

Marisa Ross, MPA

Curriculum Vitae

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EDUCATION

Doctoral Candidate, Neuroscience and Public Policy Program 2016-Present

University of Wisconsin-Madison, Madison, WI

Masters of Public Affairs, May 2019

Doctor of Philosophy, expected December 2021

Pre-doctoral Trainee, National Institute for Mental Health Ruth L. Kirschstein

National Research Service Award (2020-2022)

Advisor: Josh Cisler, Ph.D.

Bachelor of Science, Bachelor of Arts, Summa cum Laude (07 May 2016)

Duquesne University, Pittsburgh, PA

Biology and Psychology, Minor, Biochemistry *GPA: 3.91/4.0*

*University Honors College, **Honors Fellow***

University Honors Fellow: Extended courses under the Honors College distinction accompanied by an independent project completed, presented, and approved during the final undergraduate year (2015-2016).

HONORS AND AWARDS

Pre-doctoral Trainee, National Institute of Mental Health Ruth L. Kirchstein National Research Service Award (2020-2022)

Pre-doctoral Trainee, Training Program in Emotions Research (2019-2020)

Neuroscience Training Program Graduate Student Travel Award (2018)

Duquesne University Graduate with Distinction, Summa Cum Laude (2016)

SUNY Upstate Medical University Summer Undergraduate Research Fellowship (Summer 2015)

PUBLIC POLICY EXPERIENCE

Community Services Technician, Office of Crime Victims Services, Wisconsin Department of Justice (05/2018 – 08/2018)

- Provided grants support for the Victims of Crime Act (VOCA) grant
- Assisted with outreach and needs assessments for subgrantee agencies
- Assisted with VOCA-SAC joint project for program evaluation
- Evaluated data collection tools and offered suggestions for improvement of performance management

PEER REVIEW

- *Neuroscience Letters* – Ad Hoc Reviewer, February 2020.
- *Psychophysiology* – Ad Hoc Reviewer, October 2018.

SCIENTIFIC PAPERS

Ross, M. & Cisler, J. Altered large-scale functional brain organization in posttraumatic stress disorder: A comprehensive review of univariate and network-level neurocircuitry models of PTSD. *NeuroImage*:

Clinical (27), 2020.

- Weaver, S., Kroska, E.B., **Ross, M.**, Sartin-Tarm, A., Sellnow, K., Schaumberg, K., Koenigs, M. & Cisler, J.M. Sacrificing reward to avoid threat: Characterizing PTSD in the context of a trauma-related approach-avoidance conflict task. *J. Abnormal Psychology* (129), 2020.
- Sellnow, K., Sartin-Tarm, A., **Ross, M.C.**, Weaver, S. & Cisler, J.M. Biotypes of functional brain engagement during emotion processing differentiate heterogeneity in internalizing symptoms and interpersonal violence histories among adolescent girls. *J. Psychiatric Research* (121), 2020.
- Heyn, SA., Keding, T.J., **Ross, MC.**, Mumford, JA. & Herringa, R.J. Abnormal frontolimbic development in pediatric posttraumatic stress disorder: A longitudinal structural and functional magnetic resonance imaging study. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* (4), 2019.
- Cisler, J.M., Esbensen, K., Sellnow, K., **Ross, M.**, Sartin-Tarm, A., Weaver, S., Herringa, R.J., & Kilts, C.D. Differential roles of the salience network in prediction error and threat detection among assaulted adolescent girls. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* (4), 2019.
- Ross, M.**, Lenow, J, Kilts, C & Cisler, J. Neural evidence for altered learning mechanisms in posttraumatic stress disorder. *J. Psychiatric Research* (103), 2018.
- Sartin-Tarm, A., **Ross, M.**, Privatsky, AA. & Cisler, JM. Estradiol modulates neural and behavioral fear responding in women with posttraumatic stress disorder. *In Press, Biological Psychiatry: Cognitive Neuroscience and Neuroimaging.*
- Cisler, J.M., Privratsky, A., Sartin-Tarm, A., Sellnow, K., **Ross, M.**, Weaver, S., Hahn, E., Herringa, R.J., James, G.A. & Kilts, C.D. L-DOPA and consolidation of fear extinction learning among women with posttraumatic stress disorder. *In Press, Translational Psychiatry.*
- Ross, M.C.**, Sartin-Tarm, A.S., Letkiewicz, A.M., Crombie, K.M., & Cisler, J.M. Distinct cortical thickness correlates of early life trauma and posttraumatic stress disorder are shared among adolescent and adult females with interpersonal violence exposure. *Under Revision, Neuropsychopharmacology.*

