

**MARINA P. GROSS**

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 Department of Psychological & Brain Sciences  
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The focus of my research is examining learning through the eye of the observer. Using pupil dilations as an indicator of underlying attentional processes, I ask how attention relates to our conceptualization of cognitive load. Collecting pupillary dilation data is a non-invasive way to study how we orient to information in our environment, how we study such events, and how those dilations relate to subsequent memory performance. This technique allows us to question if learning can be observed as it happens on-line.

In a complimentary line of research, I study how expectations about upcoming events influences our decision making and memory. Together, my work furthers our understanding of how and what we learn and which information is ultimately forgotten.

**EDUCATION**

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- 2020            **Washington University in St. Louis**  
 (anticipated) Ph.D., Psychological & Brain Sciences Program  
                   NSF Fellow  
                   Mentor: Ian G. Dobbins, PhD
- 2018            **Washington University in St. Louis**  
                   M.A. in Cognitive Psychology, Brain, Behavior & Cognition track  
                   Thesis Title: *Pupil dilation during memory encoding: The role of time pressure and depth of processing*  
                   Committee Members: Ian G. Dobbins, David Balota, Todd Braver
- 2015            **University of Oregon**  
                   B.Sc. in Psychology with Honors (*summa cum laude*)  
                   Minor in Spanish, Phi Beta Kappa, McNair Scholar

**PUBLICATIONS**

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**Refereed Journal Articles**

- Miller, A. L., **Gross, M. P.**, & Unsworth, N. (2019). Individual differences in working memory capacity and long-term memory: The influence of intensity of attention to items at encoding as measured by pupil dilation. *Journal of Memory and Language, 104*, 25-42.

**Manuscripts under review**

**Gross, M. P. & Dobbins, I. G. (2018).** *Pupil dilation during memory encoding reflects time pressure rather than depth of processing.* Manuscript under review.

**Manuscripts in preparation**

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**Non-peer reviewed publications**

**Gross, M. P. (2014).** Accessing Long-Term Memory – What Pupil Dilation Can Tell Us About Search Processes: An Exploratory Study. *2014 McNair Research Journal University of Oregon, 35–51.*

**FELLOWSHIPS & GRANTS**

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2017–2020	National Science Foundation Graduate Research Fellowship
2017	The Psychonomic Society and Women in Cognitive Science Travel and Networking Award for Junior Scientists
2016	APAGS/Psi Chi Junior Scientist Fellowship
2016	Graduate Student Research Grant, Washington University in St. Louis
2015	University Fellowship, Washington University in St. Louis
2014–2015	Undergraduate Research Fellowship, University of Oregon Center for Teaching and Learning
2014–2015	Helen Fe Jones Fellowship, Department of Romance Languages, University of Oregon
2013–2014	Research Grant, Department of Psychology Honors Program, University of Oregon

**HONORS & AWARDS**

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**Honors**

2019	Nominee Gerry and Bob Virgil Ethic of Service Award
2016	National Science Foundation Graduate Research Fellowship, Honorable Mention
2015–Present	Phi Beta Kappa Honor Society
2015	Oregon Six, Selection as one of the Class of 2015's best graduating students
2011–Present	Phi Theta Kappa Honors Society

**Awards**

2016–2019	Arthur D. Behrendt Tuition Scholarship, Washington University in St. Louis
2011–2015	Ford Family Foundation ReStart Scholarship
2014–2015	Bowerman Scholarship for Outstanding Seniors, University of Oregon
2014–2015	Clarence & Lucille Dunbar Scholarship, College of Arts & Sciences, University of Oregon
2014–2015	Leon Culbertson Scholarship, University of Oregon
2014–2015	Osher Reentry Scholarship, University of Oregon
2013–2014	Henry V. Howe Scholarship, College of Arts & Sciences, University of Oregon
2013–2014	William Stout Scholarship, General Scholarships, University of Oregon
2012–2013	Salem Contractors Exchange Scholarship

### **INVITED TALKS & CONFERENCE ORGANIZATION**

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Conference Co-Organizer. 2018 Show Me State Conference on Cognition, May 2018, Washington University in Saint Louis, St. Louis, MO.

