



World Federation of Engineering Organizations  
Fédération Mondiale des Organisations d'Ingénieurs



# WFEO-CIC REPORT

**NAME OF STC**      **Information & Communication**

**CHAIR**      **S. S. Rathore**

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## INTRODUCTION

The WFEO Committee on Engineering for Information & Communication” (WFEO-CIC) is hosted by The Institutions of Engineers (India) for the present term of 4 years (2015-2019). The WFEO-CIC has set its objectives in the area of technological evolutions, in order to identify suitable technologies for sustainable development, especially in the context of the UN Sustainable Development Goals.

WFEO-CIC has the responsibility to push forward “ICT for Development” as its guiding line & help lead forward Information and Communication Technology (ICT) in order for it to be applied globally, and focuses on developing countries where narrowing the gap has become essential. Focus has been on

- ✓ Smart Cities
- ✓ Industry 4.0
- ✓ Water for all

## ACTIVITIES OF WFEO-CIC COMMITTEE

### Seminars / Conferences / Workshops

#### International Seminar outside Host Country

WFEO-CIC in association with The Institution of Engineers (India) & Institution of Engineers Malaysia organised and conducted an International Seminar on “Internet of Things” on 13<sup>th</sup> May 2017 at Swiss Garden Hotel, Kuala-Lumpur, Malaysia. Hon Deputy Minister, Ministry of Science, Technology and Innovation (MOSTI) Malaysia, YB Datuk Dr. Abu Bakar bin Mohamed Diah inaugurated the event. The event was well attended by President Elect-WFEO Dr. Marlene Kanga, Vice President WFEO Dr. Peter Greenwood, Dato' Ir Lee Yee Cheong, President IEM & IEI, Delegates of IEM, Chair CIC, other dignitaries from Malaysia, Australia, China, Singapore, India and other countries and a large numbers of students:



**Hon Deputy Minister, Ministry of Science, Technology and Innovation (MOSTI) Malaysia addressing the audience at International Seminar on “Internet of Things (IoT)” at Kuala-Lumpur, Malaysia**



**President Elect-WFEO(Dr. Marlene Kanga) , Vice President WFEO (Dr. Peter Greenwood), Delegates of IEM, President IEI, Chair CIC & other dignitaries at WFEO-CIC International Seminar in Kuala-Lumpur, Malaysia**



**Students at WFEO-CIC International Seminar**

- WFEO-CIC in association with The Institution of Engineers (India), Federation of Engineering Institutions of Asia and the Pacific (FEIAP) & Institution of Engineers Malaysia (IEM) organised an International Seminar on “Industry 4.0” on 12<sup>th</sup> July 2018 at Hotel Casuarina, Ipoh, Malaysia. Y. Bhg. Dato' Norlee Ashilin Mohd Radzi, Tourism Perak inaugurated the event. The event was well attended by WFEO President Dr. Marlene Kanga, President FEIAP, Vice President WFEO Mr. Martin Manuhwa, Dato' Ir. David Lai Kong Phooi, Dato' Ir Lee Yee Cheong, President IEM, President IEI, Chair CIC and delegates of FEIAP. WFEO President Dr. Marlene Kanga gave her presidential speech and WFEO Vice President Mr. Martin Manuhwa gave the concluding remarks.
- Around 323 delegates including delegates from Malaysia, 72 delegates from other FEIAP countries and more than 100 students from UTAR University Tuanku Abdul Rahman, Polytechnic Ungku Omar, Pro skills Academy, Equator College and University Teknologi Petronas attended. Students were not charged any fee and WFEO-CIC bore the entire cost.



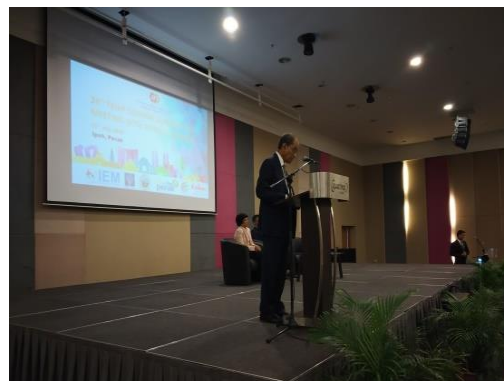
**Y. Bhg. Dato' Norlee Ashilin Mohd Radzi, Tourism Perak Malaysia addressing the audience at International Seminar on “Industry 4.0” at Ipoh, Malaysia**