ACADEMIC AND SCIENTIFIC PRESENTATIONS

- Ross, M.** *Evaluating neurocircuitry models of posttraumatic stress disorder: A comparison of classical and network-based approaches.* Oral presentation for the University of Wisconsin-Madison Neuroscience Training Program Seminar Series, Madison, WI 12 October 2020.
- Ross, M. & Cisler, J.** *Altered salience network functional organization in adult females with posttraumatic stress disorder.* Poster presented at Organization for Human Brain Mapping Virtual Meeting, 24 June – 3 July 2020.
- Ross, M. & Cisler, J.** *Global intrinsic functional modularity modulates responding in threat-valenced spatial cueing.* Poster presented at Society of Biological Psychiatry Annual Meeting, Chicago, IL 17 May 2019.
- Ross, M.** *Reducing incarceration through scientific research: Policy options for funding research on mental illnesses related to incarceration.* Oral presentation for University of Wisconsin-Madison Neuroscience and Public Policy Program Seminar Series, Madison, WI 11 April 2019.
- Ross, M. & Cisler, J.** *Global intrinsic functional modularity modulates responding in threat-valenced spatial cueing.* Poster presented at Cognitive Neuroscience Society Annual Meeting, San Francisco, CA 25 March 2019.
- Ross, M.** *Large-scale functional networks in trauma and psychopathology.* Oral presentation for University of Wisconsin-Madison Undergraduate Neuroscience Society, Madison, WI 11 October 2018.
- Ross, M. & Cisler, J.** *Neural evidence for altered learning mechanisms in posttraumatic stress disorder.* Poster presented at Society of Biological Psychiatry Annual Meeting, New York, NY 12 May 2018.
- Ross, M. & Cisler, J.** *Neural evidence for altered learning mechanisms in posttraumatic stress disorder.* Poster presented at Wisconsin Symposium on Emotion, Madison, WI 19 April 2018.
- Ross, M.** *The sisterhood of the traveling genes: Genetics and the environment in Parkinson Disease.* Oral presentation for University of Wisconsin-Madison Neuroscience Training Program Seminar Series, Madison, WI 6 March 2017.

PROFESSIONAL AFFILIATIONS

Organization for Human Brain Mapping (2019-present)
American Academy for the Advancement of Science (2019-present)
National Science Policy Network (2019-present)
Cognitive Neuroscience Society (2018-2019)

RESEARCH EXPERIENCE

Doctoral Student, Laboratory of Dr. Josh Cisler, University of Wisconsin- Madison Department of Psychiatry (05/2017 – Present)

- Lab focus – Understanding the unique risks for psychopathology conferred by exposure to early-life assaultive violence with computational, behavioral, and statistical analysis of functional connectivity data.
- Training in functional neuroimaging analysis using network-based models from graph theory and Independent Component Analysis
- Training in cortical thickness and gray matter volume neuroimaging analysis using FreeSurfer
- Training in computational behavioral modeling of learning tasks
- Practice with clinical assessments and understanding of phenotypic psychopathology of PTSD and anxiety disorders
- Training in statistical modeling and data analysis using Matlab, Unix, R, and AFNI
- Training in research design, project oversight, and development of an independent thesis project
- Mentoring and training of undergraduate students in data analysis and critical evaluation of scientific literature

