

INWES MEMBER NEWSLETTER

PRESIDENT'S MESSAGE

I hope everyone is having a wonderful start to the new year! 2016 is the Year of the Monkey, and so - since the monkey symbolises wisdom and intelligence - I wish all of you a wise, as well as happy year.

As I look back on the year 2015, I remember with great sorrow the many disasters around with the world - from the natural disaster of the Nepal earthquake, to the human disaster of the Paris terror attack in France. This year we must hope that some of the wisdom of the monkey will help us humans find new ways to overcome and avoid these disasters together. One source of hope is the decision in Saudi Arabia to finally allow women to run for municipal officer positions and vote in the elections for the first time - bringing to light twenty newborn women politicians, and an exciting step towards a new era of gender equality.

2015 was the start of a three-year term for new board members, as well as my 4th Presidency. I would like to take this opportunity to thank all of you for making 2015 another productive year for INWES. The INWES board members, in particular, have had a busy year finalising the new governance policy and procedure manual, developing our strategic plans, producing the newsletter, organising the regional meeting, supporting our regional networks, and representing INWES at various UNESCO and WFEO meetings. I am struck by the great teamwork everyone demonstrates, working hard and communicating well across oceans to strengthen INWES and produce a unique positive impact on STEM globally.

As for the activities of the INWES Regional Network, many of you will remember from the previous newsletter that the 2015 meeting of the Asia Pacific Nation Network (APNN) in Mongolia in June was a great success. In its wake, the INWES 2015 Regional Conference was held in Kampala, Uganda, hosted by African Women in Science and Engineering (AWSE) and the African Regional Network (ARN) - the second INWES regional network - from 21st to 23rd October. The theme was "Women in Science, Technology

and Innovation for Sustainable Economic and Social Development", and about fifty participants from seventeen countries shared their experiences and discussed how to foster the careers of African women in STEM. The INWES Board members were very impressed by efforts to strengthen the ARN and the contributions of many active women from several countries. I want to acknowledge Caroline Thoruwa (President of AWSE), Okon Uduakobong (Chairperson of ARN), and all the members of AWSE. I would also like to thank UNESCO, Samsung, and various regional companies for their financial support.

The INWES 2015 board meeting was held on 20th October, one day prior to the conference, with the help of AWSE. At the meeting we approved the INWES Policy and Procedure Manual suggested by the Governance and Policy Committee, and the Strategic Plan suggested by Strategic Planning Committee. These actions will lay a strong foundation for future activities. In the same meeting we also approved the creation of INWES Europe as the third INWES regional network. We further discussed future INWES conferences and expanding INWES memberships to new kinds of members, and new regions such as Middle East and South America. The 2015 11th Annual General Meeting (AGM) was held online on 2nd December. In line with INWES bylaw, we gave official notice at least twenty-one days before the meeting and achieved the quorum required. The President's Annual Report and 2014 Financial Statement were approved by unanimous votes. Thanks to the tremendous efforts of Margaret Ajibode, the AGM was successfully concluded. We all learnt a lot about how to carry out meetings like these with participants spread across the globe, despite large distances and different time zones.

I hope 2016 will be another great year for INWES; and that by working together, promoting INWES activities, and sharing our collective wisdom we will have an even greater impact, both globally and in our respective communities, disciplines, and societies. INWES will hold the next Regional Conference in Munich, Germany, in

CONTENTS

President's Message	1
INWES Member News	2
2015 Regional Conference	10
Upcoming Events	12
About INWES	14

EVENTS

CCWESTT Conference	3 rd - 6 th May 2016, Ottawa, Canada
WES Women in Engineering Day	23 rd June 2016
International Conference of Women & Innovation	4 th - 5 th July 2016, Poland
2016 INWES APNN with IPENZ	18 th August 2016, Wellington, New Zealand
2016 INWES Board meeting with DIB	2 nd - 3 rd November 2016
INWES Europe Constitutional meeting with DIB	4 th November 2016
2016 Regional Conference with DIB	4 th - 6 th November 2016, Munich, Germany
International Conference on the Theory of Machines and Mechanisms	6 th - 8 th September 2016, Liberec, Czech Republic

celebration of the 30th year of DIB in November, and the Asia Pacific Nation Network (APNN) Meeting in New Zealand hosted by IPENZ will be held in August. Moreover, many UNESCO activities will be ongoing through next year. So there is a lot to look forward to! I look forward as always to having more of you involved in INWES activities, and hope you as individuals and your organization will feel empowered through the INWES network.

Best of luck for the year ahead!



Kong-Joo Lee, Ph.D.
INWES President

INWES MEMBER NEWS

WES ORGANISE NATIONAL WOMEN IN ENGINEERING DAY

The United Kingdom

The Women's Engineering Society had a successful year in 2015 and made some important progress in supporting and inspiring women in engineering in the UK. For the second year running it co-ordinated the National Women in Engineering Day (NWED), a day dedicated



to focusing attention on the role of women in engineering, and encouraging girls to consider engineering careers. This event takes place on 23rd June annually and in 2015 it was supported by over 350 unique events. It got the attention of the UK's Prime Minister David Cameron, as well as the support of various members of the Royal Family, including Princess Anne, who presented WES with the prestigious WISE award in November 2015. In 2016 WES would like to extend the reach of NWED to its partners worldwide and turn this into an International Women in Engineering Day.

In other news, WES has just relaunched its mentoring service - MentorSET - which it offers to its members and partners. The scheme is due to grow further in 2016 to include training, seminars, networking events, and other support for women in engineering.

