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## Ryan E.B. Mruczek, Ph.D.

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### Academic Employment

<b>Associate Professor</b>	2022-present
Department of Psychology & Neuroscience Program, College of the Holy Cross, Worcester, MA	
<b>Assistant Professor</b>	2018-22
Department of Psychology & Neuroscience Program, College of the Holy Cross, Worcester, MA	
<b>Assistant Professor</b>	2014-2018
Department of Psychology, Worcester State University, Worcester, MA	
<b>Research Scientist</b> ( <i>part-time</i> )	2014-2016
Department of Psychology, University of Nevada - Reno, Reno, NV Sponsor: Dr. Marian Berryhill	
<b>Research Scientist</b>	2013-2014
Department of Psychology, University of Nevada - Reno, Reno, NV Sponsor: Dr. Gideon Caplovitz	
<b>Visiting Assistant Professor</b>	2012-2013 & Spring 2014
Department of Psychology, Swarthmore College, Swarthmore, PA	
<b>Postdoctoral Research Fellow</b>	2008-2012
Department of Psychology and Neuroscience Institute, Princeton University, Princeton, NJ Sponsor: Dr. Sabine Kastner	

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### Education

<b>Ph.D., Neuroscience</b>	March 2007
Brown University, Providence, RI Dissertation Advisor: Dr. David L. Sheinberg Dissertation Title: "Neural correlates of efficient visual search"	
<b>B.S., Biological Science: Neuroscience</b>	May 2001
University of Rochester, Rochester, NY Research Advisor: Dr. Mary Hayhoe	

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### Awards & Honors

Faculty Marshal	College of the Holy Cross	2022
3 <sup>rd</sup> Place, Best Illusion of the Year	Neural Correlate Society	2019
Nominated, Alden Teaching Award	Worcester State University	2016
Psi Chi	Worcester State University	2015
1 <sup>st</sup> Place, Illusion of the Year	Satellite of Vision Science Society	2014
Top 10 Finalist, Illusion of the Year	Satellite of Vision Science Society	2013

Graduated Magna Cum Laude	University of Rochester	2001
Phi Beta Kappa	University of Rochester	2001
Golden Key National Honors Society	University of Rochester	2000

## Teaching

### Courses

#### **College of the Holy Cross**

Cognitive Neuroscience (PSYC 235)	S19, Sum21*
Introduction to Neuroscience (NEUR 110)	F18, F19, F20*, F22
Neural Circuits & Systems (NEUR 220)	F21, F22
Predictive Coding in the Brain (PSYC 327)	S21*, S22
Research in Human Neuroscience (PSYC 399)	S19
Sensation and Perception (PSYC 222)	F20*, S21*, S22
Statistics (PSYC 200)	F18, F19

\*online due to Covid-19

#### **Worcester State University**

Brain & Behavior (PS 230)	S18
Psychological Statistics (PS 275)	S16, F16, S17, S18
Sensation and Perception (PS 280)	F15, F16, F17
Research Methods (PS 276)	F14, S15, F15, S16, Sum16, Sum17, F17
Physiological Psychology (PS 380)	F14, S15, S16, S17

#### **Swarthmore College**

Research Design and Analysis (PSYC 205)	S13, S14
Seminar in Cognitive Neuroscience (PSYC 131)	S13
Cognitive Neuroscience (PSYC 031)	F14
Functional Magnetic Resonance Imaging (fMRI) (PSYC 045)	F12
Ethical Considerations in Psychological Research (PSYC 001 Module)	F12, S13

#### **Princeton University**

Introductory Laboratory Course in Neuroscience (NEU 502): fMRI Module	S10, S11, S12
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#### **Brown University**

The Brain: From Neurons to Behavior (BN 901-3A)	Sum06
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### Selected Guest Lectures

Apraxia: Tool-Specific Information in the Human Intraparietal Sulcus	F11
Introduction to Clinical Neuropsychology, Dept. of Psychology, Princeton University	
The Neural Basis of Visual Attention	Sum10
Brain Imaging and Applications, CODDE, Great Malvern, UK	

### Teaching Grants, Workshops, Mini-Courses, and Certificates

Summer 2022 HHMI Workshop on Inclusive Excellence in STEM	07/19/22 – 07/20/22
<i>Two-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.</i>	
Engaging Students in Course-Based Undergraduate Research Experience (CUREs)	05/10/22
<i>1.5-hour online workshop hosted by the AAAS-IUSE Initiative and NSF.</i>	
Course Development Faculty Fellowship, College of the Holy Cross	