Gross, M. P. (2017) *Exploring the boundary conditions of sequential dependencies in recognition memory*. University of St. Andrews, August 2017, Edinburgh, Scotland.

### **CONFERENCE PARTICIPATION**

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Gross, M. P., & Dobbins, I. G. (2018). *Pupil dilation during memory encoding: The role of time pressure and depth of processing*. Poster presented at the 59th Annual Meeting of the Psychonomic Society, November 2018, New Orleans, LA.

Gross, M. P. & Dobbins, I. G. (2018). *Pupillometry during Memory Encoding: Contrasting Time Pressure and Depth of Processing*. Poster presented at the 30th Annual Convention of the Association for Psychological Science, May 2018, San Francisco, CA.

Gross, M. P. (2018). *The meaning of pupil dilations during encoding – Do they signal time pressure?* Talk presented at the Show Me State Conference on Cognition, May 2018, Washington University in Saint Louis, St. Louis, MO.

Gross, M. P., & Dobbins, I. G. (2017). *Are sequential dependencies in recognition memory exaggerated when confidence and classification are combined?* Poster presented at the 58th Annual Meeting of the Psychonomic Society, November 2017, Vancouver, B.C., Canada.

Gross, M. P., & Dobbins, I. G. (2017). *Now you see me, now you don't: Chasing sequential dependencies in recognition memory judgments*. Poster presented at the 20th Meeting of the European Society for Cognitive Psychology, September 2017, Potsdam, Germany.

Gross, M. P., & Dobbins, I. G. (2016). *Explicit prediction eliminates sequential dependencies in recognition memory*. Poster presented at the 57th Annual Meeting of the Psychonomic Society, November 2016, Boston, MA.

- Gross, M. P., & Unsworth, N. (2016). *Pupil constriction as an indicator of novelty encoding – Revisiting the von Restorff effect*. Poster presented at the Sixth International Conference on Memory, July 2016, Budapest, Hungary.
- Gross, M. P. (2016). *Predicting recognition – The asymmetric relationship between predictions and recognition experiences*. Poster presented at the Sixth International Conference on Memory, July 2016, Budapest, Hungary.
- Gross, M. P. (2016). *Tell me what's next – Are sequential dependencies in recognition judgment based on explicit expectations?* Talk presented at the Show Me State Conference on Cognition, June 2016, University of Missouri, Columbia, MO.
- Gross, M. P. (2015). *When Bigger Isn't Better – The Role of Pupil Dilation in The Von Restorff Effect*. Talk presented at the Forth Annual McNair Research Symposium, March 2015, University of Oregon, Eugene, OR.
- Gross, M. P. (2014). *Accessing long-term memory – What pupil dilation can tell us about learning and memory*. Talk presented at the Fourteenth Annual Stanford Undergraduate Psychology Conference, May 2014, Stanford University, Stanford, CA.
- Gross, M. P., & Unsworth, N. (2014). *Accessing long-term memory – What pupil dilation can tell us about learning and memory*. Poster presented at the Twenty-third Annual Psychology Undergraduate Research Conference, May 2014, UCLA Los Angeles, CA.
- Gross, M. P. (2014). *Accessing long-term memory – What pupil dilation can tell us about learning and memory*. Talk presented at the Forth Annual, Undergraduate Research Symposium, May 2014, University of Oregon, Eugene, OR.
- Gross, M. P. (2014). *Accessing Long-Term Memory – What Pupil Dilation Can Tell Us About Search Processes: An Exploratory Study*. Talk presented at the Third Annual McNair Research Symposium, March 2014, University of Oregon, Eugene, OR.

## **TEACHING EXPERIENCE**

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### **Mentoring – Washington University in Saint Louis**

2017–current Graduate Student Mentor in the Mind, Brain, & Behavior research program

In this role, I mentor undergraduate students as they conceptualize, conduct, and ultimately present their first original research project conducted in collaboration with our lab. As such, I coordinate their projects from beginning to end, provide guidance, readings, technical support, and help with poster design. Each students presents their work in an annual poster presentation event that is the capstone of this undergraduate program.