Finally, WES is pleased to announce it has a new Chief Executive. Dawn Bonfield was appointed to the role in October 2015 after a four year period serving on the WES council, including a year as President from 2014 to 2015. WES hopes that this new appointment will allow WES to continue with the growth it has been experiencing for the past few years.

For more information, contact Dawn Bonfield at office@wes.org.uk.

www.nwed.org.uk
www.mentorset.org.uk

NEW LEADERSHIP ELECTED BY TWIST

Taiwan

Taiwanese Women Scientists and Technologists (TWiST) held its Annual Member Meeting on 22nd November 2015, in conjunction with the two-day

Biannual Joint Symposium on Women Chemists and Physicists at the South Garden, Tao-Yuan. The most important event at the meeting was the election of a new board of directors and supervisors. The new President - for a term of two years (2016-17) - will be Shun-Lien Sung, while Professor Huey-Chuen Kao will serve as Vice President.

Sung is a pharmacist and the owner of Microwork Company, a consulting firm on regulations for pharmaceutical and related products. Kao is an inorganic chemist, specialising in ceramic materials. She is also currently responsible for publishing the TWiST e-Journal. The outgoing President Chia-Li Wu will serve as Managing Supervisor of TWiST. We are excited to welcome the new team and wish them the best of luck in their new roles.

INWES ANNUAL GENERAL MEETING

Global

The INWES 11th Annual General Meeting (AGM) was held on 2nd December 2015. The AGM was initiated via skype from Ontario, Canada, following new INWES bylaw. Many members participated directly via skype (10 members, 22%); others sent proxies or voting forms (10 members). The current bylaw requires a minimum of 15% for a quorum.

INWES PARTICIPATION IN THE UNESCO NGOS ACTION DAY AGAINST CLIMATE CHANGE

France

INWES as a non-governmental official partner with UNESCO was invited to participate in the UNESCO NGOs Action Day Against Climate Change on 6th October, in readiness for the 2015 Paris Climate Conference (COP21) Meeting that took place in December.

The participants were asked by the organiser before the Action Day to fill in before the event an online questionnaire covering five themes: 1. Social and Societal Responsibility, 2. Human Security, 3. Energy Transition, 4. Biodiversity, 5. Legal mechanisms and international laws. The feedback was compiled and used as the basis for the workshops and discussion.

The feedback offered by INWES stressed the need to use science to better understand the linkages of the social ecological system in the long term; the importance of looking for more sustainable solution to climate change that integrates ecosystem-based adaptation, and disaster risk reduction and mitigation, and the

fundamental role social justice, and in particular the equal involvement of women in science and engineering, and action and policy development. INWES expressed the strong belief that



the issue of gender must be considered as regards science and engineering, adaptation actions and policy making - since women are so often left out or underrepresented.

The Action Day took place in a beautiful renovated church, the Eglise Saint-Cyrille-Saint-Méthode, in Paris. After introductions and guest speakers in the morning, the afternoon focused on the five themes listed above with the objective of producing a COP21 NGO Charter, for the UNESCO 38 Congress and UNESCO COP21. The NGOs Action Day was a great experience of collaboration; there were twenty-six countries represented and around seventy participants present, working together to add their contributions to the document. It was inspiring to see a lot of young people present and taking an active part within the day, both as participants and organisers. Both science and gender were

important issues under discussion so it was crucial to have INWES represented in the process.

The COP21 working group convened on the 10th November to validate the charter document and it was then shared with all of UNESCO's official NGO partners and the UNESCO Climate Change Task Force Team.

The final documents are available online, both on the NGO-Unesco Liaison Committee Facebook page and on the NGO-UNESCO Liaison Committee website: www.ong-unesco.org/

Roseni Dearden
INWES Committee Chair for Communication

The members present adopted the AGM11 agenda and voted on the AGM10 minutes, the President's Annual Report, the 2014 Financial Statement and the appointment of the auditors, and the INWES Policies and Procedure Manual. There was only one amendment for the Treasurer's Financial Statement for 2013 and all present approved the changes unanimously.

During the meeting, Joan Graf (Treasurer) and Gail Mattson (Vice President) made the annual reports on finance, ICWES16 and 17, and the 2015 Regional Conference. The general assembly felt that it was important to do more to share information on what INWES members were involved in, and disseminate it to all members as early as possible.

The AGM was closed with all the items on the agenda discussed, and dealt with successfully. Overall, the AGM was a huge success; even though members were spread at all across the globe and in different time zones, they were still able to participate.

Margaret Ajibode
INWES Secretary General

MY EXPERIENCES AT THE 2015 INTERNATIONAL YOUNG WOMAN SCIENTIST CAMP

Korea

From the 17th to the 18th October, I had the opportunity to attend the 2015 International Young Woman Scientist Camp and Smart Sister Workshop run by the Association of Korean Women Scientists and Engineers (KWSE) and the Asian-Pacific Nations Network (APNN) at the University of Science and Technology (UST) in Daejeon, South Korea. I was one of two Australian participants at this event, and I would like to thank to Dr Marlene Kanga of Engineers Australia for nominating both myself from the University of Technology Sydney (UTS), and Jillian Kenny from the Queensland University of Technology (QUT).

The camp provided a very positive and encouraging environment for establishing networks amongst women scientists and engineers throughout the Asia-Pacific region. There were over seventy participants in attendance from countries across the Asia-Pacific, with some European participants attending who were based in Korea for either work or study.

The first day of the camp started with all of the participants eagerly filling their respective country's information booths with national symbols; traditional dress; and promotional brochures about women in science, technology, engineering and mathematics

(STEM). This was a fantastic way to introduce ourselves, instigate conversations about our backgrounds in study and work, and to learn about each other's culture and traditions.

