

Mei Rose Connor

Wir müssen wissen, wir werden wissen. —David Hilbert

Education

2025 **Certificate**, Carnegie Mellon University, Virtual TechBridge Coding Bootcamp

2018–2022 **B.Sc.**, Stony Brook University, Stony Brook, New York, *3.69/4.00*
Mathematics and Linguistics majors

Work Experience

Summer 2025 **Junior Faculty**, Hampshire College Summer Studies in Mathematics, Amherst, Massachusetts

- Co-taught 3-week workshop in Abstract Algebra, Discrete Mathematics, and Set Theory for high school students
- Organized and taught a 7-day mini course for high school students in a branch of Formal Logic called Modal Logic
- Graded and provided written and actionable feedback to students on nightly Problem Sets
- Brainstormed and carried out inquiry-based tasks in the classroom to enhance student understanding

Spring 2022 **Department Intern**, Dept. of Linguistics, Stony Brook University, Stony Brook, New York

- Read all lecture notes for Mathematical Methods for Linguistics, including new ones
- Provided detailed feedback on the lecture notes; the feedback should discuss content as well as presentation
- Wrote up detailed solutions (including discussion of incorrect solutions) for hand-crafted exercises in the lecture notes
- Tested 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

Ambler, PA, 19002 – United States

✉ +1 (267) 966 7200 • ✉ meirConnor@gmail.com

🌐 www.meiroseConnor.com • 🐦 MeiRoseConnor1 • 🎙 Rossignold

1/4

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

2019–2022 **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 Łukasiewiczian 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

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

Conferences

Summer 2024 **Mei Rose Connor**, *Developments in eight-valued lattice logic inspired by the seven-valued logic of the Saptabhangi*, Association for Symbolic Logic North American Meeting, Ames, Iowa

- Presented a contributed paper on developments in my 8-valued system of logic, which I have named SyadLogic++
- Conference abstract forthcoming in the *Bulletin of Symbolic Logic*

Summer 2022 **Mei Rose Connor supervised by Paul St. Denis**, *(Drag and) Drop It Like It's Hot: Comparison of Educational Software for Teaching Natural Deduction and Axiomatic Derivation*, MathFest 2022, Philadelphia, Pennsylvania

- Presented a poster highlighting a product, DragLogic, developed in the Student Software Coder position
- Compared and contrasted features and interface of DragLogic with competing products including Logic 2010, \exists Logic, and QED.

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

- Presented 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

Ambler, PA, 19002 – United States

✉ +1 (267) 966 7200 • ✉ meirConnor@gmail.com

🌐 www.meiroseConnor.com • 🐦 MeiRoseConnor1 • 🎙 Rossignold

2/4

Other Talks and Activities

Fall 2024 **Directed Reading Program Mentor**, University of Wisconsin–Madison, Hybrid between University of Wisconsin–Madison, University of Amsterdam, and Virtual

- Planned 10 weeks of Modal Logic content for three undergraduates of various levels in Formal Logic
- Organized one meeting every week to discuss textbook *Modal Logic for Open Minds* by J. van Benthem and my own notes on the topics
- Arranged and chaired a 2–hour long virtual roundtable discussion between students and J. van Benthem of University of Amsterdam
- Coached students on 45–minute presentation summarizing work done in the semester to other undergraduates

Spring 2024 **Girls Math Night Mentor**, University of Wisconsin–Madison, Madison, Wisconsin

- Prepared a semester-long set of notes in Propositional Logic for the level of an advanced high school student
- Met with one high school student one time per week and discussed material from notes prepared
- Github repository containing notes available upon request

Fall 2023 **When ‘And’ is Too Much and ‘Or’ is Not Enough**, University of Wisconsin–Madison Graduate Logic Seminar, University of Wisconsin Madison

- Discussed work-in-progress on development of 8-valued logic
- Made comparisons to my previous work on the JainaSyadLogic system of 7-valued logic

Winter 2023 **Worlds Beyond Worlds: An Introduction to the Logic of Possibilities**, Stony Brook University Math Club, Stony Brook University

- Discussed Modal Logic and Kripke Semantics of Kripke models
- Demonstrated the usefulness of various interpretations of the box and diamond operators
- Led a question-and-answer session about Modal Logic, its applications to philosophy, and its use in mathematics

Spring 2021– Spring 2022 **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

Spring 2021 **Math With Words: An Introduction to Formal Semantics**, Stony Brook University Math Club, Virtual

- Introduced the idea of analyzing the meaning of sentences based on the meaning of constituent parts (compositionality)
- Stepped through the process of deriving truth conditions for a sentence from lexical, phrasal, and substitution rules applied to it
- Part of a series of Quarantined Undergraduate End-of-Semester Talks (QUEST) with various speakers (Spring Semester series)
- Presented in under 20 minutes, as is the constraint for QUEST

Ambler, PA, 19002 – United States

📞 +1 (267) 966 7200 • ✉ meirconnor@gmail.com

🌐 www.meiroseconnor.com • 🐦 MeiRoseConnor1 • 🎙 Rossignold

3/4

Winter 2020 **Bombelli and the History of Complex Numbers**, *Stony Brook University Math Club*, Virtual

- Discussed the history of complex numbers, building from the ideas of Diophantos and Mahavira to the problem of the solutions of cubics in the XVI century
- Part of QUEST (Fall Semester series) and presented in under 20 minutes

Spring 2020 **From True and False to JSL: An Adventure in Logic**, *Stony Brook University Math Club*, Virtual

- Introduced the ideas of the propositional logic connectives, their syntax, and their semantics in terms of truth tables
- Discussed modal logic operators, \Box and \Diamond as well as modal axioms
- Showed history, motivation, and syntax of JainaSyadLogic, the presenter's own 7-valued modal logic system

Languages

English Native

Latin Intermediate

Achieved a perfect score on the National Latin Exams 2014

German Novice

Computer skills

Proficient $\text{\LaTeX} 2\epsilon$, Desmos Graphing Calculator, LEGO Mindstorms EV3, JavaScript, HTML/CSS, Python 3, Google CoLab

Familiar with Maple, Sage/CoCalc, Mathematica, MongoDB, React

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.

Ambler, PA, 19002 – United States

✉ +1 (267) 966 7200 • ✉ meirConnor@gmail.com

🌐 www.meiroseConnor.com • 🐦 MeiRoseConnor1 • 🎙 Rossignold

4/4