



United Nations
Educational, Scientific and
Cultural Organization



Programme

UNESCO International Symposium and Policy Forum

Cracking the Code: Girls' Education in STEM

28-30 August 2017, Bangkok, Thailand





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#GirlsCrackTheCode

UNESCO International Symposium and Policy Forum

'Cracking the Code: Girls' Education in STEM'

28 - 30 August 2017
Bangkok, Thailand

Background

Significant progress has been made in getting more girls into school over the last decades but numerous overlapping factors continue to affect girls' access to, achievement in, and completion of education. An area of longstanding concern is low female participation in science, technology, engineering and mathematics (STEM) studies and consequently STEM careers.

The overall purpose of the UNESCO International Symposium and Policy Forum 'Cracking the Code: Girls Education in STEM' is to make the case for strengthening girls' education in STEM subjects, and ultimately female representation in STEM careers and decision-making. It will provide a platform to present latest findings from research and practice and facilitate policy dialogue, experience sharing and collaboration among participants. It will be organized over two and a half days and will serve as a platform for debate, hands-on learning and innovation.

The High-Level Policy Forum will be organized on the first day, with the participation of Ministers of Education and other high-level representatives, to examine how governments are prioritizing and promoting STEM education for girls, and how to address challenges through collaboration.

The Symposium will present research findings from the UNESCO report on the status of girls' education in STEM, the underlying factors that hinder their participation and highlight solutions from policy and practice. It will feature:

- plenary sessions, combining high-level and panel discussions, town hall formats, and other technology-based activities to engage participants
- concurrent sessions, including: a) panel discussions to share research findings, school practices, and lessons learned, and b) workshops for hands-on learning activities, simulations and other opportunities for skills transfer
- exhibition booths, providing the opportunity for partners to present their products and approaches, allowing for hands-on demonstrations and interactions with participants.

Expected outcomes

- Increased knowledge on the status of girls' education in STEM worldwide
- Enhanced awareness of policies and practices that are effective in supporting girls' and women's education in STEM
- Strengthened platform for global, regional and country networks, partnerships and cooperation on STEM education for girls and women



Structure

POLICY FORUM MONDAY 28 AUGUST

The High-Level Policy Forum is organized for Ministers of Education and other designated officials, representing the Minister of Education of their country, to examine how governments are prioritizing and promoting STEM education for girls and women, and how to address common challenges through collaboration and evidence-informed action. A programme consisting of three sessions will animate discussions and endorse opportunities for scale up, partnerships and cross-country cooperation.

INTERNATIONAL SYMPOSIUM 28-30 AUGUST

The three-day symposium will consist of plenary sessions, combined with over 50 interactive concurrent panel discussions and skills-building workshops with leaders in the field of STEM, education and technology, gender equality and inclusion. The Symposium will also launch *Cracking the Code: Girls' and Women's Education in STEM*, a UNESCO report on the status of girls' education in STEM, and the factors that help or hinder girls' participation, progression and learning achievement in STEM.

The Symposium programme, developed through an abstract-driven process, offers participants the opportunity to follow four over-arching tracks. These are colour-coded, as follows, throughout the programme:

Track 1: Building the foundations: Gender-responsive quality STEM education

Sessions in this track will explore education system-related factors, including effective policies to increase access to quality STEM education, teaching strategies and learning environments, assessment procedures and monitoring tools, and ICT-based technologies or approaches to reach more girls, build STEM literacy and skills, and address gender divides.

Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation

Sessions in this track will explore the impact of gender roles and expectations on girls' participation, progression and learning achievement, and how family, peers and teachers influence girls' aspirations, confidence and self-efficacy in STEM. Gender stereotypes in the media, STEM educational resources, and the broader society will also be discussed.

Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women

Sessions in this track will consider how to pull girls into, and retain their interest and engagement, in STEM including through mentors, role models, and extracurricular activities. Empowerment, leadership and confidence will be common themes explored in these sessions.

Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation

Sessions in this track will consider the range of partnerships (e.g. cross-sectoral, public-private, parent-schools, counselors-students, industry-governments, South-South) that can help advance gender-responsive STEM education, and how cooperation is a win-win for girls and women.

EXHIBITIONS 28-30 AUGUST

Over 25 exhibition areas will be set up for participants to learn, share experience, and access resources and tools. Come to the UNESCO-CJ Group main booth for any information needs, and to engage in the #GirlsCrackTheCode campaign.

Check out other exhibitors including: EduHelp Ltd. (Uganda), Plan International (Asia Regional Office), Wedu (Asia), SafariCom Women in Technology (Kenya), the UNESCO Associated Schools Project Network (ASPnet), and many other schools and projects linked to the Institute for the Promotion of Teaching Science and Technology (IPST) in Thailand.

Policy Forum Programme

Monday, 28 August 2017

The High-Level Policy Forum is organized for Ministers of Education and other designated officials, representing the Minister of Education of their country, to examine how governments are prioritizing and promoting STEM education for girls and women, and how to address common challenges through collaboration and evidence-informed action.

The High-Level Policy Forum consists of three sessions organized on Monday, 28 August:

1. **Ministerial Panel:** a moderated panel discussion with Ministers of Education, organized as a plenary session
2. **High-Level Roundtable:** a moderated roundtable with Ministers of Education and other designated officials, organized as a closed, private meeting
3. **Forum Outcomes:** outcomes of the Policy Forum are presented in plenary

Expected outcomes of the High-Level Policy Forum:

- Improved understanding of how governments are prioritizing and promoting STEM education for girls and women, and addressing persistent challenges
- Opportunities for scale up, partnerships and cross-country cooperation to promote education pathways in STEM for girls and women are identified

Programme

10:30-12:00	<p>Ministerial Panel: Revolutionizing STEM education for girls and women</p> <p>Moderated discussion with Ministers of Education on initiatives underway around the globe to revolutionize girls' and women's education in STEM.</p> <p>The discussion will focus on system-related interventions to address common challenges:</p> <ul style="list-style-type: none"> - Nature vs nurture: biological traits or socialisation - Biases in learning: teachers and learning contents - Opting out: girls' and women's attitudes towards STEM <p><i>Moderator: Zeinab Badawi, BBC</i></p>	Napalai Ballroom
12:00-13:30	LUNCH	
15:00-16:30	<p>High-Level Roundtable (Closed, private meeting)</p> <ul style="list-style-type: none"> • Moderated discussion with Ministers of Education and other high-level representatives to debate and identify key action areas based on country experience, and the results of the UNESCO report, <i>Cracking the code: Girls' and women's education in STEM</i> • Closing remarks, Ms Soo-Hyang Choi, Director, Division of Education for Inclusion, Peace and Sustainable Development, UNESCO <p><i>Moderator: Zeinab Badawi, BBC</i></p>	Saladaeng Room
16:45-17:30	<p>Closing plenary session: Forum Outcomes</p> <ul style="list-style-type: none"> • Outcomes of the high-level Policy Forum Presented by Ministers and other high-level representatives • All Policy Forum participants will be invited to the stage to demonstrate their commitment to advancing girls' and women's education in STEM <p><i>Moderator: Ms Zeinab Badawi, BBC</i></p>	Napalai Ballroom

International Symposium Programme

Monday, 28 August 2017

8:00-8:45	Registration	
8:45-9:15	<p>Opening Ceremony</p> <p>Master of Ceremony, Ms Soo-Hyang Choi, Director, Division of Education for Inclusion, Peace and Sustainable Development, UNESCO</p> <ul style="list-style-type: none"> Ms Irina Bokova, Director-General, UNESCO Dr Sophon Napathorn, Vice-Minister of Education, Thailand 	Napalai Ballroom
9:15-9:30	<p>Keynote address</p> <p>Ms Aditi Prasad, Chief Operating Officer, Robotix Learning Solutions, India</p>	Napalai Ballroom
9:30-10:00	<p>Plenary session: The status of girls' and women's education in science, technology, engineering and mathematics (STEM)</p> <ul style="list-style-type: none"> Launch of the UNESCO report <i>Cracking the Code: Girls' and Women's Education in STEM</i>, Ms Irina Bokova, Director-General Key findings, Ms Soo-Hyang Choi, Director, Division of Education for Inclusion, Peace and Sustainable Development, UNESCO <p>Moderator: Ms Justine Sass, Chief of Section of Education for Inclusion and Gender Equality, UNESCO</p>	Napalai Ballroom
10:00-10:30	MORNING BREAK	
10:30-12:00	<p>Ministerial Panel: Revolutionizing STEM education for girls and women</p> <ul style="list-style-type: none"> Moderated discussion with Ministers of Education on initiatives underway around the globe to revolutionize girls' and women's education in STEM. <p>The discussion will focus on system-related interventions to address common challenges:</p> <ul style="list-style-type: none"> Nature vs nurture: biological traits or socialisation Biases in learning: teachers and learning contents Opting out: girls' and women's attitudes towards STEM <p>Moderator: Ms Zeinab Badawi, Journalist, BBC</p>	Napalai Ballroom
12:00-13:30	LUNCH	
13:30-15:00	<p>Track 1: Building the foundations: Gender-responsive quality STEM education</p> <p>Panel discussion: It all adds up: Data-driven STEM policy</p> <p>Moderator: Ms. Supara Bakavou, Acting Director of Corporate Communication and International Relations, the Institute for the Promotion of Teaching Science and Technology (IPST), Thailand</p> <ul style="list-style-type: none"> Trends in STEM education based on data from IEA's Trends in International Mathematics and Science Study (TIMSS) Dr Dirk Hastedt, Executive Director, International Association for the Evaluation of Educational Achievement (IEA), Netherlands What drives the gender gap in STEM? The UNESCO SAGA project Mr Alessandro Bello, Project Officer, STEM and Gender Advancement (SAGA) project, UNESCO 'Talk to Me': Women's expectations of gender sensitive STEM policies and programmes Dr Gloria Bonder, Director, Gender, Society and Policies Department, Latin American Institute of Social Sciences, Argentina 	Napalai Ballroom

13:30-15:00	Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation	Lumpini Room
<p>Panel discussion: But girls' can't...challenging gender bias and expectations Moderator: <i>Dr Asa Torkelsson, Regional Advisor on Women's Economic Empowerment, UN Women, Regional Office for Asia and the Pacific</i></p> <ul style="list-style-type: none"> • How girls' attitudes towards STEM affect learning achievement in OECD PISA 2015 Ms Francesca Borgonovi, Senior Analyst, Education Directorate, Organization for Economic Cooperation and Development (OECD) • Inspiring girls with stories in science from around the world Dr Fanuel Muindi, STEM Education Advocacy Group/Harvard University, United States • From seamstress to scientist: An alternative image for girls through STEM education Ms Lade Araba, Co-Founder and President, The Visiola Foundation, Nigeria 		
13:30-15:00	Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women	Silom Room
<p>Panel discussion: Girl power: Empowerment and leadership opportunities Moderator: <i>Ms Alice Ochanda, Programme Specialist, UNESCO Nairobi, Regional Bureau for Eastern Africa</i></p> <ul style="list-style-type: none"> • Unlocking student potential in STEM for enhanced sustainable development in Kenya Ms Loice Kimani, Assistant Director, Ministry of Education, Kenya with Dr Jaro Arero, Deputy Director, Basic Sciences and Engineering, Kenya National Commission for UNESCO • Empowering women through STEM livelihoods: A disruption mechanism beyond education Mr Shuvajit Payne, Head of Education Initiatives, Barefoot College, India • Tech Age Girls: Bridging the gender digital divide in Myanmar before it's too late Mr Ari Katz, Regional Director, Beyond Access Programme, IREX 		
13:30-15:00	Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation	The Cellar Room
<p>World Café: Linking boardrooms, classrooms and communities Moderator: <i>Ms Ramya Vivekanandan, Programme Specialist, UNESCO Bangkok, Regional Bureau for Asia and Pacific</i></p> <ul style="list-style-type: none"> • Transforming STEM education with the MekongSkills2Work network's approach Dr Paritta Prayoonpong, Assistant Professor of Chemical Engineering, Faculty of Engineering, Mahidol University, Thailand and Ms Nancy Meaker Chervin, International advisor/training manager, Education Development Center, Inc • Enabling female secondary school students to participate in scientific research in Qatar Dr. Noora Al-Thani, Professor/Manager of Outreach and Engagement, Qatar University, with Ms Fatima Nabhan, Teacher, and Ms Aldana Alyafei, Student, Centre for Advanced Materials, Qatar University, and Dr Faryal Khan, Programme Specialist, UNESCO Doha Office 		
15:00-15:30 AFTERNOON BREAK		
15:30-16:45	Track 1: Building the foundations: Gender-responsive quality STEM education	Lumpini Room
<ul style="list-style-type: none"> • Workshop: Applying the EU's Responsible Research and Innovation framework to create new science classrooms: Insights from the Ark of Inquiry project and beyond Ms Alike Giannakopoulou, Researcher, Department of Research and Development, Ellinogermaniki Agogi private school, Greece, and Ms Lauren N. Bohatka, Associate Project Officer, UNESCO Regional Bureau for Science and Culture in Europe, Venice, Italy 		

15:30-16:45	Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation	Silom Room
	<ul style="list-style-type: none"> Workshop: Sustainability and inquiry-based learning as a context for engaging girls in STEM Ms Pennie Stoyles, Teacher, Science Communicator, Author and Administrator, Australian Academy of Technology and Engineering, Australia 	
15:30-16:45	Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women	The Cellar Room
	<ul style="list-style-type: none"> Workshop: Think Pink hard hat challenge Ms Naadiya Moosajee, Cofounder, WomEng (Women in Engineering), South Africa 	
15:30-16:45	Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation	Napalai Ballroom
	<ul style="list-style-type: none"> Workshop: Building effective cooperation for more women in STEM Ms Reine Essobmadje, Co-founder, Digital Coalition, Dr Mbang Sama, Executive Director, Co-founder, Digital Coalition, and Ms Tchouateu Yonkeu Laetitia Paola, Student, Information Communication and Technology for Africa Development (ICT4D), University of Yaoundé 1, Cameroon 	
16:45-17:30	Closing plenary session: Forum Outcomes	Napalai Ballroom
	<ul style="list-style-type: none"> Outcomes of the High-Level Policy Forum Presented by Ministers and other high-level representatives All Policy Forum participants will be invited to the stage to demonstrate their commitment to advancing girl's and women's education in STEM 	

19:00-21:00	<p style="text-align: center;">DINNER RECEPTION</p> <ul style="list-style-type: none"> Opening remarks: <ul style="list-style-type: none"> Ms Irina Bokova, Director-General, UNESCO Dr Pompun Waitayangkoon, President, Institute for the Promotion of Teaching Science and Technology (IPST), Thailand Ms Heekyung Jo Min, Executive Vice President, CJ Group, the Republic of Korea Dinner reception Live performances: <ul style="list-style-type: none"> Thai traditional and contemporary dance, Students of Soon Ruam Namjai School, Bangkok Musical performances, Mr Weerapong Taweesak, Thai Glass Harp Artist Main act, Ms Echae Kang and Oh Kyung Kwan, CJ Cultural Foundation, Republic of Korea 	Napalai Ballroom
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Tuesday, 29 August 2017

9:00- 10:15	<p>Opening panel discussion: Addressing stereotypes and bias hindering girls' participation</p> <ul style="list-style-type: none"> • Dr Brooke Tata, 2016 Laureate, L'Oréal-UNESCO For Women in Science, and Research Scientist, Institut national de la santé et de la recherche médicale (INSERM), France • Ms Carolina Casas, Director of Education and Community Engagement for Latin America, Sesame Workshop <p><i>Moderator: Ms Annie Black, Deputy Executive Director, L'Oréal Corporate Foundation, For Women in Science Programme, France</i></p>	Napalai Ballroom
10:15-10:45	MORNING BREAK	
10:45-12:15	<p>Track 1: Building the foundations: Gender-responsive quality STEM education</p> <p>Panel discussion: It's not just what you teach but how you teach it: Stimulating interest, inquiry and innovation</p> <p><i>Moderator: Ms Mary Wakhaya Sichangi, Coordinator, Partnerships and Linkages, Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA), Kenya</i></p> <ul style="list-style-type: none"> • STEM: Female participation in Ethiopia Ms Mihretekirstos Forsido, Senior Expert, Ministry of Education, Ethiopia • Using simulation-based engineering education for female students in Korea Dr Jong Tae Youn, Professor, Department of Graphic Arts Information Engineering, Pukyong National University, Republic of Korea • Improving girls' achievement in maths and science: A Living Lab approach for STEM education Mr Lebohang Kompfi, Lesotho National Commission for UNESCO, Lesotho 	Silom Room
10:45-12:15	<p>Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation</p> <p>Panel discussion: Stereotypes and bias: Perspectives from Asia</p> <p><i>Moderator: Dr Lee Yee Cheong, Chairman, Governing Council, International Science Technology and Innovation Centre for South-South Cooperation under the auspices of UNESCO (ISTIC), Malaysia</i></p> <ul style="list-style-type: none"> • A Complex Formula: Findings from UNESCO Bangkok's research on girls, learning achievement in science and mathematics and engagement in STEM fields Ms Ramya Vivekanandan, Programme Specialist, UNESCO Bangkok, Regional Bureau for Asia and Pacific • Girls in STEM education: Lessons from the Nazarbayev Intellectual Schools' experience Mr Nurgali Yelshibekov, Principal, Nazarbayev Intellectual School, Kazakhstan and Mr Daniyar Ualiyev, Deputy Principal for Experimental Work, Nazarbayev Intellectual School of Chemistry and Biology, Kazakhstan • Japanese programs for female scientists and APEC lesson study projects for STEM education Dr Masami Isoda, Director, Center for Research on International Cooperation in Educational Development (CRICED), University of Tsukuba University, Japan 	Saladaeng Room
10:45-12:15	<p>Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women</p> <p>Panel discussion: Camps, clubs and contests: Leveraging non-formal education and after-school activities</p> <p><i>Moderator: Ms Chemba Raghavan, Education Programme Specialist, UNICEF East Asia Pacific Regional Office (EAPRO)</i></p> <ul style="list-style-type: none"> • Female teams contests in mathematics Ms Anna Brancaccio, General Directorate, Italian Ministry of Education • The Role of Al-Saad Foundation to empower young Arab girls in STEM Education Dr Fatimah Alhashem, General Manager for Teacher Development Department, National Center for Education Development, Kuwait • Promoting early STEM education for girls for sustainable development in Africa Dr Florence Tobe Lobe, President, Fondation RUBISADT, Cameroon 	Napalai Ballroom

