



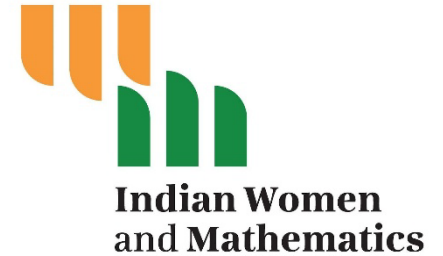
INDIAN WOMEN AND MATHEMATICS (IWM)



<https://iwm.org.in>



Nikita Agarwal, University of Delhi, India



Indian Women and Mathematics

We are

A collective of Indian mathematicians that has been in existence since 2009.

Our Mission

- Encourage more women to pursue higher education in mathematics
- Organize events and networking opportunities that will enable them to take up careers in mathematics

Current Executive Committee Members

- Sanoli Gun (Institute of Mathematical Sciences) (Chair)
- Nikita Agarwal (University of Delhi)
- Gurmeet Bakshi (Punjab University)
- Shreemayee Bora (IIT Guwahati)
- Anisa Chorwadwala (IISER Pune)
- Paramita Das (Indian Statistical Institute Kolkata)
- Sheetal Dharmatti (IISER Thiruvananthapuram)
- Amber Habib (Shiv Nadar University)
- Archana Morye (University of Hyderabad)
- Anita Naolekar (Indian Statistical Institute Bangalore)
- Anand Sawant (Tata Institute of Fundamental Research, Mumbai)
- Suparna Sen (University of Calcutta)
- Pooja Singla (IIT Kanpur)
- Sachi Srivastava (University of Delhi)

How IWM Began

- Just before the ICM in Hyderabad, India in 2010, the first International Conference of Women Mathematicians (ICWM) was planned.
- As preparation, an international conference *Advances in Mathematics: Focus on Women in Mathematics*, was conducted at JNU, Delhi, India in October 2009. Majority of participants were women as were 2/3 of the speakers. Young scholars were also invited to present their research. This set the template for later activities.
- ICWM 2010 was aimed principally at young women mathematicians, particularly from Asia and from developing countries. Among the speakers was Maryam Mirzakhani, who went on to win the Fields Medal four years later.

ICWM 2010 – *setting the scene for IWM*

- During 17–18 August 2010, the ICWM took place in Hyderabad, India. It was organized with support from the European Women in Mathematics, the European Mathematical Society and the Association for Women in Mathematics
- A panel titled “Women Mathematicians Around the World” took place with Beatrice Pelloni (UK) as Chair. The other panelists were Basabi Chakraborty (Japan), Rashida Adeeb Khanum (Pakistan), Marie Françoise Ouedraogo (Burkina Faso), Kyewon Koh Park (Korea), Sylvie Paycha (EWM), Vera Spinadel (Argentina), Geetha Venkataraman (India), and Carol Wood (AWM).
- Every subsequent ICM has continued with this tradition first established in 2010 in India – the 3rd Edition of The World Meeting for Women in Mathematics (WM)² will take place the day before the ICM 2026.

IWM Expansion

- The first event held under the IWM banner was a 3-day symposium at Institute of Mathematical Sciences (IMSc), Chennai, India, in January 2012.
- Following this and other events, the **National Board for Higher Mathematics (NBHM), Department of Atomic Energy, India**, sanctioned a large project-grant to provide an umbrella for activities related to training and outreach for women mathematicians.
- Support from the **Committee for Women in Mathematics (International Mathematical Union)** has allowed our programs to have an international reach.

Range of Activities of IWM

- **Annual Conference:** Invited talks by notable women mathematicians from India and abroad, and contributed talks by early-career researchers from across India. Networking opportunities for the many women delegates who are in the early career stages.
- **Regional Workshop:** Aimed at women of the region engaged in teaching or research, or working towards a post-graduate degree. Expose the audience to fresh trends in research as well as opportunities for careers in research.
- **Visitor Programme:** Established women mathematicians from India and abroad deliver lectures in metro and non-metro towns in different parts of India and interact with women students of mathematics to promote and popularise mathematics research.
- **May 12 Events**

Range of Activities of IWM (Contd.)

- **Summer School (Winter School before 2024):** One week to 10 days school for 2nd year undergrad women students – started in 2019.
- **Online Minicourses:** Established mathematicians deliver a set of 4 lectures over a weekend. These were started during the pandemic period and are open to interested students and faculty all over the world. They are also available on the IWM YouTube channel.
- **Research in Groups Meeting (introduced in 2025):** The aim is to create a strong group of young female researchers across the country. Each group has a senior and a junior mentor, with about five student participants. The project engagement is for a minimum period of one year. There are two in-person one week long meetings per year.

