

SPANISH TEAM

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Historically, Physics has received small attention in Spain by sociological and religious reasons. During XVI and XVII centuries, the Spanish universities were closed to the outside influences in order to prevent heresy while Spanish kings were fighting Reform in Europe. The Spanish Physics and Chemistry Society (RSEFyQ) was founded at 1903, and the first Physics Laboratory was created in 1907. During the period 1936-1939 the scientific activity was cut by the Civil War and the main scientists went out of Spain by political reasons. After that, in 1939 the National Scientific Research Council (*Consejo Superior de Investigaciones Científicas*, CSIC) was founded to develop scientific and technological research in all branches of knowledge.

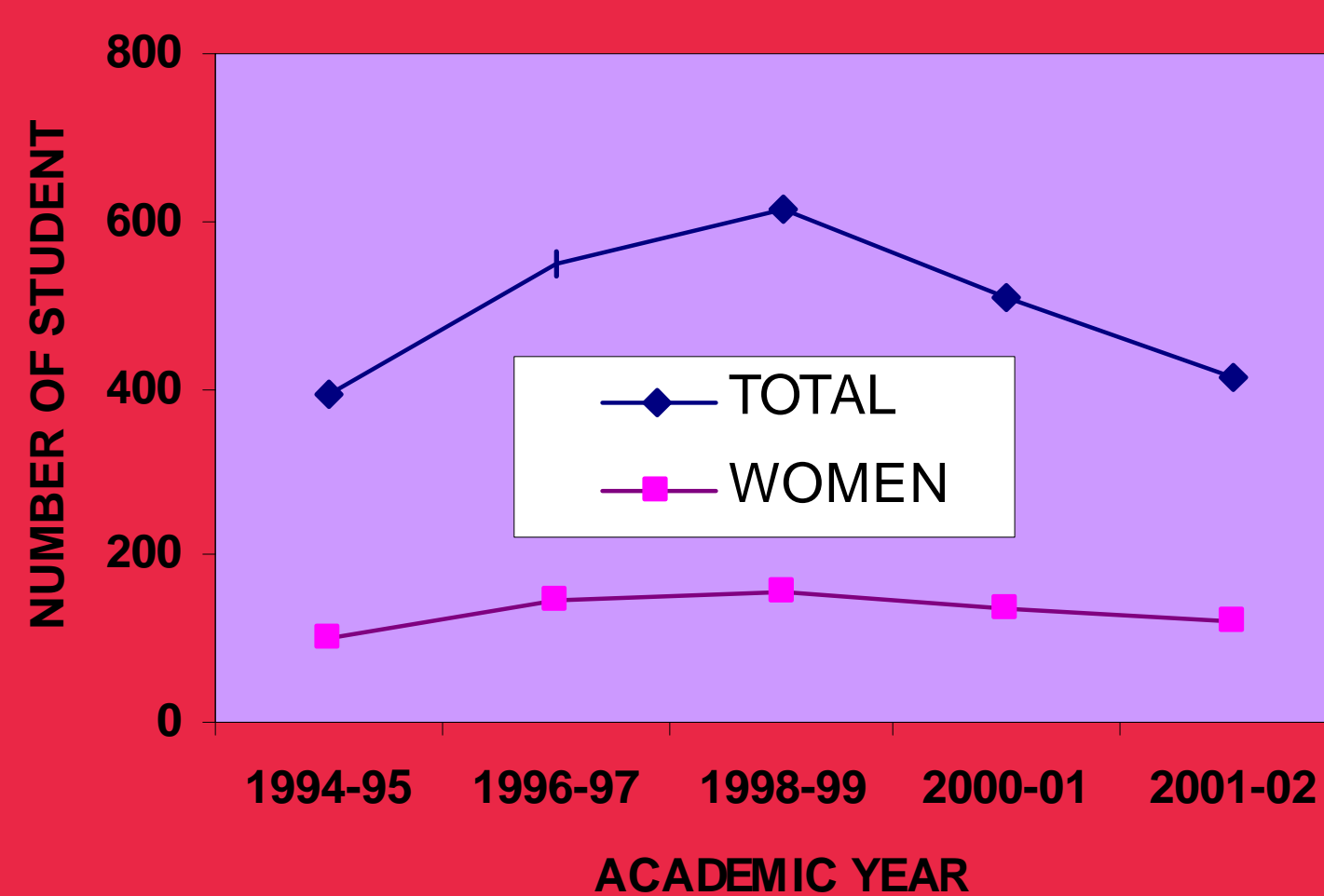
UNIVERSITY STUDIES

The choice of a degree course by women in Spain follows a similar pattern as in most of developed countries. Health sciences (Medicine, Nursery, Pharmacology, Veterinary, Odontology, etc) are mostly preferred by women. In the field of the Experimental Sciences, women are the half of the undergraduated students. However, this ratio decreases when we consider the Physical degree.

