



ICSEWEN19

المؤتمر العالمي لعلاقة الترابط
بين الطاقة والمياه والبيئة المستدامة
في المناخات الصحراوية ٢٠١٩

INTERNATIONAL CONFERENCE ON
SUSTAINABLE ENERGY-WATER-ENVIRONMENT
NEXUS IN DESERT CLIMATE 2019

Agenda

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Dear Participants,

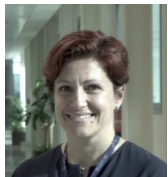
As the Chair of the inaugural flagship conference of the Qatar Environment & Energy Research Institute (QEERI), it is my pleasure and honor to welcome you to the first edition of the International Conference on Sustainable Energy Water and Environment Nexus in Desert Climates (ICSEWEN19) to be held on December 2-5, 2019 in Doha, Qatar.

In December 2015, the United Nations issued the 2030 Agenda for Sustainable Development (<https://sustainabledevelopment.un.org>) which announced 17 Sustainable Development Goals (SDGs) and 169 targets. It is aimed to be “a plan of action for people, planet and prosperity.” The intent of this large-scale ambitious global project is “to take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path”. This Agenda can only be achieved if the different sustainable goals are pursued in an integrated manner, and the world has just one generation to accomplish a full transformation in the Energy sector, Water use and Environmental transformation.

There is no single unique exhaustive solution, no single unique technology, and no single unique approach. Solutions must be tailored to the needs and resources of individual societies. And we absolutely have to put our ideas and technologies together to build tangible solutions, and to make an actual difference. And to this end, I am truly excited to be part of a conference which brings together experts from around the world, to share knowledge, and to exchange a wide variety of ideas, technologies, science and solutions.

But beyond all the sessions, discussions and activities, I want to express our heartfelt gratitude to you, our participants, for enriching this conference with your presence. I hope you will enjoy the content across the various sessions while also renewing old friendships, making new connections, getting new ideas, and above all, having a good time. Of course, do not forget to enjoy our warm Qatari hospitality, by participating in the exciting set of social programs we have organized.

Best Regards,



Dr. Veronica Bermudez
Chairperson
International Conference in Sustainable Energy-Water-Environment Nexus in Desert Climate
Qatar Environment & Energy Research Institute

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2 December 2019, Monday

Pre-Event Activities

<p><u>09:00 – 12:00</u> Environmental & Public Health During Mega Sporting Events</p>	<p><u>09:00 – 15:00</u> Corrosion in Oil and Gas a Way to Sustainability</p>	<p><u>09:00 – 11:00</u> Qatar & Research Opportunities</p>
<p>Lunch</p>		
<p><u>13:15 – 15:30</u> Unlocking the Potential of Women for Sustainable Development</p>	<p>Corrosion in Oil and Gas a Way to Sustainability (cont.)</p>	<p><u>13:00 – 18:00</u> PV in Desert Environment</p>
<p>Coffee Break</p>		
<p><u>16:00 – 19:00</u> Young Innovator Competition - Finals</p>		<p>PV in Desert Environment (cont.)</p>
<p>Please take a look at the detailed agenda. Starting and ending time may differ from one workshop to the other.</p>		

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09:00	12:00	<p style="text-align: center;"><u>2 December 2019, Monday</u> <u>Qatar National Convention Centre – Meeting Room 106</u> Environmental & Public Health during Mega Sporting Events Chairs: Mohammed Ayoub (QEERI) & Dr Fu Lu (Clean Air Asia)</p>
		<p style="text-align: center;">Keynotes: Prof. Tong Zhu & Prof. Kebin He (Peking University & Tsinghua University, China) Presentations and round-table discussion on the Beijing Olympics experience and it's parallels to 2022 FIFA World Cup Qatar</p>
13:15	15:30	<p style="text-align: center;"><u>2 December 2019, Monday</u> <u>Qatar National Convention Centre – Meeting Room 103</u> Unlocking the Potential of Women for Sustainable Development</p>
		<p style="text-align: center;">Panel Discussion Moderator: Dr. Veronica Bermudez (QEERI)</p> <p>Panelists:</p> <ul style="list-style-type: none"> • Machaille Al-Naimi , President of Community Development, Qatar Foundation • Aisha Al Maadeed, Founder - Greener Future • Dr. Dhabia Al Mohannadi, Assistant Professor at Texas A&M University at Qatar

