

8th International Conference on Women in Physics

Toward Gender Equity in Physics: *The Changing Scenario in Indian Academia*



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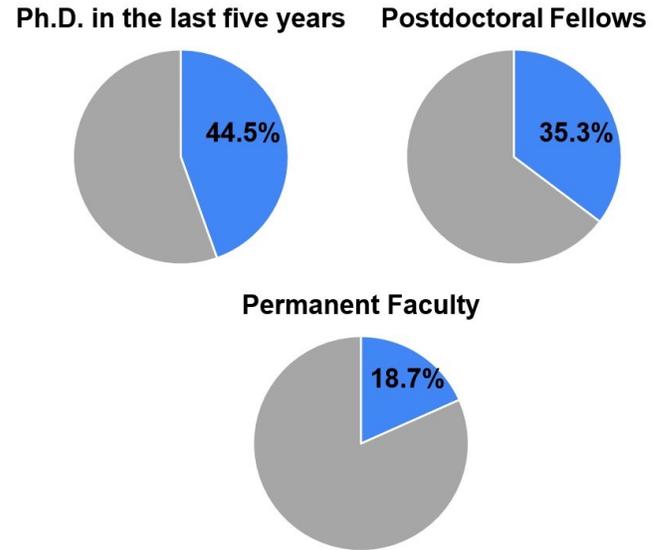
Mavani, Krushna⁹

