**EDUCATION**

**University of Wisconsin-Madison**, Madison, WI August 2018- December 2020

Master of Science: Freshwater and Marine Sciences

Thesis: “Manipulating Snow Cover Throughout a Winter to Assess Shifts in Biotic and Abiotic Factors on a Northern Temperate Dystrophic Lake”

Advisor: Dr. Hilary Dugan

* Northeast Climate Adaptation Science Center Fellow Spring 2019-Winter 2020
* Teaching Assistant (of record): Biology 152 “Introduction to Biology” Fall 2020

- Teaching Assistant (of record): Zoology 316 “Limnology” Fall 2018, Head TA Fall 2019

Awards:

- Anna Grant Birge Award ($1,695) Spring 2020

- Kenneth Malueg Scholarship Award ($1,000) Spring 2019

- Anna Grant Birge Award ($1,500) Spring 2019

#### - John Jefferson Davis Fund Travel Grant ($800) Spring 2019

#### Mentees:

#### - Sydney Widell, independent project coordinator Winter 2020- Fall 2020

#### - Sam Ahler Winter 2019- Fall 2020

#### - Alaina Eckert, independent project coordinator Winter 2019- Spring 2019

**Dickinson College**, Carlisle, PA May 2017

Bachelor of Science: Physics, Certificate: Social Innovation and Entrepreneurship

Honors**:**

* Rush Citizen of the Year Spring 2017
  + Recognized for active citizenship, leadership, being a leader and a role model, enacting positive changes, positively contributing to the community, peer accountability, and self-governance
* 1902 Award Spring 2016
  + Awarded to a Junior student who has contributed the most to the good of the college
* Poster Honors Spring 2016
* Awarded: $11,000 + in applied grants

**PREVIOUS EMPLOYMENT EXPERIENCE**

**Lab Manager and Researcher**, Contextual Dynamics Lab, Dartmouth College July 2017-June 2018

* Directed research in an adaptive memory experiment
* Updated lab code (Python2 to Python3)
* Wrote and revised grants, lab papers, and IRB protocols
* Trained, coordinated, and mentored 14 undergraduate research assistants

**Cabin Counselor,** Camp Speers-Eljabar, Dingmans Ferry, PA Summers, 2012-2014

**PEER-REVIEWED PAPERS**

Sharma, S., Meyer, M.F., Culpepper, J., Yang, X., Hampton, S., […], **Whitaker, E.C**, et al. 2020. *Integrating perspectives to understand lake ice dynamics in a changing world*. Journal of Geophysical Research-Biogeosciences.  doi: 10.1029/2020JG005799

Reed, D.E, Desai, A.R., **Whitaker, E.C.**, and Nuckles, H. (2019), *Evaluation of low-cost, automated lake ice thickness measurements*. Atmospheric and Oceanic Technology. doi : 10.1175/JTECH-D-18-0214.1

**PEER-REVIEWED PAPERS (CONT.)**

**Whitaker, E. C.**, Reed, D. E., and Desai, A. R. (2016),*Lake ice measurements from soil water content**reflectometer sensors*. Limnol. Oceanogr. Methods, 14: 224–230. doi:10.1002/lom3.10083

**SKILLS**

* **Computer**: Python, Jupyter Notebooks, GitHub, Docker, Overleaf, R, Vernier software, Campbell sensors, HOBOware, LabVIEW, Environmental Chambers, ExpressScribe
* **Licenses**: Small boat, ATV, and Snowmobile
* **Other**: Research and development, dry and wet lab experience, sensor development, PID, Arduino, soldering, qualitative research

**RESEARCH EXPERIENCE**

Thesis: *Where do contaminates accumulate on gravity-capillary waves*? Fall 2016-Spring 2017

**Dickinson** **College**, Carlisle, PA, Advisor: Dr. Stephen Strickland

* Examined size discrepancy of where particles fall on induced Faraday waves using Matlab imaging
* Created nanoparticles and small-scale plasma chamber

Thesis: *Exploring the Feasibility of a Colocation Project in Carlisle, PA* Spring 2017

**Dickinson College**, Carlisle, PA, Advisor: Dr. Helen Takacs

* Created an interview protocol used to interview service providers, clients, and local leaders
* Synthesized data to better understand the need of colocation in the region

*Anthropogenic Beach Manipulation: The Impact of Groins on Sand Distribution* Fall 2016

**Dickinson College**, Carlisle, PA, Advisor: Dr. Jorden Hayes

* Developed and executed experiment including field work and data collection
* Performed wet-lab data analysis using a Laser Scattering Particle Size and Distribution Analyzer

*Interfacing a Solar Air Heater with a Methane Producing Biogas Digester* Spring-Fall 2016

**Dickinson** **College**, Carlisle, PA, Advisors: Dr. Hans Pfister and Mr. Mathew Steiman

* Designed and implemented a solar air heater to sustain a biogas digester during winter months
* Collaborated with Bucknell University to measure biogas quality and system efficiency
* Awarded $12,000 for supplies and cost of living for the summer

NSF REU LTER *Fellow* Summer 2015

**University of Wisconsin-Madison,** Madison, WI, Advisors: Dr. Ankur Desai and Dr. David Reed

* Synthesized data from multiple lakes in multiple seasons and years to create a dynamic model of how heat moves through a lake and how lakes freeze and thaw
* Determined that CS616 soil water content sensors could measure ice thickness

**PRESENTATIONS**

\* Indicates invited talk

* **Whitaker, E**, P Schramm, N Lottig, H Dugan, (2020). Snow manipulation on under-ice ecosystem dynamics in a northern Wisconsin bog lake. ASLO-SFS Joint Conference (cancelled). Madison, Wisconsin.
* **Whitaker, E** and A Gorsky, (2020). The Role of Decreased Snow Cover in Under-Ice Production in Bogs in Vilas County, WI. Wisconsin Lakes (cancelled). Stevens-Point, Wisconsin.

