

# AVERY VAN DE WATER

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## EDUCATION

University of Iowa  
Doctor of Philosophy in Neuroscience Aug. 2021 - present

University of New Hampshire  
Bachelor of Science in Neuroscience and Behavior, *cum laude* May 2019  
Senior honors thesis: Dynamic causal modeling of the speech network after stroke-induced apraxia of speech/ motor programming

## AWARDS

Kavli Summer Institute in Cognitive Neuroscience Fellowship June 2022  
ReproNim/INCF 2022 Training Fellowship June 2022  
George Mason University CASBBI NSF Research Traineeship Program (declined)  
OHBM BrainHack Mini-Grant June 2020  
Departmental Honors May 2019  
Create Your Own Story April 2019  
Undergraduate Research Conference Award of Excellence April 2019  
Benjamin A. Gilman Scholarship May 2018  
Dean's List Fall 2017 – Spring 2018  
University Opportunity Scholarship Fall 2015 – Spring 2018  
Dean's Scholarship Fall 2015 – Spring 2017

## TEACHING EXPERIENCE

**Undergraduate Teaching Assistant** Fall 2018  
University of New Hampshire  
Course Title: Human Brain Mapping: fMRI  
Topics: Basic principles of functional MRI, experimental design, data preprocessing, analytic methods for task and resting-state data, and applications to healthy and impaired processing

**Undergraduate Teaching Assistant** Fall 2016  
University of New Hampshire  
Course Title: Introductory Biology: Evolution, Biodiversity, and Ecology  
Topics: Observational skills, protocol comprehension, scientific writing skills, critical thinking and problem-solving skills, and overall understanding of the scientific method

## RESEARCH EXPERIENCE

**Kliemann Lab, University of Iowa** Nov. 2021 - present  
PI: Dorit Kliemann, Ph.D.  
Topic: Investigation of demographic, and behavioral as well as structural, and functional MRI data from healthy participants from a publicly available dataset (Caltech Conte Center for Social Decision-Making)

Role: Graduate Student

Responsibilities: Literature review and investigation of the brain-behavior relationship between cortical thickness and empathy measures using FreeSurfer

**Holsen Lab, Division of Women's Health, Department of Medicine, and Department of Psychiatry, Brigham and Women's Hospital**

**Lawson Lab, Neuroendocrine Unit, Department of Medicine, Massachusetts General Hospital Eating Disorders Clinical and Research Program, Department of Psychiatry, Massachusetts General Hospital** June 2019 – present

PIs: Laura M. Holsen, Ph.D. (primary supervisor), Elizabeth A. Lawson, M.D., Madhusmita Misra, M.D., Kamryn Eddy, Ph.D., and Jennifer Thomas, Ph.D.

Topic: The neurobiological, endocrine, and genetic underpinnings of eating disorders

Role: Clinical Research Coordinator II (2019-2021) & Pre-doctoral Research Affiliate (2021-present)

Responsibilities: Task and resting-state functional MRI and structural MRI data unpacking, conversion, preprocessing, quality assessment, and first- and second-level modeling and data analysis

**Human Brain Research Laboratory, University of Iowa**

Feb. 2022 - May 2022

PI: Kirill Nourski, M.D., Ph.D.

Topic: Investigation of social cognition using intracranial electroencephalography in patients with intractable epilepsy.

Role: Rotational Graduate Student

Responsibilities: Processing and analysis of electrocorticography data in response to viewing silent animation videos and, in a separate task, episodes of *The Office*.

**Nickl-Jockschat Lab, University of Iowa**

Aug. 2021 - Nov. 2021

PI: Thomas Nickl-Jockschat, M.D.

Topic: Identification of brain structural changes and their molecular underpinnings in neurodevelopmental psychiatric disorders

Role: Rotational Graduate Student

Responsibilities: Structural MRI data conversion, quality assessment, and first- and second-level modeling and investigation of brain structural differences in twice exceptional subjects

**Robin Lab, University of New Hampshire**

Aug. 2017 - May 2019

PI: Donald A. Robin, Ph.D.

