Vision Sciences Society

14th Annual Meeting, May 16-21, 2014 TradeWinds Island Resorts, St. Pete Beach, Florida

Program

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President's Welcome

Welcome to our 14th Vision Sciences Society Annual Meeting

and welcome to the TradeWinds, our venue on St. Pete's Beach for at least 3 years. We, the members of the VSS board of directors, are excited about this new location and its surroundings. I hope you are as well.

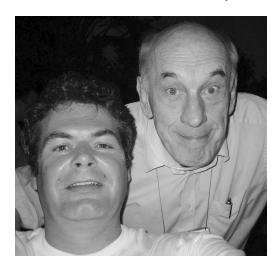
One of the best parts of coming to VSS is the interaction: at the poster boards, after each talk, during breaks, and especially after the regular sessions end. At our new venue there are many places to meet. I'm convinced that this new location and its surroundings will spark discussions, creativity and establish new friendships.

Of course, organizing a big conference at a new venue will have some imperfections, even with our rock-star organizers Shauney and Shawna. With their team they have again done a wonderful job, but the past has taught us that fine-tuning takes time. The first days will doubtless have its issues, especially since the lecture rooms are a bit smaller than in Naples, and we now have, for the first time since VSS's inception, over 2,000 attendees! If you feel that we can improve the conference, even if it is only a small detail, let us know. The conference is our conference, and together we make it a wonderful experience.

I also invite you all to come to our award sessions. This year's recipients are Molly Potter (Davida Teller Award) and Duje Tadin (Elsevier/VSS Young Investigator Award). Moreover, our keynote speaker, Srini Srinivasan, will blow your mind and I can promise you that it will fuel many discussions. Don't miss it!

So, I hope that our meeting will be a lively one and full of interaction; not only for the young, but also for the young at heart. This year one of our oldest members, but one with an exceptional young heart, passed away. Ian Howard was the best example of a leading scientist who knew how to make sure that scientists interact. Those who have been at his parties know what I mean. I feel sad that he will not be here in person, but happy that he will be present in our heart and discussions.

Enjoy!
Frans Verstraten
President, Vision Sciences Society 2014



Meeting Schedule

Wednesday, May 14

9:00 am - 5:00 pm Mathematical and Computational Models Horizons

in Vision (MODVIS) (VSS Satellite)

Thursday, May 15

9:00 am - 5:00 pm Mathematical and Computational Models Horizons

in Vision (MODVIS) (VSS Satellite)

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

Friday, May 16

8:00 - 11:45 am Cambridge Research Systems Royal Tern

Technical Short Courses on Light Measurement and Display Characterisation (VSS Satellite)

9:00 - 11:45 am Hands-on Multi-user Interactive Snowy Egret

Virtual Reality (VSS Satellite)

9:00 - 11:45 am Mathematical and Computational Models Horizons

in Vision (MODVIS) (VSS Satellite)

9:00 am - 7:00 pm Registration Open Grand Palm Colonnade
12:00 - 2:00 pm Symposium Sessions 1 Talk Room 1-2 and Pavilion

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

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

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

5:00 - 7:00 pm Symposium Sessions 3 Talk Room 1-2 and Pavilion 7:00 - 9:30 pm Opening Night Reception Beachside Sun Decks

Saturday, May 17

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

7:45 – 8:15 am Coffee & Continental Breakfast Grand Palm Colonnade and Garden Courtyard 8:15 – 9:45 am Talk Session Talk Room 2

0:13 – 9:43 atti - Taik Rootti 2

8:30 am – 12:30 pm Poster Session Jacaranda Hall, Banyan Breezeway, and Pavilion

8:30 am – 6:45 pm Exhibits Open Banyan Breezeway

10:45 am - 12:30 pm Talk Session Talk Room 1 & Talk Room 2 11:00 am - 12:30 pm VSS Public Lecture The Dali Museum (off site)

12:30 - 2:30 pm Lunch Break

12:45 - 2:00 pm Individual Differences Satellite Horizons

Workshop (VSS Satellite)

1:00 - 2:00 pm VSS Workshop on Grantsmanship Snowy Egret

and Funding Agencies

2:30 – 4:15 pm Talk Session Talk Room 1 & Talk Room 2

2:45 – 6:45 pm Poster Session Jacaranda Hall, Banyan Breezeway, and Pavilion
4:15 – 5:00 pm Grand Palm Colonnade, Garden Courtyard, and Pavilion

5:15 – 6:45 pm Talk Session Talk Room 1 & Talk Room 2

7:15 - 8:15 pm Keynote Address - Mandyam V. Srinivasan, Ph.D. Talk Room 1-2

8:15 pm Cambridge Research Systems Snowy Egret

'25 Years in Vision Science' Party (VSS Satellite)

Sunday, May 18

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

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

8:15 – 9:45 am Talk Session Talk Room 1 & Talk Room 2

8:30 am – 12:30 pm Poster Session Jacaranda Hall, Banyan Breezeway, and Pavilion

VSS 2014 Program Meeting Schedule

Exhibits Open Banyan Breezeway 8:30 am - 6:45 pm Coffee Break 9:45 - 10:30 am Grand Palm Colonnade, Garden Courtyard, and Pavilion 10:45 am - 12:30 pm Talk Session Talk Room 1 & Talk Room 2 12:30 - 2:30 pm Lunch Break VSS Workshop for PhD Students 1:00 - 2:00 pm Snowy Egret and Postdocs: PNAS: How do I judge to which journal I should send my paper? 1:00 - 2:00 pm VSS Workshop for PhD Students Royal Tern and Postdocs: How to Transition from Postdoc to Professor? 2:30 - 4:15 pm Talk Session Talk Room 1 & Talk Room 2 2:45 - 6:45 pm Poster Session Jacaranda Hall & Banyan Breezeway Grand Palm Colonnade and Garden Courtyard 4:15 - 5:00 pm Coffee Break 5:15 - 7:15 pm Talk Session Talk Room 1 & Talk Room 2 Pavilion 8:00 - 10:00 pm 10th Annual Best Illusion

of the Year Contest (VSS Satellite)

Monday, May 19

7:45 am - 1:30 pm Grand Palm Colonnade Registration Open 7:45 - 8:15 am Coffee & Continental Breakfast Grand Palm Colonnade and Garden Courtyard 8:15 - 9:45 am Talk Session Talk Room 1 & Talk Room 2 Jacaranda Hall, Banyan Breezeway, and Pavilion 8:30 am - 12:30 pm Poster Session 8:30 am - 12:30 pm **Exhibits Open** Banyan Breezeway Grand Palm Colonnade, Garden Courtyard, and Pavilion 9:45 - 10:30 am Coffee Break 10:45 am - 12:15 pm Talk Session Talk Room 1 & Talk Room 2 VSS Awards Session: 12:30 - 1:30 pm Talk Room 2 Davida Teller & YIA Lectures

Beachside Sun Decks

and Spotted Curlew

Talk Room 1 & Talk Room 2

Talk Room 2

Talk Room 1-2 and Royal Tern, Snowy Egret, Compass,

1:30 - 6:00 pm Afternoon Off

6:00 - 8:00 pm Demo Night Beach BBQ

7:00 - 10:00 pm Demo Night Demos

Tuesday, May 20

7:45 am - 6:45 pm Registration Open Grand Palm Colonnade 7:45 - 8:15 am Coffee & Continental Breakfast Grand Palm Colonnade & Garden Courtyard 8:15 - 9:45 am Talk Session Talk Room 1 & Talk Room 2 8:30 am - 12:30 pm Poster Session Jacaranda Hall, Banyan Breezeway, and Pavilion 9:45 - 10:30 am Coffee Break Grand Palm Colonnade, Garden Courtyard, and Pavilion 10:45 am - 12:30 pm Talk Session Talk Room 1 & Talk Room 2 12:30 - 1:45 pm Lunch Break VSS Committees Lunch Royal Tern 12:30 - 1:45 pm Talk Room 2 1:45 - 2:30 pm **Business Meeting** 2:30 - 4:15 pm Talk Session Talk Room 1 & Talk Room 2 2:45 - 6:45 pm Poster Session Jacaranda Hall, Banyan Breezeway, and Pavilion 4:15 - 5:00 pm Coffee Break Grand Palm Colonnade, Garden Courtyard, and Pavilion

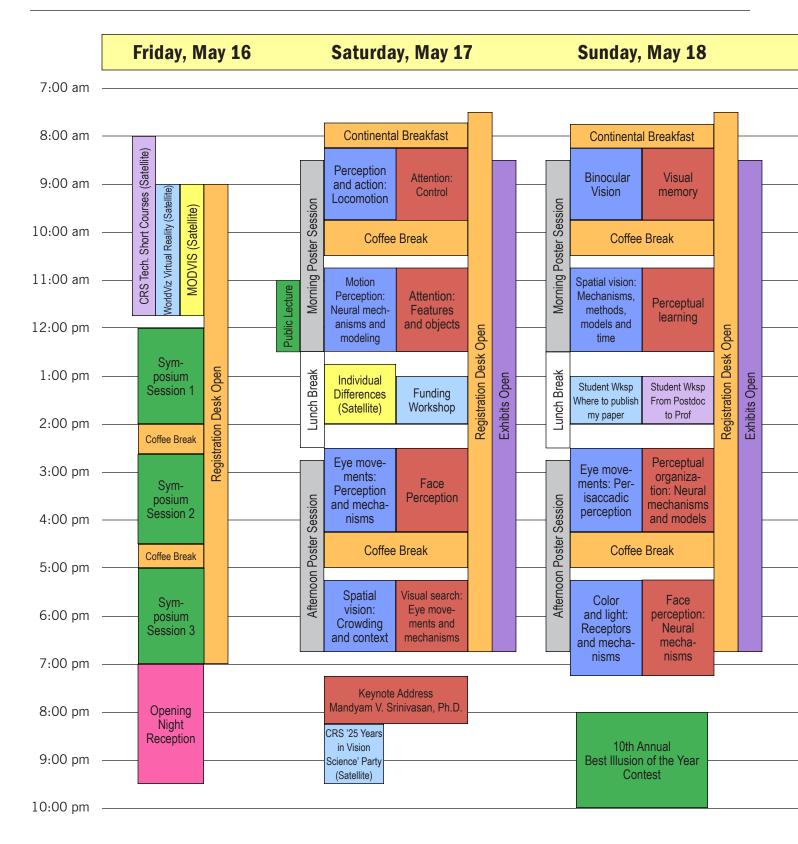
5:15 - 7:15 pm Talk Session 10:00 pm - 2:00 am Club Vision Dance Party

Meeting Ends

Wednesday, May 21

7:45 am - 12:45 pm Registration Open Grand Palm Colonnade 7:45 - 8:15 am Coffee & Continental Breakfast Grand Palm Colonnade and Garden Courtyard Talk Room 1 & Talk Room 2 8:15 - 9:45 am Talk Session 8:30 am - 12:30 pm Poster Session Jacaranda Hall and Banyan Breezeway Grand Palm Colonnade and Garden Courtyard 9:45 - 10:30 am Coffee Break Talk Room 1 & Talk Room 2 10:45 am - 12:30 pm Talk Session 12:30 pm

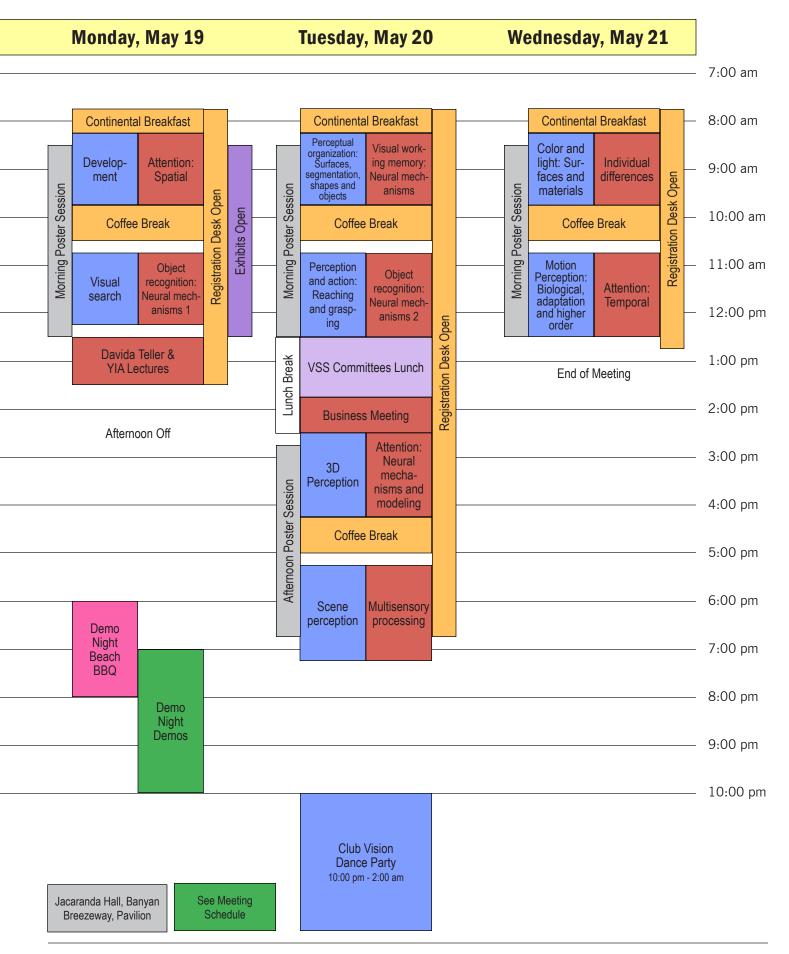
Schedule-at-a-Glance VSS 2014 Program



Color Key:

Talk Room 1	Tallk Room 2	Grand Palm Colonnade	Banyan Breezeway	Snowy Egret	Royal Tern	Horizons	Beachside Decks	
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VSS 2014 Program Schedule-at-a-Glance



Poster Schedule

Poster Setup and Takedown

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

Posters should be put up at the beginning of a session and taken down at the end. Authors of even numbered posters are expected to be present at their posters during the entire "Even 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 Grand Palm Colonnade.

Saturday Morning, May 17

Setup: 8:00 - 8:30 am Session: 8:30 am - 12:30 pm

Even Authors Present: 9:15 - 10:15 am Odd Authors Present: 10:15 - 11:15 am

Room: Jacaranda Hall

Visual memory: Objects, features and individual differences Perceptual organisation: Neural mechanisms and models

Perceptual organisation: Contours and surfaces

Room: Banyon Breezeway

Color and light: Lightness and brightness

Eye movements: Cognition Eve movements: Fixational

Room: Pavilion

Face perception: Neural mechanisms

3D Perception: Space

Visual memory: Mechanisms and models

Object recognition: Reading Object recognition: Categories Take down: 12:30 - 1:00 pm

Saturday Afternoon, May 17

Setup: 2:00 - 2:45 pm Session: 2:45 – 6:45 pm

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

Room: Jacaranda Hall Development: Lifespan

Perceptual organization: Segmentation, shapes and objects

Room: Banyon Breezeway

Motion Perception: Depth, higher order, illusions

Motion Perception: Neural mechanisms

Room: Pavilion

Perception and action: Neural mechanisms

Attention: Capture

Attention: Endogenous and exogenous

Attention: Temporal Attention: Tracking

Scene perception: Spatial and temporal factors

Take down: 6:45-7:00 pm

Sunday Morning, May 18

Setup: 8:00 - 8:30 am

Session: 8:30 am - 12:30 pm

Even Authors Present: 9:15 - 10:15 am Odd Authors Present: 10:15 - 11:15 am

Room: Jacaranda Hall

Perception and action: Reaching and grasping Multisensory processing: Visuo-auditory interactions

Room: Banyon Breezeway

Color and light: Surfaces and materials

Motion Perception: Models

Motion Perception: Local motion and optic flow

Eve movements: Pursuit

Room: Pavilion

Attention: Reward and arousal

Attention: Neural mechanisms and modeling

Attention: Divided

Attention: Individual differences

Face perception: Identity

Face perception: Whole and parts Take down: 12:30 - 1:00 pm

Sunday Afternoon, May 18

Setup: 2:00 - 2:45 pm Session: 2:45 - 6:45 pm

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

Room: Jacaranda Hall

Attention: Inattentional blindness Attention: Neural mechanisms

Attention: Memory, awareness and eye movements

Spatial vision: Natural image statistics

Room: Banyon Breezeway

Perceptual Learning: Plasticity and adaptation

Development: Autism Development: Amblyopia Take down: 6:45-7:00 pm

VSS 2014 Program Poster Schedule

Monday Morning, May 19

Setup: 8:00 - 8:30 am Session: 8:30 am - 12:30 pm

Even Authors Present: 9:15 – 10:15 am Odd Authors Present: 10:15 – 11:15 am

Room: Jacaranda Hall

3D Perception: Shape from X

Eye movements: Saccade mechanisms and metrics Eye movements: Natural tasks and environments

Room: Banyon Breezeway

Spatial vision: Crowding and eccentricity Color and light: Adaptation and constancy Perceptual organization: Grouping

Room: Pavilion

Face perception: Experience, learning and expertise 1 Perception and action: Decisions, interception Visual memory: Encoding and retrieval Scene perception: Categorization and memory Scene perception: Summary statistics

Take down: 12:30 – 1:00 pm

Tuesday Morning, May 20

Setup: 8:00 - 8:30 am Session: 8:30 am - 12:30 pm

Even Authors Present: 9:15 - 10:15 am Odd Authors Present: 10:15 - 11:15 am

Room: Jacaranda Hall Visual search: Attention

Visual Search: Models and theories

Perceptual learning: Methods and mechanisms

Room: Banyon Breezeway

Binocular Vision: Summation, interaction and disparity

Color and light: Neural mechanisms Color and light: Cognition Motion perception: Biological

Room: Pavilion

Attention: Spatial selection Attention: Features Attention: Objects

Visual search: Context and memory Scene perception: Neural mechanisms

Multisensory processing: Neural mechanisms, somatosen-

sory, vestibular
Take down: 12:30 – 1:00 pm

Tuesday Afternoon, May 20

Setup: 2:00 – 2:45 pm Session: 2:45 – 6:45 pm

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

Room: Jacaranda Hall Temporal processing

Perceptual learning: Specificity and transfer

Room: Banyon Breezeway Spatial vision: Models Visual search: Eye movements

Eye movements: Perception and neural mechanisms

Eye movements: Perisaccadic perception

Room: Pavilion

Binocular Vision: Rivalry, competition and suppression Face perception: Experience, learning and expertise 2

Face perception: Social cognition
Object recognition: Features and parts
Object recognition: Mechanisms and models

Take down: 6:45-7:00 pm

Wednesday Morning, May 21

Setup: 8:00 - 8:30 am Session: 8:30 am - 12:30 pm

Even Authors Present: 9:15 – 10:15 am Odd Authors Present: 10:15 – 11:15 am

Room: Jacaranda Hall

Perception and action: Locomotion, wayfinding, space

Object recognition: General

Visual memory: Capacity and resolution

Room: Banyon Breezeway
Face perception: Emotions
Spatial vision: Neural mechanisms
Spatial vision: Texture

Face perception: Disorders, individual differences

Take down: 12:30 - 1:00 pm

Welcome Reception

Friday, May 16, 7:00 - 9:30 pm

Save Friday evening for the most spectacular VSS Welcome Reception ever! To celebrate our first year in St. Pete Beach, we are planning a very special opening night event. The reception will take place on the beach and beachside sundecks from 7:00 – 9:30 pm and will feature live music and an amazing Italian dinner. To top it off, at 9:00 pm, the City of St. Pete Beach will welcome VSS with a fabulous surprise that you won't want to miss. Don't forget your drink tickets*, which can be found in the back of your badge!

So, prepare to sink your toes into the sand and enjoy this fantastic event! Please remember to wear your badge. *Drink tickets are good for both the reception and demo night.

Talk Schedule

Saturday, May 17

Time Talk Room 1 Talk Room 2

8:15 - 9:45 am Perception and action: Locomotion Attention: Control

10:45 am - 12:30 pm Motion Perception: Neural mechanisms and Attention: Features and objects

modeling

2:30 - 4:15 pm Eye movements: Perception and mechanisms Face Perception

Spatial vision: Crowding and context 5:15 - 6:45 pm Visual search: Eye movements and mechanisms

Sunday, May 18

Talk Room 1 Time Talk Room 2

8:15 - 9:45 am Binocular Vision Visual memory 10:45 am - 12:30 pm

Spatial vision: Mechanisms, methods, models Perceptual learning

and time

2:30 - 4:15 pm Eye movements: Perisaccadic perception Perceptual organization: Neural mechanisms

and models

5:15 - 7:15 pm Color and light: Receptors and mechanisms Face perception: Neural mechanisms

Monday, May 19

Time Talk Room 1 Talk Room 2

8:15 - 9:45 am Development Attention: Spatial

10:45 am - 12:15 pm Visual search Object recognition: Neural mechanisms 1

Tuesday, May 20

Time Talk Room 1 Talk Room 2

8:15 - 9:45 am Perceptual organization: Surfaces, segmentation, Visual working memory: Neural mechanisms

shapes and objects

10:45 am - 12:30 pm Perception and action: Reaching and grasping Object recognition: Neural mechanisms 2

2:30 - 4:15 pm 3D Perception Attention: Neural mechanisms and modeling

5:15 - 7:15 pm Scene perception Multisensory processing

Wednesday, May 21

Time Talk Room 1 Talk Room 2

8:15 - 9:45 am Color and light: Surfaces and materials Individual differences 10:45 am - 12:30 pm Motion Perception: Biological, adaptation Attention: Temporal

and higher order

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

Mandyam V. Srinivasan, Ph.D.

Queensland Brain Institute and School of Information Technology and Electrical Engineering University of Queensland



Srinivasan's research focuses on the principles of visual processing, perception and cognition in simple natural systems, and on the application of these principles to machine vision and robotics. He holds an undergraduate degree in Electrical Engineering from Bangalore University, a Master's degree in Electronics from the Indian Institute of Science, a Ph.D. in Engineer-

ing and Applied Science from Yale University, a D.Sc. in Neuroethology from the Australian National University, and an Honorary Doctorate from the University of Zurich. Srinivasan is presently Professor of Visual Neuroscience at the Queensland Brain Institute and the School of Information Technology and Electrical Engineering of the University of Queensland. Among his awards are Fellowships of the Australian Academy of Science, of the Royal Society of London, and of the Academy of Sciences for the Developing World, the 2006 Australia Prime Minister's Science Prize, the 2008 U.K. Rank Prize for Optoelectronics, the 2009 Distinguished Alumni Award of the Indian Institute of Science, and the Membership of the Order of Australia (AM) in 2012.

More Than a Honey Machine: Vision and Navigation in Honeybees and Applications to Robotics

Saturday, May 17, 7:15 pm, Talk Room 1-2

Flying insects are remarkably adept at seeing and perceiving the world and navigating effectively in it, despite possessing a brain that weighs less than a milligram and carries fewer than 0.01% as many neurons as ours does. Although most insects lack stereo vision, they use a number of ingenious strategies for perceiving their world in three dimensions and navigating successfully in it.

The talk will describe how honeybees use their vision to stabilize and control their flight, and navigate to food sources. Bees and birds negotiate narrow gaps safely by balancing the apparent speeds of the images in the two eyes. Flight speed is regulated by holding constant the average image velocity as seen by both eyes. Visual cues based on motion are also used to compensate for crosswinds, and to avoid collisions with other flying insects. Bees landing on a surface hold constant the magnitude of the optic flow that they experience as they approach the surface, thus automatically ensuring that flight speed decreases to zero at touchdown. Foraging bees gauge distance flown by integrating optic flow: they possess a visually-driven 'odometer' that is robust to variations in wind, body weight, energy expenditure, and the properties of the visual environment. Mid-air collisions are avoided by sensing cues derived from visual parallax, and using appropriate flight control maneuvers.

Some of the insect-based strategies described above are being used to design, implement and test biologically-inspired algorithms for the guidance of autonomous terrestrial and aerial vehicles. Application to manoeuvres such as attitude stabilization, terrain following, obstacle avoidance, automated landing, and the execution of extreme aerobatic manoeuvres will be described.

This research was supported by ARC Centre of Excellence in Vision Science Grant CE0561903, ARC Discovery Grant DP0559306, and by a Queensland Smart State Premier's Fellowship



Keynote Address is sponsored by Cambridge Research Systems Visit www.crstltd.com to listen again.

Davida Teller Award

Mary C. Potter

Department of Brain and Cognitive Sciences, MIT



Dr. Mary Potter, better known as Molly Potter, a professor of Psychology at the Massachusetts Institute of Technology, is the winner of the Davida Teller Award 2014. Potter is known for her fierce intellect, her deeply original experiments, and her fundamental discoveries about human cognition. A few highlights:

Already in 1975, Potter discovered that subjects can report conceptual information about a pictured object faster than they can name it, showing that it is not necessary to access the verbal label to understand the meaning of an object. Later she discovered that complex visual scenes can be perceived and understood much faster than anyone had previously recognized. She showed that subjects can identify the gist of a scene from an astonishingly brief presentation. Here Potter made innovative use of rapid serial visual presentation (RSVP).

Detecting picture meaning in extreme conditions

Monday, May 19, 12:30 pm, Talk Room 2

What is the shortest presentation duration at which a named scene or object can be recognized above chance, when the scene is presented among other pictures in a short RSVP sequence? In a recent study (Potter, Wyble, Hagmann, & McCourt, 2014) presentation durations were blocked and dropped slowly from 80 ms to 53, 27, and 13 ms. Although d' declined as duration shortened, it remained above chance even at 13 ms, whether the name was given just before or just after the sequence, and whether there were 6 or 12 pictures per sequence. A forced choice between two pictures at the end of each sequence was reliably above chance only if the participant had correctly said yes. New replications varied the method but gave similar results: 1) using grayscale sequences; 2) randomizing all the nontarget pictures across all trials, for each subject; 3) randomizing durations instead of blocking them; and 4) using a different set of pictures with superordinate or basic object names for targets. Whether these results indicate feedforward processing (as we suggest) or are accounted for in some other way, they represent a challenge to models of visual attention and perception.



Save the Date...

VSS 2015 May 15-20, 2015

TradeWinds Island Resorts St. Pete Beach, Florida



Elsevier/VSS Young Investigator Award

Duje Tadin

Associate Professor, Department of Brain and Cognitive Sciences, Center for Visual Science, Department of Ophthalmology, University Of Rochester



Trained at Vanderbilt, Duje Tadin was awarded the PhD. in Psychology in 2004 under the supervision of Joe Lappin. After 3 years of post-doctoral work in Randolph Blake's lab, he took up a position at the University of Rochester, where he is currently an associate professor. Duje's broad research goal is to elucidate neural mechanisms

that lead to human visual experience. He seeks converging experimental evidence from a range of methods, including human psychophysics, computational modeling, transcranial magnetic stimulation (TMS), neuroimaging, research on special populations, collaborations on primate neurophysiology, and adaptive optics to control retinal images.

Duje is probably best known for his elegant and illuminating research on spatial mechanisms of visual motion perception— work that has had a lasting impact on the field. He developed a new method to quantify motion perception using brief, ecologically relevant time scales, and then used it to discover a functionally important phenomenon of spatial suppression: larger motion patterns are paradoxically more difficult to see. Duje's results revealed joint influences of spatial integration and segmentation mechanisms, showing that the balance between these two competing mechanisms is not fixed but varies with visibility, with spatial summation giving way to spatial suppression as visibility increases.

He has also made significant contributions to several high-profile papers dealing with binocular rivalry, rapid visual adaptation, multi-sensory interactions, and visual function in individuals with low-vision and children with autism.

Suppressive neural mechanisms: from perception to intelligence

Monday, May 19, 12:30 pm, Talk Room 2

Perception operates on an immense amount of incoming information that greatly exceeds brain's processing capacity. Because of this fundamental limitation, our perceptual efficiency is constrained by the ability to suppress irrelevant information. Here, I will present a series of studies investigating suppressive mechanisms in visual motion processing, namely perceptual suppression of large, background-like motions. We find that these suppressive mechanisms are adaptive, operating only when the sensory input is sufficiently strong to guarantee visibility. Utilizing a range of methods, we link these behavioral results with inhibitory center-surround receptive fields, such as those in cortical area MT.

What are functional roles of spatial suppression? Spatial suppression is weaker in old age and schizophrenia—as evident by paradoxically better-than-normal performance in some conditions. Moreover, these subjects also exhibit deficits in figure-ground segregation, suggesting a functional connection. In recent studies, we report direct experimental evidence for a functional link between spatial suppression and figure-ground segregation.

Finally, I will argue that the ability to suppress information is a fundamental neural process that applies not only to perception but also to cognition in general. Supporting this argument, we find that individual differences in spatial suppression of motion signals strongly predict individual variations in WAIS IQ scores (r = 0.71).

Elsevier / Vision Research Travel Awards



VSS congratulates this year's recipients of the 2014 Elsevier/ Vision Research Travel Awards.

Carrie Bailey

Victoria University of Wellington, New Zealand Advisor: Steven Prime

Antoine Barbot

Department of Psychology, New York University Advisor: Marisa Carrasco

Ben de Haas

University College London Advisor: Geraint Rees

Chaz Firestone

Yale University

Advisors: Frank Keil and Brian Scholl

Sebastian Frank

Dartmouth College Advisor: Peter Tse

Sara Garcia

UCL Institute of Ophthalmology Advisors: Dr. Marko Nardini and Prof. Gary Rubin

Liu Liu

McGill University & Montreal Neurological Institute Advisor: Christopher Pack

Delphine Massendari

Aix-Marseille Université, CNRS, UMR 7290, Laboratoire de psychologie cognitive, France Advisor: Françoise Vitu

Kimberly Meier

University of British Columbia Advisor: Deborah Giaschi

David Alex Mély

Brown Institute for Brain Science, Brown University Advisor: Thomas Serre

Stefania Moro

Centre for Vision Research, York University Advisor: Jennifer Steeves

Zoe Oliver

Bangor University, UK Advisor: Charles Leek

Stefanie Peykarjou

Heidelberg University and Université Catholique de Louvain, Belgium

Advisors: Sabina Pauen and Bruno Rossion

Mahalakshmi Ramamurthy

Human Vision Lab, Department of Brain Sciences, UMass Boston

Advisor: Erik Blaser

Mehdi Senoussi

CerCo, CNRS UMR 5549 and Université Paul Sabatier,

Toulouse, France

Advisors: Leila Reddy and Rufin VanRullen

Manuel Spitschan

University of Pennsylvania

Advisors: David H. Brainard and Geoffrey K. Aguirre

Edgar Walker

Baylor College of Medicine, Department of Neuroscience

Advisors: Andreas Tolias and Wei Ji Ma

Emily Ward

Yale University

Advisors: Marvin Chun and Brian Scholl

Jonathan R. Williford

Department of Neuroscience, Johns Hopkins University, School of Medicine

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Advisor: Rudiger von der Heydt

Qing Yu

Department of Psychological and Brain Sciences, Dartmouth College

Advisor: Won Mok Shim

VSS Public Lecture

Thomas V. Papathomas

Rutgers University

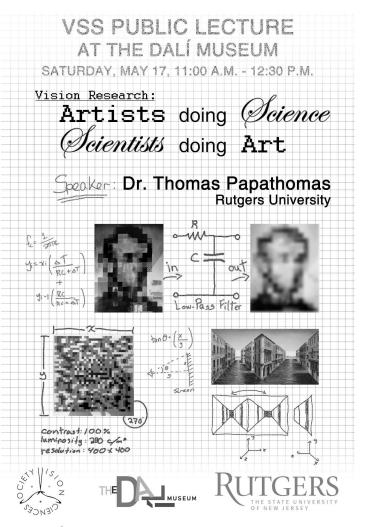


Thomas V. Papathomas, a Professor and Dean at Rutgers, the State University of New Jersey, studies how humans perceive objects, faces and scenes. He has authored over 100 scientific publications, has designed award-winning 3-D illusions and has exhibited in art/science shows and science museums.

Vision Research: Artists Doing Science - Scientists Doing Art

Saturday, May 17, 11:00 am - 12:30 pm The Dali Museum, St. Petersburg, Florida

It has often been said that artists are years ahead of vision scientists in making progress toward understanding how the visual brain works. This talk will illustrate how artists have been able to use their intuitive grasp of visual perception fundamentals to open new horizons in research. At the same time, the talk will highlight how visual scientists have used their research-based knowledge of visual brain function to provide a deep understanding of the art experience and, occasionally, venture into making art.



THE DALÍ MUSEUM, ONE DALÍ BLVD, ST. PETERSBURG, FL 33701 FREE ADMISSION - LIMITED SEATING

Student and Postdoc Workshops

VSS Workshop for PhD Students and Postdocs: PNAS: How do I judge to which journal I should send my paper

Sunday, May 18, 1:00 - 2:00 pm, Room TBA

Moderator: Frans Verstraten Introduction: Sandra Aamodt

Discussants: Heinrich Bülthoff, Nancy Kanwisher, & Con-

cetta Morrone

PNAS... Post Nature And Science. We all think we do excellent research and great results deserve a great outlet. How many of us have wandered the whole route from all the top ranked journals, only to end up in an average journal? Wouldn't it be good if we could only judge the journal to go for immediately? It saves the disappointment of not being sent out for review, rejection, and the energy needed to once more having to rewrite the manuscript. Moreover, what is wrong with an average journal for your output? We will discus some of the ways to convince the editors of high profile journals to at least send your manuscript out for review. We will hear some good and bad experiences and hope to conclude with some realistic advice...



Sandra Aamodt

Sandra is a coauthor of Welcome to Your Child's Brain: How the Mind Grows from Conception to College and Welcome to Your Brain: Why You Lose Your Car Keys But Never Forget How to Drive and Other Puzzles of Everyday Life, which was named science book of the year in 2009 by the American Association for the Advancement of Science. A former editor in chief of Nature

Neuroscience, she has read over 5000 neuroscience papers in her career. Before joining the journal, she received a Ph.D. in neuroscience from the University of Rochester and did postdoctoral research at Yale University.



Heinrich Bülthoff

Heinrich is director at the Max Planck Institute for Biological Cybernetics in Tübingen. He is head of the Department Human Perception, Cognition and Action in which a group of about 70 researchers investigate psychophysical and computational aspects of higher level visual processes in object and face recognition, sensory-motor integration, human robot interaction, spatial

cognition, and perception and action in virtual environments. He is Honorary Professor at the Eberhard-Karls-Universität (Tübingen) and Korea University (Seoul). He is co-founder of the journal ACM Transactions on Applied Perception (ACM TAP) and on the editorial boards of several open access journals. He has not published in Nature Journals for more than ten years..



Nancy Kanwisher

Nancy is the Walter A. Rosenblith Professor of Cognitive Neuroscience in the Department of Brain and Cognitive Sciences at the M.I.T. She is interested in the functional organization of the brain as a window into the architecture of the human mind. Her work and that of her students have been published in some of the best journals. She has, however, her ideas about this... She is also a

member of the National Academy of Sciences (USA).



Concetta Morrone

Concetta is Professor of Physiology at University of Pisa. Over the years her research has spanned most active areas of vision research, including spatial vision, development, plasticity, attention, color, motion, robotics, vision during eye movements and more recently multisensory perception and action. Concetta has published some 160 publications in excellent inter-

national peer-review journals, including Nature and her sister journals, Neuron, Current Biology and several Trends in Journals. She has been editor of many journals and was one of the founding editors of the Journal of Vision, and currently she is Chief Editor and founder of the journal "Multisensory Research" (the continuation of "Spatial Vision").



Frans Verstraten

Frans is the MacCaughey Chair of Psychology at the University of Sydney. So far he has never made it into Nature or Science and if Bayes was right, he probably never will. His task is to facilitate the discussion. He has served on several editorial boards and is currently one of the editors-in-chief of Perception and i-Perception.

*No registration is required to attend these sessions. Seating is on a first come; first served basis. VSS 2014 Program Student and Postdoc Workshops

VSS Workshop for PhD Students and Postdocs: How to Transition from Postdoc to Professor?

Sunday, May 18, 1:00 - 2:00 pm, Room TBA

Moderator: Frank Tong

Discussants: Julie Golomb, Sam Ling, Joo-Hyun Song, and

Jeremy Wilmer

You're really excited by all of the research you're doing in the lab.... Ahh, the freedom to explore, discover, and focus just on doing good science. But at the back of your mind, you find yourself thinking, "When should I strike out on my own and apply for faculty positions, so I can start my own lab?"

So, when is the right time? What should your CV look like, so your application will attract the attention of the search committee? How will you craft your research statement to convey the importance of your work? Once you are invited to interview, how will you prepare for the big day, what should you expect in your individual meetings, what kinds of questions might people ask? Most important, how will you structure and stylize your job talk to excite everyone in the department about your research program?

We will hear the advice and learning experiences of assistant professors who recently made the transition from postdoc to faculty member. Much of this seminar will focus on how to put your best face forward when applying for faculty positions, from CV to negotiating the details of the position. We will have an open discussion of what qualities departments often look for in top candidates. We will also hear about the joys and challenges of starting a new lab, teaching courses for the first time, finding the right people for the lab family, and what life is like as a new faculty member.



Julie Golomb

Julie is an Assistant Professor in the Department of Psychology and Center for Cognitive and Brain Sciences at the Ohio State University. Her research focuses on how objects and their spatial locations are perceived and coded in the brain, and how these representations are influenced by eye movements, shifts of attention, and other top-down factors. Julie received her PhD from Yale

University in 2009 and did a postdoc at MIT before starting her faculty position in 2012. She was recently selected as a 2014 Sloan Research Fellow in Neuroscience.



Sam Ling

Sam is an Assistant Professor of Psychology at Boston University. His research focuses on neural mechanisms of visual perception (e.g., orientation perception, contrast sensitivity, binocular rivalry) and the top-down effects of attention on visual processing. He received his PhD from New York University in 2007 and pursued postdoctoral research at Vanderbilt University

before beginning his current faculty position in 2014.



Joo-Hyun Song

Joo-Hyun is an Assistant Professor in the Department of Cognitive, Linguistic & Psychological Sciences at Brown University. She investigates the mechanisms involved in integrating higher-order cognitive processes, such as attention, decision making and visually guided actions, through a combination of methodologies including behavioral investigations, online action tracking,

fMRI, EEG, and neurophysiological experiments. She received her PhD from Harvard University (2006) and pursued postdoctoral research at the Smith-Kettlewell Eye Research Institute (2006-2010) before beginning her current faculty position in 2010.



Jeremy Wilmer

Jeremy is an Assistant Professor of Psychology at Wellesley College. He investigates clinical and non-clinical human variation in cognitive and perceptual abilities to gain insights into their genetic and environmental influences, functional organization, and practical correlates. His experiences include several years of running a lab at an undergraduate-only, single-sex

liberal arts college. He received his PhD in 2006, pursued postdoctoral research at University of Pennsylvania and SUNY College of Optometry, before beginning his current faculty position in 2009.



Frank Tong

Frank Tong is a Professor of Psychology at Vanderbilt University. He is interested in understanding the fundamental mechanisms underlying visual perception, attention, object processing, and visual working memory. He has received multiple awards for his research advances, in particular for his work on fMRI decoding of visual and mental states. He particularly enjoys

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

Satellite Events

Mathematical and Computational Models in Vision (MODVIS)

Wednesday, May 14 - Friday, May 16, Horizons Wednesday & Thursday 9:00 am - 5:00 pm Friday 9:00 - 11:45 am

Organizers: Jeff Mulligan, NASA Ames Research Center Zyg Pizlo, Purdue University Qasim Zaidi, SUNY College of Optometry

Abstract submission for the third VSS satellite workshop on Computational and Mathematical Models in Vision (MODVIS) is now open.

Submissions will be considered on a first-come first-served basis, until the program is full or the early registration deadline of April 1st has passed, whichever comes first. The revised submission system is simple and transparent. Registration rates are the same as last year: \$80 regular, \$40 student on or before April 1st, and \$100/\$50 after.