**Dr. Marlene Kanga (WFEO President) addressing the audience**



**Vice President WFEO addressing the audience**



**President IEI addressing the audience**



**Ir. Dr Tan Chee Fai presented his talk on Industry 4.0: Opportunities and Challenges for Malaysia Small & Medium Industries**



**Dr. Keoh Sye Loong presented her presentation on Cyber Security and Its Importance In Industry 4.0**





**Question and Answer session after presentation of Ir. Assoc Prof Dr Leong Wai Yie on Big Data and Analytics for Industry 4.0**



**WFEO President delivered his talked on Smart cities for sustainable development**



**Summing up by Mr. Martin Manuhwa (Vice President WFEO)**



**Students at WFEO-CIC International Seminar at Ipoh, Malaysia**

- WFEO-CIC in association with The Institution of Engineers (India), Federation of Myanmar Engineering Society (MES) & Institution of Engineers Malaysia (IEM) organised an International Seminar on “Smart Cities” on 29<sup>th</sup> August 2019 at Fed MES building, Yangon, Myanmar.
- The event was attended by President IEI, President MES, Chair, WFEO-CIC and NM’s of WFEO, Past Presidents of IEI, office bearers of IEM & MES and delegates from Singapore, Thailand, China, India and Myanmar. WFEO President Dr. Marlene Kanga gave her address through video. The program was witnessed by National Members of WFEO Ms.Roumie Li and Mr.Ashok Basa. The event was well attended by around 130 delegates including delegates from Myanmar, Malaysia, China & Singapore and a large number of young / woman engineers & students. No delegates or students fees were charged.



**Dr.Marlene Kanga (WFEO President) addressing the audience through video**



**Vice President Myanmar Engineering Society addressing the audience at International Seminar on “Smart Cities” at Yangon, Myanmar**



**President IEI addressing the audience**



**Vice President WFEO addressing the audience and delivered his talk on "Smart cities – Present Scenario and Future Development"**



**Mr. Lee Leong Seng presented his talk on Smart cities: City Planning & Development**



**Mr. Saw Htwe Zaw presented his presentation on Smart City Challenges for Myanmar**



**Question and Answer session after presentation**



**Young/woman engineers & Students at WFEO-CIC International Seminar at Yangon, Myanmar**



## International Seminar within the Host Country

- WFEO-CIC in association with The Institution of Engineers (India), Gujarat State Centre organised and conducted an International Seminar on Information Technology for Smart Cities on 19<sup>th</sup> November, 2016 at Ahmedabad, Gujarat, India. It was well attended by delegates from India and other countries.



International Seminar on Information Technology for Smart Cities

- WFEO session held at the 31<sup>st</sup> Indian Engineering Congress on 17<sup>th</sup> December 2016 at Kolkata



- The 31<sup>st</sup> Indian Engineering Congress of IEI was held on 15-18<sup>th</sup> December 2016 at Kolkata wherein one session was allotted to WFEO-CIC. This year also, invitations were sent to a large number of dignitaries from member countries of WFEO and a large number of developing countries participated in the event. The "International Meet" organized during the Congress also helped propagate the role of WFEO-CIC in the participating countries. IEI was privileged to have the august presence of WFEO Immediate Past President Mr. Marvan Abdelhamid.

- WFEO-CIC sponsored a Technology Day Celebration with Contractor Association on 20<sup>th</sup> January 2017 at Karnavati Club, Ahmedabad, Gujarat



**Secretary (Public works) Mr. Vasava and Secretary (Water Resources) Mr. Jadav from Government of Gujarat at the WFEO/Technology Day Event**

- Indian Technology Congress 2017 was held on 10-11 August 2017 in Bengaluru, India. The session of WFEO –CIC was on "ICT to IoT". Chair of Chairs Mr. Yashin Brijmohan from South Africa attended this event.
- WFEO-CIC in association with The Institution of Engineers (India), Gujarat State Centre organised a seminar on "Recent Advances in Structural Engineering" on 02-03 September, 2017 at Ahmedabad, Gujarat India as a part of the National Convention of Civil Engineers



**Chair of Chairs Mr. Yashin Brijmohan addressing the audience at Indian Technology Congress-2017, Bengaluru**



**Chair, WFEO-CIC addressing the audience at National Convention of Civil Engineers – November 2017, Ahmedabad**



- An International Meet was held on 20<sup>th</sup> December 2017 at Chennai, India, wherein representatives of several countries including FEISCA countries attended. They were briefed on activities of WFEO-CIC.