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		2 December 2019, Monday Qatar National Convention Centre - Auditorium Corrosion in Oil and Gas: A Way to Sustainability
09:00	15:00	
9:00	9:05	Welcome Notes: Dr. Hanan Farhat, Senior Research Director, Corrosion Center, QEERI
9:05	9:15	Opening Comments: Dr. Richard O' Kennedy, Vice President of Research, Development and Innovation, Qatar Foundation
9:15	9:45	"The Use of Corrosion Resistant Alloys to Mitigate Corrosion in the Oil and Gas Industry" Dr. Roy Johnsen, Norwegian University Of Science And Technology – NTNU, Norway
9:45	10:15	"Corrosion Management Processes -Supporting Sustainability by Protecting Asset Integrity" Bruce Cowe, Total, France
10:15	10:30	Coffee Break
10:30	11:00	"A Holistic Approach to Prevent, Predict, and Mitigate Corrosion under Insulation" Dr. Kod Pojtanabuntoeng, University Of Curtin, Australia
11:00	11:30	"Understanding The Hydrogen Embrittlement: A Key Enabling Knowledge For The Hydrogen Economy" Dr. Afrooz Barnoush, Norwegian University Of Science And Technology – NTNU, Norway
11:30	12:00	"Latest Understanding of Stress Corrosion Cracking in Oil and Gas Industry and its Mitigation Strategies" Dr. Weixing Chen, University Of Alberta, Canada
12:00	13:00	Lunch
13:00	13:30	"Corrosion Evaluation of Alloys Tested at a Seawater Site" Dr. Richard Griffin, Texas A & M University, USA
13:30	14:00	"Technical Study of Scale Formation in the Flow Lines of Some Oil Wells at Mabruk Field" Engineer Ali Sbaei, Mabruk Oil Operations, Libya
14:00	14:55	Panel Discussion Moderator: Dr. Hanan Farhat, QEERI
14:55	15:00	Closing Remarks

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		<u>2 December 2019, Monday</u> <u>Qatar National Convention Centre – Meeting Room 104</u>
09:00	11:00	Research Outcome Seminars – Qatar National Research Fund (QNRF)
9:00	9:05	Welcome Address: Dr. Abdul Sattar Al Taie, Executive Director, QNRF
9:05	9:15	Introduction: Dr. Omar F. Boukhris, QNRF
9:15	9:40	NPRP 7 - 344 - 2 – 146 "Developing Green Building Guidelines for Occupant Productivity, Wellbeing and Behavioural Change: A BIM based Design Planning Approach" Dr. Yousef Alhorr, Gulf Organization for Research & Development
9:40	10:05	NPRP 4 - 188 - 2 – 061 "Innovative Use of Recycled Materials in Construction" Dr. Eng. Mohammed bin Saif Al-Kuwari, Ministry of Municipality & Environment
10:05	10:20	NPRP 5 - 715 - 1 – 122 "ENERGY CITY"" - Fostering Scientific Curiosity through Strengthening Teachers' and Students' Understandings of Energy and Inquiry" Prof. Ilham Al-Qaradawi, Qatar University
10:20	10:45	NPRP 4 - 935 - 2 – 354 "An Assessment of Present and Future Environmental Impacts of Major Desalination Plants in Qatar Under Changing Climate" Professor Hazim Qiblawey, Qatar University
10:45	11:00	Concluding Remarks

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		<u>2 December 2019, Monday</u> <u>Qatar National Convention Centre – Meeting Room 105</u> PV in Desert Environment (Sponsored by Nebras Power)
13:00	18:00	
13:00	13:10	Welcome Notes: Dr. Veronica Bermudez, Chairperson, IC-SEWEN'19; Senior Research Director, Energy Center, QEERI
13:10	13:20	"Challenges in development of PV modules for harsh environments" Dr. Pierre Verlinden, Amrock Consulting, former VP Trina Solar
13:20	13:30	"Return on Experiment Installation in Deserts" - Jack Michalowski, Nebras Power
13:30	13:40	"Anti-Reflecting and Anti-Soiling Coatings in the Desert Environment" - Vivek Chaturvedi, DSM
13:40	13:50	"Addressing Challenges To Operate PV Installations in Desert Conditions" - Dr. Martin Sander, Total
13:50	14:40	Panel Discussion: Challenges to be solved to increase the volume of installation and ROI of PV Plants in Deserts Targeting Lower LCOE Moderated by: Cedric Broussillou, QEERI
14:40	15:10	"Bifacial Horizontal Single Axis Tracking (HSAT) Desert Crystalline Silicon (c-Si) PV Technology for Lowest LCOEs reaching 1USct/kWh" - Dr. Radovan Kopecek, ISC Konstanz
15:10	15:40	Trackers Adapted in the Desert Environment" - Eduardo De San Nicolas, Soltec
15:40	16:00	Coffee
16:00	16:20	"Bifacial Technology at Hanwha Q CELLS" - Evelyn Herzog, Hanhwa Qcells
16:20	16:40	"The Evolution of PV Standards from the IEC" - Dr. Tony Sample, IEC TC82 Representative
16:40	17:00	"PVCAMPER Global Network of PV Field Testing" - Dr. Laurie Burham, Sandia Labs
17:00	17:20	"Status of Mitigation Strategies against Soiling of PV Modules in Desert Climates" Dr. Christian Hagendorf, Fraunhofer CSP
17:20	17:40	"PV System Reliability: Outdoor Test Facility and Requirements for Long Lasting Modules" Dr. Cedric Broussillou, QEERI
17:40	18:00	Closing remarks

