

IAU Symposium 358

“Astronomy for Equity, Diversity and Inclusion - a roadmap to action within the framework of the IAU centennial anniversary”

12-15 November 2019, Mitaka, Japan

Post Meeting Report



- (i) Final scientific programme, list of invited review speakers and session chairs;
- (ii) Summary of the scientific highlights of the meeting;
- (iii) An Executive Summary of the Meeting.

Scientific Program

DAY 1 | Nov. 12 (Tue.)

- 11:00 Keynote Session 1 [30min. + 15min.]
 Chaired by Susana Deustua, Space Telescope Science Institute, USA
 Using Cultural Astronomy to Create a More Inclusive Astronomy
 Jarita Holbrook, South Africa
- 12:00 Poster Session I [1 hour]
 Chaired by Thembelihle Bongwana, University of the Western Cape, South Africa
- 14:30 Panel Session 1 [45min. + 15min.]
 Chaired by Neha Deshpande, Inter-University Center for Astronomy and Astrophysics,
India
Theme: Identify and Address a Climate of Inclusivity

16:15 Talk Session 1 [1h]
 Chaired by Boonrucksar Soonthornthum, National Astronomical Research Institute of
Thailand (NARIT), Thailand
Theme: Diversity in Research: Identity, Ethnicity and Culture in Research Teams

DAY 2 | Nov. 13 (Wed.)

9:00 Keynote Session 2 [30min. + 15min.]
 Chaired by Thilina Heenatigala, ELSI, Japan
Women in Astronomy: A view from a gender-imbalanced country
Yuko Motizuki, Japan

9:45 Panel Session 2 [45min. + 15min.]
Chaired by Beatriz García, ITeDA (CNEA, CONICET, UNSAM), Argentina
Theme: Astronomy for Society Inclusion, Diversity, Equity

11:00 Panel Session 3 [45min. + 15min.]
Chaired by Francesca Primas, ESO, Germany
Theme: Sustainable Development Goals (SDGs): Gender Equality and Its Intersections

13:15 Panel Session 4 [45min. + 15min.]
Chaired by Nicolas Bonne, University of Portsmouth, UK
Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

14:30 Panel Session 5 [45min. + 15min.]
Chaired by Junichi Watanabe, NAOJ, Japan
Theme: Diversity in Research: Identity, Ethnicity and Culture in Research Teams

16:15 Talk Session 2 [1h]
 Chaired by Alan Alves-Brito, Universidade Federal do Rio Grande do Sul, Brazil
Theme: Sustainable Development Goals (SDGs): Gender Equality and Its Intersections

DAY 3 | Nov. 14 (Thu.)

8:45 Keynote Session 3 [30min. + 15min.]
 Chaired by Aya Bamba, University of Tokyo, Japan
The need for reinforcing the implementation of inclusion and diversity strategies as ordinary actions
towards the social and scientific development of our society
Santiago Vargas Domínguez, Colombia

9:30 Talk Session 7 [45min. + 15min.]
 Chaired by Prosperity Simpemba, South African Regional Office of Astronomy for
Development/Copperbelt University, Zambia
Theme: Learning from Best Practices

10:45 Poster Session II [1h]
 Chaired by Matthew Schneps, Harvard Smithsonian Center for Astrophysics (Retired),
USA

15:15 Talk Session 3 [45min. + 15min.]
 Chaired by Nurul Fatini Jaafar, Academy of Malay Studies Universiti Malaya,
Malaysia

Theme: Research, Outreach, Education for Inclusion

16:15 Talk Session 4 [1h]

Chaired by Garry Foran, Centre for Astrophysics and Supercomputing, Australia

Theme: Research, Outreach, Education for Inclusion

17:15 END DAY 3

DAY 4 | Nov. 15 (Fri.)

9:00 Keynote Session 4 [30min. + 15min. + 15min.]

Chaired by Enrique Pérez Montero, Instituto de Astrofísica de Andalucía (IAA

CSIC), Spain

The Deeper, Wider, Faster program: A platform for collaborative science, inclusion advancement, and STEM promotion to the general public

Jeff Cooke, Australia

10:15 Talk Session 5 [1 hour]

Chaired by Kumiko Usuda-Sato, National Astronomical Observatory of Japan (NAOJ),

Japan

Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

11:15 Talk Session 6 [1 hour]

Chaired by Jimi Green

Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

13:15 Panel Session 6 [45min. + 15min.]

Chaired by Thelma Oppelt, Human Sciences Research Council, South Africa

Theme: Mitaka Resolutions

14:15 All Chairs Present the Talks @Panel Sessions Short Overview + Comments and Feedback from the Participants [1h]

16:00 Mitaka Resolutions, with the presentation of the first draft, by Thelma Oppelt, Human Sciences Research Council, South Africa

List of Keynote Speakers

Jarita Holbrook, South Africa

Yuko Motizuki, Japan

Santiago Vargas Domínguez, Colombia

Jeff Cooke, Australia

List of Session Chairs

Keynote Session 1

Susana Deustua, Space Telescope Science Institute, USA

Keynote Session 2

Thilina Heenatigala, ELSI, Japan

Keynote Session 3

Aya Bamba, University of Tokyo, Japan

Keynote Session 4 [30min. + 15min. + 15min.]