Pandey, Pragya²

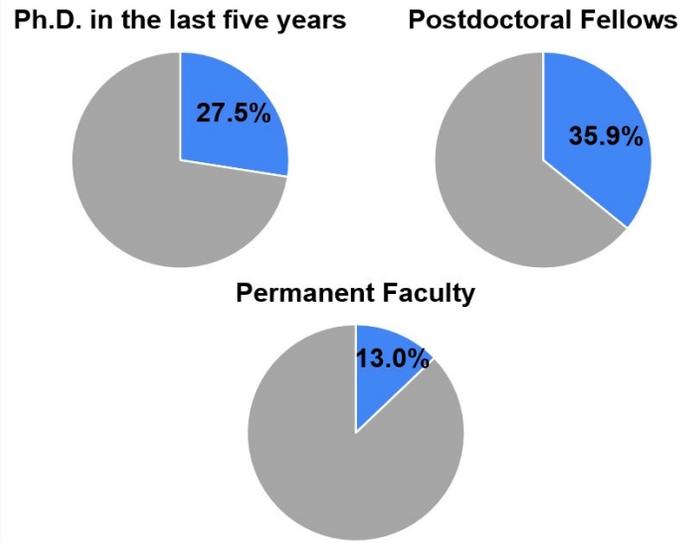


Representation of Women in Physics Departments

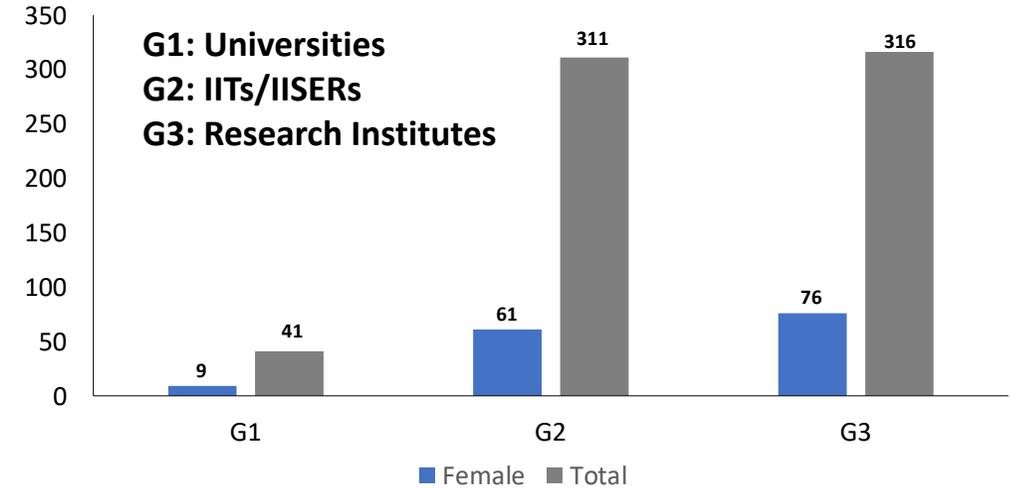
Women in Physics: Universities



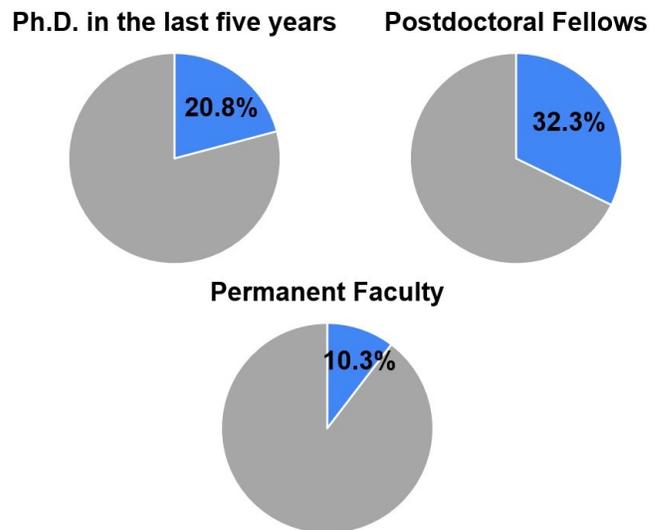
Women in Physics: IITs and IISERs



Physics speaker gender data (2021-23)