**PRESENTATIONS (CONT.)**

* Dugan, H, **E Whitaker**, Q Gavin, and E Stanley (2019). Ice and Light: A tale of two winters on Lake Mendota. AGU Chapman Conference on Winter Limnology. Polson, Montana.
* **Whitaker, E**, T Shannon, H Dugan, (2019). Phytoplankton Dynamics and Primary Production Under Lake Ice. AGU Chapman Conference on Winter Limnology. Polson, Montana
* **Whitaker, E**., P Schramm, N Lottig, H Dugan, (2019). Winter limnology in the Northwoods. Science in the Northwoods. Woodruff, Wisconsin
* \* **Whitaker, E** (2019). Community Dynamics Under Lake Ice, Integrative Biology Graduate Organization. Madison, Wisconsin
* **Whitaker, E**, T Shannon, H Dugan, (2019). The Relationship between High Chlorophyll Concentration and Phytoplankton Biomass Under Lake Ice. Society for Freshwater Sciences. Salt Lake City, Utah.
* \* **Whitaker, E,** T Shannon, H Dugan, (2019). Productivity Under Ice in Northern Temperate Lakes, NTL LTER Science Meeting. Madison, Wisconsin.
* \* **Whitaker, E** (2019). SnowMan(ipulaton), Northeast Climate Adaptation Science Center Meeting. Virtual.
* **Whitaker, E**, A Ratajczak, S Strickland, (2017). Where do Different Sized Particles Accumulate on Gravity-Capillary Waves, Dickinson College Physics Colloquium. Carlisle, Pennsylvania
* **Whitaker, E**, J Goodwin, M Singer, J Band (2017) Co-location opportunities in Carlisle, PA. Carlisle, Pennsylvania
* **Whitaker, E**, A Ratajczak, S Strickland, (2016). Exploring the Effects of Frequency on the Dynamics of Gravity-Capillary Waves, Dickinson College Physics Colloquium. Carlisle, Pennsylvania
* **Whitaker E,** S Jones, H Pfister, M Steiman, (2016). Solar air heater enhanced biogas digester, 31st Annual Science Student Research Symposium. Carlisle, Pennsylvania
* **Whitaker E,** S Jones, H Pfister, M Steiman, (2016). Small Scale Biogas for Energy Sustainability and Education, Association for the Advancement of Sustainability in Higher Education. Baltimore, Maryland
* **Whitaker, E**, D Reed, A Desai, (2015) Soil Water Content Sensors as a Method of Measuring Lake Ice Depth, American Geophysical Union Fall Meeting. San Francisco, California
* **Whitaker, E**, D Reed, (2015) Kinetic Energy Study of Wisconsin Lake Ecosystems. Dickinson College Physics Colloquium. Carlisle, Pennsylvania

**SELECTED COMMITTEE WORK**

*Member,* **Trout Lake use Committee,** UW-Madison Center for Limnology 2018-2020

Co-Chair, **Diversity and Inclusion Committee**, UW-Madison Center for Limnology Fall 2020

*Member*, **Diversity and Inclusion Committee**, UW-Madison Center for Limnology 2019-2020 *Co-Chair*, **Limnology Seminar Committee**, UW-Madison Center for Limnology 2019-2020

*Board Member* **Dickinson Sustainable Investment Group** 2016-2017

* Met with the Board of Trustees to discuss the college’s investment portfolio, provided input, and shared policies, practices and goals to diversify the portfolio and expand environmentally-oriented holdings

*Interviewer,* **Committee to find New College President** 2016

*Interviewer,* **Committee to find****Director of****New Student Programs** 2016

*Interviewer*, **Committee to find Director of Experiential and Outdoor Education** 2016

*Panelist* **Student Hearing Panelist** 2014-2017

*Member* **Devil’s Advocates Student Philanthropy and Alumni Engagement Group** 2015-2017

* Provided a student voice at meetings and dinners with the Board of Trustees and the Alumni Council

**OUTREACH AND INVOLVEMENT**

* Alpha Phi Omega National Service Fraternity, 2015-2017, Carlisle, PA
* Mentor, New Student Programs, 2015-2017, Carlisle, PA
* Frozen Assets 2019, Madison, WI
* Hasler Laboratory Annual Open House 2019, Madison, WI
* UW-Madison CIMMS Summer Camp 2019, Madison, WI
* Wisconsin Center for Academically Talented Youth 2019, Madison, WI
* Yahara Watershed Academy 2019 Madison, WI
* Actual Living Scientist, 2019 Malcolm High School Madison, WI
* Frozen Assets 2020, Madison, WI
* Badger Herald Interview 2020, Madison, WI
* Schoolyard LTER 2020, Boulder Junction, WI

Hi Emily,

I just thoroughly read through your CV. Very impressive! I hope you are as proud and Dad and I are for your accomplishments.

Being your detailed oriented mother, I wanted to bring your attention to a few things on the CV. As always, your decision on if you want to revise or not.

In the first peer-reviewed paper, for consistency recommend putting parentheses around 2020 and and changing the period after it to a comma.

In the presentations section, sometimes a period goes after the last state name, sometimes it doesn't. Not sure which is preferred but it should be consistent.

In selected committee work, when I printed out your CV, for the Devil's Advocates, the 2017 wound up on a lower line instead of being right next to 2015-

It looks like there needs to be a bigger space between the sections for previous employment and outreach.

In the outreach section, I would recommend taking out the details under Devil's Advocates because you gave the detail in a previous section.

Love,

Mom