



ESOF 2004

**Women Physicists in Europe
and the US:
Working Together**

August 27, 2004

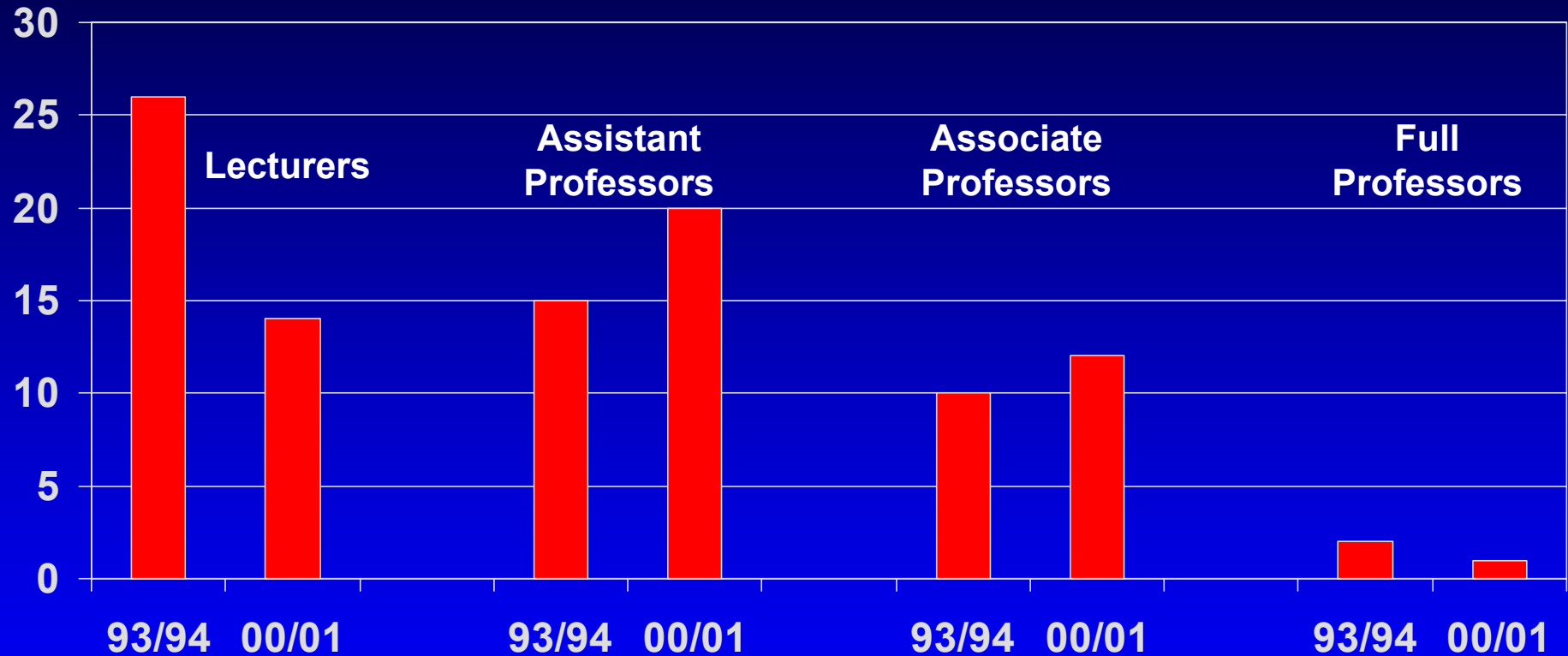
Judy Franz

*Executive Officer, American Physical Society
Secretary General, International Union of Pure and Applied
Physics*

The percentage of women in science in almost all countries decreases with each step up the academic ladder and in industrial and government laboratories.

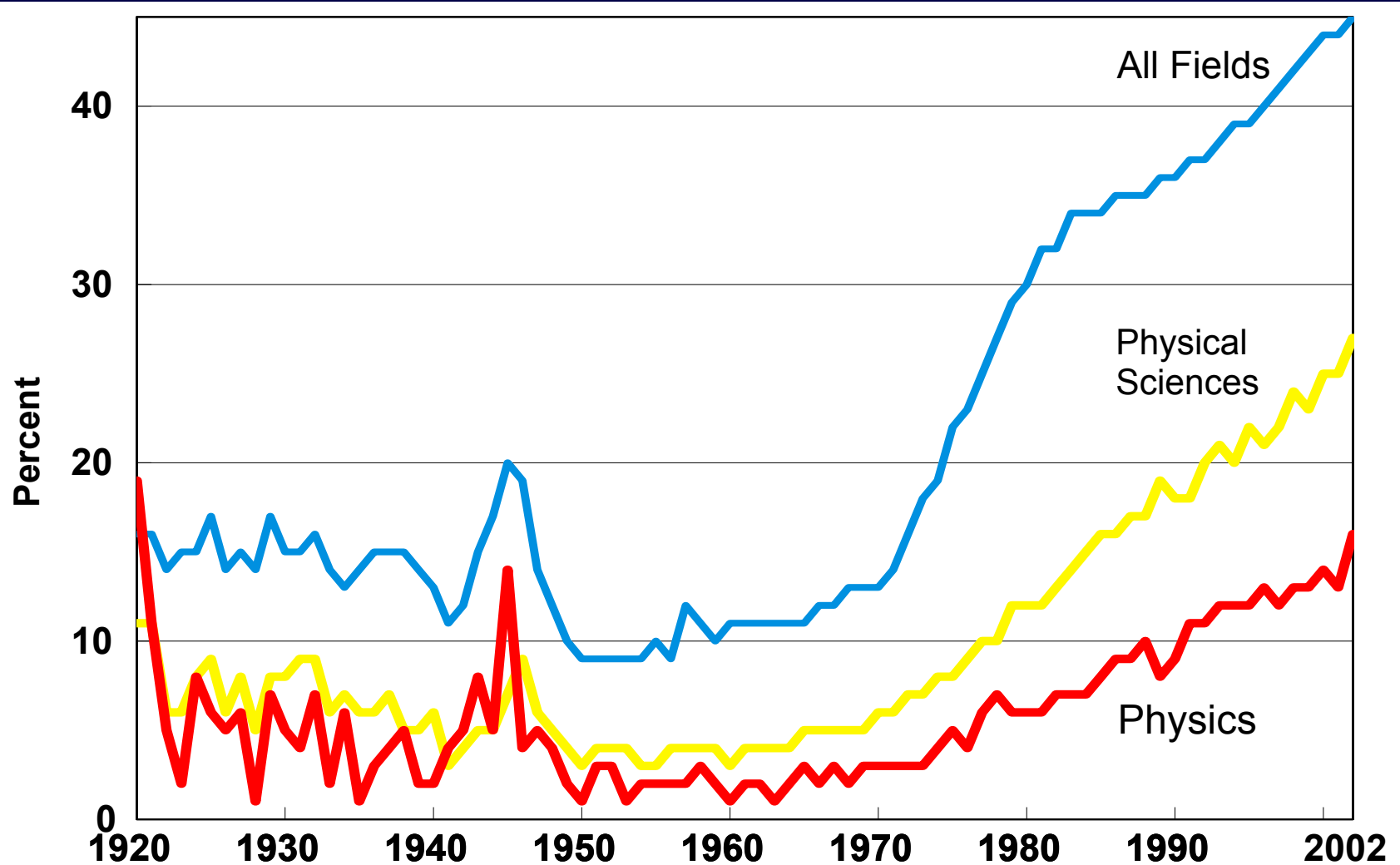
We must all work together to change this.

