





All times listed are in CENTRAL STANDARD TIME.

All presenters have created presenter pages on the OPAM OSF meeting page.

Posters:

Posters and related material (including video walk-throughs, if presenters chose to include them) can be viewed at any time on OSF. Outside of this, poster presentations have been organized into two sessions hosted on Gather. Town. Please plan to visit these sessions to chat with presenters!

Talks:

Talk sessions will be in the format of Zoom Webinars. Some speakers have chosen to pre-record their talks, in which case they will be played by the session moderator during their scheduled time. Some speakers will be delivering their talks live. In all cases, speakers will be available immediately following their talk for live Q and A. Attendees are encouraged to use the Q and A Webinar feature to type their questions to presenters, and the moderators will ask the questions on your behalf. Remember to @ the speaker your question or comment is directed towards (e.g., @Doug: Great talk!"). Following the talk sessions, recordings of the talks will be available for viewing. Zoom Webinar links can be found in the program, and are accessible via Gather.Town.

Gather.Town:

The OPAM Gather.Town will be available on Wednesday, November 3 (at reduced capacity) and Thursday, November 4 (at full capacity). We encourage you to explore this space. In it, you'll find a poster hall where you can view all posters for both sessions, a lounge area that we will use for the OPAM social event on Thursday evening, and booths where you can chat with some of our sponsors. Feel free to use this space during breaks in the program to catch up with other OPAMers! Access the Gather.Town space with the password OPAM29. Find additional information about Gather.Town here.

Visit our Twitter page during the conference for live updates and use #OPAM2021 for all of your OPAM-y tweets!



EXplore Your Future with Exponent

We are actively seeking Ph.D., post-doctoral, and early-career faculty candidates who are interested in dynamic careers in technical consulting.

Exponent is a leading engineering and scientific consulting firm that brings together more than 50 years of experience and 90 different disciplines to solve the most pressing challenges facing stakeholders today. Our vision is to engage the brightest scientists and engineers to empower clients with solutions for a safe, healthy, sustainable, and technologically complex world.



1100+ Team members



900+ Consultants



550+ Ph.D.'s



For more information, contact:

Robert Rauschenberger

Principal Scientist, Human Factors Past OPAM organizer 213.304.6598 (cell) rrauschenberger@exponent.com To learn more about our current openings, visit www.exponent.com/careers



www.exponent.com

SR Research Proudly Supports OPAM 2021!



Portable Eye Tracking, Uncompromised Data Quality

FEATURES

Mobile - Everything needed can fit in a carry-on bag **Flexible** - Dual-use head-stabilized or remote head freeto-move tracking with any display - laptop, desktop, projectors...

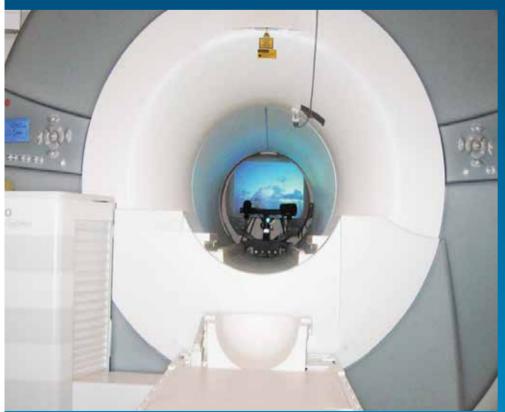
Superior Data Quality - Robust, accurate, and precise data for even the most demanding scientific and medical applications

Easy to Use - Quick and simple set up and calibration **Compatible** - Smoothly integrates with existing software and hardware tools









EyeLink 1000 PLUS

Multiple Eye-Tracking Solutions in One

APPLICATIONS

- Remote, head free-to-move and head-stabilized eye tracking
- Multiple mounts for specialized tasks and environments
- Extend for use with fMRI, MEG, EEG, TMS, and more
- Track infants, patients, seniors, and even non-human primates
- Portable options to track off-site in hospitals, schools, homes, etc.
- Outstanding technical specifications world leading on every dimension

Please contact SR Research for further information about our eye-tracking solutions.

www.sr-research.com info@sr-research.com



PROGRAM

wednesday

OUICK LINKS: OPAM OSF PAGE GATHER.TOWN OPAM WEBSITE

3:15 - 3:30 PM CDT

OPENING REMARKS

links || JOIN ZOOM WEBINAR

3:30 - 4:30 PM CDT

CAREER PANEL

links | MORE INFO | JOIN ZOOM WEBINAR

JENNIFER BITTNER, PH.D.

Human Factors Engineer, Intuitive

MICHAEL HOUT, PH.D.

Program Director, National Science Foundation Cognitive Neuroscience Program

& Perception, Action, and Cognition Program | Associate Professor, New Mexico State University

JEREMY WOLFE, PH.D.

Professory of Ophthalmology, Professor of Radiology, Harvard Medical School

Founding Editor of Cognitive Research: Principles and Implications

DEBORAH CRONIN, PH.D.

Assistant Professor, Drake University

4:30 - 5:00 PM CDT

BREAK

links || JOIN GATHER.TOWN

5:00 - 6:00 PM CDT

KEYNOTE ADDRESS: DR. DIANE BECK

links | MORE INFO | JOIN ZOOM WEBINAR

OUR LIMITED BUT PROFICIENT VISUAL BRAIN DIANE BECK, PH.D.

Professor of Psychology, University of Illinois at Urbana-Champaign

6:00 - 6:15 PM CDT

BREAK

links || JOIN GATHER.TOWN

6:15 - 7:15 PM CDT

TALK SESSION 1

links || ABSTRACTS | JOIN ZOOM WEBINAR

6:15 - 6:30

COMPRESSION AND EXPANSION OF SPATIAL PERCEPTION DUE TO OBJECTS

Anton Lebed, Cate Scanlon, & Timothy Vickery

6:30 - 6:45

MENTALISTIC NOT DIRECTIONAL ASPECT OF SOCIAL ORIENTING IS ASSOCIATED WITH PERSPECTIVE TAKING ABILITY Sarah D. McCrackin, Florence Mayrand, & Jelena Ristic

6:45 - 7:00

SACCADES TEMPORARILY DISRUPT ATTENTIONAL FILTERING FOR VISUAL WORKING MEMORY

Jacqueline Y. Bao, Blaire Dube, & Julie D. Golomb

7:00 - 7:15

FROM HERE TO THERE: AUTOMATIC PATH TRACING IN TASK-IRRELEVANT MAZES VIA DYNAMIC

VISUAL ROUTINES Kimberly W. Wong & Brian Scholl

PROGRAM

thursday morning

TALK SESSION 2

| Iinks | ABSTRACTS | JOIN ZOOM WEBINAR

| 8:00 - 8:15 | DEEPER IS DARKER: A PUPILLOMETRY STUDY
| Ronen Hershman, Ayelet Sapir, & Avishai Henik
| 8:15 - 8:30 | RELIABILITY OF ATTENTION BIAS TO FOOD IMAGES: A SYSTEMATIC INVESTIGATION OF THE
| DOT-PROBE TASK USING REACTION TIME AND EYE TRACKING | Xue-Zhen Xiao & Zicheng Lin
| 8:30 - 8:45 | MAY THE FORCE BE AGAINST YOU: BETTER SENSITIVITY TO SPEED CHANGES THAT APPEAR TO
| RESIST GRAVITY | Hong B. Nguyen & Benjamin van Buren
| 8:45 - 9:00 | THE ROLE OF WORKING MEMORY FOR MENTAL OPERATIONS ON INFORMATION IN LONG-TERM MEMORY
| Duygu Yücel, Betül Türk, & Eren Günseli

QUICK LINKS:

OPAM OSF PAGE

GATHER.TOWN

OPAM WEBSITE

9:00 - 9:15 AM CDT BREAK | links || Join Gather.town

9:15 - 10:15 AM CDT **POSTER SESSION 1**

links || JOIN GATHER.TOWN | PRESENTER LIST | ABSTRACTS Gather.Town password: OPAM29

10:15 - 11:15 AM CDT **EQUITY IN VISION SCIENCE**

links | MORE INFO | JOIN ZOOM WEBINAR

BIAS IN DATA VISUALIZATION: CONSIDERING EQUITY THROUGH RESEARCH

Emily Wall, Ph.D.

Assistant Professor of Computer Science, Emory University

OPEN SCIENCE: A VISION FOR A FAIR AND EQUITABLE SCIENCE

William X. Q. Ngiam, Ph.D.

Postdoctoral Researcher, University of Chicago

BUILDING A MORE ACCESSIBLE CONFERENCE FOR RESEARCHERS WITH VISION IMPAIRMENT

Yueh-Hsun (Walter) Wu

Psychology Ph.D. Candidate, University of Minnesota | Advisory Board Member, International Network of Researchers with Vision Impairment and their Allies (INOVA)

11:15 - 11:30 AM CDT BREAK | links || Join Gather.town

11:30 - 12:30 PM CDT TALK SESSION 3

links | ABSTRACTS | JOIN ZOOM WEBINAR

11:30 - 11:45 MINOR CHANGES TO A SURPRISE TRIAL PARADIGM CAN DRAMATICALLY ALTER SURPRISE

MEMORY TEST PERFORMANCE Ryan E. O'Donnell, Joyce Tam, & Brad Wyble

11:45 - 12:00 CATEGORICAL BIAS IN VISUAL WORKING MEMORY: THE EFFECT OF MEMORY LOAD AND RETENTION

INTERVAL Cherie Zhou, Monicque Lorist, & Sebastiaan Mathot

12:00 - 12:15 THE WORKING MEMORY ADVANTAGE FOR MEANINGFUL STIMULI PERSISTS UNDER HIGH LEVELS OF PROACTIVE INTERFERENCE Lauren H. Williams, Viola S. Störmer, & Timothy F. Brady

12:15 - 12:30 **LOOKING UNIQUE** Qian Yu & Zekun Sun

PROGRAM

thursday afternoon

12:30 - 1:30 PM CDT LUNCH | links || JOIN GATHER.TOWN

1:30 - 2:30 PM CDT POSTER SESSION 2

links | JOIN GATHER.TOWN | PRESENTER LIST | ABSTRACTS Gather.Town password: OPAM29

2:30 - 2:45 PM CDT BREAK | links || JOIN GATHER.TOWN

2:45 - 3:45 PM CDT TALK SESSION 4

links | ABSTRACTS | JOIN ZOOM WEBINAR

2:45 - 3:00 EYE MOVEMENTS TO TARGETS AND DISTRACTORS: INSIGHTS INTO THE SIZE CONGRUITY EFFECT

IN VISUAL SEARCH Nickolas James Paternoster, Emily R. Andrews, Julia C. Williams,

QUICK LINKS:

OPAM OSF PAGE

GATHER.TOWN

OPAM WEBSITE

Taylor D. Dague, Kenith V. Sobel, & Amrita M. Puri

3:00 - 3:15

THE ROLE OF SPATIOTEMPORAL PREDICTION IN AGENCY-DRIVEN ATTENTIONAL SELECTION

Adam C. Villanova Collectoir Emily F. Tigha & James P. Brashmada

Adam C. Vilanova-Goldstein, Emily E. Tighe, & James R. Brockmole

3:15 - 3:30 CAN EMOTIONALLY SALIENT SINGLETONS BE SUPPRESSED?