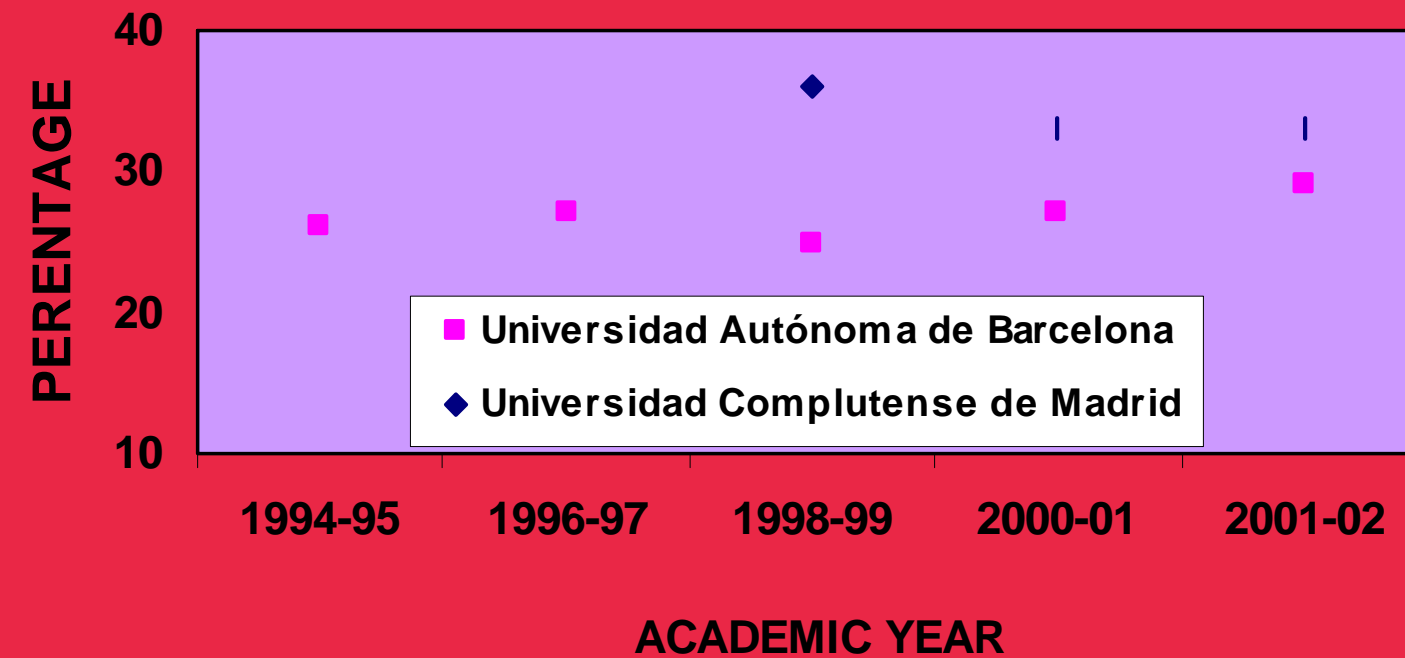
The percentage of female students of Physics is similar to the one of the technical studies (Engineering and Architecture). However the percentage of female graduates in Physics is higher than the engineering graduates.

STUDENTS AT THE PUBLIC SPANISH UNIVERSITIES ACADEMIC YEAR 1998/99		
	TOTAL	WOMEN
STUDENTS PASSING THE EXAM TO ENTER AT THE UNIVERSITY	230,512	57.8%
UNDERGRADUATED STUDENTS	1,580,158	53.3%
• Experimental sciences	129,753	54.2%
• Health sciences	110,512	71.4%
• Law and Social Sciences	801,140	60.9%
• Humanities	161,176	63.6%
• Technical studies	369,757	26.3%
GRADUATED STUDENTS IN 1997/98	202,529	59.2%
• Experimental sciences	12,065	55.1%
• Health sciences	10,623	66.5%
• Law, Social Sciences and Humanities	83,107	62.6%
• Technical studies	13,187	28.1%
Ph.D. STUDENTS DOCTORAL THESIS IN 1997/98	64,472	50.7%
	5,931	42.0%