Women in Academia in Greece



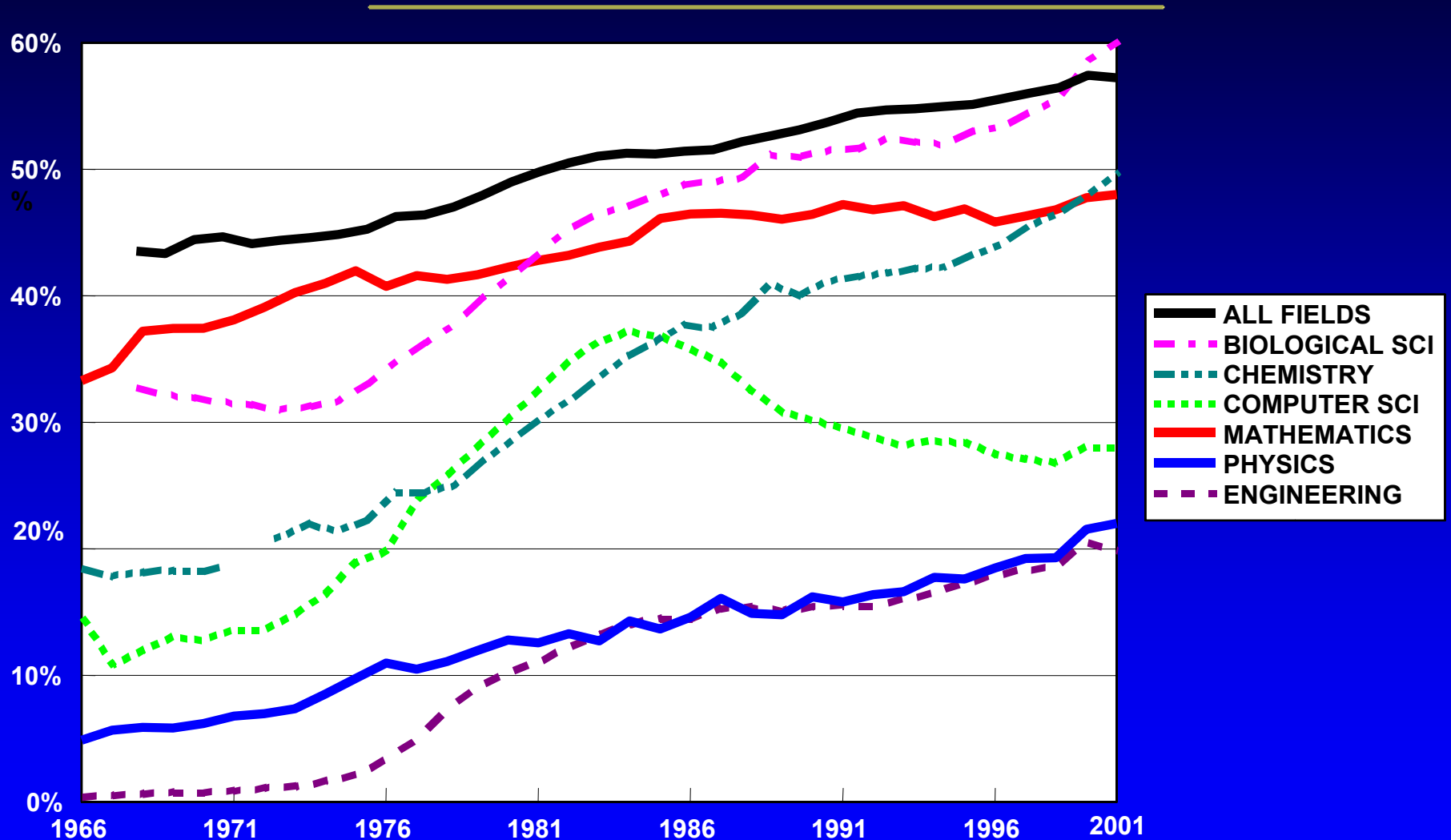
Percentages of women physicists in each academic rank