Minwoo Kim & James E. Hoffman

3:30 - 3:45 ATTENTION TO ABSENCES
Jorge Morales & Chaz Firestone

3:45 - 4:00 PM CDT CLOSING REMARKS

links || JOIN ZOOM WEBINAR

AWARDS ANNOUNCEMENTS

OPAM Professional Development Award Winners

Visual Cognition Best Talk and Best Poster Award Winners

8:30 PM CDT OPAM GATHER.TOWN SOCIAL

links || JOIN GATHER.TOWN SOCIAL password: OPAM29



THE UNIVERSITY OF ARIZONA COLLEGE OF SCIENCE

Cognitive Science

2021 KEYNOTE ADDRESS

WEDNESDAY, NOVEMBER 3 | 5-6 PM CENTRAL TIME

link | JOIN ZOOM WEBINAR

OUR LIMITED BUT PROFICIENT VISUAL BRAIN



DIANE BECK, PH.D.

Professor of Psychology and Neuroscience University of Illinois at Urbana-Champaign

Dr. Beck runs the Attention and Perception lab at the University of Illinois, where she is a Professory of Psychology and facutly member in the Neuroscience Program and the Beckman Institute Cognitive Neuroscience Group. Dr. Beck's research combines diverse methods including functional magnetic resonance imaging, behavioral methods, and transcranial magnetic stimulation to identify the cognitive processes and neural structures that enable and limit our visual representations of the world. She is a Fellow of the Association for Psychological Science, the recipient of numerous teaching awards, and an active advocate for early career researchers in her work with Females of Vision et al. (FoVea).





POSTER SESSIONS

MAPPING THE DIMENSIONS OF OBJECT PERCEPTION

Heida Maria Sigurdardottir

link | JOIN GATHER.TOWN Gather.Town password: OPAM29

POSTER SESSION 1 THURS 9:15 - 10:15 AM

01	SYNERGISTIC EFFECTS OF RHYTHM AND EXOGENOUS SPATIAL ATTENTION Pom Charras, Ana Belen Chica, & Mariagrazia Capizzi
02	RETROACTIVE INTERFERENCE ON WORKING MEMORY CONSOLIDATION WITH EXCLUSIVELY VISUAL CONTENT Brandon John Carlos, Lindsay A. Santacroce, & Benjamin J. Tamber-Rosenau
03	BIASES IN SERIAL DECISIONS DUE TO THE HISTORY OF RELEVANT AND IRRELEVANT VISUAL FEATURES Christian Houborg, Ömer Dağlar Tanrıkulu, David Pascucci, & Árni Kristjánsson
04	ATTENTIONAL STRATEGY AND EFFORT AVOIDANCE: THE ROLE OF DISPLAY ENUMERATION Tianyu Zhang, Molly R. McKinney, & Andrew B. Leber
05	FURTHER EVIDENCE OF A DIVERGENCE BETWEEN COGNITIVE ABILITY AND ATTENTIONAL CONTROL STRATEGY Molly R. McKinney, Tianyu Zhang, Jessica L. Irons, & Andrew B. Leber
06	MASSIVE VISUAL LONG-TERM MEMORY IS LARGELY DEPENDENT ON MEANING Roy Shoval, Tal Makovski, & Nurit Gronau
07	AGE DIFFERENCES IN WORKING MEMORY FILTERING OF DISTRACTING INFORMATION Rosa E. Torres, Stephen M. Emrich, & Karen L. Campbell
08	NEURAL CORRELATES OF FRAME INDUCED POSITION SHIFT Yong Hoon Chung & Viola S. Störmer
09	DISTRACTOR FILTERING PERFORMANCE IS RELATED TO MEASURES OF NUTRITION Brooke Greiner, Gennadiy Gurariy, Christine Larson, & Adam S Greenberg
10	THE EFFECTS OF RECOLLECTION AND FAMILIARITY ON WORKING MEMORY PERFORMANCE Mallory S. Duprey, Rosa E. Torres, Karen L. Campbell, & Stephen M. Emrich
11	A TEMPLATE-FOR-REJECTION EFFECT REBOUNDS WHEN SWITCHING TO A SECOND TASK Tomoyuki Tanda, Tomoki Maezawa, & Jun-Ichiro Kawahara
12	OBJECT-BASED DEPENDENCE OF FEATURES IN VISUAL WORKING MEMORY Hirotaka Sone, Min-Suk Kang, Aedon Y. Li, Hiroyuki Tsubomi, & Keisuke Fukuda
13	SPATIOTEMPORAL UPDATING OF ATTENTIONAL BIAS DEPENDING ON THE AWARENESS STATE OF STATISTICAL REGULARITY Injae Hong & Min-Shik Kim
14	IMPACT OF REDUNDANT VISUAL INFORMATION ON LEARNING AND GENERALIZATION Desia Bacon, Melissa Schoenlein, Jenny Saffran, & Karen Schloss
15	INVESTIGATING THE TIME COURSE OF EXOGENOUS ATTENTION USING A WEB-BASED EYE-TRACKING TOOL Amy vanWell & James Tanaka
16	SHIFT DIRECTION ANISOTROPY IS MEDIATED BY OBJECT LOCATION AND TARGET POSITION UNCERTAINTY David H. Hughes, Adam J. Barnas, & Adam S. Greenberg

OUT OF SYNC IN TIME AND THOUGHT: THE INFLUENCE OF PERCEIVED EVENT SEGMENTATION ON TEMPORAL MEMORY IS DIMINISHED FOR INDIVIDUALS HIGH IN PARANOIA Joan Danielle K. Ongchoco, William N. Koller, Michael V. Bronstein, Tristan S. Yates, Tyrone D. Cannon, & Brian J. Scholl

Inga María Ólafsdóttir, Sunneva Líf Albertsdóttir, Unnur Andrea Ásgeirsdóttir, Tim C. Kietzmann, &

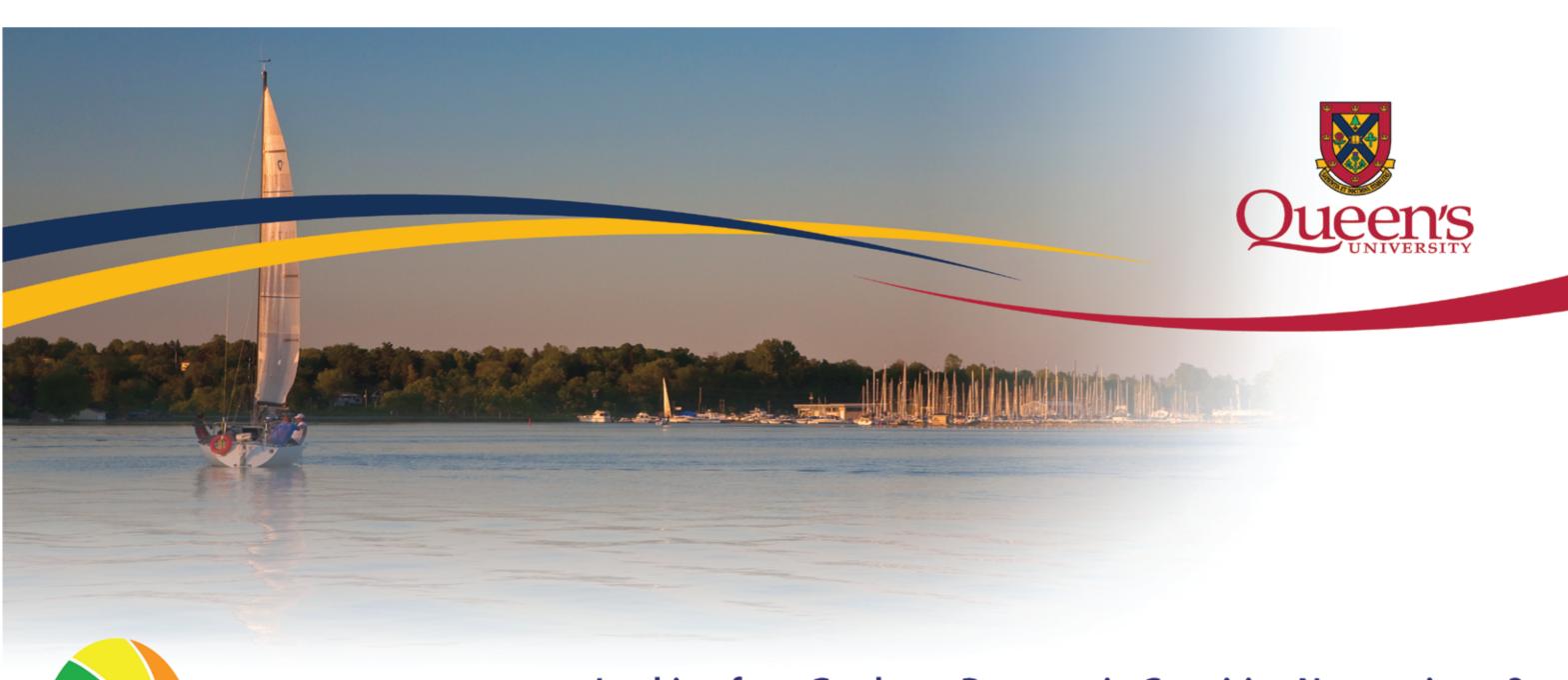
- JUDGMENTS DURING PERCEPTUAL COMPARISONS PREDICT DISTINCT FORMS OF MEMORY UPDATING Joseph M Saito, Gi-Yeul Bae, & Keisuke Fukuda VISION IN THE VIRTUAL WORLD: A FIXATION-RELATED POTENTIALS APPROACH INVESTIGATING THE EFFECTS OF LUMINANCE ON EARLY CORTICAL PROCESSING IN REAL-WORLD VISION Anna Madison, Jon Touryan, Michael Nonte, & Anthony J. Ries ATTENTIONAL ALLOCATION TO THE PERIPHERY AND FOVEA CAN BIAS FEATURE-LOCATION BINDINGS Cristina R. Ceja & Steven L. Franconeri HOW LOW TARGET PREVALENCE CHANGES OBSERVERS' CONFIDENCE IN PERCEPTUAL DECISIONS Wanyi Lyu & Jeremy M. Wolfe REDUCED TEMPORAL JUDGMENT ERRORS IN THE PERI-HAND SPACE Tony Thomas & Krishnapriya KS THE ROLE OF SEMANTIC PROCESSING IN THE GENERATION EFFECT Michaela Ritchie & Jonathan Wilbiks VISUAL LONG-TERM MEMORY FOR OBJECTS DETERMINED BY THEIR TYPE AND STRENGTH OF BINDING TO SCENE CONTEXT Emily V. Madden, Scott A. Cairney, & Karla K. Evans POSTER SESSION 2 THURS 1:30-2:30 PM WHAT TO DO WITH PANDEMIC PARTICIPANT DATA?: DIFFERENCES IN BEHAVIORAL, COMPLIANCE, AND SELF-REPORT SURVEY DATA BETWEEN PRE- AND PERI-PANDEMIC PARTICIPANT COHORTS Sydni M. Nadler, Samoni Nag, & Stephen R. Mitroff BREAKING THE ENSEMBLE: LIMITATIONS IN THE FORMATION OF CROSS-MODAL ENSEMBLE REPRESENTATIONS Greer Gillies, Jon Cant, & Keisuke Fukuda IRRELEVANT REWARDED VISUAL FEATURES IMPACT SUSTAINED NON-SPATIAL ATTENTION Anne E. Milner & Barry Giesbrecht LEARNED SPATIAL DISTRACTOR SUPPRESSION REDUCES FEATURE INTERFERENCE William Narhi-Martinez, Blaire Dube, Jiageng Chen, Andrew B. Leber, & Julie D. Golomb INVESTIGATING FEATURE-BASED ATTENTIONAL SUPPRESSION OF DISTRACTORS DURING VISUAL DISCRIMINATION TASKS Elisa Mossé, Ömer Dağlar Tanrıkulu, David Pascucci, & Árni Kristjánsson FAMILIARITY INFLUENCES PERCEPTION: FAMOUS AND INVERTED FACES AND LOGOS Pei-Ling Yang & Diane Beck TESTING THE ATTENTIONAL DWELLING ACCOUNT: LATENT CAPTURE OR OCULOMOTOR CAPTURE? Samantha Joubran, Lindsay Szostok, Lindsay Plater, & Naseem Al-Aidroos PHYSIOLOGICAL MARKERS FROM EYE AND HAND MOVEMENTS ASSOCIATED WITH DRIFTS IN FOCUS DURING AN INTERACTIVE SUSTAINED ATTENTION TASK Katherine Chiang Hurst, Madison B. Andrews, Jacob Bernstein, Sophia A. Bodor, Harry Steinharter, & Jeff Moher INTERPRETING SENSATION: QUANTIFYING THE BOTTLENECK OF INFORMATION TRANSFER BETWEEN ECHOLOCATION, VISION, AND HAPTIC PERCEPTION Caroline Dacus, Nickolas Paternoster, Michael Ezeana, Santani Teng, & Amrita Puri ATTENTIONAL STRATEGY USE IN A COMBINED TARGET CHOICE AND FORAGING TASK Walden Y. Li & Andrew B. Leber **ENGAGING IN VISUAL IMAGERY** Chris Koch
- AN ONLINE ATTENTION TASK MAY BE USEFUL TO ANSWER QUESTIONS ABOUT LONG-TERM MEMORY RECONSOLIDATION Lindsay Plater, Naseem Al-Aidroos, & Morgan D. Barense