**The International Meet in progress**



**The International Meet**

- A WFEO-CIC session was held during 32nd Indian Engineering Congress of IEI at Chennai, India in Dec-2017. President Dr. Marlene Kanga chaired the session. There were two lectures one on “Smart Cities” & one on “Digital Experience-use of ICT in Construction of the World’s tallest Statue, The Statue of Unity at Sardar Sarovar Dam, Gujarat, India”. The programme was well attended with an audience of more than 1,000



**President –WFEO (Dr.Marlene Kanga)  
addressing the audience**



**Chair WFEO-CIC delivering his address**

- AgRuTech2018 was held on 10-11th April 2018 in collaboration with Indian Technology Congress. The four components of the AgRuTech2018 were 1. Smart Village Hackathon – Karnataka, 2. Concurrent workshop on Digital Transformation of Indian Agro-Ecosystem for Equitable Rural Development, 3. ApiTech conclave and 4. Compendium of Smart Village Technologies. The WFEO-CIC session on Digitizing Villages: India’s Next-Gen Rural Livelihood was chaired by Mr. Ganesan Narayanasamy, OpenPOWER leader in educational research, IBM.



**Team of AgRuTech 2018**



**Mr. Ganesan Narayanasamy delivering his talk**

- WFEO-CIC along with Indian Technology Congress held an International Seminar on “Transforming the Enterprise for a Digital Age” at Bangalore on 5<sup>th</sup> Sept 2018 which was inaugurated by Hon’ble H.D.Kumaraswami, Chief Minister of Karnataka State.



**Hon'ble Chief Minister inaugurating the ITC-2018**

- A seminar was held at Indus University, Ahmedabad on 19<sup>th</sup> March 2019 in relation to World Water Day (22/03); "Leaving no one behind". This was jointly organized by WFEO-CIC, Indus University and Water Management Forum of the Institutions of Engineers, India and was attended by a large numbers of engineers and students



**Dignitaries at World Water Day**



**Audience at World Water Day**



**Audience at World Water Day**



- An International seminar was held by WFEO-CIC in association with Indian Technology Congress on “Futuristic Farmer-led Irrigation: Pressurized Pipe Network and Automation Technologies for Enhanced Water Use Efficiency” (an Indo-Israel initiative) at Bengaluru on 6-7 March 2019



**Speakers addressing the audience at Smart WaterTech 2019 at Bengaluru**

- An International Seminar on "Human Digitalization -Future Intelligence" was held along with Indian Technology Congress on 5-6 September 2019 at Bengaluru
- WFEO-CIC was a partner in hosting the National Convention of Civil Engineers and National Conference on “Restoration and Maintenance of Structures & Water Bodies for Sustainability” along with Gujarat State Center, Institution of Engineers at Ahmedabad on 1<sup>st</sup> and 2<sup>nd</sup> September 2019. The conference was well attended by engineers from construction industry, academicians, students, government officers, designers etc. Approximately 250 participants had attended this event



**Inaugural session of the event**



**Chair WFEO-CIC delivering his address**



**Participants**



**Group photo of the dignitaries at the end of event**



- There was a dedicated session of WFEO-CIC held during Indian Technology Congress-2019 Bengaluru, India in September-2019 on “Emerging Digital Technologies”. The programme was well attended with an audience of more than 1,000