10:45-12:15	Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation	The Cellar Room
	<p>Panel discussion: Strength in numbers: Role of networks and professional societies <i>Moderator: Dre Gina Thésée, Professor, University of Quebec in Montreal (UQAM), UNESCO Chair in Democracy, Global Citizenship and Transformative Education</i></p> <ul style="list-style-type: none"> • INWES Herstory, achievements, challenges and future to build a better world Dr Kong-Joo Lee, President, International Network of Women Engineers and Scientists (INWES), Republic of Korea • STEMming from a lack of gender equality: Accounting the Turkish perspective Ms Afra Feyza Toksal, President, Koc University Society of Women Engineers (KUSWE), Turkey • Girls in science and education in Nepal Dr Anjana Singh, Executive Member of the Special Committee of the Association of Academies and Societies of Sciences in Asia (AASSA) and Women in Science and Engineering (WISE), Nepal 	
12:15-13:45	LUNCH	
13:45-14:45	Plenary session: Reaching out, engaging, and empowering girls in STEM Fishbowl exercise: Interactive group dialogue to share experience, lessons learned and future opportunities to reach out, engage and empower girls in STEM education <i>Moderator: Ms Justine Sass, Chief of Section of Education for Inclusion and Gender Equality, UNESCO</i>	Napalai Ballroom
14:45-16:00	Track 1: Building the foundations: Gender-responsive quality STEM education	Napalai Ballroom
	<ul style="list-style-type: none"> • Workshop: Virtual reality as a gender change agent: Transforming STEM observers into participants Dr Akkachai Poosala, Mr. Surawith Tunchaiyaphum, Ms. Nuttaramunya Chantraprapakul, Mr. Thrid Muangplub, Mr. Piyachai Chailoratan, Ms. Supinya Jindamorakot, Southeast Asia University, Thailand with Mr. Jan Ståhlberg, Head of Strategic Partnerships, Labster, Denmark 	
14:45-16:00	Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation	Saladaeng Room
	<ul style="list-style-type: none"> • Workshop: Using the UNESCO Gender-responsive STEM Resource Pack to develop gender-sensitive STEM curricula Mr Renato Opertti, Programme Specialist, UNESCO International Bureau of Education (IBE) 	
14:45-16:00	Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women	Dusit Thani Room
	<ul style="list-style-type: none"> • Workshop: Gender in Science, Innovation, Technology and Engineering (SITE): Some case studies Dr Sibusiso Moyo, Deputy Vice Chancellor, Research, Innovation and Engagement, Durban University of Technology, South Africa with Edith Shikumo, Young Scientist Liaison Officer, Academy of Science of South Africa (ASSAf), Secretariat South African Young Academy of Science (SAYAS) 	
14:45-16:00	Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation	The Cellar Room
	<p>Workshop: ILSA data and its usability to identify gender gaps and promote equal opportunities for learning Ms Nadine Radermacher, Associate Research Analyst, International Association for the Evaluation of Educational Achievement (IEA), Germany</p>	
16:00-16:30	AFTERNOON BREAK	

16:30-18:00	Track 1: Building the foundations: Gender-responsive quality STEM education	Napalai Ballroom
<p>Panel discussion: No longer invisible: Gender-responsive STEM curriculum and learning materials Moderator: Mr Alessandro Bello, Project Officer, STEM and Gender Advancement (SAGA) project, UNESCO</p> <ul style="list-style-type: none"> • Gender-sensitive STEM education in Viet Nam Dr Nguyen Duc Minh, General Vice Director, Vietnam National Institute of Educational Sciences (VNIES), Viet Nam • Supporting STEM education amongst women in Sierra Leone through peer mentoring and mobile learning activities Dr Bridget Bannerman, Founder, Science Resources Africa • Engaging girls in science through foreign language and social science studies Mr Marcelo Luis Amén, Language Teacher, Escuela Normal Superior en Lenguas Vivas No. 2 "Mariano Acosta", UNESCO ASPnet School, Argentina 		
16:30-18:00	Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation	Saladaeng Room
<p>Panel discussion: Addressing overlapping and intersecting contexts Moderator: Ms Theophania Chavatzia, Programme Specialist, UNESCO Paris</p> <ul style="list-style-type: none"> • On the Vanguard: Highlighting and centering the experiences of women of colour in STEM Dr Jedidah Isler, National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow, Vanderbilt University and the Founder and CEO, The SeRCH Foundation, Inc., United States and Ms Natasha Berryman, Creative Director, SeRCH Foundation, United States • Engaging young women in science, technology and engineering in the transition Dr Svetlana Aslanyan, President, Centre for the Development of Civil Society, Armenia • Iraqi women in engineering fields - Struggles and solutions Ms Ryan Ibrahim, AUIS Engineering Club, Iraq 		
16:30-18:00	Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women	Silom Room
<p>Panel discussion: Linking up: Role models, champions and mentors Moderator: Ms Hendrina Givah, Coordinator, Forum of African Women Educationalists (FAWE), Malawi</p> <ul style="list-style-type: none"> • STEM clinics: Increasing girls' participation in STEM education in Ghana Mr Prosper Nyavor, Programme Specialist, UNESCO Accra, Ghana • STEM@Home: Parent-student collaboration in developing STEM skills of middle school girls Ms Rosemarie Punsalan, Science and Technology Supervisor, Miriam College, Philippines • Engaging men on gender equality Ms Jihane Lamouri, Gender Equality, Inclusion and Business Development, African Institute for Mathematical Sciences (AIMS) 		
16:30-18:00	Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation	Lumpini Room
<ul style="list-style-type: none"> • Working session: EQUALS: Building a coalition to promote skills in the digital age Ms Carla Licciardello, Policy Analyst, International Telecommunication Union (ITU), Switzerland, with Ms Johanna Hartung, Policy Advisor, German Corporation for International Cooperation (GIZ) and Ms Gülser Corat, Director, Gender Equality Division, UNESCO 		

Wednesday, 30 August 2017

9:00-10:00	<p>Opening plenary session: Partnerships, cross-sector learning and cooperation Town Hall format with opening intervention by Ms Heekyung Jo Min, Executive Vice President, CJ Group, the Republic of Korea</p> <p><i>Moderator: Dr Rita Bissoonauth, Head of mission/Coordinator, African Union International Centre for Girls and Women's Education in Africa (AU/CIEFFA)</i></p>	Napalai Ballroom
10:00-11:30	<p>Track 1: Building the foundations: Gender-responsive quality STEM education</p> <p>Panel discussion: Who's that STEM teacher? Recruitment, training and professional development <i>Moderator: Ms Shashi Bala Singh, Chief Regional Coordinator, Education International</i></p> <ul style="list-style-type: none"> • Gender appropriate STEM teacher training: Investing in quality STEM education for girls in Somalia Dr Khadar Bashir-Ali, Director, Foh Center for Education, Policy, Research and Development, Somalia • Girls' STEM education for sustainable development: Cooperation in the Caribbean Ms Punalall Jetoo Petal, National Science Coordinator, Ministry of Education, Guyana • TVET: Is the kitchen a woman's place? Ms Francisca Chisepo Muramba, Lecturer, Technical Graphics, Belvedere Technical Teachers' College, Zimbabwe 	Lumpini Room
10:00-11:30	<p>Track 2: Changing the equation: Addressing stereotypes and bias hindering girls' participation</p> <p>Panel discussion: Journeys into STEM: Getting more girls to join the road less travelled <i>Moderator: Dr Ethel Agnes Pascua-Valenzuela, Deputy Director for Programme and Development, Southeast Asian Ministers of Education Organization (SEAMEO) Secretariat</i></p> <ul style="list-style-type: none"> • Building global ESTEAM for girls: Best practices from the field Ms Cheryl Miller Van Dyck, Founder, Digital Leadership Institute, Belgium • Engaging and empowering African girls and women in STEM: Experiences and challenges Dr Unoma Okorafor, Working to Advance STEM Education for African Women Foundation (WAAW), Nigeria • STEMulate boys and girls to create in STEM Mr Blas Fernández, Coordinator of the Gender, Society and Policies Department, Latin American Institute of Social Sciences, Argentina 	Saladaeng Room
10:00-11:30	<p>Track 3: Gravitating into the field: Reaching out, engaging and empowering girls and women</p> <ul style="list-style-type: none"> • Working session: Engaging higher-education institutions in creating gender-sensitive learning environments Dr Rita Bissoonauth, Head of mission/Coordinator, African Union International Centre for Girls and Women's Education in Africa (AU/CIEFFA) 	Silom Room
10:00-11:30	<p>Track 4: Wiring the network: Partnerships, cross-sector learning and cooperation</p> <p>Panel discussion: TeachHER: Using public private partnerships to advance STEAM education <i>Moderator: Mr Jonathan Lembright, Regional Director for Southeast Asia at the Institute of International Education</i></p> <ul style="list-style-type: none"> • Mr Jonathan Lembright, Regional Director for Southeast Asia at the Institute of International Education, TeachHer Public Private Partnership • Ms Gülser Corat, Director, Gender Equality Division, UNESCO • Dr Gloria Bonder, Director of the Gender, Society and Policies Department at the Latin American Institute of Social Sciences, Argentina • Dr Temechegn Engida Merine, Programme Officer, ICT and STEM Education, UNESCO's International Institute for Capacity Building in Africa (IICBA) 	Napalai Ballroom

11:30-12:30

Closing plenary: STEM Education for girls: A complex formula

- **Reflections on the International Symposium and Policy Forum**
- **Closing remarks**

Ms Soo-Hyang Choi, Director, Division of Education for Inclusion, Peace and Sustainable Development, UNESCO

**Napalai
Ballroom**

12:30-14:00

CLOSING LUNCH

Special guests

Policy Forum Moderator: Zeinab Badawi

Zeinab Badawi is a Sudanese-British television and radio journalist, and currently the presenter of Global Questions and Hard Talk for the BBC. She is one of the best-known broadcast journalists working in the field today. In 2009, she was awarded International TV Personality of the Year by the Association of International Broadcasters, and was named in Powerlist 2012 and 2015 as one of Britain's top 100 most influential members of the black community.

Through her own production company she has produced and presented many programmes, including the series based on UNESCO's "General History of Africa" book.

She is the current Chair of the Royal African Society, a Queen's appointment to the Board of the Historic Royal Palaces, a trustee of BBC Media Action (the charitable arm of the BBC), a Vice-President of the United Nations Association UK, and a board member of the African Union Foundation. She is also a member of the World Economic Forum's Global Agenda Council for Africa.



Keynote speaker: Aditi Prasad, India

Aditi Prasad, COO and CIO of Robotix Learning Solutions, is on a mission to inspire and educate young girls to learn to code and develop real-world programmes for real-world challenges. Aditi and her sister, Dr Deepthi Rao Suchindran, a neuroscientist, are harnessing the power of robotics, coding, STEM & Maker Space to make school education more interactive and immersive.

In 2009, the two sisters founded Robotix Learning Solutions, a company with a mission to inspire the next generation of innovators and creators. In 2014, under the aegis of Robotix, they next laid the groundwork for 'Indian Girls Code', a free, hands-on coding and robotics education programme for underprivileged girls. The first Indian Girls Code initiative was at Annai Ashram in Trichy, Tamil Nadu India, teaching 75 girls coding and robotics. Amongst other initiatives, they have also partnered with Ford Motor Co. and CISCO Systems, India to extend Indian Girls Code across the country.

In India, where technical degrees often lead to better jobs, Aditi is promoting educational pathways that lead to better careers and opportunities for girls. She is helping to make tech studies more approachable and fun, and creating girl game changers in STEM.



Abstracts

Monday, 28 August
13:30-15:00
Panel discussion

Track: 1

It all adds up: Data-driven STEM policy

Trends in STEM education based on data from IEA's Trends in International Mathematics and Science Study (TIMSS)

Dr. Dirk Hastedt, Executive Director, International Association for the Evaluation of Educational Achievement (IEA), Netherlands

TIMSS is an ongoing international assessment of mathematics and science at the fourth and eighth grades, conducted by the International Association for the Evaluation of Educational Achievement (IEA) every four years since 1995. The sixth cycle, TIMSS 2015, provides 20 years of trends in educational achievement in mathematics and science. With the current emphasis on college and career readiness and increasing global competitiveness in STEM fields, in 2015, IEA established TIMSS Advanced, the only international assessment that provides essential information about students' achievement in advanced mathematics and physics. It assesses students in their final year of secondary school (often the 12th grade) who are engaged in advanced mathematics and physics studies that prepare them to enter STEM programmes in higher education. 57 countries and seven benchmarking entities, and more than 580,000 students participated in TIMSS 2015. TIMSS Advanced 2015 was administered to more than 56,000 students in nine countries. This presentation will present the results from TIMSS and TIMSS Advanced 2015, demonstrating trends over the past 20 years. It will examine how girls' achievement in mathematics, science and physics at the fourth, eighth and twelfth grades has developed and how it compares to boys' performance, as well as performance differences among various subgroups of girls (e.g. immigrants, girls in rural areas).

What drives the gender gap in STEM? The UNESCO SAGA project

Mr. Alessandro Bello, Project Officer, UNESCO STEM and Gender Advancement (SAGA) project, UNESCO

STEM fields are widely regarded as beneficial for the expansion of national economies. The underrepresentation of women in STEM represents the loss of a critical mass of talent and ideas. Moreover, the lack of data from which to draw useful indicators as evidenced in analytical studies can obstruct the design, monitoring and evaluation of science, technology and innovation (STI) policies aiming for gender equality. To bridge these gaps in information and the lack of tools, UNESCO has elaborated innovative methodologies, in the framework of the UNESCO SAGA (STEM and Gender Advancement) project, to support policy-makers worldwide in setting up, implementing, monitoring and evaluating gender equality policies in STI. This presentation will share the methodologies and tools developed through SAGA to identify and address gender gaps in STEM fields at all levels of education and research, and the outcomes of efforts in participating SAGA countries. The presentation will explore what are effective policies to increase access to STEM education for women and girls, methodological approaches to collect relevant data and

statistics, and how inter-institutional approaches can redress the gender gaps in STEM.

'Talk to Me': Women's expectations of gender-sensitive STEM policies and programmes

Dr. Gloria Bonder, Director, Gender, Society and Policies Department, Latin American Institute of Social Sciences, Argentina

This presentation will demonstrate innovative ways for planning and implementing gender-sensitive and -responsive STEM policies and programmes, drawing on research findings of female and male computer sciences students in Argentina. It will present a complex picture of women's experiences as a minority, although privileged group, in a male dominated environment. It will analyze the diverse enabling conditions as well as the obstacles women faced to choose computer science careers, and how they overcame obstacles. It will analyze the conflictual subjective and interpersonal factors that influence women's perception and/or denial of gender discriminatory norms, values and practices at stake in their institutions. It will also examine women's conscious and non-conscious strategies for adjusting and/or challenging predominantly male culture. It will also examine the range of potential policies or measures aimed at achieving gender equality that they consider necessary or acceptable to redress gender discriminatory values and practices as well as the gender equality norms and policies that they resist or reject. To end, we will promote discussions on the usual planning processes of gender sensitive STEM policies and programs and the place and voice in it of women's needs, expectations, self-esteem, and commitments with change.

Monday, 28 August
13:30-15:00
Panel discussion

Track: 2

But girls' can't....challenging gender bias and expectations

How girls' attitudes towards STEM affect learning achievement in OECD Programme for International Students Assessment (PISA) 2015

Dr. Francesca Borgonovi, Senior Analyst, Education Directorate, Organization for Economic Cooperation and Development (OECD), France

In 2015, the OECD launched the triennial survey of 15-year-old students around the world known as the Programme for International Students Assessment, or PISA. PISA assesses the extent to which 15-year-old students, near the end of their compulsory education, have acquired key knowledge and skills in the core school subjects of science, reading and mathematics. Although around a quarter of boys and girls expect to work in science-related fields, boys are twice as likely to expect to work as engineers, scientists and architects; girls are three times as likely to expect to work as doctors, vets and nurses. Data from previous PISA assessments show how these gender differences are reinforced by the attitudes and inherent biases of parents, teachers and even textbooks. This presentation will examine the findings from 2015 PISA, trend data from previous assessments, and present policy recommendations.