AUDITORY ENHANCEMENT AND INTERFERENCE EFFECTS ON VISUAL SEARCHES FOR ACTION-RELATED SCENES

37

Tomoki Maezawa & Jun Kawahara

- THE EVOLUTION OF COMPLEXITY IN VISUAL MEMORY Zekun Sun & Chaz Firestone
- AND LIKE THAT, THEY WERE GONE: A FAILURE TO REMEMBER RECENTLY ATTENDED UNIQUE FACES Joyce Tam, Michael K. Mugno, Ryan E. O'Donnell, & Brad Wyble
- FEATURE-BASED ATTENTION WARPS PERCEPTION OF COLOR Angus F. Chapman, Chaipat Chunharas, & Viola S. Störmer
- WHAT WE'VE BEEN MISSING ABOUT WHAT WE'VE BEEN MISSING: ABOVE-CHANCE SENSITIVITY TO INATTENTIONAL BLINDNESS STIMULI Makaela Nartker, Chaz Firestone, Howard Egeth, & Ian Phillips
- 43 IMAGERY AND PERCEPTUAL PRIMING ACROSS VISUAL ATTENTION Ming-Ray Liao, James D. Grindell, & Brian A. Anderson
- REVEALING THE EFFECTS OF TEMPORAL ORIENTING OF ATTENTION ON RESPONSE CONFLICT USING CONTINUOUS MOVEMENTS Melisa Menceloglu, Satoru Suzuki, & Joo-Hyun Song
- THE EMOTIONAL ATTENTIONAL BLINK'S WEAKNESS CANNOT BE EXPLAINED BY MIXING WITH THE STANDARD ATTENTIONAL BLINK Lindsay A. Santacroce, Apurva L. Swami, & Benjamin J. Tamber-Rosenau
- WHEN DOES SATISFACTION HURT MOST? CHANGING THE RELATIVE PREVALENCE OF SINGLE- AND DUAL-TRIALS IN A MULTIPLE-TARGET SEARCH Stephen H. Adamo, Mariana Ortiz, & Archi Patel
- THEMATIC OBJECT RELATIONSHIPS ARE JUDGED AS STRONGER THAN TAXONOMIC RELATIONSHIPS IN A TWO-ALTERNATIVE FORCED CHOICE TASK Elizabeth H. Hall & Joy J. Geng
- **EXPLORING ASSOCIATIONS BETWEEN PERSIAN NOUNS AND GEOMETRICAL SHAPES**Mohsen Dolatabadi, Alie Kord Zaferanloo, & Arsalan Golfam
- THE IMPACT OF CLUTTER ON MULTIPLE OBJECT SEARCH IN NATURALISTIC SETTINGS Elizabeth Brogna, Sophie Jedrysek, & Yelda Semizer





Looking for a Graduate Program in Cognitive Neuroscience?

- Study cognitive processing using cutting-edge technology
- · Work and collaborate with world-renowned experts
- · Develop valuable skills for both academia and industry

OPAM CAREER PANEL

WEDNESDAY, NOVEMBER 3 | 3:30 - 4:30 PM CENTRAL TIME link | JOIN ZOOM WEBINAR

Hear about different careers in academia and industry and ask a panel of experts how you can advance your own career goals.



Jeremy Wolfe, Ph.D.

Dr. Wolfe runs a grant-funded lab at Brigham and Women's Hospital in Boston. He is Professor of Ophthalmology and Radiology at Harvard Medical School. His research focuses on visual search and visual attention, with a particular interest in socially important search tasks in areas such as medical image perception (e.g. cancer screening), security (e.g. baggage screening), and intelligence. He is the founding editor of the newest Psychonomic Society journal: Cognitive Research: Principles and Implications.



Jennifer Bittner, Ph.D.

Dr. Bittner is a Human Factors Engineer at Intuitive. She conducts human factors research to aid in the design of minimally invasive robotic surgery systems. Dr. Bittner's career in vision research and applications of vision science has spanned the fields of academia, defense, and industry, working previously in multiple academic postdoctoral fellowships and with the Air Force Research Laboratory.



Deborah Cronin, Ph.D.

Dr. Cronin recently started her position as an Assistant Professor in the Department of Psychology and Neuroscience at Drake University. Her research uses eye-tracking and behavioral methods to study human visual attention and visual cognition (like where, when, and how we allocate attention in real-world scenes).



Michael Hout, Ph.D.

Dr. Hout is an Associate Professor of Psychology at New Mexico State University and a Program Director for the National Science Foundation's Cognitive Neuroscience program, as well as their Perception, Action, and Cognition program. His research investigates visual attention and memory using behavioral, eye-tracking, and computational techniques.

EQUITY IN VISION SCIENCE

THURSDAY, NOVEMBER 4 | 10:15 - 11:15 AM CENTRAL TIME

link || JOIN ZOOM WEBINAR

Three speakers will discuss perspectives on equity and accessibility in science, followed by an open discussion with the OPAM community.



Yueh-Hsun (Walter) Wu
Building A More Accessible Conference For
Researchers With Vision Impairment

Walter is a Psychology Ph.D. candidate with a Translational Sensory Science minor at the University of Minnesota. His research focuses on topics related to the impact of impaired vision on daily activities, such as reading, and the usage of assistive technologies in people with low vision. He serves on the advisory board for the International Network of Researchers with Vision Impairment and their Allies (INOVA), an organization that promotes equity and inclusion in vision science.



Emily Wall, Ph.D.

Bias In Visualization:
Considering Equity Through Research

Dr. Wall is an Assistant Professor of Computer Science at Emory University. She develops computational strategies to characterize human limitations in decision making (e.g., cognitive bias) and designs interventions to promote reflective data analysis and decision making processes.



William X. Q. Ngiam, Ph.D.

Open Science:
A Vision For A Fair And Equitable Science

Dr. Ngiam is a postdoctoral researcher at the University of Chicago in the Awh/Vogel Lab studying visual working memory. He founded and co-organized the ReproducibiliTea journal club at the University of Chicago, aiming to improve science by empowering early-career researchers to pursue reproducible and open practices. He is now on the steering committee of the wider ReproducibiliTea initiative.



ABOUT VISTA

VISTA is a collaborative research program funded by the Canada First Research Excellence Fund (CFREF). VISTA builds on York University's worldleading interdisciplinary expertise in biological and computer vision with over 80 academic, public, and for-profit partners.

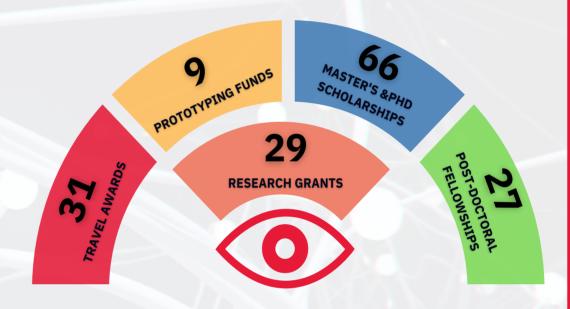
HIGHLIGHTS



MISSION

Our mission is to advance vision science through computational and biological research perspectives and to produce applications that generate positive economic, societal, health and technological impacts for Canada and the world.

