

# Sophie Louise Larsen

(they/them)

Urbana, IL

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## Curriculum Vitæ

### EDUCATION

**Ph.D. student, Mathematics, University of Illinois at Urbana Champaign, IL, January 2021 - Present**

Advisor: Pamela Martinez. Part of the PaDAS lab (Pathogen Dynamics Across Scales). Working on SEIR models of infectious disease transmission.

**Master of Science, Mathematics, University of Illinois at Urbana Champaign, IL, January 2021 - May 2022**

**Bachelor of Science, Mathematics, University of Washington, Seattle, WA (Sep. 2016 - Jun. 2020)**

Minors in Norwegian and the Comparative History of Ideas.

### HONORS

**Barbara Sando Scholarship in Mathematics**, awarded for Winter/Spring 2020

**Phi Beta Kappa**, inducted Spring 2019

**Annual Dean's List**, University of Washington, 2016-17 and 2017-18

### RESEARCH EXPERIENCE

**PhD Student, PaDAS Lab, University of Illinois at Urbana-Champaign, Jun. 2021 - present**

- Advised by Prof. Pamela Martinez
- Modeling social inequity and COVID-19 transmission in collaboration with Prof. Ayesha S. Mahmud at UC Berkeley and Prof. Marc Lipsitch at the Harvard T.H. Chan School of Public Health
- Transmission dynamics of monkeypox with Alejandro Pérez Velilla (UC Merced, Cognitive and Information Sciences), Henry Lopez (University of Iowa, Dept. of Psychology), and Sarah Kovalaskas (Emory, Dept. of Anthropology)

**Undergraduate Volunteer, Yager Group, University of Washington, Oct. 2017 - Dec. 2018**

- Developed a combinatorial model to better understand the biophysical chemistry of a diagnostic assay
- Ran DNA amplification reactions (PCR/iSDA) and used gel electrophoresis to visualize results

### WORKSHOPS AND CONFERENCES

**MIDAS Network Annual Meeting, Bethesda, Maryland, September 2022**

- Received funding from MIDAS to attend the annual meeting and present a poster on social inequity and COVID-19 transmission

**Complexity-GAINS International Summer School, Vienna, Austria, July 2022**

- Two week, NSF-funded workshop on disintegration of societies: quantitative modeling of complex socio-behavioral systems
- Started a collaboration on monkeypox transmission dynamics with Alejandro Pérez Velilla (UC Merced, Cognitive and Information Sciences), Henry Lopez (University of Iowa, Dept. of Psychology), and Sarah Kovalaskas (Emory, Dept. of Anthropology)

**Applied Math Graduate Seminar, University of Illinois at Urbana-Champaign, April 2022**

- 25-minute research talk on social inequity and COVID-19 transmission

**Bohrer Memorial Student Workshop in Statistics, University of Illinois at Urbana-Champaign, April 2022**

- Poster session on social inequity and COVID-19 transmission

**MicroERA, University of Illinois at Urbana-Champaign, April 2022**

- Research speed talk on social inequity and COVID-19 transmission

**INDEPENDENT STUDY****Math Special Topics, University of Washington, Winter/Spring 2019**

- Completed an independent study of *Differential Topology* (Guillemin & Pollack) under the supervision of Dr. Lucas Braune
- Topics included immersions, submersions, transversality, homotopy, Sard's Theorem and Morse functions, manifolds with boundary, intersection theory mod 2, winding numbers, and the Jordan-Brouwer Separation Theorem

**Math Special Topics, University of Washington, Fall 2018**

- Completed an independent study of *An Illustrated Theory of Numbers* by Martin Weissman, under the supervision of Prof. Bianca Viray (Parts I and II, Ch. 0-8)

**TEACHING EXPERIENCE****Teaching Assistant, University of Illinois at Urbana-Champaign, Jan. 2021 - Present**

- Spring 2022: two discussion sections of Calculus 2 (Math 231). Grade worksheets and help develop exams.
- Fall 2021: two discussion sections of Calculus I (MATH 221). Grade worksheets and exams.
- Spring 2021: two discussion sections of Calculus for Business (MATH 234)

**Math Grader, University of Washington, Winter/Summer Quarters 2019, Summer Quarter 2020**

- Graded homework with feedback for one section of Introduction to Mathematical Reasoning (MATH 300) in Summer 2019, and again in Summer 2020
- Graded homework for one section of Linear Analysis (MATH 309) in Summer 2020
- Wrote homework keys and graded homework for two sections of Linear Analysis (MATH 309) in Winter 2019

**Volunteer Peer-Mentor, University of Washington, Spring/Fall 2018, Fall 2019**

- Trained in research-based pedagogical methods (Spring 2018)
- Facilitated problem-solving and study skill development in a weekly discussion workshop for General Chemistry (CHEM 142), under the supervision of a graduate teaching assistant (Fall 2018)
- Facilitated an additional workshop with a graduate student in Fall 2019
- Peer-mentors are part of the UW STEM-Dawgs program, whose purpose is to foster a sense of community within large undergraduate lecture courses, and address disparities in performance for women, underrepresented groups, and first-generation college students.

**SERVICE****Undergraduate Affairs Committee, Fall 2021 - Spring 2022**

- Serve on the committee as the graduate representative
- Help make decisions about undergraduate curriculum and programs

**GEO Disability Caucus, 2021 - Present**

- Member of the Disability Caucus which advocates for disabled students and workers on campus
- Developed a workshop on disability and the accommodations process, aimed at math department teaching assistants, staff, and faculty. Ran in February 2022. We are now working to expand it to other departments.

**ADDITIONAL SKILLS****LaTeX****R and RStudio**

**Norwegian** - professional working proficiency (approximately B2 on the CEFR scale; writing sample available upon request)

**PROFESSIONAL MEMBERSHIPS****MIDAS Network****Association for Women in Mathematics**