Percent of PhDs Awarded to Women in Selected Fields, 1920 - 2002



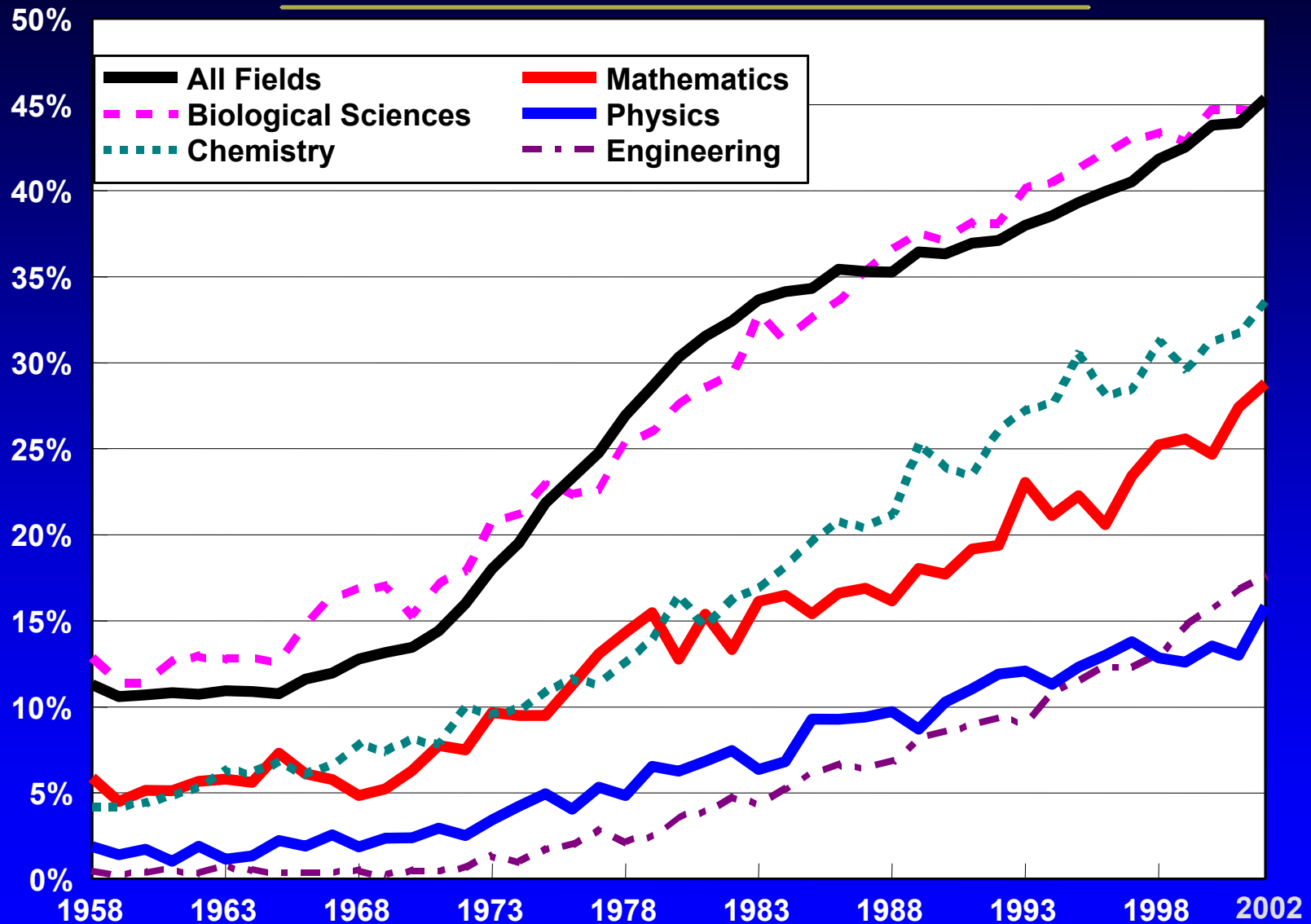
Sources: National Research Council, National Opinion Research Center, and National Science Foundation.
Compiled by AIP Statistical Research Center.

Percent of Bachelor's Degrees Earned by Women in Selected Fields, 1966-2001.



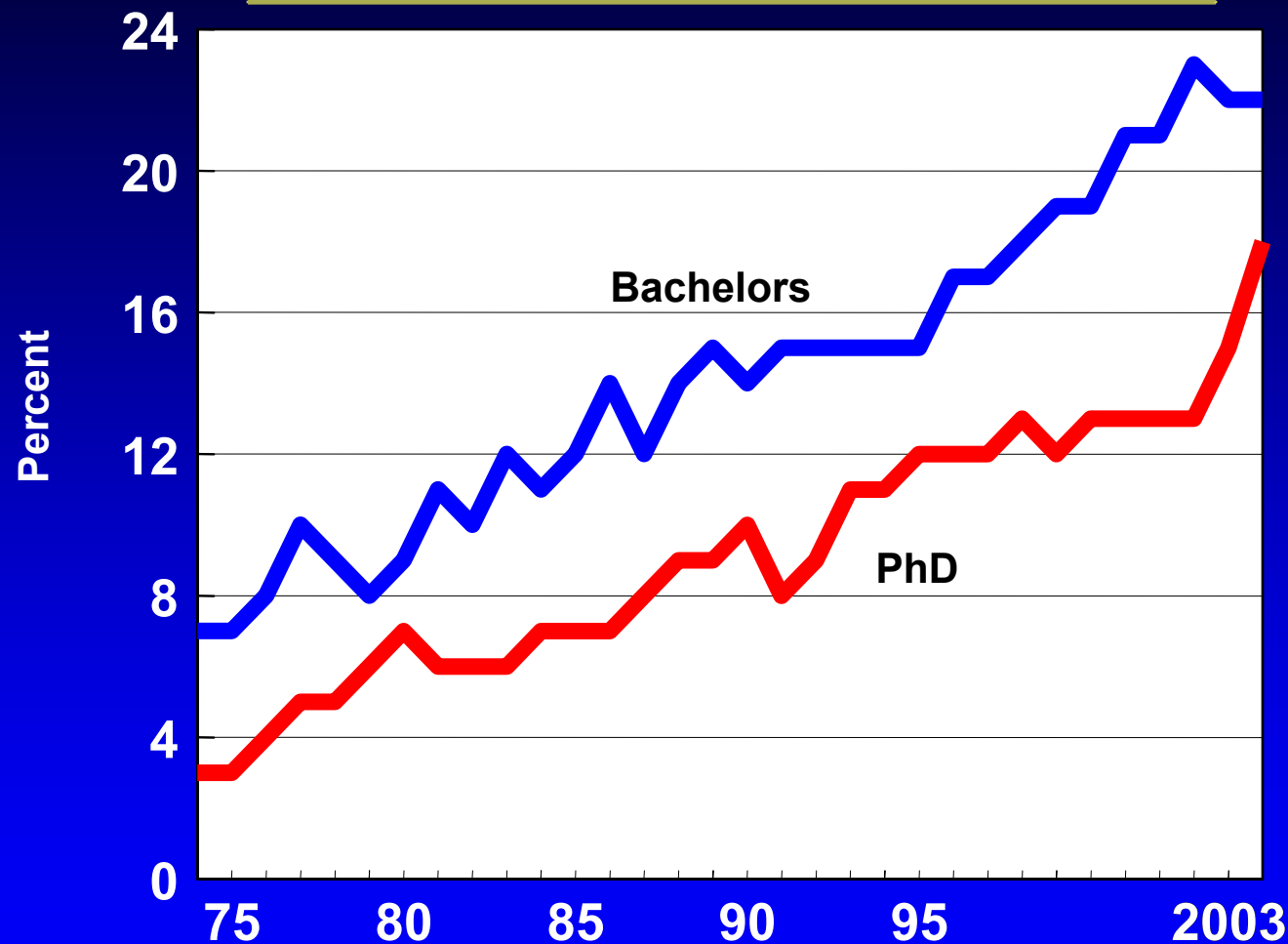
Source: National Center for Education Statistics. Data for Academic Year 1999 were not available.
Compiled by AIP Statistical Research Center.