CISS 299: Neural Circuits & Systems	Sum21
Improving Introductory STEM Course Sequences to Provide Cohesive, Cross-Disciplinary Experiences <i>1.5-hour online workshop hosted by the AAAS-IUSE Initiative and NSF.</i>	08/05/21
Summer 2021 HHMI Workshop on Inclusive Excellence in STEM <i>Three-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.</i>	07/19/21 – 07/21/21
Crescent Loom Workshop <i>One-day, online workshop to learn about the video game Crescent Loom, which uses simulated circuits to teach neurophysiology concepts and techniques.</i>	06/30/21
Designing Engaging Online and Hybrid Learning, Centreity and College of the Holy Cross <i>Four-week online course on creating and facilitating effective online and hybrid learning using an Ignatian Pedagogical Framework in preparation for the remote AY2020-21.</i>	Aug 20
DEI in STEM Reading/Discussion/Working Group, College of the Holy Cross <i>Six-week faculty discussion group spearheaded by Prof Alo Basu to engage with readings about Diversity, Equity, and Inclusion (DEI) in STEM, work on DEI statements, and pursue other action items. I selected the reading and led the discussion for one week.</i>	06/20–07/20
Hewlett-Mellon Workshop, College of the Holy Cross Collaborative 100-level STEM Concept Mapping and Exploration of STEM for Passport	06/13/19 & 07/25/19
Massachusetts Project Kaleidoscope (PKAL) Regional Network Meeting <i>One-day workshop on Faculty Development for Inclusive Excellence in STEM.</i>	01/09/19
Course Development Faculty Fellowship, College of the Holy Cross Dev of Integrative Science Learning Modules through the Neuro Curriculum	Sum 18
Hewlett-Mellon Workshop, College of the Holy Cross Dev of Integrative Science Learning Modules through the Neuro Curriculum	07/12/18 & 06/16/18
Center for Teaching and Learning, Worcester State University	
Summer Institute	2015, 2017
Winter Institute	2016
Sharing Approaches that Facilitate Improvement in Student Writing	2015
Creating Rubrics	2014
Creating a Syllabus with Student Learning Outcomes	2014
The McGraw Center for Teaching and Learning, Princeton University	
Applying the Science and Research on Learning to Lecturing	2010
Designing a Course	2009
Teaching College Science: 3-Session Workshop	2009
The Harriet W. Sheridan Center for Teaching and Learning, Brown University	
Teaching Certificate III: Professional Development Seminar	2005
Teaching Certificate II: The Classroom Tools Seminar	2005
Teaching Certificate I: The Sheridan Teaching Seminar	2003

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## Student Advising and Mentoring

### Undergraduate Research Advisor

**Janelle Allen**

Student Researcher, College of the Holy Cross

Summer 2022-present

2022 Weiss Summer Research Program, College of the Holy Cross  
Main Project: “Are familiar stimuli processed faster than unfamiliar stimuli?”

**Declan Diestel** Summer 2022-present

Student Researcher, College of the Holy Cross  
2022 Weiss Summer Research Program, College of the Holy Cross  
Main Project: “Using human EEG to analyze object recognition of familiar versus unfamiliar stimuli”

**Marcella Archambeault** Fall 2021-present

Student Researcher, College of the Holy Cross  
2022 Weiss Summer Research Program, College of the Holy Cross  
Spring 2022: PSYC 480 Visual Neuroscience Research (Research for Credit)  
Main Project: “Using visual search to test predictions of the predictive coding model of visual perception”

**Noah Redder** Spring 2022-present

Student Researcher, College of the Holy Cross  
Spring 2022: PSYC 480 Visual Neuroscience Research (Research for Credit)  
Main Project: “Relative contribution of size contrast and contour integration mechanisms in the Ebbinghaus illusion”

**Kyle Lefler** Fall 2020-Spring 2021

Student Researcher, College of the Holy Cross  
Spring 2021: PSYC 480 Visual Neuroscience Research (Research for Credit)  
Main Project: “Comparison of image familiarity effects on deep neural networks and the primate visual system”

**Sean Kelly** Summer 2019-Spring 2021

Student Researcher, College of the Holy Cross  
Fall 2020: PSYC 480 Visual Neuroscience Research (Research for Credit)  
2019 Weiss Summer Research Program, College of the Holy Cross  
Main Projects: “Comparison of decoding of visual-evoked potentials from tri-polar and conventional EEG” and “The effects of motion on the Ebbinghaus, Corridor, and Ponzo illusions”

