Mei Rose Connor

Wir müssen wissen, wir werden wissen. —David Hilbert

Education

2018–2022 **B.Sc.**, *Stony Brook University*, Stony Brook, NY, *3.70/4.00*
Mathematics and Linguistics majors

Research Intrests

Mathematics

- Group structure of algebraic varieties
- Discrete Mathematics
- Many–valued logic, particularly seven–valued modal logic

Work Experience

Spring 2022 **Department Intern**, *Dept. of Linguistics, Stony Brook University*, Stony Brook, New York
- Will read all lecture notes for Mathematical Methods for Linguistics, including new ones
- Will provide detailed feedback on the lecture notes; the feedback should discuss content as well as presentation
- Will write up detailed solutions (including discussion of incorrect solutions) for hand-crafted exercises in the lecture notes
- Will test a procedural generator for exercises with solutions

Summer 2021 **Academic Affiliate**, *Institute for Computational and Experimental Research Mathematics (ICERM), Brown University*, Providence, Rhode Island
- Conducted research at ICERM offices for 8 weeks on periodic trajectories of polygonal billiards dynamics
- Worked with undergraduates, TAs, and faculty mentors to prove results making connections between existing theorems and approaches
- Used SageMath (a package for Python) to test hypotheses and run simulations

Spring 2021 **Lecturer's Assistant**, *Dept. of Mathematics, Stony Brook University*, Stony Brook, New York
- Responded promptly to students' questions in virtual calculus class
- Participated in classroom management

Winter 2020 **Undergraduate Teaching Assistant**, *Dept. of Philosophy, Stony Brook University*, Stony Brook, New York

2019–present **Student Software Coder**, *Teaching and Learning Lab, Center for Excellence in Learning and Teaching*, Stony Brook, New York
- Collaborated with faculty of Biology, Biomedical Engineering, and Philosophy to produce unique and specialized educational software
- Designed and implemented interactive theorem prover to improve upon existing programs (Logic 2010, Logic 2000) to teach Łukacieviczian propositional logic
- Improved upon the Virtual Reality game *Tarski's Truth Machine*, making it accessible from desktop and a wide range of VR devices
- Integrated the skills (graphics, video editing) of other members of the lab to improve user interfaces of software tools

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2017–2018 **Lead Conference Organizer**, *Sonya Kovalevskaya Day of Math for Girls*, Ambler, Pennsylvania

Conferences with Participation

Winter 2022 **Mei Rose Connor, P. Michael Kielstra, Zachary Steinberg, Chenyang Sun**, *Hyperbolic Staircases: Periodic Paths on* $2g+1$*–gons*, Joint Mathematics Meetings, Seattle, Washington
- Will be presenting poster on work done at ICERM with 3 undergraduate collaborators

Spring 2020 **Mei Rose Connor**, *JainaSyadLogic*, Gathering 4 Gardner 14, Atlanta, Georgia: Cancelled due to COVID
- Invited to give a 6–minute lecture on work in seven–valued logic
- Prepared a unique giveaway for all conference participants related to work in logic and teaching logic

Fall 2019 **Mei Rose Connor**, *Opening Statement*, Heidelberg Laureate Forum, Heidelberg, Germany
- Produced a 1-minute long Opening Statement shown to all participants and laureates at Opening Ceremonies
- Engaged daily with mathematics and computer science laureates as well as young researchers from around the world
- Attended professional development Q&A led by Fields medallist Efim Zelmanov

Extracurricular Activities

Summer 2021–present **President of Stony Brook University Math Club**, *Stony Brook University*, Stony Brook, New York
- Planned and organized events ranging from faculty and student lectures to statistics–themed craft night
- Held meeting of executive board every week during which previous week's and future events are discussed
- Designed posters and mailings sent to a 400+ person mailing list to raise awareness and attendance at events

Winter 2019 **Joint Mathematics Meetings**, Baltimore, Maryland

Languages

English Native

Latin Intermediate *Achieved a perfect score on the National Latin Exams 2014*

German Novice

Computer skills

Proficient LaTeX 2_ε, Desmos Graphing Calculator, LEGO Mindstorms EV3, JavaScript/jQuery, Python 3

Familiar with Maple, Sage/CoCalc, Mathematica, HTML/CSS

Publications

Papers

[1] Mei Rose Connor, Diana Davis, Paige Helms, Samuel Lelièvre, Michael Kielstra, Zachary Steinberg, and Chenyang Sun. Hyperbolic staircases: Periodic paths on $2g+1$–gons. `https://arxiv.org/abs/2111.13971`, 2021.

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