



Algorithms, Fairness, and Equity

August 21, 2023 to December 20, 2023
MSRI/SLMath: Berkeley, California



Apply to spend all or part of Fall 2023 in residence at MSRI/SLMath in Berkeley, California conducting collaborative, cross-disciplinary research with world-renowned mathematicians, computer scientists, and other experts working at the interface of fairness and computation.

This interface has been the site of intensive research effort in mechanism design, in research on partitioning problems related to political districting problems, and in research on ways to address issues of fairness and equity in the context of machine learning algorithms.

These areas each approach the relationship between mathematics and fairness from a distinct perspective. In mechanism design, algorithms are a tool to achieve outcomes with mathematical guarantees of various notions of fairness. In machine learning, we perceive failures of fairness as an undesirable side effect of learning approaches, and seek mathematical approaches to understand and mitigate these failures. And in partitioning problems like political districting, we often seek mathematical tools to evaluate the fairness of human decisions. This program will explore progress in these areas while also providing a venue for overlapping perspectives.

Apply by Dec. 1, 2022 via [MathJobs.org](https://mathjobs.org)



SIMONS LAUFER
MATHEMATICAL
SCIENCES INSTITUTE

Program Organizers

Vincent Conitzer (Duke University)
Moon Duchin (Tufts University)
Bettina Klaus (Université de Lausanne)
Jonathan Mattingly (Duke University)
Wesley Pegden (Carnegie Mellon University)

CALL FOR MEMBERSHIP

Research Members

Research Members are researchers with PhDs who will be in residence at MSRI/SLMath for at least 30 consecutive days (preferably longer) in a scientific program. ([Learn more](#))

Postdoctoral Fellows

Postdoctoral Fellows must hold a PhD in mathematics or a related field, or equivalent scholarly contributions, awarded no more than five years prior to the start of the program. Fellows must be in residence for the entire duration of the program (with no exceptions), and cannot receive any other monetary compensation while at MSRI / SLMATH. ([Learn more](#))

FINANCIAL & LOGISTICAL SUPPORT

Positions include monthly per diems and stipends (see next page for details and additional support).

Our staff will assist with:

- Finding housing in Berkeley
- Obtaining a proper visa
- Finding schools, day care, etc.

[Learn more about membership at the Institute](#), including financial support and visa information, or contact us at applications@msri.org.

www.mathjobs.org/jobs/MSRI

Research Memberships

These positions are reserved for researchers who will be in residence for at least 30 consecutive days and preference will be given to those who can attend for longer periods.

Eligibility: Researchers with a PhD at the time of the proposed residency; financial support is not available for graduate students. Some preference is given to U.S. applicants.

Support: Research memberships may be offered with no support, and/or with per diem support. The per diem level is currently \$4,500 per month. Members are eligible for per diem support only during their dates of residency while the program is in session.

Application Process: The application is to be completed online at the MathJobs website. Please read the instructions there before completing the form. Be sure to specify the program to which you are applying on MathJobs, and be careful to indicate the extent of support needed in the application form.

Applications are reviewed by the Scientific Advisory Committee, the Broadening Participation Advisory Committee, and the Program Organizers.

Postdoctoral Fellowships

Eligibility:

- Fellows must hold a PhD at the beginning of the program
- The PhD must have been awarded on or after August 31, 2018
- Fellows must be in residence for the duration of the program (no exception possible)
- Fellows cannot receive any other monetary compensation during their fellowship at SLMath

Support: These awards provide support for five months at \$9,000 per month, with a travel subsidy for one round-trip from your current institution to the Bay Area, and a research travel budget of \$600 for one semester. Health, dental and vision insurance is also provided. In addition, SLMath's postdoctoral program has some endowed fellowships. There is no need to apply separately for these positions, which carry a monthly stipend of \$11,000 per month. Awards will be made competitively, from nominees submitted by the organizing committee of the program.

Application Process:

The application is to be completed online at the MathJobs website. Please carefully read the instructions on the website before completing the form. Be sure to specify the program to which you are applying on MathJobs.

All application materials must be submitted for review via [MathJobs.org](https://mathjobs.org) by December 1, 2022.

Research Membership and Postdoctoral Fellowship offers will be announced during February 2023.

CHILDCARE GRANTS: To allow members, workshop attendees, and other program participants to fully participate in its scientific activities, the Institute offers Childcare Grants to researchers with children under the age of 17 years. ([Learn more](#))

The Complementary Program has a limited number of memberships that are open to mathematicians who are partners of invited members of a core program. Interested partners should apply for the position of Research Member in the Complementary Program through MathJobs.



Acknowledged as the premier center for collaborative mathematical research, MSRI, now becoming the Simons Laufer Mathematical Sciences Institute (SLMath), organizes and hosts semester-length programs that become the leading edge in that field of study. Mathematicians worldwide come to the Institute to engage in the research of classical fundamental mathematics, modern applied mathematics, statistics, computer science and other mathematical sciences.

MSRI / SLMath has been supported from its origins by the National Science Foundation, now joined by the National Security Agency, over 100 Academic Sponsor departments, by a range of private foundations, and by generous and farsighted individuals.