MODVIS 2014 will be held immediately prior the the VSS meeting in St. Pete Beach, May 14-16. More information can be found on the workshop's website: http://www.conf.purdue.edu/modvis/

Cambridge Research Systems Technical Short Courses on Light Measurement and Display Characterisation

Friday, May 16, 8:00 - 11:45 am, Royal Tern

Organizers: Caterina Ripamonti, Tom Robson and Jakob Thomassen, Cambridge Research Systems

Cambridge Research Systems are pleased to announce the availability of two new short courses devoted to practical aspects of vision research. The "Measuring Light and Managing Colour" and "Display Devices and their Characterisation for Vision Research" courses include a mixture of lecture material, demonstrations created with MATLAB and Psychtoolbox, and an opportunity to use a variety of test equipment. The courses will be led by Caterina Ripamonti, Tom Robson and Jakob Thomassen.

The courses will be offered for the first time in 2014 as an official VSS 2014 Satellite event; they are free and open to all VSS attendees. Registration is not compulsory but highly recommended, as spaces are limited.

To register, please email enquiries@crsltd.com and indicate which courses you would like to attend (you can register for both events).

The short courses will take place on Friday 16th May 2014, at the VSS conference venue: the TradeWinds Island Resorts, St. Pete Beach, Florida. The courses will start at 8am and finish at 12 noon. Drinks and snacks will be provided.

To find out more, please visit: http://www.crsltd.com/technical-short-courses/

Interactive Virtual Reality with Oculus Rift and Laptop

Friday, May 16, 9:00 - 11:45 am, Snowy Egret

Organizers: Matthias Pusch and Charlotte Li, WorldViz

In our first satellite event participants will interactively learn how to design and deploy a 3D consumer headset (i.e. Oculus Rift) and laptop-based multi-user interactive environment. The participants will be enabled to seeing each other in a virtual environment represented as avatars, and tossing each other virtual objects (balls). You will learn how to record data, and control key parameters such as visual elements, interaction methods, object speed, etc. using simple scripting.

The application will be created using the Vizard VR Toolkit. Vizard is a powerful Virtual Reality platform to help you create a new breed of visual simulations. With Vizard, users can build applications that provide the best experiences across virtual reality immersive technologies such as displays and sensors.

To register for this event, please fill out the form following below link. Seats will be assigned on a first-come first-serve basis. http://www.worldviz.com/newsletter/vision-sciences-society-2014-satellite-event.

Please come to the event prepared with an ethernet plug or dongle on your laptop - Windows operating system is required.

Individual Differences in Vision Brown Bag Lunch, v. 2.0

Saturday, May, 17, 12:45 - 2:00 pm, Horizons

Organizer: Jeremy Wilmer

Back this year: A whirlwind tour of the breadth of individual differences related work currently being conducted by VSS members. Bring your lunch. Identify colleagues with common interests and relevant expertise. Featuring "microtalks" (2 slides, 2 minutes) from a wide range of content areas.

Cambridge Research Systems '25 Years in Vision Science' Party

Saturday, May, 17, 8:15 pm, Snowy Egret

Hosted by Cambridge Research Systems

Cambridge Research Systems has been in business since 1989. We would like to host a drinks reception for our customers to jointly celebrate our 25th Anniversary and the launch of our new Display++ stimulus display system.

VSS 2014 Program Satellite Events

The 10th Annual Best Illusion of the Year Contest

Sunday, May, 18, 8:00 - 10:00 pm, Pavilion (Doors open at 7:30 pm)

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 2013), and an international panel of judges has narrowed them to the TOP TEN. At the Contest Gala, 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!

The 2014 Contest Gala will be hosted by world-renowned magician Mac King. Mac King is the premiere comedy magician in the world today, with his own family-friendly show, "The Mac King Comedy Magic Show," at the Harrah's Las Vegas. He was named "Magician of the Year" by the Magic Castle in Hollywood in 2003, and is a frequent guest and host of television specials.

Everybody is invited and families are welcome!

The Best Student Poster Awards

Sponsored by Cambridge Research Systems



The Best Student Poster Awards will be given to eight winners at VSS 2014. The awards (one for each poster session) will recognize the most outstanding student poster presented during each poster session at VSS.

Eligibility Requirements

All students presenting posters at VSS 2014 in an undergraduate or graduate program are eligible. Post-doctoral fellows are not eligible. Students wishing to participate must be the first author and presenting author on the submitted abstract.

Award Selection Process

Students who wish to be considered for the Best Student Poster Award must place a gold star on their board indicating their participation.

Attendees will vote for their favorite poster by placing a voting card in the ballot box. Ballot boxes are located in the Pavilion and in the hallway between Jacaranda Hall and Banyan Breezeway. You will receive your voting cards when you pick up your badge at the Registration Desk.

Attendees can vote only once per session. At the end of the session, votes will be tallied and a winner chosen.

Prize

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

Attendee Resources

Abstract Book

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

ATM

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

Audiovisual Equipment for Talks

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

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

Baggage Check

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

Business Center

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

Certificates of Attendance

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

Children's Programs/Childcare

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

Activities Overview: www.tradewindsresort.com/recreation/kids

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

Copying and Printing

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

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

Disclaimer

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

Duplication/Recording

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

Exhibits

All exhibits are located in the Banyon Breezeway.

Exhibit Hours

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

Exhibitor Setup and Teardown

Setup: Friday, May 16, 4:00 – 7:00 pm and/or Saturday,

May 17, 7:00 - 8:00 am

Teardown: Monday, May 19, 12:30 - 2:00 pm

Fitness Center

The Fitness Center is open Monday through Friday from 6:00 am – 8:00 pm, and on weekends from 8:00 am – 5:00 pm. The Center is available to attendees staying at either of the TradeWinds hotels.

Food Service/Catering

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

VSS provides a reception and one dinner. The Opening Night Reception is held on Friday night and a beach barbeque is provided to all attendees on Monday nights' Demo Night. Each attendee will be given two free drink tickets, good on either night.

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

VSS 2014 Program Attendee Resources

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

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

Guests

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

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

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

Internet Access

VSS provides free wireless Internet access in the meeting areas and in all guest rooms. In the meeting areas, connect to **twgroup**; password is **group5500**.

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

Lost and Found

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

Message Center

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

Moderators

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

Parking

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

Phone Charging Station

A phone charging station is located at the Registration Desk.

Public Transportation

Suncoast Beach Trolley

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

Fare: \$2.00/ride

Central Avenue Trolley

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

Fare: \$2.00/ride

The Downtown Looper

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

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

Registration

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

Friday, May 16, 9:00 am - 7:00 pm Saturday, May 17, 7:30 am - 6:45 pm Sunday, May 18, 7:30 am - 6:45 pm Monday, May 19, 7:45 am - 1:30 pm Tuesday, May 20, 7:45 am - 6:45 pm Wednesday, May 21, 7:45 am - 12:45 pm

Restaurants and Bars at TradeWinds Island Grand

Cash and Go Lunches

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

Palm Court Italian Grill

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

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

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

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

Sunday)

Attendee Resources VSS 2014 Program

Bermudas Steak & Seafood

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

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

Beef 'O' Brady's

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

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

Bar Hours: 11:00 - 2:00 am

Flying Bridge

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

RedBeard's Sharktooth Tavern

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

Salty's

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

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

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

Awakenings Lobby Bar

An elegant lobby bar in the afternoon and evenings, Awakenings also offers morning coffee by Starbucks. Open from 7:00 am – closing varies daily.

Pizza Hut Express

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

Working Cow Ice Cream Shoppe

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

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

Restaurants at Guy Harvey Outpost

Perks Up

Perks Up offers morning pastries, on-the-go breakfast items, and Starbucks coffee. In the afternoon, guests can stop by for ice cream or enjoy a cocktail. Open daily from 7:00 am to 6:00 pm.

Guys Grill

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

Sand Bar

The Sand Bar is a beachfront oasis where guests can indulge in tall, cool drinks. Light snacks, appetizers and sandwiches are also served. Open daily from 11:00 am – 10:00 pm.

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

Shipping

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

How to Contact Us

If you need to reach VSS meeting personnel while at the meeting, call ext. 7814 from a house phone, or from outside the hotel, call 727.367.6461, ext. 7814.

Club Vision Dance Party

Tuesday, May 20, 10:00 pm - 2:00 am, Talk Room 1

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

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

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

12th Annual Dinner and Demo Night

Monday, May 19, 6:00 - 10:00 pm

Beach BBQ: 6:00 – 8:00 pm Beachside Sun Decks

Demos: 7:00 - 10:00 pm

Talk Room 1-2, Royal Tern, Snowy Egret, Compass, &

Spotted Curlew

Please join us Monday evening for the 12th 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's Demo Night will be organized and curated by Gideon Caplovitz, University of Nevada Reno; Arthur Shapiro, American University; Dejan Todorovic, University of Belgrade and Karen Schloss, Brown University.

A Beach BBQ is served on the Beachside Sun Decks. Demos are located in Talk Room 1-2, Royal Tern, Snowy Egret, Compass, & Spotted Curlew.

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 Beach BBQ. 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 on the Grand Palm Colonnade. A desk will also be set up on the Seabreeze Terrace at 6:30 pm.

Guest prices:

Adults: \$25

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

Biological Motion

Peter Thompson, Rob Stone, University of York

A real-time demonstration of point-light biological motion. Walk, jump, dance in front of the sensor and see your point-light display. Using an Xbox Kinect sensor (approx \$50) and our free software you can produce this effect for yourselves.

Audiovisual Hallucinations

Parag Mital, Dartmouth College

Audiovisual scene synthesis attempts to simultaneously learn and match existing representations of proto-objects in the ongoing auditory and visual scene. The synthesized scene is presented through virtual reality goggles and headphones.

Phenomenology of Flicker-Defined Motion

Jeff Mulligan, NASA Ames Research Center; Scott Stevenso, University of Houston College of Optometry

Flicker-defined motion produces a number of surprises: a target that disappears when pursued; a target that appears to move in jumps when moved continuously; a persistent "trail" that disappears when the target is pursued. These effects and more will be presented.

Thatcherise Your Face

Peter Thompson, Rob Stone, Tim Andrews, University of York The Thatcher illusion is one of the best-loved perceptual phenomena. here you will have the opportunity to see yourself 'thatcherised' in real time. And you can have a still version of your thatcherised face as a souvenir.

The Ever-Popular Beuchet Chair

Peter Thompson, Rob Stone, Tim Andrews, University of York The Beuchet chair baffles because the two separate parts of the chair are seen as belonging together. Although at different distances, the two parts have appropriate sizes to create the retinal image of a single chair at some intermediate distance. The two figures are now perceived as being at the same distance away and therefore size constancy does not operate. Additionally the far figure must be tiny to fit on the big seat of the chair and the near figure must be huge.

The Wandering Circles

Christopher D. Blair, Lars Strother and Gideon P. Caplovitz, University of Nevada, Reno

Physically stationary flickering shapes appear to drift randomly when viewed peripherally.

Dynamic Ebbinghaus

Ryan E.B. Mruczek, Christopher D. Blair, Gideon P. Caplovitz, University of Nevada, Reno

Come see the Ebbinghaus Illusion as you've never seen it before! Watch the central circle grow and shrink before your eyes as we add a dynamic twist to this classic illusion.

To Deform or Not to Deform: Illusory Deformations of a Static Object Triggered by the Light Projection of Motion Signals

Takahiro Kawabe, Masataka Sawayama, Kazushi Maruya, Shin'ya Nishida, NTT Communication Sciences Laboratories, Japan

We will demonstrate that projecting image motion through a video projector can deform the apparent shape of static objects printed on the paper.

Strobowheel

Anna Kosovicheva, Benjamin Wolfe, Wesley Chaney, Allison Yamanashi Leib, Alina Liberman, University of California, Berkeley

We present a modified phenakistoscope in which we use a strobe light to create animated images on a spinning disc. Viewers can adjust the frequency of a strobe light to change the animation, or make the image on the disc appear to spin backwards or stand still.

Polygonization Effect

Kenzo Sakurai, Tohoku Gakuin University

Prolonged viewing of a circular shape in peripheral vision produces polygonal shape perception of the circle itself. This shape distortion illusion can be induced in a short period by alternately presenting a circle and its inward gradation pattern.

The Saccadic Smear

Mark Wexler, Marianne Duyke, Thérèse Collins, CRNS & Université Paris Descartes

When a stimulus appears only during a saccade, you see it smeared. If it also appears before the saccade or stays on afterwards, the smear is masked. We demonstrate this retro 1970s-style phenomenon using a portable eye tracker and several LEDs. Wait a minute, where did that smear go?

Bistable Double Face Illusion

Sarah Cormiea, Anna Shafer-Skelton; Harvard University

Come visit our demo and take home an illusion made with your own face. We'll take two photos and combine them to create a bistable illusion of a forward looking face that incongruously still has a profile.

Expansion/Contraction Blindness

Koshke Takahashi, Katsumi Watanabe, The University of Tokyo

We show a novel striking visual illusion. When an object filled with black and white color makes rotation and zoom on a gray background, you will never see the expansion and contraction.

Rotating Columns

Vicky Froyen, Daglar Tanrikulu, Rutgers University

Adding textural motion to classic figure-ground displays reveals complex interactions between accretion-deletion and geometric figure-ground cues. We demonstrate cases where static geometry overrides standard depth from accretion-deletion. Thus moving regions are perceived as figural and rotating in 3D, despite the textural motion being linear and thus inconsistent with 3D rotation.

Infinite Regress Etch-a-Sketch

Nika Adamian, Patrick Cavanagh, Matteo Lisi, Laboratoire Psychologie de la Perception, Université Paris V Descartes; Peter U. Tse, Laboratoire Psychologie de la Perception, Université Paris V Descartes, Department of Psychological and Brain Sciences, Dartmouth College

A new infinite regress illusion (Tse & Hsieh, 2006) synchronizes changes in the path of a gabor with changes in its internal motion. This produces large, stable differences between perceived and physical location. Illusory shapes or orientations can be created to show dramatic dissociations between action and perception.

News from the Freiburg Vision Test

Michael Bach, University Eye Center, Freiburg Germany "FrACT" with a history of over 20 years was validated in a number of studies and is widely employed – in 2013 it was cited in 40 papers that used FrACT. Its ongoing active development is often driven by user requests. I will demonstrate new features.

Chromatic Interocular Switch Rivalry

Jens Hofman Christiansen, University of Copenhagen; Steven Shevell, University of Chicago; Anthony D'Antona, University of Texas at Austin

Using a haploscope, a differently colored circle is presented to each eye in the same part of the visual field (binocular color rivalry). When the rivalrous colors are exchanged between the eyes at 3 Hz, the percept is not flickering colors but instead slow alternation between the two colors.

Eye Movements and Troxler Fading

Romain Bachy, Qasim Zaidi, Graduate Center for Vision Research, SUNY Optometry

Observers will be able to use a time-varying procedure to see that fixational eye-movements control the magnitude and speed of adaptation for foveal and peripheral vision. The stimuli will isolate single classes of retinal ganglion cells and demonstrate the effects of flicker and blur on adaptation of each class.

The Magical Misdirection of Attention in Time

Anthony S. Barnhart, Northern Arizona University

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

Applying Temporal Masking For Bandwidth Reduction in HD Video Streaming

Velibor Adzic, Hari Kalva, Florida Atlantic University

We demonstrate some aspects of temporal masking in natural video sequences. Specifically, application of backward temporal masking and motion masking in visually lossless video compression.

Water Flowing Upward

Wenxun Li, Leonard Martin, Columbia University; Ethel Matin, Long Island University – Post

See Water Flowing Uphill!

Lower in Contrast, Higher in Numerosity

Quan Lei, Adam Reeves, Northeastern University

There appear to be many more light gray than white disks, and many more dark gray than black disks, when equal numbers of the disks are intermingled on a medium gray background. Intermingling is critical: disks separated into two regions match in perceived numerosity.

The Shape-Shifting Cylinder

Lore Thaler, Durham University, UK

We present a novel demonstration of the effects of optical texture and binocular disparity on shape perception. You will see a real, physical cylinder. As you alternate your view from monocular to binocular the shape of the cylinder shifts, i.e. the tip of the cylinder appears to move from left to right (or vice versa).

Virtual Reality Immersion with the Full HD Oculus Rift Head Mounted Displays

Michael Schaletzki, Matthias Pusch, Charlette Li, WorldViz

Get fully immersed with a research quality, consumer component based Virtual Reality system. Powered by the WorldViz Vizard VR software, the system comes with the Oculus Rift HD, motion tracking, rapid application development tools, application starter kit, support & training. Walk through high-fidelity virtual environments in full scale and fully control visual input.

What Happens to a Shiny 3D Object in a Rotating Environment?

Steven A. Cholewiak, University of Gissen, Germany; Gizem Kucukoglu, New York University

A mirrored object reflects a distorted world. The distortions depend on the object's surface and act as points of correspondence when it moves. We demonstrate how the perceived speed of a rotating mirrored object is affected by rotation of the environment and present an interesting case of perceived non-rigid deformation.

Alternating Apparent Motion in Random Dot Displays

Nicolas Davidenko, Jacob Smith, Yeram Cheong, University of California, Santa Cruz

A succession of random dot displays gives rise to a percept of coherent, global, apparent motion. The perceived apparent motion is typically alternating (flipping direction on each frame) and vertical, although the direction can be easily manipulated by suggestion.

An Ames-room-like Box with a Ball Inside

Ryuichi Yokota, Masahiro Ishii, Shoko Yasuoka, Sapporo University

This is a miniature overturned Ames room with a physically-slanted base. The top face has a hole to peep inside. The box is designed to have an apparently-horizontal base and contains a ball. One can experience unnatural feelings when they manipulate to roll the ball across the base.

VPixx Response-Time Survivor

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

VPixx will be demonstrating our PROPixx DLP projector refreshing at 1440Hz. The demo is a fun game in which we measure your reaction time to cross-modal audiovisual stimuli. Do it fast, and win a prize! This year's demo has a surprise twist which you will definitely want to see.

Moving Barber-Pole Illusion

George Sperling, Peng Sun, Charles Chubb, University of California, Irvine

When an entire vertically oriented barber pole itself moves laterally, and it is viewed peripherally, the perceived motion direction is vertically upward, even though the physical Fourier, end-stop, and feature motion directions, and the foveally perceived motion direction are all diagonal.

SWYE! Surfing With Your Eyes: The Beachiest Illusion Out There!

Alejandro Lleras, Simona Buetti, University of Illinois

This "You-Should-Really-Try-Doing-It-On-The-Beach-Sometime-You-Know?" visual illusion is Ok when seen on video... a run-of-the-mill bi-stable stimulus. But when experienced at the beach, it becomes a multimodal illusion where (while stationary) you feel as if you were gliding at several feet per second over the water. Your trips to the beach will never be the same!

The New Synopter

M.W.A. Wijntjes, S.C. Pont, Perceptual Intelligence Lab, Delft University of Technology

With two mirrors it is possible to optically juxtapose the location of both eyes, resulting in disparities that are similar to infinitely distant points. Although invented about a 100 year ago, the synopter yields a percept that is still difficult to explain: that of an illusory 3D picture.

Exhibitors

VSS recognizes the following companies who are exhibiting at VSS 2014 and we thank them for their participation and support.

Exhibit Hours

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

All exhibits are located in the Banyon Breezeway.

Arrington Research, Inc.

Booth 7

400 Hz ViewPoint EyeTracker(R) systems from Arrington Research available with Torsion and 3D Vergence. All systems include a Software Developers Kit (SDK), real-time Ethernet communication, built-in stimulus presentation, post-hoc data analysis tools, a MATLAB toolbox, Python, and many other 3rd Party product interfaces and examples. Great for both humans and animals and is available with Analog and TTL communication to ensure seamless communication. ViewPoint EyeTracker(R) systems are the easiest and best value available and include a variety of light-weight head mounted EyeFrame(tm), HMD, head fixed, and remote systems. Arrington Research has been providing reliable affordable eye trackers worldwide for over 17 years. Please visit www.ArringtonResearch.com for more details.

Brain Vision, LLC

Booth 10

Brain Vision has been the leader in EEG in Vision Science for a while. We are proud to present NIRS devices from NIRX this year at the VSS. We provide flexible and robust solutions for active EEG, wireless EEG, dry EEG and a wide range of bio-sensors like GSR, EKG, Respiration and EMG. We offer a full hardware and software integration of EEG with many leading eye tracking and visual stimulation devices.

Cambridge Research Systems Ltd.

Booth 1

This year at VSS, Cambridge Research Systems celebrates 25 years of providing novel solutions for vision science and human brain mapping.

Prior to the meeting, we are running two technical short courses on Light Measurement and Display Characterisation, aimed at helping early-career vision scientists to understand how to evaluate the latest display technologies and light measuring instruments.

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

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

If a CRT display is more suitable for your application, we have stock available. We recommend driving it with Bits# (Bits Sharp), which unites trusted CRS hardware features for high resolution calibrated stimulus display and synchronous data collection with software tools like Psychtoolbox-3, PsychoPy and Psykinematix.

If you have a ViSaGe of any vintage talk to us about how you can add the Bits# functionality to your existing equipment.

AudioFile is an ideal companion to Bits# and ViSaGe, it makes it easy to present synchronous auditory stimuli with low latency, deterministic timing on any computer. We also provide spectroradiometric display calibration equipment, cost-effective eye tracking, response boxes and laboratory furniture like chinrests and motorized tables. We are pleased to invite all our customers and friends to join John, Tom, Steve, Jakob & Caterina for our 25 Years of Vision Science Party on Sunday evening.

Cortech Solutions, Inc.

Booth 2

Evoked-potential and event-related potential systems for research are our specialty. We provide US sales and support for the most advanced brand names, including Biosemi ActiveTwo and g.tec's g.Hlamp, both high-bandwidth digital systems with active electrodes. All of our EP / ERP systems can be offered with leading off-line analysis software like EMSE Suite and BESA, but we also offer a variety of real-time analysis options for use in brain-computer interface and other applications. We are pleased to be the US sales and support representative for Cambridge Research Instruments, allowing us to configure vision science solutions with EP / ERP or for use in fMRI studies.

LC Technologies Inc.

Booth 11

LC Technologies is passionate about changing lives with world leading eye tracking technologies. Founded in 1986 with the goal of creating an unobtrusive human-computer interface that will revolutionize the way we interact with computers and other devices, we now operate in 44 countries. Our eye-tracking systems create seamless extensions of the human experience which provide highly accurate eye movement and gaze point measurements.

VSS 2014 Program Exhibitors

Oxford University Press

Booth 8

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

The MIT Press

Booth 3

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

SensoMotoric Instruments, Inc.

Booth 6

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

SR Research Ltd.

Booth 9

SR Research welcomes you to VSS 2014! The recently announced EyeLink 1000 Plus now has even greater capabilities – drop by our booth to see the Binocular Tower Mount, try out Binocular Remote tracking (500 Hz) and to learn about free software updates for existing users, including Dynamic Interest Area processing in DataViewer and versatile Scene/Screen Recording software for the EyeLink 1000/1000 Plus. New mounts are available for the 1000 Plus making it an even more versatile eye tracking platform. EyeLink eye-trackers provide a uniform, cutting-edge solution for the behavioral lab, MRI/MEG, or EEG. With the world's best technical specifications and most flexible experiment delivery software, we enable academics to achieve their goals, as reflected in the quantity and quality of peer-reviewed publications they produce.

VPixx Technologies Inc.

Booths 4 & 5

VPixx Technologies welcomes the vision community to VSS 2014, and is excited to demonstrate our PROPixx DLP LED video projector, now supporting refresh rates up to 1440Hz. The PROPixx has been designed specifically for the generation of precise high refresh rate stimuli for stereoscopic, gaze-contingent, and other dynamic applications. The PROPixx is the most flexible display possible for vision research, featuring resolutions up to 1920x1080, and a perfectly linear gamma. The solid state LED light engine has 30x the lifetime of halogen projectors, a wider colour gamut, and zero image ghosting. For stereo vision applications, our high speed circular polarizer can project 400Hz stereoscopic stimuli for passive polarizing glasses into MRI and MEG environments. Come and see the SHIELDPixx Faraday cage for installing the PROPixx inside an MRI/ MEG room. In addition, the PROPixx includes an embedded data acquisition system, permitting microsecond synchronization between visual stimulation and other types of I/O including audio stimulation, button box input, TTL trigger output, analog acquisition, and more! VPixx Technologies will be hosting the sixth annual response-time showdown during demo night this year. The demo is a fun reaction-time game. Do it fast, and win a prize!

WorldViz

Booth 12

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.

Member-Initiated Symposia

Schedule Overview

Session 1: Friday, May 16, 12:00 - 2:00 pm

S1 Vision and eye movements in natural environments Talk Room 1

S2 Beyond the FFA: The role of the ventral anterior temporal lobes in face processing

Pavilion

Session 2: Friday, May 16, 2:30 - 4:30 pm

S3 Mid-level representations in visual processing Talk Room 1

S4 The visual white-matter matters! Innovation, data, methods and applications of diffusion MRI and fiber tractography

Pavilion

Session 3: Friday, May 16, 5:00 - 7:00 pm

S5 What are you doing? Recent advances in visual action recognition research

Talk Room 1

S6 Understanding representation in visual cortex: why are there so many approaches and which is best?
Pavilion

S1 Vision and eye movements in natural environments

Friday, May 16, 12:00 - 2:00 pm, Talk Room 1

Organizers: Brian J. White & Douglas P. Munoz, Centre for Neuroscience Studies, Queen's University, Kingston, ON, Canada

Presenters: Jared Abrams, Wolfgang Einhäuser, Brian J. White, Michael Dorr, Neil Mennie

Historically, the study of vision has largely been restricted to the use of simple stimuli in controlled tasks where observers are required to maintain stable gaze, or make stereotyped eye movements. This symposium presents some of the latest research aimed at understanding how the visual system behaves during unconstrained viewing of natural scenes, dynamic video, and real-world environments. Understanding how we perceive and act upon complex natural environments has potential to revolutionize our understanding of the brain, from machine vision and artificial intelligence to clinical applications such as the detection of visual or mental disorders and neuro-rehabilitation.

Fixation search in natural scenes: a new role for contrast normalization

Speaker: Jared Abrams, Center for Perceptual Systems, University of Texas, Austin, USA

Authors: Chris Bradley, Center for Perceptual Systems, University of Texas, Austin; Wilson S. Geisler, Center for Perceptual Systems, University of Texas, Austin

Eye movements in natural scenes and gaze in the real world

Speaker: Wolfgang Einhäuser, Philipps-University Marburg, Department of Neurophysics, Marburg, Germany

Authors: Bernard Marius 't Hart, Philipps-University Marburg, Department of Neurophysics, Marburg, Germany

Visual coding in the superior colliculus during unconstrained viewing of natural dynamic video

Speaker: Brian J. White, Centre for Neuroscience Studies, Queen's University, Kingston, ON, Canada

Authors: Laurent Itti, Dept of Computer Science, University of Southern California, USA; Douglas P. Munoz, Centre for Neuroscience Studies, Queen's University, Kingston, ON, Canada

Visual sensitivity under naturalistic viewing conditions

Speaker: Michael Dorr, Schepens Eye Research Institute, Dept of Ophthalmology, Harvard Medical School, and Institute for Neuroand Bioinformatics, University of Lübeck, Germany

Authors: Thomas S Wallis, Schepens Eye Research Institute, Dept of Ophthalmology, Harvard Medical School, and Centre for Integrative Neuroscience and Department of Computer Science, The University of Tübingen, Tübingen, Germany; Peter J Bex, Schepens Eye Research Institute, Dept of Ophthalmology, Harvard Medical School

Spatio-Temporal Dynamics of the use of gaze in natural tasks by a Sumatran Orangutan (Pongo abelli)

Speaker: Neil Mennie, University of Nottingham, Malaysia Campus, Malaysia

Authors: Nadia Amirah Zulkifli, University of Nottingham Malaysia Campus; Mazrul Mahadzir, University of Nottingham Malaysia Campus; Ahamed Miflah, University of Nottingham Malaysia Campus; Jason Babcock, Positive Science LLC, New York, USA

S2 Beyond the FFA: The role of the ventral anterior temporal lobes in face processing

Friday, May 16, 12:00 - 2:00 pm, Pavilion

Organizers: Jessica Collins & Ingrid Olson, Temple University Presenters: Winrich Friewald, Stefano Anzellotti, Jessica Collins, Galia Avidan, Stefan Köhler

Although accruing evidence has shown that face-selective patches in the ventral anterior temporal lobes (vATLs) are highly interconnected with the FFA and OFA, and that they play a necessary role in facial perception and identification, the contribution of these brain areas to the face-processing network remains elusive. The goal of this symposium is to bring together researchers from a variety of disciplines to address the following question: What is the functional role of the vATLs in face perception and memory, and how do they interact with the greater face network?

Face-processing hierarchies in primates

Speaker: Winrich Friewald, The Rockefeller University

Invariant representations of face identity in the ATL

Speaker: Stefano Anzellotti, Harvard University Authors: Alfonso Caramazza, Harvard University

The role of the human vATL face patches in familiar face processing

Speaker: Jessica Collins, Temple University Authors: Ingrid Olson, Temple University

Structural and functional impairment of the face processing network in congenital prosopagnosia

Speaker: Galia Avidan, Ben Gurion University

VSS 2014 Program Member-Initiated Symposia

Authors: Michal Tanzer, Ben Gurion University; Marlene Behrmann, Carnegie Mellon University

Functional role and connectivity of perirhinal cortex in face processing

Speaker: Ed O'Neil, University of Western Ontario Authors: Stefan Köhler, University of Western Ontario

S3 Mid-level representations in visual processing

Friday, May 16, 2:30 - 4:30 pm, Talk Room 1

Organizer: Jonathan Peirce, University of Nottingham

Presenters: Jonathan Peirce, Anitha Pasupathy, Zoe Kourtzi, Gunter Loffler, Tim Andrews, Hugh Wilson

The majority of studies in vision science focus on the representation of low-level features, such as edges, color or motion processing, or on the representation of high-level constructs such as objects, faces and places. Surprisingly little work aims to understand the link between the two; the intermediate representations of \hat{A}'' mid-level \hat{A}'' vision. This symposium invites a series of speakers that have spent time working on mid-level vision to present their views on what those intermediate representations might be, of the problems that such processing must overcome, and the methods that we might use to understand them better.

Compound feature detectors in mid-level vision

Speaker: Jonathan Peirce, University of Nottingham

Boundary curvature as a basis of shape encoding in macaque area V4

Speaker: Anitha Pasupathy, University of Washington

Adaptive shape coding in the human visual brain

Speaker: Zoe Kourtzi, University of Birmingham

Probing intermediate stages of shape processing

Speaker: Gunter Loffler, Glasgow Caledonian University

Low-level image properties of visual objects explain category-selective patterns of neural response across the ventral visual pathway

Tim Andrews, University of York

From Orientations to Objects: Configural Processing in the Ventral Stream

Speaker: Hugh Wilson, York University

S4 The visual white-matter matters! Innovation, data, methods and applications of diffusion MRI and fiber tractography

Friday, May 16, 2:30 - 4:30 pm, Pavilion

Organizers: Franco Pestilli & Ariel Rokem, Stanford University Presenters: Ariel Rokem, Andrew Bock, Holly Bridge, Suzy Scherf,

Hiromasa Takemura, David Van Essen

Many regions of the cerebral cortex are involved in visual perception and cognition. In this symposium, we will focus on the neuroanatomical connections between them. To study the visual white-matter connections, speakers in this symposium use diffusion MRI (dMRI), an imaging method that probes the directional diffusion of water. The talks will present studies of connectivity between visual processing streams, development of visual white

matter, and the role of white matter in visual disorders. We will also survey publicly available resources available to the Vision Sciences community to extend the study of the visual white matter.

Measuring and modelling of diffusion and white-matter tracts

Speaker: Ariel Rokem, Stanford University

Authors: Franco Pestilli

Gross topographic organization in the corpus callosum is preserved despite abnormal visual input

Speaker: Andrew Bock, University of Washington

Authors: Melissa Saenz, University of Laussane; Holly Bridge,

Oxford; Ione Fine, University of Washington

Using diffusion-weighted tractography to investigate dysfunction of the visual system

Speaker: Holly Bridge, Oxford

Authors: Rebecca Millington; James Little; Kate Watkins

Structural properties of white matter circuits necessary for face perception

Speaker: Suzy Scherf, Penn State

Authors: Marlene Behrmann, Carnegie Mellon University; Cibu Thomas, NIH; Galia Avidan, Beer Sheva University; Dan Elbich,

Penn State University

A major white-matter wiring between the ventral and dorsal stream

Speaker: Hiromasa Takemura, Stanford University

Authors: Brian Wandell

What is the Human Connectome Project telling us about human visual cortex?

Speaker: David Van Essen, Washington University

S5 What are you doing? Recent advances in visual action recognition research

Friday, May 16, 5:00 - 7:00 pm, Talk Room 1

Organizers: Stephan de la Rosa & Heinrich Bülthoff, Max Planck Institute for Biological Cybernetics

Presenters: Nick Barraclough, Cristina Becchio, Stephan de la Rosa, Ehud Zohary, Martin A. Giese

Knowing what another person is doing by visually observing the other person's actions (action recognition) is critical for human survival. Although humans often have little difficulty recognizing the actions of others, the underlying psychological and neural processes are complex. The understanding of these processes has not only implications for the scientific community but also for the development of man-machine interfaces, robots, and artificial intelligence. The current symposium summarizes recent scientific advances in the realm of action recognition by providing an integrative view on the processes underlying action recognition.

Other peoples' actions interact within our visual system

Speaker: Nick Barraclough, Department of Psychology, University of York, York, UK

On seeing intentions in others' movements

Speaker: Cristina Becchio, Centre for Cognitive Science, Department of Psychology, University of Torino, Torino, Italy; Department of Robotics, Brain, and Cognitive Science, Italian Institute of Technology, Genova, Italy

Member-Initiated Symposia VSS 2014 Program

The influence of context on the visual recognition of social actions

Speaker: Stephan de la Rosa, Department Human Perception, Cognition and Action; Max Planck Institute for Biological Cybernetics, Tübingen, Germany

Authors: Stephan Streuber, Department Human Perception, Cognition and Action; Max Planck Institute for Biological Cybernetics, Tübingen, Germany Heinrich Bülthoff, Department Human Perception, Cognition and Action; Max Planck Institute for Biological Cybernetics, Tübingen, Germany

On the representation of viewed action in the human motor pathways

Speaker: Ehud Zohary, Department of Neurobiology, Alexander Silberman Institute of Life Sciences, Hebrew University of Jerusalem, Israel

Neural theory for the visual perception of goal-directed actions and perceptual causality

Speaker: Martin A. Giese, Section for Computational Sensomotorics, Dept. for Cognitive Neurology, HIH and CIN, University Clinic Tübingen, Germany

Authors: Falk Fleischer^{1,2}, Vittorio Caggiano^{2,3}, Jörn Pomper², Peter Thier2; 1Section for Computational Sensomotorics, 2Dept. for Cognitive Neurology, HIH and CIN, University Clinic Tübingen, Germany, ³McGovern Institute for Brain Research, M.I.T., Cambridge, MA Supported by the DFG, BMBF, and EU FP7 projects AMARSI, ABC, and the Human Brain Project

S6 Understanding representation in visual cortex: why are there so many approaches and which is best?

Friday, May 16, 5:00 - 7:00 pm, Pavilion

Organizers: Thomas Naselaris & Kendrick Kay, Department of Neurosciences, Medical University of South Carolina & Department of Psychology, Washington University in St. Louis

Presenters: Thomas Naselaris, Marcel van Gerven, Kendrick Kay, Jeremy Freeman, Nikolaus Kriegeskorte, James J. DiCarlo, MD, PhD

Central to visual neuroscience is the problem of representation: what features of the visual world drive activity in the visual system? In recent years a variety of new methods for characterizing visual representation have been proposed. These include multivariate pattern analysis, representational similarity analysis, the use of abstract semantic spaces, and models of stimulus statistics. In this symposium, invitees will present recent discoveries in visual representation, explaining the generality of their approach and how it might be applicable to future studies. Through this forum we hope to move towards an integrative approach that can be shared across experimental paradigms.

Visual representation in the absence of retinal input

Speaker: Thomas Naselaris, Department of Neurosciences, Medical University of South Carolina, Charleston, SC

Learning and comparison of visual feature representations?

Speaker: Marcel van Gerven, Donders Institute for Brain, Cognition and Behaviour

Identifying the nonlinearities used in extrastriate cortex

Speaker: Kendrick Kay, Department of Psychology, Washington University in St. Louis

Carving up the ventral stream with controlled naturalistic

Speaker: Jeremy Freeman, HHMI Janelia Farm Research Campus Authors: Corey M. Ziemba, J. Anthony Movshon, Eero P. Simoncelli, and David J. Heeger Center for Neural Science New York University, New York, NY

Vision as transformation of representational geometry

Speaker: Nikolaus Kriegeskorte, Medical Research Council, Cognition and Brain Sciences Unit, Cambridge, UK

Modern population approaches for discovering neural representations and for discriminating among algorithms that might produce those representations

Speaker: James J. DiCarlo, MD, PhD, Professor of Neuroscience Head, Department of Brain and Cognitive Sciences Investigator, McGovern Institute for Brain Research Massachusetts Institute of Technology, Cambridge, USA

Authors: Ha Hong and Daniel Yamins Department of Brain and Cognitive Sciences and McGovern Institute for Brain Research Massachusetts Institute of Technology, Cambridge, USA

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).