Percent of PhDs Earned by Women in Selected Fields, 1958-2002.



Source: National Science Foundation. Compiled by AIP Statistical Research Center.

Percent of Bachelor's and PhD Degrees in Physics Earned by Women, 1975 - 2003



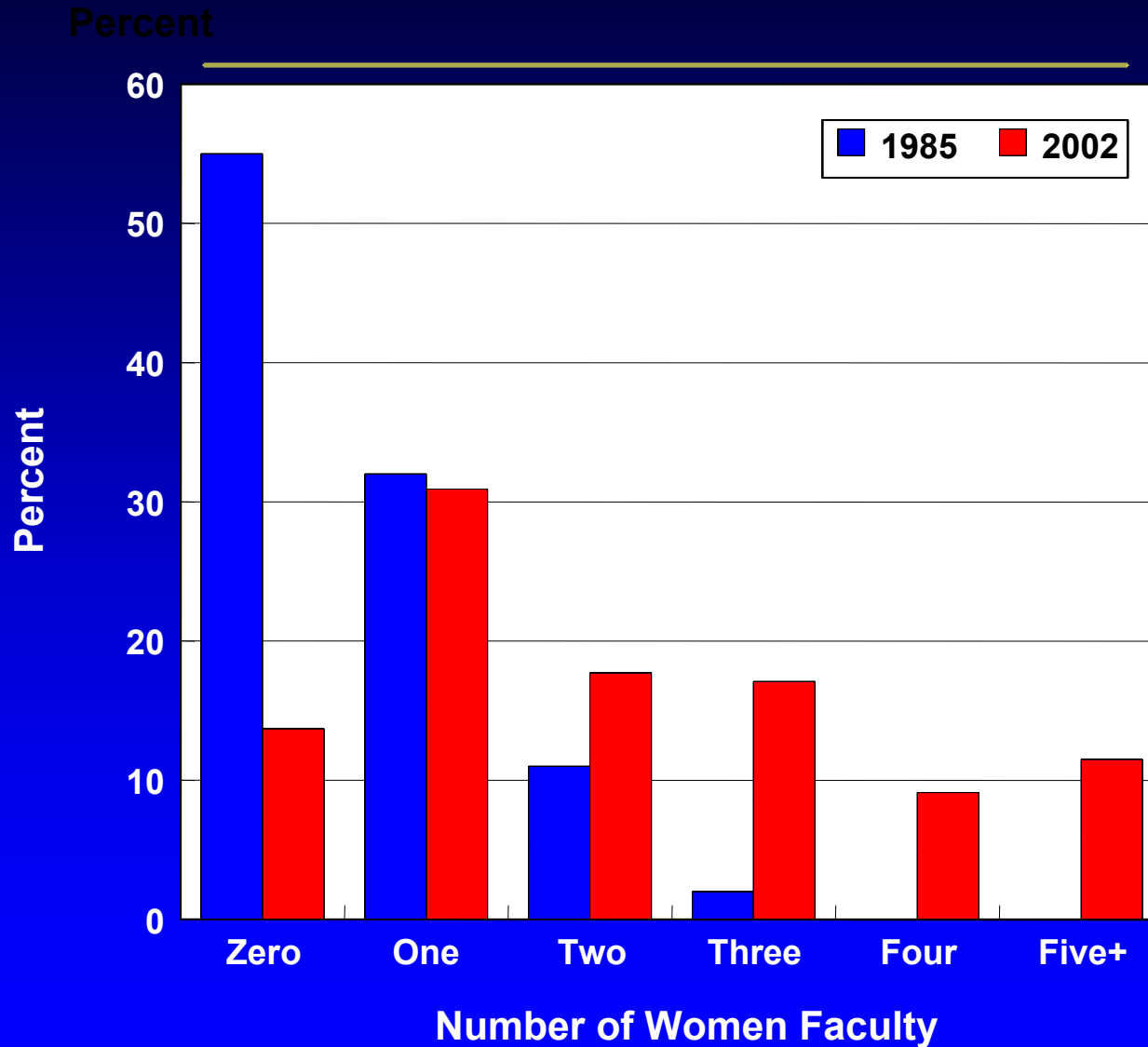
Change for PhDs is about 0.35%/year.

This means that in 10 years the change is 3.5%, not much bigger than the fluctuations!

Percent of Faculty Positions in Physics Held by Women, 1994, 1998 and 2002

		1994 (%)	1998 (%)	2002 (%)
Academic Rank	Full Professor	3	3	5
	Associate Professor	8	10	11
	Assistant Professor	12	17	16
	Other Ranks	8	13	15
Type of Department	PhD	5	6	7
	Master's	7	9	13
	Bachelor's	7	11	14
	Overall	6	8	10

% of PhD Physics Departments With Given Number of Women Faculty



Source: 2002 AWF Survey, Statistical Research Center, American Institute of Physics.