FUNDED TO DATE



BECOME A VISTA AFFILIATE/PARTNER

Program benefits:



Become a member of an interdisciplinary research community across the research areas of health, science, engineering, humanities, & arts



Work with over 80 industry partners offering opportunities for research collaboration and product development



Join an international network pushing the boundaries of vision research in North America, Europe, and Asia



Collaborate on VISTA-funded research projects



Participate in VISTA-funded events



Travel Awards to support expenses for visiting scholars, students, and fellows to/from current VISTA partners

BECOME A VISTA TRAINEE



Master's Scholarships

- 2 year funding (\$10,000/year), in addition to standard York University funding
- Supervisor must be a VISTA Core member



PhD Scholarships

- 4 year funding (\$10,000/year), in addition to standard York University funding
- Supervisor must be a VISTA Core member



Postdoctoral Fellows

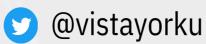
- 2 year funding (\$55,000/year)
- Yearly Research and Networking allowances

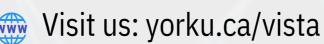
CONTACT/FOLLOW US





🔀 vistainfo@yorku.ca







TALK SESSION 1

COMPRESSION AND EXPANSION OF SPATIAL PERCEPTION DUE TO OBJECTS

Anton Lebed, Cate Scanlon, & Timothy Vickery

We conducted a series of experiments to further investigate the Object-Based Warping illusion – a tendency to overestimate the distance between two dots embedded in an object compared to an equidistant pair of dots on ground space. We found that objects produce two reliable complementary warping effects. If the dots are situated near the center of an object, we observe the expansion effect – the dots are seen further apart than they really are. If the dots are situated on the outer border of an object – we observe the compression effect – the dots are perceived as closer to each other.

MENTALISTIC NOT DIRECTIONAL ASPECT OF SOCIAL ORIENTING IS ASSOCIATED WITH PERSPECTIVE TAKING ABILITY Sarah D. McCrackin, Florence Mayrand, & Jelena Ristic

Social orienting reflects both cue directionality and representations of the gazer's mind. Here we examined the role of perspective taking by relating participants' (n=116) Interpersonal Reactivity Index (IRI) to the magnitudes of their social orienting's directional (cue directionality), and mentalistic (target content, mental perspective) components. Higher IRI scores were associated with better performance on trials where target mental content and mental perspective, rather than cue directionality, were congruent with the target. No correlations emerged when avatar did not provide social information. Thus, mentalistic but not directional aspects of social orienting are linked with perspective taking abilities.

SACCADES TEMPORARILY DISRUPT ATTENTIONAL FILTERING FOR VISUAL WORKING MEMORY

Jacqueline Y. Bao, Blaire Dube, & Julie D. Golomb

Visual working memory (VWM) encoding is regulated by an attentional filter that prioritizes goal-relevant information. This attention-VWM interaction is crucial for supporting goal-directed behavior, but it has only been evaluated under laboratory conditions constraining eye movements. Do attentional control settings persist across saccades, or is VWM filtering impaired? We report that this filter is disrupted when VWM stimuli are presented immediately post-saccade, but returns following a longer post-saccade delay. This demonstrates a critical limitation of this filter in dynamic environments: it does not seamlessly persist across eye movements and must be re-instated post-saccade.

FROM HERE TO THERE: AUTOMATIC PATH TRACING IN TASK-IRRELEVANT MAZES VIA DYNAMIC VISUAL ROUTINES Kimberly W. Wong & Brian Scholl

When solving mazes, you may find yourself mentally 'tracing' along various paths. Does this require an intention (e.g. to find your way out), or might such path-tracing occur automatically—simply as a result of *seeing* the maze, via a kind of visual affordance? Here, observers compared two probes presented along the paths of a maze that was itself entirely task-irrelevant. Performance was slower for probes further from each other along the paths, even when equating their brute linear separation (ignoring 'walls'). This shows how some dynamic visual routines may operate involuntarily as part of basic visual processing.

TALK SESSION 2

DEEPER IS DARKER: A PUPILLOMETRY STUDY

Ronen Hershman, Ayelet Sapir, & Avishai Henik

In the current study, we presented participants with 2D shaded images that create an illusion of depth. In three experiments, we showed that pupil size was affected by the percept of depth, so that it dilated more for perceived concave compared to perceived convex stimuli, even though the amount of light in the images was identical. Interestingly, this only happened if participants made a judgment regarding the shape of the stimulus or when they viewed it passively but were aware of the different shapes. This suggests that the pupillary physiological response reflects the attentive subjective perception of light.

RELIABILITY OF ATTENTION BIAS TO FOOD IMAGES: A SYSTEMATIC INVESTIGATION OF THE DOT-PROBE TASK USING REACTION TIME AND EYE TRACKING Xue-Zhen Xiao & Zicheng Lin

The reliability of attentional bias in the dot probe task is controversial. Circumventing prior confounds and limitations and using both reaction time and eye tracking, we were able to systematically investigate the reliability of attention bias to food images and address how fundamental attributes of food—tastiness and healthfulness—affect attention bias to food. We found no reaction time bias to food, but significant direction biases and dwell time biases towards food, with a larger direction bias towards food rated as high (vs. low) tastiness or low (vs. high) healthiness. Internal consistency, test-retest reliability, and measurement errors were moderate.

MAY THE FORCE BE AGAINST YOU: BETTER SENSITIVITY TO SPEED CHANGES THAT APPEAR TO RESIST GRAVITY Hong B. Nguyen & Benjamin van Buren

What do we see? Do we perceive objects in terms of just their surface features (such as their direction and speed of motion), or also in terms of deeper properties, such as the invisible physical forces governing their behavior? Observers viewed moving discs, and indicated whether each disc accelerated, decelerated, or remained constant. In four experiments, observers were more sensitive to acceleration when the discs moved upward (against gravity), while they were more sensitive to deceleration when the disc moved downward (with gravity). We conclude that visual processing is more sensitive to speed changes that look self-propelled.

THE ROLE OF WORKING MEMORY FOR MENTAL OPERATIONS ON INFORMATION IN LONG-TERM MEMORY Duygu Yücel, Betül Türk, & Eren Günseli

Working memory (WM) is defined as the mental workspace, yet its role for mental operations using previously learned information remains unclear. We compared the level of WM reactivation for locations available in long-term memory (LTM) that will be used for mental integration vs. recognition. We operationalized WM reactivation as faster perceptual discriminability at LTM vs irrelevant locations in a secondary task, since WM involves selective attention and selective attention facilitates perceptual discrimination. Perceptual facilitation was observed only in mental integration blocks, suggesting stronger WM reactivation of LTM representations that will be used for mental operations vs. mere recognition.

TALK SESSION 3

MINOR CHANGES TO A SURPRISE TRIAL PARADIGM CAN DRAMATICALLY ALTER SURPRISE MEMORY TEST PERFORMANCE Ryan E. O'Donnell, Joyce Tam, & Brad Wyble

We studied whether attending to a face's features mandates their encoding. Participants found the youngest face on screen and remembered its location before being unexpectedly asked to identify the young face they just saw. Surprise identification accuracy was poor, suggesting that attention to the face's features was insufficient for successful identification, extending attribute amnesia (AA) to unique faces. The surprise face identity report is similar to an instance of eyewitness identification when the eyewitness did not explicitly encode the alleged perpetrator's face despite having attended to it. Thus, AA may explain some cases of eyewitness identification failures.

CATEGORICAL BIAS IN VISUAL WORKING MEMORY: THE EFFECT OF MEMORY LOAD AND RETENTION INTERVAL Cherie Zhou, Monicque Lorist, & Sebastiaan Mathot

Visual information can be stored as continuous or categorical representations in visual working memory (VWM), yet it is unclear what determines whether VWM is represented as continuous or categorical. In this pre-registered study, we measured the extent to which memory response is biased towards the categorical center with different set sizes and retention intervals. We fitted this bias in an extension to the classic mixture model, thus adding an important parameter that characterizes the extent to which VWM is biased by color categories. Critically, we found that categorical bias increased with increasing memory load and retention interval.

THE WORKING MEMORY ADVANTAGE FOR MEANINGFUL STIMULI PERSISTS UNDER HIGH LEVELS OF PROACTIVE INTERFERENCE Lauren H. Williams, Viola S. Störmer, & Timothy F. Brady

Previous work has shown that working memory performance is better for meaningful than non-meaningful stimuli. Here, we test whether this benefit for meaningful stimuli persists under high levels of proactive interference. We manipulated meaningfulness using ambiguous Mooney faces (Exp. 1) and objects (Exp. 2) vs. scrambled versions of the same stimuli. Although items were repeated 10x more often in the high interference condition than the low interference condition, we found equivalent objective and subjective benefits of meaningfulness, suggesting that persistent long-term memory traces do not play a critical role for the meaningfulness advantage in working memory tasks.

LOOKING UNIQUE

Qian Yu & Zekun Sun

Like Goldilocks, human babies prefer events that are neither too simple nor too complex. Our work explores whether adults treat different levels of complexity differently. We found that visual search and visual memory operate best over moderately complex objects. Moreover, the objects that are neither too complex nor too simple appear more distinct from one another. We propose that moderately complex objects are processed efficiently by the mind because they are perceived to be unique. The Goldilocks principle pervades the mind, spanning both infant and adult cognition and influencing core processes of attention and memory.

TALK SESSION 4

EYE MOVEMENTS TO TARGETS AND DISTRACTORS: INSIGHTS INTO THE SIZE CONGRUITY EFFECT

IN VISUAL SEARCH Nickolas James Paternoster, Emily R. Andrews, Julia C. Williams, Taylor D. Dague, Kenith V. Sobel, & Amrita M. Puri

Longer reaction times (RTs) for localizing target digits when their numerical and physical size are incongruent (e.g., a large 2 among small 8s and 9s) implies that semantic and perceptual information interact during visual search. Examining eye movements revealed longer times to first fixation (TFF) on incongruent vs. congruent targets, suggesting that these forms of information may interact early in processing; perhaps gaze is drawn to distractors with physical size consistent with the target's numerical size. Accordingly, although TFF was also longer for incongruent distractors, more fixations to incongruent distractors may reflect attentional capture by incongruent distractors.

CAN EMOTIONALLY SALIENT SINGLETONS BE SUPPRESSED?

Minwoo Kim & James E. Hoffman

Emotionally salient distractors capture spatial attention during visual search. Recently, it has been suggested that attention capture by emotionally salient distractors cannot be suppressed (Kim & Anderson, 2021) when the distractors are presented at a suppressed location (Wang & Theeuwes, 2018). We tested this claim using mouse-tracking. Results show that the movement trajectory was attracted more towards emotional distractors compared to neutrals when they appeared in a non-suppressed location, but this effect of emotion was eliminated for the suppressed location. This suggests that spatial attention capture by emotionally salient distractors can be suppressed and thus may not be automatic.