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First Digit - Day	Second Digit - Time Period
2 Saturday	1 Early AM talk session
3 Sunday	2 Late AM talk session

Late AM talk session 3 AM poster session

4 Early PM talk session 5 Late PM talk session 6 PM poster session

Third Digit - Room

1 Talk Room 1 2 Talk Room 2

3 Jacaranda Hall

4 Banyan Breezeway 5 Pavilion

Fourth/Fifth Digits - Number

1, 2, 3... For talks 01, 02, 03... For posters

Examples:

Monday

Tuesday

6 Wednesday

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

36.513 Sunday, PM poster in Banyan Breezeway, poster board 513

53.306 Tuesday, AM poster in Jacaranda Hall, 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).

Saturday Morning Talks

Perception and action: Locomotion

Saturday, May 17, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Brett Fajen

21.11, 8:15 am Influence of optic flow on the control of walking toward a goal Li Li, Diederick Niehorster, William Warren, Benjamin Bolte, Phil Wieland, Markus Lappe

21.12, 8:30 am Homing with audio landmarks and path integration Norbert Boeddeker, Alessandro Moscatelli, Marc Ernst

21.13, 8:45 am The critical period for the visual control of foot placement in complex terrain occurs in the preceding step Jonathan Matthis, Sean Barton, Brett Fajen

21.14, 9:00 am Multi-Agent Simulation of Collective Behavior in **Human Crowds** William Warren, Stéphane Bonneaud

21.15, 9:15 am Modeling uncertainty and intrinsic reward in a virtual walking task Matthew H. Tong, Mary M. Hayhoe

21.16, 9:30 am Fast mirroring of an opponent's action in a competitive game Ken Nakayama, Sarah Cormiea, Maryam Vaziri Pashkam

Motion Perception: Neural mechanisms and modeling

Saturday, May 17, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Concetta Morrone

22.11, 10:45 am Bidirectional manipulation of GABAergic inhibition in MT: A comparison of neuronal and psychophysical performance Liu Liu, Christopher Pack

22.12, 11:00 am **Development of visual BOLD response in infants** Maria Concetta Morrone, Laura Biagi, Sofia Crespi, Michela Tosetti

22.13, 11:15 am Neural dynamics of fine direction-of-motion discrimination Jacek Dmochowski, Anthony Norcia

22.14, 11:30 am Forward displacement of expanding and contracting lines beyond their point of disappearance Robert Tilford, Romi Nijhawan

22.15, 11:45 am Rethinking the aperture problem: a story of competing priors Edgar Walker, Wei Ji Ma

22.16, 12:00 pm Unified representation of motion and motion streak patterns in a model of cortical form-motion interaction Stephan Tschechne, Heiko Neumann

22.17, 12:15~pm No dedicated color motion system Remy Allard, Jocelyn Faubert

Attention: Control

Saturday, May 17, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Hans Super

21.21, 8:15 am Location specific and non-specific effects of suppressed feature singletons on visual processing. Joo Huang Tan, Po-Jang Hsieh

21.22, 8:30 am Two stages of attentional filtering during sequential evidence integration in human perceptual decision-making Valentin Wyart, Nicholas Myers, Christopher Summerfield

21.23, 8:45 am Role of vergence during eye fixation in orienting visual attention Hans Supèr, Josep Marco, Laura Perez Zapata, Jose Cañete Crespillo, Maria Solé Puig

21.24, 9:00 am The timecourse of the attentional bias to regularities Jiaying Zhao, Nicholas B. Turk-Browne

21.25, 9:15 am Statistical regularities alter the spatial scale of attention Yu Luo, Jiaying Zhao

21.26, 9:30 am Global/local object structure affects memorydriven capture of attention Markus Conci, Hermann J. Müller

Attention: Features and objects

Saturday, May 17, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Emily Ward

22.21, 10:45 am Stimulus competition modulates the joint effects of spatial and feature-based attention on visual sensitivity Alex White, Martin Rolfs, Marisa Carrasco

22.22, 11:00 am Feature-based attention elicits surroundsuppression in color space Viola S. Störmer, George A. Alvarez

22.23, 11:15 am Neural coding of perceptual features is enhanced when they are task relevant Emily Ward, Marvin Chun

22.24, 11:30 am The time-course of feature-selective attention inside and outside the focus of spatial attention Søren K. Andersen, Steven A. Hillyard

22.25, 11:45 am **Measuring the salience of an object in a scene** Alasdair Clarke, Michal Dziemianko, Frank Keller

22.26, *12:00 pm* **Attentional constraints on human foraging** Arni Kristjansson, Omar Johannesson, Ian M. Thornton

22.27, 12:15 pm The Effect of Semantic and Syntactic Object Properties on Attentional Allocation in Naturalistic Scenes George Malcolm, Sarah Shomstein

Saturday Morning Posters

Visual memory: Objects, features and individual differences

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 23.301 Ponzo inducers in the working memory produce Illusory line length perception Feitong Yang, Jonathan Flombaum
- 23.302 Visual search for digits is faster when numerical and physical size are congruent Kenith Sobel, Amrita Puri
- 23.303 Aging and visual memory: Modified method of single stimuli reveals biases and imprecision J. Farley Norman, Jacob Cheeseman, Michael Baxter, Kelsey Thomason, Olivia Adkins, Connor Rogers
- 23.304 Building tolerant long-term memories through (object) persistence Mark W. Schurgin, Zachariah M. Reagh, Michael A. Yassa, Jonathan I. Flombaum
- 23.305 Reduced competition among contextually associated objects enhances detail memory for briefly glimpsed images Nurit Gronau, Meytal Shachar
- 23.306 **Forgetting induced by recognition of visual images** Ashleigh Maxcey, Geoffrey Woodman
- 23.307 Does drawing skill relate to better memory of local or global object structure? Florian Perdreau, Patrick Cavanagh
- 23.308 **Constructing Gestalt in Visual Working Memory** Mowei Shen, Qiyang Gao, Ning Tang, Rende Shui, Shulin Chen, Zaifeng Gao
- 23.309 Bringing the 'real-world' into cognitive science: real objects are more memorable than pictures Taylor Coleman, Rafal Skiba, Alexis Carroll, Scott Turek, Marian Berryhill, Jacqueline Snow
- 23.310 Through the fence or behind the wall: Occlusion type affects object memory Karla Antonelli, Eumji Kang, Carrick Williams
- 23.311 Emotional faces in visual working memory are not easily forgotten: Distractor effects on memory-guided visual search Risa Sawaki, Jane Raymond
- 23.312 Feature as the basic storage unit of visual working memory Benchi Wang, Zhiguo Wang
- 23.313 **Feature and object representations in visual working memory are subject to top-down control** Amanda E. van Lamsweerde, Jeffrey S. Johnson
- 23.314 The contribution of attentional lapses to estimates of individual differences in working memory capacity. Irida Mance, Kirsten Adam, Keisuke Fukuda, Edward Vogel
- 23.315 Trial-by-trial fluctuations in working memory performance predict individual differences in working memory capacity Kirsten Adam, Irida Mance, Keisuke Fukuda, Edward Vogel
- 23.316 Spatial Working Memory in Children With High-Functioning Autism: Intact Configural Processing But Impaired Capacity Yuhong V. Jiang, Christian G. Capistrano, Bryce E. Palm
- 23.317 The relationship between vividness of visual imagery and indirect size-measurements of the visual cortex Kang Yong Eo,

Oakyoon Cha, Yaelan Jung, Sang Chul Chong

Perceptual organisation: Neural mechanisms and models

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 23.318 **EEG frequency-tagging yields a neural signature of integration of parts into perceptually organized wholes** Nihan Alp, Naoki Kogo, Goedele Vanbelle, Johan Wagemans, Bruno Rossion
- 23.319 Competition-based ground suppression in extrastriate cortex and the role of attention Laura Cacciamani, Paige E. Scalf, Mary A. Peterson
- 23.320 Decoding orientation of visual stimuli from human magnetoencephalography data Radoslaw Cichy, Dimitrios Pantazis
- 23.321 A Meta-analysis of Multi-voxel Patterns in the Ventral Stream Marc N Coutanche, Sarah H Solomon, Sharon L Thompson-Schill
- 23.322 Case study of unexplained visual field loss and perceptual deficits in the presence of normal early visual function Christina Moutsiana, Radwa Soliman, Lee de-Wit, Martin I. Sereno, Gordon Plant, D. Samuel Schwarzkopf
- 23.323 Increased alpha band activity indexes inhibitory competition across a border during figure assignment Joseph L. Sanguinetti, Logan T. Trujillo, David M. Schnyer, John J. B. Allen, Mary A. Peterson
- 23.324 **Direct neurophysiological measurement of surround suppression in humans** Marta Isabel Vanegas-Arroyave, Annabelle Blangero, Simon Kelly
- 23.325 Ventral and dorsal streams in cortex: focal vs. ambient processing/exploitation vs. exploration Bhavin Sheth, Ryan Young
- 23.326 Anatomically-driven Visual Neural Model Assessments Predict Temporal Thresholds Associated with the Dorsal and Ventral Systems Steven R. Holloway, Michael K. McBeath
- 23.327 **A bidirectional link between neuronal oscillations and geometrical patterns** Federica Mauro, Antonino Raffone, Rufin VanRullen
- 23.328 Modulation of orientation discrimination in artificial scotoma zone with transcranial direct current stimulation Latifa Lazzouni, Dave Saint-Amour
- 23.329 Lateral interactions in schizophrenia: What is the role of spatial frequency? Brian Keane, Sabine Kastner, Danielle Paterno, Genna Erlikhman, Steven Silverstein
- 23.330 Testing the Stationary Variability Assumption in Signal Detection Theory Carlos Cabrera, Zhong-Lin Lu, Barbara Dosher
- 23.331 A Bayesian observer model constrained by efficient coding accounts for both attractive and repulsive biases $\rm Xue\mbox{-}Xin\mbox{-}Wei\mbox{,} Alan\mbox{-}Stocker$
- 23.332 Computational Mechanisms Responsible for the Hermann Grid Illusion Rosemary Le, David Alex Mely, Thomas Serre
- 23.333 Border-ownership computation reflecting consistency of surface properties Naoki Kogo, Vicky Froyen
- 23.334 Normative Data for Forty, Morphing, Line Drawn Picture Sets Elisabeth Stoettinger, Nazanin Mohammadi Sepahvand, Nadine Ouehl, James Danckert, Britt Anderson

VSS 2014 Program Saturday Morning Posters

Perceptual organisation: Contours and surfaces

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

23.335 **Properties of Spatiotemporal Boundary Formation** Gennady Erlikhman, Gideon Caplovitz, Philip Kellman

23.336 Combination of contour convexity and accretion/deletion in the perception of relative depth Ö. Dağlar Tanrıkulu, Vicky Froyen, Lynn Ma, Jacob Feldman, Manish Singh

23.337 **Visual adaptation to symmetry** Elena Gheorghiu, Jason Bell, Frederick A.A. Kingdom

23.338 Is 20/20 vision good enough? Visual acuity differences within the normal range alter performance on contour grouping tasks Danielle Paterno, Brian Keane, Sabine Kastner, Steven Silverstein

23.339 Contour integration and its independence from attention, awareness, and task-relevance Michael Pitts, Antigona Martinez, Steve Hillyard

23.340 Contour perception across time and eye movements William Harrison, Peter Bex

23.341 Conscious awareness is necessary for the integration of orthogonal but not collinear contours $Ya \ Li$, $Sheng \ Li$

23.342 **Spatially-global interpolation of closed curves** Taekyu Kwon, Yunfeng Li, Michael Scheessele, Aaron Michaux, Zygmunt Pizlo

23.343 Sparseness and Surface Representation in the Generation of Curvature Selectivity Yasuhiro Hatori, Tatsuroh Mashita, Ko Sakai

Color and light: Lightness and brightness

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.401 When comparing illumination conditions observers rely more on cast shadows than on highlights and shading. Susan F. te Pas, Sylvia C. Pont, Edwin S. Dalmaijer, Ignace T.C. Hooge

23.402 The influence of scene layout and content on the perception of light direction in real scenes Ling Xia, Sylvia Pont, Ingrid Heynderickx

23.403 Predictive Coding of Shape Affects the Perceived Luminance of the Surrounding Region Biao Han, Rufin VanRullen

23.404 Influence of spatial structure with no explicit luminance information on lightness perception Kei Kanari, Hirohiko Kaneko

23.405 Luminance gradient configuration determines perceived lightness in a simple geometric illusion Maria Pereverzeva, Scott O. Murray

23.406 **Size and color do matter in the prediction of brightness** Martijn Withouck, Kevin A. G. Smet, Wouter R. Ryckaert, Jeroen Wattez, Geert Deconinck, Peter Hanselaer

23.407 Temporal dynamics of brightness induction from motion in context Sang Wook Hong, Min-Suk Kang

23.408 Predicting lightness rankings from image statistics of matte and glossy surfaces Matteo Toscani, Matteo Valsecchi, Karl Gegenfurtner

23.409 Modeling asymmetric responses to increments and decrements in brightness, disk-annulus, and staircase-Gelb paradigms Michael Rudd

23.410 Why do failures of lightness constancy take the form of gamut compression? Alan Gilchrist, Stephen Ivory

23.411 Anchoring Theory, Staircase Gelb Effect, and Gamut Compression. Stephen Ivory, Alan Gilchrist

23.412 Goal-seeking approaches to characterize non-CRT as well as CRT displays for vision experiments Hiroshi Ban, Hiroki Yamamoto

23.413 **The Perceived Quality of Undistorted Natural Images** David Kane, Marcelo Bertalmio

23.414 A perceptually uniform tone curve for OLED and other high dynamic range displays Andy Vargas, Paul Johnson, Joohwan Kim, David Hoffman

23.415 A model of color constancy and efficient coding can predict lightness induction Marcelo Bertalmío

23.416 **Chromatic and Luminance Asymmetries in the Watercolor Effect** Andrew Coia, Kamila Flake, Scott Arn, Gwen Amsrala, Michael Crognale

23.417 Figure-ground inversion by neon-color spreading Yong-Guk Kim

23.418 Indirect and direct manipulation of saturation modulates the light levels at which brown stimuli can be perceived Tanner DeLawyer, Steven Buck

Eye movements: Cognition

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

23.419 A Boundedly Optimal State Estimation & Control Model of Detecting Targets Among Salient Distractors Christopher Myers, Nicole Jardine, Joseph Houpt, Andrew Howes, Richard Lewis

23.420 Chess players' eye movements reveal rapid recognition of complex visual patterns Heather Sheridan, Eyal Reingold

23.421 Dissociating Semantic and Pragmatic Information in Eye Movement Data for Image Processing Tasks Takeshi Suzuki, Yannik T. H. Schelske, Tandra Ghose

23.422 **Do task demands influence the perception of symmetry?** Sandra Utz, Claus-Christian Carbon

23.423 The influence of spatio-temporal structure on sequential eye and arm movements to remembered visual targets Tasneem Barakat, David C. Cappadocia, Khashayar Gharavi, Mazyar Fallah, J. Douglas Crawford

23.424 The influence of prediction violations on eye movement patterns in a LTM-driven multi-step sensorimotor task Rebecca M. Foerster, Werner X. Schneider

23.425 The antisaccade task: Sensory- and motor-related costs to oculomotor planning Jesse DeSimone, Gabriella Aber, Matthew Heath

23.426 The asymmetrical weighting of target eccentricities within a trial block influences antisaccade endpoint bias Caitlin Gillen, Jennifer Diamond, Matthew Heath

23.427 Unidirectional switch-costs in oculomotor control are a result of a stimulus-response updating: Evidence from electroencephalography Jeff Weiler, Cameron Hassall, Olave Krigolson, Matthew Heath

23.428 The latencies of prosaccades are prolonged by both executed and planned (but not executed) prior antisaccades Shanna Yeung, Cristina Rubino, Jayalakshmi Viswanathan, Jason Barton

23.429 Influence of task switching on inhibition of return and scan paths Mark Mills, Edwin Dalmaijer, Stefan Van der Stigchel, Michael D. Dodd

Saturday Morning Posters VSS 2014 Program

23.430 Modulation of alpha power by eye state during kinesthetic motor imagery (KMI) of a newly learned dance sequence in experts

Paula M Di Noto, Julie M Chartrand, Gaby Levkov, Joseph DeSouza

- 23.431 Actions in the Eye Stefan Mathe, Cristian Sminchisescu
- 23.432 Executive functioning can mediate age-related changes in oculomotor attentional disengagement Benjamin Lester, Shaun Vecera, Matthew Rizzo
- 23.433 Infant Saccadic Behavior Influenced by Novelty and Familiarity of Stimuli in the Periphery Lisa Cantrell, Richard Veale, Linda Smith
- 23.434 **Attachment Style Influences Saccades** Jessica A. Maxwell, J. Eric T. Taylor, Jay Pratt, Penelope Lockwood
- 23.435 The sensory identification of word centers during reading: A Bayesian model André Krügel, Ralf Engbert
- 23.436 Effects of perceptual expertise in detecting letter transpositions on QWERTY keyboards Carl M. Mann, Valerie Benson, Nick Donnelly
- 23.437 **Eye Movements of Dry Eye (DE) Patients During Reading.** William Ridder, III, Eric Borsting, Pat Yoshinaga, Hoang Vy Ha, Stephen Ridder
- 23.438 Using RSVP and Eye Movement Recording to Determine Usefulness of Information Content Definitions as Predictor for Reading Speed Yannik T. H. Schelske, Tandra Ghose, Thomas M. Breuel
- 23.439 **Predicting Visual Awareness by Looking into Eye Fixations** Chengyao Shen, Danyang Kong, Shuo Wang, Qi Zhao

Eye movements: Fixational

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 23.440 **Microsaccades scan highly informative image areas** Michael McCamy, Jorge Otero-Millan, Leandro Luigi Di Stasi, Stephen Macknik, Susana Martinez-Conde
- 23.441 Influence of Microsaccades on Contrast Sensitivity: Theoretical Analysis and Experimental Results Naghmeh Mostofi, Marco Boi, Michele Rucci
- 23.442 The characteristics of microsaccadic eye movements varied with the change of strategy in a match-to-sample task. Claudio Simoncini, Anna Montagnini, Laurent U. Perrinet, Guillaume S. Masson
- 23.443 Spatial Distribution of Slow Involuntary Fixational Eye Movements is Related to the Occurrence of Microsaccades and Their Shapes Debashis Sen, Chengyao Shen, Mohan Kankanhalli, Zhi Yang, Qi Zhao
- 23.444 **Characteristics of square-wave jerks in the macaque monkey** Francisco Costela, Jorge Otero-Millan, Michael McCamy, Stephen Macknik, Xoana Troncoso, Ali Najafian, Susana Martinez
- 23.445 **Hypobaric hypoxia increases intersaccadic drift velocity** Leandro L. Di Stasi, Raúl Cabestrero, Michael B. McCamy, Francisco Ríos, Andrés Catena, Pilar Quirós, Jose A. Lopez, Carolina Saez, Stephen L. Macknik, Susana Martinez-Conde
- 23.446 **Fixation strategies revealed by the retinal imaging** Girish Kumar, Susana Chung
- 23.447 **Non-Foveating Saccades and Fixations** Helga Mazyar, Bosco Tjan
- 23.448 Investigating task-dependent and stimulus-driven mechanisms of fixational saccades when detecting or discriminating a stimulus Sara Spotorno, Anna Montagnini

Face perception: Neural mechanisms

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

- 23.501 Increasing extent of category selectivity with increasing power. Joseph Arizpe, Dwight Kravitz, Emily Bilger, Chris Baker
- 23.502 Representations of individual faces in the right anterior temporal lobe are invariant across different partial views of faces. Stefano Anzellotti, Alfonso Caramazza
- 23.503 Exploring the functional organization of the superior temporal sulcus with a broad set of naturalistic stimuli Ben Deen, Nancy Kanwisher, Rebecca Saxe
- 23.505 **A single mechanism of temporal integration unites neural adaptation and norm-based coding** Marcelo Gomes Mattar, David Alexander Kahn, Geoffrey Karl Aguirre
- 23.506 Using Functional Magnetic Resonance Imaging to Explore the Flashed Face Distortion Effect Tanya Wen, Chun-Chia Kung
- 23.507 **Probing the representation of face and object orientation in human ventral visual cortex** Fernando Ramírez, Carsten Allefeld, John-Dylan Haynes
- 23.508 Face configuration processing in monkey cortex Qi Zhu, Wim Vanduffel
- 23.509 Expectations of faces and words differentially activate the primary visual cortex Jiangang Liu, Xin Jiang, Pu Zheng, Kang Lee
- 23.510 Consecutive TMS-fMRI: Remote effects of OFA disruption on the face perception network Lily M. Solomon-Harris, Jennifer K.E. Steeves
- 23.511 **The Occipital Face Area is Causally Involved in Viewpoint Symmetry Judgments of Faces** Tim C Kietzmann, Sam Ling, Sonia Poltoratski, Peter König, Randolph Blake, Frank Tong
- 23.512 What is a face? Talia Brandman, Galit Yovel
- 23.513 **Face animacy does not impact the N170 inversion effect** Alyson Saville, Carol Huynh, Benjamin Balas
- 23.514 Influence of autistic-like and empathetic traits on early ERPs to emotional faces Roxane J. Itier, Karly N. Neath
- 23.515 **Frequency coding of facial parts** Nicolas Dupuis-Roy, Daniel Fiset, Kim Dufresne, Frédéric Gosselin
- 23.516 **The N170** is driven by the presence of horizontal facial **structure** Ali Hashemi, Matthew V. Pachai, Patrick J. Bennett, Allison B. Sekuler
- 23.517 Effects of inversion and contrast-reversal on objective face detection thresholds revealed by sweep steady-state visual evoked potentials Joan Liu-Shuang, Justin Ales, Anthony Norcia, Bruno Rossion
- 23.518 Dissociation of Part-Based and Whole-Based Neurophysiological Responses to Faces by Means of EEG Frequency-Tagging Bruno Rossion, Anthony Norcia, Adriano Boremanse
- 23.519 Integrative processing of age, gender and ethnicity of faces: an ERP study Esther Alonso-Prieto, Jason J S Barton
- 23.520 The time-course of face-selective ERP activation during ultra-rapid saccades Jacob Martin, Max Riesenhuber, Simon Thorpe

VSS 2014 Program Saturday Morning Posters

3D Perception: Space

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

- 23.521 Outer-edge Disparity Determines The Depth of Panum's Limiting Case and Classical Stereopsis Huayun Li, Laipeng Jing, Ruoyun Xu, Dongchuan Yu
- 23.522 Background Texture Nonlinearly Modulates Distance Effect on Perceived Size Chia-Ching Wu, Chien-Chung Chen
- 23.523 **Miscalibration of depth cues in the developing visual system** Marko Nardini, Katarina Begus, Denis Mareschal
- 23.524 Shape aftereffects reflect shape constancy operations: Appearance matters Katherine Storrs, Derek Arnold
- 23.525 **Correct blur and accommodation information is a reliable cue to depth ordering.** Marina Zannoli, Rachel A. Albert, Abdullah Bulbul, Rahul Narain, James F. O'Brien, Martin Banks
- 23.526 **Are blur and disparity complementary cues to depth?** Michael Langer, Ryan Siciliano
- 23.527 Modulation of distance estimation of visual object by stimulation of vergence and accommodation Masahiro Ishii
- 23.528 Judgments of egocentric distance within indoor and outdoor environments: Context matters with restricted and unrestricted fields of view. Daniel A. Gajewski, Sandra Mihelič, Courtney P. Wallin, John W. Philbeck
- 23.529 Both own and other object shadows compress perceived distance Christopher Kuylen, Benjamin Balas, Laura Thomas
- 23.530 Large systematic biases in pointing to real and virtual unseen targets. Jenny Vuong, Lyndsey C. Pickup, Andrew Glennerster
- 23.531 Direct manipulation of perceived angular declination affects perceived size and distance: A replication and extension of Wallach and O'Leary (1982). Morgan Williams, Frank Durgin
- 23.532 **Extending Size Constancy Illusions from 2-D to 3-D Stimuli** Joshua Dobias, Anuja Sarwate, Thomas Papathomas
- 23.533 **Electrophysiological correlates of size constancy** Irene Sperandio, Juan Chen, Melvyn Goodale
- 23.534 Depth detection thresholds for disparate subjective occluders decrease with inducer entropy. Barbara J Gillam, Barton L Anderson
- 23.535 What is stable in visual stability? Andrew Glennerster
- 23.536 **Which way is up in the horizontal-vertical illusion?** Brennan Klein, Zhi Li, Durgin Frank
- 23.537 **Water Flows Uphill: A Visual Illusion and Its Explanation** Wenxun Li, Ethel Matin, Leonard Matin
- 23.539 **Short-term visual memory for stereoscopically-defined depth** Adam Reeves, Quan Lei
- 23.540 Effect of Different Directions of Attentional Shift on Inhibition of Return in Three-dimensional Space Aijun Wang, Qi Chen, Ming Zhang
- $23.541 \ \textbf{Visual image encoding and transformation processes} \ \textbf{in three dimensional immersive virtual environments} \ \mathbf{Maria} \ \mathbf{Kozhevnikov}$
- 23.542 Does gaze declination contribute to shape constancy on level ground? A comparison of perceived shapes on outdoor hills and fields Zhi Li, Frank Durgin
- 23.543 **Angular expansion theory turned on its side** Frank Durgin, Zhi Li, Brennan Klein

Visual memory: Mechanisms and models

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

- 23.544 Guidance of object-based attention from neural signatures of memory J. Benjamin Hutchinson, Nicholas B. Turk-Browne
- 23.545 Practice abolishes similarity's influence on VSTM-induced interference on perception Nicholas M. Van Horn, Alexander A. Petrov
- 23.546 Bayesian adaptive estimation of the sensory memory decay function: the quick Partial Report method Jongsoo Baek, Luis Lesmes, Zhong-Lin Lu
- 23.547 The uninformativeness of summary statistics for comparing working memory models Wei Ji Ma, Ronald Van den Berg
- 23.548 Models of color working memory with color perception as a variable Gi-Yeul Bae, Maria Olkkonen, Sarah Allred, Colin Wilson, Jonathan Flombaum
- 23.549 The Binding Pool model of VWM: A model for storing individuated objects in a shared resource pool Garrett Swan, Brad Wyble
- 23.550 Compensation Mechanisms for Poor Filtering Ability in Visual Working Memory Ayala S. Allon, Roy Luria
- 23.551 When common-fate fails: The limited reach of Gestalt grouping cues in online object binding in visual working memory Halely Balaban, Roy Luria
- 23.552 Neural Signatures of Visual Memorability: Memory in the First Perception of an Image Wilma A. Bainbridge, Aude Oliva
- 23.553 Dissociable Neural Mechanisms for Capacity & Resolution in Visual Working Memory Marcus Cappiello, Weizhen Xie, Weiwei Zhang
- 23.554 **The Neural Fate of Individual Item Representations in Visual Working Memory** Gennadiy Gurariy, Dwight Peterson, Marian Berryhill, Gideon Caplovitz
- 23.555 The effect of biased competition within sequential displays on visual short-term memory Claire E. Miller, Niklas Ihssen, David E. J. Linden, Kimron L. Shapiro
- 23.556 Fine-grained representation of visual object information retrieved from long-term memory Sue-Hyun Lee, Dwight Kravitz, Chris Baker
- 23.557 **Sharp emergence of working memories along the primate dorsal visual pathway** Diego Mendoza-Halliday, Santiago Torres, Julio Martinez-Trujillo
- 23.558 Right-hemisphere dominance in visual working memory for color-shape binding ${\bf Jun\ Saiki}$
- 23.559 **A link between brain structure/connectivity and visual short-term memory capacity** Ilja G. Sligte, Andries R. van der Leij, Kimron L. Shapiro, H. Steven Scholte
- 23.560 Probing the neural basis of visual working memory: A validation study using fMRI and fNIRS Sobanawartiny Wijeakumar, Vincent Magnotta, Aaron Buss, John Spencer
- 23.561 Using EEG to assess the relationship between loaddependent changes in alpha-band power and visual cortex excitability Andrew Heinz, Jeffrey Johnson

Saturday Morning Posters VSS 2014 Program

Object recognition: Reading

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

23.562 The remarkably fast temporal resolution of feature integration in letter perception Ron Chu, Steve Joordens

23.563 Individual differences in visual lexical decision are highly correlated with orientation tuning Justin Duncan, Jessica Royer, Geneviève Forest, Daniel Fiset

23.564 **An optimal viewing position for object processing** Lotje van der Linden, Françoise Vitu

23.565 Context effects in reading depend on reading speed and print size Steve Mansfield, Kelsey Hanrahan

23.566 Word-length Effects and Word Inversion Effects: A Study of Perceptual Transforms in the Reading of Single Words Laura Eklinder Björnstrom, Charlotte Hills, Hashim Hanif, Jason Barton

23.567 **Learning to read upside-down: a study of perceptual expertise and acquisition** Cristina Rubino, Elsa Ahlen, Charlotte S. Hills, Hashim M. Hanif, Jason J. S. Barton

23.568 **Processing of words and text in prosopagnosia** Charlotte Hills, Cristina Rubino, Claire Sheldon, Raika Pancaroglu, Jodie Davies-Thompson, Jason Barton

23.569 **Symbolic object representation in visual cortex** Jodie Davies-Thompson, Taim Muayqil, Jason JS Barton

23.570 Representation of word identity and font in visual cortex Lars Strother, Alexandra Coros, Tutis Vilis

23.571 Orthographic and lexical sensitivity to words in the ventral occipitotemporal cortex Qiujie Weng, Hao Zhou, Lan Wang, Sheng He

23.572 Neural correlates of font sensitivity effects in the perception of simplified and traditional Chinese characters Tianyin Liu, Janet Hui-wen Hsiao

23.574 Writing reduces holistic processing but does not facilitate reading: The case in Chinese children with developmental dyslexia. Ricky Van-yip Tso, Cecilia Nga-wing Leung, Terry Kit-fong Au, Janet Hui-wen Hsiao

23.575 **Development and Validation of a Chinese Reading Acuity Chart** Lin-Juan Cong, Cong Yu, Lei Liu

23.576 An Art Meets Science: Subtle Typeface Design Characteristics Affect Word Legibility in Brief Glances Jonathan Dobres, Nadine Chahine, Bryan Reimer, David Gould, Bruce Mehler, Brahmi Pugh, Stephen Arredondo

Object recognition: Categories

Saturday, May 17, 8:30 am - 12:30 pm Poster Session, Pavilion

23.577 Exploring the representational geometry of object representation in the ventral stream using brain-behavior correlations Michael A. Cohen, Talia Konkle, Ken Nakayama, George A. Alvarez

 $23.578 \ \textbf{Emergence of orientation invariant representations within the visual cortex \ Morgan \ Henry, \ George \ A. \ Alvarez$

23.579 Differential rate of temporal processing across categoryselective regions in human high-level visual cortex Anthony Stigliani, Kevin S. Weiner, Kalanit Grill-Spector

23.580 **Real-world size improves object recognition in visual form agnosia** Jacqueline Snow, Taylor Coleman, Melvyn Goodale

23.581 fMRI activation and connectivity in the dorsal and ventral visual streams for elongated and stubby tools and non-tools Juan Chen, Melvyn Alan Goodale, Jody C Culham, Jacqueline C Snow

23.582 Concept Formation and Categorization of Complex, Asymmetric and Impossible Figures Sarah Shuwairi, Rebecca Bainbridge, Gregory Murphy

23.583 Comparison of Object Recognition Behavior in Human and Monkey Rishi Rajalingham, Kailyn Schmidt, James J. DiCarlo

23.584 **The clash of visual categories** Marlène Poncet, Ramakrishna Chakravarthi, Michèle Fabre-Thorpe

23.585 Contextual modulation of competing interpretations in early object recognition Mohammed Islam, Thomas Sanocki

23.586 **Greater Oxygenation of Prefrontal Cortex During Information-Integration (vs. Rule-Based) Category Learning**Audrey Hill, Corey Bohil, Andrew Wismer

23.587 **P300** variability during target detection in natural images: Implications for single-trial classification Jon Touryan, Amar Marathe, Anthony Ries

23.588 **Does Implicit Learning Play a Role in Base-rate Sensitivity?** Andrew Wismer, Corey Bohil

Saturday Afternoon Talks

Eye movements: Perception and mechanisms

Saturday, May 17, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Michele Rucci

24.11, 2:30 pm Natural vision effects on contrast sensitivity and their correlation with macaque V1 activity James Niemeyer, Michael Paradiso

24.12, 2:45 pm Representing space in time during ocular drift Claudia Cherici, Murat Aytekin, Michele Rucci

24.13, 3:00 pm Binocular head/eye coordination during natural fixation Martina Poletti, Murat Aytekin, Michele Rucci

24.14, 3:15 pm **High-precision control of binocular gaze** Matteo Valsecchi, Karl R. Gegenfurtner

24.15, 3:30 pm Eye-movements and the neural basis of context effects on temporal sensitivity Qasim Zaidi, Robert Ennis, Dingcai Cao, Barry Lee

24.16, 3:45 pm Dissociating temporal inhibition of return and saccadic momentum across multiple eye-movement tasks Steven G. Luke, Tim J. Smith, Joseph Schmidt, John M. Henderson

24.17, *4:00 pm* **The pupillary light response reflects eye-movement preparation** Sebastiaan Mathôt, Lotje van der Linden, Grainger Jonathan, Françoise Vitu

Spatial vision: Crowding and context

Saturday, May 17, 5:15 - 6:45 pm Talk Session, Talk Room 1 Moderator: Ruth Rosenholz

25.11, 5:15 pm **Crowding, grouping, timing** Mauro Manassi, Aaron Clarke, Vitaly Chicherov, Michael H. Herzog

25.12, 5:30 pm Effects of grouping on crowding with informative flankers Shaiyan Keshvari, Ruth Rosenholtz

25.13, 5:45 $\it pm$ Saccades alter crowding in the parafovea $\it Laura$ Walker, Saeideh Ghahghaei

25.14, 6:00 pm Peripheral object recognition with informative natural context Ruth Rosenholtz, Maarten Wijntjes

25.15, 6:15 pm Highly abnormal visual context processing in older adults Michael Melnick, Kevin Dieter, Duje Tadin

25.16, 6:30 pm Localized BOLD fMRI Responses in V1 Reflect a Task-Dependent Mixture of Luminance Contrast and Pattern Context during Iso-Orientation Surround Suppression Michael-Paul Schallmo, Stefan R. Brancel, Andrea N. Grant, Cheryl A. Olman

Face Perception

Saturday, May 17, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: Christian Wallraven

24.21, 2:30 pm An Account of the Face Configural Effect Irving Biederman, Xiaokun Xu. Manan Shah

24.22, 2:45 pm Perceptual integration of kinematic components for the recognition of emotional facial expressions Enrico Chiovetto, Cristóbal Curio, Dominik Endres, Martin Giese

24.23, 3:00 pm Configural and featural facial information: integrality in normal face processing, separability in prosopagnosia Ruth Kimchi, Marlene Behrmann, Galia Avidan, Rama Amishav

24.24, 3:15 pm Retinotopic priors for eyes and mouth in face perception and face sensitive cortex Benjamin de Haas, D. Samuel Schwarzkopf, Ivan Alvarez, Linda Henriksson, Nikolaus Kriegeskorte, Geraint Rees

24.25, 3:30 ρm Data driven identification of functional organization Jason Webster, Ione Fine

24.26, 3:45 pm Making eye contact without awareness Apoorva Rajiv Madipakkam, Marcus Rothkirch, Erik Rehn, Philipp Sterzer

24.27, 4:00 pm Valence and arousal underlie evaluation of emotional and conversational facial expressions across cultures Christian Wallraven, Ahyoung Shin, Felix Biessmann

Visual search: Eye movements and mechanisms

Saturday, May 17, 5:15 - 6:45 pm Talk Session, Talk Room 2 Moderator: Christian P. Jansen

25.21, 5:15 pm Reinforcement modifies visual search in a structured background Celine Paeye, Alexander Schütz, Karl Gegenfurtner

25.22, 5:30 pm The dominance of color in guiding visual search: Evidence from mismatch effects Robert Alexander, Gregory Zelinsky

25.23, 5:45 pm Finding people in scenes: neural decoding target presence during search of dynamic scenes Eamon Caddigan, Barry Giesbrecht, Miguel Eckstein

25.24, $6:00\ pm$ The influence of salience-driven processes in overt visual selection $Mieke\ Donk$

25.25, 6:15 pm The low-prevalence effect is due to failures of attention, not premature search termination or motor errors: Evidence from passive search and eye-movements. Michael Hout, Steve Walenchok, Stephen Goldinger, Jeremy Wolfe

25.26, 6:30 pm **Stop & think: Looking into a scotoma** Christian P. Janssen, Preeti Verghese

Saturday Afternoon Posters

Development: Lifespan

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

26.301 The Reliability of Infant Accommodation and Vergence Responses in the Absence of Blur or Disparity Cues T. Rowan

Candy, Erin Babinsky, Tawna L. Roberts, Vivian Manh

26.302 Effects of External Noise on Contrast Sensitivity for Intact and Scrambled Faces in Infants Karen Dobkins, Emily Blumenthal, Melissa McIntire, Suzanne McDonald, Holly Bergen

26.303 Infants' visual fixations to novel objects after individual-level training ${\bf Eswen}$ ${\bf Fava}, {\bf Lisa}$ ${\bf Scott}$

26.304 An analysis of optic flow observed by infants during natural activities Florian Raudies, Rick Gilmore

26.305 Anticipatory Looking Paradigm for Visual Categorization in Infants Samuel Rivera, Vladimir Sloutsky

26.306 **Development of Category-Selective Domains in Infant Macaque Inferotemporal Cortex** Margaret Livingstone, Justin Vincent,
Tristram Savage, Krishna Srihasam

26.307 Cortical Correlates of Global Form and Motion in Infant Macaque Monkeys: A Comparison of hdEEG and Behavioral Responses Angela Voyles, Anthony M. Norcia, Lynne Kiorpes

26.308 **Developing Time-Based Visual Selection: The Preview Task in Children** Zorana Zupan, Elisabeth Blagrove, Derrick Watson

26.309 Effects of Eccentricity on Infants' Change Preference in a **VSTM Task** Mee-Kyoung Kwon, Steven Luck, Lisa Oakes

26.310 The Claim that Pre-School Children are Insensitive to Nonaccidental vs. Metric Shape Properties Challenged by Biologically-Based Shape Scaling Ori Amir, Irving Biederman

26.311 **Age-related differences in visuo-haptic integration** Jutta Billino, Knut Drewing

26.312 Without social cues it's male: Children perceive amorphous drawing of adults as male, but less so in social contexts Aenne Brielmann, Margarita Stolarova

26.313 **Visual search performance and IQ in 2-year-olds** Annalisa Groth, Sylvia Guillory, Erik Blaser, Zsuzsa Kaldy

26.314 **Development of audiovisual integration in central and peripheral vision** Yi-Chuan Chen, Terri L. Lewis, David I. Shore, Daphne Maurer

26.315 Reduced Perceptual Narrowing in Synaesthesia: Discrimination of Native and Non-native Stimuli. Julian K. Ghloum, Laura C. Gibson, Marcus Watson, Kathleen Akins, Lawrence Chen, James T. Enns, Janet F. Werker, Daphne Maurer

26.316 Neural correlates of own- and other-race face recognition in preschoolers: A functional near-infrared spectroscopy (fNIRS) study Xiao Pan Ding, Genyue Fu, Kang Lee

26.317 A Horse of a different color: Early visual environments in an Indian community Swapnaa Jayaraman, Linda Smith

26.318 Aging and the effect of size information on the control of braking Zheng Bian, George Andersen

26.319 Colour discriminability and flicker sensitivity measures improve detection rates of early Age-related Macular Degeneration. Matilda Biba, John Barbur

Perceptual organization: Segmentation, shapes and objects

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

26.320 Impaired perception of rigidity induced by the amodal completion of 3D structures in active and passive vision Carlo Fantoni, Walter Gerbino, Elena Milani, Fulvio Domini

26.321 Local Perturbations to a Global Radial Frequency Masker Alleviate Lateral Masking Effects Michael Slugocki, Allison Sekuler, Patrick Bennett

26.322 **Configural superiority reduces efficiency** Alexander Bratch, Aparna Srinath, Shawn Barr, William Bromfield, Jason Gold

26.323 **The Role of Feedback Processes in the Emergence of Visual Hallucinations** Christoph Teufel, Naresh Subramaniam, Veronika Dobler, Ian Goodyer, Paul Fletcher

26.324 Seeing and liking from the outside in: Consistent inward biases in visual perception and aesthetic preferences Yi-Chia Chen, Brian Scholl

26.325 **Shape distortion illusion of circles without prolonged viewing** Kenzo Sakurai

26.326 **Asymmetry in Perceived Shape Similarity for Novel Shapes** Patrick Garrigan, Katie Binns

26.327 **Perceived Occlusion Velocity for Fully Visible and Fragmented Shapes** Ricarda Moses, Tandra Ghose, Gennady Erlikhman, Philip J. Kellman

26.328 Contextual Information Modulates Unconscious Visual Processing in Early Visual Cortex Lihong Chen, Yi Jiang

26.329 Looking Beyond the Means: Rapid Learning of Prime-Display Relationship in a Semantic Priming Experiment Alisabeth Ayars, Andrew Mojica, Mary A Peterson

26.330 Global Influences on Figure Assignment: The Role of the Border $\operatorname{Michelle}$ Burrola, Mary A. Peterson

26.331 Using Extremal Edge to Decouple Closeness and Shape in Figure-Ground Perception Tandra Ghose, Mary A. Peterson

26.332 Context Effects on Figure-Ground Perception with Both Convexity and Extremal Edge Cues Katharina Mura, Tandra Ghose, Mary A. Peterson

26.333 **Neural Signals Underlying the Convexity Context Effect** Jordan Lass, Ali Hashemi, Patrick Bennett, Mary Peterson, Allison Sekuler

26.334 Can infants (5.5 months-old) use object repetition to segment objects from their backgrounds? Elizabeth Salvagio, Rebecca L. Gomez, Mary A. Peterson

26.335 Closure and global shape contributions to contour grouping Ingo Fründ, James H Elder

26.336 **Invariants of center-surround interactions** Sunwoo Kwon, Thomas Albright, Sergei Gepshtein

26.337 **Mechanisms of motion-based object segregation** Woon Ju Park, Duje Tadin

26.338 Perceptual Characteristics of Natural Contours and Their Contributions to Figure/Ground Segregation Ko Sakai, Ken Kurematsu, Shohei Matsuoka

VSS 2014 Program Saturday Afternoon Posters

Motion Perception: Depth, higher order, illusions

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.401 What do human observers see in dynamic image deformation? Takahiro Kawabe, Kazushi Maruya, Shin'ya Nishida

26.402 **Perception at isoluminance: Role of spatial resolution and background colour.** Mark Edwards, Kimbra Ransley, Jason Bell, Stephanie Goodhew

26.403 A paradox: Apparent onset locations for moving stimuli are more extrapolated following illusory reductions in speed. Paul Miller, Derek Arnold

26.404 Competing motion signals compromise to discrete perception Ryohei Nakayama, Isamu Motoyoshi, Takao Sato

26.405 **Jumping Frogs: Prior Knowledge Influences the Ternus Effect** Patty Hsu, Wil Cunningham, Jay Pratt

26.406 Revisiting the on-time effect: shorter exposure to static stimuli increases perceived velocity in apparent motion Alon Zivony, Dominique Lamy

26.407 **Rotating Snakes Illusion – Quantitative analysis reveals islands in luminance space with opposite illusory rotation** Michael Bach, Lea Gérard

26.408 Perception of Illusory Motion in the Rotating Snake by the Aged: Pupil Size and Retinal Illumination Patricia Cisarik, Gabriel Fickett

26.409 Illusory rotation and motion capture in Pinna illusion depend upon grouping of the superimposed elements. Makoto Ichikawa, Yuko Masakura

26.410 The effect of noise on motion binding is similar in younger and older adults Jessica N. Cali, Patrick J. Bennett, Allison B. Sekular

26.411 **Walking with Cornsweet: Polarity Reversals Induce Illusory Motion Percepts** Christopher Blair, Lars Strother, Gideon Caplovitz

26.412 **Temporal Context Effect is not Specific to Brightness** Joshua Erb, Chris Davies, Jorge Morales, Hakwan Lau

26.413 Can Preferential Looking be Used to Assess Depth Perception in Infants Who Are too Young to Reach? Vanessa Adamson, Tobias Donlon, Sherryse Corrow, Albert Yonas

26.414 Systematic biases in 3D motion perception as a function of sensory uncertainty Jacqueline M. Fulvio, Monica L. Rosen, Bas Rokers

26.415 Examining the role of eye movements in the size-speed illusion. Helen E. Clark, John A. Perrone

26.416 Minimum Motion/Pursuit Ratios for Unambiguous Depth Perception from Motion Parallax Jessica Holmin, Mark Nawrot

26.417 Illusory perception of alternating vertical apparent motion in sequential random texture displays Jake Smith, Yeram Cheong, John Rogers, Nicolas Davidenko

26.418 Sensitivity to Newtonian mechanical regularities in causal perception: Evidence from attention Jonathan Kominsky, Brent Strickland, Frank Keil

26.419 Differentiating between object-dependent and transient-dependent motion percepts through crowding $Zheng\ Ma$, $Michael\ McCloskey$, $Jonathan\ Flombaum$

26.420 **Tilt-rate perception in vehicle simulation: the role of motion, vision and attention** Paolo Pretto, Alessandro Nesti, Suzanne Nooij, Martin Losert, Heinrich Bülthoff

26.421 Automatic selection during simultaneous motion processing Reuben Rideaux, Mark Edwards

26.422 Facial feature changes are hard to track in the color wagon-wheel illusion Arthur Shapiro, William Kistler

26.423 **1st and 2nd order stimuli reaction time measures are very sensitive to mild traumatic brain injuries.** Jean-Claude Piponnier, Robert Forget, Isabelle Gagnon, Michelle Mckerral, Jean-François Giguère, Jocelyn Faubert

26.424 **Deterioration of visual motion perception in mesopic vision** Sanae Yoshimoto, Mariko Uchida-Ota, Katsunori Okajima, Tatsuto Takeuchi

Motion Perception: Neural mechanisms

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

26.425 The Responses of On-Off Directionally Selective Retinal Ganglion Cells to Sudden Motion-Onset Timothy Gawne, Allan Dobbins, Franklin Amthor

26.426 Effect of continuous theta burst stimulation (cTBS) of human brain areas MT+ and V1 on color and motion perception.