Inspiring girls with stories in science from around the world

Dr. Fanuel Muindi, STEM Education Advocacy Group/Harvard University, United States

The belief on the necessity of exceptional scientific talent to succeed in STEM has been shown to negatively impact the motivation of students to learn in science classes. Such beliefs impede efforts to increase the number of students, particularly girls, pursuing STEM subjects. This presentation will present a project whereby we designed an online platform where people around the world share stories about their relationship with science and read stories that have been shared by others. Our project addresses whether stories in science could be used to motivate more girls into STEM around the world. We have so far published 26 stories from professors, industry professionals, undergraduates, graduate students, postdoctoral fellows, and others who engage with science in other capacities. They include women, men, and racial minorities from across the world. Their stories are shown in an online searchable map thus allowing visitors to visualize where all the stories are coming from. Published stories discuss success, failure, fear, discovery, struggle, serendipity, collaboration, separation, inspiration, mentorship, and so much more. Since launching in January, our website visitors have increased five-fold and continue to increase each month. The first book to introduce the idea behind stories in science will also be published this Fall. What sets us apart from other initiatives is that we are providing an avenue for all trainees (early and late stage) in STEM around the world to share their stories in science. Ultimately, we believe this platform can be integrated in many educational contexts and has the potential to be motivate more girls and other minorities around the world to engage in STEM.

From seamstress to scientist: An alternative image for girls through STEM education

Ms. Lade Araba, Co-Founder and President, The Visiola Foundation, Nigeria

In March 2016, the Nigerian Senate rejected the Gender and Equal Opportunity Bill, which sought to grant women equal rights in access to education, healthcare, inheritance, and participation in politics. According to the largely male Senate (with only 7 women out of 109 senators), the Bill violated religious and cultural norms and stood in conflict with the Constitution. It is against this backdrop that millions of girls in Nigeria are systematically denied access to formal education, while women are relegated to second-class-citizen status, forced to get marriage, having children and 'taking care of the home' as their primary purpose in society. This presentation will highlight the importance of getting more girls studying STEM subjects, while directly confronting the stereotypes and biases that limit their aspirations. By presenting real case studies from the Visiola Foundation's work, it will underscore key lessons on how to engage the relevant stakeholders, while ensuring that girls have role models to look up to. It will draw on the example of girls like Omolara, a girl born into a poor family who expected her to learn to sew, seek a husband, have children and take care of the family. Omolara had higher ambitions and was supported by the Visiola Foundation to achieve, excel moving from a seamstress to a scientist.

Monday, 28 August

13:30-15:00

Panel discussion

Track:

3

Girl power: Empowerment and leadership opportunities

Unlocking student potential in STEM for enhanced sustainable development in Kenya

Ms. Loice Kimani, Assistant Director, Ministry of Education, Kenya, with Dr Jaro Arero, Deputy Director, Basic Sciences and Engineering, Kenya National Commission for UNESCO

Achieving the SDGs will require getting more people into, and reducing the gender gap in, STEM fields. Kenya needs more science professionals for the realization of its Vision 2030, the AU's Agenda 2063 and the global 2030 Agenda for Sustainable Development. The Kenya government is concerned with the reduced number of women and girls in STEM courses as they progress upwards in the education ladder. Graduation statistics from Kenyan universities consistently indicate fewer female students than men completing Engineering and Physical Science courses, with this differential increasing at the graduate studies level, and the workforce. According to the Engineering Board of Kenya, the number of registered women engineers in Kenya is less than 1%. To address this, the Ministry of Education has embraced a STEM mentorship programme in partnership with UNESCO and other stakeholders to inspire more girls to go into STEM fields. Mentorships, through the scientific camps of excellence, emphasize student exposure to the world of innovation and original thinking. The Ministry has also taken deliberate steps to make science education more interesting by reviewing and reforming the curriculum. Implementing the reformed curriculum through a gender-responsive approach is expected to play a key role in enhancing equal participation in STEM courses. We strongly believe that the Kenyan approach will help reduce the gender gap in STEM, along with the leaky pipeline for girls and women in these fields at the national level.

Empowering women through STEM livelihoods: A disruption mechanism beyond education

Mr. Shuvajit Payne, Head of Education Initiatives, Barefoot College, India

Barefoot College has taken a number of initiatives to tackle girls' access to education in rural India, and to ensure sustainable livelihoods for women. Over 40 years, we have perfected a holistic pro-girl approach in a STEM pedagogical model that aims to break gender stereotypes and prepares our children to learn how to learn. Strategic partnerships with Apple and Oracle have enabled us to provide our children access to a world of content that is localised and gender-balanced, by using digital tools. We also conduct health and menstrual hygiene workshops and focus on nutrition levels of female children. We run children's parliament to inculcate values like leadership, critical thinking, standing up for rights and against being exploited due to poverty. Remote Night Schools enable girls unable to participate in formal day schools because they are supporting families or working as labourers to explore the vast sea of knowledge. Barefoot College's effort to turn the tables in the gender equation goes beyond a pedagogical model to an end-to-end engagement for women empowerment. We have pioneered a decentralised, renewable energy model, owned and managed by mature women from the community, who have never obtained a formal educational

degree. This not only creates livelihoods but also female role models right at the grassroots, triggering a disruption mechanism in society moving towards new gender norms.

Tech Age Girls: Bridging the gender digital divide in Myanmar before it's too late

Mr. Ari Katz, Regional Director, Beyond Access Programme, IREX

Myanmar is undergoing a rapid economic and technological transformation. Ensuring that women and girls engage in the digital world is fundamental to Myanmar's democratic and economic growth. Currently, women are 28% less likely than men to own a mobile phone, the primary means of internet access in the country, and women have less access to digital skills. This presentation will illustrate how to use existing infrastructure to engage young women in the information society in ways that result in both more opportunities for participants and a broader acceptance of young women as technology experts. Tech Age Girls (TAG) - a program IREX has conducted in 10 countries over the past decade - was introduced to in order to address this gender imbalance in technology use. TAG promotes digital and professional skills, empowerment, and leadership opportunities for young women. In Myanmar, participants learn digital and leadership skills development ranging from graphic design and communication skills to problem solving. Supported by a network of peers, they apply these skills in outreach to their communities. Participants have led digital skills training for community members and local teachers and formed groups to raise awareness about gender issues and the benefit of access to digital skills. TAG's curriculum eschews traditional lectures or tests. Instead, participants work in small collaborative groups on different tasks that use technology to create useful products. At the end of the programme, finalists implement a service project they have designed themselves. These projects have ranged from training courses for local children to coding camps and events. TAG participants form a global network of over 1,300 alumni and become mentors for future TAG cohorts. TAG is currently in its second year in Myanmar, supported by Ooredoo, ISIF and Microsoft.

Monday, 28 August
13:30-15:00
World Café

Track: 4

Linking boardrooms, classrooms and communities

This session, using a World Café format, will enable participants to explore in-depth two programmes that are in place in two very different contexts, the Mekong sub-region (in particular Thailand) and Gulf Cooperation Countries (in particular Qatar). Participants will have a chance to sit with development partners, teachers and students engaged in these projects through small group discussions and sharing, and will convene in plenary at the end to consider what application approaches such as these might have in their own settings.

Transforming STEM education with the MekongSkills2Work network's approach

Dr. Paritta Prayoonyong, Assistant Professor of Chemical Engineering, Faculty of Engineering, Mahidol University, Thailand and Ms. Nancy Meaker Chervin, International advisor/training manager, Education Development Center, Inc.

This session features a lively conversation with engineering students and their female professors. It will focus on how Mahidol University has used the MekongSkills2Work Network's standards-based instructional

approaches to make learning more dynamic. Students benefit from instructors who facilitate classes rather than lecture. Classes feature project-oriented learning activities, during which students apply their learning to real-world problems. Students not only develop skills that industry needs, but develop the work readiness skills such as collaboration and adaptability that employers demand. The Training Manager from the MS2W Network will help provide an overview of the approach. The conversation will focus on the transition from more traditional approaches to learner-centred approaches from the perspective of both the students and their instructors. Gender equality issues will be drawn out as the discussants share real examples from their own perspectives. For example, how has project-centred work been an equalizer between males and females? Are there any notable differences in the way young women and men participate in their learner-centred classrooms? How is this preparing them for the dynamics in the working environment in engineering companies?

Al Baraiq: Empowering female secondary school students to participate in scientific research in Qatar

Dr Noora Al Thani, Professor/Manager of Outreach and Engagement, Ms. Fatimah Nabhan, Teacher, and Ms. Aldana Alyafei, Student, from the Centre for Advance Materials, Qatar University with Dr. Faryan Khan, Programme Specialist, UNESCO Doha Office

Research undertaken in the Gulf Cooperation Council (GCC), in particular cross-national surveys such as PISA and TIMSS, demonstrate significant numbers of girls and young women participating and succeeding in science education programmes. However, there is limited research on how science education programmes in this region influence secondary school students' decisions to pursue careers in science and research. This presentation presents a study of female participation in science education in Qatar, and explores in more detail with a professor and a student from Qatar University "Al-Bairaq", an innovative outreach programme carried out by Qatar University's Center for Advanced Materials. The Al-Bairaq programme offers school students from different levels (primary, secondary, and preparatory levels) the opportunity to connect with the research environment and develop a curiosity about scientific research through dynamic hands-on learning experiences. The Programme is open to both male and female schools, and draws on inquiry-based approach where students identify, develop and make predictions related to a clearly focused research question. In societies where women are subjected to limited opportunities, there are no such educational programmes in Qatar that contribute to women empowerment through STEM-based innovative learning. Since the start of Al-Bairaq in 2010, the number of female students participating in the program increased significantly. In 2010 the number of females students was only 48, while in 2017 we have now reached 1,496 female students. AL-Bairaq was selected for the 2015 World Innovation Summit for Education (WISE) awards, for providing the best new solutions to education, adopting the latest practices, and its positive social impact. It also won the Middle East Silver Award at the third annual Reimagine Education Awards in 2016. The presentation focuses on the relevance of this study within the national context, lessons learned, achievements, key challenges and constraints, and recommendations for enabling women's participation in science.

Monday, 28 August
15:30-16:45
Workshop

Track: 1

Applying the EU's Responsible Research and Innovation framework to create new science classrooms: Insights from the Ark of Inquiry project and beyond

Ms. Alikı Giannakopoulou, Researcher, Department of Research and Development, Ellinogermaniki Agogi private school, Greece, and Ms. Lauren N Bohatka, Associate Project Officer, UNESCO Regional Bureau for Science and Culture in Europe

The European region represents a microcosm of the world. Having both the poorest of the poor and the richest of the rich, and all that falls in between, Europe faces the same intra-regional challenges that other regions face, including a low proportion of female scientists/researchers and difficulties engaging girls in the science classroom. To address these issues, the European Union is applying the Responsible Research and Innovation (RRI) framework, which has been adopted by the Ark of Inquiry project. It aims to create a "new science classroom" using Inquiry-Based Science Education (IBSE), with a special focus on engaging girls in science. This workshop will present the context within which the Ark of Inquiry project has been working and demonstration how the 5-phase Ark of Inquiry learning model (Orientation, Conceptualization, Investigation, Conclusion and Discussion), applied within the RRI framework, has been successful in motivating girls in the science classroom. A hands-on interactive inquiry activity (DNA Extraction of Kiwi Fruit) will enable participants to experience first-hand how to apply this approach in their own classrooms or even at home. Information from other EU projects as well as various national case studies from the European region will also be shared.

Monday, 28 August
15:30-16:45
Workshop

Track: 2

Sustainability and inquiry-based learning as a context for engaging girls in STEM

Ms. Pennie Stoyles, Teacher, Science Communicator, Author and Administrator, Australian Academy of Technology and Engineering, Australia

Students, particularly girls, often report that they consider science and mathematics irrelevant to their everyday lives. The Australian Academy of Technology and Engineering (ATSE) has developed STELR, a set of learning modules for secondary school students, that are proven to engage all students in STEM subjects. The modules focus on the physical sciences, mathematics and science enquiry skills and use sustainability contexts to engage students. They feature purpose-designed and built equipment that allows students and teachers to design and undertake open-ended investigations. STELR began in 2008 as an initiative of Alan Finkel, ATSE's former president and Australia's current Chief Scientist. STELR is currently implemented in over 590 schools throughout Australia, New Zealand and South East Asia. An independent evaluation found that:

- students are more engaged in STELR lessons compared to regular science lessons;

- STELR teachers are more confident at teaching practical classes and encouraging students to design their own STEM inquiries;
- increased enrolments in STEM subjects at Year 11 in STELR schools, especially among girls;
- STELR students are more scientifically literate - even if not pursuing STEM in later years;
- raised awareness of jobs in STEM related careers.

This workshop will allow participants to learn about the rationale and success of STELR by undertaking hands-on investigations into renewable energy and sustainable housing. Similar activities will be modelled that can be undertaken with common, every-day equipment items.

Monday, 28 August
15:30-16:45
Workshop

Track: 3

Think Pink hard hat challenge

Ms. Naadiya Moosajee, Co-Founder, WomEng, South Africa

The Think Pink Hard Hat Challenge is a hands-on workshop for girls between 13 and 17 years old. The aim is to educate and encourage girls to consider careers in STEM, especially engineering, and to remove the daunting stereotypes around these careers by celebrating their individuality and the value they could bring to engineering. Stereotypes such as engineering being a man's job and the typical perception of an engineer's dress code being hard hats and boots are often reported as some of the hindrances to girls considering engineering as a career. The Think Pink Hard Hat Challenge aims to break a stereotype with a stereotype i.e. using pink, which is considered a feminine colour on hard hats to create awareness around STEM careers for girls. The first part of the workshop is a brief discussion with young women around stereotypes in engineering and the value of individuality. The second part invites young women to express their ideas on customizable pink hard hats by colouring, writing and transforming each of them differently to represent their own unique brand. The message behind this activity is to demonstrate to these girls that each created hard hat is distinctive, thus, just like each girl has unique ambitions and perspectives for future careers in STEM. At the end, the workshop selects girls to briefly showcase and share their brand and the value they believe they can bring to engineering. The Think Pink Hardhat Challenge is part of the WomEng #1MillionGirlsInSTEM campaign in collaboration with UNESCO to empower 1 million girls through STEM education over the next 10 years.

Monday, 28 August
15:30-16:45
Workshop

Track: 4

Building effective cooperation for more women in STEM

Ms. Reine Essobmadje, Co-founder, Digital Coalition, Belgium, with Dr. Mbang Sama, Executive Director, Co-founder, Digital Coalition and Ms. Tchouateu Yonkeu Laetitia Paola, Student, Information Communication and Technology for Africa Development (ICT4D), University of Yaoundé 1, Cameroon

A missing component in the gender diversity issues could be illustrated with the GC Index[®] (Game Changer). The GC Index[®] is a digital assessment instrument to help identify game changers and the game changing contributions they can make towards attracting more women in Tech. It enables teams to consider how to contribute to change, and how to improve impact. This workshop will explore how effective cross-sector cooperation with support from digital game changers from the private sector, NGOs, and other partners, could maximize gender diversity in STEM. It aims to define concrete actions to link up existing initiatives to improve their efficiency and impact. The Digital Coalition is an innovative Gender Diversity Game Changer creating original and innovative ideas to attract more women in tech. Various other initiatives are implemented by other partners, including the private sector and NGOs, but coordination at the global level is lacking. This workshop aims to define concrete actions to link up different initiatives in order to increase efficiency of various initiatives and improve their impact towards gender diversity in STEM.

Tuesday, 29 August
10:45-12:15
Panel discussion

Track: 1

It's not just what you teach but how you teach it: Stimulating interest, inquiry and innovation

STEM: Female participation in Ethiopia

Ms. Mihretekirstos Forsido, Senior Expert, Ministry of Education, Ethiopia

In Ethiopia, there are significantly more male than female teachers in STEM. Female math and science teachers may help encourage interest among girls by encouraging them to take risks and go against stereotypes, raising their confidence in their abilities and explaining the importance of focusing on students' high school years to help entering STEM-related fields. Ethiopia is working to improve the performance of primary and secondary education STEM teachers. One of the strategies used to improve the quality of STEM teachers is on-the-job training. Ethiopia is working with teacher training colleges and STEM teachers to improve capacity at the foundation-level, and to improve the number of and ability of female STEM teachers. Ethiopia aims to improve women/girls' participation by working at the very beginning at primary and secondary education. If student's ability, attitudes and beliefs can be improved at primary and secondary education level, the number of students entered to STEM at TVET and tertiary education levels will improve. This joint approach also of engaging female teachers is also helping girls to develop self-confidence to enter STEM at tertiary level.

Using simulation-based engineering education for female students in Korea

Dr. Jong Tae Youn, Professor, Department of Graphic Arts Information Engineering, Pukyong National University, the Republic of Korea

To increase interest in STEM and the retention rate of female students in the college of engineering in South Korea, Pukyong National University (PNU) introduced the Women in Engineering (WIE) programme and promoted simulation-based teaching and learning methods for STEM subjects in 2006. Experts in education, instructional technology and engineering have undertaken analyses of the effectiveness of PNU's efforts. The results of 400 students, including 200 female students who studied engineering from 2006 to 2011, found significant differences between men and women in their

understanding, satisfaction, motivation, learning ability, enjoyment and grade expectations. By 2016, the simulation-based engineering education programme appears to have created an impact. Factor analysis of women participating in the simulation-based engineering education programme from 2006-2016 found that the retention rate of female engineering students in the college of engineering increased from 18% in 2006 to over 30% in 2016. Moreover, the rate of female students changing from engineering to another subject decreased from 4.4% to less than 2%. This presentation will share the steps taken to achieve this impact, and aim for potential cooperation with universities in other countries.

