

Progress Thus Far: Women in Physics in South Africa

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Abstract. Physics still has a long way to go in addressing acceleration of women to higher ranks of research and leadership. The general trend shows that the personal choices affect the acceleration of women to the top in both research and academia. My reference is on women who already obtained PhDs and are in positions in South Africa. Women in academia has a higher workload than men and women in research centers has a support issue. Figure 1 is a presentation of institutions that offers a full course in Physics, indicating the status of women with a PhD degree in South Africa. It is clear that in the past 12 years - since the launch of women in physics in South Africa (WiPiSA), there has been very little progress in accelerating women to the top. Amongst those listed, there is one HOD, 2 associate professors and 2 full professors. A very interesting information is the profile of a woman whose dad is a physicist, raised six children and have a son as a physicist. Personal journeys of women in physics in South Africa will be found in a later full paper on this topic, to be submitted elsewhere.

The South African Women in Physics group was founded in 2005 as a subgroup of the South African Institute of Physics (SAIP). At the 1st International Conference of Women in Physics (ICWIP), the numbers for all PhD graduates in South Africa were very low, compared to many places in the world. The conference resulted in a list of mandates to present to home institutions in order to systematically increase the number of women in physics in South Africa. The 2nd ICWIP in 2005 presented the issues around funding for women researchers.

The task of increasing the numbers is daunting, taking into consideration the long list of barriers that affect the acceleration of women in physics. In particular, funding was the main barrier that needed to be addressed to increase the numbers, where age was the greatest issue. The working group in SAIP had chosen to address the low numbers from schools by attracting girls into physics. In addition, the visibility of the women in physics banner at SAIP conferences raised awareness and made new researchers choose mentors for help in climbing the ladder. Interventions followed and included addressing the National Research Foundation (NRF) funding exclusion rules for women and changing the faculty climate for women in academia and research centres who are active in research and teaching. Figure 1 shows the number of women in physics in academia and research centres by institution in 2017. As can be seen from the figure, there is still a lot of work to be done in many institutions in South Africa.

The main sponsor of the project was the Department of Science and Technology (DST). The funding was provided specifically to address the mandate of the IUPAP Working Group on Women in Physics: to increase the numbers by country. The working group made progress with institutional support, addressing office space and working conditions. The flexible time component was extended to academic staff in many institutions, and women were judged for promotions on the basis of their output. The NRF also removed rules that hindered women on the basis of age because of years spent in social issues that affect women only. The SAIP also started to make sure that there was a female speaker at the annual SAIP conference, a special lunch for women in physics, and annual lunches at different institutions funded by SAIP/DST/NRF. In addition, travel grants for different conferences required that the country team have a representative at ICWIP gatherings.

Furthermore, SAIP has made progress in adding women to the Council; see Fig. 2. The numbers increased in 2015, and in 2017, two women were added by voting. The SAIP Council changes every two years. These and other data are available on the SAIP website [1].

More women have been plenary speakers at the annual SAIP conference for women in physics. We still need to work on inviting women scientists as plenary speakers presenting their scientific work. The next project should focus on increasing the number of women in physics who have their own research groups and projects.

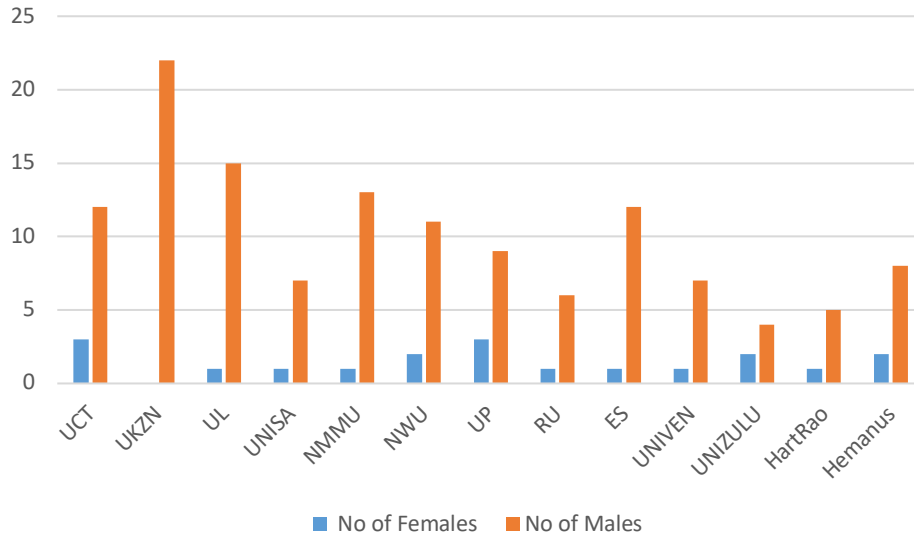


FIGURE 1. Women in physics at South African research institutions.

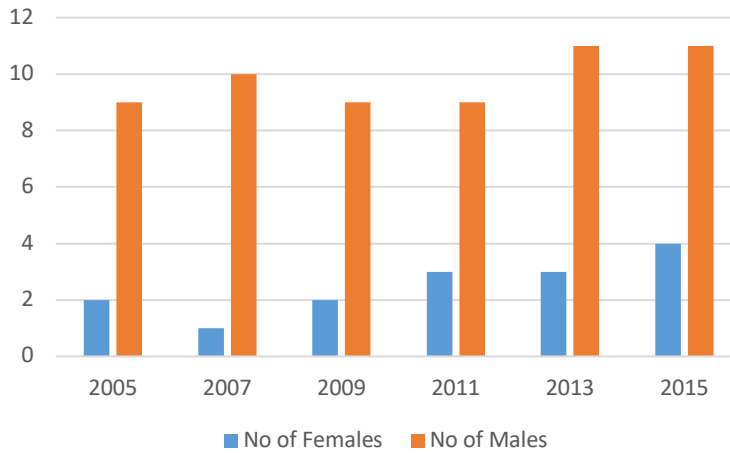


FIGURE 2. Membership in South African Institute of Physics Council, 2005–2015.

REFERENCE

1. Women in Physics in SA web page, <http://www.saip.org.za/index.php/projects/women-in-physics-in-sa>.