THE ROLE OF SPATIOTEMPORAL PREDICTION IN AGENCY-DRIVEN ATTENTIONAL SELECTION

Adam C. Vilanova-Goldstein, Emily E. Tighe, & James R. Brockmole

A sense of agency biases attention toward objects we control. Is this bias independent of the spatiotemporal predictability agency affords or is it an example of broader prediction-based biases? Participants controlled one object while others moved independently. Object speeds were either constant to allow spatiotemporal prediction or varied to weaken predictability. Reducing predictability decreased the attentional bias toward controlled objects. Luminance changes did not affect the agency-driven bias, ruling out roles for distraction or perceptual load. We conclude agency-driven attentional biases are mediated by the prediction agency provides, suggesting a mechanism by which agency affects attentional control.

ATTENTION TO ABSENCES

Jorge Morales & Chaz Firestone

When you open your eyes, you see what's there. Can you also see what's not there? Here, six experiments explore the visual representation of absences. Subjects saw drawings of objects missing a part (e.g., a butterfly missing one wing), and judged whether a probe appeared on the object or not. Intriguingly, probes appearing in "absent" space were classified faster than probes in ordinary empty space. This benefit was lost when the stimuli were scrambled or truncated and absence-representation was affected. Despite not being "objects", absences are prioritized over otherwise identical empty spaces by mechanisms of attention.

POSTER SESSION 1

01. SYNERGISTIC EFFECTS OF RHYTHM AND EXOGENOUS SPATIAL ATTENTION

Pom Charras, Ana Belen Chica, & Mariagrazia Capizzi

Attending to where and when a relevant event will occur optimizes behavior. In the present study, we adapted a cueing paradigm to deploy exogenous orienting in the spatial and temporal domains. One of two lateralized placeholders flickered following a regular or irregular rhythm. A target could appear with equal probability (50%) inside the placeholder that flickered or in the opposite placeholder (cued vs. uncued trials). Responses were faster for cued compared to uncued targets only when they were preceded by a regular rhythm. These synergistic effects carry important implications for our understanding of combined spatial and temporal attention.

02. RETROACTIVE INTERFERENCE ON WORKING MEMORY CONSOLIDATION WITH EXCLUSIVELY VISUAL

CONTENT Brandon John Carlos, Lindsay A. Santacroce, & Benjamin J. Tamber-Rosenau

When a decision task follows presentation of a working memory (WM) sample, some prior studies have reported retroactive interference on WM consolidation. This effect had been observed for letter, form, and color samples paired with number parity, color, or tone decisions. However, not all combinations have been studied and all such pairings have included verbal samples, verbal decisions, or both. Here, we report retroactive interference of a shape decision on color WM consolidation—that is, retroactive interference within purely visual WM. Thus, retroactive interference on WM consolidation is not restricted to either verbal or crossmodal processing.

03. BIASES IN SERIAL DECISIONS DUE TO THE HISTORY OF RELEVANT AND IRRELEVANT VISUAL FEATURES Christian Houborg, Ömer Dağlar Tanrıkulu, David Pascucci, & Árni Kristjánsson

In positive serial dependence (SD), perceptual judgements are attracted towards stimuli seen in the immediate past. It remains unclear whether this bias also occurs for irrelevant stimuli and how it is modulated by attention. Here, we tested whether the relevance of prior stimuli affects SD. We presented sequences of oriented Gabors with task-relevant or irrelevant colours and asked participants to reproduce the orientation of the last relevant Gabor. Both irrelevant and relevant stimuli biased present decisions. The results revealed an interplay between repulsive and attractive SD, which may be linked to an interaction between sensory adaptation and attentional processing.

04. ATTENTIONAL STRATEGY AND EFFORT AVOIDANCE: THE ROLE OF DISPLAY ENUMERATION

Tianyu Zhang, Molly R. McKinney, & Andrew B. Leber

People often recruit suboptimal visual search strategies, a finding that has been linked to cognitive effort avoidance (Irons & Leber, 2018). However, it is unknown which effortful aspects of search are avoided. Here, we investigate the role of environmental appraisal (specifically, display enumeration). We used a Demand Selection procedure (Kool et al., 2010) and modified versions of the Adaptive Choice Visual Search (ACVS, Irons & Leber, 2016) to assess effort avoidance and strategy use, respectively. Results revealed a strong avoidance of enumeration, suggesting that suboptimal search strategies may be due to the avoidance of environmental appraisal.

05. FURTHER EVIDENCE OF A DIVERGENCE BETWEEN COGNITIVE ABILITY AND ATTENTIONAL CONTROL

STRATEGY Molly R. McKinney, Tianyu Zhang, Jessica L. Irons, & Andrew B. Leber

People tend to use visual search strategies that yield suboptimal performance, although it is not known why. It is possible that variation in strategy is linked to variation in cognitive ability, but previous work has not confirmed this. Using the Adaptive Choice Visual Search task (Irons & Leber, 2016), in which display enumeration is essential for optimal choice, we tested whether people's ability to enumerate displays predicted strategy in these displays. Results showed that enumeration ability reached a plateau well before search optimality (which never reached ceiling), demonstrating that this key cognitive ability does not determine strategy use.

06. MASSIVE VISUAL LONG-TERM MEMORY IS LARGELY DEPENDENT ON MEANING

Roy Shoval, Tal Makovski, & Nurit Gronau

A massive capacity of visual long-term memory (LTM) was previously reported for meaningful items. However, the existence of a massive, purely visual LTM is questionable. In two experiments, meaningful and meaningless stimuli with similar visual properties were memorized. LTM was evaluated at both the categorical (old/new) and visual (orientation) levels. The results revealed superior memory for meaningful stimuli for both levels. Furthermore, participants were close to chance in recognizing the visual details of the meaningless stimuli. These results suggest that meaning modulates LTM's ability to massively store visual properties, possibly because meaning contributes to deeper visual encoding.

07. AGE DIFFERENCES IN WORKING MEMORY FILTERING OF DISTRACTING INFORMATION

Rosa E. Torres, Stephen M. Emrich, & Karen L. Campbell

Working memory (WM) performance declines with age, which is partly explained by filtering abilities deficits. While most studies examining this deficit provide information about target features (positive cues) it is unclear how older adults deal with information about distractor features (negative cues). In the current study, we examined older adults' ability to filter irrelevant information from WM using positive and negative cues. Our results demonstrate that while older adults use positive cues as effectively as young adults, they are impaired relative to young adults when using negative cues, driven mostly by an increase in non-target errors.

08. NEURAL CORRELATES OF FRAME INDUCED POSITION SHIFT

Yong Hoon Chung & Viola S. Störmer

Frame induced position shift (FIPS) refers to a recently reported phenomenon where a moving frame induces positions of probes inside to look shifted. Here we investigate the neural correlates of FIPS using electroencephalogram (EEG) by directly comparing the early visually-evoked potentials elicited by the illusory percept and the physically offset probes. ERP analysis showed P1 and N1 components in both conditions. Notably, we found lateralized N1 effects when participants perceived illusory positions and viewed physically offset positions, suggesting that such illusory percepts may arise as early as seeing physically separated probes.

09. DISTRACTOR FILTERING PERFORMANCE IS RELATED TO MEASURES OF NUTRITION

Brooke Greiner, Gennadiy Gurariy, Christine Larson, & Adam S Greenberg

Models of attentional control often include three critical subprocesses of alerting, orienting, and distractor filtering, which can be measured using the Attention Network Test (ANT; Fan et al., 2002). We sought to identify nutrition and exercise factors influencing attentional control, particularly distractor filtering, measured via ANT. This study expands upon our findings that distractor filtering ability is correlated with other health-related factors. Distractor filtering response times improved significantly over a 12-day tracking period. This improvement was related to the average percent of total calories from fat, where participants who consumed less fat calories showed significantly greater filtering improvement.

10. THE EFFECTS OF RECOLLECTION AND FAMILIARITY ON WORKING MEMORY PERFORMANCE

Mallory S. Duprey, Rosa E. Torres, Karen L. Campbell, & Stephen M. Emrich

Although recent evidence suggests that visual working memory performance is greater for real-world objects compared to simple features, it is unclear what mechanism drives this difference. In this study, participants responded to a change-detection task for real-world objects and colored circles using a 6-point confidence scale, and performance was assessed using ROC curves. The dual-process signal detection model revealed that participants had greater sensitivity and estimates of familiarity for real-world objects than for colors. Importantly, only the real-world objects had significant measures of recollection, revealing a greater reliance on perceptual distinctiveness for objects.

11. A TEMPLATE-FOR-REJECTION EFFECT REBOUNDS WHEN SWITCHING TO A SECOND TASK

Tomoyuki Tanda, Tomoki Maezawa, & Jun-Ichiro Kawahara

We can deprioritize distractor items in a visual search using the template for rejection. The present study examined whether the template-for-rejection effects would be attributed to active suppression. Participants received visual search trials with precuing of distractor features. The results demonstrated searching benefits by the rejection template. Although the suppression effect was weak when the search task was switched to a secondary task, we observed a positive correlation between the benefits by cuing and attention allocation to the cued features that had to be rejected. We suggest that this correlation would indicate that a rebound effect of suppression.

12. OBJECT-BASED DEPENDENCE OF FEATURES IN VISUAL WORKING MEMORY

Hirotaka Sone, Min-Suk Kang, Aedon Y. Li, Hiroyuki Tsubomi, & Keisuke Fukuda

Visual working memory (VWM) can actively maintain a limited amount of visual information. Though its capacity limitation has been widely accepted, the nature of its representation remains a matter of debate. Recent studies using a sequential estimation procedure have shown that features within an object can be forgotten independently. By contrast, we created a task that can simultaneously capture the representational quality of two features of the same object and found that the quality of feature representations within the same object strongly covaried. Thus, our results demonstrate that feature representations in VWM are organized on the basis of objects.

13. SPATIOTEMPORAL UPDATING OF ATTENTIONAL BIAS DEPENDING ON THE AWARENESS STATE OF STATISTICAL REGULARITY Injae Hong & Min-Shik Kim

Location probability learning (LPL) is the implicit attentional bias toward the target-frequent location. We explored the distinctive characteristics of LPL from goal-driven attention. During visual search, the target appeared at a particular search region with high probability. After participants were trained on target-related regularity, the target-frequent location shifted. Those who were instructed on the regularity rapidly readjusted spatial bias to the novel target-frequent quadrant. Contrarily, those who implicitly learned the regularity slowly readjusted spatial bias. The results imply that implicit LPL has its unique characteristics from goal-driven attention because it is implicit and inflexible.