Enrique Pérez Montero, Instituto de Astrofísica de Andalucía (IAA CSIC), Spain

Poster Session I

Thembelihle Bongwana, University of the Western Cape, South Africa

Poster Session II

Matthew Schneps, Harvard Smithsonian Center for Astrophysics (Retired), USA

Panel Session 1

Theme: Identify and Address a Climate of Inclusivity

Neha Deshpande, Inter-University Center for Astronomy and Astrophysics, India

Panel Session 2

Beatriz García, ITeDA (CNEA, CONICET, UNSAM), Argentina

Theme: Astronomy for Society Inclusion, Diversity, Equity

Panel Session 3

Francesca Primas, ESO, Germany

Theme: Sustainable Development Goals (SDGs): Gender Equality and Its Intersections

Panel Session 4

Nicolas Bonne, University of Portsmouth, UK

Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

Panel Session 5

Junichi Watanabe, NAOJ, Japan

Theme: Diversity in Research: Identity, Ethnicity and Culture in Research Teams

Panel Session 6

Thelma Oppelt, Human Sciences Research Council, South Africa

Theme: Mitaka Resolutions

Talk Session 1

Theme: Diversity in Research: Identity, Ethnicity and Culture in Research Teams

Boonrucksar Soonthornthum, National Astronomical Research Institute of Thailand (NARIT), Thailand

Talk Session 2

Alan Alves-Brito, Universidade Federal do Rio Grande do Sul, Brazil

Theme: Sustainable Development Goals (SDGs): Gender Equality and Its Intersections

Talk Session 3

Nurul Fatini Jaafar, Academy of Malay Studies Universiti Malaya, Malaysia

Theme: Research, Outreach, Education for Inclusion

Talk Session 4

Garry Foran, Centre for Astrophysics and Supercomputing, Australia

Theme: Research, Outreach, Education for Inclusion

Talk Session 5

Kumiko Usuda-Sato, National Astronomical Observatory of Japan (NAOJ), Japan

Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

Talk Session 6

Jimi Green, CSIRO

Theme: Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy

Talk Session 7

Prosperity Simpemba, South African Regional Office of Astronomy for Development/Copperbelt University, Zambia

Theme: Learning from Best Practices

Scientific Highlights

The symposium welcomed **four Keynote Sessions** in line with four key topics identified by the Organizing Committees for their relevance in presenting the current status in the field and lay grounds to move the global discussion forward and implement practical actions on diversity and inclusion. Dr Jarita Holbrook, from South Africa, provided an overview on **using cultural astronomy to create a more inclusive astronomy** leading the transformation of astronomy both culturally and pedagogically, where academics along with students are co-creating new ways of being and learning. Dr Yuko Motizuki, from Japan, offered an overview of **women in astronomy: a view from a gender-imbalanced country**, focusing on the advances in astronomy towards gender equality in research, noting, however, the persisting disparities, in particular, Japan, and the necessity of taking measures that increase the proportion of women leaders and their participation in decision making. Dr Jeff Cooke, Australia, presented **a platform for collaborative science, inclusion advancement, and STEM promotion to the general public**, and discussed how data visualization technology and techniques help accelerate data analysis and in particular how data sonification tools bring research and discovery to the blind and visually impaired communities. Dr Santiago Vargas Domínguez, Colombia, presented **the need for reinforcing the implementation of inclusion and diversity strategies as ordinary actions towards the social and scientific development of our society**, highlighting the importance to ensure inclusive participation in astronomy education, research and outreach, identifying the barriers preventing people with disabilities to engage and progress, underpinning the crucial actions that can foster equality, accessibility and inclusivity.

The symposium also provided a platform to present **57 talks and 37 posters** distributed alongside the key themes focused on **Identifying and Addressing a Climate of Inclusivity; Sustainable Development Goals (SDGs): Gender Equality and Its Intersections**, where through the lens of Astronomy for Development, the presenters explored the full impact gender can have on the success of the implementation across all SDGs. **Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy and Research, Outreach, Education for Inclusion** showcased best practices within EPO groups, and departments while engaging with diverse groups underrepresented for various factors highlighting its intersectionality. **Diversity in Research: Identity, Ethnicity and Culture in Research Teams**, addressed the importance of having diverse academic and research institutes environments and how equality and diversity are perceived from a management point of view and directly linked to innovation and competitiveness in research. Additionally, one topic that permeated several talks across different topics were the measures taken on equity, diversity

and inclusion throughout the *IAU100 celebrations in 2019*, placing inclusion as a fundamental aspect and transversal to all activities implemented.

