

INCEPTION OF ASIAN-OCEANIAN WOMEN IN MATHEMATICS (AOWM) AND ITS PROGRESS IN LAST ONE AND HALF YEARS

by Sanoli Gun and Kyewon Koh Park

We describe the formulation of Asian-Oceanian women in Mathematics (AOWM) and its progress so far¹. It started when Professor Loon-Yi Kang and Professor Kyewon Koh Park wrote an article² about the Korean Women in Mathematical Sciences (KWMS) for the book commemorating the 50-th anniversary of AWM (the Association for Women in Mathematics) with the editing help by Cathy Kessel. At the end of their article to AWM, they wrote:

"Although we are aware that it will not be easy because of disadvantageous attitudes toward women and the diverse languages in Asia, we think that it is now time to make progress..."

After sending the first draft of the article about KWMS to the editor of AWM, Professor Park was soon contacted by Professor Marie-Francoise Roy, then the Chair of the Committee for Women in Mathematics (CWM) of the International Mathematical Union (IMU). Since Professor Roy was writing about the European Women in Mathematics (EWM) for AWM's 50th anniversary book, she came across their article. Professor Roy expressed strong interest in the statement above, pointing out that there were organizations for women mathematicians in every continent – North America, South America, Europe, and Africa – except in Asia. She encouraged Professor Park to create such an organization. Although Professor Park hesitated briefly, she thought that it would be better for them to take the initiative with their experiences from KWMS which was established in 2004, and agreed to try.

To create an organization for women mathematicians, they first needed to establish a Working Group (WG). After many exchanges with Professor Roy, Professor Park received agreement from Professor Motoko Kotani (Japan) and Professor Neela

¹ Part of the article is based on the report in Newsletter of KMS, vol 204.

² S. Y. Kang and K. K. Park, (2022). Korean Women in Mathematical Sciences. In: Beery, J.L., Greenwald, S.J., Kessel, C. (eds) Fifty Years of Women in Mathematics, Association for Women in Mathematics Series, vol 28. Springer, Cham. <https://doi.org/10.1007/978-3-030-82658-186>

Nataraj (India) to join the WG. With the help of our colleagues in each country, Professor Park reached out to Professor Dongmei Xiao (China), Professor Polly Sy (Philippines), and Professor Nahn Le Thanh (Vietnam), who also agreed to participate. The first Zoom meeting took place in the fall of 2020. A few months later, the representative for India was changed from Professor Nataraj to Professor Sanoli Gun, upon the recommendation of the Indian Mathematicians. Due to the COVID-19 pandemic, all meetings had to be held via Zoom.

The six members of the WG worked diligently and came up with many ideas. We expected that, when the Congress of Southeastern Mathematics Union (SEAMS) was held in Vietnam in the summer of 2021, we would naturally hold the founding meeting of the new organization.

However, the conference in Vietnam was cancelled due to COVID-19 again, and the founding of the Union of Asian Mathematicians (UAM) was postponed. With no opportunity to meet in person or even visit each other, we decided to use the ambassador system that CWM had in place. CWM, as part of the IMU's Executive Committee, has ambassadors in each country (1-4 per country) to promote and disseminate its activities.



Participating region of the 2nd ambassador meeting, February 25, 2022.

Meanwhile, CWM had planned

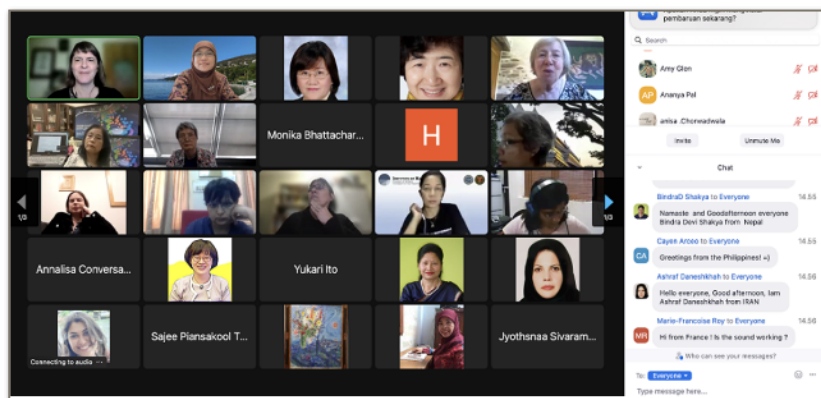
to hold a workshop for ambassadors by continent via Zoom, with the European meeting already scheduled. After several meetings with the WG members, we decided to hold the first Asian and Oceanian Ambassadors Meeting on June 25, 2021. It seemed a good idea to use this meeting to gauge the opinions of different regions and countries.

The June 25 meeting was lively, with enthusiastic discussions about the founding of the organization, signaling that many had been eagerly awaiting such an initiative. During this meeting, the name "Asian and Oceanian Women in Mathematics" (AOWM) was confirmed. "Asia" was chosen based on the IMU's suggestion, and Australia and New Zealand were included as well. Additionally,

Professor Bakhyt Alipova (Kazakhstan) and Professor Catherine Greenhill (Australia) joined the WG, bringing the total number of members to eight. This meeting became a key turning point in advancing the establishment of AOWM through the efforts of each country's ambassadors. Professor Kotani (Tohoku University) was selected as the WG Chair, and she was already representing Asia on CWM. When embarking on new and uncertain initiatives like this, it was essential to have responsible individuals to organize meetings, gather opinions, and make key decisions.