**Matthew Fanelli** Spring 2019-Spring 2021

Student Researcher, College of the Holy Cross  
Fall 2020: PSYC 480 Visual Neuroscience Research (Research for Credit)  
2019 Weiss Summer Research Program, College of the Holy Cross  
Main Project: “The effects of motion on the Ebbinghaus, Corridor, and Ponzo illusions”

**Abigail Sagona** Summer 2019-December 2019

Student Researcher, College of the Holy Cross  
2019 Weiss Summer Research Program, College of the Holy Cross  
Main Project: “The effects of motion on the Ebbinghaus and Corridor illusions”

**Ashley Emery** Spring 2018

Independent Study Student, Worcester State University  
Project Title: “Physiological measures of anxiety induced by visual and auditory stimuli”

**Amalia Davis** Spring 2017-2018

Independent Study Student, Worcester State University  
2017 Summer Research Fellowship, Worcester State University  
Project Title: “Effects of visual experience on feedforward and feedback processing in the primate visual system”

**Kyle Cullen** Spring 2016  
 Independent Study Student, Worcester State University  
 Project Title: “Effects of motion dynamics on visual illusions and size perception”

**Danielle A. Courtemanche** Spring 2015  
 Independent Study Student, Worcester State University  
 Project Title: “Psychophysical investigations of visual size perception”

#### Undergraduate Thesis Advisor

**Isabell von Loga** 2011  
 Undergraduate Senior Research Thesis (Postdoctoral Advisor), Princeton University  
 Thesis Title: “Object selectivity and tool-related activity in topographically and non-topographically organized areas of human parietal cortex: an fMRI study”

**Charlton Otte** Spring 2013  
 Neuroscience Senior Thesis 2<sup>nd</sup> Reader, Swarthmore College  
 Thesis Title: “*Drosophila melanogaster* mushroom bodies: their role in expression of short-term chemosensory-mediated and visually-mediated courtship-conditioned associative memories”

**Steve Selverian** Spring 2013  
 Neuroscience Senior Thesis 2<sup>nd</sup> Reader, Swarthmore College  
 Thesis Title: “Short-term chemosensory-mediated memory deficits in *Drosophila melanogaster* with targeted mushroom body inactivation”

#### Master’s Thesis Committee (Outside Reader)

**Lauren Gregg** 2020-2021  
 Master’s Thesis Outside Committee Member, University of Nevada Reno  
 Thesis Title: “The effects of motion on perceived size and other perceptual processes”

#### Doctoral Thesis Committee (Outside Reader)

**Gennadiy Gurariy** 2016-2017  
 Doctoral Thesis Outside Committee Member, University of Nevada Reno  
 Thesis Title: “Electrophysiological correlates of motor plans and graspability via dorsal/ventral interactions”

**Christopher D. Blair** 2014-2015  
 Doctoral Thesis Outside Committee Member, University of Nevada Reno  
 Thesis Title: “Decoding the neural representation of size using multivariate pattern analyses and high-density electroencephalography”

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## Scholarship

### Grants & Fellowships

Publication Award	College of the Holy Cross	04/22
Summer Undergraduate Research Grant	Worcester State Foundation	2017
National Research Service Award	NINDS, NIH	2009-2012
Neuroscience Training Grant	Brown University	2001-2003
Summer Undergraduate Research Fellow	University of Rochester	2000
Research Advisor: Dr. Mary Hayhoe, Center for Visual Science		

Primary Research Articles (Peer Reviewed)

