando Bertone, Bruno Rossion, Olivier Collignon

11:30 am 62.24 **Neural correlates of learning and recognizing faces caricatured in shape or texture** Juergen M. Kaufmann, Marlena L. Itz, Claudia Schulz, Stefan R. Schweinberger

11:45 am 62.25 **High-resolution imaging of expertise reveals reliable object selectivity in the FFA related to perceptual performance** Isabel Gauthier, Rankin W. McGugin, Christopher Gatenby, John C. Gore

12:00 pm 62.26 **What gives a face its ethnicity?** Isabelle Bülthoff

12:15 pm 62.27 **Individual differences in the visual strategies underlying facial expression categorization** Caroline Blais, Daniel Fiset, Cynthia Roy, Martin Arguin, Frédéric Gosselin

12:30 pm 62.28 **Why do fat faces look thinner upside-down?** Peter Thompson, Jennie Wilson

See page 23 for Abstract Numbering System

Wednesday Morning Posters

Perceptual organization: Grouping and wholes

Wednesday, May 16, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

63.301 **The regularity after-effect: first or second-order?** Marouane Ouhnana, Jason Bell, Joshua A. Solomon, Frederick A. A. Kingdom

63.302 **Crowding, Grouping, and the Configural Superiority Effect** James Pomerantz, Anna Cragin

63.303 **False Pop Out: Evidence of configural disruption in conventional pop out.** Kimberley Orsten, James Pomerantz

63.304 **Size Perception of Arrays** Alexandria Boswell, Gideon Caplovitz

63.305 **Visual apprehension of small and large numerosities in children and adults** Breana Carter, C. Holley Pitts, Melanie Palomares

63.306 **Texture dominates saliency in suprathreshold combinations of texture, colour and luminance.** Andrew J. Schofield, Frederick A. A. Kingdom

63.307 **Segmentation effects on the tilt illusion: contrast and depth** Cheng Qiu, Daniel Kersten, Cheryl Olman

63.308 **Perceptual modulation of V1 in the bistable translating diamond task is not retinotopically targeted** Mary-Kelly Mulligan, Daniel Kersten, Cheryl Olman

63.309 **The Impact of Closure on Contour Detection Thresholds in Children and Adults** Daniel Hipp, Alecia Moser, Melissa O'Connor, Peter Gerhardstein

63.310 **The Effects of Perceptual Grouping on Saccadic Eye Movements** Tandra Ghose, Frouke Hermens, Johan Wagemans

63.311 **Stereo-slant: a novel method for measuring figure-ground assignment** Vicky Froyen, O. Daglar Tanrikulu, Manish Singh, Jacob Feldman

63.312 **The N1 wave amplitude reflects perceptual grouping and correlates with crowding** Vitaly A. Chicherov, Gijs Plomp, Michael H. Herzog

63.313 **Grouping by similarity and temporal structure: Evidence for a common mechanism** Sharon Guttman

63.314 **Fundamental properties of simple emergent feature processing** Robert Hawkins, Joseph Houpt, Ami Eidels, James Townsend, Michael Wenger

63.315 **Can curved apparent motion be induced by a causal launch?** Sung-Ho Kim, Jacob Feldman, Manish Singh

63.316 **Surround Suppression is Modulated by a "Need for Sameness" Factor Within the Systemizing Trait of Autism** Benjamin Lester, Scott Reed, David Williamson, Paul Dassonville

63.317 **The strength of contextual modulation does not correlate across visual sub-modalities** Michael D. Melnick, Duje Tadin

63.318 **Illusion Susceptibility Indicates a Two-Factor Structure to the Systemizing Trait of Autism** Scott Reed, Paul Dassonville

63.319 **The Effect of Context and Convexity on Figure Ground Perception in Aging** Jordan W. Lass, Patrick J. Bennett, Mary A. Peterson, Allison B. Sekuler

Perceptual organization: Neural mechanisms and models

Wednesday, May 16, 8:15 - 12:15 pm

Poster Session, Royal Palm Ballroom 6-8

63.322 **Neural correlates of perceptual filling-in: fMRI evidence in the foveal projection zone of patients with central scotoma** Mark W. Greenlee, Stuart Anstis, Katharina Rosengarth, Markus Goldhacker, Sabine Brandl-Rühle, Tina Plank