**Dignitaries in ITC-2019**



**Audience present in ITC-2019**



**Speaker delivering his talk**

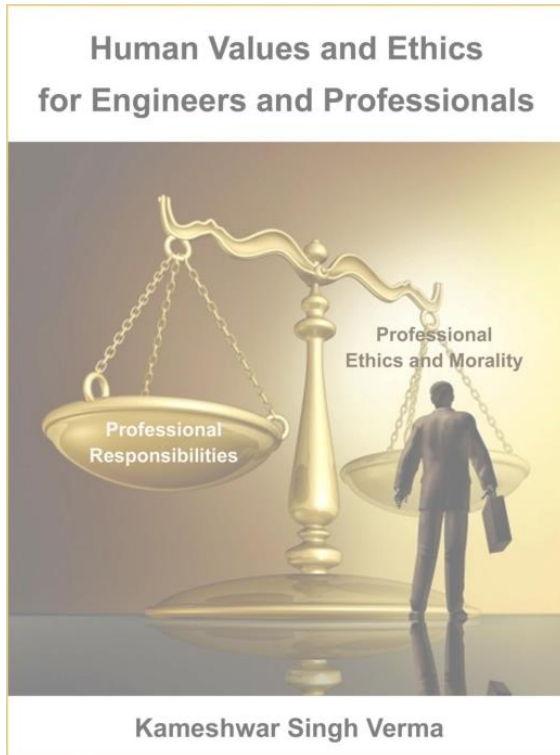


**Summing up by Padma Shri Prof RM Vasagam**

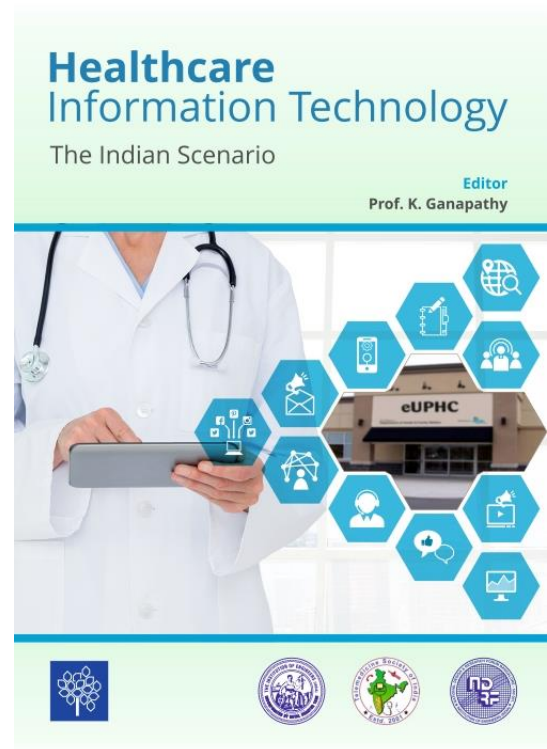
## Publications

### Monographs

- WFEO-CIC along with NDRF, an organ of IEI has published the following monographs.



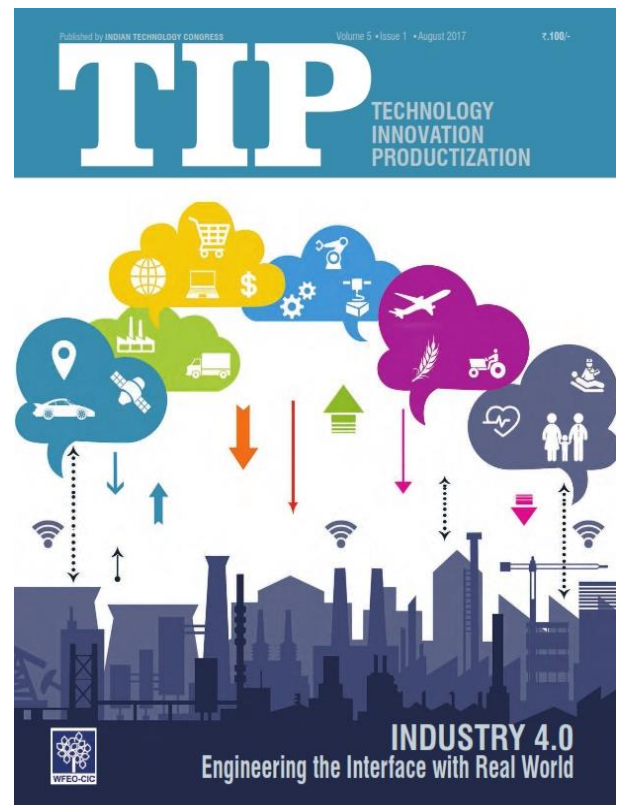
**Monograph on Human values and Ethics for Engineers and Professionals**



**Monograph on Healthcare Information Technology**



**Cover page of Publication**



**WFEO-CIC along with the Indian Technology Congress has brought out a publication on "Technology Innovation Productization"**



## E-Newsletters

- WFEO-CIC has regularly been issuing newsletters.