Shaleeza Kaderali, Yeon Jin Kim, Alexandre Reynaud, Kathy T. Mullen

26.427 Interpolated visual features during apparent motion are represented in primary visual cortex Ariana Familiar, Edmund Chong, Won Mok Shim

26.428 Global versus local: double dissociation between MT+ and V3a in motion processing revealed by a TMS study Nihong Chen, Peng Cai, Fang Fang

26.429 **Abnormal contrast saturation in V5/MT+ following damage to V1** Sara Ajina, Christopher Kennard, Geraint Rees, Holly Bridge

26.430 Dynamic neural encoding of component directions of transparently moving stimuli in cortical area MT Xin Huang, Jianbo Xiao

26.431 **Battenberg summation reveals larger psychophysical receptive fields for motion signals** Thomas McDougall, J. Edwin Dickinson, David R. Badcock

26.432 Interaction of color-defined and luminance-defined motion signals in human visual cortex Ichiro Kuriki, Hongfei Xie, Rumi Tokunaga, Kazumichi Matsumiya, Satoshi Shioiri

26.433 **Detection of phi and reverse-phi direction-specific responses using the steady-state VEP** Keiko Momose, Alexandra Yakovleva, Anthony Norcia

26.434 **A direct measure of the role of attention in apparent motion** Francesca Pei, Anthony Norcia

26.435 Behavioral consequences of perceptual decision-making in oculomotor brain structures Sung Jun Joo, Alexander C. Huk

26.436 **MEG Beta band oscillations index perceptual form/motion integration** Jean Lorenceau, Charles Aissani, Jacques Martinerie, Lydia Yahia Cherif, Anne-Lise Paradis

26.437 The effect of attention and dot coherence on fMRI responses to 3D structure-from-motion Cheng Qiu, Daniel Kersten, Cheryl A. Olman

26.438 FMRI correlates of visual motion processing in hearing and deaf adults Alexandra Levine, Shradha Billawa, Laura Bridge, Sally Clausen, Mark Hymers, Heidi Baseler

Saturday Afternoon Posters VSS 2014 Program

Perception and action: Neural mechanisms

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

26.501 Sensorimotor and cognitve changes following exercise with and without subconcussive head trauma Stuart Red, Alex Hacopian, Anne Sereno

26.502 **Rhythmic oscillations of visual contrast sensitivity triggered by voluntary action** Alice Tomassini, Marco Jacono, Giulio Sandini, Donatella Spinelli, Concetta Morrone

26.503 **"On the same wavelength": interpersonal alpha synchronization improves visual-motor coordination** Aleksandra
Sherman, David Brang, Casey Noble, Marcia Grabowecky, William
Horton, Vernon L. Towle, James X. Tao, Satoru Suzuki

26.504 **Temporal Stability of Reference Frames in a 3D Reaching Task in Monkey Area V6A** Patrizia Fattori, Kostas Hadjidimitrakis, Federica Bertozzi, Rossella Breveglieri, Claudio Galletti

26.505 Neural substrates for allocentric-to-egocentric conversion of target representation for memory-guided reach Ying Chen, J. Douglas Crawford

26.506 The event related potential technique and microstate analysis of memory guided and visually guided movements. Darian Cheng, Krista Fjeld, Gordon Binsted

26.507 Correct action affordance among unattended objects reduces their competition for representation in V4 Erica Wager, Glyn W. Humphreys, Paige E. Scalf

26.508 **Neural bases of planning and execution of functional grasps: an fMRI study** Lukasz Przybylski, Szymon Bidula, Mikolaj Pawlak, Gregory Kroliczak

26.509 **Tool use and representations of reachable space in the superior parietal lobe** Kristen Macuga, Scott Frey

26.510 Hand-dependent and hand-independent cerebral asymmetries in the praxis representation network during planning of functional grasps Gregory Kroliczak, Lukasz Przybylski, Szymon Bidula, Mikolaj Pawlak

26.511 Visual information shapes the dynamics of cortico-basal ganglia pathways during perceptual response selection and inhibition Sara Jahfari, Lourens J. Waldorp, K. Richard Ridderinkhof, H. Steven Scholte

26.512 Revisiting touch observation in anterior parietal cortex: vicarious activation in somatosensory cortex? Annie Chan, Chris Baker

26.513 Are You Gonna Eat That? (Your brain says "yes," but your body says "maybe.") Jason Flindall, Kayla Stone, Claudia Gonzalez

26.514 **2D** vs **3D** visualization modalities and their effects on motor related potentials

Teresa Sollfrank, Daniel Hart, Rachel Goodsell, Jonathan Foster, Andrea Kübler, Tele Tan

Attention: Capture

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

26.515 The Effects of Spatial and Temporal Predictability on Reaction Time in a Continuous Performance Task: Predicting Where but Not When. Benjamin DeCorte, Amanda van Lamsweerde, Melissa Beck

26.516 Effects of implicit learning and explicit knowledge on the spatial suppression of irrelevant distractors Yoolim Hong, Rachael E. Gwinn, Andrew B. Leber

26.517 Task-irrelevant attentional capture by salient expanding motion Michiteru Kitazaki, Yuta Murofushi, Jun Kawahara

26.518 Biasing attention with a surprise non-singleton feature Gernot Horstmann

26.519 Targets previously associated with a unique response attract attention Rachael E. Gwinn, Andrew B. Leber

26.520 Categorical capture of attention Caroline Barras, Dirk Kerzel

26.521 **Semantic Priming Produces Contingent Attentional Capture by Conceptual Content** Charles Folk, Alex Berenato, Brad Wyble

26.522 Task-irrelevant faces capture attention regardless of perceptual load Shiori Sato, Jun Kawahara

26.523 **The role of biological form in reflexive orienting** Alvin X. Li, Maria Florendo, Luke E. Miller, Ayse P. Saygin

26.524 **Attentional capture by signals of threat** Jan Theeuwes, Lisette J. Schmidt, Artem V. Belopolsky

26.525 **The Role of Rapid Disengagement in Overcoming Attentional Capture** Tashina Graves, Hrag Pailian, Howard Egeth

26.526 An Inability to Set Independent Attentional Control Settings by Hemisphere Mark W. Becker, Susan M. Ravizza, Chad Peltier

26.527 Capturing Attention: Fixation Not Required Joanna Lewis, Mark Neider

26.528 Correction of distractor-bound saccades depends on available evidence of error. Nicholas DiQuattro, Joy Geng

26.529 **Dual processes of oculomotor capture by abrupt onset: Rapid involuntary capture and sluggish voluntary prioritization** Yue Qi, Feng Du , Xingshan Li, Kan Zhang

26.530 The Effect of Simulated Red Light Running Camera Flashes on Attention and Oculomotor Control Walter Boot, Robert Sall, Timothy Wright

26.531 Functional Fixedness: The Functional Significance of Delayed Attentional Disengagement Based on Attention Sets Timothy Wright, Walter Boot

Attention: Endogenous and exogenous

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

26.532 Spatial attention in the visual field: a unitary system? Yan Bao

26.533 **Balancing internal and external attention: mind-wandering variability predicts error awareness** Micah Allen, Jonathan Smallwood, Geraint Rees

26.534 **Expectation and IOR: Effects on eye movements and ESP** Alex Gough, Jim Zhou, Zachary Livshin, Bruce Milliken, David Shore

26.535 Inhibition of return affects contrast sensitivity Ayelet Sapir

26.536 The relationship between contrast detection and saccadic reaction times with attention. Madhumitha Mahadevan, Harold Bedell, Scott Stevenson

26.537 The onset of background dynamic noise degrades preview benefit in inefficient visual search Takayuki Osugi, Ikuya Murakami

VSS 2014 Program Saturday Afternoon Posters

26.538 Speed and accuracy of decoding cue meaning are not related to the extent of a cueing effect: A comparison among predictive arrow, color and number cues Bettina Olk, A. Raisa Petca, Adalbert F. X. Wilhelm

26.539 Attention improves precision while short-term memory load increases guessing Christie Rose Marie Haskell, Britt Anderson

26.540 Statistical Learning Modulates the Flexible Control of Spatial Attention Anthony W. Sali, Brian A. Anderson, Steven Yantis

Attention: Temporal

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

26.541 Alpha-pulse sampling in attention revealed in saccade latency behavior Kun Song, Lin Chen, Huan Luo

26.542 The locus coeruleus-noradrenaline system facilitates attentional processing of action-triggered visual stimuli Ken Kihara, Tatsuto Takeuchi, Sanae Yoshimoto, Hirohito Kondo, Jun Kawahara

26.543 Unattended feature interference during a dynamic sequence task Sarah C. Tyler, Charles Chubb, Emily D. Grossman

26.544 Electrophysiological evidence of misselection during the attentional blink Benoit Brisson, Marie-Ève Bourassa, François Vachon

26.545 Reconstructing temporal organization of visual attention reduces attentional blink Peijun Yuan, Ying Wang, Yi Jiang

26.546 The Exact Timecourse of Attention: The Mutations Paradigm Ricardo Max, Yehoshua Tsal

26.547 Rhythmic motion regulates spontaneous perceptual alternation Ying Wang, Xue Zhang, Qian Xu, Yi Jiang

26.548 **Onset target escapes the background perceptual grouping** Chia-huei Tseng, Hiu Mei Chow

26.549 Task-switching mediates direct interference of intertarget distractors in the attentional blink Alexia Ptito, Benoit Brisson

26.550 Processing of Spatially Stationary and Moving RSVP Streams in Parafoveal Vision Rasmus Lunau, Claus Bundesen

26.551 **A temporal benefit of covert spatial orienting across visual hemifields.** Chris Angeloni, Jocelyn Sy, Frank Tong

26.552 **Can Attention's Temporal Resolution Be Doubled?** Andrew Clement, Nestor Matthews

26.553 **Perceptual delay in metacontrast** Jérôme Sackur, David Zarebski, Michel Dutat

Attention: Tracking

Saturday, May 17, 2:45 - 6:45 pm Poster Session. Pavilion

26.554 Tracking Illusory Contour Figures Natasha Dienes, Lana Trick

26.555 **How long can you keep tracking?: a flying mission game** Chuang Lyu, Xuemin Zhang

26.556 **How do we update mental simulations at the right speed?** Alexis Makin, Marco Bertamini

26.557 Virtual object tracking: The inference and tracking of invisible objects through effects on their surroundings Joshua New, Elizabeth Han

26.558 Dividing attention reduces both speed and temporal frequency limits on object tracking Alex Holcombe, Wei-Ying Chen

26.559 Action Video Game Experience Does Not Predict Multiple
Object Tracking Performance Cary Stothart, Walter Boot, Daniel
Simons, Angeliki Beyko

26.560 Exploration of the Halt-Move effect for occluded objects in Multiple Object Tracking: Tests of masking, cuing and item displacement Deborah Aks, Navpreet Singh, Meriam Naqvi, Sanjana Mohan, Vedant Patel, Pylyshyn Zenon

26.561 **Studying the effect of eye-movements and interruptions in Multiple Object Tracking** Meriam Naqvi, Deborah Aks, Navpreet Singh,
Sanjana Mohan, Chisom Emeana, Hannah Canuto, Zenon W. Pylyshyn

26.562 My Attention is Over There: A Serial Component for Multiple Object Tracking Justin M. Ericson, Rebecca R. Goldstein, Melissa R. Beck

26.563 The effect of feedback on 3D multiple object tracking performance and its transferability to other attentional tasks Chiara Perico, Domenico Tullo, Krista Perrotti, Jocelyn Faubert, Armando Bertone

26.564 **Replacing the spotlight with a Kalman filter: A prediction error model of multiple object tracking** Ashley M. Sherman, Tomás F. Yago Vicente, Gregory J. Zelinsky

26.565 **The capacity of mental rotation** Yangqing Lucie Xu, Steven Franconeri

Scene perception: Spatial and temporal factors

Saturday, May 17, 2:45 - 6:45 pm Poster Session, Pavilion

26.566 Prediction of perceived fog density and defogging of natural foggy images Lark Kwon Choi, Jaehee You, Alan Bovik

26.567 **Does RMS contrast normalization impair coarse-to-fine processing of natural scenes?** Louise Kauffmann, Alan Chauvin, Nathalie Guyader, Stephen Ramanoël, Carole Peyrin

26.568 Through the Looking-Glass: Are objects in mirrors really objects? Preeti Sareen, Krista A. Ehinger, Jeremy M. Wolfe

26.569 **Towards a model for mid-level feature representation of scenes** Mariya Toneva, Elissa Aminoff, Abhinav Gupta, Michael Tarr

26.570 Place recognition and heading retrieval are dissociable in mice (and possibly men) Joshua B. Julian, Alexander Keinath, Isabel Muzzio, Russell A. Epstein

26.571 Modeling Visual Clutter Perception using Proto-Object Segmentation Chen-Ping Yu, Dimitris Samaras, Gregory Zelinsky

26.572 Using spatial statistics to investigate allocation of attention within single trials Hans Trukenbrod, Ralf Engbert

26.573 **Why the "Rule of Thirds" is Wrong** Stephen Palmer, Yurika Hara, William Griscom

26.574 Analysis of Fused and Unfused Imagery using Systems Factorial Technology (SFT) Elizabeth Fox, Joseph Houpt, Fairul Mohd-Zaid, Jennifer Bittner

26.575 Intrinsic Reference System in Implicit Spatial Learning: Evidence from Contextual Cueing Paradigm Shiyi Li, Zhongting Wang, Chao Wang, Limeng Shi, Haibo Yang, Xuejun Bai, Hong-Jin Sun

26.576 Viewpoint Independence in Implicit Scene Learning
Revealed in a Contextual Cueing Paradigm Zhongting Wang, Shiyi
Li, Chao Wang, Limeng Shi, Haibo Yang, Xuejun Bai, Hong-Jin Sun

26.577 Inhibition of attention to irrelevant areas of a scene: Investigating mechanisms of attention during visual search Effie Pereira, Yu Qing Liu, Monica Castelhano 26.578 Using V1-Based Models for Change Detection in Natural Scenes Pei Ying Chua, Kenneth Kwok

26.579 **Complimentary roles for eye and head movements in scene viewing** Grayden Solman, Tom Foulsham, Alan Kingstone

26.580 Short term and baseline effect in the estimation of probabilistic visual event sequences József Arató, József Fiser

26.581 **The Time-Course of Scene and Action Categorization in Dynamic Videos** Adam Larson, Hope Tebbe, Lester Loschky

26.582 **Visual features that repeat across cuts guide attention in movies** Christian Valuch, Peter König, Ulrich Ansorge

26.583 Coloring Time! The Effect of Color in Pictures on Time Perception Jason Hays, Brian Huybers, Alex Varakin

Sunday Morning Talks

Binocular Vision

Sunday, May 18, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Cheryl Olman

31.11, 8:15 am Do hemifield representations co-opt ocular dominance column structure in achiasma? Cheryl A. Olman, Pinglei Bao, Stephen A. Engel, Andrea N. Grant, Chris Purington, Cheng Qiu, Michael-Paul Schallmo, Bosco S. Tjan

31.12, 8:30 am Transient monocular deprivation affects binocular rivalry and GABA concentrations in adult human visual cortex. Claudia Lunghi, Uzay Emir, Maria Concetta Morrone, David Charles Burr, Holly Bridge

31.13, 8:45 am Continuous Flash Suppression Modulates Cortical Activity in Early Visual Cortex Shlomit Yuval-Greenberg, David J. Heeger

31.14, 9:00 am Not all probes are created equal: Suppressed probes presented during binocular rivalry draw attention to the suppressed image Brian A. Metzger, Kyle E. Mathewson, Evelina Tapia, Kathy A. Low, Ed L. Maclin, Monica Fabiani, Gabriele Gratton, Diane M. Beck

31.15, 9:15 am Sensory memory of multi-stable displays: memory mechanisms are used to resolve ambiguity, not to stabilize perception Alexander Pastukhov, Anna Lissner, Jochen Braun

31.16, 9:30 am Interocular competition at higher levels of motion processing Vivian Holten, Sjoerd M. Stuit, Maarten J. van der Smagt, Stella F. Donker, Frans A.J. Verstraten

Spatial vision: Mechanisms, methods, models and time

Sunday, May 18, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Richard Murray

32.11, 10:45 am A classification-image-like method reveals strategies in 2afc tasks Richard Murray, Lisa Pritchett

32.12, 11:00 am A kindler, gentler adaptive psychophysical procedure Daniel Coates, Susana Chung

32.13, 11:15 am **Symmetry: Less than meets the eye** Deborah Apthorp, Jason Bell

32.14, 11:30 am Non-orthogonal channels for relative numerosity and contrast detection Michael Morgan, Donald MacLeod

32.15, 11:45 am Encoding space in time: a model of human contrast sensitivity in the presence of fixational eye movements Michele Rucci, Jonathan Victor, Xutao Kuang

32.16, 12:00 pm The Radial Bias Is Not Necessary For Orientation Decoding Michael Pratte, Jocelyn Sy, Frank Tong

32.17, $12:15\ pm$ Layer-specific fMRI signals in the human LGN – An investigation of magnocellular and parvocellular pathways in normal subjects and glaucoma patients Peng Zhang, Een Wen, Xinghuai Sun, Sheng He

Visual memory

Sunday, May 18, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Christian Olivers

31.21, 8:15 am Human Visual Memory in the Past and Future: **Predicting Individual Recall using Eye-Movements** Zoya Bylinskii, Phillip Isola, Antonio Torralba, Aude Oliva

31.22, 8:30 am Environment sensitivity in hierarchical representations Timothy Lew, Edward Vul

31.23, 8:45 am Shared visual memory resources for individuation and ensemble representation Brandon Liverence, Steven Franconeri

31.24, 9:00 am In competition for the attentional template: Only a single item in visual working memory can guide attention Christian Olivers, Dirk van Moorselaar, Jan Theeuwes

31.25, 9:15 am On the dynamic nature of VWM: Separate limits for the storage and manipulation of information Hrag Pailian, Melissa Libertus, Lisa Feigenson, Justin Halberda

31.26, 9:30 am The more you try to remember, the faster you forget: load-dependent forgetting and mnemonic overreaching Jordan W. Suchow, George A. Alvarez

Perceptual learning

Sunday, May 18, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Mark Wexler

32.21, 10:45 am **Statistical regularities shape object perception** Sumeyye Cakal, Jiaying Zhao

32.22, 11:00 am The neural changes associated particularly with perceptual learning trained with reward are not essential to perceptual learning in general Dongho Kim, Yuka Sasaki, Takeo Watanabe

32.23, 11:15 am **Object Representations in Human Visual Cortex are Flexible: an Associative Learning study.** Mehdi Senoussi, Isabelle Berry, Rufin VanRullen, Leila Reddy

32.24, 11:30 am Biases in multistable displays as dynamic state variables Mark Wexler, Pascal Mamassian

32.25, 11:45 am Four days of visual contrast adaptation: effects on perceived contrast grow monotonically while effects on orientation rise then fall. Elizabeth Fast, Koen Haak, Min Bao, Stephen A. Engel

32.26, $12:00\ pm$ Adaptation to patch-wise complementary video reduces perceptual ocular dominance

Bo Dong, Yi Jiang, Stephen Engel, Min Bao

32.27, 12:15 pm A unifying mechanism underlying adaptation and perceptual learning Kyle McDermott, Pascal Mamassian

Sunday Morning Posters

Perception and action: Reaching and grasping

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

33.301 Informed perception: Catching ability changes perceived size of ball Nathan Tenhundfeld, Jessica Witt

33.302 **The "Verge-Weight" Illusion** Michael Barnett-Cowan, Gavin Buckingham, Jody Culham

33.303 Online control of grasping for shapes defined by secondorder contours Jeffrey Saunders, Zhongting Chen

33.304 Fast Processing of Shape Information for Online Control of Grasping Zhongting Chen, Jeffrey Saunders

33.305 Reach-to-grasp actions affect the perceptual scaling of disparity-defined depth. Carlo Campagnoli, Fulvio Domini

33.306 Distinct patterns of size-contrast illusion effects in reaching and grasping movements Christine Gamble, Joo-Hyun Song

33.307 **Hand position influences perceptual grouping** Greg Huffman, Davood Gozli, Jay Pratt

33.308 Enhanced Visual Processing When Reaching for Targets Presented Near the Hands Karolina Beben, Liana Brown

33.309 Influence of Visual Feedback on Gaze-Dependent and Location-Dependent Errors in Grasp Location and Orientation

Noura Alomawi, Joost C. Dessing , Xiaogang Yan , J. Douglas Crawford

33.310 The role of egocentric and allocentric feedback in calibrating goal-oriented actions Chiara Bozzacchi, Robert Volcic, Fulvio Domini

33.311 **The role of reference frames for reaching in a naturalistic environment** Katja Fiehler, Christian Wolf, Mathias Klinghammer, Gunnar Blohm

33.312 Visually judging the fate of one's own and others' basketball shots Rouwen Cañal-Bruland, Lars Balch, Loet Niesert

33.313 **Limb-target regulation processes: Further evidence for a sweet spot.** Valentin Crainic, John de Grosbois, Tifanny Lung, Arindam Bhattacharjee, Luc Tremblay

33.314 **Coupling of reaction and movement times in reaching** Cristina de la Malla, Joan López-Moliner

33.315 Computational Models of Extra-Retinal Contributions to Predictive Saccades Gabriel Diaz, Mary Hayhoe, Tommy Keane

33.316 Invariant and variable relations emerge with degrees of difficulty within habitual and surprise touch-pointing motions Vilelmini Kalampratsidou, Elizabeth Torres

33.317 **Another look at binocular vision: Contribution to online control processes.** Damian Manzone, Arindam Bhattacharjee, John de Grosbois, Gerome Manson, Tristan Loria, Tiffany Lung, Luc Tremblay

33.318 Does binocular vision drive the lower visual field advantage for grasping? Stephanie Rossit

33.319 **Visually guided grasping in depth is systematically inaccurate** Claire Walker, Carlo Campagnoli, Fulvio Domini

33.320 Dissociating Action and Perception Using a 3D Variant of the Sanders Illusion While Controlling for Visual and Haptic Feedback Kate E. Merritt, Robert L. Whitwell, Gavin Buckingham, Philippe Chouinard, Melvyn A. Goodale

33.321 **Judging Speed of Baseball Pitches in a Batting Cage** Michael K. McBeath, Richard N. Hinrichs, Jeremy R. Babendure

33.322 Biases in number representation as a by-product of optimising visuomotor responses: evidence from a number line reaching task David Aguilar-Lleyda, Elisabet Tubau, Joan López-Moliner

33.323 "I Can Only Imagine": Effect of Task-Specific Execution on Accuracy of Imagined Aiming Movements Emma Yoxon, Luc Tremblay, Timothy Welsh

Multisensory processing: Visuo-auditory interactions

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

33.324 Auditory-induced bouncing is a visual (rather than a cognitive) phenomenon: Evidence from illusory crescents Hauke S. Meyerhoff, Brian Scholl

33.325 Correlation between Vividness of Visual Imagery and Echolocation Ability in Sighted, Echo-Naïve People Lore Thaler, Rosanna Wilson, Bethany Gee

33.326 Differential effect of visual and auditory spatial cues on visual numerosity judgment Yasuhiro Takeshima, Jiro Gyoba

33.327 Audiovisual processing differences in autism spectrum disorder revealed by a model-based analysis of simultaneity and temporal order judgments Paula Regener, Scott Love, Karin Petrini, Frank Pollick

33.328 Reduced audiovisual recalibration in the elderly Yu Man Chan, Michael J Pianta, Allison M McKendrick

33.329 What you hear is what you see: Non-spatial visual information can hinder auditory detectability early in development Hiu Mei Chow, Vivian Ciaramitaro

33.330 Lets play it by ear: Auditory gating during goal-directed action? Rachel Goodman, Gerome Manson, Damian Manzone, Tristan Loria, John de Grosbois, Valentin Crainic, Luc Tremblay

33.331 Multisensory classification images reveal the role of crosscorrelation in audiovisual temporal processing. Cesare Valerio Parise, Marc Ernst

33.332 Auditory and tactile signals combine to influence vision during binocular rivalry David Alais, Claudia Lunghi, Concetta Morrone

33.333 **Perceptual Biasing of a Continuous Auditory Quadri-stable Illusion** Constance Bainbridge, Aude Oliva

33.334 Angry faces reduce sensitivity for auditory-visual temporal asynchrony L Jacob Zweig, David Brang, Satoru Suzuki, Marcia Grabowecky

33.335 **Visual Texture, Music, and Emotion** Thomas Langlois, Joshua Peterson, Stephen Palmer

33.336 **Electrophysiological Dynamics of Auditory-Visual Sensory Substitution** Christian Graulty, Orestis Papaioannou, Phoebe Bauer, Michael Pitts, Enriqueta Canseco-Gonzalez

33.337 **Subjective crossmodal correspondence and audiovisual integration** Maarten van der Smagt, Irene Buijing, Nathan Van der Stoep

VSS 2014 Program Sunday Morning Posters

- 33.338 Implicit detection of asynchronous audiovisual speech by eye movements Tim J. Smith, Jonathan Batten, Rachael Bedford
- 33.339 Influences of response delay on unconscious imitation of visual speech James W. Dias, Theresa C. Cook, Josh J. Dorsi, Dominique C. Simmons, Lawrence D. Rosenblum
- 33.340 **Reading rotated clocks: the role of egocentric and environmental orientation** Nicolas Davidenko, Amanda Waterman, Yeram Cheong, Jake Smith
- 33.341 Visual motion energy signal usage in gesture and speech integration: The role of semantic categorization and task demands Bruce C Hansen, Spencer D Kelly, Pearce Decker, Rachel Weinstein, Stewart Lanphier
- 33.342 The Influence of Emotion on Audiovisual Integration in the McGurk Effect Theresa Cook, James Dias, Lawrence Rosenblum
- 33.343 The texture of musical sounds: Cross-modal associations between visual textures and musical timbres and intervals Joshua Peterson, Thomas Langlois, Stephen Palmer
- 33.344 Clarifying the crossmodal Stroop effect in an auditory-visual colour naming task with words and non-words stimuli. Ding-Cheng Peng, Steven L Prime
- 33.345 **Bidirectional cross-modal synesthetic priming** Chris Paffen, Maarten van der Smagt, Tanja Nijboer
- 33.346 **Synesthesia and Lateral Inhibition: A Case Study** Diana Arias, Mathieu Simard, Dave Saint-Amour
- 33.347 When "A" is not red but pink or yellow: How crossmodal and synaesthetic correspondences involve different cognitive strategies for non-synaesthetic French children Marie-Margeride Garnier, Jean-Michel Hupé, Michèle Guidetti
- 33.348 Two plus blue equals green: Grapheme-color synesthesia allows cognitive access to numerical information via color J. Daniel McCarthy, Lianne N. Barnes, Bryan A. Alvarez, Gideon P. Caplovitz

Color and light: Surfaces and materials

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 33.401 Linking low-level and mid-level accounts of lightness perception Alexandra Schmid, Barton Anderson
- 33.402 Surface roughness increases ability to distinguish gloss from matte. Shinho Cho, Daniel Kersten
- 33.403 **Perceiving gloss in surfaces and images** James Ferwerda, Adria Fores, Ingeborg Tastl, John Recker
- 33.404 **Lack of glossiness constancy with viewpoint changes** Sabrina Hansmann-Roth, Pascal Mamassian
- 33.405 Correlation of gold appearance with surface metallicity and glossiness Tomohisa Matsumoto, Kazuho Fukuda, Keiji Uchikawa
- 33.406 **The Perception of Glossiness in the Human Brain** Hua-Chun Sun, Hiroshi Ban, Andrew Welchman
- 33.407 **Visual perception of fluid viscosity over time** Jan Jaap R. van Assen, Vivian C. Paulun, Roland W. Fleming
- 33.408 Qualities of optically mixed real materials and photographs towards a material probe Sylvia Pont, Susan te Pas, Maarten Wijntjes
- 33.409 Discrimination of highlights from reflectance changes using isophote maps of surface images Masataka Sawayama, Shin'ya Nishida
- 33.410 **Material Perception in Blind and Sighted Participants** Elisabeth Baumgartner, Christiane Wiebel, Karl Gegenfurtner

33.411 Colorimetric Analysis of Makeup Styles and Their Relation with Visual Quality Perception of the Skin Carlos ArceLopera,

Takanori Igarashi, Katsunori Okajima

- 33.412 **Color Flows and Color Mixing** Daniel Holtmann-Rice, Steven Zucker
- 33.413 The perception of surface gray shades and the computational goals of human vision Tony Vladusich, Mark McDonnell
- 33.414 **Color categorization of natural objects** Zarko Milojevic, Robert Ennis, Karl Gegenfurtner
- 33.415 **Perception of saturation in natural scenes** Florian Schiller, Karl Gegenfurtner

Motion Perception: Models

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 33.416 Motions of Parts and Wholes: An Exogenous Reference-Frame Model of Non-Retinotopic Processing Aaron Clarke, Haluk Öğmen, Michael Herzog
- 33.417 Influence of Correspondence Noise on Dmax for Low Coherence Random-dot Kinematogram Stimuli Srimant Tripathy, Syed Shafiullah, Michael Cox
- 33.418 Adaptive shifts of spatiotemporal contrast sensitivity function: context adaptation vs. point adaptation Ambarish Pawar, Thomas Albright, Sergei Gepshtein
- 33.419 Dissecting the oblique effect: Replicating the expansion of motion direction space around the cardinal axes with a computer model built from V1 and MT neuron inputs John Perrone, Dorion Liston, Leland Stone
- 33.420 A Counterchange-based Dynamic Neural Network for Solving the Correspondence Problem Joseph Norman
- 33.421 Optimal tracking model accounts for perceptual conflict between motion and position in the curveball illusion Oh-sang Kwon, Duje Tadin, David Knill
- 33.422 **Motion-based prediction model for flash lag effect** Mina A. Khoei, Laurent U Perrinet, Guillaume S Masson
- 33.423 Motion reversal reveals mechanisms of perceptual suppression Davis M. Glasser, Duje Tadin, Christopher C. Pack
- 33.424 Vertical opponency modulates sensitivity to horizontal motion Andrew E. Silva, Zili Liu
- 33.425 Modeling motion perception and perceptual learning in random dot kinematograms Émilien Tlapale, Barbara Anne Dosher, Zhong-Lin Lu
- 33.426 Computational modeling of paradoxical occlusion of a "near" surface Harald Ruda, Guillaume Riesen, Ennio Mingolla

Motion Perception: Local motion and optic flow

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

33.427 Counterchange, But Not Motion-Energy, Determined Motion Perception Integrates Dichoptically Presented Motion Information Matthew Seifert, Howard Hock

33.428 **Speed tuning of human Ocular Following Responses (OFRs) depends on orientation bandwidth in noise stimuli.** Boris Sheliga, Christian Quaia, Edmond FitzGibbon, Bruce Cumming

Sunday Morning Posters VSS 2014 Program

- 33.429 No motion-induced sensitivity modulation for chromatic gratings. Rumi Hisakata, Shin'ya Nishida, Alan Johnston
- 33.430 A new swaying bar illusion Sae Kaneko, Rumi Hisakata
- 33.431 The effects of local object motion and binocular disparity on collision detection Carissa M. Lemon, George J. Andersen
- 33.432 Primacy of speed in the processing of motion during smooth pursuit Tom Freeman
- 33.433 Temporal and Speed Tuning in Brain Responses to Local and Global Motion Patterns Amanda Thomas, Rick Gilmore
- 33.434 A direct influence of stimulus orientation on perceived motion trajectory Daisuke Harada, Isamu Motoyoshi, Miyuki G. Kamachi
- 33.435 The accuracy of object motion perception during locomotion Brett Fajen, Melissa Parade
- 33.436 **Human self-motion sensitivity to visual yaw rotations** Alessandro Nesti, Karl Beykirch, Paolo Pretto, Heinrich Bülthoff
- 33.437 Adaptation to a non-uniform motion pattern reveals a mechanism to encode local flow changes. Kazushi Maruya, Shin'ya Nishida
- 33.438 **Angular, speed and density tuning of flow parsing** Diederick C Niehorster, Li Li
- 33.439 When does a moving object influence the perception of heading? Oliver W. Layton, Brett R. Fajen
- 33.440 **Optimal integration of retinal and extra-retinal signals for heading perception** Shenbing Kuang, Jinfu Shi, Yang Wang, Tao Zhang

Eye movements: Pursuit

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 33.441 Contrast-dependent motion processing: insight from ocular tracking dynamics Anna Montagnini, Guillaume Masson, Laurent Madelain
- 33.442 **Beyond simply faster and slower: exploring paradoxes in speed perception** Andrew Isaac Meso, Claudio Simoncini, Laurent Perrinet, Guillaume S. Masson
- 33.443 Unsupervised dynamic morphing of a spatiotemporal visual event during its oculomotor tracking Clara Bourrelly, Julie Quinet, Laurent Goffart
- 33.444 **Smooth pursuit of flicker-defined motion** Jeffrey B. Mulligan, Scott B. Stevenson
- 33.445 **Small foveal stimuli render smooth pursuit less smooth** Stephen Heinen, Elena Potapchuk, Scott Watamaniuk
- 33.446 **Foveating a moving target, here-and-now** Laurent Goffart, Julie Quinet, Clara Bourrelly
- 33.447 Anticipatory smooth eye movements elicited by symbolic cues ${\rm Elio\ M.\ Santos}$
- 33.448 Attention allocation during pursuit is broad and symmetric, but can be limited by set size and crowding Scott Watamaniuk, Stephen Heinen
- 33.449 Women with premenstrual syndrome (PMS) symptoms, compared to non-symptomatic controls both on or off monophasic oral contraceptives, show asymmetric horizontal smooth pursuit amplitudes during their late luteal menstrual phase Michael Wesner, Emily Currie, Meghan Richards, Kirsten Oinonen

Attention: Reward and arousal

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.501 **The color of money: Value-driven selectivity enhancements** Árni Gunnar Ásgeirsson, Árni Kristjánsson, Kristín Vala Einarsdóttir, Claus Bundesen
- 33.502 Object Long-Term Value and Novelty Create Incentive Salience Maps that Bias Eye Movements Ali Ghazizadeh, Okihide Hikosaka
- 33.503 Attention capture by task-irrelevant learned value interacts with task-relevant top-down factors Mary MacLean, Barry Giesbrecht
- 33.504 **Reward directly modulates perception in binocular rivalry** Svenja Marx, Wolfgang Einhauser
- 33.505 **The Value of Paying Attention** Carsten S. Nielsen, Anders Petersen, Claus Bundesen
- 33.506 Irrelevant Spatial Value Learning Modulates Visual Search Jane Raymond, Risa Sawaki
- 33.507 Value-driven attentional capture resists extinction in adolescence Zachary Roper, Shaun Vecera, Jatin Vaidya
- 33.508 **Brain signatures of reward-dependent bias in visual attention** Iris Wiegand, Carsten Nielsen, Anders Petersen, Mads Dyrholm, Claus Bundesen
- 33.509 Unreliable associations between visual features and values interfere with reward-based decision-making Timothy Vickery, Kyle Friedman, Rachel Bristol
- 33.510 Attentional Bias for Non-drug Reward is Magnified in Addiction Brian A. Anderson, Monica L. Faulkner, Jessica J. Rilee, Steven Yantis, Cherie L. Marvel
- 33.511 Arousal Affects Attentional Guidance based on Selection History Hannah Wyland, Jeffrey Mounts, Matthew Hilimire
- 33.512 Attentional capture from emotional associations in long-term memory Jonas Everaert, Judith E. Fan, Ernst H.W. Koster, Nicholas B. Turk-Browne
- 33.513 **Pavlovian Conditioning and the Koniocellular Pathway Using Steady-State-Evoked Potentials** Nathan Petro, Vladimir Miskovic, Andreas Keil
- 33.514 **Saccade trajectories are immediately curved in accordance with the degree of threat from task-irrelevant stimuli** Yoshiyuki Ueda, Masato Nunoi, Kenshiro Ichimura, Yuki Shirasuna, Masahiro Fujino
- 33.515 Not All Threats are Created Equal: Selection History Biases are Differentially Affected by Fear and Disgust Matthew Hilimire, Jeffrey Mounts, Bina Kakusa