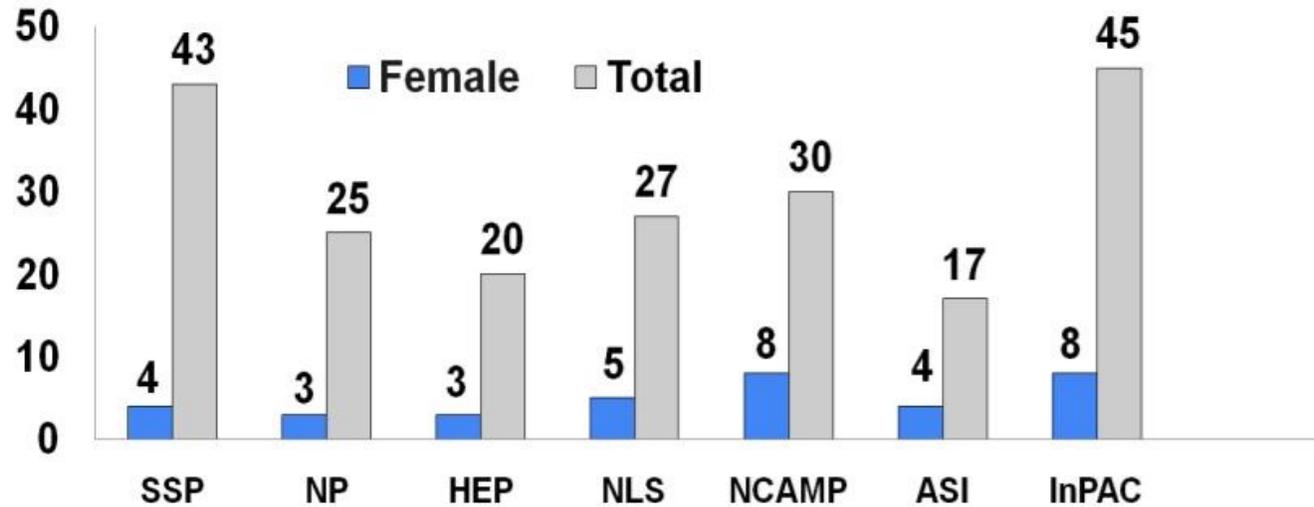
Women in Physics: Research Institutes



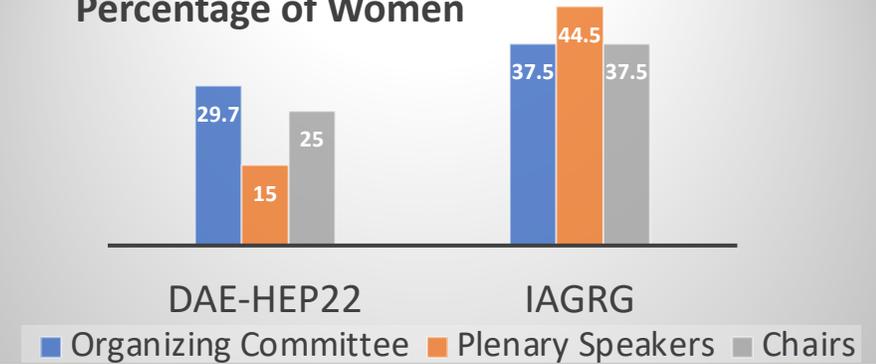
- The women PhD students to women faculty ratio is **0.42 (G1)** , **0.47(G2)**, **0.49 (G3)**. Across institutions, the leaky pipeline is evident.
 - The **postdoc fraction is almost uniform** across institutions, while there is a **wide difference in the faculty fractions** for the three groups.
 - The percentage of permanent women faculty is around 14.5% for old as well as the new institutions and has not improved since ICWIP-21 (Goswami, S et al.21).
 - The fraction of women speakers is 19% (G1), 22% (G2), and 24% (G3), which is consistent with the fraction of women scientists (faculty and PDFs).
- The data has been collected by IPA-GIPWG for selected institutions and is only for representation purposes. About 30 institutions voluntarily participated in sharing the data.

Representation of Women: *National Conferences*

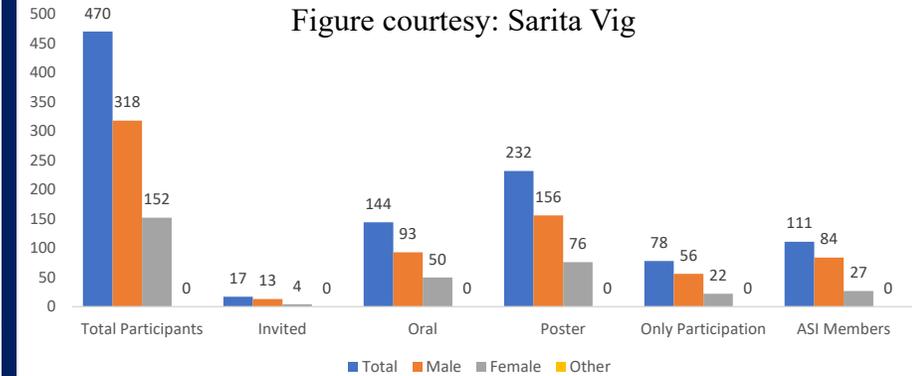
Invited Speakers Statistics - Major National Conferences



Percentage of Women



ASI 2023 mode of presentation and participation



- The average representation of women as plenary speakers is 18% which is lower than the typical fraction of women scientists (faculty + Postdocs ~ 22%)

The data has been collected by IPA-GIPWG for Department of Atomic Energy-BRNS sponsored national symposiums, Astronomical Society of India annual conference and the Indian Association for General Relativity and Gravity (IAGRG) annual conference. The data has been processed from conference websites and abstract books.

Government and Institutional Measures on Improving Representation

Department of Science and Technology

WISE-KIRAN Division

<https://dst.gov.in/>

WIDUSHI

(Women's Instinct for Developing and Ushering in Scientific Heights & Innovation)

Target Group: The target group is categorized in following 2 categories:

- Category-A: Retiring or retired Women Scientist
- Category-B: Senior Women Scientists who are not in regular employment

Indian Science Technology
and Engineering facilities Map

On the occasion of **"Teacher's Day"**
I-STEM is Launching a Platform to Initiate
A Special Drive for the

**Women in Engineering,
Science & Technology (WEST)** >>

Distinguished Speakers



Chief Guest
Dr. Parvinder Maini
Scientific Secretary,
Office of the Principal Scientific
Adviser to the Government of India



Ms. Vartika Shukla
Chair & MD, Engineers
India Limited (EIL)
A Navratna Company



Dr. Sunita Mishra
Principal Scientist,
CSIR-CSIO
Chandigarh



Dr. Sangeega Semwal
Scientist D, Ministry of
Electronics and Information
Technology (MeitY)



