

Preliminary remarks

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S.N. S.Adarsh College



What will this talk contain?

Little bit about the program 'Women in Science: Career in Science' that is being held today and a bit about the 'Women in Science (WiS) Panel of the Indian Academy of Sciences' and by implication a bit about 'Women in Science in India'

To begin with a few things who am I and what are my credentials to talk about this subject.

About myself: context Women in Science (**WiS**)

1) An invited speaker (among 9) at the first IUPAP International Conference on Women in Physics held in Paris in 2001 & **involved with the IUPAP group on Women in Physics since then.**

2) One of the editors of the INSA report on 'Science Career for Women in India' brought out in 2004 .

3) Chair of the **WiS** panel of the Indian Academy of Sciences.

4) Member of the steering group of the DST for **WiS**.

(IUPAP: International Union of Pure and Applied Physics)

About myself: context WiS

Co- Editor (with R. Ramaswamy) of two books to encourage girls to take up Science:

**1) Lilavati's Daughters : Women in Science in India
(Publisher: Indian Academy of Science, 2008)**

**2) A Girl's Guide to Life in Science:
(Publisher: Young Zubaan, 2010)**

Now being translated in various Indian Languages

Can be seen at

<http://www.ias.ac.in/womeninscience/index.htm>

:Inate abilities? Indian story?:

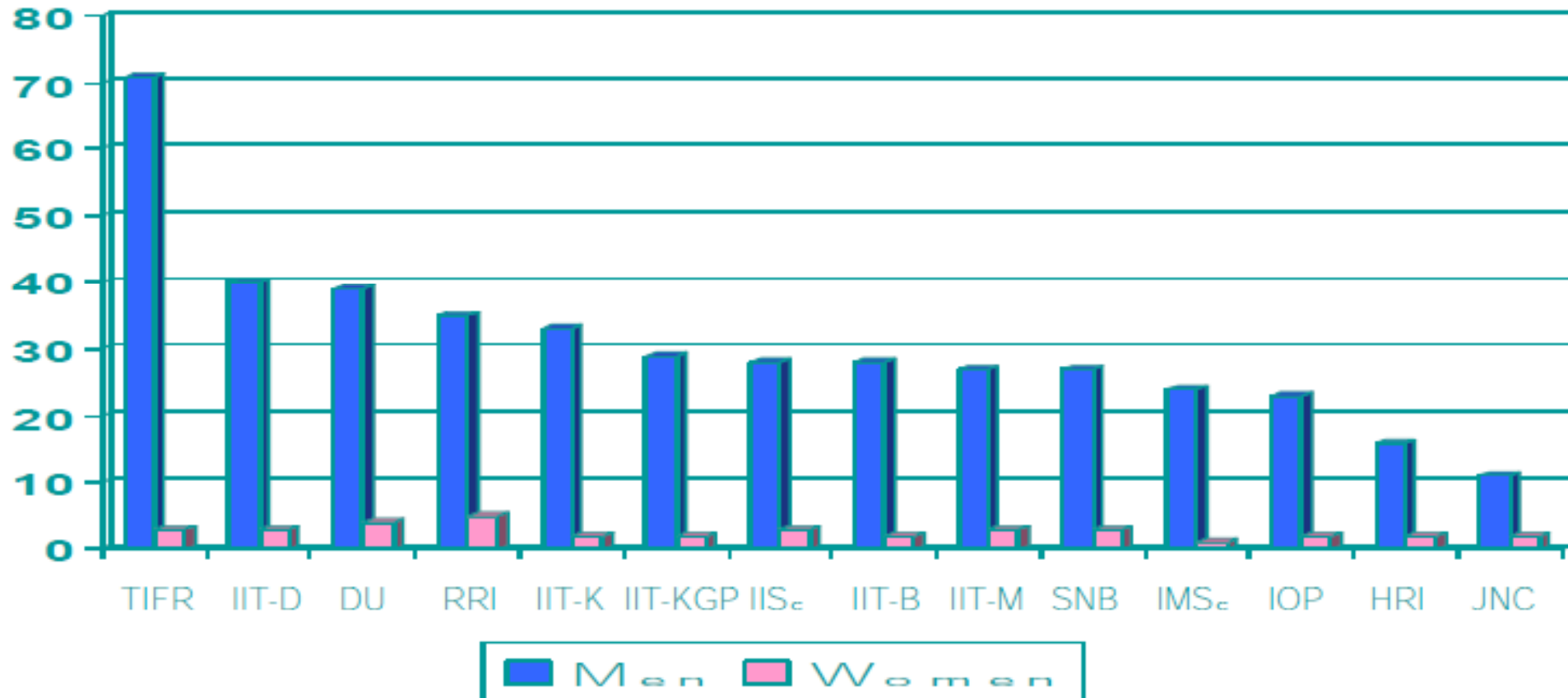
There does not seem to be the problem that women are perceived as being incapable of intellectual attainment in mathematics or science (many university prize winners are women).