**Teaching Assistant – Washington University in Saint Louis**

- 2017 Introduction to Psychology  
 Guest Lecture: *The 7 sins of memory*
- 2016 Introductory Psychological Statistics

**Teaching Assistant – University of Oregon**

- 2014–2015 Introduction to Psychology
- 2014 Introduction to Statistics

**Other Teaching & Mentoring Experience**

- 2018 Discussion organizer for the undergraduate First Year Reading Program
- 2017–current International Peer Mentor to incoming graduate students from around the world
- 2017 Activism 101, Workshop teaching avenues of activism
- 2016–current College Prep Lab Tour and College Application Workshop partner
- 2015–2017 Private Statistics Tutor
- 2015–2016 Continuing Mentor, Young Scientist Program, Washington University in St. Louis
- 2012–2015 Statistics Tutor, Department of Psychology, University of Oregon
- 2014–2015 Undergraduate Peer Advisor, Department of Psychology, University of Oregon

**RESEARCH EXPERIENCE**

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- 2015–present Graduate Student Researcher  
 Memory and Decision Making Lab  
 Mentor: Ian Dobbins, Ph.D.

Using pupil dilation as an online measure of cognitive processes, my research aims to differentiate between attention and effortful processing during encoding. This work of research was the basis of my successful NSF application and has been proven to be very fruitful and continues to spark new research projects. I am preparing the first set of results for publication.

In another line of research, I examine how observers use internal expectations to make future memory decisions and how this is related to confidence. Based on an NSF application for which I received Honorable Mention, this project has produced meaningful results that I have presented at conferences. I am nearing completion of the manuscript for this line of results.

- 2012–2015 Research Assistant & Investigator  
 Memory, Attention, and Individual Differences Lab, University of Oregon  
 Mentor: Nash Unsworth, Ph.D.

I investigated long-term memory formation, using pupil dilation as a measure of cognitive index of attention during encoding. In addition, my research examined the role of attention during encoding of novel events, which was funded through a one-year research fellowship. After the lab conducted some follow-ups to this work, the manuscript for these results was invited for revision and is under review.

- 2014–2015 Data Analyst  
Personality and Social Dynamics Lab, University of Oregon  
PI: Sanjay Srivastava, PhD & Nicole Lawless DesJardins
- 2014 Data Analyst, University of Oregon  
Social and Affective Neuroscience Lab  
PI: Eliot Berkman, Ph.D., Lisa May, Allison Tackman, & Erik Knight

## **UNIVERSITY SERVICE**

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- 2018–current Founder & Chair, Graduate and Professional Advisory Council (GPAC) to the Center for Diversity and Inclusion, Washington University in St. Louis
- 2017–2018 Co-President Graduate Student Senate (GSS)
- 2017–2018 Chair, Diversity & Advocacy Committee, Graduate Student Senate
- 2016–2018 Executive Committee Member, Graduate Council
- 2016–2017 Senator, Graduate Student Senate (GSS)
- 2016–2017 Chair, Psychology Graduate Student Association (PGSA)
- 2016–2018 Liaison to the Center for Diversity & Inclusion, Graduate Student Senate
- 2015–current Diversity Committee Member, Psychology Graduate Student Association (PGSA)
- 2012–2015 Officer, Veterans and Family Student Association (VFSA), University of Oregon

The focus of my service to the Washington University campus is to unify existing campus groups, committees, and individuals to jointly work towards increased diversity and inclusion on our campus. This includes meetings with key stake holders in the administration to address campus policies, planning of departmental and campus-wide events, pooling resources across departments to fund those events, and using my leadership positions to create a strong network that can bring forth change.

One of those changes is the new diversity training for incoming graduate students in my department, which we launched in 2017 and is now a part of department-wide orientation for all future cohorts. Another is the creation of a university-wide advisory group (GPAC) that advises the administration on the needs and concerns of graduate and professional students around issues of equity, diversity, and inclusion. GPAC will submit an annual report about the state of campus equity and diversity for all students and aims to provide representation, community, and advance equity and inclusion for graduate and professional students.

## **PROFESSIONAL MEMBERSHIPS & AFFILIATIONS**

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Phi Beta Kappa National Honor Society  
American Psychological Association (APA), Association for Psychological Sciences (APS),  
The Psychonomic Society, Women in Cognitive Science (WiCS)

## **LANGUAGES**

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German & English – Native or bilingual proficiency  
Spanish – Working Proficiency