Country	PhD's %	First Level %
France	27	33
Poland	23	36
Turkey	21	37
India	20	32
United King.	16	20
United States	13	18
Sweden	13	17
Germany	9	10
Netherlands	9	5
South Korea	8	30
Japan	8	13

Anglo-Saxon Europe

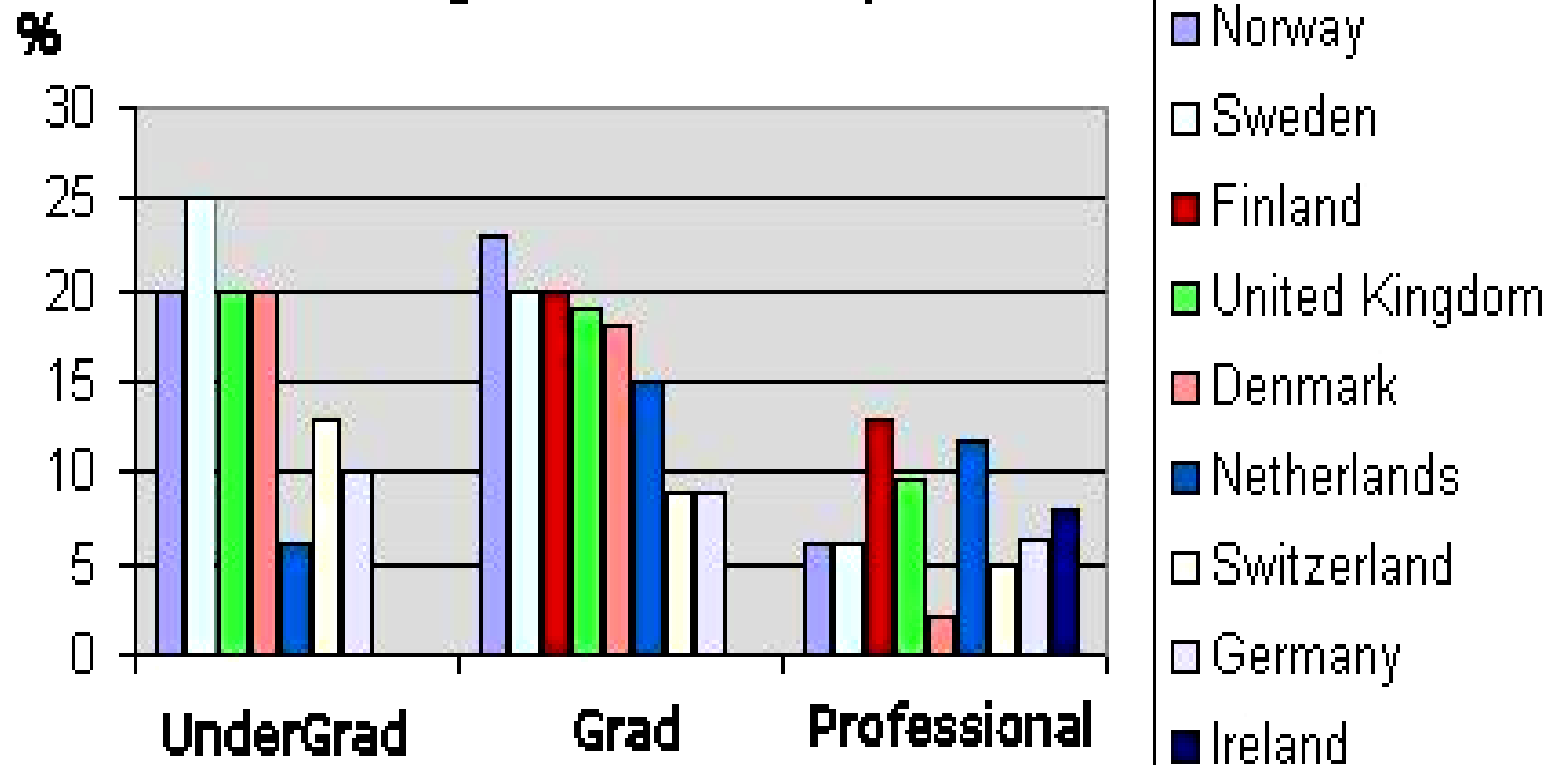
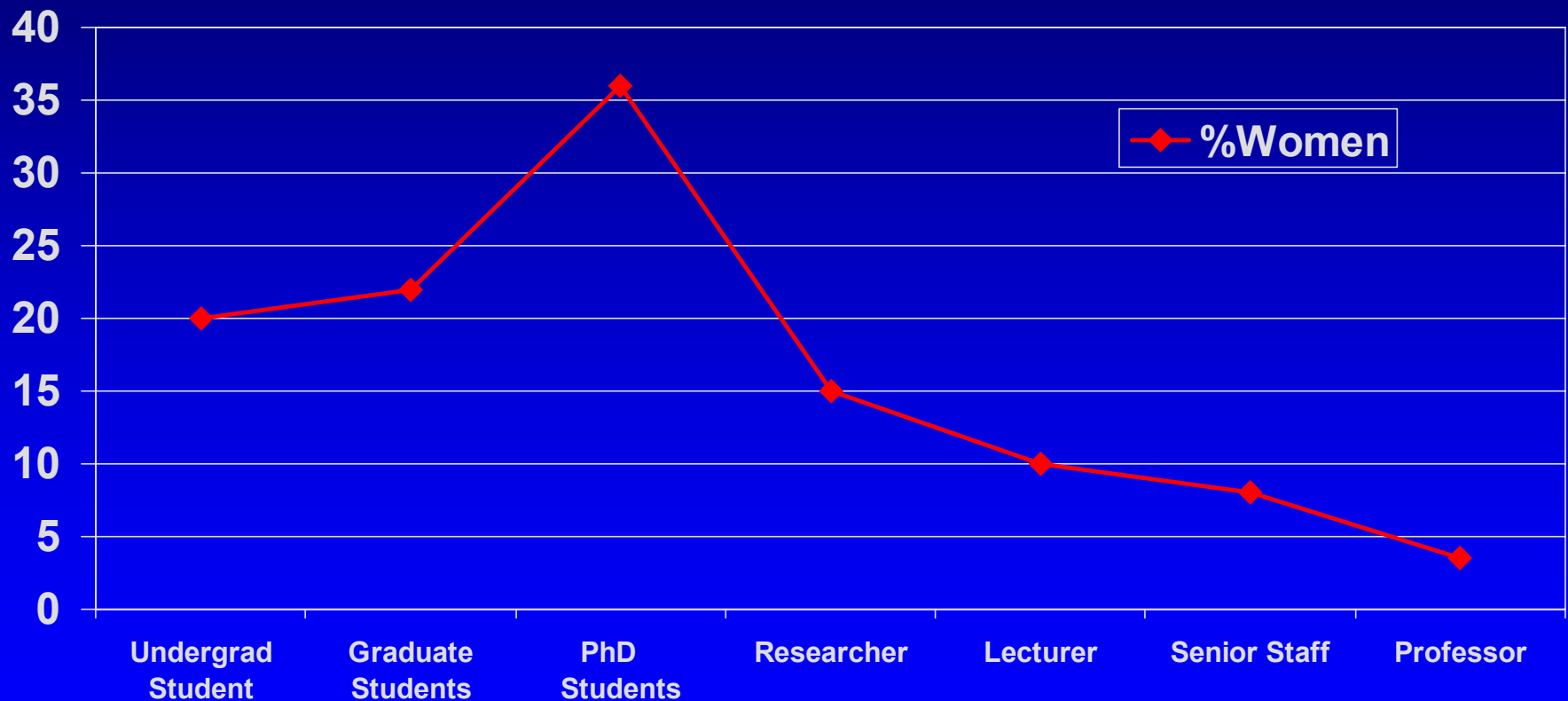
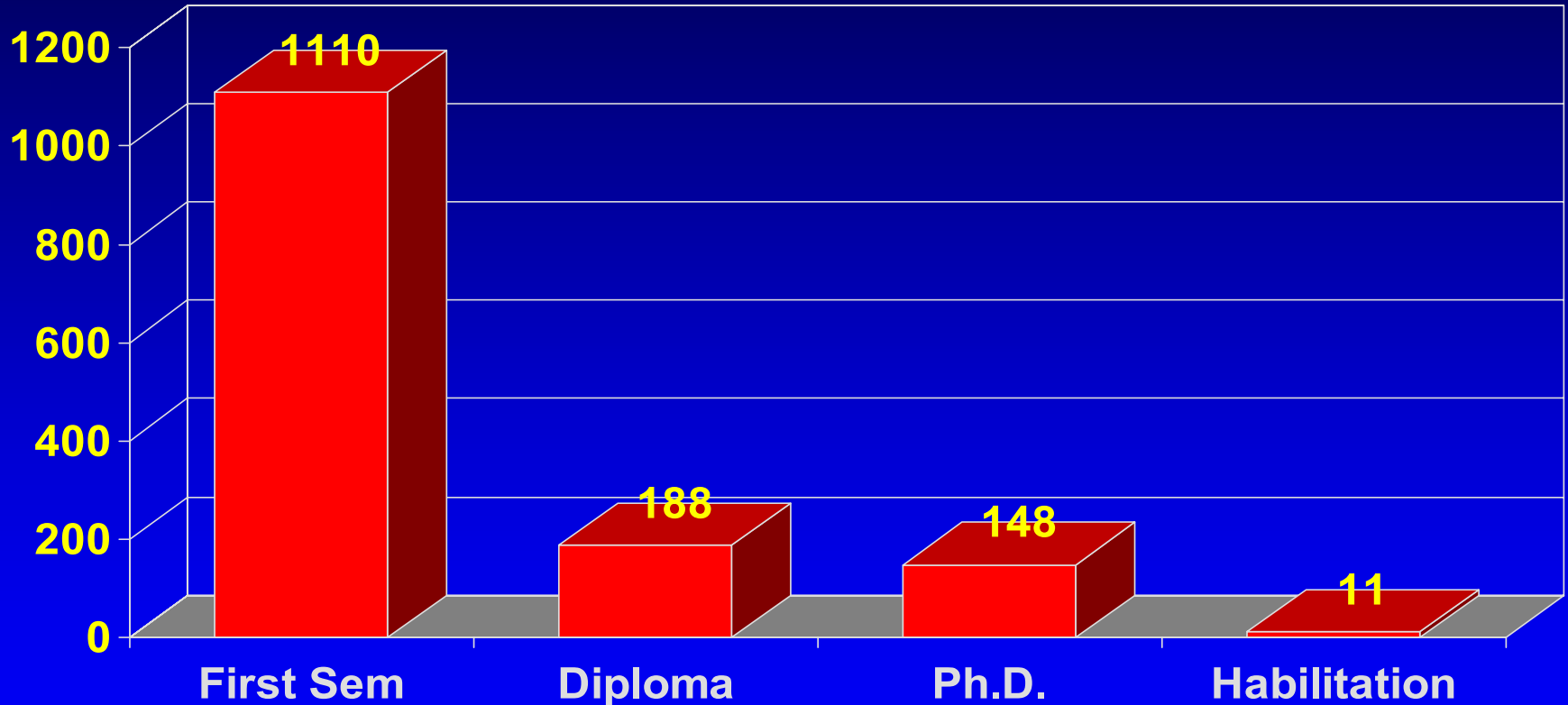