The office of the Principal Scientific Advisor has initiated the Women in Science Engineering and Technology (WEST) program, through the ISTEM platform

<https://www.istem.gov.in/west>

Special Recruitment Drives from Institutions



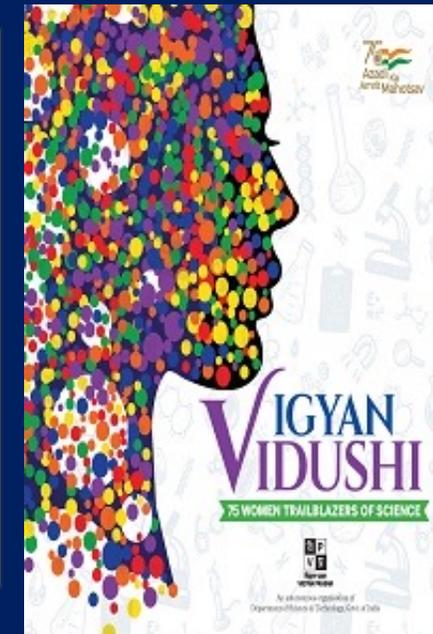
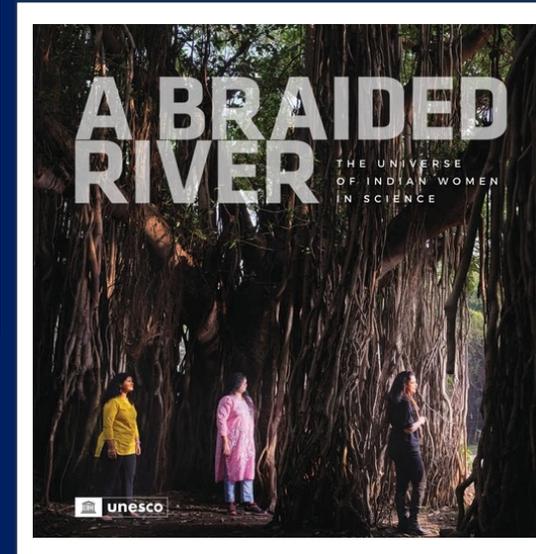
Indian Institute of Science Bangalore 560012

Special Recruitment Drive for Women

03 August 2022

The Indian Institute of Science (IISc) invites applications from exceptionally bright and motivated individuals with an established record of high-quality research and a strong commitment to research as well as teaching under a **special recruitment drive for women** for Assistant Professor positions in its various academic departments and centres.

Applications will be accepted only through the online portal: <https://recruitment.iisc.ac.in/frp/>
Application deadline: 30.09.2022



Program for aspiring women scientists (PAWS: ICWIP-23 Satellite Event)



Interactive workshop series organized through IPA – GIPWG platform

Target group: BSc, MSc & PhD physics pursuing female students

Discussion topics: combating biases, dealing with imposters, microaggressions, decision making in physics career junctures

Reach & impact: 5 workshops conducted with ~ 200 + participants cumulative

Designers & Facilitators



Deepa Chari,
HBCSE



V Madhurima,
CUTN



Vandana Nanal,
TIFR

Other facilitators

Sarita Vig (IIST, TVM) , Kavitha Jain (JNCASR), Deepshikha Jaiswal (IISER TVM), Moonmoon Devi (TU)

Some excerpts from feedback:

“What I enjoyed the most is that we students got to share our experiences and opinions about several topics that have been troubling our minds. I also felt reassured that I am not alone in this path after hearing the professors share their own experiences.”

“Being a shy person mostly, I started talking. Thank you for being interactive and making us comfortable to talk.”

PAVINARI Lecture Series on Women Physicists: ICWIP-23 Satellite Event



Objective: The GIPWG of IPA aims at co-ordinating national efforts towards gender parity in the Indian physics profession. As a part of this effort, the GIPWG has initiated PAVINARI, a public lecture series on eminent women physicists, which intends to cherish the fantastic work of women scientists and to motivate the younger generations.



