

## Alana Irene Darcher

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### ACADEMIC EXPERIENCE

Current	Ph.D.	<b>University of Bonn/University of Tübingen</b> Joint project between the groups of Prof. Dr. Florian Mormann and Prof. Dr. Jakob Macke
2020	M.Sc.	<b>Graduate School of Systemic Neurosciences, Ludwig-Maximilians-University, Munich, Germany</b> Thesis: Computational models of neural dynamics during human visual memory
2016	B.Sc.	<b>Emory University, Atlanta, Georgia, USA</b> Neuroscience & Behavioral Biology, Philosophy
2012	A.A.S.	<b>Clatsop Community College, Astoria, Oregon, USA</b> General Science, Physics and Calculus concentration Graduated with high honors <i>Concurrent with high school enrollment</i>

### PEER-REVIEWED PUBLICATIONS

Mascaro, J.S., Wehrmeyer, K., Mahathre, V., **Darcher, A.** A longitudinal, randomized and controlled study of app-delivered mindfulness in the workplace: Who practices, what are the benefits? *Under review.*

Evans, A. P., Mascaro, J. S., Kohn, J. N., Dobrusin, A., **Darcher, A.**, Starr, S. D., Craighead, L., Negi, L. T. (2019). Compassion Meditation Training for Emotional Numbing Symptoms Among Veterans with Post-Traumatic Stress Disorder. *The Journal of Alternative and Complementary Medicine*, 25(4), 441–443. doi: 10.1089/acm.2018.0425 [\[PubMed\]](#)

Mascaro, J. S., Rentscher, K. E., Hackett, P. D., Lori, A., **Darcher, A.**, Rilling, J. K., & Mehl, M. R. (2018). Preliminary evidence that androgen signaling is correlated with men's everyday language. *American Journal of Human Biology*, 30(4). doi: 10.1002/ajhb.23136 [\[PubMed\]](#)

Mascaro, J. S., Kelley, S., **Darcher, A.**, Negi, L. T., Worthman, C., Miller, A., & Raison, C. (2016). Meditation buffers medical student compassion from the deleterious effects of depression. *The Journal of Positive Psychology*, 13(2), 133–142. doi: 10.1080/17439760.2016.1233348 [\[Link\]](#)

Mascaro, J. S., **Darcher, A.**, Negi, L. T., & Raison, C. L. (2015). The neural mediators of kindness-based meditation: a theoretical model. *Frontiers in Psychology*, 6. doi: 10.3389/fpsyg.2015.00109 [\[PubMed\]](#)

### HONORS AND AWARDS

2018-2019	Bernstein Network of Computational Neuroscience SMARTSTART 1 Fellowship <a href="#">[Link]</a> - Funded mentorship and training program to promote young researchers in Computational Neuroscience studying in Germany
2015-2016	W.C. McWhorter Family Grant
2012-2016	Emory College Grant

2014-2016	Phi Sigma Tau Philosophy Honor Society Member, Emory University
2014	Collegiate Water Polo Association Scholar-Athlete Award
2012	All-Oregon Academic Team Member
2012	Coca-Cola Community College Academic Award and Scholarship
2012	All-USA Academic Team Member
2012	Phi Theta Kappa Honor Society Member, Clatsop Community College, Oregon, USA
2010-2012	Dean's List & Honor Roll, Clatsop Community College, Oregon, USA
2012	Valedictorian, Naselle Grays River High School, Washington, USA

## **CONFERENCE PRESENTATIONS, REPORTS, AND TALKS**

**Darcher, A.**, Müller, T.T., Mormann, F., Macke, J.H. (2020, Sept.) Epiphyte: a Python toolkit for high-dimensional neural data recorded during naturalistic, continuous stimuli. Bernstein Conference on Computational Neuroscience, Berlin, Germany.

**Darcher, A.** (2019, April). "Meditation as Medicine: Clinical Applications of Mindfulness Training." Invited speaker, Healthy Academia Lecture Series. Ludwig-Maximilians-University, Munich, Germany. Length: 45 min.