14. IMPACT OF REDUNDANT VISUAL INFORMATION ON LEARNING AND GENERALIZATION

Desia Bacon, Melissa Schoenlein, Jenny Saffran, & Karen Schloss

Redundant visual information can promote learning and recall; however, redundancy may hinder generalization. We investigated how visual redundancy impacted learning novel word-shape pairs. During familiarization, participants saw words with shapes that co-varied with color (redundant) or varied independently of color (non-redundant). During testing, participants indicated which shape belonged to each word. Redundancy did not influence learning for seen shape-color pairs or generalization to unseen pairs in unseen colors, but hindered generalization to unseen pairs in seen colors. Thus, color was stored in representations of word-shape pairs, but only interfered when shapes were in "wrong" colors.

15. INVESTIGATING THE TIME COURSE OF EXOGENOUS ATTENTION USING A WEB-BASED EYE-TRACKING TOOL Amy vanWell & James Tanaka

The evolution of personal laptop cameras and eye-tracking software have created an opportunity to expand web-based science. The current study investigates the capabilities of the Gazer program for remotely monitoring eye-tracking behaviors in a classic attention task. Eye gaze was recorded while participants fixated at a central cross then shifted their attention to a red circle target presented at one of eight randomly selected positions. The Gazer results showed that within 500 milliseconds of target onset, participants reliably shifted their gaze to the target. The results demonstrate the program's potential for conducting remote eye-tracking research.

16. SHIFT DIRECTION ANISOTROPY IS MEDIATED BY OBJECT LOCATION AND TARGET POSITION UNCERTAINTY David H. Hughes, Adam J. Barnas, & Adam S. Greenberg

Previous work from our lab demonstrated a shift direction anisotropy (SDA) in object-based attention, whereby horizontal attention shifts are faster than vertical attention shifts. Here, we leveraged fMRI to elucidate the neural underpinnings of the SDA. Significant SDAs appeared in trials containing an upper-left object; however, no SDAs were observed in trials containing the lower-right object. When collapsed across object location, results showed a significant SDA for only the first half of trials. These results conflict with previous findings and indicate that the SDA could depend on target position uncertainty.

17. MAPPING THE DIMENSIONS OF OBJECT PERCEPTION

Inga María Ólafsdóttir, Sunneva Líf Albertsdóttir, Unnur Andrea Ásgeirsdóttir, Tim C. Kietzmann, & Heida Maria Sigurdardottir

What are the diagnostic dimensions on which objects differ visually? Do they provide the foundation for the organizational principles of visual object perception as evidenced by individual differences? Real and fake objects' location in CNN object space was calculated and then used in a foraging study (N=71). Representational similarity analysis of behavioral data revealed that a domain-general object recognition ability might predominantly underlie individual differences in object discrimination, although faces separate from non-face objects, and real objects from novel objects. Visual similarity in object space primarily explains foraging behavior of novel objects with no semantic content.

18. OUT OF SYNC IN TIME AND THOUGHT: THE INFLUENCE OF PERCEIVED EVENT SEGMENTATION ON TEMPORAL MEMORY IS DIMINISHED FOR INDIVIDUALS HIGH IN PARANOIA Joan Danielle K.

Ongchoco, William N. Koller, Michael V. Bronstein, Tristan S. Yates, Tyrone D. Cannon, & Brian J. Scholl

Temporal memory (memory for what happened when) is in part a function of how incoming stimuli are segmented into discrete perceptual events. For example, when people reproduce irregular rhythmic tone sequences, they introduce substantial delays immediately after perceived event boundaries. Here we report that this robust influence of perceived event segmentation on temporal memory is significantly diminished for people high in paranoia (which is characterized by persecutory beliefs that may be out-of-sync with reality) — even when controlling for overall memory accuracy. These results reveal a new link between higher-level delusion-like beliefs and aberrant perceptual event processing.

ABSTRACTS

19. JUDGMENTS DURING PERCEPTUAL COMPARISONS PREDICT DISTINCT FORMS OF MEMORY **UPDATING** Joseph M Saito, Gi-Yeul Bae, & Keisuke Fukuda

Comparing visual memories to novel percepts can induce attraction biases, especially when the representations are perceived as similar. Here, we tested whether comparisons can also induce the replacement of memories by novel percepts ("swapping"). Every trial, participants judged two sequentially-presented stimuli (colors, shapes) to be 'same', 'similar', or 'dissimilar' before reporting the first stimulus. Distortions following 'same' judgments were larger than those following 'similar' judgments and could not be explained by simple memory subsampling. Instead, the observed distortions were likely indicative of distinct updating mechanisms, with perceived similarity resulting in bias and perceived sameness resulting in swapping.

20. VISION IN THE VIRTUAL WORLD: A FIXATION-RELATED POTENTIALS APPROACH INVESTIGATING THE EFFECTS OF LUMINANCE ON EARLY CORTICAL PROCESSING IN REAL-WORLD VISION

Anna Madison, Jon Tourvan, Michael Nonte, & Anthony J. Ries

Eye movement-related potentials are an emerging approach that combines the simultaneous recording of eye tracking and electroencephalographic data to understand visual cognition in naturalistic contexts. We measured fixation-related potentials (FRP) during a complex virtual navigation and search task to investigate the influence of luminance on visual processing. Using a deconvolutional method to control for overlapping activity and saccade magnitude, the results show early stages of the FRP over occipital electrodes are modulated by scene luminance at fixated locations. This work lends further support for using FRPs to examine mechanisms of visual search in unrestricted, free-viewing paradigms.

21. ATTENTIONAL ALLOCATION TO THE PERIPHERY AND FOVEA CAN BIAS FEATURE-LOCATION BINDINGS Cristina R. Ceja & Steven L. Franconeri

Recent work shows that object features with uncertain locations will be consistently misbound to locations near fovea when focal attention is absent. But is that foveal bias due to a higher weighting of the fovea versus periphery such that it attracts features towards foveal locations, or from attention to a peripheral cue repulsing the features away from the cue and toward fovea? Here we show that both fovea and attentional allocation appear to bias the perception of feature locations: Foveal locations will consistently attract features, while attention to the periphery will work in tandem to actively repulse features towards fovea.

22. HOW LOW TARGET PREVALENCE CHANGES OBSERVERS' CONFIDENCE IN PERCEPTUAL DECISIONS Wanyi Lyu & Jeremy M. Wolfe

Feedback determines how prevalence will influence categorical decisions about simple colors drawn from a blue-purple spectrum as well as the subjective confidence in the decision. With error feedback, observers label fewer items on the spectrum as blue when blue becomes rare and are less confident about the blue colors. Without feedback, observers categorize more items as blue and are less confident about the purple colors. Observers tend to become more confident and biased without feedback. Requiring the observers to attend to their confidence about decision might alleviate criterion shift at low prevalence.

23. REDUCED TEMPORAL JUDGMENT ERRORS IN THE PERI-HAND SPACE

Tony Thomas & Krishnapriya KS

This study compares the temporal judgment errors made for stimuli presented in the peri-hand space with a baseline no-hand condition. In a duration judgment task, participants were required to indicate which square, among each pairs of squares presented, lasted longer (or shorter) in duration. The stimuli were presented near or far from the hands. Temporal judgement errors for stimuli presented near the hands were relatively fewer when compared with the no-hand condition. The current findings are in line with the previous findings of enhanced temporal acuity in processing information presented in the peri-hand space.

24. THE ROLE OF SEMANTIC PROCESSING IN THE GENERATION EFFECT

Michaela Ritchie & Jonathan Wilbiks

Words generated from one's own mind are better remembered than passively read material — this is known as the generation effect. Semantic processing is a necessary condition for the effect to occur. The purpose of the present study was to elucidate whether more semantic processes elicited at encoding are related to greater effect sizes. A total of 84 psychology students participated in this online study, comprising three reading tasks and three generation tasks. Surprisingly, a reverse-generation effect was observed among all stimulus types. The results are discussed in the context of visual shifts in attention and computer use.

25. VISUAL LONG-TERM MEMORY FOR OBJECTS DETERMINED BY THEIR TYPE AND STRENGTH OF BINDING TO SCENE CONTEXT Emily V. Madden, Scott A. Cairney, & Karla K. Evans

Different factors influence memory for elements and their binding into a visual episode. We examined how changes in scene context influence memory for animate and inanimate objects appearing in real-world scenes across a week. Findings show memory for objects decreasing over time due both to intrusions and forgetting. Context reinstatement at test and context change during encoding facilitated memory for objects each exhibiting different patterns over time. Animate objects were not remembered better and are aided to a lesser degree by context reinstatement, showing no benefit of decontextualization. Breaking the object-to-scene binding during encoding supports visual memory for objects long-term.

POSTER SESSION 2

26. WHAT TO DO WITH PANDEMIC PARTICIPANT DATA?: DIFFERENCES IN BEHAVIORAL, COMPLIANCE, AND SELF-REPORT SURVEY DATA BETWEEN PRE- AND PERI-PANDEMIC PARTICIPANT COHORTS

Sydni M. Nadler, Samoni Nag, & Stephen R. Mitroff

The COVID-19 pandemic created challenges for psychology research, forcing adjustments to standard protocols. Many labs pivoted to virtually testing their usual participant pools; now they must determine what can be done with the gathered data. Less-regulated environments paired with unknown effects of the pandemic might make the data collected online potentially concerning. The current study compared undergraduate participants' behavioral, compliance, and survey data between pre- (in-lab) and peri- (virtual) pandemic cohorts, with all participants recruited from the same subject pool. The question was whether these cohorts can be combined or if they differ meaningfully (they differed meaningfully).

27. Breaking the ensemble: Limitations in the formation of cross-modal ensemble **REPRESENTATIONS** Greer Gillies, Jon Cant, & Keisuke Fukuda

Ensemble coding (the brain's ability to rapidly extract summary statistics from groups of similar items) has been demonstrated across a range of visual features and on information that cannot be gleaned solely from retinal input (e.g., economic value of objects). I extended this line of research to examine if different sensory modalities can interact during ensemble coding. Participants made judgements about the average sweetness of groups of visually presented foods. Across several experiments, participants demonstrated the ability to form cross-modal ensemble percepts, albeit with important limitations, providing evidence that ensemble coding is more flexible than previously thought.

28. IRRELEVANT REWARDED VISUAL FEATURES IMPACT SUSTAINED NON-SPATIAL ATTENTION Anne E. Milner & Barry Giesbrecht

Visual features previously associated with reward can capture spatial attention. We tested whether features previously associated with reward impact performance during a sustained attention task with no required shifts of spatial attention. During learning, participants associated a visual feature with reward and another with no-reward. Rewarded targets were better detected than non-rewarded targets. A week later, participants completed the same task but were no longer rewarded. Rewarded targets were detected better than non-rewarded targets even without prospect of reward. These results suggest that reward-associated features effect sustained attention in the absence of shifts of spatial attention.

