

RESEARCH ARTICLE | MARCH 01 2013

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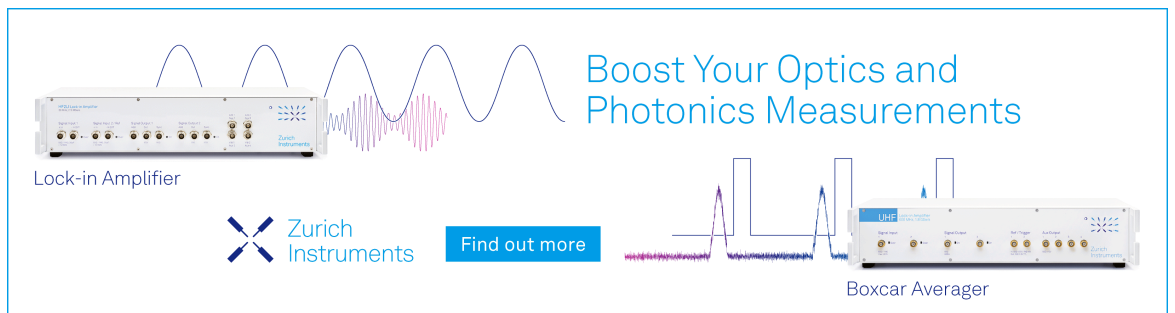


AIP Conf. Proc. 1517, 156–157 (2013)


<https://doi.org/10.1063/1.4794267>



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Tunisian Women in Scientific Research

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Abstract. The number of Tunisian women conducting scientific research is comparable to that of countries where educating girls has been going on much longer. Although women play an increasingly important role in the field of research, they rarely hold positions of responsibility. Enormous similarities exist between the degree of integration of Tunisian women in science and technology and that of developed countries. Since independence and the removal of discrimination between girls and boys, Tunisian women have been catching up very quickly.

Keywords: Tunisia, women in physics

PACS: 01.75.+m, 01.78.+p

STATUS OF WOMEN

Tunisia was the first Arab country to abolish polygamy, in 1956, and to give women the right to vote, in 1957. Tunisia is active in the fight against violence against women—for example, the country now offers free training for doctors and medical students that focuses on issues of violence against women [1]—as well as in involving women in the economic development process. And Tunisian women have been able to maximize the benefits of their gains. One example is the female presence in the Chamber of Deputies of Parliament, rising from 7.4% in 1995 to 27.57% currently. In the Chamber of Councillors it reached 19%.

In addition to growing involvement in politics and access to decision making, Tunisian women are making their way financially and intellectually. The enrollment rate in primary school for girls aged six years is 100%. Girls account for 50% of all students enrolled in secondary education and 60% of total students. The teaching professors of the university are 40% female and women constitute 47% of Tunisian researchers.

The female sector represents 27% of the workforce. Women constitute one third of judges and lawyers. In the medical field, they account for 42% of workers. At the oil exploration site El Borma, seven women engineers contribute their expertise to the development of an emerging field. Furthermore, 44% of staff working in industry and 23% of the people working in agriculture are women.

WOMEN IN SCIENCE

The full participation of women in scientific research increases human potential, significantly influencing economic development while increasing knowledge and helping in the formulation of ethical standards in science and technology. Integrating women into scientific research is essential to achieving sustainable human development, improving the intellectual quality of scientific research, and promoting a more creative life. For all these reasons, international organizations have focused on the state of women in science and scientific research.

In various countries female scientists, aware of the need to strengthen the position of women, have formed associations to promote science and technology to girls. In this context, analyzing the representation of Tunisian women in scientific research is particularly interesting. Indeed, scientific research, and the contributions made by women to solve problems in new and different ways, is a major asset for the country. Knowing the value of an innovative and creative research project underscores how important the involvement of women is in scientific research and technology; indeed, it is crucial to the future of any country. Thus, a review of recent data for Tunisia is necessary to assess the situation and measure progress.

Statistics available from the Tunisian Ministry of Education, Higher Education and Scientific Research during the years 2004 to 2008 [2] indicate that women in Tunisia represent 44% to 47% of all researchers, including professors, researchers, and research students. Moreover, they constitute 33% to 35% of all professors and 26% of all researchers in centers under the Ministry of Education Higher Education. In 2004, women made up 46.4% of students enrolled in PhD scientific research and 54.1% of students enrolled in master's research training. However, these numbers rose to 60%

(PhD and master's) in 2008. As in many countries, most Tunisian female researchers pursue the areas of life and biomedical sciences.

Among those responsible for laboratories and units of research, women represent 14.3%, a proportion similar to that of CNRS in France. In the decade from 1999 to 2000, this proportion was only 12.4%, which indicates that women are involved and take more responsibility in this strategic sector. It should also be noted that the rate of mentoring of women is higher than that of men.

Tunisian statistics regarding women researchers are comparable to numbers from the northern Mediterranean countries, such as France and Spain. During a roundtable discussion of women in research in Mediterranean countries—at the World Symposium MED 2002 held in Marseilles in April 2002—presentation of statistical data of students and teachers in Spain, France, and Tunisia showed similar percentages by discipline and gender [3]. Also, the percentage of women pursuing a research diploma is much higher in Tunisia and France. Thus, it is clear from this brief analysis that the number of Tunisian women doing scientific research is comparable to that of other countries where educating girls has been going on much longer. Enormous similarities do exist between the degree of integration of Tunisian women in science and technology and that of developed countries. Since independence and the removal of discrimination between girls and boys, Tunisian women have been catching up very quickly.

Three of the 25 members of the Tunisian National Advisory Council for Scientific Research and Technology, which advises on matters regarding scientific research programs and technological development, are women, or 12%. One of the 10 members of the National Committee for the Evaluation of Activities of Scientific Research (CNEARS), which is responsible for evaluating scientific research programs and projects, is a woman. Restructuring the national scientific research and technological innovation has led to the creation today of 146 laboratories and 640 research units. Although women play an increasingly important role in the field of research, they rarely hold positions of responsibility. For example, the tally for women is two directors of research centers, 19 heads of laboratories, for a rate of 13%, and 103 heads of research units, or 17%.

Although the presence of women in laboratories and research units has almost reached the goal of full parity, the number of female leaders remains low. We find that women researchers are well represented in the humanities and social sciences (43%), in the documentation and scientific and technical information sectors (64%), and in the sciences of physics and chemistry (40%). These indicators are the result of a national policy supporting the contributions of all its members. However, we cannot simply stop there.

CONCLUSION

While women faculty have made significant strides in academic work, women are still very scarce throughout the world in the upper levels of academic administration, industry, research institutes, and government. For example, it was reported at the 3rd IUPAP International Conference on Women in Physics in 2008 that in the United States women make up only 20% of all chief executive officers, yet they make up more than 50% of the undergraduate student population, even in the sciences (though not yet in physics).

In Tunisia, work plans and strategies have been implemented to improve maternal and child health, promote socioeconomic integration of rural women, and encourage women to move to the front and engage more in community life. The success of these initiatives is helping women to achieve the status that will ensure their strong input into meeting the future challenges of Tunisia.

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