Wehrmeyer, K., Mahathre, V., **Darcher, A.**, Mascaro, J.S. (2017, Nov.) Examining the biopsychosocial predictors of mindfulness meditation practice in a workplace environment, American Public Health Association Annual Meeting & Expo, Atlanta, GA. [\[Link\]](#)

Mascaro, J.S., Haack, C., **Darcher, A.**, Wehrmeyer, K., Mahathre, V. (2017, May) Mindfulness Meditation for Healthcare Professionals, American College of Preventive Medicine Annual Meeting, Washington, DC.

Mascaro, J.S., Kelley, S., **Darcher, A.**, Negi, L.T., Worthman, C., Miller, A., Raison, C. (2016, Feb.) Cognitively-Based Compassion Training (CBCT) for Medical Students: A Pilot Study, Center for Mind, Brain, and Culture Annual Conference, Atlanta, GA. [\[Link\]](#)

Mascaro, J.S., Kelley, S., **Darcher, A.**, Negi, L.T., Worthman, C., Miller, A., Raison, C. (2016, Feb.) The Impact of Compassion Training on Medical Student Well-Being and Immune Function, Center for Mind, Brain, and Culture Annual Conference, Atlanta, GA. [\[Link\]](#)

**Darcher, A.** (2013). From Entertainment to Enrichment: The Growth of YouTube's Online Scientific Content. Triple Helix Student Journal. Retrieved from [web](#).

Homolac, J., Abing, D., **Darcher, A.**, et al. (2012) *Technical Report: Explorer Class* (Marine Advanced Technology Education Remotely Operated Vehicle Competition). Retrieved from [web](#).

## **RESEARCH EXPERIENCE**

### **Research Positions**

Nov. 2018- March 2019	Research Assistant, Max-Planck-Institute for Neurobiology, Munich, Germany PI: Dr. Nadine Gogolla, <a href="#">Circuits for Emotion Research Group Leader</a> <i>Concurrent with Master's studies</i> <ul style="list-style-type: none"> <li>- Designed and implemented a pharmacological experiment to interrogate insular role in mouse behavior during an anxiogenic paradigm</li> <li>- Analyzed fiber photometry data for neural activity predictive of mouse movement</li> </ul>
Oct. 2017- Feb. 2019	Research Assistant, Max-Planck-Institute for Psychiatry, Munich, Germany PI: Dr. Leonhard Schilbach, <a href="#">Social Neuroscience Research Group</a>

*Concurrent with Master's studies*

- Collected and analyzed fMRI and eye-tracking data during a social-cue learning task for use in a Bayesian inference model of socially-relevant signal incorporation in individuals with autism

May 2016-  
Aug. 2017

Research Specialist, Emory University School of Medicine, Atlanta, GA, USA

PI: Dr. Jennifer Mascaro, Assistant Professor, [Dept. of Family and Preventive Medicine](#)

- Investigated clinical efficacy of contemplative practices in treating mental health disorders characterized by social isolation symptoms
- Developed novel paradigm for assessing subjective interpretations of emotional salient stimuli

Nov. 2013-  
Sept. 2015

Research Technician, Emory University, School of Medicine, Atlanta, GA, USA

PI: Dr. Inyeong Choi, Associate Professor, [Dept. of Physiology](#)

*Concurrent with Bachelor's studies*

- Extracted and cultured hippocampal tissue from perinatal mice
- Analyzed the role of a specific sodium-bicarbonate transporter in maintaining normal intracellular pH

**MSc Internships and Projects**

March 2019-  
Current

Master's Thesis Student, Technical Universität Munich, Germany

Project: Computational models of neural dynamics in human visual memory

PI: Dr. Jakob Macke, [Computational Neuroengineering](#)

- Analyzed intracranial recordings from human medial temporal lobe during presentation of a commercial film

Oct. 2018-  
Nov. 2018

Research Internship, Max-Planck-Institute for Neurobiology, Munich, Germany

PI: Dr. Nadine Gogolla, [Circuits for Emotion Research Group Leader](#)

- Performed two-photon imaging and analysis from mouse insular cortex during fear-based paradigm

Feb. 2018-  
Jan. 2019

Project Assistant, Center for Information and Language Processing, Munich, Germany

