

Reflections on Attending the 6th International Conference on Women in Physics

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Fig. 1: Attendees at the 2017 International Conference on Women in Physics.

We report the participation of the 6th International Conference of the Women in Physics (ICWIP) on July 16-20 2017 in Birmingham, UK. The main aim of the meeting was to introduce the people, programs and ideas that have helped break down the barriers in becoming a female physicist. A photo of attendees at ICWIP2017 is shown in Fig. 1.

The ICWIP is a triennial meeting dedicated to encourage and promote activities of female physicists. The “Women in Physics” conferences commenced with a meeting in Paris, France (2002); the second conference was held in Rio de Janeiro, Brazil (2005); the third was

held in Seoul, Korea (2008); the fourth was held in Cape Town, South Africa (2011); and the fifth conference was held in Waterloo Canada (2014).

In this year, the 6th ICWIP was held for a week at the University of Birmingham and brought together nearly 200 women (and a handful of men) from 48 countries.

“There is so much positivity at this conference.” This quote from one of the participants well captured the atmosphere of the conference. This meeting celebrated and shared accomplishments by women scientists with initiatives of breaking down gender bias while eliminating the barriers to success.

The Korean delegates consisted of six physicists: Prof. Ok Hee Chung (team-leader for Korea's delegation, Sunchon National University), Prof. Ranju Jeong (Kwangju University), Dr. Hyunjung Lee (National Fusion Research Institute), Prof. Won-Kun Oh (Chungbuk National University), Prof. Woo-Sung Jung (executive director of the Asia Pacific Center for Theoretical Physics (APCTP)) and Prof. Ha-Woong Cheong (KAIST).

The conference started with a drinks reception and an ice breaker session by Averil Macdonald from the University of Reading, UK. One of the topics that was discussed focused on the social phenomenon in which many girls and their parents tend to be reluctant to choose physics as a major due to social gender bias. However, for individuals talented in science, working in other fields would be very inefficient; it would be as if a right-handed person would be forced to write with their left hand. Therefore, it would be a tragic loss for both individuals and the field to take away opportunities from girls who are talented in science.

The conference presented six plenary sessions by women physicists from around the world, in addition to five workshops, and four country-based and one science-based poster sessions. The country presentations showed the status and activities of women in physics of each respective country and the science presentations covered a wide range of topics related to research and physics education.

The Korean team leader, Prof. Ok Hee Chung presented on recent activities and experiences of the women's committee of the Korean Physical Society (KPS) as shown in Fig. 2. Members of the Korean team also discussed future goals for "women in physics" with other country delegates. The Women's Committee of KPS has organized an annual physics camp for high school girls since 2002. The purpose of this camp has been to provide the girls opportunities for research experience with professional physicists at a university or at a national laboratory and encourage them to choose physics major when entering university. A participant asked whether the camp participants have chosen physics majors, as this camp has been available for the past 15 years. However, this was difficult to answer right away, since a method for tracking the camp participants' respective choices for their majors has not been set up yet. This would be one of the next tasks for the Women's Committee of KPS.

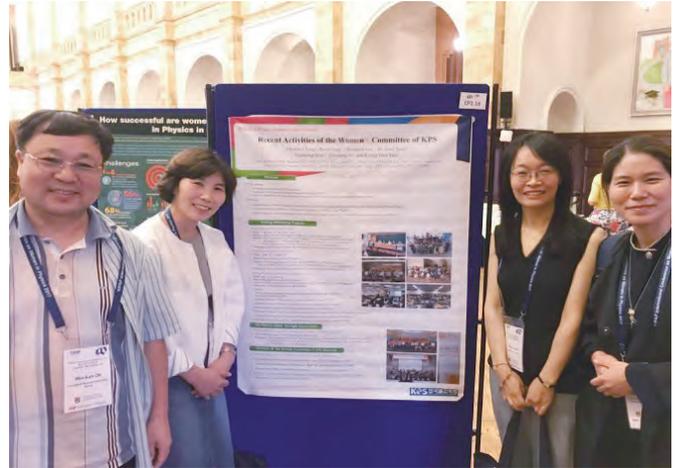


Fig. 2: Members of the Korean team in front of their country poster.

Another Korean program that received much attention from teams from other countries was the "Visiting and Mentoring Program". This program provides mentorship for female graduate and undergraduate students, with mentors visiting universities. The Korean group also reported on the provision of student awards for female graduate students for excellent research presentations during the regular KPS meeting, which is supported by KPS, the Korea Foundation of Women's Science and Technology Association (KOFWST), and by the Korea Center for Women in Science, Engineering and Technology (WISET).