Lecture series

Physicist Exemplar and Pioneer Climate Scientist: Glimpses into the Life of Anna Mani *Prajval Shastri*

Harvard's Computers: The legacy of the Stellar Women!
Suchetana Chatterjee

Promoting physics across borders : some women who opened doors for others *Bindu A Bambah*

Overlooked for the Nobel: Lise Meitner and the discovery of fission
Amit Roy

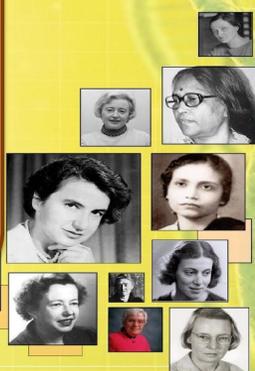
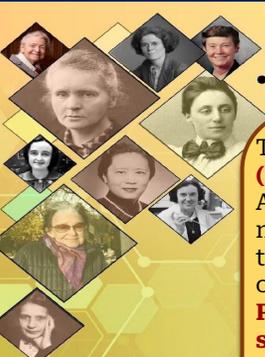
Making a splash in surface science: The life and work of Agnes Pockels
Arnab Bhattacharya

Tale of Photo 51 - Puzzle of DNA & Rosalind Franklin *Shikha Varma*

PAVINARI (पविनारी)

Lecture Series on Women Physicists

The **Gender in Physics Working Group (GIPWG)** of the Indian Physics Association (IPA) aims at co-ordinating national efforts towards gender parity in the Indian physics profession. As a part of this effort, the GIPWG has initiated **PAVINARI (पविनारी)**, a **public lecture series on eminent women physicists**, which intends to cherish the fantastic work of women scientists and to motivate the younger generations.



YouTube: <https://www.youtube.com/playlist?list=PLVUo6ukB1stH9g5T8coCGtDNoSgfNed5U>

✉ gipwg.ipa@gmail.com

Formation of Gender Panels (Post ICWIP-2021)

High Energy Physics Gender Group *Chair: Rukmani Mohanta, University of Hyderabad*

Condensed Matter Physics Gender Group *Chair: Shikha Varma, Institute of Physics, Bhubaneswar*

Indian Association for General Relativity and Gravitation Gender Group *Chair: Harvinder K Jassal, IISER, Mohali* http://www.iagrg.in/wg_on_gender.html

Formation of the **Indian Association for Physics Teachers (IAPT)** women's cell

Gender equality or parity will occur with a **change in mindset** when institutions consider **women as assets** rather than a **diversity rectification issue**.

The Road Forward

- ❖ Framing policies based on data
- ❖ Organize nationwide surveys
- ❖ Cross-Disciplinary Approach



SHIV NADAR
Webinar on
Are Multiple Choice Questions (MCQ) tests in STEM gendered?
June 21, 2023 | 3:45-6:00pm IST

PANEL DISCUSSION
Satellite Event of ICWIP 2023

 Rupamajati Ghosh	 Nasim Kambhampati	 Chandana Ghoshal	 Kishu Wilson	 Nandini Chatterjee Singh
 Ananya Kulkarni	 Kishu Wilson	 Moon Moon Das		

Workshops organized by IPA-GIPWG <https://www.tifr.res.in/~ipa1970/gipwg/>

Teaching Physics Online: Issues of Access & Equity in the Classroom

Combating Biases & Improving Institutional Culture

Career Women: Challenges, opportunities & success stories

Prajval Shastri, Vice Chair, IUPAP-WG5

Sumati Surya, First Woman President, IAGRG

Shobhana Narasimhan, Elected, APS Fellow for promoting diversity in the physics community



References:

<http://sympnp.org/snp2022/>

<https://indico.cern.ch/event/1146097/timetable/#all>

<https://sites.google.com/view/dae-hep022speaker/plenary-talks?authuser=0&pli=1>

<https://web.iisermohali.ac.in/dept/physics/daehep2022/home.html>

<https://www.iiserkol.ac.in/~iagrg32/>

<https://www.amp-iist.in/ncamp-2023>

<https://www.nls30.com/invited-speakers.php>

</sympnp.org/proceedings/>

<https://www.daessps.in/ssps2021/Abstract%20Book%202021.pdf>

Goswami, S et al. 2021, <https://arxiv.org/pdf/2301.03830.pdf>

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