Attention: Neural mechanisms and modeling

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.516 Attention to color in the primate Superior Colliculus James Herman, Richard Krauzlis
- 33.517 Neuronal correlates of change detection in Superior Colliculus during covert spatial attention Anil Bollimunta, Richard Krauzlis
- 33.518 Neuronal correlates of change detection in Basal Ganglia during covert spatial attention Fabrice Arcizet, Richard Krauzlis

VSS 2014 Program Sunday Morning Posters

- 33.519 Comparison of superior colliculus and primary visual cortex in the coding of visual saliency Brian White, David Berg, Takuro Ikeda, Ron Levy, Laurent Itti, Douglas Munoz
- 33.521 Macaque monkeys exhibit event-related potentials indexing distractor suppression during visual search Joshua Cosman, Jeffrey Schall, Geoffrey Woodman

33.522 Decoding the allocation of visual attention from prefrontal

- **neural assemblies in behaving primates** Sebastien Tremblay, Florian Pieper, Adam Sachs, Julio Martinez-Trujillo
- 33.523 Task-relevant or Task-irrelevant: Is Allocation of Attention Based on Fast and Precise Location Information? ${\rm S}\bar{\rm øren}$

Kyllingsbæk, Claus Bundesen, Barry Giesbrecht

- 33.524 Deriving the acuity and the capacity of visual spatial attention George Sperling, Arvin Hsu
- 33.525 What Does it Mean to Better Attend? John Tsotsos
- 33.526 **Visual Attention in Dynamic Environments and its Application to Playing On-line Games** Yulia Kotseruba, John Tsotsos
- 33.528 Vision as a three-stage process: encoding, selection, and decoding ${
 m Li}$ ${
 m Zhaoping}$

Attention: Divided

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.529 **Dual-task backward compatibility effects are episodically mediated.** Maria Giammarco, Sandra Thomson, Scott Watter
- 33.530 Too Much, Too Slow, or Too Flexible? Exploring The Influence of Task Difficulty on the Attentional Blink. James Elliott, Tom Bullock, Barry Giesbrecht
- 33.531 Failures to filter: A marker of repetition suppression to task-irrelevant backgrounds predicts attentional lapses Francesca Fortenbaugh, Monica Rosenberg, Joseph DeGutis, Sarah Noonan, Michael Esterman
- 33.533 Perceptual and response related visual attention in children with ADHD Ida Dyhr Caspersen, Signe Vangkilde, Lone Kelkjær, Kerstin von Plessen, Thomas Habekost
- 33.534 Inter-individual differences in preferred directions of perceptual and motor decisions Alexander C. Schütz
- 33.535 Blur Detection Is Unaffected By Cognitive Load, But Eye Movements and Scene Recognition Memory Are. Ryan V. Ringer, Aaron Johnson, Mark Neider, Arthur Kramer, Lester C. Loschky
- 33.536 **Spatial attention across perception and action** Moran Israel, Asher Cohen
- 33.537 **Amelioration of the distracting effect of cellphone driving** Whitney N. Street, John G. Gaspar, Matthew B. Windsor, Ronald Carbonari, Henry Kaczmarski, Arthur F. Kramer, Kyle E. Mathewson
- 33.538 Electrophysiological evidence that acute bouts of exercise modulate multiple stages of information processing Tom Bullock, Hubert Cecotti, Barry Giesbrecht
- 33.539 Prism adaptation ameliorates pseudoneglect by enhancing target processing in right hemispace Elizabeth Nguyen, Patrick T. Goodbourn, Alex O. Holcombe
- 33.540 **Is the attentional boost effect really a boost?** Khena Swallow, Yuhong Jiang
- 33.541 Cognitive load modulates early visual perceptual processing Virginia Liu, Jason Forte, Luca Cocchi, David Sewell, Olivia Carter

33.542 Monitoring for visual prospective memory events reduces visual processing speed in ongoing tasks Christian H. Poth, Claus Bundesen, Anders Petersen, Werner X. Schneider

Attention: Individual differences

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

- 33.543 Cortical magnification factor and population receptive field size in human V1 predict the bottom-up saliency map Xilin Zhang, Fang Fang
- 33.544 Difference between eyes-closed and eyes-open resting state alpha power is an indicator of susceptibility to the rubber hand illusion Su-Ling Yeh, Timothy Lane, Jifan Zhou, Ting-yi Lin, Chia-Hsin Kuo, Cheng-Yun Teng
- 33.545 Intact functioning of exogenous spatial attention in amblyopic adults Marisa Carrasco, Mariel Roberts, Rachel Cymerman, R. Theodore Smith, Lynne Kiorpes
- 33.546 **Dissociable Changes in Sustained Visual Attention Across the Lifespan** Bay McCulloch, Michael Esterman, Laura Germine, Jeremy Wilmer, Joseph DeGutis
- 33.547 Is High Contrast Viewing Condition Always Better? Not for The Useful Field of View Tests John Paul Plummer, Rui Ni
- 33.548 **Establishing the Attention-Deficit Trait** Sophie Forster, Nilli Lavie
- 33.549 **Superior Visual Search Efficiency in High Trait Anxiety** Nick Berggren, Thomas Blonievsky, Nazanin Derakshan
- 33.550 **Does attention to low spatial frequencies enhance face recognition? An individual differences approach** Blaire Dube, Karen Arnell, Catherine Mondloch
- 33.551 **The attentional blink in right parietal patients: Analysis of temporal selection parameters** Lorella Battelli, Sara Agosta, Paolo Martini, Alex O. Holcombe, Patrick T. Goodbourn
- 33.552 Alerting cues affect the subitizing process: Evidence from developmental and acquired dyscalculia Yarden Gliksman, Avishai Henik
- 33.553 Flanking Magnitudes: Dissociation between Numerosity and Numerical Value in a Selective Attention Task Sharon Naparstek, Ziad Safadi, Limor Lichtenstein-Vidne, Avishai Henik
- 33.554 Individual differences in visual working memory capacity and search efficiency may predict distinct strategic processes for dot arrays by numerosity comparison sensitivity Giyeon Kim, Soohyun Cho, Joo-Seok Hyun
- 33.555 Individual differences in affect and personality predict attentional and conceptual breadth Karen Arnell, Gillian Dale, Mary MacLean
- 33.556 Individual Differences in Media Multitasking and Inattentional Blindness D. Alexander Varakin, Brian Huybers
- 33.557 **Top down effects in the real-world: An empirical assessment of smoker status on visual attention to brand and warnings when viewing different tobacco package designs** Tim Holmes, Alice Lowenhoff, Jon Ward, Hayley Thair, Elina Nikolaidou

Sunday Morning Posters VSS 2014 Program

Face perception: Identity

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

33.558 Different Spatial Frequency Tuning for Judgments of Eye Gaze and Facial Identity Mark Vida, Daphne Maurer

33.559 Enhancing facial identity perception using high frequency transcranial random noise stimulation Michael Banissy, Bradley Duchaine, Tirta Susilo, Constantin Rezlescu, Aleksandra Romanska

33.560 Adaptation to Dynamic Faces Produces Face Identity Aftereffects Linda Jeffery, Samantha Petrovski, Gillian Rhodes

33.561 Determinants of ensemble representations for face identity

Markus Neumann, Ryan Ng, Gillian Rhodes, Romina Palermo

33.562 Modifying a face to make it more memorable or forgettable

Aditya Khosla, Wilma Bainbridge, Antonio Torralba, Aude Oliva

33.563 **The time course of horizontal tuning during face identification** Matthew V. Pachai, Allison B. Sekuler, Patrick J. Bennett

33.564 Repetition adaptation for individual human faces in **9-month-old infants? – An ERP study** Stefanie Peykarjou, Sabina Pauen, Stefanie Hoehl

33.565 Supra-additive contribution of shape and texture to individual face discrimination as revealed by electrophysiological periodic visual responses Milena Dzhelyova, Bruno Rossion

33.566 Contributing Factors of Person Recognition in Natural Environments Carina A. Hahn, P. Jonathon Phillips, Alice J. O'Toole

33.567 Visual masking with faces: Interruption of a trailing mask at critical SOA does not reduce masking. Marwan Daar, Hugh Wilson

33.568 Early Learning in Infancy Influences Children's Face Processing Several Years Later Hillary Hadley, Charisse B. Pickron, Lisa S. Scott

Face perception: Whole and parts

Sunday, May 18, 8:30 am - 12:30 pm Poster Session, Pavilion

33.569 Reverse-engineering the Face-Space: Discovering the Crucial Features for Face Identification Naphtali Abudarham, Galit Yovel

33.570 **Perceptual interactions between dynamic facial features** Richard Cook, Clarisse Aichelburg, Punit Shah, Alan Johnston

33.571 Facial movement optimizes part-based face processing by influencing eye movements

Naiqi Xiao, Paul Quinn, Qiandong Wang, Genyue Fu, Kang Lee

33.572 Dynamic facial expressions are not necessarily processed holistically Martin A. Giese, Eva R.M. Joosten

33.573 The inversion effect as a function of orientation information in emotional face and body recognition Carol Huynh, Christopher Tonsager, Benjamin Balas

33.574 Does acquisition of holistic processing for novel objects depend on experience with diagnostic parts? Chua Kao-Wei, Jennifer Richler, Isabel Gauthier

33.575 The eye-size illusion: Psychophysical characteristics, generality, relation to holistic processing, and a role for visual experience Kang Lee, Wen Xiao, Genyue Fu, Paul Quinn, Yu-hao Sun, Naiqi Xiao, Qiandong Wang, Guowei Chan, Olivier Pascalis, Fabrice Damon

33.576 Hemispheric specialization for holistic processing of faces in normal and prosopagnosic observers? ${\rm Tina\ Liu}, {\rm Matt\ Oxner},$

William Hayward, Marlene Behrmann

33.577 Holistic processing of faces in the composite task depends on size David Ross, Isabel Gauthier

33.578 Differences in Face Recognition Ability Predicts Patterns of Holistic Face Processing in Children Sherryse Corrow, Tobias Donlon, Jordan Mathison, Vanessa Adamson, Albert Yonas

33.579 **Age-related effects on selective processing of horizontal structure in whole-face context** Allison B. Sekuler, Matthew V. Pachai, Sarah E. Creighton, Patrick J. Bennett

33.580 Why the Long Face? The critical role of vertical configural relations in face 'barcodes' for recognition Morgan Spence, Katherine Storrs, Derek Arnold

33.581 Mind the gap: behavioral measures and phenomenology of the composite face illusion Talia Retter, Bruno Rossion

33.582 Attentional scope modulates unconscious processing: evidence from breaking continuous flash suppression Sol Z. Sun, Susanne Ferber

33.583 Moving biological stimuli (not just faces) amplify inversion effect sizes Daniel W. Piepers, Catherine J. Stevens, Darren C. Burke, Rachel A. Robbins

Sunday Afternoon Talks

Eye movements: Perisaccadic perception

Sunday, May 18, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Eli Brenner

34.11, 2:30 pm Spatiotopic representations emerge from remapped activity in early visual areas Eckart Zimmermann, Ralph Weidner, Gereon Fink

34.12, 2:45 pm Saccadic remapping of object-selective information Benjamin Wolfe, David Whitney

34.13, 3:00 pm Pre-saccadic motion integration between current and remapped locations Martin Szinte, Donatas Jonikaitis, Martin Rolfs, Patrick Cavanagh, Heiner Deubel

34.14, 3:15 pm Perisaccadic Response Modulations in Area V1 of the Macaque Monkey are stimulus-dependent Steffen Klingenhoefer, Till S. Hartmann, Richard T. Born, Frank Bremmer

34.15, 3:30 pm Masks cause compression of space for perception and saccade endpoints Sabine Born, Eckart Zimmermann, Patrick Cavanagh

34.16, 3:45 pm Moving your head reduces perisaccadic compression Maria Matziridi, Eli Brenner, Jeroen B. J. Smeets

34.17, 4:00 pm Saccades reset temporal integration windows Andreas Wutz, Evelyn Muschter, Martijn van Koningsbruggen, David Melcher

Perceptual organization: Neural mechanisms and models

Sunday, May 18, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: Thomas Carlson

34.21, 2:30 pm What is the nature of the decodable neuromagnetic signal? MEG, Models, and Perception. Thomas Carlson, Seyed Khaligh-Razavi, Nikolaus Kriegeskorte

34.22, 2:45 pm Sensitivity of early visual cortical neurons to edge visual concepts Tai Sing Lee, Corentin Massot, George Papandreou, Alan Yuille

34.23, 3:00 pm Spontaneous visual cortex activity predicts eccentricity and is related to receptive field size Noah C Benson, Omar H Butt, Geoffrey K Aguirre

34.24, 3:15 pm Early Visual Cortex Assigns Border Ownership in Natural Scenes According to Image Context Jonathan R Williford, Rudiger von der Heydt

34.25, 3:30 pm Brightness Illusions in a Neurophysiological Perspective Rüdiger von der Heydt

34.26, 3:45 pm Unexpected spatial sensitivity of neuronal response to illusory figures in area V4 Michele Cox, Michael Schmid, Andrew Peters, Richard Saunders, David Leopold, Alexander Maier

34.27, 4:00 pm Bayesian Hierarchical Grouping: perceptual grouping as mixture estimation Vicky Froyen, Jacob Feldman, Manish Singh

Sunday Afternoon Talks VSS 2014 Program

Color and light: Receptors and mechanisms

Sunday, May 18, 5:15 - 7:15 pm Talk Session, Talk Room 1 Moderator: Andrew Stockman

35.11, 5:15 pm Red-green flicker is encoded by a peak detector and limited by slew rate Andrew Stockman, Caterina Ripamonti

35.12, 5:30 pm Temporal contrast sensitivity function based on cones and melanopsin photoreceptors Sei-ichi Tsujimura, Naoshi Hamazono, Katsunori Okajima

35.13, 5:45 pm Melanopsin-driven responses in the human brain Manuel Spitschan, Long Luu, Ritobrato Datta, David H Brainard, Geoffrey K Aguirre

35.14, 6:00 pm Visual Cortical Activity Evoked by Unconscious Chromatic Flicker Xiuling Zhang, Yi Jiang

35.15, 6:15 pm Task-dependent neural population dynamics in sensory cortex Satohiro Tajima, Kowa Koida, Chihiro I. Tajima, Kazuyuki Aihara, Hideyuki Suzuki, Hidehiko Komatsu

35.16, 6:30 pm Neuronal population decoding can account for perceptual lightness illusions David H. Brainard, Douglas A. Ruff, Marlene R. Cohen

35.17, 6:45 pm Colour vision in 3D scenes: how much brain is needed to solve the Mach-card problem? Annette Werner

35.18, 7:00 pm Illumination Discrimination Reveals "Blue" Bias of Colour Constancy in Real and Simulated Scenes. Bradley Pearce, Ana Radonjić, Hilary Dubin, Nicolas P. Cottaris, Michal Mackiewicz, Graham Finlayson, David H. Brainard, Anya Hurlbert

Face perception: Neural mechanisms

Sunday, May 18, 5:15 - 7:15 pm Talk Session, Talk Room 2 Moderator: Jessica Taubert

35.21, 5:15 pm Optogenetic and pharmacological suppression of face-selective neurons reveal their causal role in face discrimination behavior. Arash Afraz, Edward S. Boyden, James J DiCarlo

35.22, 5:30 pm Are the patches important? The effect of inversion on the responses of face-selective cells found throughout the monkey superior temporal sulcus. Jessica Taubert, Goedele Van Belle, Wim Vanduffel, Rufin Vogels, Bruno Rossion

35.23, 5:45 pm Functionally-defined white matter selectively predicts face- and place-processing performance Jesse Gomez, Franco Pestilli, Golijeh Golarai, Nathan Witthoft, Alina Liberman, Jennifer Yoon, Kalanit Grill-Spector

35.24, 6:00 pm Structural and functional connectivity fingerprints for face, body, scene, and object perception Zeynep Saygin, Nancy Kanwisher

35.25, 6:15 pm Facial identity – an investigation of neural encoding and image reconstruction Adrian Nestor, David Plaut, Marlene Behrmann

35.26, 6:30 pm Removing the right inferior occipital gyrus does not disrupt face-selective responses in human ventral temporal cortex: Evidence against a strict hierarchical model of face perception Kevin Weiner, Louis Maillard, Jacques Jonas, Gabriela Hossu, Hélène Brissart, Corentin Jacques, David Loftus, Kalanit Grill-Spector, Bruno Rossion

35.27, 6:45 pm Human facial preferences are changed at the mercy of decoded fMRI neurofeedback Kazuhisa Shibata, Yuka Sasaki, Mitsuo Kawato, Takeo Watanabe

35.28, 7:00 pm fMRI decoding reveals impaired face configuration representation in the right fusiform face area of individuals with developmental prosopagnosia Jiedong Zhang, Jia Liu, Yaoda Xu

Sunday Afternoon Posters

Attention: Inattentional blindness

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

36.301 Perceptual Cycles in Complex Scene Perception: Effects of Attentional Set on Detecting Events Thomas Sanocki

36.302 Appropriately Colored Scenes Reduce Inattentional Blindness Kelly Webster, Jason Clarke, Arien Mack, Tony Ro

36.303 **Insensitivity to changes in spatiotemporal continuity when watching video** Joseph Schmidt, Jennifer Olejarczyk, Steven G. Luke, William J. Brixius, John M. Henderson

36.304 Perceptual bottleneck of numerical proportion discrimination Aire Raidvee, Jüri Allik

36.305 Get ready and don't move your eyes: Investigating configuration and identity change detection in right and left visual fields. Bonnie Angelone, Ph.D., Jessica Marcoux, Kelly Boland

36.306 Neural correlates of trans-saccadic change detection and change blindness in response to global contrast changes William J. Brixius, Joseph Schmidt, Steven G. Luke, Chris Rorden, John M. Henderson

36.307 **Eccentricity Effects on Change Detection** Pooja Patel, Joanna Lewis, Mark Neider

36.308 If you can see it, you spot it sooner: Peripheral change detection is correlated with performance on `Spot-The-Difference' puzzles Lavanya Sharan, Ruth Rosenholtz

36.309 **A Convergent Gradient Field Model of Visual Attention** Brad Wyble, Mingxuan Tan

36.310 Object substitution masking of symbolic stimuli and the allocation of spatial attention. Eric Taylor, Davood Gozli, Jay Pratt

Attention: Neural mechanisms

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

36.311 **The role of cortical and subcortical suppression in spatial attention.** André D Gouws, Ivan Alvarez, David Watson, Maiko Uesaki, Jess Rodgers, Antony B Morland

36.312 **Pre-Saccadic Modulation of the Visual Evoked Potential** Leslie Guadron, Annabelle Blangero, Simon P. Kelly

36.313 **Spatial attention reduces correlated noise in the fMRI response** Wesley Chaney, Jason Fischer, Gerrit Maus, David Whitney

36.314 Remediation of abnormal visual motion processing significantly improves attention, reading fluency, and working memory in dyslexics Teri Lawton, Jordan Conway, Steven Edland

36.315 **Nasal-temporal Asymmetries of the N2pc Component** Christoph Huber-Huber, Anna Grubert, Ulrich Ansorge, Martin Eimer

36.316 Examining early spatial selection through a novel brightness illusion: Voluntary attention shapes the early selection of information. Snigdha Banerjee, Hans-Peter Frey, Kristen Morie, Sophie Molholm, John Foxe

36.317 Spatial priority- and content-based attentional filtering disassociated along a posterior to anterior axis in visual cortex Johan D Carlin, Justin L Gardner

36.318 Attention-induced lateralization of EEG alpha-oscillations subserves a psychophysical contrast-gain effect. Niko Busch

36.319 **Attentional allocation locally warps representational space** Samuel A. Nastase, Andrew C. Connolly, Nikolaas N. Oosterhof, Yaroslav O. Halchenko, Jason Gors, M. Ida Gobbini, James V. Haxby

36.320 **Sensory and response interference is resolved locally** Jack Grinband, Tobias Teichert, Vincent Ferrera, Joy Hirsch

36.321 **Optimizing decision-making by delaying decision onset** Tobias Teichert, Vincent Ferrera, Jack Grinband

36.322 Load-Induced Visual Enhancement and Suppression Modulates with Attentional Field Size Matthew Gannon, Dorothy Currey, Nathan Parks

36.323 Impaired saliency suppression in old age: left IPS' indifference lets extrastriate cortex run wild Carmel Mevorach, Lilach Shalevi

36.324 **Top-down attention modulates representational stability in the medial temporal lobe** Mariam Aly, Nicholas B. Turk-Browne

36.325 Phase-amplitude cross-frequency coupling sensitivity to phase shifts and sporadic potentials: possible spurious coupling in ECoG and scalp EEG data Boaz Sadeh, Andrew Ward, Edden Gerber, Leon Deouell, Robert T. Knight

36.326 Cue validity differentially modulates subunits of the attentional control network Miranda Scolari, Sabine Kastner

36.327 **Predicting moment-to-moment attentional state** Monica D. Rosenberg, Emily S. Finn, R. Todd Constable, Marvin M. Chun

36.328 Keep your mind on the road: Predicting mind-wandering while driving using classification of pre-probe oscillatory brain activity and driving performance Jibo He, Cher Wee Ang, Adam J. Miller, Vinay Maddali, John G. Gaspar, Ronald S. Carbonari, Hank J. Kaczmarski, Arthur F. Kramer, Kyle E. Mathewson

36.329 Focal Attention Improves Perceptual Decision-Making by Enhancing Multiplicative Response Gain of Cortical Activity in **Human** Sirawaj Itthipuripat, Edward Ester, Sean Deering, John Serences

36.330 Electrical stimulation improves visual attention by speeding the shift of control by long-term memory Robert Reinhart, Geoffrey Woodman

36.331 **Systematic variations in behavioral and electroencephalographic measures of the control of visual attention as a function of body iron status** Stephanie Rhoten, Michael Wenger, Elaine Cooper, Laura Murray-Kolb, Jean-Bosco Gahutu, Mercy Lung'aho, Jere Haas

Attention: Memory, awareness and eye movements

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

36.332 **The Role of Alerting in Modulating Perceptual Saliency** Noam Weinbach, Avishai Henik

36.333 A size singleton matching the target-distractor size relation cannot capture attention when it appears outside of attentional window Feng Du, Yue Yin, Yue Qi, Kan Zhang

36.334 **Oculometric assessment of visual motion processing** Dorion Liston, Leland Stone

Sunday Afternoon Posters VSS 2014 Program

36.335 Differential effects of covert and overt orienting on microsaccade rate Bonnie Lawrence, Marisa Carrasco

36.336 An Attention-centered neural marker for shifts in eye position Brittany J. Dungan, Edward K. Vogel

36.337 **Reduced pupillary response in voluntary saccadic task in Parkinson's disease** Anshul Srivastava, Ratna Sharma, Vinay Goyal, Sanjay Kumar Sood

36.338 The role of conscious perception in contingent attentional capture and working memory updating Dominique Lamy, Limor Alon, Nir Shalev, Tomer Carmel

36.339 Working Memory Guidance of Attention: Examining the Accessory State Proposal Nancy Carlisle, Steve Luck

36.340 Contingent attentional capture by stimuli that match longterm memory representations Naseem Al-Aidroos, Maria Giammarco, Adriana Paoletti, Emma Guild

36.341 The effect of camera presence on arousal, attentional control and inhibition William Kendall, Kelsey Chan, Alan Kingstone

Spatial vision: Natural image statistics

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

36.342 **Measuring the Laws of Natural Vision by Constrained Natural Scene Sampling** Stephen Sebastian, Jared Abrams, Wilson S. Geisler

36.343 Online Crowdsourcing of Subjective Quality Assessment of Images Deepti Ghadiyaram, Alan Bovik

36.344 Measuring perceptual differences between compressed and uncompressed video sequences using the swept-parameter Visual Evoked Potential Anthony Norcia, Justin Ales, Emily Cooper, Thomas Wiegand

36.345 The perceived blur in natural images is predominantly determined by Off signals Hiromi Sato, Isamu Motoyoshi, Takao Sato

36.346 **Bimodal Distributions of Local Phase Variables in Natural Images** HaDi MaBouDi, Hideaki Shimazaki, Hamid Soltanian-Zadeh, Shun-ichi Amari

36.347 **Bivariate Statistics and Correlations in Natural Images** Che-Chun Su, Lawrence Cormack, Alan Bovik

36.348 **Hierarchical correlational structures in natural scenes** Zhiyong Yang, Xiaoyuan Zhu, Julian Nussbaum

36.349 **Efficient Coding in Active Perception** Jochen Triesch, Thusitha Chandrapala, Sébastien Forestier, Luca Lonini, Constantin Rothkopf, Bert Shi, Céline Teulière, Chong Zhang, Yu Zhao

36.350 'Natural' image statistics and 'Neoplasticism' – what could be the formula to compose a Mondrian? Johannes M. Zanker, Alexandra Kalpadakis-Smith, Szonya Durant

36.351 Border salience reveals a curved global geometry of the perceptual space of local image statistics Syed M. Rizvi, Mary M. Conte, Jonathan D. Victor

36.352 **Sensitivity to local image statistics is (almost) scale-invariant** Mary M. Conte, Syed M. Rizvi, Daniel J. Thengone, Jonathan D. Victor

Perceptual Learning: Plasticity and adaptation

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

36.401 Lateral Masking Reveals Effects of Invading Activity of Short-Term Visual Plasticity Dorothy Currey, Matthew Gannon, Nathan Parks

36.402 Does size matter? The effect of different magnitudes of prismatic adaptation on perceptual and motor biases. Christopher Striemer, Priya Nath, Karyn Russell

36.403 **Visual adaptation as inhibitory reweighing** Zachary Westrick, David Heeger, Michael Landy

36.404 Residual inefficiencies of recovered vision in cortically blind fields – insights from equivalent noise analysis Matthew Cavanaugh, Michael Melnick, Ruyuan Zhang, Mariel Roberts, Anasuya Das, Duje Tadin, Marisa Carrasco, Krystel Huxlin

36.405 Going beyond blindsight: properties of recovered vision in cortically blind fields Anasuya Das, Duje Tadin, Krystel Huxlin

36.406 Repeated days of 2 hr visual adaptation create effects that are faster but weaker. Juraj Mesik, Stephen A. Engel

36.407 **Visuomotor adaptation to random rotation transformations in a continuous tracking paradigm** Katherine Snyder, Lawrence Cormack, Mary Hayhoe

36.408 **Adapting the oculomotor reference frame** Terence L. Tyson, Laura Walker, Anna Ma-Wyatt, Donald Fletcher

36.409 Sleep Enhancement of Texture Discrimination Performance is Dependent on Training Paradigm Drew Walker, Steven Pan, Shaheen Modir, Timothy Rickard

36.410 Action Video Games as a Treatment of Amblyopia in Children: A Pilot Study of a novel, child-friendly action game Christina Gambacorta, Samuel Huang, Indu Vedamurthy, Mor Nahum, Jessica Bayliss, Daphne Bavelier, Dennis Levi

36.411 Perceptual learning in patients with central scotomata due to hereditary and age-related macular dystrophy Mark W. Greenlee, Katharina Rosengarth, Carolin Schmalhofer, Markus Goldhacker, Sabine Brandl-Rühle, Tina Plank

36.412 Extrastriate Body Area (EBA) Activation is Greatest During Viewing of a Dance Sequence Compared to Visualization and Movement: Evidence for Learning and Expertise Effects Joseph

DeSouza, Paula Di Noto, Gabriella Levkov, Rachel Bar

36.413 **Better Batting Through Perceptual Learning** Jenni Deveau, Dan Ozer, Aaron Seitz

36.414 Fear memories in visual cortex: inter-individual differences related to reflex physiology and genetic variants L. Forest Gruss, Margaret Bradley, Andreas Keil

36.415 Lateralized insular activation/deactivation as a result of active learning Lora Likova, Spero Nicholas

Development: Autism

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

36.416 Intact Multisensory Integration of Low-Level Visual and Auditory Information in ASD Vanessa Bao, Victoria Doobay, Laurent Mottron, Olivier Collignon, Armando Bertone

VSS 2014 Program Sunday Afternoon Posters

- 36.417 **Assessing lateral interactions within the early visual areas of adults with autism.** Sabrina Censi, Mathieu Simard, Laurent Mottron, Dave Saint-Amour, Armando Bertone
- 36.418 **Perceptual Influences on Cognitive Peaks of Ability in Autism** Victoria M Doobay, Vanessa Bao, Laurent Mottron, Armando Bertone
- 36.419 The role of development in locally-oriented visual perception: an investigation spatial contrast sensitivity in Autism Spectrum Disorder Jacalyn Guy, Laurent Mottron, Armando Bertone
- 36.420 Atypical Basic Psychophysics in ASD Bat-Sheva Hadad
- 36.421 Increased sampling of motion signals in children with autism Catherine Manning, Steven Dakin, Marc Tibber, Tony Charman, Elizabeth Pellicano
- 36.422 Individuals with autism experience stronger visual capture by shape singletons than neurotypicals Amrita Puri, Kami Koldewyn, Kenith Sobel
- 36.423 The "Mexican hat" of the attentional focus in autism spectrum disorders Luca Ronconi, Simone Gori, Maria Devita, Massimo Molteni, Andrea Facoetti
- 36.424 **Orientation discrimination profiles identify distinct subgroups within autism spectrum disorder** Fakhri Shafai, Kimberly Armstrong, Grace Iarocci, Ipek Oruc
- 36.425 **Resistance to distraction in visual search in 2-year-old toddlers with and without Autism Spectrum Disorder (ASD)** Hayley Smith, Sylvia Guillory, Erik Blaser, Zsuzsa Kaldy
- 36.426 "Don't Look": Faces with Eyes Open Influence Visual Behavior in Neurotypicals but not in Individuals with High-Functioning Autism Alma Gharib, Ralph Adolphs, Shinsuke Shimojo
- 36.427 **Don't look at the mouth, but then where? Orthogonal task reveals latent eye avoidance behavior in subjects with diagnosed ASDs : A movie version.** Connie Wang, Eiko Shimojo, Daw-An Wu, Shinsuke Shimojo
- 36.428 Facial identity is encoded relative to the norm in adults with autism spectrum disorder Jennifer A. Walsh, Daphne Maurer, Mark D. Vida, Gillian Rhodes, Linda Jeffery, M.D. Rutherford
- 36.429 **?Perception of hierarchical figures in ADHD: A unique difficulty in seeing the trees** Lilach Shalev, Carmel Mevorach, Ayelet Baisa, Nir Shalev, Anna Vaskevich, Dana Mohaban

Development: Amblyopia

Sunday, May 18, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

- 36.430 Overlapping but non-interacting neural populations in early visual cortex of a human subject with no optic chiasm. Benjamin T. Files, Farhan Baluch, Pinglei Bao, Chris Purington, Bosco S. Tjan
- 36.431 **Comparing V1 between myopes and emmetropes**. Konogan Baranton, Thien Huong Nguyen, Masaki Yoshida, Guillaume Giraudet
- 36.432 Receptive field properties of V1 and V2 neurons in amblyopic macaque monkeys revealed with local spectral reverse correlation Romesh D. Kumbhani, Najib J. Majaj, Luke E. Hallum, Christopher Shooner, Corey M. Ziemba, J. Anthony Movshon, Lynne Kiorpes

- 36.433 **Abnormal surround suppression in amblyopic macaques** L.E. Hallum, N.J. Majaj, C. Shooner, R.D. Kumbhani, C.M. Ziemba, J.A. Movshon, L. Kiorpes
- 36.434 **Neural correlates of amblyopia in foveal and parafoveal visual cortex of amblyopic macaque monkeys** Christopher Shooner, Najib J. Majaj, Romesh D. Kumbhani, Luke E. Hallum, Corey M. Ziemba, J. Anthony Movshon, Lynne Kiorpes
- 36.435 **Perceptual Visual Distortions in Juvenile Amblyopes** Marianne E. F. Piano, Anita J. Simmers, Peter J. Bex
- 36.436 **Comparing dichoptic action video game play to patching in adults with amblyopia.** Sean Noah, Jessica Bayliss, Indu Vedamurthy, Mor Nahum, Dennis Levi, Daphne Bavelier
- 36.437 **Is Action Video Game Training Able to Prevent Future Reading Impairment?** Simone Gori, Sandro Franceschini, Milena Ruffino, Maria Enrica Sali, Massimo Molteni, Andrea Facoetti
- 36.438 **Is the Cortical Magnification reduced for the amblyopic eye?** Simon Clavagnier, Serge O Dumoulin, Robert F Hess
- 36.439 **Higher-order Vision in Adults born at Extremely Low Birthweights** Terri Lewis, Louis Schmidt, Daphne Maurer

Monday Morning Talks

Development

Monday, May 19, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Terri Lewis

41.11, 8:15 am Categorization of faces versus objects in the infant's right occipito-temporal cortex by means of fast periodic visual stimulation Adelaide de Heering, Goedele Van Belle, Bruno Rossion

41.12, 8:30 am Early monocular enucleation selectively disrupts the development of neural mechanisms for face perception Krista Kelly, Keyvan Tcherassen, Brenda Gallie, Jennifer Steeves

41.13, 8:45 am Cortical Timing, Early Attention, and Functional Vision in Infants with Perinatal Brain Injury Oliver Braddick, Janette Atkinson, Morag Andrew, Christine Montague-Johnson, Jin Lee, John Wattam-Bell, Jeremy Parr, Peter Sullivan

41.14, 9:00 am Coarse stereopsis reveals residual binocular function in children with strabismus Kimberly Meier, Grace Qiao, Laurie M. Wilcox, Deborah Giaschi

41.15, 9:15 am **Over-specific perceptual learning in ASD** Hila Harris, Ryan Egan, Akshat Gupta, Nancy Minshew, Yoram Bonneh, David J. Heeger, Dov Sagi, Marlene Behrmann

41.16, 9:30 am Ensemble perception of size in 4-5 year-old children Timothy Sweeny, Nicole Wurnitsch, Sophie Bridgers, Alison Gopnik, David Whitney

Visual search

Monday, May 19, 10:45 am - 12:15 pm Talk Session, Talk Room 1 Moderator: Krista A. Ehinger

42.11, 10:45 am Foraging and navigating in a virtual orchard: Which tree do you visit next? Krista A. Ehinger, Jeremy M. Wolfe

42.12, 11:00 am **The Long and the Short of Intertrial Priming** Wouter Kruijne, Martijn Meeter

42.13, 11:15 am Facilitation of visual search from object-to-scene binding in an immersive virtual environment Chia-Ling Li, M Pilar Aivar, Dmitry M Kit, Matthew H Tong, Mary M Hayhoe

42.14, 11:30 am The influence of task set and task switching on visual behavior Michael Dodd, Mark Mills, Edwin Dalmaijer, Stefan Van der Stigchel

42.15, 11:45 am Integration of visual features over time: Behavior and brain activity Sebastian Frank, Eric Reavis, Mark Greenlee, Peter Tse

42.16, 12:00 pm The handoff of the attentional template from working memory after repeated search: The effects of task difficulty Eren Gunseli, Christian N.L. Olivers, Martijn Meeter

Attention: Spatial

Monday, May 19, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Antoine Barbot

41.21, 8:15 am **Proactive spatial inhibition in visual selection** Donatas Jonikaitis, Saurabh Dhawan, Heiner Deubel

41.22, 8:30 am Attentional modulation is weak in V1 in human amblyopia Chuan Hou, Kim Yee-Joon, Preeti Preeti Verghese

41.23, 8:45 am Spatial and feature-based attention differentially affect the gain and tuning of orientation-selective filters Antoine Barbot, Valentin Wyart, Marisa Carrasco

41.24, 9:00 am The Mere Exposure Effect Is Modulated By Selective Attention But Not Visual Awareness Yu-feng Huang, Po-jang Hsieh

41.25, 9:15 am Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: a time-resolved fMRI study Paige Scalf, Elexa St. John-Salltink, Markus Barth, Hawkwan Lau, Floris De Lange

41.26, 9:30 am Kalman filter models of multiple-object tracking within an attentional window Sheng-hua Zhong, Zheng Ma, Colin Wilson, Jonathan Flombaum

Object recognition: Neural mechanisms 1

Monday, May 19, 10:45 am - 12:15 pm Talk Session, Talk Room 2 Moderator: Reza Rajimehr

42.21, Novel module formation reveals underlying shape bias in primate infero-temporal cortex Krishna Srihasam, Margaret Livingstone

42.22, Locally-Optimized Inter-Subject Alignment of Functional Cortical Regions Marius Cătălin Iordan, Armand Joulin, Diane M. Beck, Li Fei-Fei

42.23, **Functional parcellation of human visual cortex** Reza Rajimehr, Simon Kornblith, Robert Desimone

42.24, Intermediate human visual areas represent the locations of silhouette edges in natural movies Mark D. Lescroart, Shinji Nishimoto, Jack L. Gallant

42.25, **Spatial receptive fields persist at the latest stages of the human ventral visual stream** Kendrick Kay, Kevin Weiner, Kalanit Grill-Spector

42.26, Visual Field Coverage of Category-Selective Regions in Human Visual Cortex Estimated Using Population Receptive Field Mapping Nathan Witthoft, Mai Nguyen, Golijeh Golarai, Alina Liberman, Karen F. LaRocque, Mary E. Smith, Kalanit Grill-Spector

Monday Morning Posters

3D Perception: Shape from X

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 43.301 Seeing in Shadeworld Edward Adelson, Phillip Isola
- 43.302 **The experimental bas-relief ambiguity** Maarten Wijntjes, Maciej Szaniawski, Sylvia Pont
- 43.303 **Limits on the estimation of shape from specular surfaces** Julia Mazzarella, Steven Cholewiak, Flip Phillips, Roland Fleming
- 43.304 Which pieces anchor the Shape-from-Shading puzzle and how they fit together Benjamin Kunsberg, Roland Fleming, Steven Zucker
- 43.305 The perceptual matching of local surface orientation based on shape from shading Eric Egan, Christopher S. Kallie, James T. Todd
- 43.306 Perception of Local Surface Patches Using Shape From Shading Christopher S. Kallie, Eric Egan, James T. Todd
- 43.307 Is the Perception of 3D Shape from Shading Based on Assumed Reflectance and Illumination? James Todd, Eric Egan
- 43.308 Stereo-curvature aftereffects are retinal-position dependent and not scale dependent Pengfei Yan, Hiroaki Shigemasu
- 43.309 The relative effectiveness of different line drawing algorithms at conveying 3D shape Kevin Sanik, Manish Singh
- 43.310 **Local and global cues to depth in line drawings** Seha Kim, Shaheera Sarwar, Manish Singh, Jacob Feldman
- 43.311 **Specularity and shape from line drawings** Flip Phillips, Julia Mazzarella, Pete Docter
- 43.312 The retinal correlate of linear perspective in slant perception Casper Erkelens
- 43.313 **Sensitivity to Spatial Frequency Chirp in the Early Visual Cortex** Corentin Massot, Tai Sing Lee
- 43.314 **Can 3D Shape be Estimated from Focus Cues Alone?** Rachel A. Albert, Abdullah Bulbul, Rahul Narain, James F. O'Brien, Martin S. Banks
- 43.315 Insights into the perception of 3-D deforming shapes and shape deformations from comparisons of foveal and peripheral performance Anshul Jain, Qasim Zaidi
- 43.316 Dynamic perspective cues enhance depth from motion parallax Athena Buckthought, Ahmad Yoonessi, Curtis L. Baker
- 43.317 **The effect of age upon the perception of 3-D shape from motion** Jacob Cheeseman, J. Farley Norman, Jessica Pyles, Michael Baxter, Kelsey Thomason, Autum Calloway
- 43.318 **Effects of reflectance and object motion in estimating 3D structure** Dicle N. Dövencioğlu, Maarten W. A. Wijntjes, Ohad Ben-Shahar, Katja Doerschner
- 43.319 Depth perception from motion parallax: dependence on texture spatial frequency and orientation Ahmad Yoonessi, Athena Buckthought, Curtis Baker
- 43.320 **Depth cue integration with the Intrinsic Constraint Model and the Motion/Pursuit Ratio for motion parallax.** Mark Nawrot, Jessica Holmin, Keith Stroyan, Fulvio Domini