## Indicates undergraduate student co-author (Holy Cross students underlined)

\*\* Indicates graduate student co-author

- [1] **Mruczek REB**, Fanelli M##, Kelly S## & Caplovitz GP (2022). The combination of target motion and dynamic changes in context greatly enhance visual size illusions. *Frontier in Human Neuroscience*. <https://doi.org/10.3389/fnhum.2022.959367>
- [2] Gurariy G\*\*, **Mruczek REB**, Snow JC & Caplovitz GP (2022). Using HD-EEG to Explore Spatiotemporal Representations of Object Categories in Visual Cortex. *Journal of Cognitive Neuroscience*, 34(6): 967-87. [https://doi.org/10.1162/jocn\\_a\\_01845](https://doi.org/10.1162/jocn_a_01845)
- [3] Cerreta, AGB\*\*, **Mruczek, REB** & Berryhill, ME (2020). Predicting Working Memory Training Benefits from Transcranial Direct Current Stimulation Using Resting-State fMRI. *Frontiers in Psychology*. 11:570030. <https://doi.org/10.3389/fpsyg.2020.570030>
- [4] **Mruczek, REB**, Blair, CD, Cullen, K## & Caplovitz, GP (2020). Opposite effects of motion dynamics on the Ebbinghaus and Corridor illusions. *Attention, Perception & Psychophysics*, 82(4): 1912-1927. <https://doi.org/10.3758/s13414-019-01927-w>
- [5] **Mruczek REB**, Killebrew K\*\* & Berryhill ME (2019). Individual differences in mixed-category effects during a visual working memory task. *Neuropsychologia*, 122:1-10. <https://doi.org/10.1016/j.neuropsychologia.2018.12.005>
- [6] Erlikhman G, Gurariy G\*\*, **Mruczek REB** & Caplovitz GP (2016). The neural representation of objects formed through the spatiotemporal integration of visual transients. *NeuroImage*, 149: 67-78. <https://doi.org/10.1016/j.neuroimage.2016.03.044>
- [7] Killebrew K\*\*, **Mruczek REB** & Berryhill ME (2015). Intraparietal regions play a material general role in working memory: Evidence supporting an internal attentional role. *Neuropsychologia*, 73: 12-24. <https://doi.org/10.1016/j.neuropsychologia.2015.04.032>
- [8] Arcaro MJ, Honey CJ, **Mruczek REB**, Kastner S & Hasson U (2015). Widespread correlation patterns of fMRI signal across visual cortex reflect eccentricity organization. *eLife*, 4:e03952. <https://doi.org/10.7554/eLife.03952>
- [9] **Mruczek REB**, Blair CD\*\*, Strother L & Caplovitz GP (2015). The Dynamic Ebbinghaus: motion dynamics greatly enhance the classic contextual size illusion. *Frontiers in Human Neuroscience*, 9:77. <https://doi.org/10.3389/fnhum.2015.00077>
- [10] Wang L<sup>+</sup>, **Mruczek REB**<sup>+</sup>, Arcaro MJ & Kastner S (2015). Probabilistic maps of visual topography in human cortex. *Cerebral Cortex*, 25(10): 3911-3931. <https://doi.org/10.1093/cercor/bhu277> (+ authors contributed equally)
- [11] **Mruczek REB**, Blair CD\*\* & Caplovitz GP (2014). Dynamic Illusory Size Contrast: A relative-size illusion modulated by stimulus motion and eye movements. *Journal of Vision*, 14(3):2:1-15. <https://doi.org/10.1167/14.3.2>
- [12] **Mruczek REB**, von Loga IS## & Kastner S (2013). The representation of tool and non-tool object information in the human intraparietal sulcus. *Journal of Neurophysiology*, 109(12): 2883-2896. <https://doi.org/10.1152/jn.00658.2012>
- [13] Konen CS, **Mruczek REB**, Montoya JL## & Kastner S (2013). Functional organization of human posterior parietal cortex: grasping- and reaching-related activations relative to topographically organized cortex. *Journal of Neurophysiology*, 109(12): 2897-2908. <https://doi.org/10.1152/jn.00657.2012>
- [14] **Mruczek REB** & Sheinberg DL (2012). Stimulus selectivity and response latency in putative inhibitory and excitatory neurons of the primate inferior temporal cortex. *Journal of Neurophysiology*, 108: 2725–2736. <https://doi.org/10.1152/jn.00618.2012>