PI: Dr. Hinrich Schütze, [Chair of Computational Linguistics](#)

- Optimized inputs for natural language processing sentiment analysis to determine nodes' "preferred" activation in natural text

**BSc Internships**

May 2015-  
Aug. 2015

Summer Research Internship, University of Washington, Seattle, WA, USA

PI: Dr. Sheri Mizumori, Director, [Dept. of Psychology](#)

May 2014-  
Sept. 2015

Clinical Research Assistant, Emory University, Atlanta, GA, USA

PI: Dr. Jennifer Mascaro, Center for the Study of Human Health (previous affiliation)

**WORK EXPERIENCE**

June 2016-  
Aug. 2017

Lead Baker, [Butter & Cream](#), Atlanta, GA, USA

*Concurrent with position in Dr. Jennifer Mascaro's lab at Emory University*

May 2015-  
Aug. 2015

Assistant Pastry Baker, [Belle Epicurean](#), Seattle, WA, USA

*Concurrent with summer internship in Dr. Sheri Mizumori's lab*

March 2014-

Assistant Baker, Cakes & Ale, Decatur, GA, USA

Dec. 2014                      *Concurrent with Bachelor's studies and position in Dr. Inyeong Choi's lab*

March 2010-                      Bread Baker, [Blue Scorchers Bakery & Cafe](#), Astoria, OR, USA  
 Aug. 2013                      *Partially concurrent with high school studies and Bachelor's studies*  
*(non-continuous)*

## **TEACHING EXPERIENCE**

April 2019                      Tutor, "Fundamentals in Neuroscience", LMU-GSN, Munich  
 April 2019                      Tutor, "Sensory Physiology", LMU-GSN, Munich

## **WORKSHOPS, SUMMER SCHOOLS, AND TECHNICAL COMPETITIONS**

Dec. 2019                      Science Hack 2019, Technical Universität Munich  
                                       [Theme: Sustainability, Team BURDA](#)

Sept. 2019                      Bernstein Conference on Computational Neuroscience, Satellite Workshops  
 June 2019                      BRANDYSchool in Terzolas, Italy  
                                       [Interdisciplinary Research on Brain Network Dynamics](#)

March 2019                      Interdisciplinary College in Günne, Germany  
                                       [Out of Your Senses: From Data to Insight](#)

Sept. 2018                      Bernstein Conference on Computational Neuroscience, Satellite Workshops  
 June 2012                      Marine Advanced Technology Education, Underwater Robotics Competition  
                                       Competitor, [Explorer Class](#)

## **SKILLS**

**Programming:** Advanced: Python, MATLAB, Git, Visual Basic (E-Prime)  
                                       Elementary: HTML, SQL, C++  
                                       Python proficiencies: Keras, Tensorflow, JupyterHub, Statsmodels, Matplotlib

**Software:** AWS, SPSS, Qualtrics, E-Prime, Presentation, SPM for MATLAB, AnyMaze, Blender, LaTeX

**Methods:** Fiber photometry, EEG, Eyetracking, fMRI, Cell Culturing, Electrophysiology, Neural Tissue Isolation, Histology, Two-photon analysis

**Certifications:** Bloodborne Pathogens in Research, Biosafety Level I & II, Rodent Surgery Practices, Animal Care and Maintenance, Human Subjects Protection Curriculum, MPI Patient Security Practices

## **LANGUAGES**

English, native speaker  
 German, fluent  
 Tibetan, elementary

## **PROFESSIONAL MEMBERSHIPS**

Organization for Computational Neuroscience, USA                      [\[Link\]](#)  
 Max-Planck-Institute of Neurobiology Alumni Association, Munich, Germany                      [\[Link\]](#)  
 Bernstein Network/Volkswagen SMARTSTART, **Student Representative**, Germany  
 Bernstein Network for Computational Neuroscience, Germany                      [\[Link\]](#)  
 Center for Mind, Brain, and Culture (CMBC), Atlanta, GA                      [\[Link\]](#)

## **HOBBIES**

[Pastry & bread baking](#), outdoor climbing, illustration.