**WFEO-CIC e-Newsletter**  
Issue 1, September 2016

**Activities**

- After a Review meeting with Mr. Ke Gong, the outgoing Chair of WFEO-CIC and Vice President WFEO, which was held during the WFEO General Assembly at Kyoto, action plan has been finalised.
- Preliminary discussions have been initiated with ICT industries to solicit their co-operation and sponsorship, etc along with their views on topics and activities to be taken up by the WFEO-CIC.
- The World Bank and the Asian Development Bank (ADB) have been approached with a request to play an active role as well as their participation in activities of the WFEO-CIC. Positive response has been received from World Bank. Response from ADB awaited.
- Interaction has been done with ECSA and the IEM to explore possibilities for holding International Seminar / World Congress in South Africa and Malaysia, respectively. As a result an International Seminar has been planned with IEM in Kuala-Lumpur in first fortnight of May 2017.
- The Chair, WFEO-CIC has participated in World Future Energy Forum 2016 (WFEF 2016) in July 2016, where he made a presentation on "Canal top solar power plant: an innovative initiative". The visit was also utilized for discussion with other STCs.

**Forthcoming Programme / Events of WFEO-CIC**

The CIC strategic Plan had focused on Seminars / Conferences and Monographs. Substantial progress has been achieved in finalising topics, venue, authors, etc. as summarized further here.

**MONOGRAPHS OF WFEO-CIC**

Monograph Title and Author's Details	Publication Target Date
<b>Cyber Security and IOT</b> Dr. S. Raj Pandian : Dean (Planning), Department of Electronics Engineering, Indian Institute of Information Technology Design and Manufacturing (IIITDM), Kancheepuram	March 2017
<b>ICT for Healthcare in India</b> Dr. K. Ganapathy : President, Apollo Telemedicine Networking Foundation and Director, Apollo Tele Health Services	April 2017
<b>ICT in Smart Cities : Relevance to Developing Countries</b> Dr. Madalasa Venkatarman : Lead Researcher, Real Estate Research Initiative IIM-CRERI and Adjunct Faculty, IIM-IIM-Rohatak	May 2017
<b>ICT in Micro Farming (Tentative)</b> Dr. Pradeep K. Srivastav : Chief Technical Officer, Karnataka State Remote Sensing Applications Centre and Outstanding Scientist, ISRO (Retd.)	June 2017

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**e-Newsletter**  
Issue - 3, September 2017

World Federation of Engineering Organizations  
Committee of Information and Communication  
**e-Newsletter**  
Issue - 2, March 2017

**Activities**

- International Seminar has been planned with IEM in Kuala-Lumpur on 13th May 2017 at Swiss Garden Hotel.
- A delegation of IIEI attended ASCE convention at Portland, USA in October 2016.
- WFEO-CIC in association with The Institution of Engineers (India), Gujarat State Centre organised and conducted an International Seminar on Information Technology for Smart Cities on 19th November, 2016 at Ahmedabad, Gujarat, India. It was well attended by delegates from India and other countries.
- WFEO-CIC sponsored a Technology Day Celebration with Contractor Association on 20<sup>th</sup> January 2017 at Karnavati Club, Ahmedabad, Gujarat.
- A delegation of IIEI attended the IC meeting at Lima, Peru in December 2016. The Face-to-Face Meeting of the WFEO Standing Committee on Information and Communication (WFEO-CIC) was held at Lima, Peru during the Executive Council Meetings wherein members discussed activities undertaken and the future plans including measurable outcomes.
- The 31st Indian Engineering Congress of IIEI was held on 15-18th December 2016 at Kolkata wherein one session was allotted to WFEO-CIC. This year also, invitations were sent to a large number of dignitaries from member countries of WFEO and a large number of developing countries participated in the event. The "International Meet" organized during the Congress also helped propagate the role of WFEO-CIC in the participating countries. IIEI was privileged to have the august presence of WFEO Immediate Past President Mr. Marvan Abdelhamid.