29. LEARNED SPATIAL DISTRACTOR SUPPRESSION REDUCES FEATURE INTERFERENCE

William Narhi-Martinez, Blaire Dube, Jiageng Chen, Andrew B. Leber, & Julie D. Golomb

We face distraction from salient stimuli in everyday life, an issue that has been extensively studied in visual cognition. Previous work has shown that attentional capture by a nontarget can lead to feature distortions when reporting the target. The present study investigated whether the predictability of salient distractors can allow for a reduction of their detrimental impacts on feature perception. In this study, the salient distractor was more likely to appear in one location over the course of the experiment. Results showed reduced color report swapping errors when the salient distractor was predictable, suggesting learned regularities can protect feature representations.

30. INVESTIGATING FEATURE-BASED ATTENTIONAL SUPPRESSION OF DISTRACTORS DURING VISUAL DISCRIMINATION TASKS Elisa Mossé, Ömer Dağlar Tanrıkulu, David Pascucci, & Árni Kristjánsson

Visual attention involves focusing on relevant stimuli while ignoring distracting ones. To efficiently ignore distractors, the attentional system relies on statistical regularities. For instance, when the location of a distractor is predictable, attentional capture is reduced. Here, we investigate the role of distractor feature regularity, rather than location. We presented distractors with regular or irregular (e.g., randomly changing) features at random locations during visual search. In two experiments, distractors captured attention only at an initial stage, with no visible effect of feature regularity. Our results call for further examination of the determinant and time course of attentional capture.

31. FAMILIARITY INFLUENCES PERCEPTION: FAMOUS AND INVERTED FACES AND LOGOS

Pei-Ling Yang & Diane Beck

Visual discriminations benefit from stimuli that are more statistical regular (Greene et al, 2015; Caddigan et al, 2017). This study investigates another aspect of statistical regularity, familiarity. We used two manipulations of familiarity, fame and orientation, on two image sets, logos (Exp 1) and faces (Exp 2). The task required participants to respond whether briefly presented targets were intact or scrambled. Discrimination performance was superior for famous and upright images. The familiarity effect extended to a more detection-like task (Exp 3) and occurred earlier than explicit recognition (Exp 4), suggesting that participants actually perceive familiar stimuli better.

32. TESTING THE ATTENTIONAL DWELLING ACCOUNT: LATENT CAPTURE OR OCULOMOTOR CAPTURE?

Samantha Joubran, Lindsay Szostok, Lindsay Plater, & Naseem Al-Aidroos

According to the attentional dwelling hypothesis, attentional capture is automatic, and prior evidence of control reflects the use of insensitive easy visual-search tasks. When measured with hard searches, task-irrelevant onsets capture attention, suggesting capture also happens in easy searches but is latent. We examined the confounding effect of eye movements. Hard search targets may be too difficult to discriminate using peripheral vision, leading participants to adopt broad attentional goals that allow task-irrelevant onsets to capture attention. We presented hard targets closer to fixation and found no evidence of capture (for women), suggesting capture is under our

33. PHYSIOLOGICAL MARKERS FROM EYE AND HAND MOVEMENTS ASSOCIATED WITH DRIFTS IN FOCUS DURING AN INTERACTIVE SUSTAINED ATTENTION TASK Katherine Chiang Hurst, Madison B. Andrews, Jacob Bernstein, Sophia A. Bodor, Harry Steinharter, & Jeff Moher

We tracked hand and eye movements and looked for physiological markers that correlated with lapses in focus. Participants engaged in a novel go/no-go task involving reaching with their hand and pointing to a target. Occasionally, they were required to withhold their response on a no-go trial. Initiation latency was significantly shorter prior to errors on no-go trials, and participants spent more time making saccades prior to errors on no-go trials. These results demonstrate how eye and hand movement data can provide subtle, sensitive markers which indicate when a person is losing focus.

34. INTERPRETING SENSATION: QUANTIFYING THE BOTTLENECK OF INFORMATION TRANSFER BETWEEN ECHOLOCATION, VISION, AND HAPTIC PERCEPTION Caroline Dacus, Nickolas Paternoster, Michael Ezeana, Santani Teng, & Amrita Puri

Feedback determines how prevalence will influence categorical decisions about simple colors drawn from a blue-purple spectrum as well as the subjective confidence in the decision. With error feedback, observers label fewer items on the spectrum as blue when blue becomes rare and are less confident about the blue colors. Without feedback, observers categorize more items as blue and are less confident about the purple colors. Observers tend to become more confident and biased without feedback. Requiring the observers to attend to their confidence about decision might alleviate criterion shift at low prevalence.

35. ATTENTIONAL STRATEGY USE IN A COMBINED TARGET CHOICE AND FORAGING TASK

Walden Y. Li & Andrew B. Leber

Active echolocation allows blind individuals to explore their surroundings by emitting sounds and using returning echoes to sense object location and other characteristics. Here, we investigated cross-modal transfer between echoes and other senses. First, sighted and blind participants inspected target objects via echolocation and distinguished them haptically from a distractor. Although accuracy was low (~60%), both groups performed significantly above chance, suggesting echo-haptic transfer. We then asked sighted participants to view blurred images and perform the same haptic discrimination task. Visuo-haptic discrimination matched echo-haptic performance when images were blurred with a 4° wide Gaussian filter.

ABSTRACTS

36. ENGAGING IN VISUAL IMAGERY Chris Koch

This study examined the relationship between visual imagery and other forms of imagery along with the strategies participants utilize to respond to visual imagery items. Participants completed the Vividness of Visual Imagery Questionnaire, Clarity of Auditory Imagery Scale, and Plymouth Sensory Imagery Questionnaire. Participants also described the strategy that they used to respond to the prompts about imaging visual events. Participants indicated that they remembered a time they performed a task or were present in a scene like the visual imagery statements to respond to those statements. Therefore, memory may underly visual imagery ability.

37. AUDITORY ENHANCEMENT AND INTERFERENCE EFFECTS ON VISUAL SEARCHES FOR ACTION-RELATED SCENES Tomoki Maezawa & Jun Kawahara

Sounds improve visual performances, when the audiovisual stimuli consistently convey the same semantic representation. We examined whether the visual search performance was improved by a simultaneous presentation of a sound that associated with an action-related event. We used a visual search task, wherein participants localized a picture corresponding to a target event, with a presentation of target-relevant or irrelevant sound. The results revealed auditory enhancement and interference effects on visual search performances. The auditory and visual stimuli would interact automatically. The audiovisual interactions involving semantic processes support coherent and swift interpretation of events that occur in surrounding environments.

38. AN ONLINE ATTENTION TASK MAY BE USEFUL TO ANSWER QUESTIONS ABOUT LONG-TERM MEMORY RECONSOLIDATION Lindsay Plater, Naseem Al-Aidroos, & Morgan D. Barense

Long-term memories (LTMs) can be changed via reconsolidation with a reminder. While reconsolidation is typically studied using a recall task, can we use an online attention task to study reconsolidation? On different days, participants memorized two lists of pictures. One group was given a reminder before learning the second list, encouraging list-two pictures to intrude on list-one memory via reconsolidation. When visually searching for list-one pictures using LTM representations, the "no reminder" group showed greater control over attentional capture by task-irrelevant list-two pictures than the "reminder" group, providing evidence that reconsolidation may affect attention.

39. THE EVOLUTION OF COMPLEXITY IN VISUAL MEMORY

Zekun Sun & Chaz Firestone

Memory adds details to the world that weren't originally there. Though such biases are commonly associated with scenes, we explore how memory adds content to more foundational visual units. Subjects saw basic geometric shapes, and then re-created them from memory using a slider that altered their skeletal complexity. Surprisingly, shapes were recalled as more complex than they really were — a bias that accumulated in a "social transmission" experiment and persisted no matter subjects' expectations about the effect's direction. These findings suggest a complexity default in visual memory: We remember the world as more complex than it was.

40. AND LIKE THAT, THEY WERE GONE: A FAILURE TO REMEMBER RECENTLY ATTENDED UNIQUE FACES

Joyce Tam, Michael K. Mugno, Ryan E. O'Donnell, & Brad Wyble

We studied whether attending to a face's features mandates their encoding. Participants found the youngest face on screen and remembered its location before being unexpectedly asked to identify the young face they just saw. Surprise identification accuracy was poor, suggesting that attention to the face's features was insufficient for successful identification, extending attribute amnesia (AA) to unique faces. The surprise face identity report is similar to an instance of eyewitness identification when the eyewitness did not explicitly encode the alleged perpetrator's face despite having attended to it. Thus, AA may explain some cases of eyewitness identification failures.

41. FEATURE-BASED ATTENTION WARPS PERCEPTION OF COLOR

Angus F. Chapman, Chaipat Chunharas, & Viola S. Störmer

Theories of feature-based attention have proposed that selection can enhance nontarget features to optimize the discriminability between targets and distractors. In three experiments, we demonstrate that attention also warps perception of target colors away from distractors. Participants performed visual search for an oddball color target, followed by a 2AFC color similarity judgment. When foil colors were rotated 10° from the target away from the distractor on a color wheel, participants reported them as more similar to the target color than the target color itself. Our findings suggest that attention warps feature representations, presumably to separate features to facilitate search.

42. WHAT WE'VE BEEN MISSING ABOUT WHAT WE'VE BEEN MISSING: ABOVE-CHANCE SENSITIVITY TO INATTENTIONAL BLINDNESS STIMULI Makaela Nartker, Chaz Firestone, Howard Egeth, & Ian Phillips

Inattentional blindness (IB) is the striking finding that subjects engaged in an attentionally-demanding task (e.g., reporting which arm of a cross was longer) routinely report not noticing an unattended stimulus (e.g., a colored line appearing with the cross). This has been taken as evidence that inattention abolishes awareness. In three experiments, we altered traditional IB methodology, applying signal detection analysis to reveal that subjects who report not being aware can nevertheless report stimulus location (Exps. 1 & 3) and color (Exp. 2) well above chance. This suggests that inattention does not abolish awareness; rather, it degrades it.

43. IMAGERY AND PERCEPTUAL PRIMING ACROSS VISUAL ATTENTION

Ming-Ray Liao, James D. Grindell, & Brian A. Anderson

Mental imagery has been shown to guide attentional selection, but how that compares with visual perception remains unclear. We adapted an established paradigm (Wantz et al., 2015) to investigate the difference between how visual perception and mental imagery guides selective attention. We compared performance across low-level singleton search, color-word Stroop task, and visual search for realistic objects (Konkle et al., 2010). Our findings indicated a robust validity effect for both perception and imagery during visual search tasks, and stronger priming effect from perception compared to imagery. The effect of imagery priming on attention appears to be task dependent.