- [15] Anderson B<sup>+</sup>, **Mruczek REB**<sup>+</sup>, Kawasaki K & Sheinberg DL (2008). Effects of familiarity on neural activity in monkey inferior temporal lobe. *Cerebral Cortex*, 18(11): 2540-2552. <https://doi.org/10.1093/cercor/bhn015> (+ authors contributed equally)
- [16] **Mruczek REB** & Sheinberg DL (2007b). Context familiarity enhances target processing by inferior temporal cortex neurons. *Journal of Neuroscience*, 27: 8533-8545. <https://doi.org/10.1523/JNEUROSCI.2106-07.2007>
- [17] **Mruczek REB** & Sheinberg DL (2007a). Activity in inferior temporal cortical neurons predicts recognition choice behavior and recognition time during visual search. *Journal of Neuroscience*, 27: 2760:2780. <https://doi.org/10.1523/JNEUROSCI.4102-06.2007>
- [18] Sheinberg DL, Peissig JJ, Kawasaki K & **Mruczek REB** (2006). Initial saccades predict manual recognition choice in the monkey. *Vision Research*, 46: 3812-3822. <https://doi.org/10.1016/j.visres.2006.06.009>
- [19] **Mruczek REB** & Sheinberg DL (2005). Distractor familiarity leads to more efficient visual search for complex stimuli. *Perception and Psychophysics*, 67(6): 1016-1031. <https://doi.org/10.3758/bf03193628>
- [20] Aivar MP, Hayhoe MM, Chizk CL & **Mruczek REB** (2005). Spatial memory and saccadic targeting in a natural task. *Journal of Vision*, 5(3): 177-193. <https://doi.org/10.1167/5.3.3>
- [21] Hayhoe MM, Shrizastaza A, **Mruczek R** & Pelz JB (2003). Visual memory and motor planning in a natural task. *Journal of Vision*, 3(1):49-63. <https://doi.org/10.1167/3.1.6>
- [22] Hayhoe M, Karn K, Magnuson J, & **Mruczek R** (2001). Spatial representations across fixations for saccadic targeting. *Psychologica Belgica*, 41(1-2): 55-74. <https://psycnet.apa.org/record/2001-05728-003>

#### Secondary Review Articles (Peer Reviewed) and Chapters (Invited)

- [1] Lytchenko T<sup>\*\*</sup>, Seekins, M<sup>##</sup>, Huntamer, S<sup>##</sup>, White, T<sup>##</sup>, Caplovitz GP & **Mruczek, REB** (2021). Attention: Your Brain's Superpower. *Frontiers for Young Minds*. 9:588455. <https://doi.org/10.3389/frym.2021.588455>
- [2] Basu AC, Hill AS, Isaacs, AK, Mondoux MA, **Mruczek REB**, & Narita T (2021). Integrative STEM Education for Undergraduate Neuroscience: Design and Implementation. *Neuroscience Letters*, 746: 135660. <https://doi.org/10.1016/j.neulet.2021.135660>
- [3] Kastner S, Chen Q, Jeong SK & **Mruczek REB** (2017). A brief comparative review of primate posterior parietal cortex: a novel hypothesis on the human toolmaker. *Neuropsychologia*, 105: 123-134. <https://doi.org/10.1016/j.neuropsychologia.2017.01.034>
- [4] **Mruczek REB**, Blair CD<sup>\*\*</sup>, Strother L & Caplovitz GP (2017b). Size contrast and assimilation in the Delboeuf and Ebbinghaus illusions. In AG Shaprio & D Todorovic (Eds.), *Oxford Compendium of Visual Illusions* (pp. 262-268). New York, New York: Oxford University Press. <https://psycnet.apa.org/record/2017-30827-028>
- [5] **Mruczek REB**, Blair CD<sup>\*\*</sup>, Strother L & Caplovitz GP (2017a). Dynamic Illusory Size Contrast: enhanced relative size effects due to stimulus motion. In AG Shaprio & D Todorovic (Eds.), *Oxford Compendium of Visual Illusions* (pp. 258-261). New York, New York: Oxford University Press. <https://psycnet.apa.org/record/2017-30827-027>
- [6] Hayhoe M, Aivar P, Shrizastaza A & **Mruczek R** (2002). Visual short-term memory and motor planning. *Progress in Brain Research*, 140: 349-363. [https://doi.org/10.1016/S0079-6123\(02\)40062-3](https://doi.org/10.1016/S0079-6123(02)40062-3)

Commentaries

- [1] Peelen MV<sup>+</sup> & **Mruczek REB**<sup>+</sup> (2008). Sources of Spatial and Feature-Based Attention in the Human Brain. *Journal of Neuroscience*, 28: 9328-9329.  
<https://doi.org/10.1523/JNEUROSCI.3562-08.2008> (+ authors contributed equally)

Conference Talks

- [1] **Mruczek REB** & Caplovitz GP (2016). Individual differences in the effects of motion on classic size illusions. *Individual Differences in Vision Brown Bag Satellite Event at Vision Science Society*, 2016.
- [2] **Mruczek REB**, Blair, CD<sup>\*\*</sup> & Caplovitz GP (2014). Dynamic Illusory Size-Contrast: A relative-size illusion modulated by stimulus motion and eye movements. *Vision Science Society*, 2014.
- [3] **Mruczek REB** & Sheinberg DL (2006). Effects of experience on receptive field size in monkey inferior temporal cortex. *Society for Neuroscience*, 2006.
- [4] **Mruczek REB** & Sheinberg DL (2006). Recognition choice behavior is predicted by activity in inferior temporal cortex. *Vision Science Society*, 2006.