Chart showing percentage of women in academic posts from undergraduates to professors 2002 in the UK

(Data from HESA)



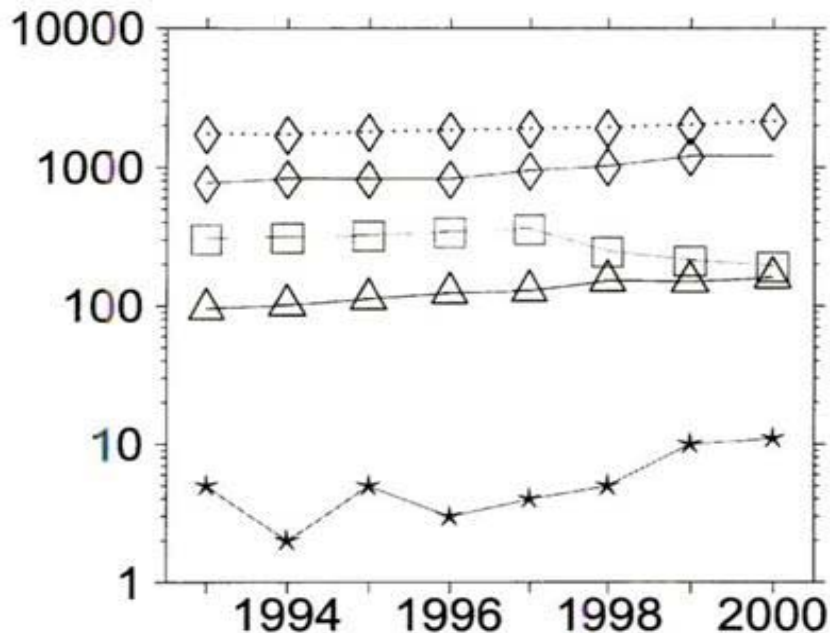
Women in Physics in Germany



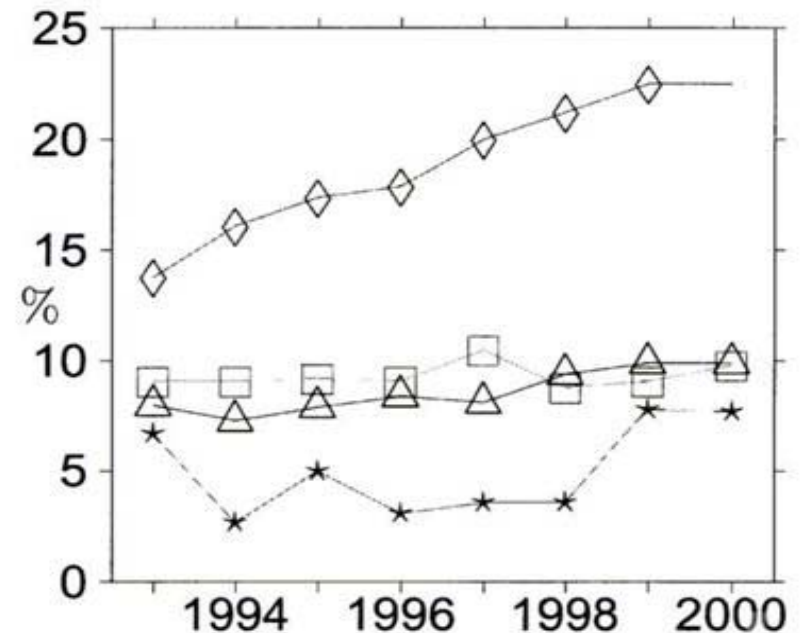
Statistics: R. Kassing, *Phys. Bl.* 57/9 (2001) 30-35. and Statistisches Bundesamt: Unpublished tables of students and academic qualifications in physics. 2002

Women in Physics in Germany

Academic qualification steps⁵

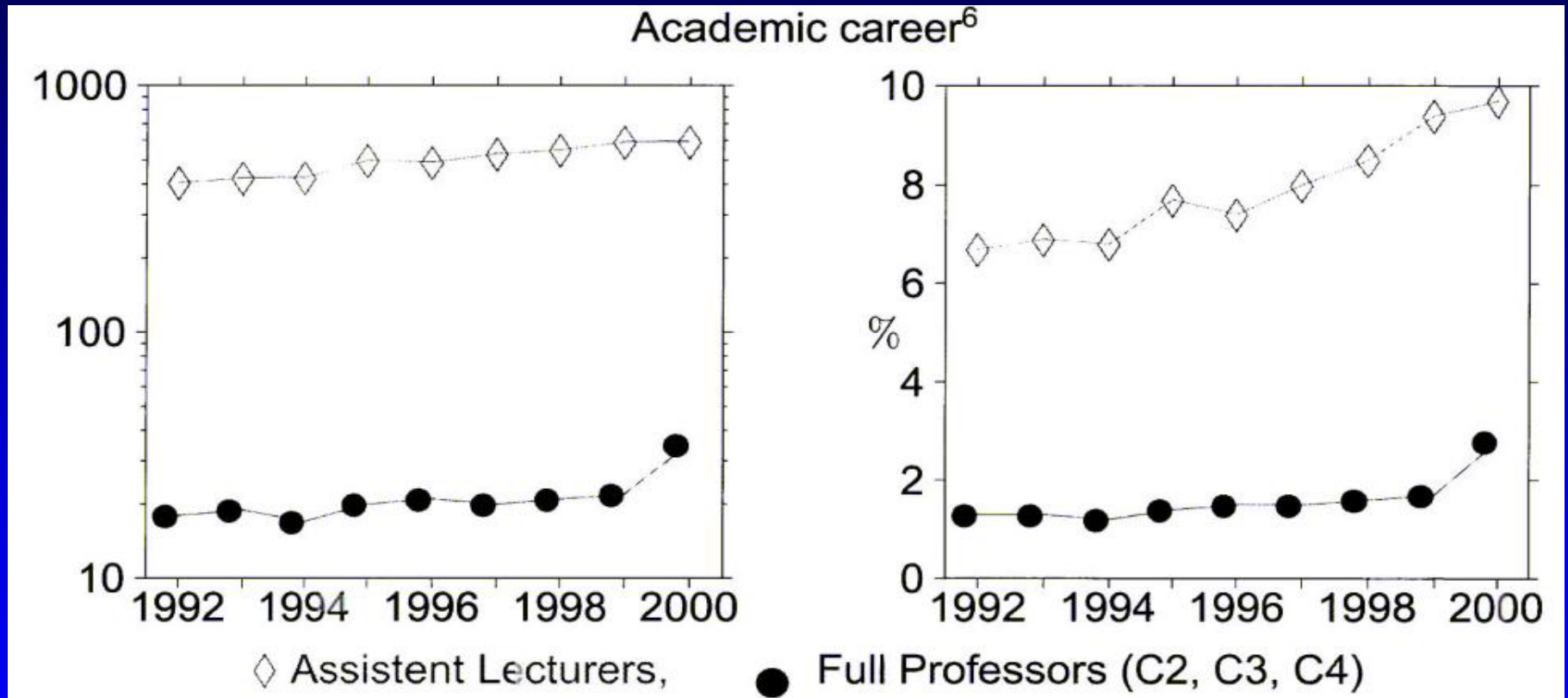


◇ First Semester (all faculties*100),
Physics: ◇ First Semester, □ Diploma, △ Ph.D., ★ Habilitation



Statistisches Bundesamt: Unpublished tables of students and academic qualifications in physics. 2002

Women in Physics in Germany



Statistisches Bundesamt: Unpublished tables of students and academic qualifications in physics. 2002

Why is it important that we work together?

