Ryan E.B. Mruczek, Ph.D.

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Academic Employment

Associate Professor 2022-present
Department of Psychology & Neuroscience Program, College of the Holy Cross, Worcester, MA

Assistant Professor 2018-22
Department of Psychology & Neuroscience Program, College of the Holy Cross, Worcester, MA

Assistant Professor 2014-2018
Department of Psychology, Worcester State University, Worcester, MA

Research Scientist *(part-time)* 2014-2016
Department of Psychology, University of Nevada - Reno, Reno, NV
Sponsor: Dr. Marian Berryhill

Research Scientist 2013-2014
Department of Psychology, University of Nevada - Reno, Reno, NV
Sponsor: Dr. Gideon Caplovitz

Visiting Assistant Professor 2012-2013 & Spring 2014
Department of Psychology, Swarthmore College, Swarthmore, PA

Postdoctoral Research Fellow 2008-2012
Department of Psychology and Neuroscience Institute, Princeton University, Princeton, NJ
Sponsor: Dr. Sabine Kastner

Education

Ph.D., Neuroscience March 2007
Brown University, Providence, RI
Dissertation Advisor: Dr. David L. Sheinberg
Dissertation Title: "Neural correlates of efficient visual search"

B.S., Biological Science: Neuroscience May 2001
University of Rochester, Rochester, NY
Research Advisor: Dr. Mary Hayhoe

Awards & Honors

Faculty Marshal	College of the Holy Cross	2022, 2024
3rd Place, Best Illusion of the Year	Neural Correlate Society	2019
Nominated, Alden Teaching Award	Worcester State University	2016
Psi Chi	Worcester State University	2015
1st 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

NEUR 110: Introduction to Neuroscience	F18, F19, F20*, F22, F25
NEUR 220: Neural Circuits & Systems	F21, F22, F23, S26
NEUR 350: Human Electrophysiology	S24, F25
NEUR 480: Research Projects (Independent Study)	2 students, 3 semesters
PSYC 200: Statistics	F18, F19
PSYC 222: Sensation and Perception	F20*, S21*, S22, S23, S24
PSYC 235: Cognitive Neuroscience	S19, Sum21*
PSYC 327: Predictive Coding in the Brain	S21*, S22
PSYC 399: Illusion & Perception	S23
PSYC 399: Research in Human Neuroscience	S19
PSYC 480: Research Projects (Independent Study)	6 students, 7 semesters *online due to Covid-19

Worcester State University

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

Swarthmore College

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

Princeton University

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

Brown University

BN 901-3A: The Brain: From Neurons to Behavior	Sum06

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

Panelist: The Embodied Curriculum Study Experience 06/18/24
Served as a panelist for a discussion my experience with the embodied curriculum fellowship, as part of the Summer 2025 Workshop on Inclusive Excellence in STEM.

Summer 2025 Workshop on Inclusive Excellence in STEM 06/16/24 – 06/18/24
Three-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.

Hewlett-Mellon Workshop Funding – Co-Lead with Alo Basu 06/09/25, 06/11/25, 06/13/25
Neuroscience Inclusive Pedagogies and Curricular Planning

HHMI STEM Curriculum Fellowship Spring 2025
Immersive classroom experience to audit CSCI 131: Techniques of Programming (and associated lab) as a way to better understand the student experience in introductory STEM courses at the College, and to prepare for pedagogical changes to STEM curriculum.

Panelist: Reflections on Pedagogical Growth and Conceptual Change 09/18/24
Served as a panelist for a discussion hosted by JEBI and the Holy Cross HHMI team on conceptual changes in pedagogical thinking over the past 3-5 years.

Summer 2024 HHMI Workshop on Inclusive Excellence in STEM 06/12/24 – 06/14/24
Three-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.

PURSUE Implementer Workshop 2024 06/03/24 – 06/06/24
Three-day faculty learning community workshop to discuss each member's implementation of an undergraduate course in cognitive electrophysiology and develop further materials for the NSF-funded PURSUE project.

PURSUE Implementer Workshop 2023 06/21/23 – 06/24/23
Three-day faculty learning community workshop to work on developing an undergraduate course in cognitive electrophysiology using materials from the NSF-funded PURSUE project.

Summer 2023 HHMI Workshop on Inclusive Excellence in STEM 07/18/23 – 07/20/23
Three-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross. I also led a short session entitled "Deficit assumptions in advising as it relates to academic policies and practices".

Summer 2022 HHMI Workshop on Inclusive Excellence in STEM 07/19/22 – 07/20/22
Two-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.

Engaging Students in Course-Based Undergraduate Research Experience (CUREs) 05/10/22
1.5-hour online workshop hosted by the AAAS-IUSE Initiative and NSF.

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 08/05/21
1.5-hour online workshop hosted by the AAAS-IUSE Initiative and NSF.