Improving girls' achievement in maths and science: A living lab approach for STEM education

Mr. Lebohang Kompi, Lesotho National Commission for UNESCO, Lesotho

The presentation addresses the efficacy of a Living Lab approach to improve the quality of the teaching and learning of mathematics and science at secondary school level as well as student outcomes. It showcases a nation-wide initiative underway in Lesotho which promotes interaction amongst female learners and teachers of mathematics and science. The Living Lab approach, established since 2007, creates an open platform upon which female learners, educators, researchers, policy makers, and the private sector co-create value by enhancing the quality of science and maths education for girls, and help girls to choose related careers. The project was motivated by the need to promote a learner-centred approach, which draws on a cultural practice where the learner is charged with responsibility to help others. It uses 3G technologies together with the internet, social networks and educational software. A supporting Lesotho case study will be shared through this presentation.

Tuesday, 29 August
10:45-12:15
Panel discussion

Track: 2

**Stereotypes and bias:
Perspectives from Asia**

A complex formula: Findings from UNESCO Bangkok's research on girls, learning achievement in science and mathematics and engagement in STEM fields

Ms. Ramya Vivekanandan, Programmes Specialist, UNESCO Bangkok

This presentation will present the main findings of UNESCO Bangkok's report *A Complex Formula. Girls and Women in Science, Technology, Engineering and Mathematics in Asia*, published in 2015. Based on research conducted in seven countries of the region (Cambodia, Indonesia, Malaysia, Mongolia, Nepal, the Republic of Korea and Viet Nam), the report considered: What factors might be causing the low participation of women in STEM fields? What can be done to attract more girls and women into STEM in Asia and beyond? The research tried to answer three fundamental questions: Where do we stand? What led us here? Where to from here? It examines a wide range of issues from gender differences in learning achievement in mathematics and science, participation in higher education as well as educational, psychosocial and labour market factors, all of which can influence girls' and women's attitudes towards STEM fields as a choice for further study and as a career. Along with these, the report also provides reflections and conclusions for further study and policy formulation in Asia and beyond.

Girls in STEM education: Lessons from Nazarbayev Intellectual Schools experience

Mr. Nurgali Yelshibekov, Principal, Nazarbayev Intellectual School, Kazakhstan and Mr Daniyar Ualiyev, Deputy Principal for Experimental Work, Nazarbayev Intellectual School of Chemistry and Biology, Kazakhstan

This presentation will describe the approach taken by the Nazarbayev Intellectual Schools (NIS) to engage girls in STEM education. It will share information on enrolment, curriculum development, examination results, and university entrance data, with a focus on girls' engagement and outcomes. It will share how demanding curriculum in science and mathematics is contributing to girls' achievement, and how twinning students with professors from national and international universities, and encouraging their participation in science conferences and competitions is contributing to their success. It will conclude by sharing how lessons learned from this approach aim to be applied to other schools in Kazakhstan, to ensure multiplier efforts across the country.

Japanese programs for female scientists and APEC lesson study projects for STEM education

Prof. Masami Isoda, Director, Center for Research on International Cooperation in Educational Development (CRICED), Tsukuba University, Japan and Project Overseer, APEC Lesson Study Projects

Since 2002, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan has been supporting STEM Education under programs such as Super Science High School Program (SSH) and Science Partnership Program (SPP). SSH is the program which proposed from high schools and SPP is the program proposed from universities. The Japanese program for female scientists is a part of the SSH program. At the same time, several ministries pushed the programs for diversities. Especially, Japan Science and Technology Agency has provided recruitment programs for female scientists through showing career developments. This presentation explains these and other such sample programs. For showing good practices for STEM education in APEC countries, this presentation also refers to examples of STEM education from the APEC Lesson Study Projects since 2006 proposed from Japan and Thailand in relation to SDGs.

Tuesday, 29 August
10:45-12:15
Panel discussion

Track: 3

Camps, clubs and contests:
Leveraging non-formal education and after-school activities

Female teams contests in mathematics

Ms. Anna Brancaccio, General Directorate, Italian Ministry of Education

Mathematical Olympiads are contests for upper secondary school students. The aim of the competition is to involve students in problem-solving activities where they are expected to find creative solutions to never-seen-before mathematical problems, and to stimulate their mathematical competences through peer competition. In addition to an individual race, teams composed of seven students from the same school, will work together to solve problems, and will then run to deliver the numerical result first to the organizers, dressed in costumes aligned with the mathematical problem. Normally, the Italian Mathematics Olympiads do not include a specific female contest. In

2018, the 7th edition of EGMO will take place in Italy. In order to get ready for the challenge of the EGMO, in the current year, in Italy for the first time, a competition reserved to girl teams has been organized during the preliminary phase of National Olympiads. This was also arranged to address the problem of limited female participation in the Italian National Mathematics Olympic Games: normally only 25% of girls' teams are involved in initial selection phase, dropping down to only 10% in the final phase. This presentation will share more about the reasons for the low female presence in the mathematics Olympiads, our efforts to engage girls in these contests, and finally our plans for the EGMO in Italy.

The role of Al-Saad Foundation to empower young Arab girls in STEM education

Dr. Fatimah Alhashem, General Manager, Teacher Development Department, National Center for Education Development, Kuwait

The Al-Saad Foundation's mandate, strategic vision, and aims are to promote gender equality and empower women, youth, and civil society through participation in national development. For decades, Al-Saad Foundation, through the Ibitikar Initiative, has played a vital role in supporting young girls in scientific and technology innovation in Kuwait and the Gulf Cooperation Council (GCC) countries. Since 1999, the Ibitikar Initiative has organized an annual prize for young women, under the name of Her Highness Sheikha Fadya AlSabbah, the chairperson of Al-Saad Foundation. In 2000, the Kuwait Innovation Initiative for Women's Research and Projects was launched through the "Sheikha Fadya AlSabbah competition", for secondary education in the State of Kuwait only, further developing into a regional initiative in 2006. In 2015, the Ibitikar Initiative initiated kindergarten summer camps for interactive science and innovation. The Foundation Al-Saad is also providing internships for pre-service science and math teachers in the summer. The Foundation is developing the capacity of female students in public education both locally and regionally, with the aim to empower women who can take responsibility for themselves and their homelands.

Promoting early STEM education for girls for sustainable development in Africa

Dr. Florence Tobe Lobe, President Fondation RUBISADT, Cameroon

Encouraging girls to take up STEM is not only one of the biggest challenges the RUBISADT Foundation is trying to address, it is also a global need. Our society will continue to miss the enormous opportunities for change and development until we can address gender inequalities, especially to and through education. We aim to demystify science and technology by engaging girls at a young age. The Foundation organizes science, technology and innovation (STI) days during which girls are introduced to STI through interactive presentations and practical experience sessions (e.g. creating holograms, solar ovens, programming). Building the foundations of quality STEM education, involved enticing girls early to break the myth of a natural deficit in science through technological workshops where they build critical thinking skills and confidence. To end the profound inequalities in STEM, we have to take action. This includes supporting national policy dialogues; institutionalising in-service training for teachers and revising textbooks; stimulating and motivating girls; encouraging parents to support their children; and establishing networks and supporting good practices like those RUBISADT has established.

Tuesday, 29 August
10:45-12:15
Panel discussion

Track: 4

Strength in numbers: Role of networks and professional societies

INWES Herstory: Achievements, challenges and future to build a better world

Dr. Kong-Joo Lee, President, International Network of Women Engineers and Scientists (INWES), the Republic of Korea

The International Network of Women Engineers and Scientists (INWES) is a global network of organizations that supports women in STEM, reaching over 60 countries worldwide. INWES has been an NGO in official partnership with UNESCO since 2007 and has special consultative status to ECOSOC in UN since 2017. The network was created with the vision to "build a better future worldwide, through the full and effective participation of women and girls in all aspects of STEM". INWES oversees the International Conference for Women Engineers and Scientists (ICWES), which has been held every three years since 1964. INWES also works with countries and organizations to host regional conferences, and establish regional networks. To date, three regional networks have been established in Asia and Pacific, Africa and Europe, along with other STEM organizations with common protocol and organizational bylaws as INWES. INWES collaborates and participates with UNESCO and the UN on international campaigns to raise awareness, access to education, and career opportunities for girls and women on issues such as the environment, sustainable development, gender equity, and many others. This presentation will share INWES' experiences, our passions, our energies, ideas and strategic plans, so that we can learn from one another, which will empower us as women scientists and engineers, and contribute to building a better world.

STEMming from a lack of gender equality - Accounting for the Turkish perspective

Ms. Afra Feyza Toksal, President, Koc University Society of Women Engineers (KUSWE), Turkey

STEM studies and careers are vastly dominated by men worldwide; this is also the case in Turkey. Women participate significantly less than men in all levels of education, and female students comprise only 35% of students with STEM majors. Furthermore, 70% of the adult female population does not participate in the work force. Consequently, women comprise less than 20% of STEM-related jobs. This presentation present a detailed analysis of women's presence in STEM studies and careers in Turkey including obstacles preventing women from participating, continuing and advancing in STEM studies and careers. The presenter will also share her personal experience, and how psychological processes can influence career decisions. We will briefly present what the Koc University Society of Women Engineers (KUSWE), established in 2010 as a section of the US-based Society of Women Engineers (SWE), has been able to achieve in cooperation with the College of Engineering and the College of Sciences. Today we have more than 200 members. The goal of this presentation is to share our views, expectations, suggestions and our insights regarding gender imbalance in STEM fields in Turkey along with how the country has been progressing over the course of time.

Girls in science and education in Nepal

Dr Anjana Singh, Executive Member of Special committee of AASSA, Women in Science and Engineering (WISE), Nepal

Women in Science and Engineering (WISE), Nepal aims to create career opportunities for women by increasing awareness, providing support, enhancing capacity building and by influencing policies for promoting women in the field of science and engineering. Organizations of women professionals and women scientists play important roles both in providing a forum for women scientists to share their experiences and receive mutual support, as well as acting as lobby groups to suggest policy and practical changes. This presentation will share more about WISE in Nepal to break down glass ceiling for women scientists, to ensure young girls to have the freedom and the confidence to pursue careers in science, to support girl students through every academic stage, and to encourage universities to increase the number of female researchers.

Tuesday, 29 August
13:30-15:00
Workshop

Track: 1

Virtual reality as a gender change agent: Transforming STEM observers into participants

Dr Akkachai Poosala, Mr. Surawith Tunchaiyaphum, Ms. Nuttaramunya Chantraprapakul, Mr. Thrid Muangplub, Mr. Piyachai Chailorath, and Ms. Miss Supinya Jindamorakot, Southeast Asia University, Thailand with Mr Jan Ståhlberg, Head of Strategic Partnerships, Labster, Denmark

Participants will explore how Virtual Reality has the potential to become a key part of creating societal impact on a massive scale. Labster has experience of developing learning environments in Virtual Reality and thereby creating new layers of immersive experiences in STEM education and skills. The workshop will start with a short presentation that will set the scene and context for using Virtual Reality with girls and young women. There will be specific examples of how Labster has collaborated with global partners to focus on female-led science and health issues as the foundation for developing science, technology, engineering and mathematics (STEM) virtual laboratory simulations. In the second part, workshop participants will be rotated between three stations: (1) Demo Lab – Trial of Labster's Virtual Reality laboratory simulations; (2) Dream Lab - Exploring the amazing immersive qualities of Virtual Reality; (3) Debate Lab - Acting as a critical friend of the technology and its future impact. The workshop will finish off with knowledge sharing and motivational take-aways for using Virtual Reality in education and skills development aimed at girls and young women. Labster will attempt to attract co-presentation and facilitation from academic staff from Southeast Asia University in Thailand who is currently using Labster's virtual laboratories in selected STEM courses.

Tuesday, 29 August
13:30-15:00
Workshop

Track: 2

Using the UNESCO Gender-responsive STEM Resource Pack to develop gender-sensitive STEM curricula

Mr. Renato Opertti, Programme Specialist, UNESCO International Bureau of Education, IBE

This workshop will introduce the UNESCO International Bureau for Education (IBE) Training Tools for Curriculum Development: a Resource Pack for Gender-Responsive STEM Education. This resource pack has been developed as a joint initiative of the Ministry of Education of Malaysia and IBE aiming to share a broader understanding of the theory and practice of gender-responsive STEM education and its development at the policy, school, classroom and community levels. It provides comprehensive guidance for national policy makers, curriculum developers, teachers, teacher educators and school leaders. It includes seven modules covering gender and sociocultural practices in STEM education; formulating STEM policies; developing gender-sensitive STEM curricula; creating gender-responsive STEM pedagogy, learning and assessment; teacher education and teacher professional development to support gender-sensitive STEM curricula and pedagogies; developing gender-sensitive STEM resources; and raising community awareness and commitments to policies that promote gender-responsive STEM education. Each module includes a conceptual framework, series of training activities, case studies and other resources within an international comparative perspective. During the workshop, participants will discuss cutting-edge trends, innovative strategies and hands-on activities with a specific focus on gender-sensitive STEM curricula and pedagogies. Participants will learn about different strategies to foster a holistic vision of STEM education and how to apply it through policies and curriculum.

Tuesday, 29 August
13:30-15:00
Workshop

Track: 3

Gender in Science, Innovation, Technology and Engineering (SITE): Some case studies

Professor Sibusiso Moyo, Deputy Vice-Chancellor, Research, Innovation and Engagement, Durban University of Technology, South Africa with Edith Shikumo, Young Scientist Liaison Officer, Academy of Science of South Africa (ASSAf), Secretariat South African Young Academy of Science (SAYAS)

Women constitute approximately around 50% of the population in the African continent. Therefore, the role of women in science, innovation, technology and engineering and its link to socio-economic development cannot be underestimated. The workshop will look at some case studies of programmes that have been implemented and work in progress through the Organisation for Women in Science for the Developing World (South African Chapter, OWSD SA) in collaboration with the Academy of Science of South African and GenderInSITE. Group discussions will be undertaken to enable participants to share their experiences in reaching out, engaging and empowering girls and women, with a particular focus on mentorship programmes.

The discussions will provide input into a position paper that can be published and shared with participants and policy makers in Africa, aiming to promote common ground for joint mentorship programmes for the African girl child to take up Science, Innovation, Technology and Engineering (SITE) subjects and careers.

Tuesday, 29 August
13:30-15:00
Workshop

Track: 4

International large-scale assessment (ILSA) data and its usability to identify gender gaps and promote equal opportunities for learning

Ms. Nadine Radermacher, Associate Research Analyst, International Association for the Evaluation of Educational Achievement (IEA), Germany

As a leading entity in the field of educational research for nearly 60 years, the International Association for the Evaluation of Educational Achievement (IEA) promotes capacity building and knowledge sharing to facilitate innovation and foster quality in education. IEA studies collect international data on the intended, implemented and achieved curriculum, thus providing an opportunity to identify possible shortcomings and obstacles along the way from curriculum goals to education outcomes. The primary objective of this workshop is to promote the potential of international large-scale assessment data (ILSA) with regard to identifying gender differences in STEM education. Using data from the Trends in Mathematics and Science Study (TIMSS), we aim to assist participants in empirically investigating girls' participation in the STEM topics of mathematics and science. During the workshop, we will (i) introduce participants to the design and content of IEAs' TIMSS study, (ii) show access paths to data sources, technical documentation, analysis guides and recommended software tools, and (iii), in cooperation with the participants, develop possible research questions focusing on the issue of gender differences in STEM and the promotion of equal learning opportunities for girls based on the use of ILSA data.

Tuesday, 29 August
16:30-18:00
Panel discussion

Track: 1

No longer invisible: Gender-responsive STEM curricula and learning materials

Gender-sensitive STEM education in Viet Nam

Dr. Nguyen Duc Minh, General Vice Director, Vietnam National Institute of Educational Sciences (VNIES), Viet Nam

There has been a considerable push over the last decade to strengthen STEM educational curriculum in many countries around the world. In Viet Nam, STEM subjects appear in elementary level as Mathematics, ICT, Science, Technology, Nature and Society, and at secondary level, as Mathematics, Technology, Physics, Chemistry, Biology (hereinafter referred to as STEM subjects). Although some research finds girls outperform boys in STEM standardized tests, women remain underrepresented in STEM degrees and in STEM careers. In Viet Nam, the 2015 OECD's Programme for International Student Assessment found that girls' learning achievement is slightly higher in

boys in math and science, but boys represent a larger proportion of top performers in these subjects than girls. This presentation focuses on a gender analysis of textbooks in Viet Nam to examine how gender equality figures in STEM textbooks (45 textbooks (15 primary and 30 secondary level)). It will also share the findings from a survey conducted to understand STEM education in general and STEM education for girls in particular in primary and secondary schools in Viet Nam. It focuses on exploring girls' attitudes and confidence in STEM fields, and strategies to retain girls' interest in these fields.