Topic: Translational systems-level solutions for problems associated with apraxia of speech/ motor programming

Role: Undergraduate Research Assistant

Responsibilities: Functional MRI data preprocessing, dynamic causal modeling, manuscript writing, and senior honors thesis

**Price Lab, Wellcome Trust Centre for Neuroimaging, University College London** May - July 2018

PIs: Cathy Price, Ph.D., and Peter Zeidman Ph.D.

Topic: Dynamic causal modeling of resting-state imaging data from patients with apraxia of speech and healthy age-matched controls

Role: Benjamin A. Gilman Scholar

Responsibilities: Dynamic causal modeling of resting-state functional MRI data, manuscript writing, and Statistical Parametric Mapping fMRI/MRI/VBM course

**Stankovic Lab, Eaton-Peabody Laboratories, Massachusetts Eye and Ear**

May - Aug. 2017

PI: Konstantina Stankovic, M.D., Ph.D.

Topic: Translational cellular and molecular solutions for problems associated with sensorineural hearing loss, neurofibromatosis type 2, and vestibular schwannomas

Role: Undergraduate Research Assistant

Responsibilities: Literature review

**Ross Lab, University of New Hampshire**

Fall 2016 - Spring 2017

PI: Robert Ross, Ph.D.

Topic: Determining neural correlates of how memories separate from each other

Role: Undergraduate Research Assistant

Responsibilities: Cleaning EEG data

PUBLICATIONS

Eddy, K.T., Plessow, F., Holsen, L.M., Breithaupt, L., Becker, K.R., Slattery, M., Mancuso, C.J., Izquierdo, A.M., **Van De Water, A.L.**, Kahn, D.L., Dreier, M.J., Deckersbach, T., Thomas, J.J., Misra, M., Lawson, E.A. (2021). Food reward and cognitive control circuitry activation in young females with restricting-type and binge-eating/purging-type anorexia nervosa and atypical anorexia nervosa versus healthy controls. *American Journal of Psychiatry* [submitted].

Dreier, M.J., **Van De Water, A.L.**, Kahn, D.L., Becker, K.R., Eddy, K.T., Thomas, J.J., Holsen, L.M., Lawson, E.A., Misra, M., Lyall, A.E., Breithaupt, L. (2021). Meta-Analysis of Structural MRI Studies in Anorexia Nervosa and the Role of Recovery: a Systematic Review Protocol. *Systematic Reviews*, 10(1), 1-6.

Kerem, L., **Van De Water, A.L.**, Kuhnle, M.C., Harshman, S., Hauser, K., Eddy, K.T., Becker, K.R., Misra, M., Micali, N., Thomas, J.J., Holsen, L.M., Lawson, E.A. (2021). Neurobiological Features of Avoidant/Restrictive Food Intake Disorder in Youth with Overweight/Obesity Versus Healthy Weight. *Journal of Clinical Child & Adolescent Psychology*, 1-14.

POSTERS

Becker, K.R., **Van De Water, A.L.**, Breithaupt, L., Murray, H.B., Karlson, R., Stern, C., Kuhnle, M., Hauser, K., Misra, M., Lawson, E.A., Holsen, L.M., Eddy, K.T., Thomas, J.T. (2022). *Normalization of ACC activation following cognitive-behavioral therapy for ARFID*. [Poster Session]. Organization for Human Brain Mapping Annual Conference, Glasgow, Scotland.

Sailer, C.O., Holsen, L.M., **Van De Water, A.L.**, Pulumo, R., Asanza, E., Hadjikhani, N., Deckersbach, T., Misra, M., Eddy, K.T., Micali, N., Thomas, J.J., Lawson, E.A. (2022). *Disconnect between hypothalamic-pituitary-adrenal activity and amygdala activation using novel neuroimaging fear paradigm in youth with avoidant/restrictive food intake disorder*. [Poster Session]. Endocrine Society Annual Conference, Atlanta, GA, USA.

Breithaupt, L., Lyall, A.E., Sailer, C., **Van De Water, A.L.**, Petterway, F., Kahn, D.L., Becker, K.R., Plessow, F., Holsen, L.M., Thomas, J.J., Lawson, E.A., Misra, M., Eddy, K.T. (2021). *In vivo amygdala nuclei volumes in adolescents with primary restricting and binge/purge profiles*. [Video presentation]. Eating Disorders Research Society 2021, Virtual Meeting.