Summer 2021 HHMI Workshop on Inclusive Excellence in STEM 07/19/21 – 07/21/21
Three-day faculty workshop to examine evidence-based inclusive pedagogy and develop ideas to approach inclusive excellence in STEM at Holy Cross.

Crescent Loom Workshop 06/30/21
One-day, online workshop to learn about the video game Crescent Loom, which uses simulated circuits to teach neurophysiology concepts and techniques.

Designing Engaging Online and Hybrid Learning, Centreity and College of the Holy Cross Aug 20

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.

DEI in STEM Reading/Discussion/Working Group, College of the Holy Cross 06/20–07/20
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.

Hewlett-Mellon Workshop, College of the Holy Cross 06/13/19 & 07/25/19
Collaborative 100-level STEM Concept Mapping and Exploration of STEM for Passport

Massachusetts Project Kaleidoscope (PKAL) Regional Network Meeting 01/09/19
One-day workshop on Faculty Development for Inclusive Excellence in STEM.

Course Development Faculty Fellowship, College of the Holy Cross Sum 18
Dev of Integrative Science Learning Modules through the Neuro Curriculum

Hewlett-Mellon Workshop, College of the Holy Cross 07/12/18 & 06/16/18
Dev of Integrative Science Learning Modules through the Neuro Curriculum

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

Student Advising and Mentoring

Undergraduate Research Advisor

Brendan Robinson ’26	Spring 2025-present
Andrew (AJ) Clarkin ’26	Fall 2025-present
Michael Smith ’26	Fall 2025-present
Paola (Kirsten) Cruz ’26	Fall 2025-present
Elisabeth (Lulu) Rourke ’27	Fall 2025-present
Michael (MJ) Lesofsky ’25	Fall 2023-Spring 2025
Mariam Ayad ‘25	Spring 2023- Spring 2025
Emma Stowell ‘25	Fall 2023- Spring 2025
Botamina Girgis ‘25	Spring 2023- Spring 2025
Abigail Rice ‘26	Fall 2023-Spring 2024
Rachel Johnson ‘26	Fall 2023-Spring2024
Michael Vail ‘24	Spring 2023-Spring 2024
Gabriela Pearson ‘25	Spring 2023-Spring 2024
Cormic McNamara ‘26	Spring 2023
Amelia Lyons ‘23	Spring 2023

Janelle Allen ‘24	Summer 2022
Declan Diestel ‘24	Summer 2022
Marcella Archambeault ‘24	Fall 2021-Spring 2023
Noah Redder ‘22	Spring 2022
Kyle Lefler ‘21	Fall 2020-Spring 2021
Sean Kelly ‘21	Summer 2019-Spring 2021
Matthew Fanelli ‘21	Spring 2019-Spring 2021
Abigail Sagona ‘21	Summer 2019-December 2019
Ashley Emery ’19 – Worcester State University	Spring 2018
Amalia Davis ‘18 – Worcester State University	Spring 2017-2018
Kyle Cullen ‘16 – Worcester State University	Spring 2016
Danielle A. Courtemanche ‘15 – Worcester State University	Spring 2015

Undergraduate Thesis Advisor

Charlton Otte ’13 – Swarthmore College	Spring 2013
Steve Selverian ‘13 – Swarthmore College	Spring 2013
Isabell von Loga ’11 – Princeton University	2010-2011

Master’s Thesis Committee (Outside Reader)

Lauren Gregg – University of Nevada, Reno	2020-2021

Doctoral Thesis Committee (Outside Reader)

Gennadiy Gurariy – University of Nevada, Reno	2016-2017
Christopher D. Blair – University of Nevada, Reno	2014-2015

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** & Caplovitz GP (2025). New insights and a computational model for understanding induced motion revealed through novel variants of the Flying Bluebottle Illusion. *i-Perception*, *16*(3). https://doi.org/10.1177/20416695251344457

[2] **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,* 16:959367. https://doi.org/10.3389/fnhum.2022.959367

[3] 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

[4] 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

[5] **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

[6] **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

[7] 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

[8] 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

[9] 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

[10] **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

[11] Wang L[+], **Mruczek REB**[+], 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)

[12] **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

[13] **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

[14] 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

[15] **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

[16] Anderson B[+], **Mruczek REB**[+], 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)

[17] **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

[18] **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

[19] 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

[20] **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

[21] 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

[22] 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

[23] 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] Caplovitz GP & **Mruczek REB** (*invited submission, under review*). The Poggendorff Triangles. In AG Shaprio & D Todorovic (Eds.), *Oxford Compendium of Visual Illusions* (2e).