Supporting STEM education amongst women in Sierra Leone through peer mentoring and mobile learning activities

Dr. Bridget Bannerman, Founder, Science Resources Africa

This presentation will present the initial outcomes of work with the Open Education Resources for Schools (OER4Schools) and a trial of Raspberry Pi activities undertaken through one-on-one tutoring among secondary-school age girls in Sierra Leone. The Raspberry Pi approach applies gender-sensitive activities for teaching science and mathematics using enquiry-based activities drawing on GeoGebra, Scratch, and Minecraft, as well as activities involving measurement, sensors, and physical computing. We will also share about the outcomes of five years of trialling science education workshops and peer mentoring among girls and women in Sierra Leone, including the expansion of one-on-one tutoring; the inauguration of the Sierra Leone Association of Women in Science and Engineering (SLAWISE) in 2013, the integration of mobile technology, and the expansion of mentorship arrangements. This work has led to increased subject understanding, peer cooperation, problem-solving, and confidence among girls, leading also to increased engagement and success among girls in science fair competitions. It will consider: How can projects be designed to specifically target girls, and how might such projects appeal to girls' school teachers and female science teachers? How can projects overcome some of the challenges that girls are facing?

Engaging girls in science through foreign language and social science studies

Mr. Marcelo Luis Amen, Language Teacher, Escuela Normal Superior en Lenguas Vivas No. 2 "Mariano Acosta", UNESCO ASPnet School, Argentina

In recent years, the Escuela Normal Superior en Lenguas Vivas No. 2 "Mariano Acosta", a UNESCO Associated Project school, has introduced scientific texts in foreign language subjects for students pursuing studies in physical science and mathematics at upper secondary-level. This initiative aims to reinforce the science and mathematics education that students are receiving with different types of content. By introducing these concepts as they apply to industry or entrepreneurship, we are also enabling learners to build their scientific vocabulary through applied learning. The majority of students in scientific disciplines are boys; however, we have seen that by introducing with reading and comprehension exercises for girls that more girls are being interested and participating in these subjects. This presentation shares more about our initiatives and the impact it is having on students in our school.

Tuesday, 29 August
16:30-18:00
Panel discussion

Track: 2

Addressing overlapping and intersecting contexts

On the vanguard: Highlighting and centering the experiences of women of colour in STEM

Dr. Jedidah Isler, The SeRCH Foundation, Inc., United States and Ms Natasha Berryman, Creative Director, SeRCH Foundation, United States

This presentation will challenge the notion that programmes for girls in STEM automatically address the issue of girls of colour in STEM and lay out strategies for how we centre and highlight the experience of women and girls of colour who are or might be interested in STEM. It will present a new framework for directly engaging this unique and often overlooked community of next generation STEM leaders. Specifically, we will identify how we disseminate information to and about girls of colour in STEM, the response to the original content that we have developed through #VanguardSTEM and areas and opportunities for growth and development of this online community. We identify key points that distinguish the experiences of girls of colour as they first become exposed to and ultimately decide whether or not to pursue STEM fields. While a major portion of the work of #VanguardSTEM is to highlight the stories of women of colour in STEM, we show that our impact extends beyond attracting students into STEM and impacts the retention of girls and women of colour once they have decided to pursue STEM.

Engaging young women in science, technology and engineering in the transition

Dr. Svetlana Aslanyan, President, Centre for the Development of Civil Society, Armenia

This presentation will address how young women's involvement in STEM and gender relations have changed in the transition from socialism to democracy. It will consider how "women's liberation" has affected women's involvement in STEM in the Soviet Union and particularly in Armenia. It will draw on research on post-communist transformation processes, and case studies of three generations of women scholars in soviet and post-soviet society, along with the results of two projects: "Drafting the Roster of Women Professionals in Armenia" and a series of Round Tables on "Women in Science, Technology and Engineering in Civil Society". It will also explain how the new Centre for Creative Technologies (TUMO), an innovative digital media learning created as a synergistic hub for education and technology, is redressing gender disparities in technology. In conclusion, women make half of the population and their intellectual potential cannot be ignored. In Armenia, it was and it is still difficult for women to get top positions, but there is hope that situation will change due to democratic developments

Iraqi women in engineering fields: struggles and solutions

Ms. Zryan Ibrahim, Student, American University of Iraq, Sulaimani (AUIS), Iraq

This presentation will be about Iraqi women in engineering fields in Iraq, and what is being done by the AUIS Engineering Club, a student-led organization from the American University of Iraq, Sulaimani to support women in engineering. In Iraq, societal expectations for females are lower than for males. Iraqi women are not trusted for their

power and ambition to work in engineering, and are relegated to design work in many companies as opposed to fieldwork or posts in management departments. There are few who are successful in good engineering positions and receive support from their companies. Societal expectations lead to beliefs that women are not capable of working with other workers and engineers, and women face many obstacles. Many women do not feel able to fight for their rights, and some end their education and get married after all the days and hours of hard work and studying a major like engineering. This presentation will discuss the situation in Iraq and what the AUIS Engineering Club is doing to reach out and engage women in engineering fields

Tuesday, 29 August
16:30-18:00
Panel discussion

Track: 3

Linking up: Role models, champions and mentors

STEM clinics: Increasing girls' participation in STEM education in Ghana

Mr. Prosper Nyavor, Programme Specialist, UNESCO Accra, Ghana

STEM are widely regarded as critical to the scientific, industrial, technology and social progress of a society as well as its association with more academic and career opportunities. STEM Clinics and building teacher capacity have proven to be effective strategies that help to increase the participation of girls in STEM-related courses in selected secondary schools in Ghana. UNESCO Accra is one of the five UNESCO offices currently implementing the UNESCO-HNA Girls' and Women's Education Project, which, in Ghana, has a specific objective to increase girls' participation in STEM-related courses in select secondary schools. To-date, over 600 primary and lower secondary school girls have participated in STEM clinics, benefitting from short-term but intensive interactions with female scientists. These interactions give girls the opportunity to change negative perceptions about woman scientists, to learn more about science professions, and to interact with role models. Demonstration classes are also organized, to provide teachers with examples of practical and animated STEM classes. STEM Clinics are very important in Ghana, as evidence from West African Senior School Certificate Examination (WASSCE) shows recent declines in the participation and learning achievement of students (particularly girls) taking these examinations. The presentation will discuss the status of girls' participation in STEM, key challenges, the UNESCO intervention, lessons learned and next steps.

STEM@Home: Parent-student collaboration in developing STEM skills of middle school girls

Ms. Rosemarie Punsalan, Science and Technology Supervisor, Miriam College, Philippines

Miriam College, a premier exclusive school for girls, believes that parent-student collaboration is an integral part in developing students' STEM skills. This parent-student collaboration can be best achieved through STEM@Home activities, or home-based projects for Grade 6 to Grade 8 students. In each quarter, a project based on current theme or lessons is given for students to work on at home with a parent-partner. Aside being developmentally appropriate, the projects make STEM lessons fun and practical for students and parents. This presentation will share the experience of Miriam College, and provide concrete suggestion on how we can reach out to young

girls and foster STEM cultures at home. The STEM@Home activity allows students to be critical-thinkers, problem-solvers, collaborators as well as leaders even in their own homes. STEM@Home also enables students to reflect on the significance of STEM in our daily lives. For example, the creation of balloon-powered cars teaches both students and parents about resourcefulness, an integral value to energy conservation. Realizing the relevance of the projects increases their interest in learning STEM. By immersing our girls to this kind of parent-student collaboration, learning and loving STEM will not be difficult for them, which in the future could be the answer to the shortage of female STEM experts.

Engaging men on gender equality

Ms Jihane Lamouri, Gender Equality, Inclusion and Business Development, African Institute for Mathematical Sciences (AIMS)

AIMS, the African Institute for Mathematical Sciences, actively encourages women to apply to its programs and AIMS classes have consistently attained a proportion of around one-third women, far higher than typical postgraduate programs in the mathematical sciences. AIMS' embedded approach to Gender Equality, Diversity & Inclusion increases student exposure to diversity and facilitates greater appreciation of gender equality. This presentation will focus on how we raise awareness, build appreciation of gender equality and diversity through the AIMS Academic Model: our commitment to ensure diversity at the student body level, the 24hr Learning and Living environment along with inclusive student support services, all work together to create an enabling environment where men and women can fulfill their potential. This presentation will share more about our efforts, our successes, and why it matters to engage men in gender equality in math teaching and learning.

Tuesday, 29 August
16:30-18:00
Panel discussion

Track: 4

Workshop: EQUALS: Building a coalition to promote skills in the digital age

Working session: EQUALS: Building a coalition to promote skills in the digital age

Ms. Carla Licciardello, Policy Analyst, International Telecommunication Union (ITU), Switzerland with Ms. Johanna Hartung, Policy Advisor, German Cooperation for International Cooperation (GIZ) and Ms. Gülsel Corat, Director, Gender Equality Division, UNESCO

This session will focus on discussing the importance of bridging the gender digital divide as a way of promoting the social and economic inclusion of girls and women. During the event, there will be opportunities for organizations and private sector organizations to share their experiences aimed at promoting digital equality through projects linked to facilitating access to health services, use of digital financial services and encouraging women's digital entrepreneurship. What initiatives are considered as good practices in bridging the digital gender divide? What are the challenges that have been faced in bridging the gender digital divide?

Wednesday, 30 August
10:00-11:30
Panel discussion

Track: 1

Who's that STEM teacher? Recruitment, training and professional development

Gender appropriate STEM teacher training: Investing in quality STEM education for girls in Somalia

Ms. Khadar Bashir-Ali, Director, Foh Center for Education, Policy, Research and Development, Somalia

This presentation will expose participants to the realities of science and STEM education in Somalia and the barriers that impede the girls' educational participation. The concepts of culturally- and gender-responsive education require commitment to support girls' education in a highly patriarchal society such as the Somali one. The presentation will offer insights on what needs to be done to overcome the gross violations of the girls' rights to education, including transformative reform within the education system. This includes making girls' education a priority within the sector plans' strategic objectives and also recruiting, training and retaining more female science and STEM teachers in primary and secondary education. In addition, quality female teacher training must be pursued with vigour to ensure that female teachers are also role models. To meet the SDGs systems must be willing to adopt institutional reform in the education sector to offer girls equal opportunities.

Girls' STEM education for sustainable development: Cooperation in the Caribbean

Ms. Punalall Jetoo Petal, National Science Coordinator, Ministry of Education, Guyana

Achieving sustainable development requires everyone's engagement. Reaching and inspiring girls to study STEM education is crucial for the achievement of the SDGs. Partnerships with UNESCO, local NGOs, government institutions and the private sector led to the development of an Education for Sustainable Development Policy for Guyana in 2016. This policy addresses the quality of STEM education for girls and promotes innovative pedagogy that transforms STEM education to achieve sustainable development. By integrating UNESCO Global Microscience Experiments Project, the Sandwatch programme through Inquiry Based Science Education (IBSE), the approach integrates formal, non-formal and informal learning and promotes 'hands-on' experiences to support the learning of concepts. It fosters the development of critical thinking skills and aims to reduce girls' anxiety around science study through interactive learning which bridges theory and practice, and uses readily-available low-cost resources. The successful implementation of the microscience programme in Guyana led to its expansion in five Caribbean countries (Belize, Jamaica, St. Lucia, St. Kitts and Trinidad), and, through partnerships with the Caribbean Science Foundation and the Caribbean Academy of Sciences, STEM training workshops for the primary level were held in six countries (Antigua, Barbados, Jamaica, Dominica, St. Kitts and St. Vincent). These trainings are also empowering female teachers, who make up the majority of primary level teachers, and can influence girls' engagement in STEM.

TVET: Is the kitchen a woman's place?

Ms. Francisca Chisepo Muramba, Lecturer, Technical Graphics, Belvedere Technical Teachers' College, Zimbabwe

This presentation will present the results of a study that examines the effects of gender roles and stereotyping on girls' STEM education

studies and career choices, including. It considers to what extent gender roles at home affect the choice of careers by students in technical subjects, and relationships between home and school. It also consider the effects of stereotyping in learning materials that students are exposed to in STEM subjects. It finds that generally females are socialised to be mothers and wives while males are socialised to be husbands and providers. As a result of this most females are found in careers related to caring such as in the clothing and textiles and home management while engineering related careers are still dominated by males. It considers actions that can be taken to redress this situation in Zimbabwe and beyond.

Wednesday, 30 August
10:00-11:30
Panel discussion

Track: 2

Journeys into STEM: Getting more girls to join the road less travelled

Building global ESTEAM for girls: Best practices from the field

Ms. Cheryl Miller Van Dyck, Founder, Digital Leadership Institute, Belgium

Based on seven years of pioneering work in the field, the Digital Leadership Institute International (dlii.org) has built up a body of best practices to increase the participation of girls and women in ESTEAM (STEM plus Arts and Entrepreneurship) fields that can be shared and replicated globally. In collaboration with public and private sector partners, DLI has developed innovative, world-class initiatives to promote girls and women as entrepreneurs, experts and leaders, especially in digital studies and fields. These initiatives include flagship events like the Girl Tech Fest, Move It Forward "female digital starters" weekends, as well as the Ada Awards recognizing top girls and women in tech, and the CyPro "cyber professional apprenticeship program and career placement program" for (young) women. Having a global mission to promote inclusive digital transformation, DLI is eager to share the background of this work, the best practices this represents, as well as the nature and formula for collaborating to achieve the greatest success for the girls and women.

Engaging and empowering African girls and women in STEM: Experiences and challenges

Dr. Unoma Okorafor, Founder and Chief Executive, Working to Advance STEM Education for African Women Foundation (WAAW), Nigeria

As Africa is home to the worlds' youngest population, it is imperative that young African girls and women are motivated to participate in science and technology education, leadership and innovation and trained with digital skills to contribute to the economy of the future. Skills such as STEM, software development and entrepreneurship will empower women to contribute job creation, solve community problems and empower other women. Technology jobs are the fastest growing jobs in the world and provide the highest salaries and most socio-economic upward mobility. African women need access to the growing opportunities in the technology field. WAAW Foundation - founded in 2007 - has a mission to increase the number of African girls engaged in STEM education. This presentation will share the outcome of WAAW's work, and the challenges faced over the last 10 years providing technology and digital literacy training. It will share information about the STEM Secondary Teacher Training and "She Hacks Africa" software development coding bootcamps and how WAAW is building the self-confidence of African girls and STEM trainers as community change makers and technology innovators,

and giving them relevant skills to build technology enterprises. It will discuss the pay-it-forward model and the benefits of establishing and maintaining peer-support networks and communities of practice for women mentors and role models, who inspire others to become future African leaders in technology.

STEMulate boys and girls to create in STEM

Mr. Blas Fernández, Coordinator, Gender, Society and Policies Department, Latin American Institute of Social Sciences, Argentina

The concerns about the under-representation of young women in STEM courses and careers is not new. While many efforts have been undertaken for more than two decades in different settings to address this concern, the results are often unsatisfactory. One hypothesis is that the initiatives have not adequately considered the specific enabling conditions and constraints in national and local contexts. This presentation will share research findings from a project that examined gender differences in children's attitudes, values and social representations in STEM disciplines. The study sampled girls and boys aged 6 to 10 attending private and public schools, as well as their parents and teachers, within three major Latin American cities (Buenos Aires, Argentina; Mexico City, Mexico, and Sao Paulo, Brazil). Children's inputs were collected through an online application (like a video game), while parents and teachers' responses were gathered through focus groups and interviews. The overall results address and explain similar and diverse factors that, according to each context, contribute to the reproduction or change of gender inequalities in STEM studies. Recommendations for evidence-based policies in this area are also presented.

Wednesday, 30 August
10:00-11:30
Working session

Track: 3

Engaging higher education institutions in creating gender-sensitive learning environments

Dr. Rita Bissoonauth, Head of Mission/Coordinator of the African Union International Centre for Girls and Women Education in Africa (AU/CIEFFA)

Creating Gender-sensitive Learning Environments is a new frontier in the struggle towards gender equality. Research has found that the current teaching and learning environments, from early grade schools to university, are loaded with gender biases that create unequal attitudes between males and females towards learning. Increasing the role of women in STEM areas is contingent on how they perform at university level. In this line, the African Union/International Centre for Girls and women's Education in Africa (AU/CIEFFA) has undertaken a research in different Institutes (Algeria, Cameroon Kenya, Nigeria) of the Pan African University (PAU) to:

- review the availability of gender-friendly and gender-sensitive curricula and learning environments;
- identify gender-sensitive teaching practices and their influence on the teaching-learning process;
- analyze gender power relations in different social contexts in universities ;
- consider other gender-related issues;
- develop specific interventions to improve and expand girls' and women's education in PAU Institutes.

The study finds that while the institutes have applied gender-sensitive criteria in the selection of prospective students, as recommended by the African Union guidelines, none of the Institutes participating in the study has put in place clearly identifiable policies and strategies, including those that would address gender differences in STEM education. This workshop aims to share findings and recommendations from the four-country institutes of the Pan African University; consider possibilities of extending this study to other universities in Africa; identify strategies to implement the recommendations of this research in other Higher Education institutions in Africa.