In plenary sessions, six women physicists gave hour long talks related to their career and research activities. "Gender Balance in Science: An Astronomer's View" by Prof. T. Lago from Portugal was the first plenary talk in this conference. This was followed by "Blowing Hot and Cold in Quantum Technologies" by Prof. H. Rubinsztein-Dunlop (Australia); "Magneto-spheric Physics" by Prof. F. Nneka Okeke (Nigeria); "Quantum Effects in Nano-scales" by Prof. Xu-Cun Ma (China); "Reflections on Not Fitting In" by Prof. A Donald (UK); and "Searching for - and Finding ! Gravitational Waves" by Prof. G. Gonzalez (USA), in other plenary sessions. All of the speakers served as excellent models of researchers who were able to overcome social gender biases.

Workshops spanned five themes such as 'Gender Studies and Intersectionality', 'Improving the Workplace/Science Practice and Ethics', 'Professional Development and Leadership', 'Cultural Perception and Bias' and 'Physics/Science Education'. The speakers in each workshop had

considerable experience with the workshop theme and the three workshop sessions ran for one and a half hours each during three days. The Korean team participated in two workshops; ‘Professional Development and Leadership’ and ‘Physics/Science Education’.

The workshop on ‘Gender Studies and Intersectionality’ started with a presentation to set the scene for the discussion involving gender studies. In the first session Eden Hennessey (Canada) presented “Overview of Gender Studies & Intersectionality”, the second session “The Intersectionality-Good Practice” was proceeded by Jo Cole (UK) and the third session consolidated the previous sessions.

The workshop on “Improving Workplace-Science Practice and Ethics” discussed the following subjects: Why Does Research Integrity Matter? ; Project Juno: Advancing Gender Equality in Physics Careers in Higher Education in the UK; and the Background on the Waterloo Charter for Women in Physics.

The workshop on ‘Professional Development and Leadership’ discussed how professional development could help an individual to face the challenges of her or his environment, and change the environment for the better. In this workshop the speakers described their experiences and discussed their best practices. The following questions were raised: What can formal policy contribute? What methods have been shown to be successful?

The workshop on ‘Cultural Perception and Bias’ analyzed different bias situations from diverse regions in the world



Fig. 3: Photo with Ted Yousafzai (inset: Malala).

and proposed strategies to create cultural awareness in order to build better conditions for women in physics. Through education, culture, and interaction with others, a prejudiced environment is created. Later, the impact of this phenomenon can be exposed in many settings, and we share with others our injuries and the limiting of our opportunities, to develop equality at work.

The workshop on ‘Physics Education’ focused on good education practices, with particular reference to gender awareness. After some country-specific talks, all delegates shared their experiences in education, which took place in discussions, where the best practices of the participant’s respective countries were shared and where participants explored initiatives and pedagogy that may work in their own context.



Fig. 4: Photo with the organization members at the banquet.

For the closing ceremony, there was an unexpected presentation by Malala Yousafzai. Malala Yousafzai is a Pakistan activist for female education and became the youngest Nobel Peace Prize laureate in 2014. She is known for human rights advocacy, and in particular, education for women. She was injured in 2012 by a Taliban gunman and remained in critical condition until she was sent to the Queen Elizabeth Hospital in Birmingham, UK. Since there was no pre-notification about her presentation, her appearance was a welcome surprise to the participants. After Malala's speech, representatives of six countries (Ecuador, Pakistan, UK, Ghana, Korea and Australia) were selected to talk and take photos with Malala and her father Ted Yousafzai. Ted Yousafzai is also an advocate for female education in Pakistan. They showed interest about the Korean educational system, and the extent to which equal opportunities for women are given. We took photos with Malala and with her father as shown in Fig. 3. In addition to regular programs, other preparations for

the participants such as a buffet luncheon, dinner, conference banquet at the botanical garden, and a piano concert and trip with a packed lunch were greatly appreciated and we are thankful to the organizational committee of ICWIP2017 for all thoughtful arrangements. Fig. 4. is a photo with committee members after the banquet.

After returning from ICWIP2017, it has become ever more clear that one of the main tasks for the Women's Committee of KPS is to help in seeking a way to eliminate gender bias and prejudice in the social perceptions on physics in Korea, although steps have been made to institutionalize gender equality.

Moreover, I would like to express particular appreciation to KPS and to APCTP for providing the funds to attend ICWIP 2017. I also would like to express my appreciation to everyone involved in making all the activities of the Women's Committee in KPS possible.



Ok Hee Chung is the chairperson of Dept. of Physics Education at Sunchon National University and chairperson of the Women's Committee in KPS. After receiving a PhD from the State University of New York at Buffalo, USA, she started her professional life at Sunchon National University. She worked at the Institute of Solid State Physics and Tokyo University as foreign young researcher invited by the Japan Society for the Promotion of Science and at the National High Magnetic Field Laboratory in Florida, USA. Her research field is experimental condensed matter physics.