

Women in physical sciences

Myths & realities



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For ASI 2019, Bengaluru

There's no gender inequality in science.
There are some things men are better at & some
things women are better at.
Women are more built for the biological sciences.
That's why there are so many women there.
There's no need to discuss this so much.

Why do we see less women in PS than in BS?

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- But they perform = or better in school & colleges (even in IITs)

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But,

- Have they been exposed to as many **relateable role models** as boys?
- Do **family/teachers encourage** them towards BS more than PS?
- Is there apprehension about being the **only girl in class**?
- Because of all this, do they see PS as a ‘masculine’ field?

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Questions

Are we doing enough to attract girls who are good & interested towards PS?

Much of this true for boys too. (I think at this stage, it's more than gender divide it's privilege divide.) At the entry level, **30-35% of astronomy students are female, yet only 10-12% faculty.**

More important Q:

Do women in the pipeline get the support & opportunities they need to stay & RISE?

Observations from interviews with physicists



Finding "Faults" with
Kusala Rajendran



Maryam Optimizes
in Electronics and in
Life



Indu Likes Her
Neutrinos Muon-
Flavoured



Ramadevi's Super
Cool Space Gadgets



Seema Sees Light at
the End of the
Telescope



Srubabati Detangles
Weird Phenomena



Archana Looks at
Materials Cool and
Magnetic



Sudha's Notes from
the Underground



Kriti Keeps Our
Satellites in Check



Maitreyee Steps on
the Accelerator



Kuljeet's Box of Pre-
solar Grains



The Life Cycle of
Shanti and Her Stars



Swapna Probes into
the Interrelated



Scratching the
Surface with Shikha



Poonam Powers
Through Solid
Mechanics



Vandana and her
Atom-splitting
Machines



Vani Looks at Matter
Bottom Up

Attitudes of seniors

The other faculty members with me were all senior male professors who had taught me [when I was an MSc student]. They could not accept that I had joined as Asst Prof and now will sit alongside them in meetings. That was a problem.

Field studies & observations

I was almost always alone in the girls' hostel and trips from and to the lab in the night were a problem. I should tell you, there was physical abuse from strangers on two-wheelers. They used to push and touch and all.

The only disadvantage was that I found it difficult physically to carry the instrument alone. Maybe I could've done more observations on my own if I didn't have to keep asking them for assistance.

Workplace sexism & sexual harassment

In companies, male colleagues have joked that I cannot do physical work. But who cares about that! I know my capabilities.

If they see you are pregnant – even if they say no discrimination on paper, it's not true. This happens everywhere, not just in India. I was shortlisted for many positions but in the final step I lost out because I was pregnant

At first, I was not given a room. When I asked, they said I'd have to wait until one of the retired professors vacated theirs. Then I was given a room which was full of rats and it was near the common washrooms – there were no separate washrooms for ladies back then. I had to go behind someone for everything.

Workplace sexism & sexual harassment

One of our chemistry teachers – a young faculty at the time – he used to say very abusive things to girls. He used to say that our only purpose was for decorating the class. We complained to the head of the chemistry department and but no action was taken... I met him just a few years back – he became a vice chancellor of a university.

Do you feel safe talking about sexual harassment? If you have distrust over due process, is there someone in the institution you can talk to about this? Cases of sexual harassment in Indian science are more common than we think. **Never forget that the potential damage such an incident on the victim is much more than the damage of a soiled reputation.**

Infrastructure

You should have seen me. With a big pregnant stomach – and I was a divorcee at that time – I was fixing a broken instrument with screwdrivers and spanner. I fixed the instrument with a lot of difficulties. I did not take any kind of break during her pregnancy. I decided on the date she would have a C-section birth and then rested briefly before returning to work. I made a ID-card for my baby daughter and from then on, my 40-day-old daughter was with me in the lab, sleeping there in the temperature of 19 degrees, night and day. I have given my sweat, my blood and my daughter's precious time to this instrument.

Resources & opportunities

Masters at the college I studied was just okay. X University [in another city] was much better but you know how it used to be in those times... they tell women 'if there is a college here, why leave home.

You know how it is... in conferences, you invite your friends, people you are close to... you don't always get invited for the work you have done. Networking is easier for men because they will have more men as friends, right?

Support from society & family

Every teacher said ‘oh mechanical is very tough. Don’t go, there are no girls...’. But my principal asked me not to worry. He said maybe here in north India girls don’t prefer this field but if you go to south India, classes are filled with girls.

Not having children was a conscious decision for us. We wanted to focus on physics. People will find that crazy now, but at that time my friends also had similar ideas. Somehow, this younger generation does not think in this way. If I had children, I would not have been able to go for postdoc.

Let's address this:

Is the **biological sciences** much better really?