We dont seem to have our Larry Summers

But we still dont seem to be exactly inundated with women doing science!

Percentage of Women Physicists in different Research and Education Institutes.

- Male and Female faculty in some physics departments:



An obvious conclusion

- In India the participation of women in *studying science* or for that matter in *teaching science*, **at all levels**, is **NOT LOW AT ALL**.
- However, number of women *doing science* is certainly **NOT commensurate** with their participation in the other two aspects of scientific activity.
- Further it is even less when one considers decision making positions in this context.

Indian scenario

The presence of women students in Schools and Colleges high and their level of achievement high

However participation of Women in Research in Science is low, presence in high positions in academics, representations in academies low too

There appear some serious leakages in the pipeline from college to university to scientific careers.

How to remedy this?

:Necessary measures in Indian Context:

In the Indian context the measures necessary are not so much to attract girls to science and engineering education but more to attract them to careers in science, i.e. **retaining them in science.**

ESSENTIAL:

Creating means to facilitate negotiation of a science career **PROFESSIONALLY**, maintaining a career family balance. Creating awareness for this not just among **girls/women** **but also the parents**, the family **and colleagues at work.**

:Things that exist:

Indian Women Scientists' Association, formed (1973)

Indian Academy of Sciences Panel for Women in Science (WiS Panel) (2003)

Department of Science and Technology Task Force for Women in Science (2005)

url:http://www.ias.ac.in/womeninscience



Women in Science Panel of the Indian Academy of Sciences (*WiS*)

Implementing the recommendations

Government has taken these very seriously

A group of women scientists presented (the stake holders) these in person to the Minister of Science and Technology.

Some of the recommendations are already implemented and others are in process.

Things academicians can do

Not just Policy Changes, but programs to **Inspire** and **Guide**, which is what academicians can do!

To make young girls (and society in general) aware that a career in Science is a possible career option for Women

A role model programme and Mentorship

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Mentorship

Already for those who are in Science careers:

1] Women scientists who are mainly into science education at different levels would like to find avenues to increase their research opportunities.

2] Creating awareness among women scientists about the possible support structures, Institutional as well as personal, that can help negotiate a career successfully and professionally.

Mentorship

Programs undertaken by WiS:

I) Role Model Program and Mentoring:

a) Bring out books

b) Hold one day workshops/lectures

II) Database to conduct analysis of **loss of Scientific Woman Power along with Social Scientists**

All the information available on the web page.

Lilavati's Daughters

Bring the Role models to the young ones through
Books! **Lilavati's Daughters**

**This initiative of the Women in Science (WiS) Panel
relates to mentoring of young women who are
potentially looking for careers in science,
engineering, medicine etc**

We brought out a book containing
autobiographical sketches of 100 women
scientists of India..

Lilavati's Daughters (further)

What makes a successful career in science possible for a woman? We believe that the many answers to this question can be found somewhere in the essays written by Lilavati's Daughters.

In these essays about one hundred Indian women scientists talk of what brought them to science, what kept their interest alive, and what has helped them achieve some measure of distinction in their careers.