63.323 **Resting State Functional-Connectivity Mapping of Putative Visual Cortex in a Blind Patient** Edgar DeYoe, Jed Mathis, John Ulmer, Wade Mueller

63.324 **Different activity in the early stage of the perceptual processing of closed and open figures** Weina Zhu, Yuanye Ma

63.325 **Correlation between Signal Correlations and Noise Correlations among Local Cortical Populations Reveals the Functional Architecture of Early Visual Cortex** Jungwon Ryu, Young-il Jo, Sang-Hun Lee

63.326 **Interference between fear emotion and topological perception and its neural correlation in amygdala** Qianli Meng, Wenli Qian, Ping Ren, Ning Liu, Ke Zhou, Yuanye Ma, Lin Chen

63.327 **Motion boundary response domains in awake monkey V2** Ming Chen, Peichao Li, Shude Zhu, Chao Han, Haoran Xu, Yang Fang, Jiaming Hu, Haidong Lu, Anna W. Roe

63.328 **Background Color Differentially Affects Magno- and Parvocellular Contributions to Conscious and Nonconscious Priming** Bruno Breitmeyer, Evelina Tapia

63.329 **A computational study on the representation of curvature constructed from surface-based integration** Yasuhiro Hatori, Ko Sakai

63.330 **Color Helps Isolate Dorsal Stream Contribution to Shape-Recognition Task** Steven R. Holloway, Michael K. McBeath, Stephen L. Macknik

63.331 **Superposition of Glass Patterns: finding the flow through local measurements** Daniel Holtmann-Rice, Ohad Ben-Shahar, Steven Zucker

63.332 **An Intuitive Model Framework for Gestalt Grouping Principles** Nathaniel R. Twarog, Ruth Rosenholtz

Multisensory processing: Vision and haptics

Wednesday, May 16, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

63.401 **Pseudo-Haptics using motion-in-depth stimulus and second-order motion stimulus** Masahiro Ishii, Shuichi Sato

63.402 **Varying the visual perspective in which head and finger movement is seen affects cross-modal synchrony detection** Adria Hoover, Laurence Harris

63.403 **More realignment for imposed than for naturally occurring biases** Katinka van der Kooij, Rob van Beers, Willemijn Schot, Eli Brenner, Jeroen Smeets

63.404 **Visual and Haptic Perception of 3D Shape** Flip Phillips, J. Farley Norman, Jessica Holmin, Amanda Beers, Alexandria Boswell, Hideko Norman

63.405 **Visual coding of touch: Gaze direction affects perceived location of touches to the arm, torso, and head** Lisa Pritchett, Michael Canrevale, Laurence Harris

63.406 **Prevalence effects on visual search and haptic search** Kazuya Ishibashi, Ken Watanabe, Tetsuya Watanabe, Shinichi Kita

63.407 **Haptic shape guides visual search** Alexandra List, Lucica Iordanescu, Marcia Grabowecky, Satoru Suzuki

63.408 **Can shape information be transferred from hand to eye independently of semantics?** Ana Pesquita, Allison A. Brennan, James T. Enns, Salvador Soto-Faraco

63.409 **Smooth pursuit of visible and occluded limbs and grasped tools** J. Brendan Ritchie, Lorenzo Choudhary-Smith, Thomas Carlson

63.410 **Using mirror box therapy to treat phantom pain in Haitian earthquake victims** Claude Miller, Elizabeth Seckel, V. S. Ramachandran

63.411 **Visuotactile Synchrony is not a Necessary Condition for the Rubber Hand Illusion** Majed Samad, Ladan Shams

63.412 **Beyond Ramachandran's mirror: A simple video-based intervention for phantom limb pain in unilateral and bilateral amputees** David Peterzell

63.413 **Effect of the Range of Motion on the Rubber Hand Illusion** Masakazu Ide, Yoshihisa Osada

63.414 **Onset time of visually induced circular self-motion perception as an indicator for altered self-localization in immersive virtual reality** Martin Dobricki, Betty J. Mohler, Heinrich H. Bülthoff

63.415 **Primary Visual Cortex Activation Responses to Tactile Stimulation in Late-Blind Individuals with Retinitis Pigmentosa** Samantha I. Cunningham, James D. Weiland, Pinglei Bao, Bosco S. Tjan

