

Australia Awards Short Course

Breaking Barriers: Promoting Inclusive Leadership in Science, Technology, Engineering and Mathematics (STEM)



Group photo of The Australia Awards Short Course 'Breaking Barriers: Promoting Inclusive Leadership in STEM'

The Australia Awards Short Course 'Breaking Barriers: Promoting Inclusive Leadership in Science, Technology, Engineering and Mathematics (STEM)' was funded by the Australian Government through the Department of Foreign Affairs and Trade (DFAT), managed by Australia Awards in Indonesia (AAI), and delivered by The University of Queensland's (UQ) International Development unit (UQID). The course ran from May to September 2025 and was designed and delivered by course leaders Professor Yasmina Sultanbawa and Dr Risti Permani.

The recently adopted Indonesian Long-Term National Development Plan 2025-2045 highlights the improvement of both the quantity and quality of STEM graduates as one of the key drivers of Indonesia's economic growth and poverty reduction. Achieving this goal requires ensuring equal access to STEM education and career opportunities for all groups, including men, women, people with disabilities and individuals from underserved regions. The short course as such aimed to enhance the participants' knowledge on Gender Equality, Disability and Social Inclusion (GEDSI) principles in STEM research and innovation, to empower STEM professionals, and to create an inclusive network, connecting Indonesian and Australian professionals.

Course Highlights

Highlights of the Australia Awards Short Course 'Breaking Barriers: Promoting Inclusive Leadership in STEM' included:

- Exploration of Australia's approach to GEDSI in STEM across research, policy and practice through a variety of lectures and presentations from subject matter experts from academia and government
- Exploration of personal leadership and what it means to be an inclusive leader during a leadership retreat
- Practical application of gender analysis, policy and organisational tools as demonstrated during presentations by the Australian Bureau of Statistics (ABS), Australian Academy of Technological Sciences (ATSE) and Engineering, Engineers Australia and Science in Australia Gender Equity (SAGE)
- A meeting with the Chief Scientist of Australia, Professor Tony Hayman, exploring Australia's research priorities
- Collective creation of a policy brief, 'Inclusive STEM Futures in Indonesia', during the post-course



Short Course Components

- **6-8 May 2025:** Pre-course workshop was held in Jakarta, Indonesia at Hotel Mercure Jakarta Gatot Subroto
- **2-13 June 2025:** In-Australia course was delivered over two weeks in Brisbane, Gold Coast and Canberra
- **August – September 2025:** Online Award Project mentoring
- **16-17 September 2025:** Post-course workshop was held in Jakarta, Indonesia at Hotel Mercure Jakarta Gatot Subroto

Course Provider

UQ is ranked among the world's top 50 universities and is a founding member of the Group of Eight (Go8) universities. The University has a world-class track record of delivering practical solutions to complex global challenges, collaborating with partner institutions and industry in areas of national and international importance.

Course Participants

The Course was attended by 25 participants (18 females and 7 males) from government, private sector and non-government organisations. The participants came from diverse areas of STEM, including renewable energy, microbiology, statistics, mathematics, biotechnology, artificial intelligence and health sectors, including psychology and nursing, among others. They held diverse positions in technical work, policy, research, management and education.

Pre-course Workshop

The pre-course workshop program was held in Jakarta from 6-8 May 2025. Its purpose was to prepare participants for the Short Course, provide opportunities for reflection on sectoral challenges, and support the early development of Award Project topics. The Award Project was the course's central mechanism for ensuring that participants apply their learning to real-world challenges, and the workshop was structured to gradually build their project ideas while responding to their specific needs and requests.

In-Australia Program

The in-Australia component of the course (2–13 June 2025) was delivered in Brisbane, on the Gold Coast and in Canberra. It was designed to ensure that content was relevant to the diverse backgrounds of participants and of high quality, while achieving a strong balance between theory and practice. The program combined classroom-

based learning, a leadership retreat, institutional visits, networking opportunities and practical case studies, allowing participants to connect theory with lived experiences across Australia's STEM ecosystem. In Canberra, site visits included Engineers Australia, the ABS, ATSE and Questacon.

Post-course Workshop

The post-course workshop, held on 16–17 September 2025 in Jakarta, focused on the celebration of the participants' achievements, including the Award Project implementation, while fostering collective reflection and peer learning. During the post-course, the participants had insights from the talk show on 'From Vision to Transformation: Advancing Inclusive Leadership in Indonesia's STEM Ecosystem,' and they collectively created a policy brief, 'Inclusive STEM Futures in Indonesia.' Additionally, participants presented their completed Award Projects.



Participants discussing at The University of Queensland



Participants Networking

Award Project Highlights

Participants applied their learnings through Award Projects addressing the challenge of inclusive leadership in STEM in Indonesia. Projects included:

- **Ifatul Khasanah's** project 'Empowering middle-income mothers to have informed-buying-decision through social media content' aimed to help mothers/people make informed decision in households. The project sought to respond to the challenge of how to simplify things to make information accessible for non-STEM experts without oversimplification. She has a significant social media following, and she had already surpassed her target social media engagement and audience at the time of presentation.
- **Nazriatun Nisa** presented on 'FloodIS! V2: A spatial approach to mapping marginalised communities affected by flood in Pontianak City, West Kalimantan' that aimed to create a dashboard that gives spatially resolved data on flooding risk overlapped with socio-economic data to help prioritise support in flooding scenarios for Pontianak and minimise the impact and financial loss due to floods.
- 'Bridging the gap: Inclusive STEM employment data for better policymaking' dashboards developed by **Ita Amallah** and **Diah Ikawati** is certain to make an impact. Working at the Directorate of Population and Labour Statistics, their objective was to make a dashboard of disaggregated STEM employment data (by sex, disability status, age) to enable consistent mapping of education background, industry, and occupation.
- **Andi Musrah** and **Fitria Sabaruddin** had created the INLID online platform, a digital platform that educates university students, staff and academicians about the impact of invisible disabilities, is a promising resource for people wanting to learn about invisible disability: <https://inlid.org>.



At the Quantum Physics Lab at The University of Queensland

Testimonials

'During the course, I gained valuable insights and practical tools that I plan to apply in my work. Embedding GEDSI, Disability Inclusion and Inclusive Leadership: These sessions helped me understand strategies to embed gender equality, disability and social inclusion into leadership and institutional culture. I plan to integrate these strategies into my Ministry's cross-ministerial coordination efforts to promote gender-inclusive policies in the STEM sectors.'

- Anonymous Short Course Participant

'One of the most meaningful highlights of the in-Australia course was learning how data disaggregated by disability can serve as a foundation for inclusive, responsive policymaking. It became clear how critical it is to ensure that no one is invisible in the data, because when people are unseen in the statistics, they are often overlooked in policies and programs. This evidence-based approach truly inspired me to reflect on how we collect and use data in my own workplace.'

- Anonymous Short Course Participant

'Gender and inclusivity are part of the government's long-term goals (RPJPN 'Indonesia Emas' 2045). Therefore, educating and mainstreaming GEDSI principles across different sectors of policymaking needs to start as early as possible. Beyond that, understanding the importance of applying GEDSI frameworks must be established at the individual level and, more importantly, among leaders.'

- Anonymous Short Course Participant

For further information about this program, please contact:

Mr Benjamin Breen

Senior Manager (Project Delivery & Support)
International Development,
The University of Queensland
Email: benjamin.breen@uq.edu.au