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COMPARISON BETWEEN THE WOMEN PERCENTAGE FOR TWO PUBLIC UNIVERSITIES



	TOTAL	WOMEN
UNDERGRADUATED STUDENTS ENROLLED ON EXPERIMENTAL SCIENCES. ACADEMIC YEAR 1997/98		
• Chemistry	37,977	57.7%
• Biology	32,509	63.3%
• Physics	18,502	29.9%
• Mathematics	16,473	52.1%
• Others	18,789	56.9%
TOTAL	124,250	54.2%
GRADUATED STUDENTS ON EXPERIMENTAL SCIENCES ACADEMIC YEAR 1997/98		
• Chemistry	3,169	56.7%
• Biology	3,447	62.9%
• Physics	1,755	34.9%
• Mathematics	1,497	54.1%
• Others	1,747	57.3%
TOTAL	12,065	55.1%

PROFESSIONAL ACTIVITIES

The professional activities can be grouped in research, teaching, medical physics and industry.

RESEARCH

Research is mainly carried out in the university, CSIC and other public institutions. The CSIC is the first research organization in Spain. It depends on the Ministry of Science and Technology (MCYT). Salaries are provided by Government. Ph.D. degree is required to achieve a scientific permanent position. The headquarter is placed in Madrid and the research institutes are over the whole country.

The CSIC has a permanent staff of around 4500 persons: Scientific staff 2000, Support Staff 1800 and Administrative and others 700. There also are 2000 persons as staff in training (Ph.D. students). The women ratio in the scientific staff is around 30%.

At the *executive board* (Chairman (head of the staff), Vice-Chairmen and Management board) the presence of women is around 19%. The scientific staff is divided in three levels and the women ratio in the highest level keeps at the 13.3%, but this proportion decreases in the areas related with Physics (see tables).

The number of female members on the committees to decide the permanent positions and the promotion to higher levels has recently increased to around 26% although in the areas related with Physics is less than 20%.

PHYSICS SCIENCES AND TECHNOLOGY		
LEVELS	WOMEN	TOTAL
PROFESSOR OF RESEARCH	3 (9%)	34
RESEARCH SCIENTIST	5 (9%)	58
SCIENTIST	44 (26%)	172
TOTAL	52 (20%)	264

MATERIAL SCIENCE AND TECHNOLOGY		
LEVELS	WOMEN	TOTAL
PROFESSOR OF RESEARCH	2 (3%)	63
RESEARCH SCIENTIST	24 (32%)	76
SCIENTIST	70 (41%)	170
TOTAL	96 (31%)	310

TEACHING

Teaching is the main professional activity for the women graduated in Physics. At the high school level, the ratio of women devoted to this activity is the highest. This is due in part to the system of getting a permanent post. In the other part, teaching at the university requires more effort because it is linked to research. It is difficult to obtain data concerning the number of teacher women graduated in Physics at the high School level since this teaching is shared with the teaching of Chemistry. In addition, many physics teachers are explaining Mathematics.

WOMEN FACULTY MEMBERS (ALL FIELDS) ACADEMIC YEAR 1997/98		
LEVELS	TOTAL	WOMEN
• Full professors and professors	47,944	30.9%
• Professors under temporary contract	31,103	32.7%
• Assistant professors	6,874	42.5%
TOTAL	85,921	33.3%
WOMEN FACULTY MEMBERS IN THE PHYSICS DEPARTMENTS. ACADEMIC YEAR 1997/98		
• Full professors (Catedráticos)	443	2.9%
• Professors (Titulares)	1,488	25.2%
• Professors under temporary contract (Asociados)	422	21.7%
• Assistant professors	255	27.9%
TOTAL	2,608	21.0 %

MEDICAL PHYSICS is another area of importance for the women activities in Spain. The female rate in the Medical Physics association is 29% and the women rate in the highest level (Head of a Medical Physics Department) is 28%.

INDUSTRY: There are enormous difficulties in finding good gender desegregated statistics, data or general information concerning the female rates at the industry field in our country. Women at the top levels of the companies (managers/presidents of companies or head of department) are lower than 10%. In the Report from the ETAN Expert Working Group on Women and Science (EC, 2000) it is estimated that the percentage of female managers/presidents of Spanish companies taking part in research projects is around 4%.

The Spanish Physical Society (www.ucm.es/info/rsef) with 19% of female members has only 11% of women on the board.

SURVEY: CSIC (www.csic.es); Ministerio de Educación y Cultura (www.mec.es); Instituto de la Mujer (www.mtas.es/mujer); Universidad Complutense de Madrid (www.ucm.es); Universidad Autónoma de Barcelona (www.uab.es); Consejo de Universidades (www.mec.es/consejou)