[2] Lytchenko T[**], Seekins, M[##], Huntamer, S[##], White, T[##], Caplovitz GP & **Mruczek, REB** (2021). Attention: Your Brain's Superpower. *Frontiers for Young Minds. 9*:588455. https://doi.org/10.3389/frym.2021.588455

[3] 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

[4] 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

[5] **Mruczek REB**, Blair CD[**], 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

[6] **Mruczek REB**, Blair CD[**], 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

[7] 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

Commentaries

[1] Peelen MV[+] & **Mruczek REB**[+] (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[**] & 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] Girgis BK[#], Stowell EC[#] & **Mruczek REB** (2025). Spatial extent and contour interactions, but not size contrast, influence perceived size. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2025*

[2] Ayad M[#], Lesofsky MJ[#], Robinson B[#] & **Mruczek REB** (2025). Unfamiliar distractors disrupt visual search through a forward masking effect. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2025*

[3] **Mruczek REB**, Lesofsky MJ[#] & Ayad M[#] (2025). Unfamiliar distractors disrupt visual search through a combination of forward and backward masking. *Cognitive Neuroscience Society 2025*.

[4] **Mruczek REB**, Girgis BK[##] & Stowell EC[##] (2024). Contour interaction, spatial extent, and size contrast in a visual size illusion. *Vision Sciences Society 2024*.

[5] Ayad M[##], Lesofsky MJ[##] & **Mruczek REB** (2024). The influence of novel objects on rapid object recognition. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2024*

[6] Girgis BK[##], Stowell EC[##] & **Mruczek REB** (2024). The influence of contour interactions, spatial extent, and size contrast on visual size perception. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2024*

[7] Vail MC[##], Pearson GM[##], Damiano DB, **Mruczek REB** & Schmidt RC (2024). A social synchrony task for evaluating differences in social connectedness. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2024*

[8] Archambeault MG[##] & **Mruczek REB** (2023). Novel objects cause an attentional blink during a rapid object recognition task. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2023*

[9] Lyons A[##] & **Mruczek REB** (2023). Exploring object recognition with deep neural networks. Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2023

[10] Girgis BK[##] & **Mruczek REB** (2023). Factors influencing visual size perception and illusions: contour interactions, spatial extent, and size contrast. *Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2023*

[11] 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*.

[12] Wise MV[**], Kelly S[##], **Mruczek REB**, Caplovitz GP & Crognale MA (2022). Topological specificity of VEP responses: a comparison of tripolar and traditional electrodes. *Vision Sciences Society 2022*.

[13] Redder NJ[##] & **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*.

[14] Archambeault MG[##] & **Mruczek REB** (2022). The effects of predictive coding in visual search. Northeast Undergraduate and Graduate Research Organization for Neuroscience (NEURON) Conference 2022.

[15] **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)*

[16] Kelly S[##], Wise MV[**], Foster, G[##] Peterson E[##], **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)*

[17] **Mruczek REB**, Kelly S[##], Sagona A[##], Fanelli M[##] & 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)*

[18] **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)*

[19] **Mruczek REB**, Davis AK[##], 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*.

[20] Cerreta, A[**], **Mruczek, R.** & Berryhill, M.E. (2017). Predicting Individual tDCS-Linked Working Memory Benefits Through Resting-State fMRI. *Cognitive Neuroscience Society 2017*.

[21] Caplovitz GP, Erlikhman G, Gurariy G[**] & **Mruczek REB** (2016). The neural representation of objects formed through the spatiotemporal integration of visual transients. *Cognitive Neuroscience Society*, 2016.

[22] **Mruczek REB**, Blair CD, Cullen, K[##], Killebrew K[**], Aguizzi A[##] & Caplovitz GP (2016). The effects of motion dynamics on the Ebbinghaus and Corridor illusions. *Vision Science Society, 2016*.

[23] Killebrew K[**], **Mruczek REB** & Berryhill ME (2016). A stimulus biased contralateral bias in intraparietal sulcus. *Vision Science Society, 2016*.

[24] Cullen, K[##] & **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*.

[25] Courtemanche, D[##] & **Mruczek REB** (2015). The effects of motion dynamics on the Ebbinghaus and Corridor illusions. *Worcester State University Celebration of Scholarship and Creativity, 2015*.

[26] 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*.

[27] Wang L, **Mruczek REB**, Arcaro MJ & Kastner S (2012). Visual topographic probability maps (VTPM) in standard MNI space. *Society for Neuroscience, 2012*.

[28] 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*.

[29] **Mruczek REB,** von Loga IS[##], Shariat Torbaghan S & Kastner S (2011). Tool-specific information in the human intraparietal sulcus. *Society for Neuroscience, 2011*.

[30] **Mruczek REB**, von Loga IS[##], Konen CS & Kastner S (2011). Object information in the anterior regions of the intraparietal sulcus. *Vision Sciences Society, 2011*.

[31] **Mruczek REB** & Kastner S (2010). A comparison of object representations in the human ventral and dorsal visual pathways. *Society for Neuroscience, 2010*.