**Highlights**

International Seminar on Information Technology for Smart Cities

Chair delivering his address at International Seminar for Smart Cities

Gujarat Contractors Association's Technology Day at Karnavati Club, Ahmedabad

Secretary (Public works) Mr. Vasava and Secretary (Water Resources) Mr. Jadhav from Government of Gujarat at the WFEO Technology Day Event

Visit: [http://www.wfeo.org/stc\\_information-and-communication](http://www.wfeo.org/stc_information-and-communication) | Page 1

World Federation of Engineering Organizations  
Committee of Information and Communication  
**e-Newsletter**  
Issue - 4, September 2018

## Activities

- WFEO-CIC in association with The Institution of Engineers (India) & Institution of Engineers Malaysia organised and conducted an International Seminar on "Internet of Things" on 13<sup>th</sup> May 2017 at Swiss Garden Hotel, Kuala-Lumpur, Malaysia. Hon Deputy Minister, Ministry of Science, Technology and Innovation (MOSTI) Malaysia, YB Datuk Dr. Abu Bakar bin Mohamed Diah inaugurated the event. The event was well attended by President IIEI-WFEO Dr. Marlene Kanga, Vice President WFEO Dr. Peter Greenwood, Dato' Ir Lee Yee Cheong, President IFM & IITJ, Delegates of IFM, Chair CIC, other dignitaries from Malaysia, Australia, China, Singapore, India and other countries and a large numbers of students.



Hon Deputy Minister, Ministry of Science, Technology and Innovation (MOSTI) Malaysia addressing the audience at International Seminar on "Internet of Things (IoT)" at Kuala-Lumpur, Malaysia



President IIEI-WFEO (Dr. Marlene Kanga), Vice President WFEO (Dr. Peter Greenwood), Delegates of IFM, President IIEI, Chair CIC & other dignitaries at WFEO-CIC International Seminar in Kuala-Lumpur, Malaysia



Students at WFEO-CIC International Seminar

- After focus on Asia, CIC's next geographical focus is the African continent. WFEO-CIC further firmed up plans to hold an international seminar in the African Continent (South Africa) in September 2018. Other International Seminar is lined up during the Indian Engineering Congress at Chennai in December 2017.

Visit: [http://www.wfeo.org/stc\\_information-and-communication](http://www.wfeo.org/stc_information-and-communication) | Page 1

- WFEO CIC in association with The Institution of Engineers (India), Federation of Engineering Institutions of Asia and the Pacific (FEIAP) & Institution of Engineers Malaysia (IEM) organised an International Seminar on "Industry 4.0" on 12<sup>th</sup> July 2018 at Hotel Casuarina, Ipoh, Malaysia. Y. Bhg. Dato' Norlee Ashulin Mohd Radzi, Tourism Perak Malaysia inaugurated the event. The event was well attended by WFEO President Dr. Marlene Kanga, President FEIAP, Vice President WFEO Mr. Martin Manuhwa, Dato' Ir David Lai Kung Phooi, Dato' Ir Lee Yee Cheong, President IEM, President IIEI, Chair CIC and delegates of FEIAP. WFEO President Dr. Marlene Kanga gave her presidential speech and WFEO Vice President Mr. Martin Manuhwa gave the concluding remarks.
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Y. Bhg. Dato' Norlee Ashulin Mohd Radzi, Tourism Perak Malaysia addressing the audience at International Seminar on "Industry 4.0" at Ipoh, Malaysia



Dr. Marlene Kanga (WFEO President) addressing the audience



Vice President WFEO addressing the audience



President IIEI addressing the audience



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Dr. Keoh Sze Loong presented her presentation on Cyber Security and Its Importance In Industry 4.0

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**Seminars:** A seminar was held at Indus University, Ahmedabad on 19/3/2019 in relation to World Water Day (22/03); "Leaving no one behind". This was jointly organized by WFEO-CIC, Indus University and Water Management Forum of the Institutions of Engineers, India and was attended by a large numbers of engineers and students.