Executive Summary

From 12-15 November 2019, the IAU Symposium 358 on “Astronomy for Equity, Diversity and Inclusion - a roadmap to action within the framework of the IAU centennial anniversary” was held at the Mitaka Campus in Japan, welcoming 124 participants from 31 different countries.

Co-organised by the National Astronomical Observatory of Japan (NAOJ), Japan, and the Korea Astronomy and Space Science Institute (KASI), South Korea, the IAU symposium aimed to create a people-centred strategy for action to improve diversity in astronomy. This could only be achieved with the support of many key partners in the international astronomy landscape, such as, NARIT, ESO, ESA, SKA, TMT, CSIRO, Nature Astronomy, AUI and others that brought their expertise and keen involvement in inclusion and diversity actions.

The conference hosted **four keynote sessions, 57 talks and 37 posters; four Sharing Spaces, one Safe Space and two special sessions dedicated to the conference’s resolutions.** The key themes addressed focused on Identifying and Addressing a Climate of Inclusivity; Sustainable Development Goals (SDGs): Gender Equality and Its Intersections, Astronomy for Society — Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy; Diversity in Research: Identity, Ethnicity and Culture in Research Teams; and Research, Outreach, Education for Inclusion. Additionally, one topic that permeated several talks were the measures taken on equity, diversity and inclusion throughout the IAU100 celebrations in 2019, placing inclusion as a fundamental aspect and transversal to all activities implemented.

The presented works were assigned to different Talks in Panel Sessions discussion, Presentations and Posters. In Panel Sessions, presenters had the chance to highlight their works followed by a dialogue and open discussion beyond mere Q&A session formats, altogether with their peers in the panel and the audience. The diversity of the works per panel session intended to generate a dynamic that promoted the intersectional nature of the themes discussed. Presenters were encouraged not to display a visual presentation and to focus on oral engagement. The text of the presentations was shared online for better accessibility by all participants.

In order to include those **participants who could not travel** for mobility or financial reasons, or who refused to travel due to the climate crisis (associated with air travel), each session predicted one remote presentation.

All **poster presenters** had the chance to make a short presentation in two dedicated Poster Sessions on the first day and third day of the symposium. The traditional printed format of the poster was optional, as each poster needed to have digitally accessible content.

Additionally, the meeting hosted four Sharing Spaces where all participants could, prior to the symposium, suggest relevant topics for discussion and carry discussions during Lunch hours. One Safe Space was also predicted. In this session, no recording or register of any kind was allowed to safely discuss sensitive topics. Unfortunately, the session was cancelled since the submitter could not be present, but the organizers wished to stress its importance nevertheless, as there is still a paramount need to give room to topics such as religious and gender persecution in science.

The symposium added several features related to how symposia can become more inclusive by introducing several changes to NAOJ Mitaka Campus and testing new ways of inclusivity that can best serve and inform meeting organizers in the future.

Additionally to a childcare facility on campus, the organization provided a breastfeeding room adjacent to the main sessions room.

The participants were provided with name tags offering the possibility of using their Preferred Gender Pronouns (PGPs), braille labels and colour/shape communication (denoting if a participant is willing to engage with other participants). For participants with visual impairments, there was a platform available to indicate a list of people that were in the room and willing to interact.

The **poster presentation room** was accessible to wheelchairs, the various displays positioned for safe manoeuvring of the wheelchair. In this room, participants with and without visual impairment could access the content of the posters digitally as well as to connect remotely to any presenter that could not be present physically in the room.

Considering the broader needs of participants with diverse backgrounds and functional abilities, **tactile maps of Mitaka Campus** with the location bathrooms, a breastfeeding room, a prayer room, and a quiet room were provided.

During the program sessions, **real-time captioning** was provided. This was done by hiring a professional company that proved effective, yet costly. The organization also tried to offer a low-cost solution by testing a realtime captioning digital tool, that, unfortunately, didn't meet the expectations.

As a **special satellite event**, the meeting hosted the **IAU100 Global Project Inspiring Stars**, an IAU exhibition that showcases a broad variety of resources to support inclusiveness. Symposium participants from Australia, Argentina, Chile, Japan, Malaysia, Spain, UK, and the USA, presented tactile models and images of celestial bodies and telescopes, and sonification tools.

The meeting brought together both the IAU community and participants from other fields of expertise to lay grounds for the **Mitaka Resolutions on Astronomy for Equity, Diversity and Inclusion policies**. These resolutions will be followed by a "Roadmap to Action", in alignment with the new IAU Strategic Plan 2020-2030 and with specific measures for different organizations (across countries, institutes, organizations, individuals) in direct collaboration with the IAU Working Groups dedicated to diversity and inclusion.