The camp was formally opened by KWSE in the immaculately prepared lecture theatre at UST. There, we listened to welcome speeches and an introduction to the KWSE Smart Sister Program, along with five regional activity report presentations. The afternoon was dedicated to academic oral presentations from the fields of science and policy, and a poster session. Both the oral presentations and poster exhibitions were very informative and



gave participants the chance to share their work and discuss topics on a more technical level.

The second day of the camp began with an introduction to the APNN and an opportunity for participating nations to provide succinct reports on the issues that women in STEM face. Despite differences in the cultural and societal context for women in STEM, the most persistent issues across the different nations were the “leaky pipeline” and “glass ceiling”, which make it harder for women to pursue a career in STEM and get to the top. The special talks following the APNN reports expanded on these issues, and explored strategies that agencies around the world are implementing to reduce their impact.

After spending a few hours listening to talks, all participants welcomed the ice-breaking activity that followed – learning how to K-Pop dance! After an hour of laughter and fun, the program recommenced with the YWS Model World Science Summit. This was an eye-opening discussion which allowed participants to talk openly about the status of gender equality in their nation and the struggles that women face in order to succeed. The major issues differed from nation to nation, but the underlying issues were the strong gender inequality and disparity in the STEM



has inspired me to become more involved with promoting STEM careers for women and be part of the change we need to see in STEM worldwide

*Lili Bykerk
University of Technology Sydney*

professions worldwide.

To discuss the key factors that contribute towards a woman in STEM building a successful future, we broke off into small groups - guided by a mentor who posed some thought-provoking questions. The diversity of the participants in the groups made for an engaging discussion and some valuable insights.

The camp was a wonderful chance to share ideas and experiences with like-minded women and gain a deeper understanding of the issues and obstacles that women face in the STEM profession. It

WOMEN AT THE WFEO MEETINGS AND WECC2015

Japan

The World Federation of Engineering Organisations (WFEO) held its annual meetings and the WFEO General Assembly at the Kyoto Convention Centre from 28th November to 4th December 2015. Around seventy national and regional engineering institutions were represented. This year, it also held its World Engineering Conference and Convention (WECC2015) alongside these meetings (29th November to 2nd December). WECC is an international conference on all fields of engineering, which is held by the WFEO every four years, and attracts leading speakers from around the world.

As a major non-governmental organisation with a membership of more than ninety national and regional engineering institutions, the WFEO has an important role to play as a global voice for engineering - it acts as an advocate on engineering issues such as sustainable infrastructure development, ensuring engineering education standards, and

ethical standards in engineering practice. It is recognised by UNESCO and works closely with a number of UN agencies on issues such as climate change, natural disaster risk mitigation and the role of women in the engineering profession.

INWES has a Memorandum of Understanding with the Committee for Women in Engineering - one of WFEO's ten Standing Technical Committees, and collaborates on projects of mutual interest. The Committee for Women in Engineering met on 29th November and discussed the

projects being undertaken by members around the world to encourage more girls to study engineering and technology subjects and to support women engineers in their careers. The committee has established working groups to improve diversity in the engineering workforce, encourage women engineers into leadership roles, develop strategic indicators on progress of women in engineering, and engage with the United Nations.

At the World Engineers Convention



(WECC2015) there were three sessions on 1st December 2015 which were highly relevant to women in engineering. There was one session on “Promoting female leaders in engineering”, with contributions from Japan, Kuwait, Switzerland, and Nigeria on policies and activities to support women engineers; and two panel discussions on “Promoting young women in engineering”. One looked at information and communication technology, and the issues for young women in this sector; the other looked at social infrastructure technology.

WFEO Milestones for Women

The WFEO General Assembly took place on 3rd and 4th December 2015. Significant

milestones were achieved by women engineers:

1. **Dr. Marlene Kanga AM** from Australia was elected President Elect of WFEO and will serve as WFEO President from 2017-2019. She will be the second woman to serve as President of this important organisation. Marlene was the National President of Engineers Australia in 2013 and is also a board member of INWES.

2. **Dr. Ruomei Li**, representing the China Association of Science and Technology (CAST) was elected to the Executive Council of WFEO - the only woman to do so at the 2015 General Assembly

3. **Professor Jean Venables** of the

Institution of Civil Engineers (ICE), UK, is now Chair of the Committee for Environment - one of the Standing Technical Committees of WFEO. Jean is the first woman to chair a technical committee at WFEO and is consequently a Vice President of WFEO. Jean was the first woman to be President of ICE in 2008.

4. **Ms. Valerie Agberagba**, a Vice President of the Nigerian Society of Engineers is now Chair of the Committee for Women in Engineering.

These are all significant achievements and all the women engineers involved are warmly congratulated. The Executive Council of WFEO now has the highest number of women members in its history.

Dr. Marlene Kanga AM: New President Elect of the WFEO



The World Federation of Engineering Organisations (WFEO) has elected Dr. Marlene Kanga to the position of President Elect, as announced at the World Engineers Convention, WECC 2015, in Kyoto.

Dr. Marlene Kanga AM is an INWES board member and chairs the Governance and Policy Committee, so we are delighted to see her experience and leadership recognised.

She is a chemical engineer, and currently a board member of Sydney Water Corporation and director of iOmniscient Pty Ltd, which has developed patented software technology for intelligent video analytics systems. She also finds time to serve as board member of

Innovation Australia and chair of its Research and Development Incentives Committee, the largest support program for innovation in industry in Australia.

She is a former president of Engineers Australia and is an honorary fellow of Engineers Australia, and the Institution of Chemical Engineers; as well as a fellow of the Academy of Technology Science and Engineering and the Australian Institute of Company Directors. She was the FEIAP (Federation of Engineering Institutions in Asia and the Pacific) Professional Engineer of the Year in 2014 and listed among the Top 100 Engineers in Australia in 2013, 2014 and 2015, and the Top 100 Westpac Women of Influence in 2013.