Conference Posters

- [1] Takao S, Watanabe K, Mruczek R, Caplovitz G & Cavanagh P (2022). Does induced depth contribute to the Dynamic Ebbinghaus illusion? *European Conference on Visual Perception 2022*.
- [2] Wise MV<sup>\*\*</sup>, Kelly S<sup>##</sup>, **Mruczek REB**, Caplovitz GP & Crognale MA (2022). Topological specificity of VEP responses: a comparison of tripolar and traditional electrodes. *Vision Sciences Society 2022*.
- [3] Redder NJ<sup>##</sup> & **Mruczek REB** (2022). Re-evaluating size contrast in the Ebbinghaus illusion: An analysis of figural extent and contour interactions. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2022*.
- [4] Archambeault MG<sup>##</sup> & **Mruczek REB** (2022). The effects of predictive coding in visual search. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2022*.
- [5] **Mruczek REB** & Caplovitz GP (2021). The Orbiting Circles Illusion: Induced changes in the length and direction of motion trajectory. *Virtual Vision Sciences Society 2021*. (conference held in a virtual, online format due to Covid-19)
- [6] Kelly S<sup>##</sup>, Wise MV<sup>\*\*</sup>, Foster, G<sup>##</sup> Peterson E<sup>##</sup>, **Mruczek REB**, Crognale MA & Caplovitz GP (2021). Comparison of decoding of visual-evoked potentials from tri-polar and conventional EEG. *Virtual Vision Sciences Society 2021*. (conference held in a virtual, online format due to Covid-19)
- [7] **Mruczek REB**, Kelly S<sup>##</sup>, Sagona A<sup>##</sup>, Fanelli M<sup>##</sup> & Caplovitz GP (2020). Effects of motion dynamics on classic visual size illusions. *Virtual Vision Sciences Society 2020*. (conference moved to a virtual, online format due to Covid-19)
- [8] **Mruczek, REB** (2020). Novel objects in a rapid serial visual presentation (RSVP) stream elicit an attentional blink. *Virtual Cognitive Neuroscience Society 2020*. (conference moved to a virtual, online format due to Covid-19)
- [9] **Mruczek REB**, Davis AK<sup>##</sup>, Sheinberg DL (2018). Local field potential recordings reveal enhanced feedback in the primate visual system for familiar compared to novel objects. *Cognitive Neuroscience Society 2018*.
- [10] Cerreta, A<sup>\*\*</sup>, **Mruczek, R.** & Berryhill, M.E. (2017). Predicting Individual tDCS-Linked Working Memory Benefits Through Resting-State fMRI. *Cognitive Neuroscience Society 2017*.



