SYNERGISTIC ACTIVITIES

- **Research Conference Organizing:** The PI has organized many national research conferences and workshops. Most recently the PI was a co-organizer for the Fall 2024, *Algebraic Geometry Northeastern Series (AGNES)*, a weekend conference with 100 participants held at Dartmouth College aimed at introducing early career researchers (e.g. graduate students and postdocs) to current research trends in algebraic geometry and related fields.
- **Developed Open-Source Software:** The PI has a long commitment to developing open-source software to promote and support research in algebraic geometry and commutative algebra. For example, the PI developed the *VirtualResolutions* package for the computer algebra system *Macaulay2*. This package, which includes core functionality for multigraded homological algebra on toric varieties, has been proven beneficial to many research projects and is frequently cited.
- **Invited Research Talks:** The PI has given many invited research talks including giving a plenary talk on homological algebra on toric varieties at Spec($\overline{\mathbb{Q}}(2\pi i)$, a conference held at the Fields Institute in Summer 2024.
- **Promoting Women in Math:** The PI was a co-organizer/PI for the *GEMS (Gender Equity in the Mathematical Study) of Commutative Algebra*, an NSF-funded workshop focusing on forming a community of women and non-binary researchers interested in commutative algebra by learning about specific topics in commutative algebra from a diverse group of prominent active researchers. This workshop was held at the University of Minnesota in November 2023 with 40 participants.
- **Leadership in Supporting Underrepresented Mathematicians:** The PI served as the inaugural president for *Spectra: The Association for LGBTQ+ Mathematicians*, aimed at promoting community and supporting lesbian, gay, bisexual, transgender, and queer mathematicians and students. This included growing the organization's budget by $20,000 and its membership to over 500 people, and launching the organization's annual invited lecture series at the Joint Mathematics Meeting.