- Help overcome myths

Learn from each other what works

Improve women's careers

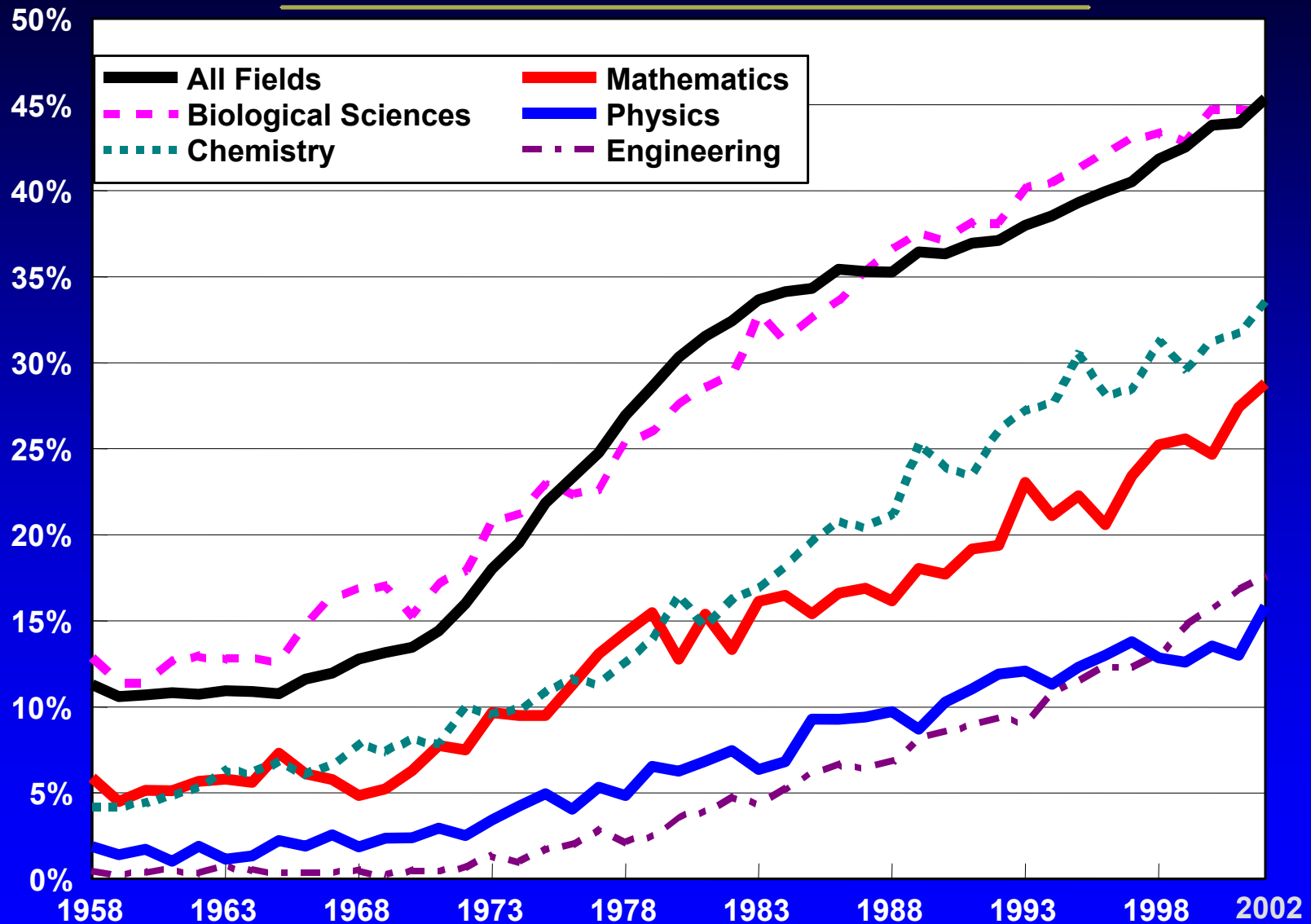
Myths:

- Women don't like physics
- Women aren't good at physics because they can't do math
- Women can't compete
- Women have children and then can't keep up

Country comparisons for physics:

- **Iran: 57% of the B.Sc. degrees go to women.**
- **Romania: 49% of the graduate students in physics are women**
- **Spain: 26% of full professors are women**

Percent of PhDs Earned by Women in Selected Fields, 1958-2002.



Source: National Science Foundation. Compiled by AIP Statistical Research Center.

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Learning what works

Gathering statistics:

Leaky pipeline (US)

Scissors plot (Europe)

Forming women in physics committees or groups

Recent additions: EPS, JPS, KPS, etc.

Site visits (APS) and studies (MIT)

Site visit to investigate the Climate for Women in PhD-Granting Physics Departments

- 1. Statistics collected from the
department**
- 2. One-day visit by 4 – 5 female
physicists**
- 3. Report to chair on needed changes**

**Program began in 1990
with an NSF grant**

26 universities have been visited

Among these are:

Harvard

Texas

Kansas

Virginia

NC State

Cal Tech

Maryland

Columbia

Stanford

Princeton

Wisconsin

Penn State

Duke

Illinois

RPI

Colorado

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WOMEN IN PHYSICS

The IUPAP International Conference on Women in Physics
Paris, France, 2002



EDITORS:

BEVERLY K. HARTLINE AND DONGQI LI

AIP CONFERENCE PROCEEDINGS • VOLUME 628



The General Assembly recommends that Adhering Bodies appoint women to Liaison Committees, that gender be a consideration in nominations to Commissions and the Council, and expects that *IUPAP sponsored conferences have women as members of their program committees.*

Passed unanimously!

Things are improving for women in science, and they will improve more quickly if we all work together!