Wednesday, 30 August
10:00-11:30
Panel discussion

Track: 4

TeachHER: Using Public Private Partnerships to Advance STEAM Education

Panel members: Mr. Jonathan Lembright, Regional Director for Southeast Asia at the Institute of International Education (IIE), TeachHer Public Private Partnership; Ms. Gülser Corat, Director, Gender Equality Division, UNESCO; Dr. Gloria Bonder, Director of the Gender, Society and Policies Department at the Latin American Institute of Social Sciences, Argentina; and Dr. Temechegn Engida Merine, Programme Officer, ICT and STEM Education, UNESCO International Institute for Capacity Building in Africa (IICBA)

The presentation, via a panel discussion, will discuss how the U.S. Mission to UNESCO's "TeachHer" public-private partnership leverages UNESCO's core competence in teacher training, its field office network, private entity and civil society expertise to train a Master Corps of STEAM/STEM teachers, administrators, and policy officials to empower girls to become leaders in STEAM fields, and train other teachers to do the same. The panel will specifically draw on lessons learned from the first three regional TeachHer training sessions conducted in Africa and Central America, to highlight how the developmental model encapsulated in TeachHer is delivering rapid and impressive results among educators, schools, communities, and ministries to advance the relevant Sustainable Development Goals. With 195 Member States and 60 field offices, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) is the only United Nations agency with a mandate to cover all aspects of education and has a specific focus on increasing educational opportunities and participation in STEAM/STEM-related fields for women and girls. With support from committed private sector partners and civil society experts, UNESCO offers a unique international platform for reaching governments, private industry, schools, NGOs, and youth. Through this partnership, TeachHer leverages this powerful network to advance STEAM/STEM education for girls, and engages countries to invest more in the necessary training, policy frameworks, and domestic support needed to close the gender gap in STEAM subjects and career opportunities.

Speaker Biographies

Dr. Noora Al Thani is Associate Professor at Qatar University (QU), undertaking research in Material Sciences, and conservation of wild plants in Qatar. Dr. Al Thani is very passionate about attracting young students to develop their research skills, and is advocate of inquiry-based teaching. She established the revolutionary Al-Bairaq programme which engages Qatar public middle and high school students in scientific research conducted on the campus of QU. Dr Al Thani won the Qatar University outstanding Faculty Service Award with the Al-Bairaq team for 2011-2012, and the WISE 2015 Award for Innovation in Education for this programme. She has published a number of books, studies and in peer-reviewed journals. Her enthusiasm and her ability to plan and execute innovative strategies, connect key stakeholders and build teams, showcase her distinguished capability to plan, manage and deliver successful projects. Dr Al Thani has a PhD in biophysics from Cairo University in 2000.

Dr. Fatimah Alhashem currently works as a general manager for the Teacher Development Department at Kuwait's National Centre for Education Development (NCED). She is a strong advocate for supporting teachers in general, and supporting women in science education in particular. Her professional interests focus on teachers' professional development; teachers' practices, teacher policies, STEM education, and the Technological Pedagogical Content Knowledge (TPCK) model for teachers. In addition, she serves as the director of the Ibitikar Initiative to support women and young girls in science and research. She is a member of the National Science Teacher Association (NSTA). Dr Alhashem received her Doctoral Degree in Curriculum and Instructions in Science Education in 2012 from Arizona State University.

Ms. Aldana Alyafei is a second year Chemical Engineering student, with interests in math, physics, chemistry, astronomy and scientific research. She has done several research studies on the Al-Bairaq project at Qatar University. One of her studies was about biodegradable plastic using milk protein, which won her first place in a competition. She represented Qatar in the Olympic games in astronomy and astrophysics in India in 2016, and in the Imagination Destination in physics in the US, where she won first place. She wants to be an effective member of the Qatari society, leading to its success in the scientific fields.

Mr. Marcelo Amén is Professor of Primary and Pre-Primary Education, Professor of Portuguese at the High School of Modern Languages "Sofía B. de Spangelberg" in Buenos Aires, Teacher of Spanish Language and Literature at the School of Commerce No. 29 in Buenos Aires, Professor of French, and Head of UNESCO's Associated Schools Programme (ASP) at the High School of Modern Languages "Mariano Acosta" in Buenos Aires. He has written texts for teaching languages and other didactic texts for the elementary school. He is also Professor in charge of the "Educational-Cultural Twinning" programme which matches secondary schools in Buenos Aires with educational institutions in Brazil, France and Italy. As Head of the UNESCO ASP programme, Mr. Amén organizes educational visits and has participated as a Judge in various competitions and educational experiences offered by ASP-Net in Argentina.

Ms. Lade Araba is a multi-lingual Development Finance professional. She is the Co-Founder and President of the Visiola Foundation, which empowers African girls through education, training, and mentoring in STEM fields. In this role, she advocates for equal access to high quality education and economic opportunities for girls and women. Lade sits on the Advisory Board of EED Advisory, a boutique Energy/Environment consulting firm. She currently serves as an independent consultant and was previously a Senior Adviser with the UK Department for International Development (DFID) funded Nigeria Infrastructure Advisory Facility (NIAF), and also worked for UNECA, AfDB, FAO, and the QED Group LLC.

Dr. Jaro Arero is a Deputy Director, Basic Sciences and Engineering, at the Kenya National Commission for UNESCO. Dr. Arero has taught science in universities in both Kenya and the United States of America. His current functions include: promoting international policies and standards related to Basic Sciences and Engineering in Kenya by building the capacity of national institutions and promoting women's involvement and participation in science, technology and innovation (STI) and STEM education; and building the capacity of national institutions in STI to help achieve the SDGs. To engage, empower and inspire girls in STEM, scientific camps of excellence are organized for girls enabling school girls to be mentored by women scientists.

Dr. Svetlana Aslanyan, an Associate Professor, has over 20 years research and teaching experience. She has worked in the United States as a Fulbright Scholar, where she conducted research on the role of women in establishing a democratic society. She is founding president of the Centre for Development of Civil Society, a well-known NGO in Armenia. In her capacity as the President, she has organized several training courses for vulnerable groups of women and youth, including refugees and national minorities. She is currently engaged both in theoretical research and feminism and practical activities. Dr Aslanyan is an internationally recognized expert and featured speaker on topics related to these issues.

Dr. Bridget Bannerman is the founder of Science Resources Africa, an initiative embarking on capacity building and enhancing the availability of scientific resources to the African Community. Science Resources Africa collaborates with various scientists in the University of Cambridge to promote science education in African communities. As a member of the Cambridge Association of Women in Science and Engineering and the Sierra Leone Association of Women in Science and Engineering, Ms Bannerman is currently working with both teams to develop gender-sensitive activities for teaching science and mathematics

Dr. Khadar Bashir-Ali is a female educator, and currently the Director of the Foh Center for Education, Policy, Research and Development in Somaliland. Her latest professional work includes a two-year mandate as the Minister of Education for Somalia. She has also worked as a mentor teacher and university teacher training, and was faculty at the Ohio State University in the US, at the Abu Dhabi Women's College in UAE, and as a senior teacher training adviser in Juba, South Sudan. Her research interests include educational equality, science education, teacher training and social justice for all students.

Mr. Alessandro Bello is a Project Officer for the UNESCO global project STEM and Gender Advancement (SAGA). He holds a Master degree in Policy Governance and another in International Relations. He was previously a Consultant for the Science Policy and Capacity Building Programme at UNESCO's Montevideo Office (2011-2016). Before joining UNESCO, he worked for the Italian Embassy in Honduras. He

has published numerous papers related to Science, Technology and Innovation policy, and on women in science. He has also presented several papers at international conferences and congresses.

Ms. Natasha Berryman is the Creative Director at the SeRCH Foundation, and Editor-in-Chief, at VanguardSTEM.com. She is a graduate student in the Fisk-Vanderbilt Master's-to-PhD Bridge Program where she's studying the dopamine transporter system in *C. elegans*; the goal is to uncover insights about the normal regulation of this neurotransmitter that can be applied to dopamine-related disorders in humans. She is an advocate for Women of Color, and writes about inclusive STEM engagement.

Dr. Rita Bissoonauth is the Head of Mission/Coordinator of the African Union International Centre for Girls and Women in Africa (UN/CIEFFA). Before moving to Ouagadougou to head AU/CIEFFA, she worked as a Senior Policy Officer in the Education Division at the African Union Headquarters in Addis Ababa, Ethiopia.

Ms. Lauren N Bohatka is an Associate Project Officer at the UNESCO Regional Bureau for Science and Culture in Europe. Lauren has 12 years of field experience working as a project manager for International Organizations (UNESCO, UNDP, USAID) in the area of Sustainable Development, primarily in the region of Southeast Europe. With a wide variety of skills and expertise, from sustainable tourism development and destination management (including UNESCO designated sites) to gender inclusiveness and science education, she is currently implementing UNESCO's responsibilities under the project, Ark of Inquiry: Inquiry Awards for Youth Over Europe. She holds a Master of Tourism Administration from the George Washington University, a Masters Certificate in Strategic Change Management from Michigan State University, and dual Bachelors in International Studies and Anthropology from Miami University.

Professor Gloria Bonder is the Director of the Gender, Society and Policies Department at the Latin American Institute of Social Sciences (FLACSO). Since 2001, she coordinates the UNESCO Regional Chair on Women, Science and Technology in Latin America and the Global Network of UNESCO Chairs on Gender. She directs the E-learning Master's Programme on Gender, Society and Public Policies (PRIGEPP). For more than two decades, Professor Bonder has developed several research projects on gender issues and/in science and technology, education, communication and youth. She has published books and articles both nationally and internationally. She has lectured in several universities in Latin America, United States, and Spain. She has contributed with many governmental, academic, and international institutions such as ECLAC, IDRC/CRDI, OAS, PAHO, UN Women, UNDP, UNESCO and UNICEF. She coordinated the pilot for Central America of the U.S. Mission to UNESCO's TeachHer initiative in STEAM education with a gender perspective.

Dr. Francesca Borgonovi is a Senior Analyst in the Directorate for Education and Skills at the Organization for Economic Co-operation and Development (OECD) which she joined in 2008. She has been responsible for analytical and developmental work in Programme for International Student Assessment (PISA) and Programme for the International Assessment of Adult Competencies (PIAAC), with a particular focus on gender and socio-economic disparities in information processing skills and self-rated beliefs; the outcomes of migrant and language minority students; student engagement and motivation. Before joining the OECD she was based in the Department of Social Policy and in the Centre for the Analysis of Social Exclusion

(CASE) at the London School of Economics and Political Science (LSE). Dr. Borgonovi has been Adjunct Professor at the Paris School of International Affairs at SciencesPo (Paris) and held visiting positions at the Goldman School of Public Policy at the University of California, Berkeley and the London School of Economics. Dr. Borgonovi holds a PhD from the London School of Economics

Ms. Anna Brancaccio is a Headmistress currently mandated at the Italian Ministry of Education. In the Ministry, she develops and implements European training projects and supports the improvement of teaching practices in the Mathematics, Physics and Science fields. She also serves as a referee for the Mathematics, Physics and Computer Science Olympics. Ms Brancaccio was previously a secondary Physics and Electronics school teacher, and a supervisor for pre-service teacher training. She has also served as a contract professor at the Faculty of Engineering at Roma Tre University. She has a degree in Physics.

Ms Carolina Casas is a Colombian researcher and education specialist with field and academic experience. She has worked internationally as a consultant and program manager on issues ranging from citizenship education and education policy implementation, to the development of innovative educational content. Currently Carolina is the Regional Director of Education and Community Engagement for Sesame Workshop, one of the leading organizations in the development of educational media around the world. Previously she served as the Managing Editor for The Inter-American Journal of Education for Democracy as well as in management positions with several non-profit organizations.

Mr. Piyachai Chailorath works in the Faculty of Engineering at Southeast Asia University. His research interests are in Noise pollution control. He has a Masters in Science from Mahidol University, Thailand.

Ms. Nancy Meaker Chervin has over ten years of experience and technical expertise in project design and implementation in the youth programming areas of workforce development, instructor professional development, non-formal education and curriculum development. She works for Education Development Center as a Training Manager for the USAID COMET project posted in Bangkok, Thailand. She oversees instructor professional development and work-based learning activities for the MekongSkills2Work Network with the goal of reducing skill gaps between what is taught at post-secondary institutions and industry needs. Ms. Chervin's background includes a focus on workforce development, work readiness skills, instructional design, training of trainers, peer education and market-driven approaches for youth employment projects. Instructional design experience is focused on the life skills areas of employability skills (job searching skills and workplace behavior), leadership development, civic engagement, health, financial literacy and entrepreneurship. Prior work experience includes Afghanistan, Jordan, Guyana, Bosnia, North Eastern Kenya, Malaysia, the Philippines and Indonesia.

Ms. Saniye Gülser Corat is the Director of the Division for Gender Equality in the Office of the Director-General, at UNESCO Headquarters, Paris, France. Before joining UNESCO in 2004, she pursued a diversified career as an academic at Carleton University in Canada and a senior international development advisor to several international organizations, including the World Bank, the Asian Development Bank, the United Nations Development Programme, the Canadian International Agency and the International Research Development Centre, in areas such as planning, managing, monitoring and evaluating

projects and programmes in areas ranging from education, social and economic development, institutional strengthening, gender equality, technology transfer to local governance and climate change in over 30 countries in Asia and sub-Saharan Africa. She also has private sector experience as the Chief Executive Officer (CEO) of an international development consulting company in Canada for almost 10 years.

Ms. Reine Essobmadje is the co-founder of the Digital Coalition; the President of the Digital Committee at GICAM (Groupement Interpatronal du Cameroun); Member of WIEWomenInEngineering at WFEO (World Federation of Engineering Organizations) and INWES Africa; co-organizer of the African Digital Woman Award, patroned by Dr Hamadoun Touré, former ITU SG. She is also a promoter of African ICT days launched in 2010, and Hack4Cause series (Hack4Afrik, Hack4Girl). She is an engineer by training and has been introduced in the School Hall of Fame. She advocates for women and youth entrepreneurship, workforce diversity, the role of diaspora in development and women in STEM. She holds an Executive MBA from IE Business School and SMU, Singapore.

Dr. Blas Fernández is the Coordinator of the Gender, Society and Policies Department, Latin American Institute of Social Sciences, FLACSO Argentina (www.flacso.org.ar). He leads several national and regional research on Gender, Youth, Childhood, ICT and STEM. This includes gender analysis of access, uses, and representations of ICT and children (comparative research between Buenos Aires, Argentina and San Pablo, Brazil); Children, gender, and ICT; a study of the “technobiographies” of boys and girls in Argentina; STEMulate boys and girls to create in STEM. He also is the coordinator of the Virtual Master Programme on Gender and Public Policies PRIGEPP: www.prigepp.org.

Ms. Aliko Giannakopoulou works in Ellinogermaniki Agogi, one of the most innovative schools in Europe, since 2014 as a researcher with a focus on projects that relate to responsible research and innovation (Open Schools for Open Societies, Ark of Inquiry, and SPARKS). Aliko previously worked as a senior project manager at the External Relations department of Science Museum NEMO, in Amsterdam, Netherlands developing new European collaborations and projects. Before that she worked at Ecsite, the European network of science centres and museums as a Communications, Conferences and EU projects Manager. In the past she also worked in the United Kingdom, at the Research Councils and Science in Society Unit. She holds a Masters in Science Communication from the University of West of England and a Bachelor’s degree in Environmental Science.

Ms. Johanna Hartung works as a Policy Advisor to the German Federal Ministry for Economic Cooperation and Development, within GIZ’s Project on Digital Development. Her fields of work include G20 partnerships on digitalization during the German presidency in 2017, digital inclusion and women’s empowerment in the digital age. Johanna earned her master’s degree in Media and Political Communications at the Freie Universität Berlin with a thesis on mobile phone use patterns in West Africa.

Dr. Dirk Hastedt is the Executive Director of the International Association for the Evaluation of Educational Achievement (IEA). Dr. Hastedt oversees the IEA’s operations, studies, and services. His mission is to drive the overall strategic vision of the IEA, and to develop and maintain effective relationships with member countries, researchers, policy makers, and other key players in the education sector. Dr. Hastedt serves as the acting chair of the IEA Technical Executive Group (TEG), and is also co-editor in chief of the IEAETS-Research Institute’s journal ‘Large–Scale Assessments in Education’.

Ms. Zryan Ibrahim is an energy engineering student at the American University of Iraq, Sulaimani (AUIS). She has won the AUIS Students of the Month award, and worked as the president of The Action Group. Ibrahim currently serves as the coordinator of AUIS Engineering Club. She has organized seminars, competitions, and site visits in the club along with providing engineering students with summer internship programmes.

Dr. Jedidah Isler is a National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow at Vanderbilt University and the Founder and CEO of The SeRCH Foundation, Inc. Her research explores the physics of blazars – supermassive black holes at the centers of galaxies that create particle jets moving at nearly the speed of light. Working at the intersections of science and social justice, she also hosts “Vanguard: Conversations with Women of Color in STEM,” a monthly web-series and online platform dedicated to issues of access, empowerment, and inclusion for women of color in STEM fields. She has been named a National Geographic Emerging Explorer, a Kavli Frontiers of Science Fellow, and is currently a TED Senior Fellow

Dr. Masami Isoda is a professor at the Faculty of Human Science of the University of Tsukuba, Japan. He specialises in curriculum and professional development, particularly mathematics education. He is currently working as curriculum advisor for the Papua New Guinea and Southeast Asian Ministers of Education Organisation Regional Centre for Education in Science and Mathematics, and has been working on the JICA projects for a number of countries including in Bosnia & Herzegovina, Chile, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Papua New Guinea and Nigeria. His articles have been translated into several languages such as English, Spanish, Russian and Thai as well as Japanese. He received his PhD (Education) from Waseda University, Japan, and was rewarded with Honorary PhD (Mathematics Education) from Khon Kaen University, Thailand, and Honorary Professor from the Universidad San Ignacio de Loyola, Peru.