63.416 **BDNF Polymorphism Affecting Neural Plasticity Predicts Visuo-Motor Adaptation to Left-Right Visual Reversal** Brian Barton, Andrew Treister, Garen Abedi, Melanie Humphrey, Steven Cramer, Alyssa Brewer

Attention: Divided

Wednesday, May 16, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

63.417 **Different attentional blink tasks reflect distinct information processing limitations: An individual differences approach** Paul Dux, Ashleigh Kelly

63.418 **The role of spatial and non-spatial attention in MIB** Orna Rosenthal, Martin Davies, Anne Aimola Davies, Glyn Humphreys

63.419 **Distraction and Media Use: Not all media usage is created equal** Rachel Kludt, Daphne Bavelier

63.420 **Memory-guided saccading and letter encoding in visual working memory share attentional resources: Evidence from SOA-based interference effects** Gordian Griffiths, Werner X. Schneider

63.421 **Causal evidence for the role of prefrontal cortex in the control of sub- and suprathreshold distracters** Eva Feredoes, Klaartje Heinen, Jon Driver

63.422 **Dividing Attention Between Two Transparent Motion Surfaces Results In A Failure Of Selective Attention** Zachary Raymond Ernst, John Palmer, Geoffrey M. Boynton

63.423 **Opposite effects of capacity load and resolution load on distractor processing** Steven J. Luck, Weiwei Zhang

63.424 **Access to visual short-term memory is postponed by a concurrent speeded auditory task in the psychological refractory period paradigm** Benoit Brisson, Nicolas Robitaille, Isabelle Fafard

63.425 **Spatial eccentricity and temporal transition of split attentional foci** Kazuhiko Yokosawa, Fumi Makino, Jun Kawahara

63.426 **Does stress increase or decrease attentional resource? The effect of acute stress on attentional blink** Jun Kawahara, Hirotsune Sato

Attention: Capture II

Wednesday, May 16, 8:15 - 12:15 pm
Poster Session, Orchid Ballroom

63.427 **Attentional Capture is attenuated after experience with diverse distractor features** Daniel Vatterott, Shaun Vecera

63.428 **Arresting perception: Animate objects capture attention and 'slow' time** Joshua New, Maria Stiller

63.429 **Greater sensitivity to visual motion predicts a greater capacity to ignore it** Jennifer Lechak, Erika Wells, Andrew Leber

63.430 **Attentional capture with and without awareness** Hsin-I Liao, Su-Ling Yeh

63.431 **Distracter rejection depends on mechanisms of attentional shifting** Joy Geng, Nicholas DiQuattro, Eve Isham, Risa Sawaki, Pia Rotshtein

63.432 **Feature singletons and single cues both enhance contrast sensitivity** Alex White, Rasmus Lunau, Marisa Carrasco

63.433 **On the Precision of Attention Sets: The Effects of Spatial Context and Distractor Multiplicity on Contingent Capture** Daniel P. Blakely, Rebekah S. Landbeck, Walter R. Boot

63.434 **Irrelevant faces do not capture spatial attention in RSVP sequences** Chris Oriet, Mamata Pandey

63.435 **Ignoring a salient distractor: feature-based inhibition or object-file updating?** Dominique Lamy, Tomer Carmel

63.436 **Collinearity Distractor Impairs Local Visual Search** Chia-huei Tseng, Jingling Li

63.437 **Contingent attentional capture depends on cue probability in singleton search mode but not in feature search mode.** Josef Schönhammer, Dirk Kerzel

63.438 **Stimulus-driven attentional capture by task-irrelevant optic flow** Kaori Yanase, Jun Kawahara, Michiteru Kitazaki

63.439 **Effects of stimulus identity and load in working memory on visual search: Eliminating the effect of load but not identity by lengthening encoding time** Kamen Tsvetanov, Theodoros Arvanitis, Glyn Humphreys

63.440 **Own-race faces capture more attention than other race faces: Evidence from response time and N2pc** Guomei Zhou, Zhijie Cheng, Zhenzhu Yue

See page 23 for Abstract Numbering System

Development: Neural mechanisms, models and disorders

Wednesday, May 16, 8:15 - 12:15 pm

Poster Session, Orchid Ballroom

63.441 **A substantial and unexpected enhancement of motion perception in children with autism spectrum disorders.** Jennifer Foss-Feig, Carissa Cascio, Kimberly Schauder, Duje Tadin