Kanga has served the World Federation of Engineering Organisations (WFEO) for many years in a number of capacities, including as a member of the Executive Council, a Special Advisor to the WFEO President for the Asia-Pacific Region and Deputy Chair of the Committee for Disaster Risk Management.

Kanga will formally take the role of President in December 2017 for a two-year term.

INWES EUROPEAN NETWORK UNDERWAY

Europe

After the co-founders of the European regional network of the INWES Europe met in Geneva, Switzerland in September 2015, the INWES Board - at the latest board meeting in Uganda on 20th October - voted unanimously to pass the following motion: “To accept the INWES Europe report and authorize the kick-off team to

proceed with the formation of INWES Europe.”

Prior to the conference organised by DIB Germany, an INWES organisational member, on 4th November 2016, the first General Assembly of INWES Europe will resume and gather all its European members and partners, in order to cement the successful launch of INWES Europe.

We are excited to follow in the footsteps of the APNN and ARN networks, which

were launched respectively in Asia and Africa, and determined to unite the voices of European women engineers and scientists to call for European countries to push for true gender equality. A preliminary declaration was signed in Geneva last September stating the mission, values and vision for the European INWES network.

Discussions and decisions about appropriate strategies at a regional and sub-regional level took place, and an action

"Building the Archives of Women Scientists and Engineers in Canada", was a two day workshop, during which historians and women scientists and engineers came together to reflect and exchange on the collection, preservation, development, and sharing of their records, and those of their colleagues. With the generous support of the Natural Sciences and Engineering Research Council of Canada (NSERC) Chairs for Women in Science and Engineering, the Social Sciences and Humanities Research Council (SSHRC), IBM, the Institute for Science, Society and Policy (ISSP), the University of Ottawa, and the Canadian Commission for UNESCO, the workshop brought together forty-five participants from Ottawa, other parts of Canada, the US and the UK. Historians, and women scientists and engineers joined in conversation through panel discussions and presentations to learn about how they can contribute to one another's fields, with the common objective of making the first step in building the archives of women scientists and engineers in Canada. Together women in science and engineering, and leaders in the archiving community can recover, research, and write the history; and preserve the archives for current and future generations.

The event programme balanced time for presentations, in which speakers shared their expert knowledge, and time for working groups to discuss what they had learned and to tackle key questions. At the end of the workshop, everyone came together through a plenary discussion, to decide on the strategic priorities that would underpin the process of initiating the building of the collective and individual Archives of Women Scientists and

Engineers in Canada. Within that overarching goal a number of secondary objectives were identified such as: paying full tribute to women scientists and engineers' accomplishments and their contribution to women's history; the history of science and engineering, and Canadian history; drawing critical historical insights on the current status and role of women scientists and engineers; helping establish important connections between gendered practices in the past, and present day challenges and policy issues; developing a sense of pride in the achievements of women scientists and engineers; and providing girls and women with inspiring role models that could lead them to pursue careers in science and engineering.

The history of women scientists and engineers in Canada is still in its infancy. This can be largely attributed to the invisibility of women in traditional and established archives, which collected male records and tended to privilege the life and work of men. Another major obstacle has been the tendency of professional women to underestimate their own accomplishments - with the result that most did not seek to preserve their papers, and neither did their family, friends and colleagues. There is a pressing need to provide current and future Canadian women scientists and engineers with an accurate and inspiring understanding of their past, and learn about the lives and accomplishments of those who came before us.

*Professor Ruby Heap
INWES-ERI Director*

plan with priority activities outlined was developed as follows:

1. Elaboration of a marketing plan
2. Organization of the regional annual conference
3. Creation of the full communication kit
4. Exploration of existing networks and invitation for cooperation (benchmarking)
5. Evaluation of all possibilities for raising funds and developing our projects
6. Support and help to build national organizations (STEM women associations) where they do not exist
7. Finalisation of a strategic plan for INWES Europe (2017 - 2020)

All these activities have team leaders and members in place, but we still need you to help us succeed, so please feel free to contact us and join the teams!

Contact sylvia.kegel@dibev.de or yvette.ramos@swissengineering-ge.ch

*Yvette Ramos
President of the Swiss Engineering Geneva
Chapter and Director of INWES Europe West*

*Sylvia Kegel
Treasurer of DIB and Project Director, INWES
Conference 2016*

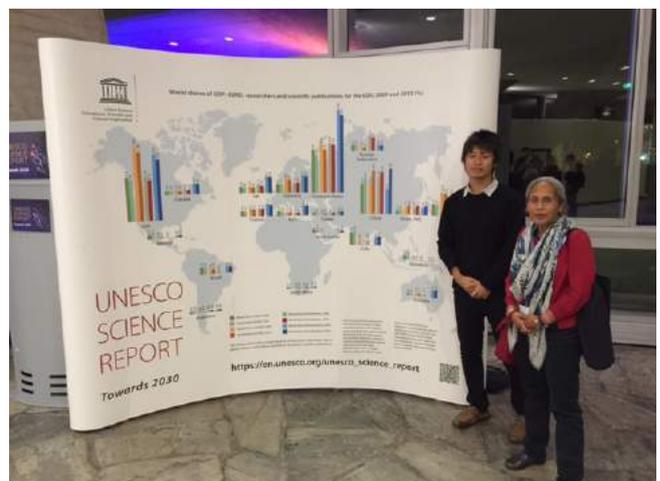
**INTERNATIONAL COOPERATION
IN ACTION: INWES ATTENDS
UNESCO GENERAL
CONFERENCE**

France

INWES took advantage of a UNESCO invitation to attend the UNESCO General Conference 38th Session, which took place in Paris from the 3rd to the 18th November 2015. The General Conference is held every two years and is attended by representatives of all the member states. This year was a chance for member states to reaffirm the importance of

UNESCO on its 70th anniversary, and recognise the critical role it has played in supporting the UN mission. In my role as INWES Committee Chair for Communication, I represented INWES on the NGO UNESCO Liaison Committee from 9th November to 14th November, while Monique Moutaud represented INWES for the remaining days.