Ms. Petal Punalall Jetoo has eight years of experience in science education at the Ministry of Education in Guyana. Current positions include: National Science Coordinator, Ministry of Education, Country Representative – Caribbean Science Foundation (CSF); Coordinator of the Ministry of Education’s National Steering Committee on Climate Change Education for Sustainable Development; Focal Point for the Ministry of Education’s Steering Committee on UNESCO’s Global Microscience Experiments Programme; Regional Coordinator and Trainer for UNESCO’s Global Microscience programme for the Caribbean; Workshop Facilitator for the Caribbean Academy of Sciences (CAS), the Caribbean Science Foundation and UNESCO; Member of the CARICOM Science, Technology and Innovation Committee.

Ms. Supinya Jindamorakot works in the Faculty of Engineering at Southeast Asia University. Her research interest is Wastewater treatment. She has a Masters in Science from Mahidol University, Thailand.

Mr. Ari Katz is IREX’s Regional Director for Asia on the Beyond Access programme. Funded by the Gates Foundation, Beyond Access helps countries modernize their public library systems to meet 21st Century needs. In Asia, Beyond Access works in Bangladesh, Myanmar and the Philippines. Currently based in Bangkok, Thailand, Ari has worked on IREX’s access to information programs for 15 years, and designed and led programs that support digital literacy and inclusion. In 2005, Ari initiated the Tech Age Girls project, which helps young women gain technology knowledge and leadership skills to be competitive in an information economy.

Dr. Faryal Khan is the Programme Specialist for Education at UNESCO Doha Office, covering the six Gulf States (GCC). She has provided technical advice in educational policy and planning in over 25 countries and leads the implementation of Sustainable Development Goal 4 on Education in the Gulf States. She leads the UNESCO Education programme in a region undergoing rapid social transformations. Contextualization and implementation of SDG 4 on Education, with a focus on gender equality, is central to her work in the Gulf States. Dr. Khan earned her doctorate in Educational Administration, Planning, and Social Policy from Harvard University.

Ms. Loice Kimani is an assistant director in the Ministry of Education of Kenya and the coordinator of the STEM Programme the Girl Education Challenge (GEC) in Kenya. She is a passionate educator with vast knowledge in curriculum development and gender-responsive and inclusive education.

Mr. Lebohang Kompi has more than ten years of experience in the development and promotion of the appropriate use of ICTs in education. He has been involved in the development of models for girls in science at secondary-level, leading to the new Lesotho General Certificate of Secondary Education (LGCSE) Physics Beyond 2010 textbooks. He worked since 2008 with the Lesotho National Commission for UNESCO as an independent volunteer in science, pioneering many models as well as co-founding of several systems and organizations aimed at maths and science educational development in Lesotho focused on girls in science, and general teaching and learning systems (ThakaKhoali Living Laboratory Model).

Dr. Kong-Joo Lee has been the President of the International Network of Women Engineers and Scientists (INWES) since 2011. She established "The Association of Korean Woman in Scientists and Engineers" in 1993 and served as President for 2006-2007. She has contributed to advancements in science at Ewha Women's University by serving as the chair of National Core Research Center and as the Dean of the Graduate School. Professor Lee has made important contributions which have opened new avenues of research on protein regulation in signalling processes related to cancer metastasis employing cutting-edge technology proteomics. Prof. Lee received her graduate degrees in Chemistry at Stanford University and her postdoctoral training in Cancer Biology at Stanford Medical School.

Mr. Jonathan Lembright is the Southeast Asia Regional Director for the Institute of International Education (IIE), a global nonprofit organization that is committed to solving urgent problems of our time through international education and academic exchange. Under Jonathan's leadership, IIE administers programming in partnership with governments, corporations, and universities within Asia Pacific that includes Scholarship Management, Global Outreach, Placement Services, and English Language Assessment among a portfolio of international education services.

Ms. Carla Licciardello is a Policy Analyst of the International Telecommunication Union (ITU), based in Geneva. She is responsible for supporting ITU Child Online Protection activities, including project development with Member States and other international organizations. She is also responsible for the gender-related activities within the General Secretariat of the ITU and promote women's meaningful engagement with ICTs. She is also working on Cybersecurity and supporting related interagency relations. Before joining ITU, Licciardello worked for the Italian Mission in Geneva and the United Nations for Disaster Risk Reduction with a focus on the communication and policy

aspects of humanitarian assistance for Member States' victims of natural disasters. Licciardello holds a Master degree from the University of Turin in international relations and human rights with a particular focus on the sexual exploitation of children.

Ms. Jihane Lamouri is the Gender Officer of the African Institute for Mathematical Sciences (AIMS) network and is primarily responsible for mainstreaming gender equality and inclusion within the Skills for Employability Program. Prior to that, she was a Research Assistant and Project Manager for the Chair in International Development at Laval University, where she initiated and developed the first intensive training seminars on Food Security and Agroecology of the Faculty of Food and Agriculture. She has supported the policy development of International Education for the Ministry of International Relations of Québec and a gender advocacy strategy in Senegal with the Canadian Centre for International Studies and Cooperation (CECI).

Dr. Florence Tobe Lobe is the President of the RUBISADT Foundation. A former researcher at the Centre National de la Recherche Scientifique (CNRS) in France, she was the first French-speaking African to join Wellesley College, a prestigious American university known for preparing future women leaders. Since 1999, she has been working through the RUBISADT Foundation to promote STEM and ethics among girls from 7 to 19 years of age. She has also development, in collaboration with UNESCO, a qualifying training programme for out-of-school girls and young women (15-35). She has a Doctorate in Chemistry.

Dr. Temehegn Engida Merine is a Programme Officer for ICT and STEM Education at UNESCO International Institute for Capacity Building in Africa (IICBA), Addis Ababa, Ethiopia. At IICBA, he has been engaged in building the capacities of teacher educators in Africa in the use of ICT for STEM, Girls in STEM and Instructional Design. He has taught and advised research in Ethiopian Universities for nearly two decades, for students of PhD, MA and BSc in science and technology education. He has served as the President of the Federation of African Societies of Chemistry, Editor-In-Chief of the African Journal of Chemical Education, and as a member of the AUC-CESA clusters on ICT in Education and STEM Education. Dr Merine has a PhD in Science Education.

Heekyung (Jo) Min is the Executive Vice President of Global Creating Shared Values (CSV) Management of CJ Corporation in the Republic of Korea. Her role as a business leader and social innovator is to create a sustainable future for CJ Group by driving and coordinating CSV and Corporate Social Responsibility (CSR) efforts. Much of her recent work has focused on promoting the importance of sustainable business around the globe. CJ Group was recognized as one of "7 World-Changing Companies to Watch" by the Fortune magazine (September 2016 issue) for its efforts to create positive value for the society and reduce poverty through the 'CJ-KOICA Rural Development CSV Project in Vietnam', a joint project with Korea International Cooperation Agency (KOICA). Through a strategic partnership with UNESCO, CJ Group is helping to empower girls in developing countries by providing access to quality education since 2014. Her commitment to creating shared values was developed through her experience in both government and private companies with extensive experience in finance, human resources, and cross-cultural management consulting. In her role as the Director General of the Business Opportunity and Investment Promotion Bureau at the Incheon Free Economic Zone (IFEZ) in Incheon, Korea, she was responsible for promoting Korea to the global society to build a

new city near Seoul. Her experience in the financial sector in New York, Tokyo and London includes the Bank of New York, The Apogee Finance Group, Bank of Tokyo-Mitsubishi (formerly Sanwa), Prudential Investment and Securities, and Deloitte & Touche in New York. She holds an MBA in Finance and Accounting from Columbia University, and a BA in Music from Seoul National University.

Dr. Nguyen Duc Minh is General Vice Director of Viet Nam National Institute of Educational Sciences (VNIES), a government administrative agency under the supervision of the Viet Nam Ministry of Education and Training (MOET). VNIES assists MOET with education (educational sciences, educational management, curriculum, methods, and educational policies), educational strategies, Master's and doctoral training in educational sciences and relevant fields. Dr Nguyen previously worked as a senior researcher at VNIES since 2001, and has contributed to work on Special Education, Education Assessment, Education Management and Equality in Education. He has a PhD on Education from the Russian Pedagogical University in Saint Petersburg, Russia.

Ms. Forsido Mihretekirstos is currently a Research, data and project monitoring senior expert in the Ethiopia Ministry of Education. Previously, she worked as a data analyst at Hawassa College of Health Science. She graduated with honours from the Ethiopian Civil Service University with an MA Public Policy studies and from Addis Ababa University with a Bachelor of Science in Mathematics. She previously served as a Mathematics teacher at Medhanialem Comprehensive Secondary School.

Ms. Naadiya Moosajee is a serial social entrepreneur by passion, a civil engineer by training, and Co-Founder at WomHub, an innovative company promoting gender parity through education and technology. She is the co-founder of WomEng, a social enterprise, which has grown across multiple countries. WomEng tackles gender parity all along the engineering skills pipeline from empowering 1 million girls in STEM to developing women leaders and entrepreneurs in engineering. She serves as a Director at Pegasys, a niche management consultancy, owns a restaurant and is an emeritus board director for the International Youth Foundation. Naadiya is a Global Future Council Member with the World Economic Forum covering Gender, Education and the Future of Work, is a Global Shaper and curator of the Cape Town Hub and in 2014 was named as one of the "Top 20 Young Power Women in Africa" by Forbes Magazine. She is passionate about developing STEM, fostering growth, gender parity, leadership and prosperity in emerging economies, developing and mentoring the next generation of leaders and engineering better societies. Naadiya holds a BSc Civil Engineering and MSc Engineering degrees.

Dr. Sibusiso Moyo is the Deputy Vice-Chancellor of the Research, Innovation and Engagement at the Durban University of Technology in South Africa and is responsible for research, policy development, implementation and evaluation. She has served in various capacities and levels at the Durban University of Technology as Lecturer, Senior Lecturer, Associate Director and Associate Professor in the Department of Mathematics, Statistics and Physics. She is the Vice-Chairperson for the Organization for Women in Developing Countries (South African Chapter) (OWSD SA) hosted by the Academy of Science of South Africa, which helps with mentoring and programmes for Women in Science for the Developing World. She has published widely in the Mathematical Sciences and she continues to supervise and mentor Masters and Doctoral students. Parallel to this she served as the Vice-President for Research Management for the Southern African

Research, Innovation and Management Association (SARIMA) and is a Trustee on the Board for the Center for the Advancement of Science and Mathematics Education. Her passion lies in promoting mathematics, science and innovation amongst youth. She holds a PhD in Mathematics from the University of Natal, Durban and a Masters in Tertiary Education Management from the LH Martin Institute, University of Melbourne Australia.

Dr. Fanuel Muindi is the Assistant Director of Graduate Programs in the Department of Molecular and Cellular Biology (MCB) at Harvard University. Dr Muindi is also the director and co-founder of the science advocacy think tank called STEM Education Advocacy Group. The group's work has been published in high profile journals such as Nature and Science. The main mission of the group is to guide and empower organizations and trainees in science around the world through analysis, advising, and advocacy. He received his PhD in Biology from Stanford University and completed his postdoctoral work at MIT.

Mr. Thrid Muangplub works in the Faculty of Engineering at Southeast Asia University. His research interests are in Waste treatment and Waste Minimization (Hazardous waste, Wastewater, Air pollution). He has a Masters in Science from Mahidol University, Thailand.

Ms. Francisca Chisepo Muramba is a lecturer in Technical Graphics at Belvedere Technical Teachers College in Zimbabwe. She specialises in teaching Engineering, Mathematics, Drawing, and Plane and Solid Geometry. Her area of interest includes gender issues and technical subjects. She has noted, during her 26 years in the teaching field, how there is an imbalance in the distribution of male and female students in technical subjects.

Ms. Fatima Nabhan is a chemical engineer and a team member in the Al-Bairaq project at the Center for Advanced Materials at Qatar University since 2012. She believes that every child deserves a quality education, and has the potential to be exceptional when situated in an innovative and competitive environment. Ms Fatima Nabhan brings her values of courage, optimism, and collaboration to support students around the world. At Al-Bairaq, she trains and teaches hundreds of students in materials science and STEM, motivating and inspiring them to become researchers and inventors. She also works as a trainer, and has trained many other research assistants to give STEM-based workshops. Al-Bairaq has been awarded many local and international prizes, especially the 2015 WISE award and the "Middle East Silver Award" in the Reimagine Education Conference in 2016. Her role in the Al-Bairaq project is considered to be fundamental to its success. Ms Nabhan graduated with a bachelor degree in chemical engineering from Qatar University in 2012.

Mr. Yelshibekov Nurgali is a principal at Nazarbayev Intellectual Schools (NIS) Petropavlovsk since 2016. He has worked as a teacher of mathematics since 2003 and currently teaches mathematics at NIS Petropavlovsk. Since 2006 he has worked in senior management teams in different schools. He graduated from Aqtobe State University in 2003 with a Bachelor degree in Mathematics. In 2013, he got a Master degree in Educational Studies from Queens University Belfast.

Mr. Prosper Kwasi Nyavor is a trained teacher and development practitioner with over 15 years' experience in facilitating social development processes in Ghana and Burkina Faso. Prior to joining UNESCO in January 2015, he was the Education Programme Director of IBIS in Ghana (now Oxfam IBIS) where he managed important

education programmes funded by a variety of donors. He previously also worked with Plan International Ghana, and has a considerable experience in organizational development practice. Mr Nyavor has academic qualifications in Education, Development Studies and Public Administration.

Dr. Unoma Okorafor is the Founder and Chief Executive of WAAW (Working to Advance STEM education for African Women) Foundation which was founded in 2007. WAAW - with a mission to increase the number of African girls in STEM - influences over 12,000 girls across 10 African countries each year. Unoma is a recipient of the 2016 GEM-Tech ITU-UN Women award and the 2013 Anita-Gorg social impact award. She obtained her M.Sc. degree from Rice University, and Ph.D. at Texas A&M University in Texas in Electrical and Computer Engineering. She attended INSEAD's Social Entrepreneurship programme and Stanford University's programme in Social Entrepreneurship.

Mr. Renato Operti joined the UNESCO International Bureau for Education (IBE) in 2006, where he coordinates the Innovation and Leadership in Curriculum, Learning and Assessment Program. He is also responsible for the IBE programs that support UNESCO Member States in the processes of curriculum renewal and development. These include: capacity-development training on curriculum and learning; advocacy on the role of curriculum in Education 2030 and the analysis of critical and current curriculum and learning issues. Prior to this role, Mr Operti coordinated education and curriculum reforms in Uruguay and worked as a consultant on issues relating to social policy, education and curriculum for different international organizations.

Ms. Tchouateu Yonkeu Laetitia Paola is a volunteer for the Digital Coalition, one of its objectives is to attract more young girls in STEM subjects. She participated in the organization of the Hack4girl 2017 in order to promote interest in digital work among African girls, especially in Cameroon. Paola is a student in the 3rd year, in Information Communication and Technology for Africa Development (ICT4D) at the University of Yaoundé, Cameroon. She specializes in information systems security to promote management over information we use every day. She is passionate about new information and communication technologies and their multiple inventions, an area often dominating by men, demonstrating that girls can also make it in this field.

Mr. Shuvajit Payne, as the current head of the education initiatives of Barefoot College - a grassroots organisation empowering communities over 40 years - envisions to integrate the extensive organizational learning through structured processes, innovative technology and M&E platforms to create an exemplary replicable model of rural education for the underprivileged. Previously, Shuvajit has managed a nationwide Fellowship, a unique Corporate Social Responsibility (CSR) programme of the SBI Foundation. The Fellowship aimed to inspire today's youth to participate in rural development, structure and setup processes for a rural ICT programme under the Reliance Foundation. The Reliance Foundation is active across eight states and has extensive experience on process management with premiere global corporates.

Dr. Paritta Prayoonyong is an assistant professor of Chemical Engineering in the Faculty of Engineering at Mahidol University in Thailand. She has held this role since 2010. She is a Lead Instructor in the USAID-funded MekongSkills2Work project. In this role, Dr Prayoonyong has improved the programme's approach to make her courses more relevant to industry needs, and provides

professional development to her peers at Mahidol University and other networks. Her research and instructional focus areas include separation process design, heterogeneous azeotropic distillation, hybrid separation processes, and development of separation and purification technologies in biofuel production. She holds a PhD in Chemical Engineering from the University of Manchester.

Ms. Rosemarie Punsalan is a licensed teacher, an author and editor of science textbooks, an e-learning facilitator, and technology enthusiast in classroom instruction. She is currently the Science and Technology supervisor in the Middle School, and is also in charge of strengthening the E-Learning program of the same unit. In addition to her academic experience, she is a well-trained filmmaker who specializes in lighting and cinematography. She earned her BS Secondary Education major in Chemistry from the Pamantasan ng Lungsod ng Maynila and is currently working on her thesis for MA in Education major in Instructional Management at Miriam College.

Dr. Akkchai Poosala works in the President's Office of Southeast Asia University in Thailand. His research interests are in Innovation Management, Plastic Resin Compounding, Graphene and its application, Operation Management, Entrepreneurship and Business Development, and Strategic management. He has a PhD in Entrepreneurship and Innovation Management from Chulalongkorn University in Thailand.