63.442 **Proportion of Cohort Population that May Benefit from Lasik** Adeline Yang, Sheng Tong Lin, Frederick Tey, Mellisa Tan, Gerard Nah

63.443 **Face Perception in School-Aged Children with Autism: A Look at Visual Processing Strategies** Jacalyn Guy, Karine Morin, Claudine Habak, Hugh R. Wilson, Laurent Mottron, Armando Bertone

63.444 **Global/Local Visual Processing in Autism: Not a Disability, but a Disinclination** Kami Koldewyn, Yuhong Jiang, Sarah Weigelt, Nancy Kanwisher

63.445 **Contrast response functions for visual evoked nonlinearities demonstrate differences in magnocellular but not parvocellular components as a function of autistic tendency.** David Crewther, Brianna Jackson, Ellie Blackwood, Julieanne Blum, Sean Carruthers, Sabrina Nemorin, Brett Pryor, Shannon Sceneay, Stephanie Bevan, Reneta Slikboer

63.446 **Characterization of Optic Tract Degeneration in Patients with Damage to the Visual Pathway** Rebecca S. Millington, Clarissa L. Yasuda, Panitha Jindahra, Mark Jenkinson, John L. Barbur, Christopher Kennard, Gordon T. Plant, Fernando Cendes, Holly Bridge

63.447 **Lack of visual experience does not affect the retinotopic organization of visual cortico-callosal connections.** Andrew Bock, Melissa Saenz, Geoffrey Boynton, Holly Bridge, Ione Fine

63.448 **Reduced LGN volume following early monocular deprivation from enucleation** Krista R. Kelly, Keith A. Schneider, Brenda L. Gallie, Jennifer K. E. Steeves

63.449 **Staged gene therapy of canine retinal blindness does not produce cortical amblyopia for the later treated eye** Kris Walker, Andras M. Komaromy, Gustavo D. Aguirre, Geoffrey K. Aguirre

63.450 **Perceptual distortions in human amblyopia** Zahra Hussain, Ben Webb, Carl Svensson, Andrew Astle, Brendan Barrett, Paul McGraw

63.451 **Is there a physiological marker for the effects of perceptual learning in amblyopia?** Pamela Knox, Sobana Wijeakumar, Anita Simmers, Uma Shahani

63.452 **Long lasting contrast sensitivity improvement after daily cTBS sessions in adults with amblyopia.** Simon Clavagnier, Benjamin Thompson, Robert Hess

63.453 **Sparing of coarse stereopsis in children with amblyopia** Deborah Giaschi, Sathyasri Narasimhan, Ryan Lo, Christopher Lyons, Jane Gardiner, Maryam Aroichane, Laurie Wilcox

63.454 **Normal binocular rivalry in autism** Christopher Said, Ryan Egan, Marlene Behrmann, David Heeger

63.455 **Characterizing the Mechanisms behind Improvements in Visual Sensitivity during Childhood** Seong Taek Jeon, Daphne Maurer, Terri L. Lewis

63.456 **An Efficient Objective Measure of Binocular Suppression in Adult Amblyopia** Cristina Llerena Law, Benjamin Backus, Alexander Yuan

63.457 **The Role of Dorsal Stream Development in Form and Motion Coherence and Object Recognition: The Childhood Challenge of Processing Transient Events** Melanie Murphy, Robin Laycock, Nahal Goharpey, Jane Bridie, Dina Faragalla, Kate Fithall, Kira Hodge, Ashley Hodgson, Claire Hoystead, Zuhre Koyu, Alexandra Shilton, Katrina Tsoutsoulis, Cansu Ucarli, Alyse Brown, David Crewther, Sheila Crewther

63.458 **Using a Modified Shape Discrimination Task to Assess the Interaction Between Low- and Mid-Level Visual Processes as a Function of Development** Audrey Perreault, Claudine Habak, Vanessa Bao, Franco Lepore, Armando Bertone

Topic Index

Below is a list of talk and poster sessions by topic. Parentheses indicate the abstracts that are included in each session.

Author Index

Entries are indexed by abstract number, not page number; **bold** entries indicate first author abstracts.
"S" entries indicate symposia.