Kerem, L., **Van De Water, A.L.**, Kuhnle, M.C., Harshman, S., Hauser, K., Eddy, K.T., Becker, K.R., Misra, M., Micali, N., Thomas, J.J., Holsen, L.M., Lawson, E.A. (2021). *Neurobiology of Avoidant/Restrictive Food Intake Disorder in Youth with Overweight/Obesity Versus Healthy Weight*. [Poster Session, PES Presidential Poster Award]. Pediatric Endocrine Society 2021, Virtual Meeting.

Becker, K.R., **Van De Water, A.L.**, Breithaupt, L., Murray, H.B., Karlson, R., Stern, C., Kuhnle, M., Hauser, K., Misra, M., Lawson, E.A., Holsen, L.M., Eddy, K.T., Thomas, J.J. (2021). *Normalization of anterior cingulate cortex activation following cognitive-behavioral therapy for avoidant/restrictive food intake disorder*. [Poster session]. Massachusetts General Hospital Neuroscience Day 2021, Virtual Meeting.

**Van De Water, A.L.**, Busler, J.N., Breithaupt, L., Becker, K.R., Plessow, F., Thomas, J.J., Misra, M., Lawson, E.A., Eddy, K.T., Holsen, L.M. (2021). *Increased Resting-State Functional Connectivity of the Orbitofrontal Cortex in Female Adolescents With a Fluctuating Course of Atypical Anorexia*. [Poster session]. Harvard Psychiatry Research Day 2021, Virtual Meeting.

**Van De Water, A.L.**, Busler, J.N., Breithaupt, L., Becker, K.R., Plessow, F., Thomas, J.J., Misra, M., Lawson, E.A., Eddy, K.T., Holsen, L.M. (2021). *Increased Resting-State Functional Connectivity of the Orbitofrontal Cortex in Female Adolescents With a Fluctuating Course of Atypical Anorexia*. [Poster session]. Society of Biological Psychiatry 2021, Virtual Meeting.

Getachew, E., **Van De Water, A.L.**, Kuhnle, M.C., Hauser, K., Kambalis, E., Plessow, F., Misra, M., Eddy, K.T., Holsen, L.M., Thomas, J.J., Lawson, E.A. (2021). *Absence of Sex Differences Identified in Food Motivation Pathways in Youth with Avoidant/Restrictive Food Intake Disorder (ARFID)*. [Poster session]. Endocrine Society Annual Conference, Virtual Meeting.

Kerem, L., **Van De Water, A.L.**, Kuhnle, M.C., Harshman, S., Hauser, K., Eddy, K.T., Becker, K.R., Misra, M., Micali, N., Thomas, J.J., Holsen, L.M., Lawson, E.A. (2021). *Neurobiology of Avoidant/Restrictive Food Intake Disorder in Youth With Overweight/Obesity Versus Healthy Weight*. [Poster session]. Endocrine Society Annual Conference, Virtual Meeting.

**Van De Water, A.L.**, Breithaupt, L., Becker, K.R., Eddy, K.T., Misa, M., Lawson, E.A., Thomas, J.J., Holsen, L.M. (2020, October 1). *Motion artifacts of food-cue fMRI in states of hunger and satiety: Impact of age and clinical status* [Poster session]. MGH Clinical Research Day 2020, Virtual Meeting.

**Van De Water, A.L.**, Breithaupt, L., Becker, K.R., Eddy, K.T., Misa, M., Lawson, E.A., Thomas, J.J., Holsen, L.M. (2020, June 23 – July 3). *Motion artifacts of food-cue fMRI in states of hunger and satiety: Impact of age and clinical status* [Poster session]. Organization for Human Brain Mapping Annual Conference, Virtual Meeting.

Getachew, E., Plessow, F., **Van De Water, A.L.**, Pulumo, R., Hauser, K., Asanza, E., Kerem, L., Harshman, S., Holsen, L.M., Lawson, E.A. (2020, June 8 – 22). *Hyperactivation of Reward and Cognitive Control Brain Regions in Response to Food Images in Women Compared to Men with Obesity*. [Poster session]. Endocrine Society Annual Conference, San Francisco, CA, United States.