Eye movements: Saccade mechanisms and metrics

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 43.321 Contextual saccade adaptation can induce contextual perceptual effects Reza Azadi, Mark Harwood
- 43.322 Saccadic plasticity induced by a periodic disturbance of visual feedback Carlos Cassanello, Sven Ohl, Martin Rolfs
- 43.323 Rotation of the perceived vertical axis induced by saccadic adaptation Barbara Dillenburger, Michael Morgan
- 43.324 **Spatial scale strongly modulates saccade adaptation.** Mark Harwood, Afsheen Khan, Annabelle Blangero
- 43.325 **Dichoptic saccadic adaptation** Guido Maiello, William J. Harrison, Peter J. Bex
- 43.326 **Dynamics of target and distractor spatial averaging in the global effect** Woo Young Choi, Jayalakshmi Viswanathan, Manfred Kvissberg, Jason Barton
- 43.327 Saccadic reaction time distributions follow the matching law in a concurrent variable interval reinforcement schedule

 Laurent Madelain
- 43.328 Lateral interactions of competing stimuli modulate visual response fields in the frontal eye fields Robert Marino, Amirsaman Sajad, Hongying Wang, Xiaogang Yan, Douglas Crawford
- 43.329 Dissecting the delay in the saccadic size-latency phenomenon. Jelmer De Vries, Mark Harwood
- 43.330 **Investigating the time course of luminance and orientation influences on saccadic behavior** Delphine Massendari, Christophe Tandonnet, Eric Castet, Françoise Vitu
- 43.331 Saccade Endpoint Variability During Efficient and Inefficient Visual Search Dylan Morrow-Jones, Richard Heitz, Jeffrey Schall
- 43.332 Saccadic system rhythmicity accounts for inhibition of return Xiaoguang Tian, Ziad Hafed
- 43.333 How the distorted representation of visual space in our brain constrains the way we move our eyes. Françoise Vitu, Soazig Casteau, Delphine Massendari, Lotje van der Linden
- 43.334 **Alpha-Stable Distributions and Saccadic Foraging** William Hahn, Elan Barenholtz
- 43.335 **Saccadic timing is determined by both accumulated evidence and the passage of time** John Wilder, Cordelia Aitkin
- 43.336 Correcting video-based eye tracking signals for pupil size artifacts Kyoung whan Choe, Randolph Blake, Sang-Hun Lee
- 43.337 Clarifying the validity of eye movement measures from various eye tracker types; a systematic study of data quality, event detection algorithms and filters. Fiona Mulvey, Raimondas Zemblys, Linnea Larsson, Kenneth Holmqvist

Monday Morning Posters VSS 2014 Program

Eye movements: Natural tasks and environments

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 43.338 Saccade direction and surface orientation: effect of scene context Josselin Gautier, Olivier Le Meur, Sarah Waugh
- 43.339 Pictorial Human Spaces: How Well do Humans Perceive a 3D Articulated Pose? Elisabeta Marinoiu, Dragos Papava, Cristian Sminchisescu
- 43.340 Implicit measures of whether conceptual knowledge increases interest in photographs Gabriela Duran, Mary A. Peterson
- 43.341 Eye fixations in video: Quantifying the effects of meaning and action on inter-observer convergence Tom Foulsham, Rachel Grenfell-Essam
- 43.342 The Look of Evil: How are Eye Movements Influenced by Film Comprehension? John Hutson, Lester Loschky, Tim Smith, Joseph Magliano
- 43.343 What Would Jaws Do? The tyranny of film and the relationship between gaze and higher-level comprehension processes for narrative film. Lester Loschky, Adam Larson, Joseph Magliano, Tim Smith
- 43.344 Predicting observers' task from their scanpaths on natural scenes Ali Borji, Laurent Itti
- 43.345 Does an interaction catch the eye? Decoding eye movements to predict scene understanding Gregory Zelinsky, Hossein Adeli
- 43.346 **Statistics of Eye Movements in Natural Tasks** Brian Sullivan, Saeideh Ghahghaei, Laura Walker
- 43.347 Predicting the task from eye movements using multivariate pattern analysis Grigori Yourganov, Marc Berman, John Henderson
- 43.348 **Oculomotor behavior of expert and novice geologists in the field** Jeff B. Pelz, Tommy P. Keane, Karen M. Evans, Kate Walders, John A. Tarduno, Robert A. Jacobs
- 43.349 Predicting eye movements of rhesus monkeys searching for pedestrians in natural images Mark Segraves, Sara Caddigan, Ren-Shuoh Kuo, Konrad Kording
- 43.350 Microsaccades and drift are similarly modulated by stimulus contrast and anticipation Yoram Bonneh, Moshe Fried, Amos Arieli, Uri Polat

Spatial vision: Crowding and eccentricity

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 43.401 **The two-dimensional shape of the crowding zone following macular lesions** Susana Chung, Jean-Baptiste Bernard, Girish Kumar, Anirvan Nandy, Bosco Tjan
- 43.402 The size of population receptive field in V2 and crowding effect Peng Cai, Dongjun He, Fang Fang
- 43.403 **EEG frequency tagging dissociates target and flanker processing in crowding** Vitaly Chicherov, Michael H Herzog
- 43.404 **Crowding and Visual Field Inhomogenieties** Jennifer Anderson, E. Leslie Cameron, J. Jason McAnany, Michael Levine

43.405 **Visual acuity and spatial interaction zones: investigating the periphery in anisometropic amblyopia** M Izzuddin Hairol, Norazizah Abd-Latif, Pui Juan Woi, Nurul Hafizah Ahmad-Rashaidi, Sharanjeet Kaur, Sarah J Waugh

- 43.406 Accuracy in Localising the Centre of a Circle Hongfan Shen, Damien Mannion, Seong-Whan Lee, Daniel Kersten
- 43.407 Random-sampling leads to multiplicative noise in crowded displays Carl Gaspar, Wei Chen
- 43.408 The neural correlate of the polarity advantage effect in crowding Ziyun Zhu, Fang Fang
- 43.409 The Time Course of Crowding Following a Change in Target Orientation Jeffrey Nador, Yury Petrov, Adam Reeves
- 43.410 Motion-priming in crowding: evidence for motion averaging Andrea Pavan, Martin Gall, Mark W. Greenlee
- 43.411 **Spatial and temporal crowding with normal observers** Shira Tkacz-Domb, Einat Rashal, Yaffa Yeshurun
- 43.412 **Investigating visual crowding of objects in complex scene images** Allison Coy, Ryan Ringer, Adam Larson, Michael Luczak, Lester Loschky
- 43.413 The roles of letter exposure and letter frequency in learning to identify crowded letters Deyue Yu, Jesse Husk
- 43.414 Perceptual learning reduces identity errors but not position errors in visual crowding Ying-Zi Xiong, Cong Yu, Jun-Yun Zhang
- 43.415 Music-reading training alleviates crowding with musical notation Yetta Kwailing Wong, Alan C.-N. Wong
- 43.416 Qualitative difference in categorical priming between conscious and unconscious processing of numbers: Evidence from visual crowding Yih-Shiuan Lin, Su-Ling Yeh
- 43.417 **A new font to reduce crowding** Jean-Baptiste Bernard, Carlos Aguilar, Eric Castet
- 43.418 **Crowding predicts reading abilities** Oren Yehezkel, Anna Sterkin, Maria Lev, Uri Polat
- 43.419 Foveal letter crowding: Is it due to contour interaction or gaze instability? Vineela Varikuti, John Siderov, Ebi Osuobeni
- 43.420 Effects of stimulus duration on foveal crowding using visual acuity letters. Sarah J Waugh, Monika A Formankiewicz, M Izzuddin Hairol
- 43.421 Foveal crowding exists for short presentation times and reduces after training Maria Lev, Oren Yehezkel, Anna Sterkin, Uri Polat
- 43.422 Crowding is similar for eye movements and manual responses Funda Yildirim, Frans W. Cornelissen

Color and light: Adaptation and constancy

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 43.423 Interocular lateral interaction subserves dichoptic positive color aftereffects Chien-Chung Chen, Huan-Tin Chen, Takao Sato
- 43.424 Flicker adaptation desensitizes the magnocellular but not the parvocellular pathway Xiaohua Zhuang, Dingcai Cao, Joel Pokorny
- 43.425 **The Twinkle Aftereffect Is Modulated by Attention and Awareness** Xiaoxu Fan, Lan Wang, Sheng He
- 43.426 Colour appearance and age-related adaptation mechanisms Sophie Wuerger

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43.427 The effects of delay and chromatic noise on hue bias and precision Maria Olkkonen, Patrice McCarthy, Sarah Allred

43.428 **Colour Constancy in Immersive Viewing** Anya Hurlbert, Bradley Pearce, Michal Mackiewicz, Graham Finlayson

43.429 **Effects of Illuminant chromaticity on color constancy** David Weiß, Karl Gegenfurtner

43.430 Color constancy and palette complexity in real scenes Patrice McCarthy, Maria Olkkonen, Sarah R Allred

43.431 Is color constancy influenced by the glossiness of color paper? Yoko Mizokami, Asuka Akahori, Hirohisa Yaguchi

43.432 **Color constancy in a natural task is high** Ana Radonjić, Nicolas P. Cottaris, David H. Brainard

43.433 **Light field interpolation across an insulating white border** Minjung Kim, Kelly Ng, Laurence Maloney

Perceptual organization: Grouping

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

43.434 Neural correlates of spatio-temporal grouping in bistable apparent motion perception Lu Shen, Lihan Chen, Qi Chen

43.435 An early electrophysiological response associated with illusory contour processing is reduced by cognitive load Ryuji Takeya, Tetsuko Kasai

43.436 Grouping-based attention influences surround suppression in human primary visual cortex Anastasia Flevaris, Scott Murray

43.437 Stimulus Features Contributing to Perceptual Organization of Complex Scenes Beliz Hazan, Daniel D. Kurylo, Zeynel Baran, Xuan Zhao

43.438 The relation between acuity of the Approximate Number System and dorsal and ventral stream functions Sara Giovagnoli, Mariagrazia Benassi, Kerstin Hellgren, Lea Forsman, Roberto Bolzani

43.439 Perceptual grouping of multiple inducers in visual completion stimuli Gal Nir, Ohad Ben-shahar

43.440 **Can a competition between grouping principles be resolved without attention?** Einat Rashal, Yaffa Yeshurun, Ruth Kimchi

43.441 **Contextual disambiguation of rotating Necker cubes** Marouane Ouhnana, Frederick Kingdom

43.442 Conjoint Effects of Spatial Proximity and Binocular Disparity in Perceptual Grouping. Steven Scheid, Sergei Gepshtein, Michael Kubovy

43.443 **Grouping by similarity is serial, irrespective of spacing or group size** Dian Yu, Derek Tam, Steven Franconeri

43.444 What's the purpose of perceptual averaging? Jennifer Corbett, David Melcher

43.445 Grouping by Temporal Structure: Perceptual Organization Without Awareness? Sharon E. Guttman

43.446 Hemispatial asymmetries of grouping effects on numerosity perception Lixia He, Tiangang Zhou, Yan Zhuo, Lin Chen

Face perception: Experience, learning and expertise 1

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Pavilion

43.501 Change in asymptote reveals distinct mechanisms underlying adaptation to faces Yihwa Baek, Stephen A. Engel

43.502 The effect of visual familiarity on the implicit learning of prototype and eigenfaces Xiaoqing Gao, Hugh Wilson

43.503 Invariance across view-points and viewing distances, and its effects on face perception—evidence from personally familiar face processing Meike Ramon

43.504 Face Matching Skill: Studies of Individual Differences and Training Anne Hillstrom, Gary Dalton, Lorraine Hope, James Sauer

43.505 Adaptation to an average expression improves discrimination of facial expressions Nichola Burton, Linda Jeffery, Andrew Calder, Gillian Rhodes

43.506 **Testing the face-specificity of the inversion effect in budgie experts** Alison Campbell, James Tanaka

43.507 **Fido-specific after-effects: Dog specific adaptation for dog-owners but not non-owners.** Sarah Laurence, Victoria Ratcliffe, Graham Hole, David Reby, Catherine Mondloch

43.508 The influence of perceptual expertise on object aftereffects: the case of faces, birds and cars Linda X Wang, Jason JS Barton, Jodie Davies-Thompson

43.509 **Computer generated faces may not tap face expertise** Kate Crookes, Louise Ewing, Ju-dith Guildenhuys, William Hayward, Matt Oxner, Stephen Pond, Gillian Rhodes

43.510 Beyond perceptual expertise: Revisiting the neural substrates of expert object recognition Assaf Harel, Dwight Kravitz, Chris Baker

43.511 Measurement of semantic knowledge of object categories: Creating the Semantic Vanderbilt Expertise Test (SVET) Ana Van Gulick, Isabel Gauthier

43.512 **Modeling the Moderation of Experience in Face and Object Recognition** Panqu Wang, Benjamin Cipollini, Akinyinka Omigbodun, Isabel Gauthier, Garrison Cottrell

43.513 Gender effects for toy faces reveal qualitative differences in face processing strategies Kaitlin Ryan, Isabel Gauthier

43.514 How does reading direction modulate perceptual and visuospatial attention biases? Harry Chung, Joyce Liu, Janet Hsiao

43.515 **Painted faces: misperceiving shading as pigmentation** Amy Mac, Katherine Tregillus, Frederick A. A. Kingdom, Michael A. Webster

43.516 Evidence for opponent coding of hand-identity within a multidimensional 'hand-space' Federica Biotti, Richard Cook

Perception and action: Decisions, interception

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Pavilion

43.517 Action relations affect affordance selection: Evidence from visuomotor responses to paired objects Shan Xu, Dietmar Heinke, Glyn Humphreys

43.518 Bayesian Theory of Action-Specific Effects Suggests Integration of Visual- and Action-based Information Jessica Witt

43.519 **The role of basic visual features in priming** Fredrik Allenmark, Karolina Moutsopoulou, Florian Waszak

43.520 Examining decision heuristics in a timed visuomotor task Nicholas M. Ross

43.521 **Visual and motor priming effects on prediction of observed action in the first and third person perspectives** Victoria C. Brattan, Daniel H. Baker, Steven P. Tipper

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- 43.522 Blind prediction of perceptual states using patterns of motor variability Jillian Nguyen, Jay Ravaliya, Ushma Majmudar, Thomas Papathomas, Elizabeth Torres
- 43.523 **The Effects of Speed and Direction on Eye-hand Coordination for Moving Targets** Melissa Bulloch, Steven Prime,
 Jonathan Marotta
- 43.524 Learned action effects modulate salience in space: Evidence for the preactivation theory Davood Gozli, Jay Pratt
- 43.525 Titchener's T in Context Delimited, Discrete Monomotif Patterns Klaus Landwehr
- 43.526 The temporal balance between evidence integration and probabilistic sampling in perceptual decision making Jeppe Christensen, Máté Lengyel, József Fiser
- 43.527 Ups and downs: task-dependent timescale of evidence integration in environments with smooth, oscillatory probability changes Friederike Schüür, Peter F. Hahn, Laurence T. Maloney
- 43.528 We know our own movement errors, but we hardly correct for then: An instance of optimal behavior Marc Ernst, Loes van Dam
- 43.529 Active Sampling supported Comparison of Causal Inference Models for Agency Attribution in Goal-Directed Actions Tobias F Beck, Dominik Endres, Axel Lindner, Martin A Giese
- 43.530 Extracting the global confidence across multiple trials of a visual task Alan L. F. Lee, Vincent de Gardelle, Pascal Mamassian
- 43.531 Action Encoding and Recognition based on Multi-Scale Spatial-Temporal Natural Action Structures Suxing Liu, Zhiyong Yang
- 43.532 **Modeling response time and accuracy during a visual discrimination stop-signal task** Paul Middlebrooks, Bram Zandbelt, Thomas Palmeri, Gordon Logan
- 43.533 Visually-guided interceptive actions performed in virtual environments David Mann, John van der Kamp
- 43.534 When must one look at the ball in order to be able to catch it? Joan López-Moliner, Eli Brenner
- 43.535 Action distorts perceived duration of sensory consequences Clare Press, Eva Berlot, Geoff Bird, Richard Ivry, Richard Cook
- 43.536 **Body and objects representations are associated with similar distortions** Aurelie Saulton, Trevor Dodds, Heinrich Buelthoff, Stephan de la Rosa
- 43.537 **Tracking hidden objects with efficient physical prediction** Kevin A Smith, Eyal Dechter, Joshua B Tenenbaum, Edward Vul
- 43.538 Why is Counting-by-Eye so Difficult? Effects of Spatial Structure and Reduced Luminance D. Alfred Owens, Jacob Benedict, Carly Campoli, Margi Shah
- 43.539 Long-lasting paradoxical effects of attentional-states on visuomotor learning Joo-Hyun Song, Patrick Bédard

Visual memory: Encoding and retrieval

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Pavilion

- 43.540 Intention and Aesthetic Value is not key to large Pictorial Long-Term Memory Karla Evans, Alan Baddeley
- 43.541 **Briefly flashed scenes can be stored in long-term memory** Michèle Fabre-Thorpe, Arnaud Delorme, Marlène Poncet

43.542 If at first you don't retrieve, try, try again: The role of retrieval failures in visual working memory Daryl Fougnie, Timothy F. Brady, George A. Alvarez

- 43.543 **Semantic bias in visual working memory** Farahnaz Ahmed Wick, Lucia Saura, Chia-Chien Wu, Marc Pomplun
- 43.544 Attentional inhibition has affective consequences for visual stimuli represented in short- and long-term memory David De Vito, Anne E. Ferrey, Katherine McArthur, Mark J. Fenske
- 43.545 **Attention is Necessary for Iconic Memory** Muge Erol, Arien Mack, John Bert
- 43.546 **Pupil Response Predicts Memory Strength in a Visual Short-term Memory Task** Sylvia Guillory, Zsuzsa Kaldy, Mohinish Shukla, Marc Pomplun
- 43.547 The first four seconds: an assessment of post-stimulus processing in visual short-term memories Jane Jacob, Bruno Breitmeyer, Melissa Trevino
- 43.548 Assessment of Maintenance and Consolidation in Visual Short-Term Memories Melissa Trevino, Bruno Breitmeyer, Jane Jacob
- 43.549 Factors at Encoding and Retrieval Affect Color Precision in Visual Working Memory Michael Patterson, Miao Qin Sim
- 43.550 Revaluating the Visual Short-Term Memory Benefit for 3-D Stimuli ${\sf Sarah}\ R.\ Zohar$, Laurie M. Wilcox
- 43.551 Facilitating 6-month-old infants' visual short-term memory for multiple-item arrays Shipra Kanjlia, Steven J. Luck, Lisa M. Oakes
- 43.552 The Use of Relations and Prototypes in a Spatial Memory Task Depends on Timing David Landy, L. Elizabeth Crawford, Amanda N. Presson
- 43.553 Mapping the spatial distribution of short-term memory representations for visual motion Adam C Riggall, Bradley R Postle

Scene perception: Categorization and memory

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Pavilion

- 43.554 The importance of visual features in rapid scene categorization: Evidence from repetition blindness. Martin J. Goldzieher, Irina M. Harris
- 43.555 **Spatial Frequency in Detection of Grayscale Pictures in RSVP** Carl Erick Hagmann, Mary C. Potter
- 43.556 **Perception of real-world scenes at multiple spatial scales** Caitlin Mullin, Nicola Van Rijsbergen, Philippe Schyns , Johan Wagemans
- 43.557 **Sensitivity to spatial ensemble statistics predicts rapid scene perception ability** Anna Shafer-Skelton, Timothy F. Brady, George A. Alvarez
- $43.558 \ \textbf{Scene syntactic priming boosts lexical access.} \ \mathrm{Melissa} \ \mathrm{Vo,} \\ \mathrm{Jeremy} \ \mathrm{Wolfe}$
- 43.560 Reduced ERP amplitudes for animal stimuli in the absence of conscious awareness Weina Zhu, Jan Drewes, Karl Gegenfurtner
- 43.561 Perceiving the global: The role of surface texture consistency in object and background perception Matthew X. Lowe, Jonathan S. Cant
- 43.562 Interactions between space-based and category-based attention in the ventral and dorsal visual system during real-world visual search Katharina N. Seidl-Rathkopf, Jiye G. Kim, Marius V. Peelen, Sabine Kastner

43.563 Disambiguating the Effect of clutter on Boundary Extension Carmela Gottesman

43.564 Fuzzy memories and boundary extension: Individual scenes or episodic experiences Benjamin A. McDunn, James M. Brown, Ralph G. Hale

43.565 **Memory of a Scene Following Viewpoint Change Caused by Viewer Locomotion** Hong-Jin Sun, Michael Comishen, Daniel Zhou, Katrina Radassao, Melanie Iarocci, Christopher Teeter

Scene perception: Summary statistics

Monday, May 19, 8:30 am - 12:30 pm Poster Session, Pavilion

43.566 Summary statistics of size: Fixed processing capacity for multiple ensembles but unlimited processing capacity for single ensembles Mouna Attarha, Cathleen M. Moore, Shaun P. Vecera

43.567 The effect of gain adaptation on the sensitivity of human perceptual judgements. Santiago Herce Castañón, Samuel Cheadle, Konstantinos Tsetsos, Christopher Summerfield

43.568 **Visual size averaging is parallel but depends on the range** Natalia Tiurina, Igor Utochkin

43.569 The perception of variety in color segmented sets Anton Gura, Igor Utochkin

43.570 Seeing variety: The determinants of visual representation of variance statistics Igor Utochkin, Anton Gura

43.571 **Rapidly estimating numerosity independent of size-related distance or occlusion** Guillaume Riesen, Harald Ruda, Ennio Mingolla

43.572 Neural Representation of Ensemble Orientation in Human Visual Cortex Ruosi Wang, Yaoda Xu

43.573 **Plinko: A spatial probability task to measure learning and updating.** Alex Filipowicz, Derick Valadao, Britt Anderson, James Danckert

43.574 **Summary statistics influence how individuals are perceived in noise.** Kyle Killebrew, Christopher Blair, Gideon Caplovitz

43.575 Foveal input is not required for ensemble coding of emotional faces Katherine Wood, Benjamin Wolfe, Anna Kosovicheva, Allison Yamanashi Leib, David Whitney

43.576 **Neural computation of scene gist with and without attention** Iris Groen, Sennay Ghebreab, Victor Lamme, Steven Scholte

43.577 The effects of spatial organization on numerosity judgments in real-world scenes Stacey Rashford, Elan Barenholtz

43.578 Improving computational models of early visual cortex using single image ERP data H.Steven Scholte, Sennay Ghebreab

43.579 Ensemble Perception of Multiple Crowd Characteristics Allison Yamanashi Leib, Yang Bai, Anna Kosovicheva, Kelly Chang, Amrita Puri, Lynn Robertson, David Whitney

Tuesday Morning Talks

Perceptual organization: Surfaces, segmentation, shapes and objects

Tuesday, May 20, 8:15 - 9:45 am Talk Session, Talk Room 1 Moderator: Edward Adelson

51.11, 8:15 am Reconstructing the 'third dimension' from 2D shapes: Evidence from the perception of balance Chaz Firestone, Frank Keil

51.12, 8:30 am Visual cue diagnosticity for boundary detection in natural scenes: A computational study David Alex Mély, Junkyung Kim, Mason McGill, Yuliang Guo, Thomas Serre

51.13, 8:45 am Dynamic Illusory Size-Contrast: A relative-size illusion modulated by stimulus motion and eye movements Ryan Mruczek, Chris Blair, Gideon Caplovitz

51.14, 9:00 am Enigmatic cases of modal amodal completion: What do modal and amodal percepts represent? Vebjørn Ekroll, Tom R. Scherzer

51.15, 9:15 am Bending the truth: Generative models of shape for inferring transformations Patrick Spröte, Roland Fleming

51.16, 9:30 am Puffball Part Segmentation: Psychophysical and Statistical Evaluation Nathaniel Twarog, Edward Adelson

Perception and action: Reaching and grasping

Tuesday, May 20, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Fulvio Domini

52.11, 10:45 am A preference to adjust where rather than when to hit a moving target Eli Brenner, Jeroen BJ Smeets

52.12, 11:00 am Adaptation to visual feedback delays in predictable manual tracking recalibrates perceived simultaneity Marieke Rohde, Loes van Dam, Marc Ernst

52.13, 11:15 am **Visual on-line control of grasping movements** Robert Volcic, Fulvio Domini

52.14, 11:30 am **Getting a grip on different materials** Vivian C. Paulun, Karl R. Gegenfurtner, Melvyn A. Goodale, Roland W. Fleming

52.15, 11:45 am Visual Feedforward Grasping and Motor Adaptation to Actual Target Width in Visual Form Agnosic Patient DF Robert L. Whitwell, A. David Milner, Cristiana Cavina-Pratesi, Masih Barat, Caitlin M. Byrne, Melvyn A. Goodale

52.16, 12:00 pm Neurophysiological investigations of speedaccuracy tradeoff Richard Heitz, Jeffrey Schall

52.17, 12:15 pm How does sensorimotor control change with age? A comparison of visual and pointing performance in older and younger people Anna Ma-Wyatt, Jessica O'Rielly, Reuben Pucek, Adam Kane, Preeti Verghese, Laura Walker

Visual working memory: Neural mechanisms

Tuesday, May 20, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Timothy F. Brady

51.21, 8:15 am Induced alpha rhythms reveal the content and quality of visual working memory representations with high temporal precision David E. Anderson, John T. Serences, Edward K. Vogel, Edward Awh

51.22, 8:30 am Neural correlates of visual working memory precision in frontal and parietal cortex Qing Yu, Won Mok Shim

51.23, 8:45 am Neural evidence for the flexible use of working memory and episodic memory in prospective remembering Jarrod Lewis-Peacock, Jonathan Cohen, Kenneth Norman

51.24, 9:00 am Reconstructing stimulus-specific working memory representations in human visual, parietal, and frontal cortex.

Edward Ester, John Serences

 $51.25,\,9:15$ am Working memory accumulates more information from real-world objects than from simple stimuli: Evidence from contralateral delay activity $\operatorname{Timothy}$ F. Brady, Viola S. Störmer, George

51.26, 9:30 am Decoding reveals distractor modulation of visual short-term memory contents in occipital but not in parietal cortices Katherine Bettencourt, Yaoda Xu

Object recognition: Neural mechanisms 2

Tuesday, May 20, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Brendan Ritchie

52.21, 10:45 am Rapid extraction of category-specific shape statistics: Evidence from event-related potentials Bria L. Long, Viola S. Störmer, George A. Alvarez

52.22, 11:00 am The time course of three-dimensional object recognition in human vision: An ERP study $\rm Zoe~J.~Oliver,~Mark~V.~Roberts,~Alan~J.~Pegna,~Charles~Leek$

 $52.23,\,11:15$ am Representational geometry measures predict categorisation speed for particular visual objects $\rm Ian$ $\rm Charest,$

Thomas A. Carlson, Nikolaus Kriegeskorte

52.24, 11:30 am Selectivity for non-accidental properties emerges from learning object transformation sequences Sarah Parker, David Reichert, Thomas Serre

52.25, 11:45 am Emerging Representational Geometry for Objects Predicts Reaction Time for Categorization J. Brendan Ritchie, David Tovar, Thomas Carlson

52.26, 12:00 pm Large-scale Characterization of a Universal and Compact Visual Perceptual Space Ha Hong, Ethan Solomon, Dan Yamins, James DiCarlo

52.27, 12:15 pm **Selective Metamorphopsia for Letters and Digits** Michael McCloskey, Teresa Schubert, David Rothlein, Brenda Rapp, Diane Slonim, Karen Van Den Heuvel

Tuesday Morning Posters

Visual search: Attention

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

53.301 Winter is coming: How humans forage in a temporally structured environment Jinxia Zhang, Daryl Fougnie, Xue Gong, George Alvarez, Jeremy Wolfe

53.302 **Visual search is influenced by 3D spatial layout** Nonie Finlayson, Philip Grove

53.303 Workload Capacity Analysis of Stereoscopic Pop-Out in Visual Search Joseph Houpt, Leslie Blaha, Elizabeth Fox

53.304 **Searching for the right word: Hybrid visual and memory search for words** Sage E.P. Boettcher, Jeremy M. Wolfe

53.305 Updating for free? Span and Updating tasks modulate Visual Search in a similar manner Beatriz Gil-Gómez de Liaño, Trafton Drew, María Quirós, Jeremy Wolfe

53.306 Nonlinear effects of target-distractor feature sharing in triple conjunction visual search Maria Nordfang, Jeremy M. Wolfe

53.307 When Does the Aardvark Move to the Next Anthill? Foraging search with moving targets Matthew S. Cain, Sage E. P. Boettcher, Jeremy M. Wolfe

53.308 Enhanced filtering by motion in visual search: The case of action video-game play Kevin Dent

53.309 Distractor heterogeneity effects in visual search are mediated by "segmentability" Maria Yurevich, Igor Utochkin

53.310 Guiding search for camouflaged targets: Does color matter? Alyssa Hess, Mark Neider

53.311 Impetuous search execution is postponed for the purpose of an efficient conjunction search with a coherent target template Junha Chang, Joo-Seok Hyun

53.312 Taming the White Bear: Learning Distractor Features Begins With a Cost, But Eventually Allows For More Efficient Search Corbin A. Cunningham, Howard E. Egeth

53.313 Serial Search Can Occur in Multiple Feature Dimensions at the Same Time Steve Haroz, William Prinzmetal, David Whitney

53.314 **Improving Search through Rapid Serial Visual Presentation** Chad Peltier, Samuel Hemsteger, Mark Becker

53.315 Confirmation bias in visual search Jason Rajsic, Daryl Wilson, Jay Pratt

53.316 **The effects of competitiveness on visual search** Carissa Romero, Andrew Trevathan , Eriko Self

53.317 **Visual Search for MILSTD 2525 Glyphs** Navaneethan Siva, Hannah Huffman, Alex Chaparro, Evan Palmer

53.318 **Right temporo-parietal junction involvement in visual feature binding** Stefan Pollmann, Wolf Zinke, Florian Baumgartner, Franziska Geringswald, Michael Hanke

53.319 Chemotherapy impairs visual search: A meta-analysis and a call to action Todd Horowitz

53.320 Relationship between cerebral blood flow and body dissatisfaction in visual search task involving body-related information Moe Nagahata, Masamitsu Harasawa, Hiroshi Ishikane

Visual Search: Models and theories

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

53.321 **New exploration of classic search tasks** Honghua Chang, Ruth Rosenholtz

53.322 **The role of lure heterogeneity in logarithmic visual search** Deborah Cronin, Alejandro Lleras, Simona Buetti

53.323 A blurring based model of peripheral vision predicts visual search performances Rachit Dubey, Chun Siong Soon, Po-Jang (Brown) Hsieh

53.324 Spatial deployment of attention in visual search: new evidence against a strict parallel model Laura Dugué, Douglas McLelland, Mathilde Lajous, Rufin VanRullen

53.325 **Information pursuit as a model for efficient visual search** Hee Yeon Im, Sheng-hua Zhong, Bruno Jedynak, Lisa Feigenson, Jonathan Flombaum

53.326 Logarithmic, sequential discounting of elements in a search display during feature search: evidence in favor of the Information Theory of Vision Anna Madison, Simona Buetti, Alejandro Lleras

53.327 Linear models of visual search are highly implausible: towards a better understanding of search in real world scenes using logarithmic search functions. Zhiyuan Wang, Simona Buetti, Alejandro Lleras

53.328 Searching through the hierarchy: A behavioral and computational approach to understanding categorical search Justin Maxfield, Chen-Ping Yu, Gregory Zelinsky

Perceptual learning: Methods and mechanisms

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

53.329 Learning of New Perceptual Groupings - A Biologically Plausible Recurrent Neural Network Model that Learns Contour Integration Tobias Brosch, Pieter Roelfsema, Heiko Neumann

53.330 Further evidence that connectivity differences may drive lateralization of visual processing Ben Cipollini, Garrison Cottrell

53.331 **Feature distributions constrain visual object perception** Judith E. Fan, Nicholas B. Turk-Browne

53.332 Augmented Hebbian Re-Weighting Accounts for Performance and Criterion Change in Perceptual Learning of Asymmetrical Vernier Stimuli Jiajuan Liu, Barbara Dosher, Zhong-lin Lu

53.333 Visual perceptual training induces two dissociable learning effects ${\rm En\ Zhang,\ Wu\ Li}$

53.334 Investigating Neurochemical Involvement in Task-Irrelevant Perceptual Learning using Pupillometry Russell Cohen Hoffing, Aaron Seitz

53.335 **Perceptual Learning With Indiscriminable Stimuli** Lukasz Grzeczkowski, Elisa Tartaglia, Fred Mast, Michael Herzog

Tuesday Morning Posters VSS 2014 Program

53.338 Dissociating Temporal Order & Simultaneity: A Perceptual Learning Study Nestor Matthews, Rebecca Achtman, Rachel Fenton, Brynn FitzGerald, Leslie Welch

- 53.339 The mechanisms underlying the fast and early improvement in PL Amit Yashar, Yang Hu, Jiageng Chen, Marisa Carrasco
- 53.340 **Perceptual learning remains task specific with TPE training** Jun-Yun Zhang, Lin-Juan Cong, Cong Yu
- 53.341 Different aspects of training on a texture discrimination task (TDT) improves different attentional abilities Maro Machizawa, Rebecca Patey, Dongho Kim, Takeo Watanabe
- 53.342 The effect of directions of transfer in perceptual learning—a possible confounding factor in double training results Qingleng Tan, Jeongmin Kim, Takeo Watanabe
- 53.343 Alpha-band EEG activity as a signature of automaticity in perceptual learning Brett Bays, Kristina Visscher, Christophe Le Dantec, Aaron Seitz
- 53.344 Linking predictive coding in visual cortex to object representations in the medial temporal lobe Nicholas C. Hindy, Felicia Y. Ng, Nicholas B. Turk-Browne
- 53.345 Dynamic shifts in connectivity between frontal, occipital, hippocampal and striatal regions characterize statistical learning of spatial patterns Elisabeth A. Karuza, Lauren L. Emberson, Matthew E. Roser, Michael S. Gazzaniga, Daniel Cole, Richard N. Aslin, Jozsef Fiser
- 53.346 **Macular degeneration affects functional connectivity of primary visual cortex** Kristina Visscher, Rodolphe Nenert, Dawn DeCarlo, Richard Chen, Lesley Ross

Binocular Vision: Summation, interaction and disparity

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 53.401 Binocular asymmetry in amblyopia Jian Ding, Dennis Levi
- 53.402 **A novel method to quantify spatial-frequency dependent binocular imbalance in amblyopia** MiYoung Kwon, Emily Wiecek, Steven C. Dakin, Peter J. Bex
- 53.403 A dichoptic action videogame improves the resolution of the amblyopic eye during binocular game play. Dennis Levi, Indu Vedamurthy, Mor Nahum, Sam Huang, Jessica Bayliss, Daphne Bayelier
- 53.404 Monocular cuing does not modify interocular balance for dichoptic global motion perception. Lanya Tianhao Cai, Ida Huang, Benjamin Backus
- 53.405 **Dynamic interocular suppression is uncorrelated with perception in early visual areas** Katie L.H. Gray, Greta Vilidaite, Rebecca E. Kitching, Kirstie H. Wailes-Newson, Daniel H. Baker
- 53.406 Binocular luminance contrast reduces dichoptic masking between chromatic stimuli Danni Wang, Frederick Kingdom
- 53.407 Perceptual averaging of dichoptic mixtures of colour contrast promoted by task-irrelevant luminance contrast Lauren Libenson, Frederick Kingdom
- 53.408 **Dichoptic masking in color and luminance vision** Yeon Jin Kim, Mina Gheiratmand, Kathy T. Mullen
- 53.409 A Novel Illusion Reveals Fundamental Differences in the Binocular Integration of Achromatic and Chromatic Information

Jens Christiansen, Anthony D'Antona, Steven Shevell

53.410 Binocular Mach Bands Kenneth Brecher

53.411 A novel 3D/dichoptic presentation system compatible with large field eye tracking Bo Cao, Arash Yazdanbakhsh

- 53.412 Ocular dominance and retinotopic correspondence enable patent stereopsis Cherlyn Ng, Yaniv Morgenstern, Dale Purves
- 53.413 **Stereoscopic depth from absolute and relative disparities** Adrien Chopin, David C. Knill, Dennis M. Levi, Daphne Bavelier
- 53.414 **Cortical organization of binocular disparity in human V3A** Nuno Goncalves, Hiroshi Ban, Rosa Sanchez-Panchuelo, Susan Francis, Denis Schluppeck, Andrew Welchman
- 53.415 Constancy of Perceived Depth from Disparity across Spatial Frequency Phillip Guan, Martin Banks
- 53.416 Combining binocular disparities for depth volume perception Julie M Harris, Nikki Thomson
- 53.417 Effect of eccentricity on disparity distributions in binocular natural images David Hunter, Paul Hibbard
- 53.418 **Temporal processing of first, second, and third order disparities by the human visual system** Christian Quaia, Boris Sheliga, Lance Optican, Bruce Cumming
- 53.419 **Vergence and Vertical disparity signals in Human area V1** Albert V van den Berg, David M Arnoldussen
- 53.420 Attention to pattern depth depends on pattern dimensionality ${\tt Bart}$ ${\tt Farell},$ ${\tt Cherlyn}$ ${\tt Ng}$
- 53.421 Size matters: Perceived depth magnitude varies with stimulus height Inna Tsirlin, Laurie Wilcox, Robert Allison
- 53.422 When the Whole is Less than the Parts: Gestalt Grouping Degrades Depth Magnitude Percepts Lesley Deas, Laurie M. Wilcox
- 53.423 **Subjective contour yielded by cue combination** Akiko Yasuoka, Masahiro Ishii

Color and light: Neural mechanisms

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Banyan Breezeway

- 53.424 Rate Coding in Human Color Vision: The Curious Nearly Cubic Relationship Between Neural Spike Rates ans Psychophysical Color Sensitivities Vincent Billock
- 53.425 **Color-detection thresholds in macaque monkeys and humans** Bevil Conway, Galina Gagin, Kaitlin Bohon, Adam Butensky, Monica Gates, Yiing Hu, Rosa Lafer-Sousa, Reitumetse Pulumo, Cleo Stoughton, Sonja Swanbeck, Jane Qu
- 53.426 The Functional Asymmetry of ON and OFF Channels in the Lateral Geniculate Nucleus (LGN) during a Perceptual Decision
- **Task** Yaoguang Jiang, Dmitry Yampolsky, Gopathy Purushothaman, Vivien Casagrande
- 53.427 fMRI adaptation of color and achromatic contrast in the human LGN and visual cortex: evidence for color and luminance selectivity Dorita H. F. Chang, Robert F. Hess, Benjamin Thompson, Kathy T. Mullen
- 53.428 Temporal structure of Human Magnetic Evoked Fields to Colour, Form and Motion David Crewther
- 53.429 Parallel processing of colors and faces in human ventral visual stream: functional evidence and technical challenges Rosa Lafer-Sousa, Alexander Kell, Atsushi Takahashi, Jenelle Feather, Bevil Conway, Nancy Kanwisher
- 53.430 **Brightness-Color Interactions in human early visual cortex** Dajun Xing, Ahmed Ouni, Hinde Sahmoud, James Gordon, Robert Shapley

VSS 2014 Program Tuesday Morning Posters

- 53.431 Diffusion Tensor Imaging Tractography Of Circadian Regulating Circuits In The Human Brain Kristin Koller, Paul Mullins, Robert Rafal
- 53.432 Melanopsin and cone specific temporal filtering revealed by non-linear pupil responses Long Luu, Manuel Spitschan, Geoffrey K. Aguirre, David H. Brainard
- 53.433 Minimally distinct border estimates of macular pigment distribution John Erik Vanston, Michael Crognale
- 53.434 Noise masking of S+ and S- Tests: Linear Cone Combination Model Suggests Detection by Hue Mechanisms Rhea T. Eskew, Jr., Timothy G. Shepard
- 53.435 Colour mixing and apparent motion: the effect of luminance contrast Ben Jennings, Frederick Kingdom
- 53.436 Rod influence on chromatic discrimination away from chromatic and achromatic backgrounds Joris Vincent, Steven Buck