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

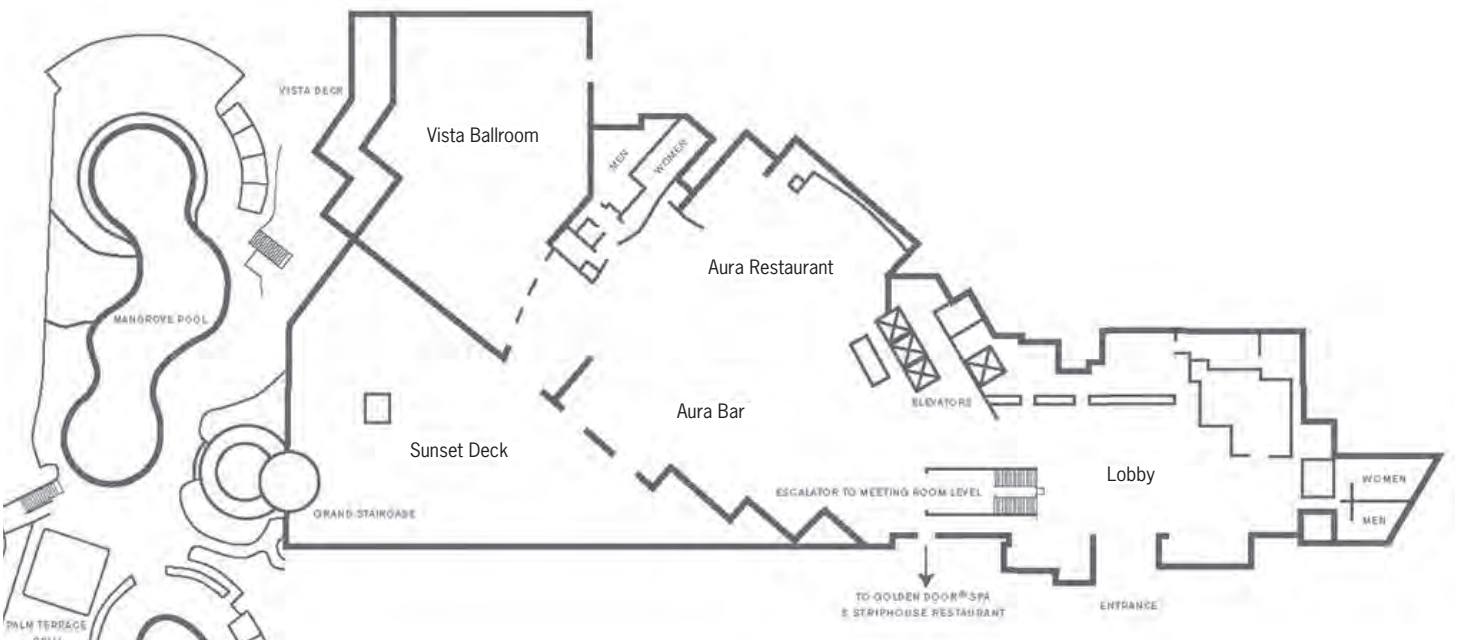
X

Y

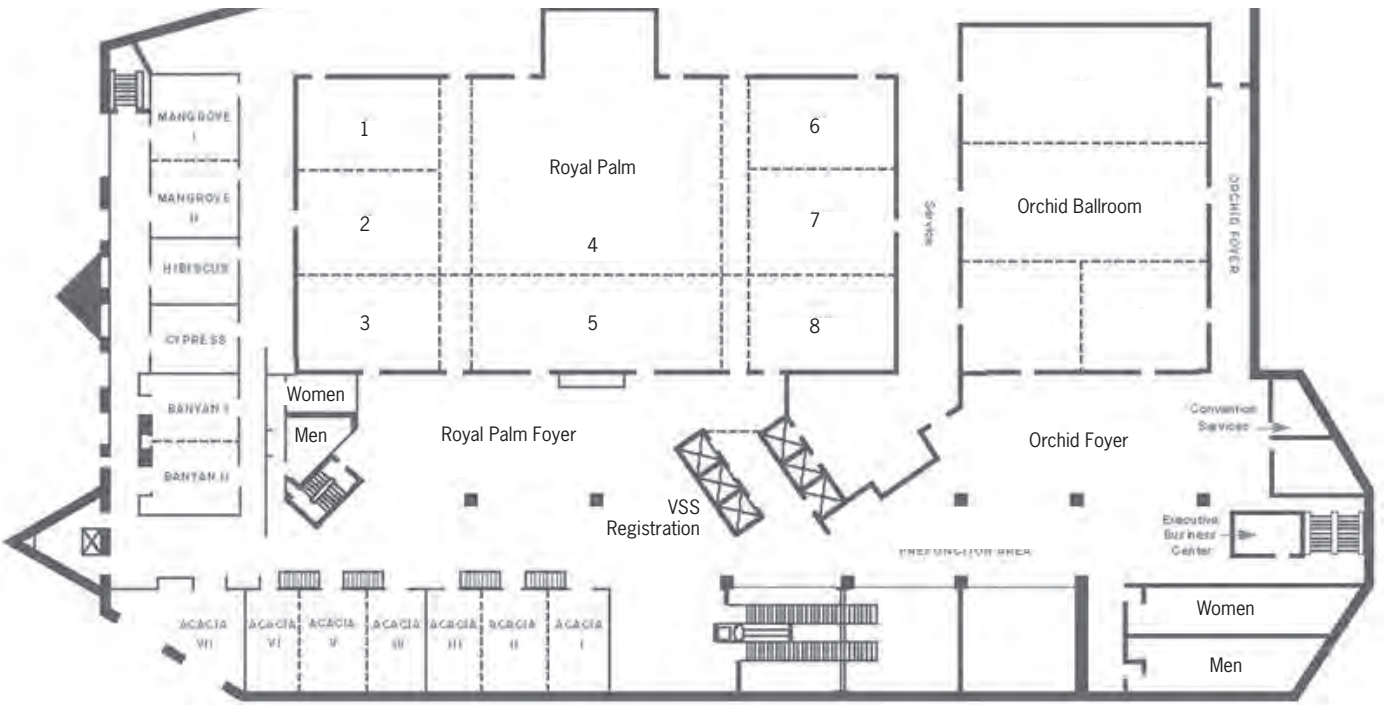
Z

Hotel Floorplan

Lobby Level (1st Floor)



Ballroom Level (2nd Floor)

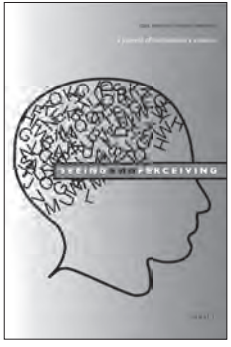


Notes

Seeing and Perceiving

A Journal of Multisensory Science

Editors-in-Chief: Laurence R. Harris, *Toronto, Ontario, Canada*, and Concetta Morrone, *Pisa, Italy*



For more information: brill.nl/sp

- 2012: Volume 25, in 6 issues
- ISSN 1878-4755 / E-ISSN 1878-4763
- Institutional subscription rate
  Electronic only: EUR 465.- / US$ 651.-
  Electronic + print: EUR 558.- / US$ 781.-
  Print only: EUR 512.- / US$ 716.-
- Individual subscription rate
  Print only: EUR 171.- / US$ 239.-

Seeing and Perceiving, the continuation of *Spatial Vision*, is an interdisciplinary archival journal covering human and mammalian perception and the underlying brain mechanisms. A broad approach to perception is encouraged, including multisensory integration involving vision, the study of perception and action, and the cognitive, attentive, adaptive, and memory aspects of perception. Empirical, clinical, mathematical and computational analyses are welcome. Theory is expected to be empirically constrained and empirical work to be theoretically relevant. Short communications and technical notes that draw attention to new developments are welcome, as are reviews and commentaries on current issues. Special Issues dealing with a single topic will be announced from time to time.

Thomson Scientific's Journal Citations Report for 2010 ranks *Seeing and Perceiving's* preceding title *Spatial Vision*, with an Impact Factor of 0.883.