We felt it was important that INWES maintained and strengthened this link with the UNESCO head office in Paris to



ensure that INWES and its members in different countries are known to UNESCO and its own global network of National Commissions - national cooperating bodies. We want UNESCO to be aware of and value the work of our members around the world. We also want to publicise INWES itself as a strong voice in the battle for gender equity in STEM, by networking with other UNESCO NGO Liaison Committee members present at the conference.

There were far too many sessions, meetings and events going on at the same time for one person to cover. I attended three of the main commission



sessions, those on Natural Science (SC), Communication and Information (CI), and Social and Human Science (SHC). I also represented INWES at the NGO Liaison Committee hub. I found all three commissions interesting as I could see democracy at play. Irrespective of the size of each country, all member countries have two voting rights in any voting decision.

I found the Communication and Information commission session particularly interesting as it looked at the issue of open access and the idea of a "knowledge society" - a society built on generating, spreading, and sharing knowledge. In particular, the session addressed how critical it is that economically poorer countries have ways of easily accessing research papers. I was reminded how relevant universal access is for many INWES members who need to access research papers in their home country.

Every country in the session had the opportunity to have their say and they even managed to keep to the timing they were allotted! The Finland representative emphasised how important a knowledge society is for sustainable development. They also argued that UNESCO must support women and girls to participate in Internet. Turkey called for UNESCO to

continue to support information for all, media development, and access to media. Paraguay talked about the safety of journalists, the importance of community radio, and the multilingual dimension that has to be taken into account when considering communication in countries like Paraguay, which has more than one language and a sizeable percentage of people who only speak Guarani or Spanish. The representative for Paraguay stressed that education must be inclusive.

The chairing of the CI commission was excellent and it was impressive to see that out of all the differing views a complete International Programme for the Development of Communication (IPDC) paper was unanimously accepted and

a budget agreed within two days. The Natural Science Commission was also scheduled to last two days. Its priority areas were gender and science; local and indigenous knowledge; and small island development. The special themes were global climate change, biodiversity, disaster risk reduction, and science education. The session really highlighted the extent to which scientific research is at the forefront of the global race for sustainable development. The UNESCO Science Report: Towards 2030 was released during the conference and is now available on

UNESCO site to download.

Copies of the last newsletter and the INWES African Network list of contacts was invaluable for me, helping me to promote INWES members to their country representatives at the conference. Nearly hundred INWES brochures and newsletters were distributed at the event. The German and British National representatives have already expressed interest in cooperating with DIB-e.V in Germany, and WES in the UK. Moving forward, I think it's important for INWES to coordinate and strengthen the partnership and network possibilities opened up at the UNESCO conference to develop new and innovative projects and programmes and pursue our strategic goals.

For more information about the conference, visit: <http://www.unesco.org/new/en/general-conference-38th/>

*Roseni Dearden
INWES Committee Chair for Communication*

PILOT PROGRAMME PROMOTING SCIENCE AND MATHEMATICS EDUCATION IN RURAL SCHOOLS

Sri Lanka

On 6th April 2015 a team of members from our organisation - Women in Science and Engineering Sri Lanka (WISE



SL) - visited the Vannipalugollawa Vidyalaya, Gambirigaswewa in the Anuradhapura district to review the initial phase of our pilot project focusing on science and mathematics education.

The aim was to monitor improvements resulting out of our small intervention, compared to the baseline scenario we captured before start of the project. The members representing WISE SL were Nethra Tantrigoda, Thilina Wanigasekera and Upekha Senarathna. Given the current status of WISE SL, the visit was financed solely by the visiting team.

The team met the Deputy Principal Upali Mudiyanse. After we introduced WISE SL and our project, Mr. Mudiyanse explained the socio-economic background and general living standards of the children. Many of the children came from families which did not understand the value of

education, and were facing problems such as alcoholism, drugs, and sex work. School attendance was very low despite the encouragement received from the teachers of the school as the children's parents and caregivers were not generally supportive.

The overall number of students attending the school is about 125 but this number varies from time to time, and drops especially during the harvesting season. Pass and failure rates of O-level students varies in each year. The O-level mathematics teacher at the school continues to teach science as school has not been able to get a designated teacher for the subject. The school has a computer lab with about ten good computers. It also has a new water purification plant that works through electricity. However the teachers believe that these facilities do not adequately encourage students to

attend school, even though chronic kidney disease is a common problem in the area, and children are allowed to take drinking water home this facility, as well as drink it at school.

The team was given the opportunity to observe a small assembly of teachers and students and at the end have an open discussion with them. Dr. Thilina Wanigasekera addressed the students and spoke about WISE and WISE SL, and our aims. She also spoke about the importance of school education, emphasising how invaluable knowledge is in making good decisions and choices in day to day life - enabling students to better face the issues ahead of them, as well as pass exams. WISE SL members gave away a set of valuable mathematics and science teaching materials donated by generous science and mathematics teachers in Colombo.