Color and light: Cognition

- Tuesday, May 20, 8:30 am 12:30 pm Poster Session, Banyan Breezeway
- 53.437 Global color perception from multi-colored textures:
 Greater influences of saturated and frequent elements Eiji Kimura
- 53.438 **Color-motion feature misbinding without color** Natalie Stepien, Steven Shevell
- 53.439 Color-motion feature binding errors are mediated by a higher-order chromatic representation Wei Wang, Steven Shevell
- 53.440 **Color assimilation without awareness of color context** Marjan Persuh, Tatiana Aloi Emmanouil, Tony Ro
- 53.441 **Expectations change the temporal discrimination of flashing stimuli** Rytis Stanikūnas, Algimantas Švegžda, Vaiva Kulbokaitė, Remigijus Bliumas, Aušra Daugirdienė
- 53.442 **Lower in Contrast, Higher in Numerosity** Quan Lei, Adam Reeves
- 53.443 **Task classification from eye movement patterns** Joseph MacInnes, Hunt Amelia, Dodd Michael
- 53.444 **Cultural Analysis of Digital Display Preference** Jennifer F. Schumacher, James M. Hillis, Robert W. Shannon, John F. Van Derlofske, Dave J. Lamb, Art A. Lathrop, James A. Thielen, Brian J. Stankiewicz
- 53.445 A novel MDS methodology for studies of interactions between language and color Ryan Lange, Angela Brown, Delwin Lindsey
- 53.446 **Hadza color naming and the origins of basic color categories** Delwin Lindsey, Angela Brown, David Brainard, Coren Apicella
- 53.447 **A Bayesian Approach to Grounding Color Vocabulary** Brian McMahan, Matthew Stone
- 53.448 Emotional Mediation of Cross-Modal Associations in Timbre-Color Synesthesia William Griscom, Stephen Palmer
- 53.449 **Shape-to-Color Associations in Non-synesthetes: Evidence for Emotional Mediation** Michela Malfatti, Karen B. Schloss, Liliana Albertazzi, Stephen E. Palmer

Motion perception: Biological

- Tuesday, May 20, 8:30 am 12:30 pm Poster Session, Banyan Breezeway
- 53.450 **Social interaction recognition: the whole is not greater than the sum of its parts** Stephan de la Rosa, George Fuller, Heinrich Bülthoff
- 53.451 **Influence of eccentricity on action recognition** Laura Fademrecht, Isabelle Bülthoff, Stephan de la Rosa
- 53.452 **Neurodynamical model for the multi-stable perception of biological motion.** Leonid Fedorov, Dominik Endres, Joris Vangeneugden, Martin Giese
- 53.453 **The Influence of (Biological) Form on the Perception of Biological Motion** Maria Florendo, Luke E. Miller, Jennifer Cook, Ayse P. Saygin
- 53.454 Rehearsing Biological Motion in Working Memory: An fMRI Study Zaifeng Gao, Xiqian Lu, Mowei Shen, Rende Shui, Shulin Chen
- 53.455 **Visual evoked potentials in response to biological and non-biological agents** Burcu A Urgen, Wayne Khoe, Alvin Li, Ayse P Saygin
- 53.456 Functional Connectivity of Co-localized Brain Regions during Biological Motion, Face and Social Perception using Partial Correlation Analysis Samhita Dasgupta, Sarah Tyler, Ramesh Srinivasan, Emily Grossman
- 53.457 Using intersubject correlation of fMRI data to explore similarities and differences in action representation of Classical, Romantic and Modern ballet styles Frank Pollick, Naree Kim, Seon Hee Jang
- 53.458 Measuring response saturation in human MT and MST as a function of motion density Szonya Durant, Michele Furlan
- 53.459 rTMS to pSTS alters the ability to perceive walking direction of 3D point light walkers Nicholas Adam Peatfield, Lorella Battelli
- 53.460 Physical Exercise Reduces the Facing-the-Viewer Bias for Biological Motion Stimuli Adam Heenan, Nikolaus Troje
- 53.461 **The effect of movement-complexity on perceived audiovisual synchronicity** Ramona Kaiser, Carolina Brum Medeiros, Marcelo M. Wanderley, Marc Schönwiesner
- 53.462 Changes in camera elevation dictate perception of pointlight walkers' facing direction. Sophie Kenny, Nikolaus Troje
- 53.463 Breaking Bio: Does biological motion have preferential access to awareness? Luke E. Miller, David Carmel, Ayse P. Saygin
- 53.464 **Affective Priming by Biological Motion** Edward Nguyen, Wayne Khoe, Ayse P. Saygin
- 53.465 **Biological movement and the encoding of approach** Christopher Benton, Martin Thirkettle, Nick Scott-Samuel
- 53.466 **Unconscious Processing of Biological Motion** Ayse P. Saygin, Chen Song, Bianca van Kemenade, Luke E. Miller, Geraint Rees, Bahador Bahrami
- 53.467 Fundamental constraints in perceiving socially interactive traits without human form Steven Thurman, Hongjing Lu
- 53.468 Perceived animacy influences other forms of visual processing: Improved sensitivity to the orientations of intentionally moving objects Benjamin van Buren, Brian Scholl
- 53.469 Stick figures and point-light displays: Effects of inversion on the facing-the-viewer bias Séamas Weech, Nikolaus F Troje

Tuesday Morning Posters VSS 2014 Program

Attention: Spatial selection

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.501 Spatial Cueing of Infants' Selective Attention, Target Selection and Eye Movements Audrey Wong Kee You, Scott Adler
- 53.502 **Different spatial attention for different stages of visual processing** Satoshi Shioiri, Hajime Honjo, Kazumichi Matsumiya, Kuriki Ichiro
- 53.503 Within-participant differences in attention-related shifts in contrast response functions measured using EEG and fMRI $\,$

Thomas Sprague, Sirawaj Itthipuripat, John Serences

- 53.504 **New rules for visual attention selection** Mahalakshmi Ramamurthy, Erik Blaser
- 53.505 **Probability Cues Enhance Perceptual Estimations** Syaheed Jabar, Britt Anderson
- 53.506 Attentional ambiguity and feature binding errors Julie Golomb
- 53.507 The change probability effect for high and low spatial frequency items accompanied by a shift in the allocation of attention during encoding Melissa R. Beck, Amanda E. van Lamsweerde, Rebecca R. Goldstein, Justin M. Ericson
- 53.508 **Measuring the attentional suppressive surround** Sang-Ah Yoo, John K. Tsotsos, Mazyar Fallah
- 53.509 **Spatial Negative Priming: Location or Response?** W. Trammell Neill, Abigail L. Kleinsmith
- 53.510 The order of attentional shifts determines what visual relations we extract Audrey L. Michal, Steven L. Franconeri
- 53.511 **Salience Across Spatial Scales** Calden Wloka, Nicholas Frosst, John Tsotsos
- 53.512 Effects of Feature and Categorical Similarity on the Time Course of Spatial Attention Jeongmi Lee, Joy Geng
- 53.513 **How implicit spatial cues affect attentional orienting: Timing is everything** Alison Chasteen, Davood Gozli, Katia Martin, Jay Pratt
- 53.514 Encoding suppression: Linking spatial cueing costs to the attentional blink Hui Chen, Brad Wyble
- 53.515 Grouping processes facilitate prioritization of relevant and suppression of irrelevant information: Behavioral and neurophysiological evidence Tobias Feldmann-Wüstefeld, Anna Schubö
- 53.516 Effects of visual attention on perceptual and movement performance during saccade preparation Tobias Moehler, Katja Fiehler
- 53.517 **Holding on to the local: Hand posture biases local processing** David Chan, Davood Gozli, Jay Pratt
- 53.518 Hand position increases visual processing for task irrelevant flankers. William Bush, Shaun Vecera

Attention: Features

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.519 Learning to inhibit a salient non-target feature Fook Chua
- 53.520 **High-contrast distractors disrupt contrast, but not orientation discrimination** Stuart Jackson, Elizabeth Cutrone, Marisa Carrasco, David J. Heeger

53.521 Feature-specific predictions increase contrast sensitivity
Marius Peelen, Timo Stein

- 53.522 Evidence of a feature-based attentional template in early visual areas during the absence of visual stimulation $\,$ Jocelyn Sy, $\,$ Frank $\,$ Tong
- 53.523 **Target Localization Responses Diagnose Emergent Features in Singleton Pop Out** James Pomerantz, Bethany Quiang,
 Andrew Austin, Kimberley Orsten
- 53.524 Suppressive effects of feature-based attention to motion and orientation Yixue Wang, Taosheng Liu
- 53.525 Rapid feature-selection benefits from feature redundancy Christine Nothelfer, Steven Franconeri
- 53.526 **Adaptation specific to conjunctions of features** Tatiana Aloi Emmanouil, Anne Treisman
- 53.527 **Can Attention be Guided Efficiently by a Negative Template?** Valerie Beck, Andrew Hollingworth
- 53.528 **Feature-based attention and trans-saccadic correspondence** Cécile Eymond, Patrick Cavanagh, Thérèse Collins
- 53.529 Where Do People Look at in Crowded Natural Scenes? Ming Jiang, Juan Xu, Qi Zhao
- 53.530 Individual Differences In Obligatory Processing of Unexpected, Intentionally-Ignored Events Abigail Noyce, Robert Sekuler
- 53.531 Interference from an integral feature in visual statistical summary representations Jesse Moyer, Timothy Vickery
- 53.532 Parallel vs. sample-based extraction of summary statistics from feature and conjunctive sets Mariia Bulatova, Igor Utochkin
- 53.533 Ensemble Processing of Color and Shape: Beyond Mean Judgments Danielle Albers, Michael Correll, Michael Gleicher, Steven Franconeri

Attention: Objects

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.534 **Amodal completion without awareness** San-Yuan Lin, Su-Ling Yeh
- 53.535 No masked priming of shape in metacontrast and object substitution masking paradigms without attention Evelina Tapia, Alejandro Lleras, Diane M Beck
- 53.536 The acquisition of attentional templates for target objects in visual search Rebecca Nako, Tim J. Smith, Martin Eimer
- 53.537 Effect of object-substitution masking on the perceptual quality of object representations Geoffrey W Harrison, Jason Rajsic, Daryl E Wilson
- 53.538 Familiarity wins over novelty: A persistent attentional bias toward regularities Ru Qi Yu, Jiaying Zhao
- 53.539 **Object-Based Attention is Modulated by Shifts Across the Meridians** Adam Greenberg, Daniel Hayes, Alexa Roggeveen, Sarah Creighton, Patrick Bennett, Allison Sekuler, Karin Pilz
- 53.540 **Reduced attentional competition between objects that follow real-world regularities** Daniel Kaiser, Timo Stein, Marius V Peelen
- 53.541 **Scene-based information does not disrupt visual object correspondence** Anja Fiedler, Cathleen Moore
- 53.542 Exploring the Relationship between Object-Based Attention Effects and Object Realism Nelson Roque, Walter Boot

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53.543 Target Identity Uncertainty and the Stages of Object-Based Attention: A Prioritization Account Andrew Collegio, Simeon Kakpovi, Alana Whitman, Sarah Shomstein

- 53.544 Temporal uncertainty determines the use of object representations in attentional guidance. Breana Carter, Sarah Shomstein
- 53.545 Task-context dependent visual object representation in human parietal cortex Su Keun Jeong, Yaoda Xu
- 53.546 **Do self-controlled objects "pop out"? A study of attention** Hideyuki Kobayashi, Takako Yoshida
- 53.548 The effect of perceptual narrowing on category-based visual search: an ERP study Rachel Wu, Jared Band, Rebecca Nako, Gaia Scerif, Richard Aslin

Visual search: Context and memory

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.549 A comparison of static and dynamic visual search tasks in eliciting visual working memory guidance of selective attention Zhan Xu, Jianhua Li
- 53.550 Examining the influence of nonpredictive arrow cues and a working memory load on visual search performance Gerald McDonnell, Michael Dodd
- 53.551 Changing how you search alters the influence of memory on attentional allocation and eye movements Jordan Grubaugh, Mark Mills, Brett Bahle, Edwin Dalmaijer, Stefan Van der Stigchel, Michael Dodd
- 53.552 The role of working memory capacity in visual search and search of visual short term memory Ester Reijnen, Jonas Hoffmann, Jeremy Wolfe
- 53.553 **Categorical Contextual Cueing in Visual Search** Stephen Walenchok, Michael Hout, Stephen Goldinger
- 53.554 **Contextual cueing effect without eye movements** Yoko Higuchi, Jun Saiki
- 53.555 Search templates can be adapted to the context, but only for unfamiliar targets. Mary Bravo, Hany Farid
- 53.556 **Is False Pop Out Really Pop Out? Evidence from RT functions.** Kimberley Orsten, James Pomerantz

Scene perception: Neural mechanisms

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.557 **Temporal consistency of multi-voxel patterns for repeated scenes** Thomas O'Connell, Emily Ward, Marvin Chun
- 53.558 Anterior to posterior parahippocampal organization of scene information Elissa Aminoff, Michael Tarr
- 53.559 **Supervoxel parcellation of visual cortex connectivity** Christopher Baldassano, Diane M. Beck, Li Fei-Fei
- 53.560 Differential Selectivity for Spatial Frequencies in Anterior and Posterior PPA Daniel Berman, Dirk B. Walther
- 53.561 Categorical judgments of ambiguous scenes are controlled by neural activity in both LOC and PPA Sean MacEvoy, Drew Linsley
- 53.562 TMS to object-selective LO enhances fMR adaptation to scenes in the PPA Sara Rafique, Lily Solomon-Harris, Jennifer Steeves
- 53.563 Mapping natural and texture scene representations across the visual system Jiye G Kim, Sabine Kastner

53.564 Functional connectivity between object- and spaceencoding brain regions during scene viewing Drew Linsley, Sean MacEvoy

- 53.565 **Effect of RMS contrast normalization on the retinotopic processing of spatial frequencies during scene categorization** Stephen Ramanoel, Louise Kauffmann, Nathalie Guyader, Alan Chauvin, Cédric Pichat, Michel Dojat, Carole Peyrin
- 53.566 **Decoding the spatial scale of information in visual cortex** Luca Vizioli, Lucy Petro, Lars Muckli
- 53.567 The Topographic Organization of Scene-Selective Regions in the Human Brain is Closely Linked to the Statistical Properties of the Image David Watson, Tom Hartley, Timothy Andrews
- 53.568 **Tracking the dynamic representation of a complex visual scene using Bubbles** Robin Ince, Nicola Van Rijsbergen, Stefano Panzeri, Philippe Schyns
- 53.569 **Neural coding of image blur assessed by fMRI** Katherine Tregillus, Lars Strother, Gideon P. Caplovitz, Michael A. Webster
- 53.570 Exploring the processing of the shape and material properties of scenes and objects in human visual cortex Jonathan S. Cant
- 53.571 Manual versus automatic segmentation of functional regions of interest: Effects on multi-voxel pattern analysis and repetition suppression Andrew Serger, Thomas O'Connell, Dirk Walther
- 53.572 **Decoding culture from the human primary visual cortex** Junpeng Lao, Luca Vizioli, Lars Muckli, Roberto Caldara

Multisensory processing: Neural mechanisms, somatosensory, vestibular

Tuesday, May 20, 8:30 am - 12:30 pm Poster Session, Pavilion

- 53.573 **Discrimination of Shapes and Line Orientations on the Tongue** Margaret Vincent, Hao Tang, Zhigang Zhu, Tony Ro
- 53.574 Increased Experience with an Unfamiliar Language
 Decreases Fixations to the Mouth During Encoding Lauren Mavica,
 Elan Barenholtz
- 53.575 TMS over the right parietal cortex disrupts audiovisual binding in the line motion illusion Carrie R Bailey, Steven L Prime
- 53.576 Contributions of the body and head to perceived vertical: Cross-modal differences Lindsey Fraser, Bobbak Makooie, Laurence R. Harris
- 53.577 Head Tilt Delineates Two Mechanisms of the Rod-and-Frame Illusion Scott A. Reed, Melissa A. Farley, Paul Dassonville
- 53.578 Can't use sight? Don't go right! Kayla Stone, Claudia Gonzalez
- 53.579 **Visual-haptic integration for gloss perception** Wendy Adams, Iona Kerrigan, Erich Graf
- 53.580 The contribution made by gaze position to the integration between multisensory feedback and self-body sensations Seiya Kamiya, Takako Yoshida
- 53.581 **Spatiotopic maps in calcarine sulcus of the congenitally blind** Petra Vetter, Lior Reich, Amir Amedi
- 53.582 A neural correlate of intentionality persists in the parietal cortex of a patient without proprioception Elizabeth Torres, Kyuwan Choi

Tuesday Morning Posters VSS 2014 Program

53.583 The development of multisensory integration is specific to a neuron's experience Benjamin Rowland, Ryan Miller, Barry Stein

53.584 Development of dorsal and ventral stream connectivity: A visuohaptic psychophysiological interaction study R. Joanne Jao, Karin H. James, Thomas W. James

53.585 The representation of visual and somatosensory space in the superior colliculus of a human subject without an optic chiasm David Ress, Michael S. Beauchamp, Chris Purington, Benjamin T. Files, Bosco S. Tjan

53.586 **Visual brain areas predict haptic (and visual) behavioral similarities between novel objects** Haemy Lee, Hans Op de Beeck, Christian Wallraven

53.587 Long-term reorganization of auditory motion direction encoding as a result of early blindness Fang Jiang, G.C. Stecker, Ione Fine

53.588 Frontoparietal connectivity supports dynamic body representation John Plass, David Brang, Andrew Bryant, Satoru Suzuki, Zach Taich, Vilayanur Ramachandran, Marcia Grabowecky

53.589 Touching and tracing improve working memory for location and orientation Stacey Parrott, Mark Huntington, Marcia Grabowecky, Satoru Suzuki

Tuesday Afternoon Talks

3D Perception

Tuesday, May 20, 2:30 - 4:15 pm Talk Session, Talk Room 1 Moderator: Johannes Burge

54.11, 2:30 pm **3D** surface tilt estimation in natural scenes from image cue gradients Johannes Burge, Brian C. McCann, Wilson S. Geisler

54.12, 2:45 pm Disparity Preferences in V1 Reflect the Statistics of Disparity in Natural Viewing William Sprague, Emily Cooper, Jean-Baptiste Durand, Martin Banks

54.13, 3:00 pm Perceived depth in natural images reflects encoding of low-level depth statistics Emily A. Cooper, Anthony M. Norcia

54.14, 3:15 pm Predicting 3D shape perception from shading and texture flows Steven A. Cholewiak, Benjamin Kunsberg, Steven Zucker, Roland W. Fleming

54.15, 3:30 pm Differential sensitivity to surface curvature polarity in 3D objects is not modulated by stereo disparity Filipe Cristino, Lina I. Davitt, Hannah Rettie, Charles Leek

54.16, 3:45 pm A Model for Stereopsis and Rivalry Based on Orientation Differences Hugh R. Wilson

54.17, 4:00 pm Solving stereo transparency with an extended coarse-to-fine disparity energy model Zhe Li, Ning Qian

Attention: Neural mechanisms and modeling

Tuesday, May 20, 2:30 - 4:15 pm Talk Session, Talk Room 2 Moderator: John Serences

54.21, 2:30 pm Adaptive gain control during human perceptual **choice** Samuel Cheadle, Valentin Wyart, Konstantinos Tsetsos, Nicholas Myers, Vincent de Gardelle, Santiago Herce Castañón, Christopher Summerfield

54.22, 2:45 pm The phase of intrinsic oscillations modulates feature and space-based visual attention Javier Garcia, Kimberly Kaye, Dennis Williams, Thomas Sprague, John Serences

54.23, 3:00 pm **Neural mechanisms of object-based attention** Daniel Baldauf, Robert Desimone

54.24, 3:15 pm Object attention in moderate precision tasks: Mechanisms of the elaborated template model. Barbara Dosher, Zhong-Lin Lu, Songmei Han, Shiau-Hua Liu

54.25, 3:30 pm External noise distinguishes mechanisms underlying attention gating in visual short-term memory Yukai Zhao, Zhong-Lin Lu, Barbara Anne Dosher

54.26, 3:45 pm LiFE: Linear Fascicle Evaluation a new technology to study visual connectomes Franco Pestilli, Jason Yeatman, Ariel Rokem, Kendrick Kay, Hiromasa Takemura, Brian Wandell

54.27, 4:00 pm An Information Theory of Vision: why visual search is log-linear (not just linear). Alejandro Lleras, Simona Buetti

Tuesday Afternoon Talks VSS 2014 Program

Scene perception

Tuesday, May 20, 5:15 - 7:15 pm Talk Session, Talk Room 1 Moderator: Melissa Vo

55.11, 5:15 pm Local Structure Drives Human Scene
Categorization: Converging Evidence from Computational
Analysis, Behavior, and Neural Decoding Heeyoung Choo, Dandan
Shen. Dirk Walther

55.12, 5:30 pm A simple rapid categorization model accounts for variations in behavioral responses across rapid scene categorization tasks Thomas Serre, Imri Sofer, Sébastien M. Crouzet

55.13, 5:45 pm Visual And Semantic Representations Of Scenes Manoj Kumar Kumar, Kara D. Federmeier, Li Fei-Fei, Diane M. Beck

55.14, 6:00 pm Active visual search boosts memory for objects, but only when making a scene Emilie L. Josephs, Dejan Draschkow, Jeremy M. Wolfe, Melissa L.-H. Vo

55.15, 6:15 pm Human estimates of object frequency are frequently over-estimated Michelle Greene

55.16, 6:30 pm For familiar landmarks, parahippocampal cortex represents place identity, not just perceptual features Steven A. Marchette, Lindsay K. Vass, Jack Ryan, Russell A. Epstein

55.17, 6:45 pm Domain specificity in integration of visual information across time Bjorn Hubert-Wallander, Geoffrey M. Boynton

55.18, 7:00 pm Can low-level features explain numerosity tuning, or do interference effects reveal how numerosity is computed? Ben Harvey, Barrie Klein, Natalia Petridou, Serge Dumoulin

Multisensory processing

Tuesday, May 20, 5:15 - 7:15 pm Talk Session, Talk Room 2 Moderator: Pascal Mamassian

55.21, 5:15 pm Cue combination with a new sensory signal: multisensory processing in blind patients with a retinal prosthesis Sara Garcia, Karin Petrini, Lyndon da Cruz, Gary Rubin, Marko Nardini

55.22, 5:30 pm Asymmetrical medial geniculate body volume in people with one eye Stefania S. Moro, Krista R. Kelly, Larissa McKetton, Jennifer K.E. Steeves

55.23, 5:45 pm Electrocorticographic (ECoG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex David Brang, Vernon L. Towle, Satoru Suzuki, Zhongtian Dai, Steven A. Hillyard, Michael H. Kohrman, James X. Tao, Marcia Grabowecky

55.24, 6:00 pm Enhanced cortical representation of auditory frequency as a result of early blindness Elizabeth Huber, Jessica Thomas, Ione Fine

55.25, 6:15 pm Predicting linear and nonlinear interactions in the temporal profile of the multisensory response Ryan Miller, Barry Stein, Benjamin Rowland

55.26, 6:30 pm Cross-modal confidence judgements Pascal Mamassian, David Alais

55.27, 6:45 pm Audio-visual delay as a new cue to visual distance Philip Jaekl, Duje Tadin

55.28, 7:00 pm What colours a letter? The deep learned structure of synaesthesia in two linguistic groups Marcus R Watson, Kathleen A Akins, Jan Chromý, John Alderete, Martin Hahn, James T Enns

Tuesday Afternoon Posters

Temporal processing

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

56.301 Dissecting the neural network of duration perception with fMRI Mingbo Cai, David Eagleman

56.302 **Endogenous alpha oscillations modulate the perception of causality** Andre Mascioli Cravo, Karin Moreira Santos, Marcelo Bussotti Reyes, Marcelo Salvador Caetano, Peter Maurice Erna Claessens

56.303 **Pupillometry reveals role for norepinephrine in the isolation effect** Taylor R. Hayes, Per B. Sederberg, Brian M. Siefke, Alexander A. Petrov

56.304 Dissociating temporal and spatial integration windows: the case of Vernier Fusion Jan Drewes, David Melcher

56.305 **The Broca-Sulzer effect contributes to visual acuity** Hector Rieiro, Francisco Costela, Oier Dominguez Lopez De Lacalle, Susana Martinez-Conde, Stephen Macknik

56.306 **Simple duration detectors for encoding event time** Edward Rowland, Johannes Zanker, Szonya Durant

56.307 A role for local mechanisms in perceived duration of brief visual events Lee Beattie, William Curran

56.308 Local and global mechanisms mediate perceived duration of brief visual events William Curran, Christopher P. Benton, Julie M. Harris, Paul B. Hibbard, Lee Beattie

56.309 **Direction-contingent duration compression is retinotopic** Kevin G Latimer, William Curran, Christopher P Benton

56.310 Time compressions for dynamic tests following 1st and 2nd order motion adaptation James Retell, Alan Johnston, Derek Arnold

56.311 Perceived distance and size interact to alter the perception of time ${\rm Martin}$ ${\rm Wiener}$, ${\rm James}$ ${\rm Thompson}$

56.312 Accounting for subjective time expansion based on a decision, rather than perceptual, mechanism Rakesh Sengupta, S. Bapiraju, Prajit Basu, David Melcher

56.313 Visually perceived time dilates with flickering in alpha frequency, but not with flickering in other frequency ranges. Yuki Hashimoto, Yuko Yotsumoto

56.314 **Temporal expansion, more information: the role of subjectively distorted time in information accrual** David Melcher, Anuj Shukla, Andreas Wutz

56.315 Does cue processing accelerate the onset of inhibition of return? Andrew Rodriguez, Chris Tran, Eriko Self

56.316 **A temporal advantage for numerically small digits** Yongchun Cai, Shuang-xia Li, Shena Lu

56.317 Where's the time? Temporal recalibration is absent without awareness. Regan Gallagher, Kielan Yarrow, Derek Arnold

56.318 The temporal decay of unconscious representations in Motion Induced Blindness Hsin-Mei Sun, Marina Inyutina, Rufin VanRullen, Chien-Te Wu

Perceptual learning: Specificity and transfer

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Jacaranda Hall

56.319 Perceptual learning of detection of band-limited noise patterns Zahra Hussain, Patrick Bennett

56.320 **Is improved contrast sensitivity a natural consequence of visual training?** Aaron Levi, Danielle Shaked, Duje Tadin, Krystel Huxlin

56.321 Eye and location specificity of perceptual learning of contrast detection Qinlin Yu, Fang Fang

56.322 **The Effect of Priming on Contour Integration Training** Jay Jeschke, Daniel Kurylo

56.323 **Motion discrimination learning improves perceptual representation and accelerates sensory evidence accumulation** Ke Jia, Xin Xue, Sheng Li

56.324 **The influence of perceptual learning on visual context illusions** Karin Ludwig, Maria Lev, Sharon Gilaie-Dotan, Stephanie Voss, Philipp Sterzer, Uri Polat, Guido Hesselmann

56.325 Learning and transfer of feature-based attentional modulation Anna Byers, John Serences

56.326 Exogenous attention facilitates perceptual learning transfer within and across visual hemifields Ian Donovan, Sarit Szpiro, Marisa Carrasco

56.327 Exogenous attention enables visual perceptual learning and task transfer S.F.A. Szpiro, S. Cohen, M. Carrasco

56.328 **Spatial attention generalizes perceptual learning to untrained locations in an acuity task** Cristina Tortarolo, Antoine Barbot, Marisa Carrasco

56.329 Perceptual learning for multiple features: Neural correlates of changes in sensitivity and bias Michael Wenger, Stephanie Rhoten

56.330 **Sensory and expectation cues are fused during perception** Matthew F. Panichello, Nicholas B. Turk-Browne

56.331 Learning of hierarchical temporal structures facilitates the prediction of future events Rui Wang, Yuan Shen, Peter Tino, Zoe Kourtzi

56.332 **Perceived Stability of Composite Material Objects** Julian Lupo, Michael Barnett-Cowan

56.333 **Age-Related Differential Transfer of Improved Contrast Sensitivity with Perceptual Learning** Denton J. DeLoss, Takeo
Watanabe, George J. Andersen

56.334 Training as Part of a Word Game Increases Reading Speed in Peripheral Vision Yingchen He, Gordon Legge

56.335 **Perceptual learning improves near vision in pilots with eye aging.** Anna Sterkin, Oren Yehezkel, Maria Lev, Ravid Doron, Moshe Fried, Yuval Levy, Liora Levian, Reuven Pokroy, Barak Gordon, Uri Polat

56.336 **"Edward Rake-Hands" Part II: Does embodiment of a real tool occur via virtual tool interaction?** Kimberley Jovanov, Paul Clifton, Ali Mazalek, Michael Nitsche, Timothy N. Welsh

Tuesday Afternoon Posters VSS 2014 Program

56.337 **Learning to Recognize Faces by How They Talk** Dominique C. Simmons, Josh J. Dorsi, James W. Dias, Theresa C. Cook, Lawrence D. Rosenblum

56.338 Individual differences in sleep-dependent perceptual learning: Habitual vs. non-habitual nappers Elizabeth McDevitt, Lauren Whitehurst, Katherine Duggan, Sara Mednick

Spatial vision: Models

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.401 Does the size really determine the size congruency effect? The role of height in the perception of quantity ${\rm Liat\ Goldfarb}$

56.402 Optimizing the estimation of differences between psychometric functions Nicolaas Prins

56.403 **A model of symbol discrimination in vibration blur** Albert Ahumada, Bernard Adelstein, Andrew Watson, Brent Beutter, Giovanna Guerara-Flores

56.404 Aggregating multiple judgments in a mixed-strengths signal detection task Mordechai Z. Juni, Miguel P. Eckstein

56.405 A psychophysically derived model of signal combination predicts neural responses in two stimulus domains Daniel H. Baker

56.406 Evidence for aspect-ratio processing independent of the linear dimensions of a shape: A channel-based system David Badcock, Sarah Morgan, Edwin Dickinson

56.407 Using maximum likelihood difference scaling to measure visual discomfort Paul Hibbard, Alasdair Clarke, Louise O'Hare

56.408 **Stable individual distortions in the perceived locations of static stimuli** Anna Kosovicheva, David Whitney

56.409 Not all Distortions are Created Equally: The Visibility of Image Artifacts with Application to Image Quality Elyse H. Norton, Michael S. Landy, Eero P. Simoncelli

56.410 A computational model of the Münsterberg (Café wall) illusion and related phenomena Dejan Todorović

56.411 **Contrast gain control in plaid pattern detection** Pi-Chun Huang, Yu-Shen Huang, Chien-Chung Chen

56.412 **Serial Dependence of Position Perception** Alina Liberman, Anna Kosovicheva, David Whitney

56.413 **A neural model of distance-dependent percept of object size constancy** Jiehui Qian, Arash Yazdanbakhsh

56.414 Optimal retinal population coding predicts inhomogeneous light adaptation and contrast sensitivity across the visual field Eizaburo Doi, Michael Lewicki

56.415 A Unified Computational Model of Primary Visual Cortex: Consolidation of the Scattered Literature on Simple and Complex Cells Tadamasa Sawada, Alexander A. Petrov

Visual search: Eye movements

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.416 Searching for overlapping objects in depth: Depth speeds search, but does not improve response accuracy Hayward J. Godwin, Tamaryn Menneer, Simon P. Liversedge, Kyle R. Cave, Nick S. Holliman, Nick Donnelly

56.417 You don't know where your eyes have been and that could be problem. Jeremy Wolfe, Trafton Drew, Melissa Vo

56.418 Comparing search strategy in breast tomosynthesis and 2D mammogram: an eye tracking study Avi Aizenman, Trafton Drew, Dianne Georgian-Smith, Jeremy M. Wolfe

56.419 **Visual search and the power spectra of radiological scans** Elysse Kompaniez, Craig K. Abbey, John M. Boone, Michael A. Webster

56.420 Infant and Adult Localization of a Conjunction Target: An Eye Movement Study Scott Adler, Christina Fuda, Audrey Wong Kee You

56.421 Immediate Feedback During Multiple-Target Visual Search Improves Accuracy Nada Attar, Chia-Chien Wu, Marc Pomplun

56.422 **Revealing the dynamics of visual masking using a speeded saccadic choice task** Sébastien M. Crouzet, Simon Hviid Del Pin, Morten Overgaard, Niko A. Busch

56.423 Efficient saccade planning requires time and clear choices. Saeideh Ghahghaei, Preeti Verghese

56.424 First saccadic eye movement reveals persistent attentional guidance by implicit learning Bo-Yeong Won, Khena Swallow, Yuhong liang

56.425 **Spatial dependency of objects, but not scene gist contributes semantic guidance of attention** Chia-Chien Wu, Hsueh-Cheng Wang, Marc Pomplun

56.426 **The role of context in visual search in immersive environments.** M. Pilar Aivar, Chia-Ling Li, Dmitry Kit, Matthew H. Tong, Mary M. Hayhoe

56.427 Visual similarity is stronger than semantic similarity in guiding visual search for numbers Tamaryn Menneer, Hayward, J. Godwin, Michael, C. Hout

56.428 Using Eye Movements to Investigate Individual Differences in Linguistically Mediated Visual Search Sankalita Mandal, Tandra Ghose, Yannik T. H. Schelske, Eric Chiu, Michael J. Spivey

56.429 Disruption of spatial but not of temporal object continuity impairs transsaccadic learning: Evidence from visual search Katharina Weiß, Werner X. Schneider, Arvid Herwig

56.430 The roles of cuing and visual working memory capacity in dynamic oculomotor selection Matthew Weaver, Davide Paoletti, Wieske van Zoest

56.431 Can eye movements anticipate the laterality of an unpredictable stimulus? Simon Thorpe, Magaly Alonzo, Jacob Martin

56.432 **How does visual search behaviour adapt when partners have a response bias?** Charlotte A Riggs, Hayward J Godwin, Tamaryn Menneer, Simon P Liversedge, Nick Donnelly

56.433 When caused by an eye movement inhibition of return's effect is post-perceptual: Evidence from SAT functions Ralph S. Redden, Matthew D. Hilchey, Raymond M. Klein

Eye movements: Perception and neural mechanisms

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.434 Effects of spatial frequency filtering in natural scenes: Evidence from eye movements and computational modeling Anke Cajar, Jochen Laubrock, Ralf Engbert

56.435 Characteristics of ambient and focal processing during the visual exploration of dynamic stimuli Sebastian Pannasch

56.436 **Pupil size is larger when viewing indoor scenes** Chencan Qian, Zuxiang Liu

VSS 2014 Program Tuesday Afternoon Posters

56.437 **Gaze Bias in Perception for Canine and Human Faces** Bruce Bridgeman, Cory Little

56.438 **The influence of crowding on eye movements: A preliminary study** Senay Aydin, Mofiyinfoluwa Adeleye, John Siderov, Akash S. Chima, Harold E. Bedell, Sarah J. Waugh, Josselin Gautier

56.439 Caucasian and Asian eye movement patterns in face recognition: A computational exploration using hidden Markov models Tim Chuk, A. Xiao Luo, Kate Crookes, William G. Hayward, Antoni B. Chan, Janet Hsiao

56.440 A Visual Field Asymmetry in Pre-saccadic Fixation Durations Harold Greene, James Brown, Barry Dauphin

56.441 **Saccade planning evokes topographically specific activity in the dorsal and ventral streams** Clayton Curtis, Golbarg Saber, Franco Pestilli

56.442 An image-based population model of human saccade programming in the Superior Colliculus Hossein Adeli, Soazig Casteau, Françoise Vitu, Gregory Zelinsky

56.443 **Steady-state sensory-evoked responses are enhanced prior to oculomotor execution** Kimberly E Kaye, Thomas C Sprague, Sirawaj Itthipuripat, Elena C Prado, John T Serences

56.444 Comparative connectivity of frontal eye field and striatum between humans and macaques Michelle Young, Bas Neggers, Bram Zandbelt, Jeffrey Schall

56.445 **Direction specific signals for saccadic eye movements: Effects of traumatic brain injury** Christopher Tyler, Lora Likova, Spero Nicholas

56.446 Deviation in saccade trajectories suggests asymmetric representation of the upper and lower visual fields in the superior colliculus Zhiguo Wang

Eye movements: Perisaccadic perception

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Banyan Breezeway

56.447 Spatiotopic visual representations and oculomotor plasticity Thérèse Collins

56.448 The infinite regression illusion reveals dissociation between perception and action Matteo Lisi, Patrick Cavanagh

56.449 **Trans-saccadic integration of spatial frequency information in an fMRIa paradigm.** B.-R. Baltaretu, B. T. Dunkley, J. D. Crawford

56.450 **Visual and spatial determinants of saccadic suppression of displacement** Heiner Deubel, David Aagten-Murphy, Bruce Bridgeman

56.451 Unmasking saccadic masking: an objective measure to constrain the possible mechanisms of saccadic masking Marianne Duyck, Thérèse Collins, Mark Wexler

56.452 Feature remapping precedes saccadic eye movements without attention Dongjun He, Fang Fang

56.453 **Probing the dynamics of perisaccadic perception with EEG** Lyudmyla Kovalenko, Niko Busch

56.454 rTMS Over Human Early Visual Cortex Degrades Low Level Visual Feature Memory in the Remapped, Not Perceived, Visual Field During a Transsaccadic Integration Task Pankhuri Malik, Joost Dessing, Douglas Crawford

56.455 Perceptual Consequences of Delaying the Post-saccadic Target Brent Parsons, Richard Ivry

56.456 Remapped and Captured Pre-Saccadic Attention Produces Perceptual Facilitation at Non-target Locations Michael Puntiroli, Dirk Kerzel, Sabine Born

56.457 **Sensitivity to spatiotopic location in the human visual system** Yuval Porat, Tanya Orlov, Ayelet Mckyton, Ehud Zohary

56.458 The role of visual stability on the representation of saccade target object Caglar Tas, Cathleen Moore, Andrew Hollingworth

56.459 Similar effects of saccades on auditory and visual localization suggest common spatial map Hannah Krüger, Therese Collins, Patrick Cavanagh

56.460 The intention to make a saccade distorts the timing of a **Go/No-go signal presented at fixation** Yoshiko Yabe, Melvyn Goodale

Binocular Vision: Rivalry, competition and suppression

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Pavilion

56.501 **Deficits in feature counting in amblyopes under binocular viewing** Xin Jie Lai, Chuan Hou

56.502 **Binocular rivalry using luminance- and contrast-modulated stimuli** Jan Skerswetat, Monika A. Formankiewicz, Sarah J. Waugh

56.503 **The Role of Monocular Dominance in Rivalry Onset Bias** Jody Stanley, Jason Forte, Alexander Maier, Olivia Carter

56.504 The effects of inter-ocular contrast differences on binocular rivalry in younger and older observers Amanda M. Beers, Allison B. Sekuler, Patrick J. Bennett

56.505 Invisible Chromatic Gratings Can Induce Orientation-Specific Adaptation and Binocular Rivalry Jinyou Zou, Sheng He, Peng Zhang

56.506 **Neural signature of the initiation of binocular rivalry** Sucharit Katyal, Shinho Cho, Stephen Engel, Sheng He

56.507 When our brain is convinced: EEG correlates of visual ambiguity Jürgen Kornmeier, Rike Wörner, Michael Bach

56.508 Afterimage duration reflects how deeply invisible stimuli were suppressed Motomi Shimizu, Eiji Kimura

56.509 **The effect of contextual depth on binocular rivalry** Chun Siong Soon, Mei Ying Ng, Po-Jang Hsieh

56.510 Special role of parietal cortex in binocular rivalry demonstrated by fMRI comparison with stimulus rivalry Janine Mendola, Athena Buckthought, Jeremy Fesi

56.511 Global brain networks contrasted by stability of Binocular Rivalry Masanori Shimono, Kazuhisa Kazuhisa

56.512 Statistical learning facilitates the identification of targets in perceptual competition with learned images Rachel Denison, Jacob Sheynin, Michael Silver