As the WG was still in its early stages and not yet a formal organization, we decided to create "Guidelines" instead of formal statutes. These Guidelines outlined the purpose of AOWM, its necessity, and the activities it would undertake. At the second ambassador meeting on February 25, 2022, the Guidelines were approved, and we agreed to seek nominations for the Executive Committee and Coordinators from the ambassadors. In the final WG meeting on May 16, we finalized the membership application form and set the date for the Foundation Meeting on August 1, 2022.

On August 1, 2022, the founding meeting of AOWM was held via Zoom. Although we wished we could meet in person, the uncertainty of when we would be able to gather from all the regions made it necessary to proceed with the online format. Approximately 130 participants from 18 countries across Asia attended the meeting. Congratulatory messages were sent from women mathematicians' organizations from North America, South America (sent immediately after the meeting), Africa, and Europe. Additionally, 16 mathematical and statistical societies from



1st page of Foundation Meeting, August 1st, 2022.

various countries in the Asia-Pacific region— Australia, China, India, Indonesia, Japan, Korea, Malaysia, Nepal, New Zealand, the Philippines, Vietnam — also sent congratulatory messages, which were shared during the meeting. This was a great opportunity to garner support and collaboration.

During the founding meeting, we elected the following members to the Executive Committee:

- President: Sanoli Gun (India)
- Vice President: Melissa Tacy (New Zealand)
- Vice President: Polly W. Sy (Philippines)
- Secretary: Hyang-Sook Lee (Korea)
- Other EC members:
 - Dongmei Xiao (China)
 - Budi Nurani Ruchjana (Indonesia) –
 - Zohreh Mostaghim (Iran)
 - Yukari Ito (Japan)
 - Bakhyt Alipova (Kazakhstan.)



Additionally, AOWM has appointed coordinators in each region. Finally, Professor Nalini Joshi, a member of the IMU Executive Committee, delivered an inspiring lecture titled “Reflection on Gender Diversity in Mathematics,” sharing her personal journey as a mathematician. Her words encouraged and comforted all who attended the meeting.

The first offline meeting of AOWM was held in International Centre for Theoretical Sciences (ICTS), India from 24th to 28th April, 2023 in hybrid mode with the financial support from Committee for Women in Mathematics (CWM) and Institute of Mathematical Sciences, Chennai in addition to the support from ICTS. It gave an opportunity to participants from different countries to finally meet each other. Several invited and contributed talks were organized to give young researchers an opportunity to present their work to a wider audience. The cultural diversity enabled the participants to learn from each other. During this meeting, panel discussions were held to give women a platform to share their concerns and voice the difficulties that either they or their colleagues face and suggestions to resolve them were discussed. The happy faces at the end of the meeting was a testimony of its success.

After the meeting at ICTS, on behalf of Springer, Anna Lombardo and Marc Strauss approached Professor Gun for publishing a volume in *La Matematica* partly based on the works presented in the inaugural meeting at ICTS. Currently articles for this volume are being invited and reviewed.

A flurry of online and offline AOWM schools and workshops took place in different after its inception. Two important aspects were still missing. One of them was to set up an official website and the other one is to create a logo for AOWM. With the help of financial supports from the Institute of Mathematical Sciences (Chennai), AOWM now has an online presence at the following [website](#).



ICTS, April 2023.

A website cannot be maintained without the dedication of some mathematicians. Professor Amber Habib and Dr. Rashi Lunia agreed to manage the website. Earlier a working website was created by Prof Budi Nurani Ruchjana which will now be replaced by the above AOWM official website. The number of participating countries have now grown to 20 from 18. Details of the co-ordinators from these member countries can be found on the webpage. AOWM is now in the process of conducting a logo competition and finalizing a logo for AOWM. Professor Park has announced 200 Korean dollars cash prize to the winner.

The AOWM is organizing a workshop in the University of Auckland from 6th to 9th December, 2024. The next Annual General meeting of AOWM is scheduled to be held during this workshop. During this meeting, the next president and new EC will be elected, which will take charge from August 1, 2025.

Following is a list of various organizations with the help of which women mathematicians will be able to enhance their capabilities, exchange and collaborate not only within Asia and Oceania but also globally.

Organizations for Women Mathematicians:

- Asia: Asian and Oceanian Women in Mathematics (AOWM)
- Africa: African Women in Mathematics Association (AWMA)
- Europe: European Women in Mathematics (EWM)

- International: International Mathematical Union (IMU), Committee for Women in Mathematics (CWM)
- India: Indian Women in Mathematics (IWM)
- Korea: Korean Women in Mathematical Sciences (KWMS)
- North America: Association for Women in Mathematics (AWM)
- South America: CGD, Union of Mathematics of Latin America and the Caribbean (UMALCA).

This will enable them to actively contribute to the growth of the mathematics community and take on diverse roles in various areas of mathematics.

There are still a lot of work and challenges for AOWM. For instance, even though there is a lot of enthusiasm among women mathematicians of these two continents to interact among each other, but due to poor socio-political or financial infrastructure, mobility or online interactions at times becomes rather difficult. However, we have made a firm and decisive start and are confident of making a difference among women Mathematicians in Asia and Oceania. Well begun is half done!

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Professor Kyewon Koh Park is a distinguished mathematician specializing in ergodic theory and dynamical systems. She got her PhD from Stanford University and served as the first president of the Korean Women in Mathematical Sciences (KWMS) and has contributed significantly to initiatives promoting gender equality in mathematics. She is also a former member of the Institute for Advanced Study (1987–1988).