44. REVEALING THE EFFECTS OF TEMPORAL ORIENTING OF ATTENTION ON RESPONSE CONFLICT USING CONTINUOUS MOVEMENTS Melisa Menceloglu, Satoru Suzuki, & Joo-Hyun Song

Here, we examined how temporal orienting—manipulated as goal-driven temporal expectation and history-driven temporal priming—influenced response conflict measured as flanker effects in a reach-tracking paradigm. Both temporal expectation and priming reduced the movement initiation latency regardless of response conflict, suggesting that both lowered response thresholds independently of response conflict. Temporal expectation, but not temporal priming, increased the movement curvature toward the incorrect response alternative. This suggests that temporal orienting generally increases motor preparedness, but the goal-driven mechanisms of temporal orienting particularly interfere with response conflict resolution, potentially through its influence on response thresholds.

45. THE EMOTIONAL ATTENTIONAL BLINK'S WEAKNESS CANNOT BE EXPLAINED BY MIXING WITH THE STANDARD ATTENTIONAL BLINK Lindsay A. Santacroce, Apurva L. Swami, & Benjamin J.

Tamber-Rosenau

Target detection in a stream of fillers is hindered by a preceding target (attentional blink; AB) or emotional distractor (emotional AB/emotion-induced blindness; EAB). Using image stimuli and randomly mixed AB/EAB conditions, we recently found that the EAB was surprisingly weak compared to the AB. Here, we extend these results using streams of words with color name targets (requiring semantic processing; adapted from Mathewson et al., Memory and Cognition, 2008). Regardless of whether AB and EAB trials were blocked or mixed, results reflected those from the previous study: the AB was far stronger than the EAB.

46. WHEN DOES SATISFACTION HURT MOST? CHANGING THE RELATIVE PREVALENCE OF SINGLE- AND DUAL-TRIALS IN A MULTIPLE-TARGET SEARCH Stephen H. Adamo, Mariana Ortiz, & Archi Patel

Multiple-target searches are error-prone. Compared to single-target searches, observers are more likely to miss a second target after detecting a first target in a dual-target search. Relative-prevalence (ratio of single-to dual trials) influences second-target detection as observers are more likely to miss a second target when they experience more single-target trials. (Cheng & Rich, 1998). Here we found that satisfaction, the likelihood to search after finding a first target, may explain why. Satisfaction was a stronger predictor for second-target misses when observers experience more single-target trials compared to dual-target trials.

47. THEMATIC OBJECT RELATIONSHIPS ARE JUDGED AS STRONGER THAN TAXONOMIC RELATIONSHIPS IN A TWO-ALTERNATIVE FORCED CHOICE TASK Elizabeth H. Hall & Joy J. Geng

We assessed whether participants judged a taxonomic (bear) vs thematic (bamboo) relationship with a target (panda) to be stronger. In a 2AFC task, participants selected whether an image of a thematic or taxonomic object had a stronger relationship with the target object. Participants were significantly more likely to select the thematic object, choosing it 74.8% of the time. In a word version, participants still selected thematic options 68.2% of the time, but at a lower rate than in the first experiment, suggesting that the strength of these associations is partially dependent on the specific visual representation evoked.

48. EXPLORING ASSOCIATIONS BETWEEN PERSIAN NOUNS AND GEOMETRICAL SHAPES

Mohsen Dolatabadi, Alie Kord Zaferanloo, & Arsalan Golfam

Human beings are potent to label objects and events to facilitate the processing of information around themselves. Furthermore, in the Componential Semantic Representation theory, a set of basic semantic features make meaning of lexicons. On the other hand, the association between a label and shape has been an interest of many studies in Cognitive Science. Here we collect pieces of evidence for associations between some concrete and abstract words and regular and irregular shapes, and we will discuss the data based upon shape symmetries.

49. THE IMPACT OF CLUTTER ON MULTIPLE OBJECT SEARCH IN NATURALISTIC SETTINGS

Elizabeth Brogna, Sophie Jedrysek, & Yelda Semizer

Often, as we search through a visual field, we are not just looking for one instance of an object, but multiple targets. Our study seeks to further the understanding of visual perception in multiple object searches in the presence of clutter. By utilizing image sets from Where's Waldo, we emulated a search setting better representing real-world search scenarios. Participants were asked to search for all instances of targets appearing in images with varying levels of clutter. The preliminary results indicate that the effect of clutter on search performance was evident when multiple targets were present.



THE BEHAVIORAL RESEARCH PROGRAM (BRP) SUPPORTS RESEARCH IN PERCEPTION, ATTENTION, AND COGNITION RELEVANT TO CANCER CONTROL

SELECTED RESEARCH PRIORITIES

- Cognitive Neuroscience to Improve Assessment of Cognitive Impairment Related to Cancer Treatment
- Perception and Cognition Research to Inform Cancer Image Interpretation
- Fundamental Mechanisms of Affective and Decisional Processes in Cancer Control



Questions? Contact Dr. Todd Horowitz, Program Director todd.horowitz@nih.gov

JOIN BRP

Find BRP career and training opportunities at cancer.gov/brp/career-training-opportunities

LEARN MORE <u>cancercontrol.cancer.gov/brp/bbpsb</u>

Subscribe to email news: <u>cancercontrol.cancer.gov/brpsubscribe</u>

GATHER.TOWN SOCIAL

THURSDAY, NOVEMBER 4 | 8:30 PM CENTRAL TIME

link || JOIN GATHER.TOWN password: OPAM29

Join us for a fun social event after the Psychonomics keynote!

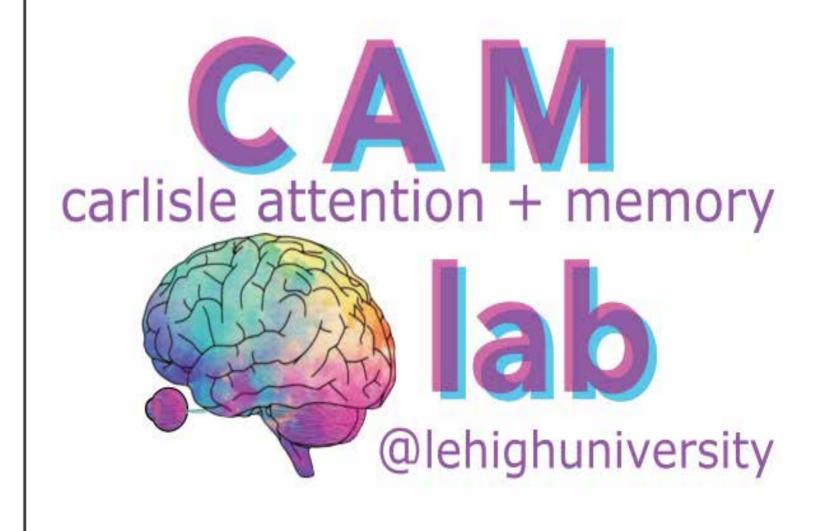


Department of Psychological and Brain Sciences
Cognitive Neuroscience Program www.psychology.columbian.gwu.edu

Steve Dopkins
Dwight Kravitz
Steve Mitroff
John Philbeck
Gabriela Rosenblau
Sarah Shomstein
Myeong-Ho Sohn
Guangying Wu

Spatial Cognition, Memory
Perception, Memory, Imagery
Applied Visual Cognition, Attention
Space Perception & Navigation
Social Neuroscience, Autism
Perception, Attention, Cog. Control
Executive Control, Memory
Sensory Systems & Hearing

The GW Cog Neuro community is growing & looking for graduate students!



EMPOWERING Carving Spaces in OTHERS -

the Academy **Lecture Series**

Six speakers from various disciplines will speak to their diverse experiences navigating the challenging world of academia, finding opportunities within and beyond post-secondary institutions, and carving space for themselves and others in their fields. By creating space for balanced representation and illuminating diverse lived realities in academia and beyond, we might all be empowered to reflect on and share our own journeys, and be better equipped to support each other in the process.

This is a free event. All are welcome to attend!

Speakers: Dates:

Sept 27, 12pm-1pm - Dr. Linda Mussell, Political Studies

Oct 25, 12pm-1pm - Mariela Libedinsky, FoodShare Community Garden

Nov 29, 12pm-1pm - Taylor Stocks, Education PhD Candidate

Jan 31, 12pm-1pm - Dr. Vanessa Watts, Indigenous Studies & Sociology Feb 24, 6pm-7pm - Dr. Janelle Brady, School of Early Childhood Studies

Mar 28, 12pm-1pm - Dr. Jennifer Matsunaga, Social Work

Queen's is committed to an inclusive campus community with accessible goods, services, and facilities that respect the dignity and independence of persons with disabilities. The lecture series is available in an accessible format or with appropriate communication supports upon request. Please contact us by email at empoweringothers.eo@gmail.com

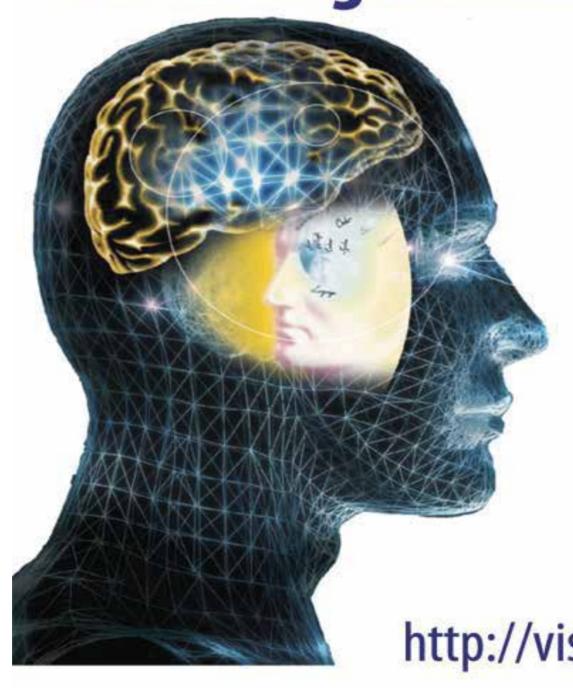
Register at https://empoweringothers-lectureseries.eventbrite.ca

THIS EVENT IS SUPPORTED BY QUEEN'S INCLUSIVE COMMUNITY FUND



UCDAWIS

Visual Cognition Research Group



Joy Geng
John Henderson
Steve Luck
Lisa Oakes
Ron Mangun
Susan Rivera

http://visualcognition.ucdavis.edu

OPAM 2022