[32] **Mruczek REB**, Peelen MV & Kastner S (2009). Non-spatial feature selectivity in human intraparietal sulcus during feature-based attention. *Society for Neuroscience, 2009*.

[33] 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*.

[34] **Mruczek REB** & Sheinberg DL (2008). Functional properties of putative inhibitory and excitatory neurons in primate inferior temporal cortex. *Society for Neuroscience, 2008*.

[35] Sheinberg DL, **Mruczek REB**, Anderson B & Kawasaki K (2006). Effects of long-term image familiarity in monkey temporal cortex. *Vision Science Society Abstract, 2006*.

[36] 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*.

[37] **Mruczek REB** & Sheinberg DL (2002). The effects of distractor familiarity on visual search using complex images. *Society for Neuroscience, 2002*.

[38] 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*.

Service

Department of Psychology Service (current institution)

Cognitive Tenure-Track Search Committee	S25-F25
Psychology Dept Curriculum Committee	F21-S24
Psychology Dept Liaison for Academic Conference	F20-S24
Animal Behavior and Cognition Tenure-Track Search Committee	S19-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)

Director, Independent Multidisciplinary Program in Neuroscience 07/25-present

Neuroscience Executive Committee 09/22-present

Neuroscience Curriculum Committee 07/21-present

Neuroscience Program Liaison for Psychology F18-present

Neuroscience Program Liaison for Academic Conference F21-present

Hewlett-Mellon Workshops
- Neuroscience Inclusive Pedagogies and Curricular Planning 06/09/25, 06/11/25, 06/13/25
- Integrative Neuroscience Core Curriculum Realignment 08/06/24, 08/07/24, 08/22/24
- Planning of Program-level Learning Outcomes Assessment and Backward Re-Design of NEUR110: Introduction to Neuroscience 06/27/22, 07/25/22, 08/01/22
- Collaborative 100-level STEM Concept Mapping and Exploration of STEM for Passport 06/13/19, 07/25/19
- Dev of Integrative Science Learning Modules through the Neuro Curriculum 07/12/18, 06/16/18

College Service (current institution)

Human Subjects Committee (IRB), Chair Sum 22-Sum 24

Committee on Academic Programs (elected) F20-S22

Gateways Summer Advising Sum19, Sum20, Sum21, Sum22, Sum23, Sum24

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 *(all above)*

Co-organizer, In-house Seminar Series, Princeton Neuroscience Institute 2010
Princeton University *(all above)*

Graduate Student Representative and Admissions Committee Member 2005-06

Graduate Student Representative to Biomedical Faculty Council 2002-06
Brown University *(all above)*

Service to Profession

Associate Editor, *Frontiers for Young Minds: Understanding Neuroscience* Sep 20-present

Review Editor, *Frontiers in Neuroscience: Visual Neuroscience* 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
Feb 19, Aug 22, July 23

Poster Judge: Northeast Undergraduate/Graduate Research Organization for Neuroscience (NEURON) Conference Feb 19

Peer Review of Scientific Manuscripts (# of manuscripts)

Acta Neurobiologiæ Experimentalis (1)	Sum23
Acta Psychologica (1)	S23
Attention, Perception, & Psychophysics (8)	Sum19, F19, Sum20, F20, S21, S22, Sum24, S25
Cognitive Systems Research (1)	S25
Consciousness and Cognition (1)	S19
Frontiers in Human Neuroscience (1)	F22
Frontiers in Neuroscience (2)	Sum19, Sum19
Frontiers in Psychology (1)	Sum21
Journal of Neuroscience (2)	S20, S21
Journal of Undergraduate Neuroscience Education (1)	F23
Journal of Vision (1)	S22
Perception (1)	F24, Sum25
PLOS ONE (1)	S19
Psychonomic Bulletin & Review (1)	S21
Scientific Reports (1)	S20
Vision Research (1)	S21

Professional Societies

Cognitive Neuroscience Society	2020, 2025
Faculty for Undergraduate Neuroscience (FUN)	2018-present
Vision Sciences Society	2019-2022, 2024
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 F18-S19
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

Volunteer and Community Outreach

Guest Lesson: Lessons from Illusions
Wachusett Regional High School (Holden, MA): Psychology I Class F24

Mini Course: Computer Science with Scratch
Mayo Elementary School (Holden, MA): Winter Enrichment Program W19, W20, W22

Guest Lesson: An Introduction to Your Brain
Central Tree Middle School (Rutland, MA): 6th Grade Science Class S25
Mountview Middle School (Holden, MA): 6th Grade Science Class F18, S22, S25

Youth Sports Coaching
Holden Youth Soccer, K-2nd, 3rd/4th and 7th/8th grade programs (Holden, MA) F14-F19, S23, F23, S24
Holden Baseball Program, Inc., T-ball, Junior Little League (Holden, MA) S16-17

References

Available upon request.