- [11] Caplovitz GP, Erlichman G, Gurariy G\*\* & **Mruczek REB** (2016). The neural representation of objects formed through the spatiotemporal integration of visual transients. *Cognitive Neuroscience Society*, 2016.
- [12] **Mruczek REB**, Blair CD, Cullen, K<sup>##</sup>, Killebrew K\*\*, Aguzzi A<sup>##</sup> & Caplovitz GP (2016). The effects of motion dynamics on the Ebbinghaus and Corridor illusions. *Vision Science Society*, 2016.
- [13] Killebrew K\*\*, **Mruczek REB** & Berryhill ME (2016). A stimulus biased contralateral bias in intraparietal sulcus. *Vision Science Society*, 2016.
- [14] Cullen, K<sup>##</sup> & **Mruczek REB** (2015). Opposite effects of motion on size perception in the Ebbinghaus and Corridor illusions. *Worcester State University Celebration of Scholarship and Creativity*, 2016.
- [15] Courtemanche, D<sup>##</sup> & **Mruczek REB** (2015). The effects of motion dynamics on the Ebbinghaus and Corridor illusions. *Worcester State University Celebration of Scholarship and Creativity*, 2015.
- [16] Blair CD\*\*, **Mruczek REB** & Caplovitz GP (2015). Decoding the neural representation of size using multivariate pattern analyses and high-density electroencephalography. *Vision Science Society*, 2015.
- [17] Wang L, **Mruczek REB**, Arcaro MJ & Kastner S (2012). Visual topographic probability maps (VTPM) in standard MNI space. *Society for Neuroscience*, 2012.
- [18] Arcaro MJ, **Mruczek REB**, Honey CJ, Hasson U & Kastner S (2012). Functional connectivity MRI during resting state and movie viewing reveals large-scale eccentricity organization throughout the visual system. *Society for Neuroscience*, 2012.
- [19] **Mruczek REB**, von Loga IS<sup>##</sup>, Shariat Torbaghan S & Kastner S (2011). Tool-specific information in the human intraparietal sulcus. *Society for Neuroscience*, 2011.
- [20] **Mruczek REB**, von Loga IS<sup>##</sup>, Konen CS & Kastner S (2011). Object information in the anterior regions of the intraparietal sulcus. *Vision Sciences Society*, 2011.
- [21] **Mruczek REB** & Kastner S (2010). A comparison of object representations in the human ventral and dorsal visual pathways. *Society for Neuroscience*, 2010.
- [22] **Mruczek REB**, Peelen MV & Kastner S (2009). Non-spatial feature selectivity in human intraparietal sulcus during feature-based attention. *Society for Neuroscience*, 2009.
- [23] Kung C-C, **Mruczek REB** & Kastner S (2009). Using signal detection theory to probe the perceptual functions of human lateral geniculate nucleus: an fMRI study. *Organization for Human Brain Mapping*, 2009.
- [24] **Mruczek REB** & Sheinberg DL (2008). Functional properties of putative inhibitory and excitatory neurons in primate inferior temporal cortex. *Society for Neuroscience*, 2008.
- [25] Sheinberg DL, **Mruczek REB**, Anderson B & Kawasaki K (2006). Effects of long-term image familiarity in monkey temporal cortex. *Vision Science Society Abstract*, 2006.
- [26] Shrivastava A, Hayhoe MM, Pelz JB & **Mruczek REB** (2005). Influence of optic flow field restrictions and fog on perception of speed in a virtual driving environment. *Vision Science Society Abstract*, 2005.
- [27] **Mruczek REB** & Sheinberg DL (2002). The effects of distractor familiarity on visual search using complex images. *Society for Neuroscience*, 2002.
- [28] Hayhoe M, Aivar P, **Mruczek R** & Chizk C (2001). Memory for spatial structure in saccadic targeting. *Vision Science Society Abstract*, 2001.

Invited Talks

- [1] Physics, Physiology, and Psychology of Color Vision. (June 26 2019) *Summer Research Lunch Seminar Series, College of the Holy Cross*
- [2] Barriers to Informed Decisions: Cognitive and Neural Perspectives (co-presenter with Dr. Steven Oliver and Dr. Benjamin Jee). (Summer 2017) *Center for Teaching & Learning Summer Institute, Worcester State University.*
- [3] Neural correlates of visual size perception. (Spring 2016) *Schaffer Family Seminar Series, Department of Biology, College of the Holy Cross.*
- [4] Tool-specific information in the human intraparietal sulcus. (Nov 2011) *Imaging Meeting Research Talk, Princeton Neuroscience Institute, Princeton University.*
- [5] Object representations in the dorsal visual stream. (Feb 2010) *In-House Seminar Series, Princeton Neuroscience Institute, Princeton University.*
- [6] Activity in inferior temporal cortex predicts recognition choice behavior during visual search. (Feb 2006) *Brain Lunch, Department of Brain and Cognitive Science, MIT.*
- [7] Activity in inferior temporal cortex predicts recognition behavior during visual search. (Jan 2006) *In-House Seminar Series, Department of Neuroscience, Brown University.*

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**Service**Department of Psychology Service (current institution)

Psychology Dept Curriculum Committee	F21-present
Psychology Dept Liaison for Academic Conference	F20-present
Animal Behavior and Cognition Tenure-Track Search Committee	S18-F19
Psi Chi Co-Advisor	F19-S21
Psychology Dept Library Liaison	S19-F19
Psychology Dept Graduate Studies and Careers Committee	F18-F19
Hewlett-Mellon Workshops	
Re-visioning Mission and Learning Goals in the Department of Psychology	06/08/22
Establishing Hiring Priorities for Psychology Department	06/11/18

Neuroscience Program Service (current institution)

