*December 15, 2022*

# 2023 Alice T. Schafer Mathematics Prize Winners Announced

The Association for Women in Mathematics (AWM) will award the 33rd Annual Alice T. Schafer Prize for excellence in Mathematics by an Undergraduate Woman to **Faye Jackson,** a senior mathematics major at the University of Michigan. **Anqi Li**, mathematics major at Massachusetts Institute of Technology has been named Runner-up. **Ilani Axelrod-Freed** (Massachusetts Institute of Technology), **Joyce Chen** (Princeton University), and **Veronica Lang** (Smith College), will each receive an honorable mention. The 2023 AWM Alice T. Schafer Prize will be presented during the Joint Prize Session at the 2023 Joint Mathematics Meetings in Boston, Massachusetts.

**Faye Jackson** is a math major at the University of Michigan. She has made impressive contributions in research, course work and engagement with her community. In Summer 2021 she participated in the SMALL REU at Williams College and played a major role in four different research projects. This work led to one published paper, one accepted paper, three submitted preprints and two papers in preparation. Her mentor praises her creativity, generosity and the clarity of her exposition. In Summer 2022 she participated in the REU at the University of Virginia and co-authored two submitted papers. Her mentor praised the beauty of her work and her impressive contributions to the life of the community.



Faye's instructors are similarly enthusiastic about her abilities and enthusiasm, and they describe her as a delight to have in class who helps spark important discussions. They are particularly excited about her contributions to outreach, and they describe her as a talented teacher for the Math Mondays in Ypsi, Super Saturday and Math Corps programs.

**Anqi Li** is a math major at Massachusetts Institute of Technology. She has participated in three summer research experiences. The first was the NYC Discrete Math REU at 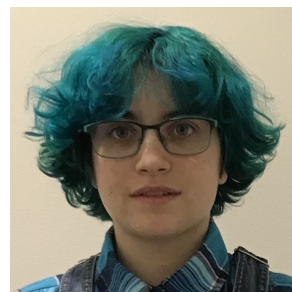Baruch College, City University of New York. In that summer she wrote a paper that has been accepted by the European Journal of Combinatorics. In Summer 2021 she participated in the MIT Math Summer Program in Undergraduate Research and co authored a paper her mentor describes as remarkable work. This paper was recognized as the top project from the summer program. In Summer 2022, Anqi participated in the REU at the University of Minnesota Duluth leading to three more papers in preparation. In addition to these summer projects, Anqi has sought out research experiences during the academic year and has two current projects with faculty at MIT.

Anqi's mentors praise her for deeply understanding challenging material, for asking insightful questions and for a willingness to try anything. They describe working with her as like working with an advanced graduate student. (*Photo taken by Margaret Zheng)

**Ilani Axelrod-Freed** is a mathematics major at MIT. They have participated in three REUs in Duluth, Minnesota Twin Cities, and New York Discrete Math. The topics of their research projects span combinatorics and discrete geometry. They have an impressive single-author publication stemming from one of these REUs and published in Enumerative Combinatorics and applications, and another joint paper with a mentor accepted in Discrete & Computational Geometry. In one of these REUs, Ilani worked on three different research projects and impressed their mentors with their ability to balance their time between them.

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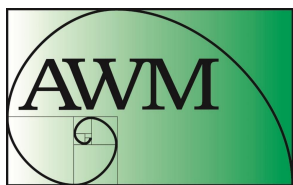
Ilani is also praised as a very active contributor to collaborative meetings, including online ones during the pandemic. Their mentors praised their oral and written mathematical communication skills as demonstrated by their presentations during the REUs as well as their strong coursework.

**Joye Chen** is a senior mathematics major at Princeton University. She participated in the SMALL REU during the summer of 2022 where she worked on hyperbolic knot theory and co-authored three publications (two already on ArXiv and one in preparation). Joye contributed significantly in proving several key results on hyperbolic knotoids and generalized knotoids, in particular giving a complete classification of hyperbolic alternating links in thickened surfaces-with-boundary. Her instructors are impressed by her dedication to conveying these ideas through developing a deep understanding of the material.

As well as conducting research during her time at the SMALL REU, Joye has excelled in becoming familiar with modern topics in topology and has taken several graduate courses, including ones on algebraic topology and Knot Floer and Khovanov homologies. In previous summers, she also worked on reading courses in representation theory, Lie algebras, and grid homology. She is consistently described as working at a graduate student level with impressive initiative to develop her own knowledge and understanding. In addition, Joye previously served as the advising co-chair of the Princeton Math Club and currently serves as a Peer Math Advisor. (*Photo taken by Melody Pan)

**Veronica Lang** is a mathematics major at Smith College. She has participated in an REU program at the University of Minnesota – Twin Cities and has engaged in research at Smith College as well. Veronica is interested in a variety of mathematical research topics spanning algebra, combinatorics, and topology. Her research work led to two papers that are in preparation for submission, with potential follow-up results. Her work was described as independent by all of her mentors, and comparable to the level of graduate students and even postdocs.

Veronica has also excelled in advanced courses in different topics and pursued graduate-level coursework through final projects and independent study. Her mentors praised her creativity in research as well as her oral and written mathematical communication skills. She is described as "more of a colleague than a student" by her mentors, and is particularly recognized for being able to work with people from diverse backgrounds and form effective teams.

Full citations and responses from the winners are available here:

https://awm-math.org/awards/schafer-prize-for-undergraduates/schafer-prize-2023/

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