**Van De Water, A.L.**, Robin, D.A. (2019, April 26). *Dynamic causal modeling of the speech network after stroke-induced apraxia of speech*. [Oral Session A & Poster Session B]. Undergraduate Research Conference, Durham, NH, United States.

## TALKS

“Excited for the tenth and final rotation talk? Let me guess: An investigation of mentalizing ability using intracranial electroencephalography,” *Neuroscience Graduate Program Seminar*. The University of Iowa, Iowa City, IA, United States. April 2022.

“Investigating Brain-Behavior Relationships between Empathy and Cortical Thickness,” *Data Blitz*. The University of Iowa, Iowa City, IA, United States. February 2022.

“Dynamic causal modeling of the speech network after stroke-induced apraxia of speech,” *Undergraduate Research Conference*. The University of New Hampshire, Durham, NH, United States. April 2019.

## CONFERENCES

<b>Harvard Psychiatry Research Day 2021</b> , Harvard Medical School Virtual Meeting	April 2021
<b>SOBP 2021</b> , Society of Biological Psychiatry Virtual Meeting	April 2021
<b>MGH Clinical Research Day 2020</b> , Massachusetts General Hospital Virtual Meeting	October 2020
<b>OHBM Brainhack 2020</b> , Organization for Human Brain Mapping Virtual Meeting	June 2020
<b>OHBM 2020</b> , Organization for Human Brain Mapping Virtual Meeting	June - July 2020
<b>Undergraduate Research Conference</b> , University of New Hampshire Durham, NH, United States	April 2019
<b>Neuroscience 2018</b> , Society for Neuroscience San Diego, CA, United States	November 2018
<b>iForum 2017</b> , Harvard Medical School Boston, MA, United States	September 2017

## RELATED COURSEWORK

<b>NeuroHackademy</b> University of Washington	July 2022
<b>Programming for Psychologists</b> University of Iowa	Jan. - May 2022
<b>Engaging Across Cultures Certificate Program</b>	Oct. - Dec. 2021

University of Iowa	
<b>The Missing Semester of Your CS Education</b>	May 2021
Massachusetts Institute of Technology	
<b>ABCD-ReproNim</b>	Oct. 2020 - March 2021
National Institute of Drug Abuse	
<b>Functional Magnetic Resonance Imaging: Data Acquisition and Analysis</b>	Fall 2019
Massachusetts Institute of Technology	
<b>Statistical Parametric Mapping (SPM) fMRI/MRI/VBM</b>	May 2018
Wellcome Centre for Human Neuroimaging	

#### SKILLS

**Computer Science:** Shell scripting (bash), Python, Git/GitHub, MATLAB, Linux, MacOS  
**Neuroimaging:** Functional MRI (task & resting state), structural MRI, EEG  
**Image processing/ analysis:** BIDS, SPM, FSL, FreeSurfer, Artifact Detection Tools, fMRIPrep, CONN, Slicer

**Statistics:** SPSS, RStudio  
**Lab techniques:** Recrystallization, simple distillation, immunohistochemistry, cell immortalization

#### LEADERSHIP, ACTIVITIES, AND ORGANIZATIONS

Association of Multicultural Scientists (1 year)  
Iowa Neuroimaging Consortium (1 year)  
Association for Computing Machinery (1 year)  
Graduate Women in Science (Outreach Committee, 1 year)  
Graduate and Professional Student Government (Diversity, Equity, and Inclusion Committee & Mental Health Committee, 1 year)  
Diversity, Equity, and Inclusion Organizing Committee Journal Club (1 year)  
Organization for Human Brain Mapping (Member, 1 year)  
Society of Biological Psychiatry (Member, 1 year)  
MGH Neuroendocrine Unit Anti-Racism Committee (1 year)  
Nu Rho Psi (Founder and President, 2 years)  
Society for Neuroscience (Member, 1 year)  
Residential Life (Assistant Hall Director, 1 year)  
Residential Life (Resident Assistant, 2 years)  
Socratic Society (4 years)  
Women's Rowing (1 year)  
Alliance (LGBT+ organization, 2 years)  
Black Student Union (2 years)  
United Asian Coalition (2 years)