In Astronomy, 10-12% of faculty average

IIA is 24% faculty (43% & 50% for student, postdoc)

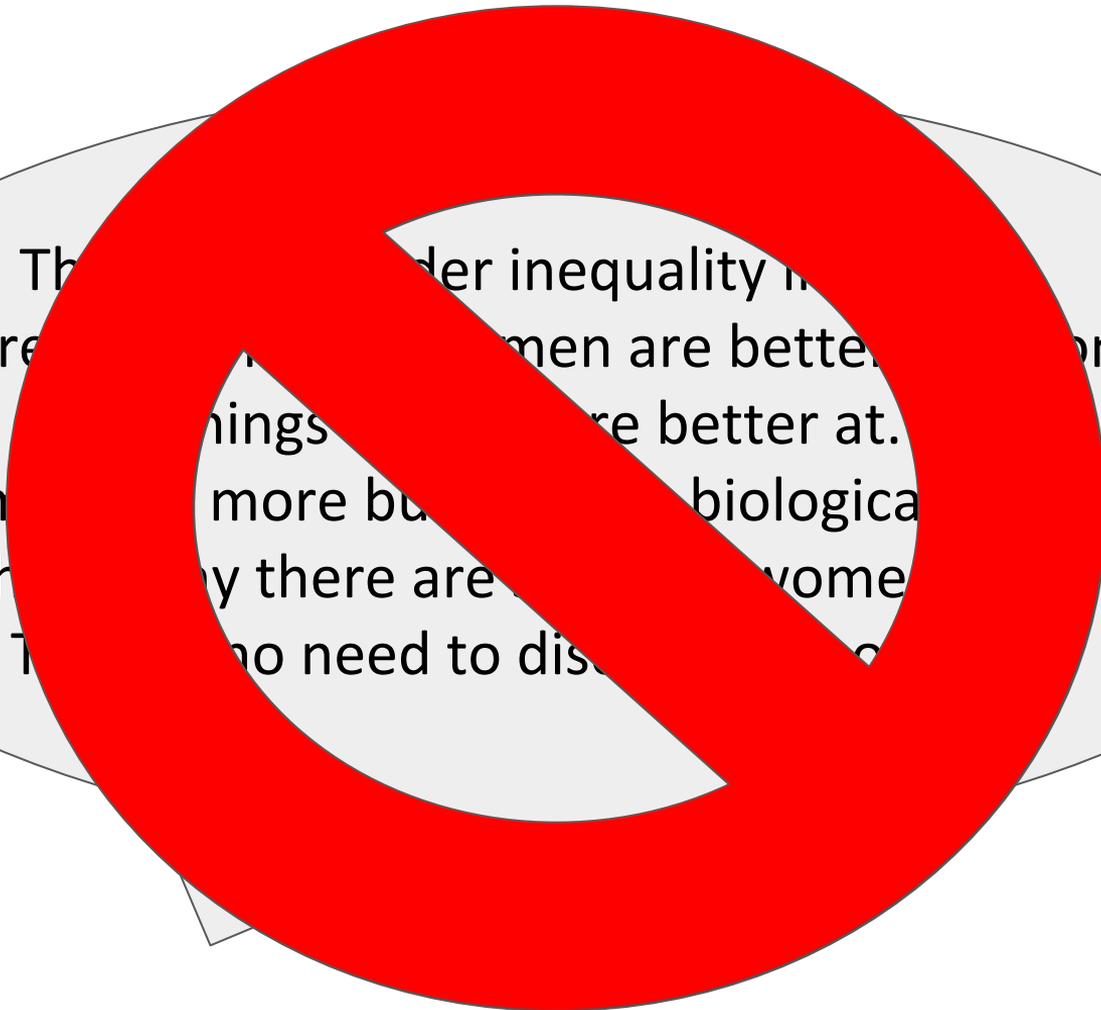
IUCAA & PRL has 0% faculty (out of 23 & 12)

ASI president is a woman

Believe it or not, these are not wildly different in BS scene today! So for those who say gender gap is cos women are more cut out for BS, why are we still a minority there too?

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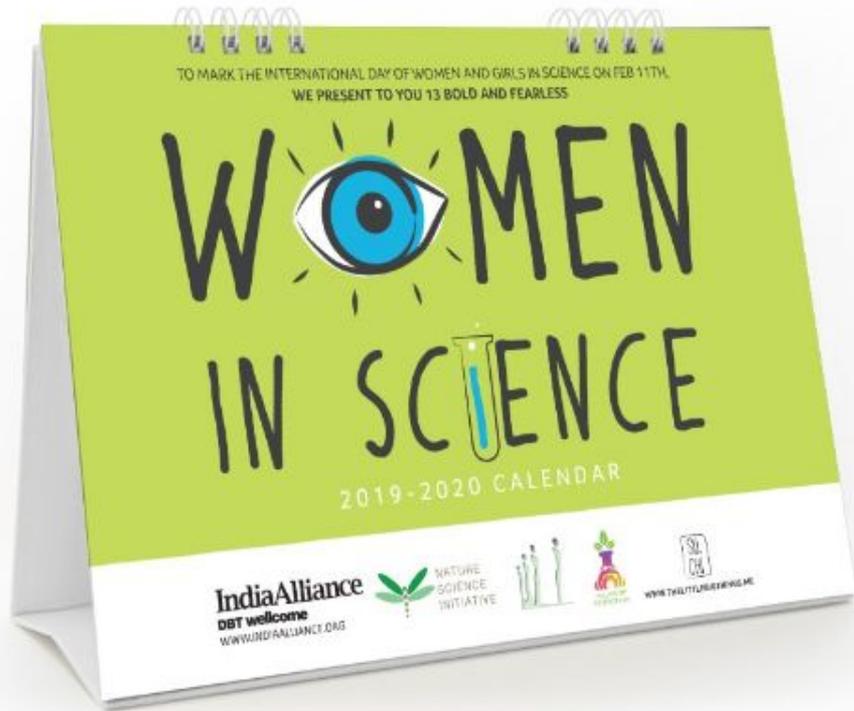
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All inequalities that exist in society exist in science - gender included. Some humans are good at some things and some at others.

This applies for all genders. There are women interested in all fields of science, yet many do not make it influential positions. Why is this?

We need to talk about this!



Links

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