Dignitaries at World Water Day



Audience at World Water Day



Audience at World Water Day

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Speakers addressing the audience at Smart WaterTech 2019 at Bengaluru



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#### Seminars:

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- The event was attended by President IEI, President MES, Chair, WFEO-CIC and NM's of WFEO, Past Presidents of IEI, office bearers of IEM & MES and delegates from Singapore, Thailand, China, India and Myanmar. WFEO President Dr. Marlene Kanga gave her address through video. The program was witnessed by National Members of WFEO Ms. Roumie Li and Mr. Ashok Basa.
- The event was well attended by around 130 delegates including delegates from Myanmar, Malaysia, China & Singapore and a large number of young / woman engineers & students. No delegates or students fees were charged.



Dr. Marlene Kanga (WFEO President) addressing the audience through video



Vice President Myanmar Engineering Society addressing the audience at International Seminar on "Smart Cities" at Yangon, Myanmar



President IEI addressing the audience



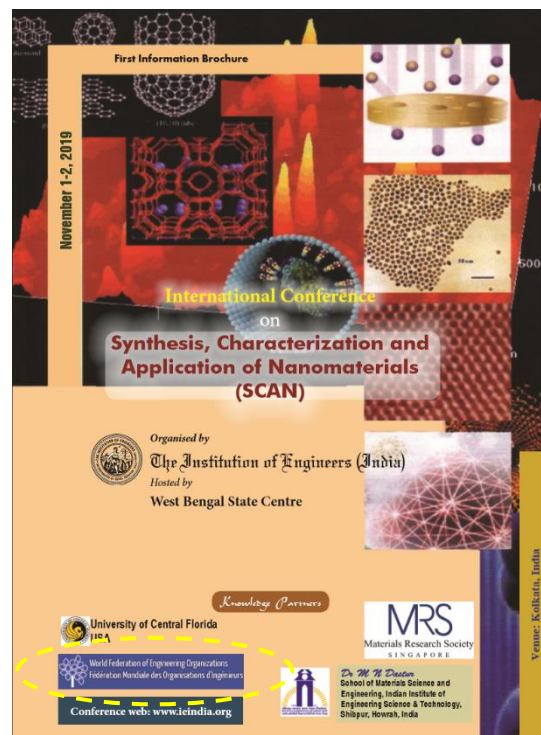
Vice President WFEO addressing the audience and delivered his talk on "Smart cities - Present Scenario and Future Development"

- WFEO-CIC has forwarded Euro 1500 to HQ as contribution from the surplus of the seminar

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## Knowledge partner

- WFEO-CIC is a knowledge partner for the International Conference on "Synthesis Characterization and Application of Nanomaterial's (SCAN)" organized by The Institution of Engineer (India) to be held in 1-2 November, 2019



**Knowledge partner for International Conference on "Synthesis Characterization and Application of Nanomaterial's (SCAN)"**

## Interaction with WFEO National/International/ Affiliated Members

- The Chair, WFEO-CIC has participated in World Future Energy Forum 2016 (WFEF 2016) in July 2016, where he made a presentation on “Canal top solar power plant: an innovative initiative”. The visit was also utilized for discussion with other STC’s



WFEF 2016 at Beijing (China)

- On behalf of President WFEO, the Chair WFEO-CIC has participated in World Robotic Conference 2017 (WRC 2017) in August 2017 sets its theme as “Win-Win Collaborative Innovation Toward the Building of an Intelligent Society”. A meeting was held between CEIT & CIC and various topics & possible collaborations were discussed



Chinese Vice-Premier with World Delegates at the World Robotic Conference, 2017 at Beijing, China

### Meetings

- Meeting of EC & EB of WFEO have been regularly attended by IEI delegation included Chair WFEO-CIC.
- During these, the face to face meetings of the members of WFEO-CIC were held and interaction with other STC's was ensured. Presentation of work done was made to STC group and to EC / EB.
- IEI also regularly attended technical and other organization in close contact with WFEO like IEA, ASCE etc.

### PLANNED ACTIVITIES

#### Publication of Monographs

- The following two monographs are almost ready and expected to be finalised in the last quarter of 2019
  1. Agriculture 4.0 : Knowledge Driven Developments in Future Farming
  2. Student-Built Satellite Missions : World Landscape

Another two monographs are under preparation.

1. Re-inventing Engineering Education in a Digital World
2. The Future of IoT in Growth Economies

### CONTRIBUTION TO WFEO FROM PROCEEDS OF INTERNATIONAL SEMINARS

WFEO-CIC has forwarded € 4500 from surplus of International Seminars to the HQ.