UNIVERSITIES OF APPLIED SCIENCES: A NEW TYPE OF EDUCATION IN POLAND

Poland

The political and economic transformation that took place in Poland in 1989, caused mass unemployment in every sector of the labour market. In the nineties, administrative reform led to some provinces being liquidated, and new provinces being created which lacked universities; it became increasingly clear that the country's large academic centres were just too far away from many young people. Youth unemployment at the time reached almost 25%.

In light of these issues, many local communities felt a driving need to establish universities of a new kind, that were directed more towards application than theory. The underlying idea was that such universities would help provide a uniform nationwide coverage and increase the access to education for young people who were poorer and lived further away from the large academic centres. Extensive discussions and consultations took place with the aim of creating new Universities of Applied Sciences (pol.PWSZ.), and this new type of higher education began to emerge in 1994. This process was typified by a bottom-up approach, with local governments creating their own academic centres, mainly in provincial capitals of a medium size.

Finally in 1997, on the basis of special legislation brought in by the Ministry Council of Poland, they could be established. In 1998, nine completely new and novel higher education institutions started-up. These institutions "came to the youth," - created, as they were, in so-called "educational deserts", and presenting a practical educational profile that responded to the needs of the regional labor market. The main goal was to popularise the higher education process through offering universities close to home, and in the long run

this did prove to be a tempting option for students from local communities, especially as the institutions accommodated both students interested in pursuing further academic study, and those primarily looking to specialise their education along vocational lines.

During the following twelve years, thirty-five new such universities were created in Poland. They have proven that it is possible for a province to build a university which responds to the local labor market, while offering with a high level of teaching, and skillfully balancing the proportions between theory and practice.

The Angelus Silesius University of Applied Sciences (pol. PWSZ-AS) in Walbrzych (in the south-western part of Poland) was created on the 15th June 1999. Its main goal was to offer equal educational opportunities both for local youth, keen to pursue higher education, and for those from the small towns and villages of the region for whom the economic issues were pressing and



studying in big cities, like the capital of Lower Silesia - Wrocław - would be impossible.

This university was built thanks to the efforts of many local activists and the local government who provided its contribution in kind - in the form of the appropriate buildings - and the core funding. The PWSZ-AS University, is partly located in the old and very elegant ancient Palace von Czetrtritz (1606-1628), and partly in modern buildings. The whole campus is surrounded by a large, old trees and very lovely, large park creating a wonderful environment for students to learn.

The city of Walbrzych, for the past several centuries, was the capital of the coal mining industry in the region of Lower Silesia. These mines, unfortunately, were closed in the 1990s which led to high unemployment in the whole region. As usually happens, in post-industrial regions, there was serious environmental degradation alongside unemployment and associated socio-economic risks such as poverty and social exclusion. Given these issues and the emergence of new IT technologies and a global knowledge-based economy, there was a strong need for the existing vocational and high school education in Walbrzych to develop up to university level.

The PWSZ-AS, is today an important educational and cultural center, with students able to study a wide variety of subjects from landscape architecture to law. The university staff is partly from Walbrzych itself and partly supported by professors from various other universities at adjacent cities and academic centres,

like Wrocław. While I perform my scientific experiments at the Faculty of Chemistry at the University of Wrocław, I am also employed by the Institute of Health to teach Biophysics and Chemistry for Cosmetology at PWSZ-AS. It is a real pleasure for me to teach these students as they are so keen to learn as much as possible, because they know that university diploma may be their opportunity for a better life.

The PWSZ-AS offers a programme for mature students, with a large choice of specialisations that allows them to fill in the educational gaps of their youth. I volunteer there, both as Vice-President and teaching chemistry. Our university is one of thirty-seven Universities of Applied Sciences, and 131 state universities in Poland. It is one of the forty state universities in the dynamically developing Lower Silesia region.

The research shows, that Universities of Applied Sciences are extremely important and play a very significant educational and cultural role in many regions of Poland, helping to tackle the economic and educational issues that have faced the country and opening up valuable opportunities for the many young people studying there who would not otherwise have the financial means to pursue further education. They offer valuable lessons for educational systems around the world, looking to adapt to new economic realities.

*Anna Szemik-Hojniak
Faculty of Chemistry, University of Wrocław
University of Applied Sciences, Walbrzych*

2015 INWES REGIONAL CONFERENCE

The 2015 INWES Regional Conference was held from 21st to 23rd October 2015 at the Speke Resort and Conference center, in Munyonyo, Uganda, on the shores of Lake Victoria.

The conference theme was “Women in Science, Technology and Innovation for Sustainable Economic and Social Development”. A total of ninety-three abstracts were received under two sub-themes:

- Career and life transition for professional women, early career women and students.
- Celebrating current research by women in STEM

The sessions included plenary, panel, parallel and poster presentations.

Sixty-two participants attended from four continents - North America, Europe, Asia, and Africa - together representing seventeen countries.

Opening the conference

After a fantastic performance from a Ugandan traditional dance group to start the opening ceremony, Dr Jolly Kibirizi, the Chair of the in-country organising committee welcomed all the participants to Uganda and to the conference.

Professor Caroline Thorouwa, the Chairperson of African Women in Science and Engineering (AWSE) outlined the conference objectives and her hope that the forum would provide an opportunity for women in STEM to share their experiences, and strengthen existing networks while forging new ones. The conference was a chance to draw attention the contribution of women in STEM towards the generation of knowledge and new technologies, poverty alleviation, and economic development in Africa. Strategies for recruitment and retention of women and girls in STEM, and for growing STEM Networks could also be discussed.



The conference was officially opened by Proscovia Mutumba of the National Agricultural Advisory Services (NAADS) in Uganda, who presented a keynote paper entitled ‘Technology Transfer - the contribution of women scientists’. INWES President, Prof Kong-joo Lee, also presented another keynote paper: ‘INWES: her-story, achievements, challenges and the future’, and described the INWES vision.