Glimpses of IWM Activities

YOUNG WOMEN AND MATHEMATICS

JULY 25-27, 2014 at IISER PUNE



Supported by National Board for Higher Mathematics (NBHM), DAE, Govt. of India and hosted by Indian Institute of Science Education and Research (IISER), Pune

This meeting is aimed at women students pursuing advanced bachelors, masters or doctoral degrees and women at early stages of a career in mathematics. This includes post-doctoral scholars and women faculty members at colleges, universities and institutes. The goal is to bring together young women from diverse areas of study and enable exchange of ideas and create networking opportunities.

Highlights of the Meeting

- Two mini-courses
- Eight plenary research talks
- Panel Discussion on "Science Communication and Writing"

Participants are encouraged to share their work through contributory talks or poster presentations.

Funding towards accommodation and train travel will be available for selected participants.

For: <https://www.google.com/sites/ywmisc/>
to apply/register for participation at the symposium

Email: ywmisc@gmail.com for more information

Invited Speakers

Madhusree Basu (I Bangalore)
Parvita Bakshi (IIT Aligarh)
Pratyaksha Chatterjee (IISc Bangalore)
Parames Das (IISc Bangalore)
Sheetal Dharmatti (IISc Thiruvananthapuram)
Neena Gupta (IISc Kolkata)
Savitri Pattnaik (IIT Kanpur)
Suryingra Prasad (IISc Pune)
R. Radha (IISc Madras)
Rakha Santhanam (IIT Bombay)

Scientific & Organizing Committee

Anita Chorwadwala (Convener)
IISER Pune
Anu Tyagi (Chair)
Institute of Mathematical Sciences, Chennai
Mousumi Mandal
Indian Institute of Science, Bangalore

Prof R Parimala at the IWM Annual Conference at SNU, 2018



A PhD student presenting at the IWM Annual Conference IISc, 2017

IWM Visitor Programme: Prof Nalini Joshi



Panel Discussion IWM-2016, UOH



Prof Tanvi Jain and Shreemayee Bora, IWM Regional Workshop IIT Guwahati, 2016



Tea-time at IWM-2016, UOH



Tea-time at IWM-2018, SNU



IWM Visitor Programme: Prof Marie Françoise Roy with some participants at LMNIIT, Jaipur, 2020

Glimpses of IWM Activities



IWM Regional Workshop 2016
IIT Gandhinagar



IWM Annual Conference 2017
IISc, Bengaluru



Annual Conference 2023



IWM Visitor Programme:
Prof Nalini Joshi lecturing
at Maris Stella College, 2016

Indian Women and Mathematics
<https://sites.google.com/site/iwm2016>

Announces
A Popular Mathematics Lecture
"Symmetry through Geometry"

The search for symmetries of differential equations set in motion the development of extraordinarily important areas of mathematics. In this talk, we provide a new perspective on the corresponding problem for difference equations, by using a simple, beautiful geometric structure revealed in our recent study. The objects of this study are partial difference equations that arise as discrete versions of famous partial differential equations. These discrete systems consist of equations fitted together in a self-consistent way on a square, a 3-cube or on n -dimensional cubes. By using the beautiful geometric structure of separating subtypes, we show how to find their unexpected symmetry reductions.

Speaker: Prof. Nalini Joshi, University of Sydney
Date & Time: 02-07-2016 (Saturday), 11:00 a.m.
Venue: Auditorium, Maris Stella College, Vijayawada.

This IWM activity is sponsored by the Committee for Women in Mathematics, IISc (www.math.iisc.ernet.in) and MHRD, Govt. of India (<http://www.ditp.dae.gov.in>) and hosted by Maris Stella College, Vijayawada.

Maris Stella College (Autonomous)
VIJAYAWADA - 520 008.
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IWM Visitor Programme:
Audience at Maris Stella College, 2016
for Prof Nalini Joshi's Lecture



Visitor Programme –
Dootika Vats



Research in Groups Meeting 2025



Panelists:
IWM-2017, IISc

IWM Visitor Programme:
LMNIIT, Jaipur,
Prof Marie Françoise Roy lecturing, 2020



IWM Visitor Programme: Prof Isabelle Chalendar
interacting with students, Banasthali University, 2016



Regional Workshop 2022

Achievements

- Geographically, covered a wide swath across India.
- Numerous programs in colleges in small towns where there is little exposure to research in mathematics.
- Reached several hundred participants annually.
- Initiated networking with the women mathematicians of neighbouring countries such as Nepal and Bangladesh.
- For more on IWM activities, please visit: <https://iwm.org.in/>

What Next?

- Organize programs in parts of India, where they have been relatively less number of activities so far.
- Engage with policy makers for steps, big and small, that would reduce obstructions faced by women in their career progression as well as their daily work.
- Develop a mentorship program for young women, who wish to pursue higher mathematics as a career.

Thank You



सत्यमेव जयते

Government of India

National Board for Higher Mathematics



**Indian Women
and Mathematics**



Committee for
Women in Mathematics