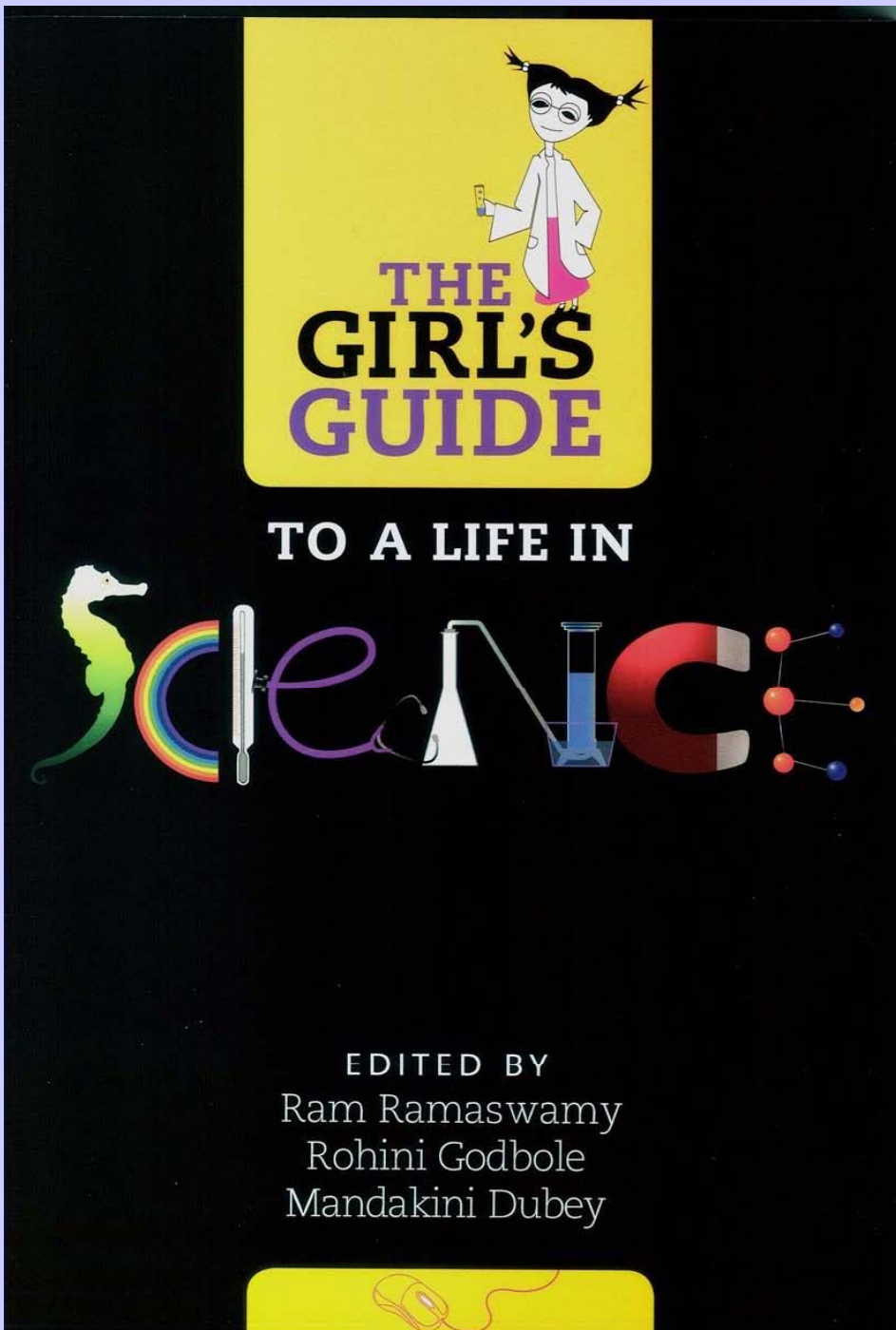
The book has been released and is available here at the stall as well as from

<http://www.scholarswithoutborders.com>

to science, what kept their interest alive, and what has helped them achieve some measure of distinction in their careers. The young student with research ambitions will find this an important collection where she can be inspired by the lives of women who functioned and achieved their goals in the Indian social and academic environment. We believe that others will also find the essays to be of value and interest for what they say. And also for what they do not say.



The Lilavati is a thirteenth century treatise in which the mathematician Brahmagupta addresses a number of problems to his daughter, Lilavati. Although legend has it that Lilavati never married, her intellectual legacy lives on in the form of her daughters—the women scientists of India. What makes a successful career in science possible for a woman? We believe that the many answers to this question can be found somewhere in the essays written by Lilavati's Daughters. This collection of biographical and autobiographical sketches is one of the initiatives of the Women in Science (WIS) panel of the Indian Academy of Sciences, Bangalore. Covering a range of disciplines, in these essays about one hundred Indian women scientists talk of what brought them



A new book which contains a small description of the Science that the women whose stories are in the book .

They also discuss future challenges in their area. Stories of 25 women.

Simpler things to do

2) **WiS : A career in Science workshops.**

A series of workshops in different places:

Presentations by leading women scientists about latest developments in their area of activity, to showcase the work done by women scientists, to an audience of both genders and to create an awareness on various career options available to young women scientists

Information about this and more available from the Academy web page.

Trained scientific woman power : what fraction is lost?

In India the biggest loss in the leaky pipe line occurs AFTER Ph.D and Postdoctoral days. The loss is assumed to be due to problems of work family balance.

We decided to conduct a survey ,find the women who are 'lost' and find the reasons why.

Unique: Practicing Women Scientists are working along with Social Scientists.

Survey report is ready

Survey report ready and available at the WiS web page, url given earlier.

Family responsibilities not the ONLY thing that hinder women from pursuing science careers..

Transparency in jobs, women friendly practices such as creche and on campus housing can go a long way

Survey report is ready

Some of the recommendations emerging from the survey have also been suggested by various groups and committees ..The survey supports it quantitatively

Importantly it is the Voice of women who are **not continuing in research at present..so carries more weight.**

Women's inclusion necessary

**One Point: Inclusion of Women in Science
NECESSARY** for bringing in more diversity
which always improves the **QUALITY** of
Science and Technology .

Pursuit of Excellence in Science NEEDS
to avoid loss due to **insufficient** and/or
inefficient participation by women.

INDIA (INC) is already active in the
context. **Academics needs to catch up.**

Policy changes are happening

Major policy changes are being initiated.

Also necessary to continue analysis of the situation to identify crucial policy changes.

A personal remark:

By and large need to provide level playing field for women! After that nothing special is required.

Thank you