56.513 **Comparing the influences of emotion versus identity on face perception during binocular rivalry in human observers** Nour Malek, Andy Gao, Daniel Messinger, Karim Tabbane, Ridha Joober, Julio Martinez-Trujillo

56.514 Unconscious Syntactic Processing in the Absence of Semantics Shao-Min Hung, Po-Jang Hsieh

56.515 Unconscious semantic processing? No evidence for extracting the semantics of words during interocular suppression. Pieter Moors, Tom Heyman

Tuesday Afternoon Posters VSS 2014 Program

56.516 Hearing melody modulates perceptual dominance of musical scores during binocular rivalry Minyoung Lee, Sujin Kim, Chai-Youn Kim

56.517 **Dominance of apparent motion in binocular rivalry is modulated by crossmodal synchrony** Daniela Etchegaray, Laura Ortega, Jin Hak Kim, German Palafox, Emmanuel Guzman-Martinez

56.518 Feature-selectivity is common in perceptual suppression phenomena Mark Vergeer, Raymond van Ee, Johan Wagemans

56.519 Meaningful actions and interactions receive priority in conscious perception Junzhu Su, Jeroen van Boxtel, Hongjing Lu

56.520 Perception during binocular rivalry is biased by the content of visual working memory. Surya Gayet, Jan Brascamp, Stefan Van der Stigchel, Chris Paffen

56.521 Evidence for solid perception of binocular rivalry under topdown influences of visual working memory Youngseon Shin, Joo-Seok Hyun

56.522 What determines the influence of attention on binocular rivalry? Kevin C Dieter, Michael D Melnick, Duje Tadin

56.523 **Effect of attention on the initiation of binocular rivalry** Yaelan Jung, Min-Suk Kang, Sang Chul Chong

Face perception: Experience, learning and expertise 2

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Pavilion

56.524 McGurk effect appears after learning syllables with nonfacial motions. Miyuki G. Kamachi, Kazuki Ohkubo

56.525 **Decoupling perceptual and response biases in a sequential face judgment task** Teresa Pegors, Peter Bryan, Marcelo Mattar, Russell Epstein

56.526 Effects of Exposure Frequency and Pose Variation on Learning 3-D Faces: A Comparison between Viewpoint Interpolation and Extrapolation Gary C.-W. Shyi, Julia W.-J. Lin

56.527 Face, the final frontier: An ERP study probing processing of human and alien faces in Trekkies and non-Trekkies Nicole Sugden, Lan (Mary) Wei, Andrea Kusec, Margaret Moulson

56.528 Face drawing experience is associated with better face recognition performance and reduced left-side bias in face perception Bruno Galmar, Harry Chung, Janet Hui-wen Hsiao

56.529 On the other side of the fence: The effects of social categorisation and spatial arrangement on memory for own-race and other-race faces. Nadine Kloth, Susannah Shields, Gillian Rhodes

56.530 Face Race Affects Various Types of Face Processing, but Affects Them Differently Mintao Zhao, Isabelle Bülthoff

56.531 They all look different to me: Within-person variability affects identity perception for other-race faces more than own-race faces Xiaomei Zhou, Sarah Laurence, Catherine Mondloch

56.532 Evidence for a Perceptual-to-Social Transition in Infant Categorization of Other-Race Faces Paul C. Quinn, Kang Lee, Olivier Pascalis, James W. Tanaka

56.533 The Effect of Early Visual Deprivation on the Development of Judgments of Attractiveness Larissa Vingilis-Jaremko, Daphne Maurer

56.534 No country for old men: Mental representations of age reveal two categories (young and old) in young observers, but three (young, middle aged and old) in old observers. Nicola J. van Rijsbergen, Katarzyna Jaworska, Guillaume A. Rousselet, Philippe G. Schyns

56.535 Classification images characterize age-related deficits in face discrimination Sarah E. Creighton, Patrick J. Bennett, Allison B. Sekuler

56.536 The Influence of Face Processing Biases on Eye Gaze Following and Object Processing During Infancy Charisse B. Pickron, Eswen Fava, Lisa S. Scott

56.537 Betty White versus Scarlett Johansson: Examining Consensus in Attractiveness Judgments for Young and Older Adult Faces Lindsey Short, Harmonie Chan, Anne Hackland, Catherine Mondloch

Face perception: Social cognition

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Pavilion

56.538 **Rapid spatial perspective taking for obstructed views** Lewis Baker, Daniel Levin

56.539 Unconscious Processing of Direct Gaze: fMRI Evidence Lan Wang, Zhentao Zuo, Peng Zhang, Sheng He

56.540 Join my attention by looking at my back: The back of head orientation can serve as both supraliminal and subliminal orienting cues An-Yi Chang, Su-Ling Yeh

56.541 **What are you looking at?: The acuity of joint attention** Tao Gao, Joshua Tenenbaum, Nancy Kanwisher

56.542 Unconscious processing of eye gaze direction in the human brain Marcus Rothkirch, Apoorva Rajiv Madipakkam, Philipp Sterzer

56.543 **The Opioid System Promotes Gaze to the Eyes** Olga Chelnokova, Bruno Laeng, Jeppe Riegels, Guro Løseth, Marie Eikemo, Hedda Maurud. Siri Leknes

56.544 **Sex Differences in the Social Evaluation of Faces** Ashley Unger, Alexander Todorov, Virginia Falvello, K. Suzanne Scherf

56.545 **Are first impressions the same for male and female faces?** Clare Sutherland, Julian Oldmeadow, Andrew Young

56.546 **The other-race effect of face processing: Upper and lower parts play different roles** Yu-Hao Sun, Zhe Wang, Paul Quinn, Xiaoyang Yu, Jim Tanaka, Olivier Pascalis, Kang Lee

56.547 **Testing the Effects of Race on the Recognition of Disguised Faces** Jessie Peissig, Colleen Dillon, Charles Saavedra, Cindy Bukach

56.548 **Impact of Prejudice on Ethnic Ingroup and Outgroup Mental Representations** Olivier Paquin, Daniel Fiset, Geneviève Forest, Mélina Jalbert, Caroline Blais

56.549 The time course of visual information extraction for identifying and categorizing same and other-race faces in Caucasian observers Sandra Lafortune, Caroline Blais, Karolann Robinson, Jessica Royer, Justin Duncan, Jessica Tardif, Daniel Fiset

56.550 **Judgments of Personality Traits from Real World Face Images** Samuel Anthony, Walter Scheirer, Ken Nakayama

56.551 **On the Modulation of Social Inference from Faces across Viewing Distance** Daniel Gill, Rachael Jack, Philippe Schyns

56.552 **Effects of bowing on perception of attractiveness** Jun Kawahara, Takayuki Osugi

VSS 2014 Program Tuesday Afternoon Posters

56.553 Hot or Not? Perceived Attractiveness Activates Reward Processes Within Medial-Frontal Cortex Olav Krigolson, Scott Whitaker, Laura MacKenzie, Cameron Hassall

56.554 A Perceptual Space for Describing Human Bodies Matthew Q. Hill, Carina A. Hahn, Alice J. O'Toole

56.555 Pupil constriction during visual preference decision Hsin-I Liao, Shinsuke Shimojo, Makio Kashino

56.556 The influence of pupil alignment on the address of spectators to portraits painted by Edouard Manet. Nick Donnelly, Beth Harland, Simon Liversedge

Object recognition: Features and parts

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Pavilion

56.557 The role of spatial frequencies in expert object recognition Simen Hagen, Quoc C. Vuong, Lisa S. Scott, Tim Curran, James Tanaka

56.558 Intrinsic versus contextual features in object recognition

Derrick Schlangen, Elan Barenholtz

56.559 Object interpretation: extending and validating object recognition Guy Ben-Yosef, Liav Assif, Danny Harari, Ethan Fetaya, Shimon Ullman

56.560 Statistics of three-dimensional objects and object representation Jin Qi, Zhiyong Yang

56.561 Greater Sensitivity to Nonaccidental than Metric Shape Properties in Preschool Children Sarah B. Herald, Manan P. Shah, Ori Amir, Irving Biederman, Toby Mintz

56.562 Object gist features capture the structure of neural responses to objects Talia Konkle, Alfonso Caramazza

56.563 Systematic eye movements during recognition of emerging images Barbara Nordhjem, Constanza I. Kurman Petrozzelli, Nicolás Gravel, Remco Renken, Frans W. Cornelissen

56.564 The temporal dynamics of 3D object recognition for monoand stereo visual displays: An ERP study Alan Pegna, Mark Roberts, Charles Leek

56.565 Task-Dependent Reliance on Image Fragments in Humans W. Drew Bromfield, Thomas James

56.566 Evidence for Feature Integration in the Fusiform Face Area Maxim Bushmakin, Thomas James

56.567 Dorsal Stream Contribution to Perceiving the Structure of Objects Valentinos Zachariou, Nikas V. Christine, Leslie G. Ungerleider

56.568 **Development of Sensitivity to 2D and 3D Information:** Infants' Haptic Exploration of Pictures, Objects and Surfaces Hope Rainey, Sarah Shuwairi

56.569 Effects of delay and distractors in temporal search on clips of fire Fintan Nagle, Alan Johnston, Peter McOwan

56.570 Object location biases shape and color judgments Colin

Kupitz, Carina Thiemann, Julie Golomb

56.571 Feature binding reveals the limit of unconscious visual processing Zhicheng Lin, Scott Murray

Object recognition: Mechanisms and models

Tuesday, May 20, 2:45 - 6:45 pm Poster Session, Pavilion

56.572 Real-time fMRI search for the visual components of object perception Daniel Leeds, John Pyles, Michael Tarr

56.573 Neural coding of point-light dynamic objects John A. Pyles, Michael J. Tarr

56.574 The lateral occipital complex (LOC) shows viewpoint dependence in recognizing novel three-dimensional objects Ying

Yang, Carol A. Jew, Robert E. Kass, Michael J. Tarr

56.575 Viewpoint invariant object recognition: Spatiotemporal information during unsupervised learning enhances generalization Mogian Tian, Kalanit Grill-Spector

56.577 Level of discrimination as an organizing principle in the human ventral occipito-temporal cortex for object recognition Alan C.-N. Wong, Yetta Kwailing Wong

56.578 Decoding visual object representation in human parietal cortex Maryam Vaziri Pashkam, Yaoda Xu

56.579 Hands in motion: Characterization of upper-limb selective regions in the occipito-temporal cortex. Tanya Orlov, Yuval Porat, Tamar Makin, Ehud Zohary

56.580 Spatial attention and task relevance modulate neural responses to illusory contours at early and later stages respectively Xiang Wu, Liang Zhou, Cheng Qian, Lingyu Gan, Daren

56.581 Misbinding of color and motion in human early visual cortex: an event-related potential study Yanyu Zhang, Xilin Zhang, Fang Fang

56.582 Edge co-occurrences are sufficient to categorize natural versus animal images Laurent U Perrinet, James A Bednar

56.583 The bottleneck in human letter recognition: A computational model Avi Ziskind, Olivier Hénaff, Yann LeCun, Denis Pelli

56.584 Event-related potentials show that semantic relations between objects are computed even under change blindness Felix Ball, Niko Busch

56.585 Right Hemisphere Dominance in Nonconscious Processing Jing Chen, Janet Hsiao

56.586 Repetition probability effects depend on prior experiences Mareike Grotheer, Gyula Kovács

Wednesday Morning Talks

Color and light: Surfaces and materials

Wednesday, May 21, 8:15 - 9:45 am Talk Session, Talk Room 1

Moderator: Bart Anderson

61.11, 8:15 The Perception of Surface Material from Disparity and Focus Cues Martin Banks, Abdullah Bulbul, Rachel Albert, Rahul Narain, James O'Brien, Gregory Ward

61.12, 8:30 am Looking against the light: how perception of translucency depends on lighting direction and phase function Bei Xiao, Bruce Walter, Ioannis Gkioukelas, Todd Zickler, Edward Adelson, Kavita Bala

61.13, 8:45 am **The Dark Secrets of Dirty Concavities** Roland Fleming, Steven Cholewiak

61.14, 9:00 am Perception of specular materials coupled to perceived 3-D shape Phillip Marlow, Dejan Todorović, Barton Anderson

61.15, 9:15 am Estimation of angular velocity of objects differing in material is inconsistent Gizem Kucukoglu, Laurence T Maloney

61.16, 9:30 am Complementary development of material perception and image discrimination in infants Isamu Motoyoshi, Jiale Yang , So Kanazawa, Masami K. Yamaguchi

Motion Perception: Biological, adaptation and higher order

Wednesday, May 21, 10:45 am - 12:30 pm Talk Session, Talk Room 1 Moderator: Derek Arnold

62.11, 10:45 am Ventral "form" visual pathway and the EBA are not critical for biological motion perception: evidence from patients and a model suggestion Sharon Gilaie-Dotan

62.12, 11:00 am Shifty Shades of Gray: Perceiving Motion from Deletion in the Shifty Shade Illusion Karen B Schloss, Methma Lidawatta

62.13, 11:15 am The illusory brightening MAE separates low-level motion models. Alan Johnston, Rupal Shah, Peter Scarfe

62.14, 11:30 am What determines the adaptation rate in the visual motion aftereffect? Loes van Dam, Marc Ernst

62.15, 11:45 am Motion-dependent filling-in at the blind spot Gerrit Maus, David Whitney

62.16, 12:00 pm A squishiness visual aftereffect – Not causality adaptation Derek Arnold, Kirstie Petrie, Regan Gallagher, Kielan Yarrow 62.17, 12:15 pm Apparent speed of a rotating disk varies with texture density Stuart Anstis, Alan Ho

Individual differences

Wednesday, May 21, 8:15 - 9:45 am Talk Session, Talk Room 2 Moderator: Jeremy Wilmer

61.21, 8:15 Behavioral face recognition performance correlates with an electrophysiological index of individual face discrimination obtained by fast periodic oddball stimulation Buyun

Xu, James Tanaka, Bruno Rossion, Joan Liu-Shuang

61.22, 8:30 am Independent ensemble processing mechanisms for high-level and low-level perceptual features Jason Haberman, Timothy F. Brady, George A. Alvarez

61.23, 8:45 am No action video game training effects for multiple object tracking or mental rotation Anika Guha, Amyeo Jereen, Joseph DeGutis, Jeremy Wilmer

61.24, 9:00 am Global Motion, Mathematics and Movement:
Dorsal Stream Sensitivity Relates to Children's Individual
Differences in Cognitive Abilities and Regional Brain Development
Janette Atkinson, Oliver Braddick, John Wattam-Bell, Natacha
Akshoomoff, Erik Newman, Holly Girard, Anders Dale, Terry Jernigan

61.25, 9:15 am Peak frequency of induced gamma-band response to simple stimulus predicts individual switch rate for perceptual rivalry tasks. Jeremy Fesi, Janine Mendola

61.26, 9:30 am Individual Differences in Priors and Sensory Noise Explain Rates of McGurk Fusion Perception John Magnotti, Michael Beauchamp

Attention: Temporal

Wednesday, May 21, 10:45 am - 12:30 pm Talk Session, Talk Room 2 Moderator: Trafton Drew

62.21, A magnocellular contribution to conscious object perception via temporal object segmentation Stephanie C. Goodhew, Hannah L. Boal, Mark Edwards

62.22, **No action video game training effects for flicker change detection** Amyeo Jereen, Anika Guha, Joseph DeGutis, Jeremy Wilmer

62.23, Entraining or Awakening: Perceptual Consequences of Visual Stimulation Jess R. Kerlin, Jane E. Raymond, Simon Hanslmayr, Kimron L. Shapiro

62.24, **Visual extinction in Parkinson patients** Sara Agosta, Raffaella Di Giacopo, Lorella Battelli

62.25, **Re-examining temporal selection errors during the attentional blink** Patrick T. Goodbourn, Paolo Martini, Michael Barnett-Cowan, Irina M. Harris, Evan J. Livesey, Alex O. Holcombe

62.26, **Shuffling your way out of change blindness** Trafton Drew, Jeremy M. Wolfe

62.27, **Pure Irrelevance Induced 'Blindness'** Yaffa Yeshurun, Roy Shoval, Baruch Eitam

Wednesday Morning Posters

Perception and action: Locomotion, wayfinding, space

Wednesday, May 21, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 63.301 Effects of discrepant optic flow during walking on the perceived visual and proprioceptive straight ahead in egocentric space Jing Chen, Kang He, KunLin Wei, Li Li
- 63.302 The structure of spatial knowledge: Do humans learn the geometry, topology, or stable properties of the environment? Jonathan Ericson, William Warren
- 63.303 **Effect of spatial or sequential auditory secondary task on spatial navigation** Wendy Baccus, Sarah Dziura, Jacob Bevitt, James Thompson
- 63.304 Effect of attentional load on visual control of steering toward a goal ${\rm Rongrong}$ ${\rm Chen}, {\rm Li}\,{\rm Li}$
- 63.305 The visual influence on path reproduction in darkness is stronger during childhood Karin Petrini, Andrea Caradonna, Celia Foster, Neil Burgess, Marko Nardini
- 63.306 Event file activation interferes allocation of visual attention during motor movement Kazuhiko Yokosawa, Marie Shoda
- 63.307 A data-driven approach to learning strategies for the visual control of navigation. Youssef Barhomi, Abigail Yanke, Stephane Bonneaud, William Warren, Thomas Serre
- 63.308 Inverted vection as a function of vection strength induced by background motion Yasuhiko Saito, Kenzo Sakurai
- 63.309 Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-Walking Tasks Adam J. Barnas, Benjamin R. Kunz
- 63.310 Intercepting a moving target in fog: On-line or model-based control? Huaiyong Zhao, William Warren
- 63.311 Memorizing slope but not elevation facilitates navigation in a virtual environment Hiroyuki Tsuda, Jun Saiki
- 63.312 Visual coupling to multiple neighbors in a crowd influences walking speed and direction ${\rm Kevin}\,W.$ Rio, William H. Warren, Jr.
- 63.313 **Visual control strategies for stepping over obstacles** Melissa Parade, Brett Fajen
- 63.314 The relationship between low-level visual tasks and steering control $Bobby\ Nguyen, Rui\ Ni$
- 63.315 Navigation patterns and spatial perception with and without vision using assistive technology for the blind Shachar Maidenbaum, Daniel-Robert Chebat, Shelly Levy-Tzedek, Amir Amedi
- 63.316 **Interactions of Hand And Gait Kinematics** Natalie de Bruin, Jason Flindall, Lesley Brown, Claudia Gonzalez
- 63.317 Speed judgments of background motion and illusion of self-motion when viewing sinusoidal visual stimuli along fore-and-aft axis with different frequencies and velocities

Daniel Chen, Richard So

- 63.318 **Do Geographical Slants Feel Steeper Than They Look?** Alen Hajnal, Jeffrey Wagman, David Bunch, Jonathan Doyon
- 63.319 **The Effects of Stress on Distance Perception** Monica Rosen, Joanna Lewis, Daniel McConnell, Mark Neider

Object recognition: General

Wednesday, May 21, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 63.321 **Ideal Observer Analysis of Fused Multispectral Imagery** Jennifer L. Bittner, M. Trent Schill, Leslie M. Blaha, Joseph W. Houpt
- 63.322 Measuring image distortions using an Iterative Amsler Grid (IAG) in patients with age-related macular degeneration Inci Ayhan, Edward Doyle, Johannes Zanker
- 63.323 Intuitive statistics from graphical representations of data Sarah S. Pak, J. Benjamin Hutchinson, Nicholas B. Turk-Browne
- 63.324 Parallel processing of multiple object identities from an ambiguous image: evidence from negative priming in a lexical decision task. Elan Barenholtz. Mohammed Islam
- 63.325 Armored Vehicle Recognition Training Using Game-Like Feedback Dustin Smith, Lindsey Davies, Evan Palmer, Joseph Keebler
- 63.326 Action Video Game Exposure Modulates Spatial Frequency Tuning for Emotional Objects Laurent Caplette, Greg L. West, Bruno Wicker, Marie Gomot, Frédéric Gosselin
- 63.327 Discriminating between different targets during a single trial using RSVP and EEG Melissa A. Smith, Eric J. Blumberg, Matthew S. Peterson
- 63.328 The Duration of Pleasure In the Experience of Beauty Lauren Vale, Denis G. Pelli
- 63.329 Mirror-image confusion in object-selective cortex: Are all reflections alike? Miles Hatfield, Michael McCloskey, Soojin Park
- 63.330 Dynamic Perception: Synergy between Grouping, Retinotopic Masking, and Non-retinotopic Feature Attribution Haluk Ogmen, Michael Herzog, Babak Noory

Visual memory: Capacity and resolution

Wednesday, May 21, 8:30 am - 12:30 pm Poster Session, Jacaranda Hall

- 63.331 **A measure of working memory capacity using a 3D videogame.** Guillaume Doucet, Julio Martinez-Trujillo
- 63.332 Estimating Transsaccadic Memory Capacity for Visual Search Nicholas Kleene, Melchi Michel
- 63.333 Dynamic reallocation of resources in visual short-term memory Summer Sheremata, Sarah Shomstein
- 63.334 Visual working memory represents information less precisely than iconic memory without necessarily trading off the precision for a larger capacity Daegyu Kim, Joo-seok Hyun
- 63.335 **Attentional Priority Determines Working Memory Precision** Zuzanna Klyszejko, Masih Rahmati, Clayton E Curtis
- 63.336 Training on orientation recall improves the precision of visual short-term memory under high and low levels of memory masking Alexander A. Petrov, Nicholas M. Van Horn
- 63.337 **Testing enhances the probability but not the precision of memory recall** David Sutterer, Edward Awh
- 63.338 Both variations in perceptual sensitivity and decisional response bias contribute to visual working memory performance Young Eun Park, Rosanne Rademaker, Frank Tong

Wednesday Morning Posters VSS 2014 Program

- 63.339 Moved here and forgot there: Saccades deteriorate visual short-term memory for non-target locations Martin Rolfs, Sven Ohl
- 63.340 **Recall and Recognition Effects on Retro-Cue Benefit** Filiz Gozenman, Ryan T. Tanoue, Terina Metoyer, Marian E. Berryhill
- 63.341 The effects of spatial proximity and colour similarity on competition between targets and distractors on visual working memory. Fiona McNab, Jumana Ahmad, Dipesh Mistry, Anna Nobre, Kimron Shapiro
- 63.342 Mechanisms of distractor interference in visual working memory Kimron Shapiro, Risa Sawaki
- 63.343 **Deriving configuration effects in spatial working memory from rational correspondence** Jorge Aurelio Menendez, Gi Yeul Bae, Colin Wilson, Jonathan Flombaum
- 63.344 The ex-Gaussian analyses of reaction time distributions for visual working memory-based change detection under overcapacity setsizes Hyung-Bum Park, Joo-Seok Hyun
- 63.345 **Effects of Emotion on Visual Working Memory** Weizhen Xie, Weiwei Zhang
- 63.346 **Dissociating Contents of Consciousness from Contents of Short-Term Memory** Thomas Alrik Sørensen, Árni Gunnar Ásgeirsson, Camilla Funch Staugaard, Morten Overgaard

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- 63.401 Distinct Representations for Rigid and Non-Rigid Facial Movements in Face-Selective Regions of the Human Brain Tessa Flack, David Watson, Richard Harris, Mark Hymers, Andre Gouws, Andrew Young, Timothy Andrews
- 63.402 **Characterizing the Manifolds of Dynamic Facial Expression Categorization** Ioannis Delis, Rachael Jack, Oliver Garrod, Stefano Panzeri, Philippe Schyns
- 63.403 Mental representations of emotional facial expressions are more complex rather than less accurate in older observers Katarzyna Jaworska, Nicola J. van Rijsbergen, Steven W. McNair, Ioannis Delis, Oliver G.B. Garrod, Rachael E. Jack, Guillaume A. Rousselet, Philippe G. Schyns
- 63.404 Recognition of complex and realistic facial expressions of **emotion** Shichuan Du, Pamela Pallett, Aleix M. Martinez
- 63.405 Fearful facial expressions are salient to early visual processes: evidence from effective contrast analyses and continuous flash suppression. Nicholas Hedger, Wendy J. Adams, Matthew Garner
- 63.406 Attentional effect on facial expression adaptation Pan Liu , Hong Xu
- 63.407 Is He Afraid or Looking at a Spider? Visual Attention to Facial Expressions Varies With the Task Nicole Nelson, Catherine Mondloch
- 63.408 Neural Responses to Object Priming of Fearful and Happy Facial Expressions Bonnie Heptonstall, Marilyn Thorpe, Buyun Xu, Iames Tanaka
- 63.409 Enhancing facial emotion recognition with tACS induced gamma oscillations Agnieszka Janik, Tirta Susilo, Constantin Rezlescu, Michael Banissy
- 63.410 Brain Networks for the Categorization of Facial Expressions of Emotion Aleix Martinez, Shichuan Du, Dirk Walther

- 63.411 Facial expression recognition takes longer in the posterior superior temporal sulcus (pSTS) than in the occipital face are (OFA) David Pitcher
- 63.412 Continuous and Categorical Patterns of Neural Response to Facial Expressions in Face-Selective Regions of the Human Brain Mladen Sormaz, Andrew W Young, David M Watson, Timothy J Andrews
- 63.413 Hemispheric differences in visual strategies used in facial expression categorization Karolann Robinson, Jessica Royer, Caroline Blais, Daniel Fiset
- 63.414 From the eyes to the rest of the face in visual cortex:

 Decoding facial expressions of emotion across non-overlapping face feature information Fraser Smith, Derek Mitchell, Steven Greening
- 63.415 Impact of task demands and fixation to features on the time course of facial emotion processing Karly Neath, Roxane Itier
- 63.416 Matching emotional expressions of faces within an olfactory context: Does my own feeling matter? Arnaud Leleu, Caroline Demily, Nicolas Franck, Karine Durand, Jean-Yves Baudouin, Benoist Schaal
- 63.417 **Sight sublimated by odors: effect of subliminal odors on facial emotion detection.** Nicolas Dollion, Jean-Yves Baudouin, Karine Durand, Benoist Schall
- 63.418 **Perceiving "face space"** Sean F. O'Neil, Amy Mac, Michael A. Webster
- 63.419 **Beyond the basics: Facial expressions of compound emotions** Pamela Pallett, Aleix Martinez
- 63.420 The effect of contrast negation on real/artificial face discrimination Christopher Tonsager, Benjamin Balas

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- 63.421 **Separating neuronal suppression from hemodynamic suppression** Pinglei Bao, Chris Purington, Bosco S. Tjan
- 63.422 The pattern of spontaneous visual cortex activity is not altered by callosotomy or extrastriate lesion Geoffrey Karl Aguirre,
- 63.423 Local density of human midget retinal ganglion cell receptive fields Andrew Watson
- 63.424 Reduced visual orientation-surround suppression in schizophrenia shown by measuring contrast detection thresholds Ignacio Serrano-Pedraza, Verónica Romero-Ferreiro, Jenny C. A. Read, Teresa Diéguez-Risco, Alexandra Bagney-Lifante, Montserrat Caballero-González, Javier Rodríguez-Torresano, Roberto Rodríguez-Jiménez
- 63.425 **The impact of psychological stress on the contrast sensitivity function** Andréa Deschênes, Justin Duncan, Camille Daudelin-Peltier, Youna Dion Marcoux, Caroline Blais, Daniel Fiset, Hélène Forget
- 63.426 Impact of pulvinar on contrast response functions in the primary visual cortex Christian Casanova, Jimmy Lai, Sébastien Thomas
- 63.427 A multi-pronged approach to identifying functional subdivisions of the human pulvinar Jason Fischer, Nancy Kanwisher
- 63.428 **Spatial frequency tuning characteristics of primate superior colliculus neurons** Chih-Yang Chen, Ziad M. Hafed
- 63.429 Spatiotemporal properties of macaque retinal ganglion cells: an harmonic analysis and relationships to psychophysical data Bonnie Cooper, Barry Lee

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63.430 Activity in early visual areas reflects the trial-by-trial precision of perception Ruben van Bergen, Wei Ji Ma, Michael Pratte, Janneke Jehee

- 63.431 Cholinergic enhancement increases information content of stimulus representations in human visual cortex Ariel Rokem, Michael Silver
- 63.432 Filling-in of an Induced Foveal Scotoma in Human Visual Cortex Jessica M. Thomas, Paola Binda, Ione Fine, Geoffrey M. Boynton
- 63.433 **Surround suppression in amblyopic central vision** Carey Y. L. Huh, Eunice Yang, Michael Silver, Dennis Levi
- 63.434 **Two mechanisms subserve the oblique effect** Kyriaki Mikellidou, Peter Thompson, David Burr
- 63.435 Does perceptual learning transfer between 1st and 2nd order mechanisms that mediate fine orientation discriminations? Lynn Olzak, Mingliang Gong
- 63.436 Limiting Factors in Form and Motion Perception: Shared locally, Differentiated Globally Mahesh Raj Joshi, Anita J Simmers, Seong Taek Jeon
- 63.437 Pain Tolerance Predicts Spatial But Not Temporal Vision Thresholds in Human Adults Michele E. Mercer, Geoff L. Smith , Paul A.S. Sheppard
- 63.438 Retinotopic visual mapping of brain oxygenation and neuronal activity using simultaneous fast and slow near-infrared optical brain imaging in humans. Kyle E. Mathewson, Kathy A. Low, Nils Schneider-Garces, Antonio Chiarelli, Chin Hong Tan, Tania Kong, Courtney R. Burton, Mark A. Fletcher, Benjamin Zimmerman, Brad P. Sutton, Edward L. Maclin, Monica Fabiani, Gabriele Gratton

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- 63.439 Investigating the shape of the contrast sensitivity function using white, bandpass, and contrast jitter noise Alex S. Baldwin, Robert F. Hess
- 63.440 **Perceptual biases and comparison biases in noisy 2D orientation displays** Elizabeth Cifuentes, Michael Fishman, Frank Durgin
- 63.441 Mapping number to space engages adaptive encoding mechanisms David Burr, Guido Marco Cicchini, Givanni Anobile
- 63.442 Invariant texture recognition depends on high-order statistics Catherine Conlin, Benjamin Balas
- 63.443 **Perceptual requirements and consequences of lateral inhibition** Joshua Solomon, James Kraft, Charles Chubb
- 63.444 **Order-disorder transition in visual perception** Mikhail Katkov, Hila Harris, Dov Sagi
- 63.445 **Spatial integration of orientation-defined texture** Gunnar Schmidtmann, Ben Jennings, Jason Bell, Frederick Kingdom
- 63.446 A unified framework and normative dataset for secondorder sensitivity using the quick Contrast Sensitivity Function (qCSF) Alexandre Reynaud, Yong Tang, Yifeng Zhou, Robert Hess
- 63.447 **Contour integration affects perceived mean orientations of Gabors** Oakyoon Cha, Sang Chul Chong
- 63.448 **The neural response to visual symmetry in wallpaper patterns** Peter J. Kohler, Alasdair D. F. Clarke, Joan Liu-Shuang, Yanxi Liu, Anthony M. Norcia

63.449 Early visual ERP components are sensitive to natural texture appearance Benjamin Balas, Catherine Conlin

63.450 Stimulus selectivity of broadband field potentials, but not gamma oscillations, matches population responses as measured by BOLD fMRI in human visual cortex Dora Hermes, Kendrick Kay, Jonathan Winawer

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- 63.451 A proposal for developmental prosopagnosia 'subtypes' based on differential face perception and face memory performance Sarah Cohan, Joseph DeGutis
- 63.452 A dissociation between face perception and face memory in adults, but not children, with developmental prosopagnosia Kirsten Dalrymple, Brad Duchaine
- 63.453 **Do face and word recognition deficits dissociate? A study of four acquired prosopagnosics** Brad Duchaine, Tirta Susilo, Victoria Wright, Jeremy Tree
- 63.454 Facial motion does not help face recognition in congenital prosopagnosics Janina Esins, Isabelle Bülthoff, Johannes Schultz
- 63.455 A possible marker of configural processing at the N170: Converging evidence from typical participants and a case of prosopagnosia Natalie Mestry, Tamaryn Menneer, Michael J. Wenger, Rosaleen McCarthy, Nick Donnelly
- 63.456 **Caricaturing improves face recognition in simulated prosthetic vision.** Elinor McKone, Jessica L. Irons, Tamara Gradden, Xuming He, Nick Barnes
- 63.457 Altered hemispheric specialization for faces and word in developmental dyslexia Eva Dundas, Yafit Gabay, David Plaut, Marlene Behrmann
- 63.458 Alexithymia explains impaired emotion recognition in eating disorders and schizophrenia Rebecca Brewer, Richard Cook, Geoffrey Bird
- 63.459 **Greater usage of the left eye causes better facial gender discrimination** Frédéric Gosselin, Alexandre Coüet-Garand, Nicolas Dupuis-Roy
- 63.460 Face Motion Influences Eye Movement Patterns and Face Processing in Children Steve Perrotta, Naiqi Xiao, Paul Quinn, Jinliang Qin, Genyue Fu, Liezhong Ge, Kang Lee
- 63.461 Early and late neural correlates of individual differences in fixation-specific face recognition performance Matthew F. Peterson, Charles Or, James Elliott, Barry Giesbrecht, Miguel P. Eckstein
- 63.462 Individual differences in face recognition abilities linked to variations in diagnostic facial information. Jessica Royer, Sandra Lafortune, Justin Duncan, Caroline Blais, Daniel Fiset
- 63.463 A reciprocal model of face recognition and the autism condition: Evidence from an individual differences perspective James Tanaka, Drew Halliday, Stuart MacDonald, Suzanne Scherf
- 63.464 Narcissistic personality differences in facial emotional expression categorization Jessica Tardif, Daniel Fiset, Caroline Blais

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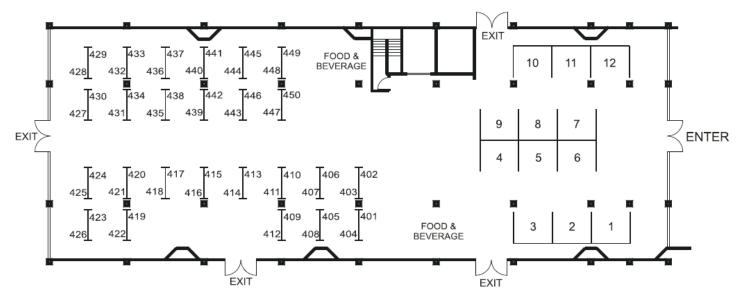
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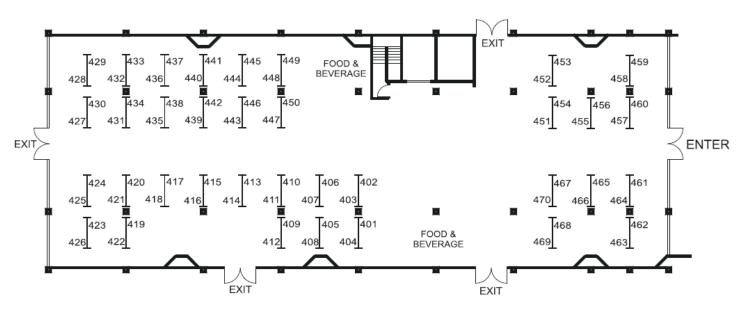
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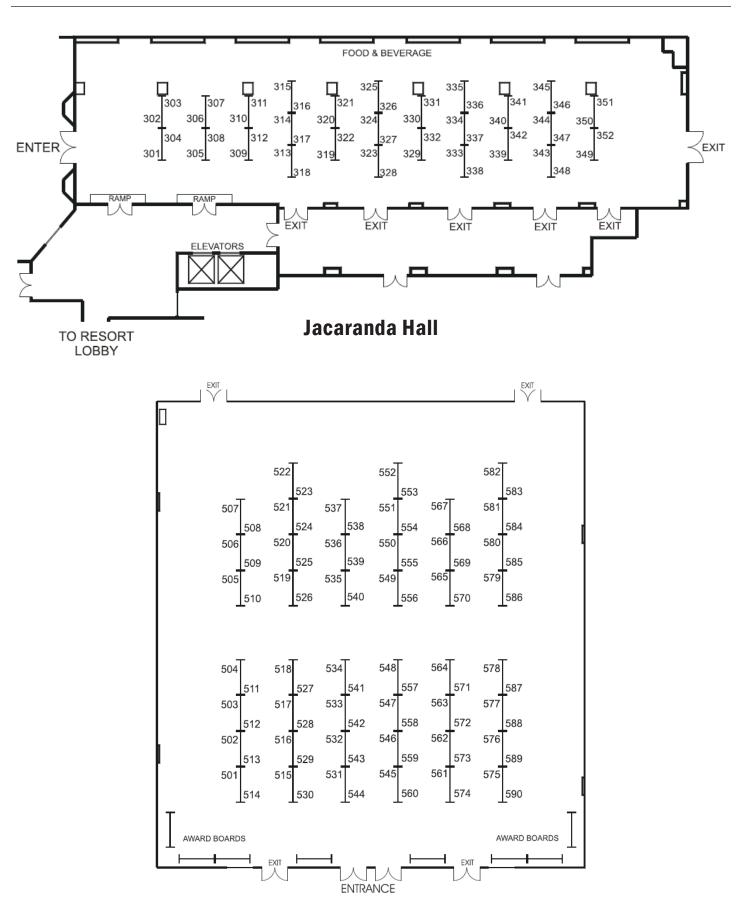


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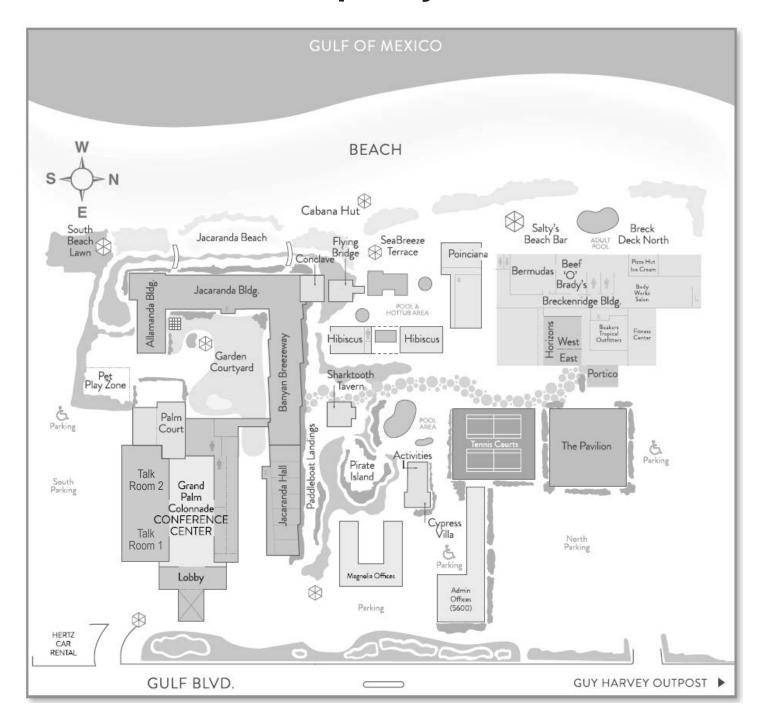
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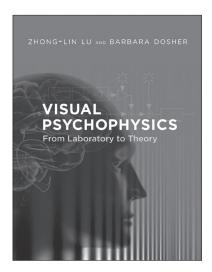
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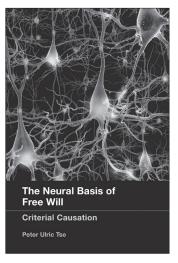
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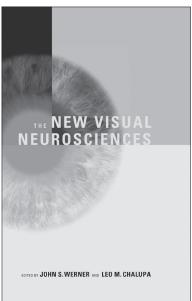


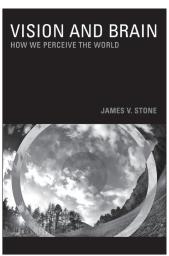
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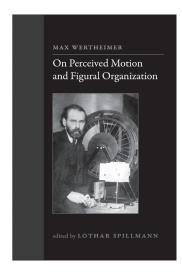
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