Neuroscience Curriculum Committee	07/21-present
Neuroscience Program Liaison for Psychology	F18-present
Neuroscience Program Liaison for Academic Conference	F21-present
Hewlett-Mellon Workshops	
Planning of Program-level Learning Outcomes Assessment and Backward Re-Design of NEUR 110: Introduction to Neuroscience	06/27/22, 07/25/22, 08/01/22

College Service (current institution)

Human Subjects Committee (IRB), Chair	July 22-present
Committee on Academic Programs (elected)	F20-S22
Gateways Summer Advising	Sum19, Sum20, Sum21, Sum22
Common Area Requirements Workshop	08/29/19

Women in Science Day 04/13/19

Department and Institutional Service (previous institutions)

University Curriculum Committee	2015-17, 2017-18 (Sub-Committee Chair)
Pre-Medical Advisory Committee	2016-18
Psychobiology Minor Committee	2014-18
Psychology Dept Program Review Committee	2015-16
Psychology Dept Curriculum Committee	2015-18
Psychology Dept Catalog Committee (ad hoc)	Spring 2017 (Chair)
Psychology Dept Research Methods Committee	2014-15, 2016 (Co-Chair), 2017-18 (Chair)
Web Committee	2014, 2015-2018 (Chair)
Advising Committee	2015-16
Worcester State University ( <i>all above</i> )	
Co-organizer, In-house Seminar Series, Princeton Neuroscience Institute	2010
Princeton University ( <i>all above</i> )	
Graduate Student Representative and Admissions Committee Member	2005-06
Graduate Student Representative to Biomedical Faculty Council	2002-06
Brown University ( <i>all above</i> )	

Service to Profession

Associate Editor, <i>Frontiers for Young Minds: Understanding Neuroscience</i>	Sep 20-present
Review Editor, <i>Frontiers for Young Minds: Visual Neuroscience</i>	June 22-present
Website Committee, Faculty for Undergraduate Neuroscience (FUN)	Feb 21-present
Judge for Best Illusion of the Year Contest, Neural Correlates Society	Nov 20
Student Travel Award Application Reader, Faculty for Undergraduate Neuroscience	02-24-19
Poster Judge: Northeast Undergraduate/Graduate Research Organization for Neuroscience (NEURON) Conference	Feb 19
Peer Review of Scientific Manuscripts (# of manuscripts)	
Attention, Perception, & Psychophysics (6)	Sum19, F19, Sum20, F20, S21, S22
Consciousness and Cognition (1)	S19
Currents in Teaching and Learning (1)	S15
Frontiers in Psychology (1)	Sum21
Frontiers in Neuroscience (2)	Sum19, Sum 19
Human Brain Mapping (1)	S11
Journal of Neuroscience (7)	S08, S09, F09, F09, F12, S20, S21
Journal of Neurophysiology (1)	F12
Journal of Vision (1)	S22
Neuropsychologia (5)	F10, F10, S11, F11, S12
PLOS ONE (1)	S19
Psychonomic Bulletin & Review (1)	S21
Scientific Reports (1)	S20
Vision Research (1)	S21

**Professional Societies**

Cognitive Neuroscience Society	2018, 2020
Faculty for Undergraduate Neuroscience (FUN)	2014-present
Society for Neuroscience	2002-03, 2005-06, 2008-12
Vision Sciences Society	2006, 2011, 2014, 2016, 2019-present
Western Massachusetts Chapter of the Society for Neuroscience	2019-present

**Professional Development Workshops**

Establishing Boundaries: Promoting Healthy Adult-Student Relationships, College of the Holy Cross	05/22/19
New Faculty Orientation Series, College of the Holy Cross Myths and Facts of the Tenure Process; Advising and Mentoring Students; Office of Sponsored Research Open House; Workshop Series on Ignatian Pedagogy #1, 2, & 4	F18-S19

**Volunteer and Community Outreach****Mini Course: Computer Science with Scratch**

Mayo Elementary School (Holden, MA): Winter Enrichment Program	W17-W20, W22
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**Guest Lesson: An Introduction to Your Brain**

Mountview Middle School (Holden, MA): 6 <sup>th</sup> Grade Science Class	F18, S22
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**Youth Sports Coaching**

Holden Youth Soccer, K-2 <sup>nd</sup> , 3 <sup>rd</sup> /4 <sup>th</sup> and 7 <sup>th</sup> /8 <sup>th</sup> grade programs (Holden, MA)	F14-17, F18, F19
Holden Baseball Program, Inc., T-ball, Junior Little League (Holden, MA)	S16-17

**References**

*Available upon request.*