OPAM 20

object perception attention memory

CALL FOR PAPERS

Submission Deadline: July 15

November 15, 2012
Minneapolis, MN
Minneapolis Hilton Hotel

Keynote Speaker
Dr. Michael Tarr
Carnegie Mellon University

Join us in Minneapolis to celebrate 20 years of OPAM!

www.opam.net

ORGANIZERS

Carly Leonard
University of California, Davis
cjleonard@ucdavis.edu

Melissa Võ
Harvard Medical School
mlvo@search.bwh.harvard.edu

Michael Mack
University of Texas, Austin
michael.mack@mail.utexas.edu

Josh Cosman
Vanderbilt University
joshua.d.cosman@vanderbilt.edu

ViewPoint EyeTracker ®

Scene Systems

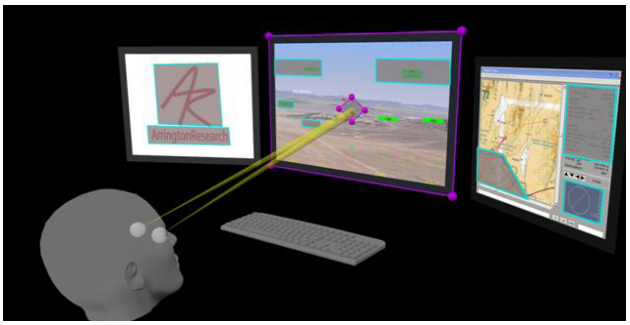
Light weight and comfortable the eye tracking system can be worn without discomfort for long periods. View real-time gaze or recorded AVI 2.0 movies with gaze point shown clearly over the scene video. Easily adjustable in size and compatible with glasses.

* Binocular version includes correction for parallax error
* The lightest weight at less than 25g
* No beam splitter to adjust, clean or break
* Fits any face
* No head tracker is required
* Laptop systems available

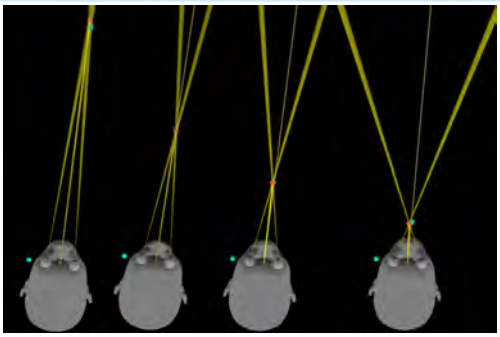
Problems Solved -

Parallax errors and frame torsion errors are real problems with monocular systems. *ViewPoint* binocular systems eliminate these problems using proprietary algorithms providing accuracy over the entire range of distance.

3DWorkSpace™



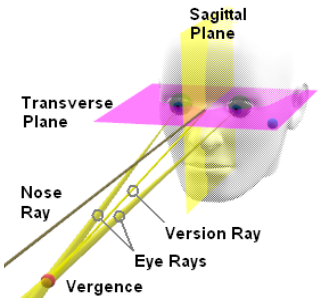
New *3DWorkSpace*™ and *3DViewPoint*™ provide precise 3D depth information for 3D monitors, gaze across multiple monitors and curved displays.



220 Hz USB

HeadLock™ & Remote

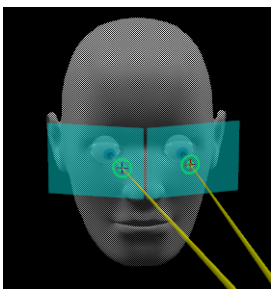
3DViewPoint™



* **Vergence & Version Angles**
* **3D Scan Paths**
* **Fast & Easy Setup**
* **Intuitive 3D Graphics**
* **Post-hoc ROI Specifications**
* **Torsion across 3D Gaze**
* **Heat, Fog and Torch Maps**
* **Polygon/Concave ROI**
* **Angular Calculations**
* **Quanternian Transforms**

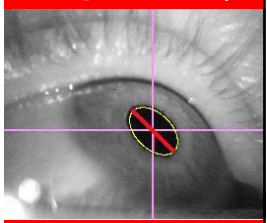
HMD Systems

Leading integrator of HMD eye tracking systems. We can design for any HMD.

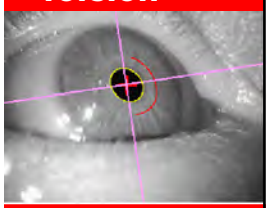


* **Canted / Tilted Displays**
* **Full or Partial Binocular Overlap**
* **See-thru or Opaque Displays**

Pupilometry



Torsion



Interfaces

www.ArringtonResearch.com 1.480-985-5810

ArringtonResearch