A message of support from Dr Peggy Oti-Boateng of the UNESCO Regional Office for Southern Africa, Zimbabwe, and Harare was shared with participants, which detailed how UNESCO had responded to the low participation and retention of women in STEM through its African Network of Scientific and Technological Institutions (ANSTI) project.

The African Regional Network Forum

An African Regional Network (ARN) Forum was held on Wednesday 22nd October. This was the first official INWES meeting in Africa since the ARN was established at ICWES16 in Los Angeles, USA in October 2014. The purpose of the meeting was to inform all the participants about the ARN's activities and policies, and encourage them to register as members.

INWES Board Members

An INWES Board of Directors Meeting preceded the conference and was held on 20th October.



We were delighted to have nine INWES Board Members from different countries each representing a specific STEM Network.

During the conference on October 22nd the board members participated in a panel on STEM Networks, chaired by Prof Kong-joo Lee and opened by INWES Vice-President, Gail Mattson who presented a plenary paper on ‘Innovative programs for women in STEM’. This session provided plenty of information for participants who wanted to start new STEM Networks and novel ideas for those within existing networks.

Conference Sessions

There was so many other interesting sessions in a jam-packed schedule, with papers presented on everything from value addition in agriculture to intellectual property rights. We can only mention a few here to give a taste of the variety of the sessions but the quality across the board was excellent.

Michelle Boit of Tallow Oil, Kenya, talked about the opportunities and challenges for female engineers and scientists in the oil sector in East Africa - a particularly relevant topic given that energy and mineral sectors lag behind other industries in attraction and retention of women engineers.

Conference Sponsors

INWES and AWSE gratefully acknowledge the support of the conference sponsors, without whom this conference would not have been possible. This includes Samsung, UNESCO, Tallow Oil, ISAAA, and NARO.



recognition of her work.

Dr Sarah Lubanga Mubiru of the SNV Netherlands Development Organization in Uganda profiled the contributions of a number of different African women scientists and celebrated their impact on society. She also discussed her own work and shared one of her own inventions - sweets made from honey without any processed sugar - a welcome addition at

Josephine Okot shared the story of her company, Victoria Seeds Limited, from its humble beginnings - with a workforce of 5 people - to becoming one of Uganda's leading seed house, employing over 120 people. Okot was driven by the desire to make a difference in the lives of rural women in Uganda, and argues that it is not possible to separate women's empowerment from food security. In 2008 she was awarded the MDG3 Torch Bearer for Gender Equality and empowerment of women in

any conference!

Participants at the conference also benefited from a leadership training session. A biotechnology panel with four scientists elicited a lively discussion among participants, and high school students from Uganda and Nigeria added a fresh young voice to conference deliberations with their own presentations of two papers.

THE INWES BOARD MEETING: A SUMMARY OF PROCEEDINGS

The 19th INWES Board Meeting (BM19) was held on 20th October 2015, one day prior to the 2015 INWES Regional Conference. Nine board members and one guest were present, and three board members called in via Skype to present their board reports and provide input on selected agenda items.

BM19 started with the Tour de Table, in which each board member present provided a brief report on STEM related events, activities, and legislation in their respective countries. The actions from BM17 and BM18 were reviewed for progress and their status towards closure. Six actions from BM17 still require further work. Six actions from BM18 were completed and seven actions remain open.

Reports from the Executive Committee and the Board Committees and Programs were presented and discussed. Reports from the INWES APNN and INWES ARN were presented as well as from the formation team for the European Network.

The Board discussed the importance of the regional networks to be in synergy with the goals of INWES and identified activities that they can develop and conduct to align with INWES strategies.

Motion BM19#1 - to authorize the kick-off team to proceed with the formation of INWES Europe - was proposed and passed.

A report on the activities of the INWES Education and Research Institute (ERI) was presented. The INWES Board was encouraged to provide nominations for new ERI board members, as well as submit proposals for charity project, for the ERI to consider for funding.

The final reconciliation of finances with SWE from ICWES16 was provided. The upcoming 2015 Regional Conference agenda and activities were reviewed. Brief updates on the planning activities for the 2016 Regional Conference in Germany, as well as ICWES17 in India were presented.

The Board held a discussion on advocacy with WFEO and UNESCO, reviewed the 2014 Financial Statement, discussed the dissemination of the new INWES Policy and Procedure Manual, and reviewed the Strategic Plan put forth by the Strategic Planning Committee.

Motion BM19#2 - to accept the framework for the INWES Strategic Plan- was proposed and passed.

The current status of membership was addressed, and the Board determined that the Membership Committee should be expanded and that all board members should provide contacts in other countries that might be good leads for identifying organizations and associations for membership.

Other topics on the agenda related to the communications and web portal, fund development and sponsorship were deferred due to missing board officers and lack of time. During BM19 twenty-three action items were identified and assigned. Please refer to the latest version of the INWES Board Tracking Scheduled updated at BM19 for specific details, assignments and due dates.

For more details contact us at secretariat@inwes.org.

Gail Mattson
INWES Vice President

UPCOMING EVENTS

INWES REGIONAL CONFERENCE 2016 IN GERMANY

INWES Regional Conference 2016 and the 30th anniversary of German Association of Women Engineers (dib e.V)

Freising, Munich, Germany
4th to 6th November 2016

Theme: Science. Knowledge. Power.
English and German Tracks provided.