Dr. Mbang Sama is the executive director of the Digital Coalition. He is also the Head of Technology and Applications in Digital Transformation / Digital 4.0 in Mercedes-Benz Cars Operations (Daimler). The fields of application are Smart Factory & Supply Chain, Business development and areas including Big Data, artificial intelligence as well as IoT. He is also a Lecturer at the Karlsruhe Institute of Technology as well as Product Owner of Swarm organization, one of the eight Game Changer for introducing a new mindset and leadership culture (Leadership 2020) at Daimler.

Ms. Nadine Radermacher, M.A., is an associate research analyst at the Research and Analysis Unit (RandA) of the International Association for the Evaluation of Educational Achievement (IEA). Working at the IEA's Hamburg offices since 2014, Nadine concentrates on analyzing social inequalities and equal opportunities for learning using TIMSS and PIRLS data. Currently conducting her doctoral thesis, Nadine is analyzing the association of socio-economic status and students' reading achievement in South Africa applying a mixed methods design. Nadine has delivered various training seminars in basic and advanced statistics using the statistical software SPSS and MPLUS as well as the IEA's IDB Analyzer.

Ms. Edith Shikumo is the Liaison Officer in the Academy of Science of South Africa's (ASSAf) Young Scientist Liaison sub-programme. She is responsible for the conceptualisation and coordination of young scientist activities, including the South African Young Academy of Science (SAYAS). This includes growing SAYAS as an apex young academy, and integrating and mainstreaming gender and young scientist activities with other programmes. She brings to ASSAf gender and young scientist perspectives as key cross-cutting issues, and has been able to apply her experience in resource mobilisation to raise funds for corporations, trusts and foundations. In this capacity, she conceptualised, fundraised for and managed some social welfare projects aimed at introducing social change within communities to improve the overall psychosocial well-being and material

circumstances of vulnerable children. She has a background in Communications and a MA in Gender Studies from the University of KwaZulu-Natal (UKZN).

Dr. Anjana Singh is Professor of Microbiology at the Tribhuvan University in Kathmandu, Nepal. She was Head of Department at the Central Department of Microbiology, Kirtipur in Kathmandu, Nepal from 2004-2008 and again from 2012-2016. In 2010 she was appointed as an academician of the Nepal Academy of Science & Technology (NAST) in Khumaltar, Nepal. She has been an Executive Member of the Special Committee of AASSA, and of the Women in Science and Engineering (WISE) network since 2017, having participated in WISE since 2013. She has been honoured by multiple awards, such as the Fullbright Scholarship from the US Government in 2008-2009, the Education Award Nepal from 2008-2009, and the Crown Prince Young Scientist Award from NAST in 2005. Dr Singh has published about numerous articles, books and proceeding publications. She has played a dynamic role supporting and mentoring young scientists, especially women. She received a PhD degree from the School of Life Sciences at Jawaharlal Nehru University in India and a Post-Doctoral degree from the Division of Infectious Diseases and International Health at the University of Virginia in the US.

Mr. Jan Ståhlberg, as Labster's Head of Strategic Partnerships, has been part of Labster's award winning team since 2014 with honours such as QS Stars Award for Reimagining Education (2016), Danish Design Award for Better Learning (2016) and Best Technology Enhanced Learning product in the European Union (2015). He was previously awarded as a Learning Champion in Birmingham, United Kingdom and holds an MBA in Public Service Management with 25 years of public policy development. He is currently developing partnerships with government agencies, schools, universities and industry stakeholders in Europe, North America and Africa to scale up the use of virtual reality to bridge physical and virtual learning spaces.

Ms. Pennie Stoyles is a teacher, science communicator, author and administrator. She is passionate about girls in science and science literacy at all stages of learning. After teaching at a Secondary College, she became Education Officer at the Science Teachers' Association of Victoria, Australia. She then joined Scienceworks Museum becoming the School and Community Programming Manager. She won a Churchill Fellowship in 1999 to study teaching and learning in science museum. She has co-authored science books for children, including the award-winning 'Issues in Science' series. Pennie joined the ATSE in 2014 to manage the STELR Programmes for schools throughout Australia.

Dr Brooke Tata is a Postdoctoral Research Scientist at INSERM (the French National Institute of Health and Medical Research) in Lille, France and also a 2016 Laureate for L'Oréal-UNESCO For Women in Science. Dr. Tata is fully immersed in the educational programmes in France and in the USA to address the stereotypes and challenges that young girls face. Dr Tata has undertaken international research and work in multiple educational programmes, and assisted with empowering young girls to gain confidence and open their horizons to other cultures and to communicate and work together with others equally in both education and science.

Ms. Afra Feyza Toksal is the president of Koc University Society of Women Engineers (KUSWE) and an aspiring industrial engineering student in her senior year. In 2015, she was nominated as the Future Leader in non-US regions by the Global Society of Women Engineers

(SWE). Ms Toksal is actively working to encourage young females to pursue higher education study in STEM fields. Under her presidency, the society initiated three more annual events geared to improve outreach and professional development. Her team was a semi-finalist for the Hult Prize Social Entrepreneurship Competition for two consecutive years based on projects geared to increase the income of slum dwellers and to regain the dignity of refugees, respectively.

Mr. Surawith Tunchaiyaphum works in the Faculty of Engineering at Southeast Asia University. His research interests are in Food and Chemical Engineering Research (Bioactive Compounds Extraction, Bioethanol Production) and Educational Research. He has a Masters in Integrated Chemical Engineering from Mahidol University, Thailand.

Mr Daniyar Ualiyev graduated from North Kazakhstan State University with BSc in Physics and Computer Science. From 2007 to 2012, he was a teacher of Physics in school for gifted students in Petropavlovsk city. From 2012 to 2013, he worked as a Deputy Principal for Research and Methodological Work in school for gifted students. From 2013 to 2015, he was a Principal of school #16 in Petropavlovsk. Since 2015, he has been working as a Deputy Principal for Experimental Work at Nazarbayev Intellectual School of Chemistry and Biology in Petropavlovsk.

Ms. Cheryl Miller Van Dyck, over her career spanning 25 years, has held global leadership roles in blue chip companies in the transport, banking, telecom and IT industries in Asia, North America, Europe and Russia. As founder of the Brussels-based Digital Leadership Institute, she has spent the last seven years leveraging disruptive technologies for the benefit of the world's most under-served communities. Cheryl's pioneering work is recognized by the United Nations, European Parliament and private sector organizations, and she is regularly invited to speak and author articles on subjects related to digital disruption, inclusion and gender equality in STEM sectors.

Ms. Ramya Vivekanandan is a Programme Specialist in the Section for Inclusive Quality Education at UNESCO Bangkok, a position she has held since 2012. She is Team Leader for the programme on Quality of Education. In this role, Ramya also serves as Head of the Secretariat of the Network on Education Quality Monitoring in the Asia-Pacific (NEQMAP) and additionally works on issues of 'Happy Schools'. Ramya coordinated UNESCO Bangkok's regional research on girls and women and STEM education in Asia, the report known as A Complex Formula. Prior to joining UNESCO Bangkok, she worked for six years at UNESCO Headquarters in Paris. Before coming to UNESCO, she worked with a range of NGOs in various parts of Sub-Saharan Africa including Uganda, Senegal, Malawi and Guinea. Ramya holds a Master's Degree in International Education Policy from the Harvard University.

Professor Jong Tae Youn is a Professor in the Department of Graphic Arts Information Engineering at Pukyong National University and the Director of the Women in Engineering program in South Korea since 2006. His main research interests are women in engineering and computer simulation for higher education. He was a Vice Dean in the College of Engineering and Head of the Department at his school. He has worked as a senior researcher in the Korea Minting Agency for eight years and had been a visiting Professor at University of Maine in USA for three years. He has published 116 papers and 7 books for students and engineers.

Exhibition Stands

EduHelp Limited: Learn more about how the EduHelp universal computer software and mobile app modules can assist different stakeholders (school administrators, teachers, parents, NGOs) to increase the participation of “at-risk” girls in STEM studies. EduHelp modules assist with the collection of sex-disaggregated data on enrolment, attendance, performance and progression in STEM, and potential problems. Applicable for use in educational settings from preschool to university, an open platform allows easy upgrading and draws on text messaging, a mobile app, and a web dashboard to share information. EduHelp’s main goal is to provide evidence-based information to school administration, parents and respective partners organizations; who in-turn design interventions to target the “at-risk girls” in school. Website link: www.eduhelp.ug

The Institute for the Promotion of Teaching Science and Technology (IPST): Check out approximately 20 exhibition areas of research projects conducted by students whose efforts in science, mathematics and technology may lead to their own future pathways in STEM careers. The exhibition also includes contributions from IPST partners, Unithai and Chevron (Thailand), presenting their mission for the promotion of STEM education and social development.

Plan International: Learn more about how Plan International has been working for the past 80 years to promote education, and advance children’s and girls’ rights. At the booth, try our Youth Employment Solutions (YES!) Digital Ecosystem, a suite of interconnected ICT products that offer a “one-stop-eShop” for youth employment professionals and young people. YES! Components: capacitate educational professionals; provide educational instruction to young people; and monitor and evaluate educational interventions at the individual-level. They offer relevant market data to influence program design and implementation, enhance job creation in regions, sub-sectors and enterprises, and a vibrant global online community of knowledge-sharing. Website link: <https://plan-international.org/eu/yes-digital-ecosystem>

Safaricom Women In Technology (WIT): Meet one of the passionate, ambitious women working within the Technology Division of Safaricom, and learn more about our mission to advance women in technology, from the classroom to the boardroom. Come see our multipronged approach involving children from preschool to university, and our fun-filled, educative activities that nurture creativity and innovation from an early age, and that help engage girls in applying technology to solve local problems. Learn about how we have increased female enrolment in ICT courses, retained women in the ICT sector, and created a network of support for Women in Tech. Twitter handle:-Safaricom_WIT

Wedu: Learn more about this non-profit social enterprise based in Bangkok that aims to unlock the leadership potential of the next generation of women changemakers across Asia. Find out how our lifelong Leadership Development Program, Rising Stars, provides women with leadership development opportunities and services, education-financing solutions and supportive community network in their journey to become changemakers in their communities.

Rising Stars currently come from 21 different Asian countries and demonstrate a variety of academic interests, including STEM, and social, environmental and political pursuits. Visit our stand, and www.weduglobal.org

UNESCO ASP-Net: Founded in 1953, the UNESCO Associated Schools Project Network (ASPnet), commonly referred to as UNESCO Associated Schools, is a global network of 10,000 educational institutions in 180 countries. Come meet some of our ASP-Net teachers and students from Argentina, Brazil, Cabo Verde, Lao PDR, Lebanon, the Republic of Korea, Russian Federation, Nigeria, and South Africa, and learn more about our Network. <https://aspnet.unesco.org>

UNESCO-CJ Group: Come visit the main exhibition booth for the event, and learn more about the “Bright Girls, Brighter Future!” global education campaign and other joint initiatives undertaken to widen girls’ access to education and learning opportunities, improve girls’ completion rates by enhancing quality of education, and empower communities to meet girls’ specific needs. Come support our social media efforts to help #GirlsCrackTheCode by taking a photo of yourself at our selfie wall, or check out broader social media engagement through our interactive screen. Meet, exchange, enjoy!

Practical Information

Registration: The registration desk is located in the foyer of the Napalai Ballroom. Participants must register **on 28 August 2017 from 8:00 to 8:45 a.m.** to receive their badges and meeting documents. For security reasons, please bring identification to the registration desk.

Meals: For all registered participants, **lunch and coffee/tea breaks** will be offered throughout the duration of the meeting (28-30 August). On **28 August at 7 p.m.**, all participants are invited to a **dinner reception** taking place in the Napalai Ballroom in the Dusit Thani hotel.

WiFi: Internet services will be available onsite. More information will be provided during the event

Working languages: The working languages will be English and French; supporting documents and simultaneous interpretation for all plenary sessions and concurrent sessions held in the Napalai Ballroom will be provided in both languages. French speaking staff will be available for any assistance required at the UNESCO-CJ booth.

Social media: You are encouraged to post on social media using the hashtag #GirlsCrackTheCode and #brightgirls. The UNESCO-CJ booth will have an interactive screen showing social media engagement. You are also invited to take a photo of yourself at any of the selfie walls, using our social media props.

Medical assistance: The infirmary and first aid kits are available at the hotel for basic medical care. Should you require urgent medical attention during the meeting, please contact the meeting secretariat at the UNESCO-CJ Group booth or the hotel information desk (24 hours). The nearest hospitals to the meeting venue are:

Bangkok Christian Hospital

Tel : 0-2625-9000, 0-2235-1000

Website: <http://bch.in.th>

In Thai for Taxi:

โรงพยาบาลกรุงเทพคริสเตียน
ถนนสีลม

King Chulalongkorn Memorial Hospital

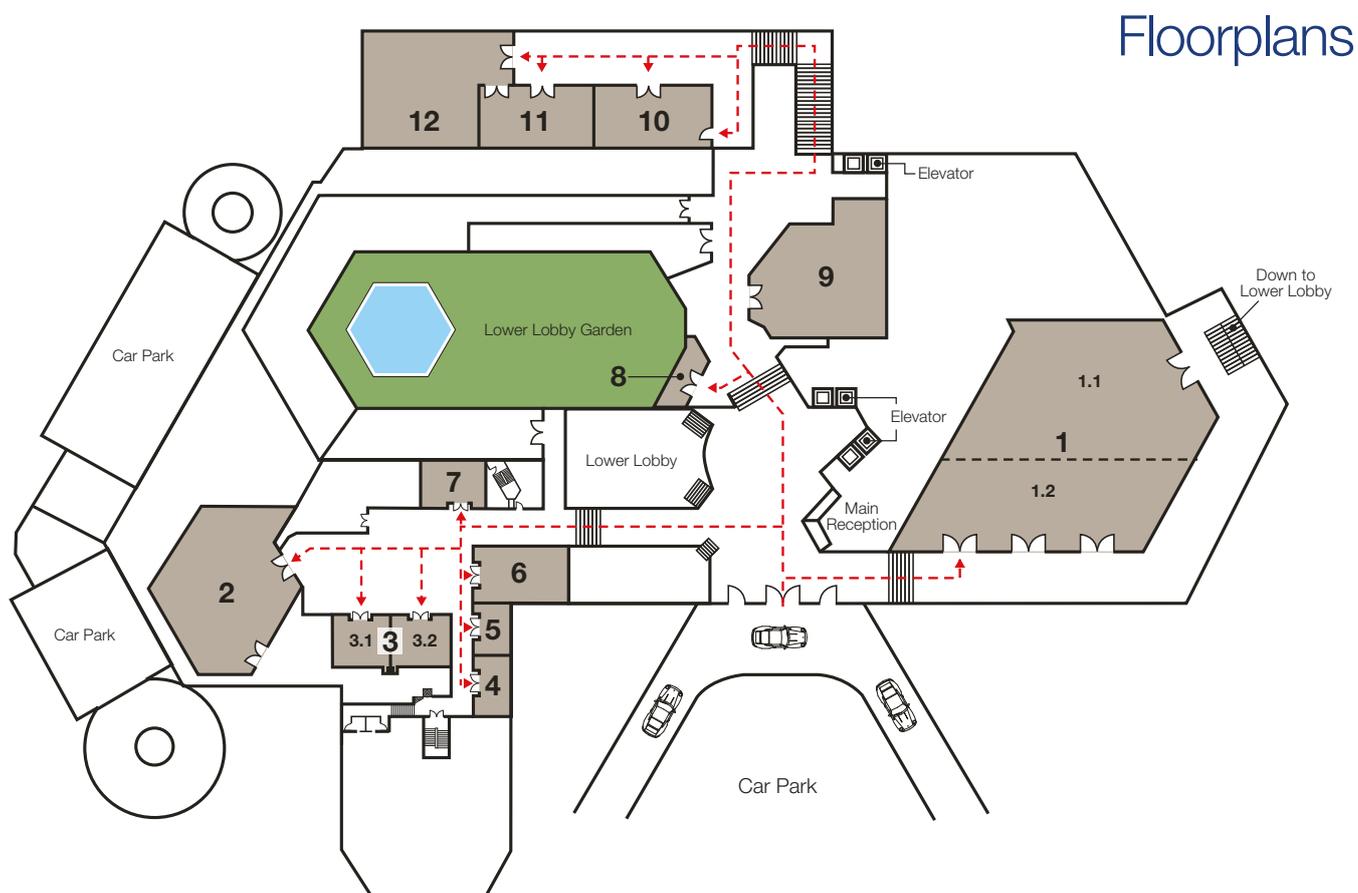
Tel: 0-2256-4000

Website: <http://www.chulalongkornhospital.go.th>

In Thai for Taxi:

โรงพยาบาลจุฬาลงกรณ์ สภากาชาดไทย
ถนนอังรีดูนัง

Venue: The opening and closing ceremonies and plenary session will take place in the Napalai Ballroom on the Upper Lobby Level. The other sessions will take place in the hotel meeting rooms.



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|---------------------|---------------------|-------------|-----------------|
| 1- Napalai Ballroom | 2- Dusit Thani Hall | 3- Sathorn | 4- Mahamek 2 |
| 5- Mahamek 1 | 6- Bangrak | 7- Rama IV | 8- Library 1918 |
| 9- The cellar | 10- Silom | 11- Lumpini | 12- Saladaeng |



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**Section of Education for
Inclusion and Gender Equality**

**UNESCO
7, Place de Fontenoy
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<http://on.unesco.org/1QDF5hn>



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the People
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