Laboratory Assistant, Laboratory of Dr. Lisa Ludvico, Duquesne University Department of Forensic Science (01/2015-05/2015; 08/2015-07/2016)

- Project entitled “Primer Optimization for Allelic Databasing of *Felis catus*”
- Assisted on a project with the goal of establishing a DNA allelic database for feral cats from Western Pennsylvania
- Conducted experiments for isolating, purifying, and amplifying genetic material from pre-collected ear tip samples
- Analyzed genetic fragments using AVANT 3130 and GeneMarker technology
- Optimized a series of DNA primers to create a suitable miniplex for use with feral cat and snow leopard sample analysis
- Trained undergraduate research assistants in laboratory procedures and protocols

Summer Undergraduate Research Fellowship, Laboratory of Dr. Sijun Zhu, SUNY Upstate Medical University Department of Neuroscience and Physiology (06/2015-08/2015)

- Project entitled “Identifying downstream targets of Notch signaling mediating the repression of *earmuff* in *Drosophila* type II neuroblasts”
- Trained in *Drosophila* genetics, husbandry, and laboratory techniques including stock-keeping, genetic manipulation and larval brain dissection
- Acquired skills in microscopy and molecular biology including confocal imaging, bacterial transformation and plasmid-based cloning and immunohistochemistry staining
- Executed a series of experiments investigating the influence of Notch signaling and protein activation in the maintenance of neural stem cells
- Prepared and presented a research proposal, journal club assignment, final report, and scientific poster

MENTORING AND TEACHING EXPERIENCE

Research Mentor, UW-Madison Undergraduate Research Scholars Program, Madison, WI (2020-present)
Seminar Facilitator, Neuroscience and Public Policy Program Seminar Series, University of Wisconsin-Madison, Madison, WI (2016-Present)

RESEARCH AND TECHNICAL SKILLS

Network Neuroimaging Data Analysis – Proficiency in the use of Matlab Neuroimaging Tool Boxes for graph- and ICA-based network neuroimaging and competency with coding functions and statistics in Matlab. Competency with AFNI Software for image analysis and preprocessing alongside working knowledge of the Unix environment.

Structural Neuroimaging Analysis – Proficiency in the use of FreeSurfer and AFNI software for manual editing of structural images, ROI-based analyses of gray matter volume, and vertex-wise cortical thickness investigations.

Statistical Programming and Analysis- Proficiency in the use of data analysis software, including Matlab, R, and SPSS; experience with statistical design in linear mixed models, simple regression, and correlational models.

Study Design and Administration- Experience reviewing scientific literature, designing, and proposing research studies. Experience in oversight, preparation for, and administration of clinical research studies with human participants.

Communication of Scientific Knowledge- Training in the preparation and presentation of scientific research posters, proposals and journal articles; experience composing scholarly review articles in the social and biological sciences; practice in reading and interpreting scientific journal articles.

Mentorship- Experience mentoring high school and undergraduate students in individual projects utilizing structural neuroimaging data. Guided students through data preparation, hypothesis generation, testing of hypotheses, interpretation of results, and presentation and communication of individual projects.

Policy Analysis- Experience conducting and presenting analyses of policy proposals on state and federal policy issues. Training in the design and evaluation of policy alternatives for issues including housing policy for domestic violence victims, improving outcomes for homeless and housing-unstable children in Madison, WI, and best practices for funding mental health research for incarcerated populations.

LEADERSHIP AND SERVICE

Peer Mentor, Neuroscience Training Program University of Wisconsin-Madison, Madison, WI (2017-2020)

Outreach Volunteer, WID Science Saturday, Madison, WI (June 2017)

Recruitment Volunteer, UW-Madison Neuroscience Training Program, Madison, WI (2017, 2018)

Tutor, Duquesne University Volunteers, Pittsburgh, PA (2013-2016)

Duquesne University Integrated Honor Society (2015)

