

# The Women and Mathematics program at IAS, Princeton

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TALK TO WOMEN IN MATHEMATICS CONFERENCE, JAPAN

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## Women and Mathematics at IAS, Princeton: 2.

- ▶ The program was started by Karen Uhlenbeck together with Antonella Grassi and Chuu-Lien Terng in the early 1990s, and thrives to this day.
- ▶ It is now organized by Wei Ho, together with a committee of female mathematicians (of which I am currently the Chair), Peter Sarnak of the School of Mathematics, IAS, and Michelle Huguenin (the program manager from IAS).
- ▶ Currently it is a week-long residential program dedicated to some particular topic (this year: **Number theory from a dynamical perspective**) and brings together about 35 women mathematicians at many stages in their career, from undergraduate to post-doc.
- ▶ Each year, there are **two lecture courses** (one more elementary and one more advanced) plus review sessions run by Teaching Assistants in which students work together on various problems.
- ▶ Other activities: a **Junior Research Seminar**, some invited lectures and panels, and there are many formal and informal discussions.
- ▶ We also organize outreach to local school children at the Princeton Library, and a **WAM Ambassador program** that allows former participants to organize various activities (e.g. conferences, study groups, ...) in their local institution.

# Women and Mathematics at IAS, Princeton: 3.

webpage: [https:// www.ias.edu/math/wam/program-years/previous-years](https://www.ias.edu/math/wam/program-years/previous-years)

## WAM 2022 Yearbook

### The Mathematics of Machine Learning

(hybrid)



Institute for Advanced Study, Princeton

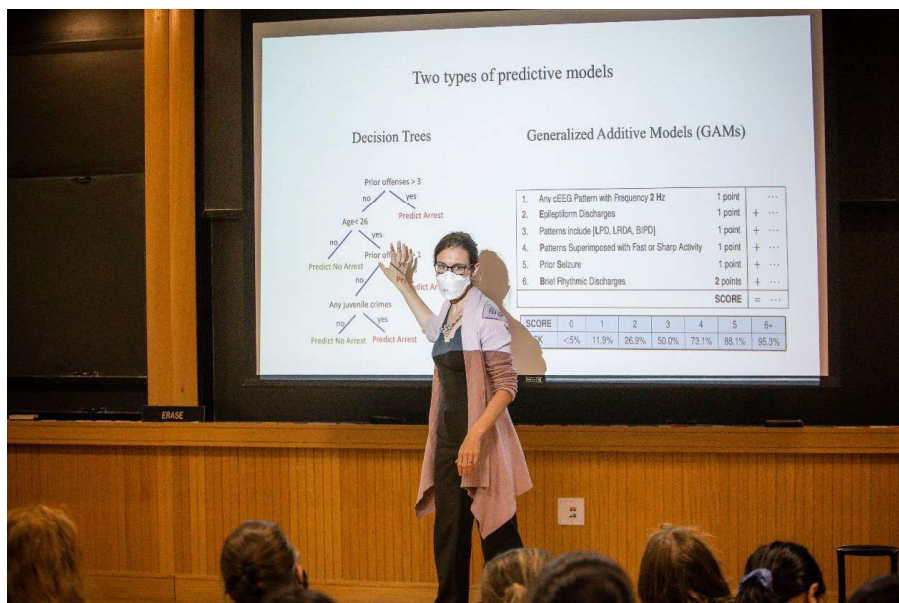
March 21-27, 2022

# Women and Mathematics at IAS, Princeton: 4.

## Mathematical Talks

### Terng Lectures:

Cynthia Rudin, Duke University, "Introduction to Interpretable Machine Learning"



Abstract: Machine learning is now used throughout society and is the driving force behind the accuracy of online recommendation systems, credit-scoring mechanisms, healthcare systems and beyond. Machine learning models have the reputation of being "black boxes" meaning that their computations are so complicated that no human would be capable of

# Women and Mathematics at IAS, Princeton:

5.

Some participants:



# Women and Mathematics at IAS, Princeton:

6.

Informal discussions



## Women and Mathematics at IAS, Princeton: 7.

Outreach for school children at the Princeton Library by Margaret Readdy and WAM participants. We also run a year round **WAM Ambassador program**, that provides small amounts of money for WAM participants to organize activities in their local university and community.



## Some comments about WAM from participants: 8.

- ▶ I loved being around women mathematicians. I was pleasantly surprised by how relaxed the atmosphere was, how many math questions were asked, and how free I felt to ask questions (without being judged for representing women).
- ▶ My first year of graduate school, I was the only woman in my incoming class. It was a very isolating experience, as none of my classmates or professors were women. Then I went to the IAS Women's Program, and was suddenly surrounded by fun and talented women doing math. It was a magical, life-changing experience for me.
- ▶ Of course the WAM programs are excellent and beneficial because of the technical expertise they develop in participants. But I think there is something else about the WAM program that is precious and irreplaceable: it allows women in math to find out what it means to be relaxed in a mathematical atmosphere. To breathe fully and freely, and to think "ah, this is how it can be, to do math among people who naturally assume I am good at this". The fact that WAM takes place at the IAS is also part of this message: this is an investment in new generations of mathematicians, and a welcoming, a boost, to say "we think you can be great". – Lillian Pierce (a WAM committee member and former participant).