Events will include:

- A recruiting event focused on women in STEM
- A networking event
- A gala

Accompanying meetings:

- INWES board meeting - 2nd to 3rd November
- INWES Regional Network Europe Constitutional meeting - 4th November

Conference Venue:

Freising Academy is an ideal conference location offering historical flavor and a managing to combine both a retreat

atmosphere and perfect accessibility. It is located less than 15 minutes away from Munich airport by car/bus and can be reached from Munich Central Station within 30 minutes.

More information on the venue : www.bildungszentrum-freising.de



The German Association of Women Engineers:

The event is hosted by the German Association of Women Engineers (dib e.V) - a not-for-profit association of and for women that work in STEM or study STEM. It was founded in 1986 to represent women in engineering and science and is dedicated to achieving equal opportunities for women in education and employment.

More information on www.dibev.de.



deutscher ingenieurinnenbund e.V.

THE CANADIAN COALITION OF WOMEN IN ENGINEERING, SCIENCE, TRADES AND TECHNOLOGY (CCWESTT) CONFERENCE

Ottawa, Canada
3rd to 6th May 2016

Save the Date!

On the 3rd to 6th May 2016 The Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) will hold its 16th biennial conference in Ottawa at the Shaw Centre.

Sustaining Growth for Innovation: bringing women to the forefront

This year's conference themes are inspired by the Canadian government's science and technology strategy, "Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation" and our engagement with the United Nations' new sustainable development goals, "Transforming Our World: the 2030 Agenda for Sustainable Development."

Conference Themes

1. Indigenous knowledge and science advancement
2. Mentoring and networking
3. Preparing women for innovation
4. Fostering innovation culture
5. Encouraging science, engineering, trades and technology to industry
6. Supporting global connections
7. Promoting open space and collaboration
8. Innovating in the workplace for inclusion of women
9. Innovating in the workplace for women's leadership



Now is Your Chance to Step Up

If you would like to contribute to the conference, please share your ideas with committee. You can propose to present a poster, give a workshop or training session, organize a panel discussion, hold a charrette or suggest another innovative format.

We're listening!

We would love to hear from emerging or established scientists, academics, managers, practitioners or employers/employees in the private sector; non-governmental organizations, government agencies, colleges, and universities.

Please contact us as soon as possible if you are interested in submitting a conference proposal as the deadline is fast approaching.

Apply online at:

www.brocku.ca/unesco-chair/ccwestt-2016-conference-conf-r

THE INTERNATIONAL CONFERENCE ON THE THEORY OF MACHINES AND MECHANISMS

Liberec, Czech Republic
6th to 8th September 2016

The XII. International Conference on the Theory of Machines and Mechanisms (TMM 2016) is organised under the auspices of the Czech National Committee IFToMM and the Czech Society for Mechanism. The conference, which has been held once every four

years since 1973, will take place at the Technical University of Liberec in the Czech Republic.

Papers classified by the scientific steering committee will be presented in parallel sessions relevant to the following topics:

- General theory of machines and mechanisms
- Analysis and synthesis of planar and spatial mechanisms
- Dynamics of machines and mechanisms
- Linkages and cams
- Computational mechanics
- Rotor dynamics
- Biomechanics
- Mechatronics
- Vibration and noise in machines
- Optimization of mechanisms and machines
- Control and monitoring systems of machines
- Accuracy and reliability of machines and mechanisms
- Robots and manipulators
- The mechanisms of textile machines

Fill in the online registration form and submit your paper at: www.tmm-conf.org/reg.asp.

The deadline for registration and submission of abstracts is 7th March 2016.

Each paper will be reviewed and accepted papers will be published in a book of Mechanisms and Machine Science (MMS) Series edited by Springer (indexed in Scopus).

For further information on the conference, visit www.tmm-conf.org or contact the secretary of TMM 2016 at tmm2016@tul.cz

Save the date for the 2016 INWES APNN Meeting!

The 2016 INWES Asian-Pacific Nations Network (APNN) meeting will take place on Thursday 18th August at the Institution of Professional Engineers New Zealand (IPENZ) National Office in Wellington, New Zealand, to be followed by a one day summit on Friday 19th August.

More details coming soon!

ABOUT INWES

I. Executive Officers:

President: Kong-Joo Lee (South Korea)
President elect: Liette Vasseur (AFFESTIM - Canada)
Treasurer: Joan Graf (USA)
Secretary General: Margaret Ajibode (WES - UK)
Vice President: Gail G. Mattson (AAAS - USA)
Vice President: Marlene Kanga (Engineers Australia - Australia)
Vice President: Roseni Dearden (UK)

II. Other Board Members:

Durdana Habib (WESTIP - Pakistan, Central Asia)
Rufina Dabo Sarr (AFSTech/Sénégal - Senegal, French Speaking Africa)
Claudia Bergbauer (DIB - Germany, Western Europe)
Caroline Thoruwa (AWSE - Kenya, English Speaking Africa)
Ewa Okon-Horodynska (Individual - Poland, Eastern Europe)
Seong Ok Han (KWSE - South Korea, Far East Asia)
Kayoko Sugahara (INWES Japan - Japan, Far East Asia)

Aude Abena (AFISC - Cameroon, French Speaking Africa)
Sangeeta Wij (WISE-India - India, South East Asia)
Chia-Li Wu (TWiST - Taiwan, Far East Asia)
Yvette Ramos (Swiss Engineering - Switzerland, Western Europe)

Honorary members:

Dormer Ellis (Canada)
Joanna Maduka (Nigeria)
Kathleen Harer (USA)
Mahin Rahmani (Iran)
Monique Frize (Canada)
Nicole Becarud (France)
Renata Siemiens (Poland)
Issié Yvonne Gueye (Ivory Coast)
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INWES MEMBER NEWSLETTER

Deadline for Issue No. 22: 1st April

Contact: Roseni Dearden, Communications & Newsletter Committee

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