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16:00	19:00	<p align="center"><u>2 December 2019, Monday</u> <u>Qatar National Convention Centre – Auditorium</u> Young Innovator Award – Finals Organized in coordination with Ministry of Education, Qatar & Kahramaa- Tarsheed</p>
<p align="center">Over 300 teams from across various schools in Qatar submitted videos of up to 5 minutes showcasing how they will tackle the challenge pertaining to the UN Sustainable Development Goals related to the EWE Nexus. Of the entries, five finalists have been selected in each category for a live showcase.</p>		
16:00	16:05	Opening Remarks
16:05	17:00	Finals: Junior Category. 6-9 years old
17:00	18:00	Finals: Intermediate Category. 10-13 years old
18:00	19:00	Finals: Senior Category. 14-17 years old
9:00	18:00	<p align="center"><u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Area</u> Student Competition – Oral Presentations</p>
09:00	13:00	Water Track
14:00	16:00	Energy Track
16:00	17:15	Environment Track
17:15	18:30	FWE Track
17:00	18:00	<p align="center"><u>3 & 4 December 2019, Tuesday & Wednesday</u> <u>Qatar National Convention Centre – Exhibition Area</u> Student Competition – Poster Presentations</p>

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<p style="text-align: center;"><u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Auditorium</u> Opening Day</p>		
08:00	08:30	Opening of the Exhibition
8.30	11.00	MC : Abeer Al Dosari, QEERI
		HE Eissa Al Kuwari, President, Kahramaa & Vice Chairperson, Hamad Bin Khalifa University
		Dr. Ahmad Hasnah, President, Hamad Bin Khalifa University
		Dr. Veronica Bermudez, Conference Chair, Senior Research Director, QEERI
		Keynote Address: "Global Energy Transition" Mr. Luca Sutera, Chief Financial Officer, Nebras Power
		Keynote Address: TOPIC Mr. Alistair Routledge, President & General Manager, ExxonMobil Qatar
11:00	11:30	COFFEE BREAK
11:30	12:30	<p style="text-align: center;">Panel Discussion: "Opportunities & Challenges within EWE Nexus in Qatar" Moderated by: Dr. Richard O' Kennedy, VP for Research, Development & Innovation at Qatar Foundation and VP for Research at Hamad Bin Khalifa University</p> <p>Panelists:</p> <ul style="list-style-type: none"> • Mr. Fahad Bin Hamad Al-Mohannadi, Managing Director & General Manager, Qatar Electricity & Water Co. (QEWC) • Dr. Abdulsattar Al Taie, Executive Director, Qatar National Research Fund • Mr. Amit Singh, Managing Director, Schlumberger

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<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Auditorium</u> Opening Day		
12:30	13:00	"Industry 4.0 and Energy-Water-Environment (EWE) Nexus" Prof. Mariam AlAli AlMaadeed, Vice President for Research and Graduate Studies, Qatar University
13:00	14:00	Lunch Break
14:00	14:30	"Transforming Qatar into a Sustainable Hub: World Cup and Sustainability" - Supreme Committee for Delivery and Legacy
14:30	15:00	Social Impact of Sustainable Development Eng. Meshaal Al Shamari, Vice Chair of MENA Regional Network, World Green Building Council Director of Qatar Green Building Council
15:00	15:30	"QEERI - Qatar's National Institute for Research, Development & Innovation in the EWE Nexus" Dr. Marc Vermeersch, Executive Director, QEERI
15:30	17:00	Coffee + Exhibition & Networking
17:00	18:00	Poster Competition
18:00	21:00	Welcome Dinner and Reception Sponsored and hosted by Sheikh Faisal Foundation

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4 December 2019, Wednesday

Developing Sustainable Cities

8:00 – 9:30

Plenary Session: SDG Implementation Strategies for the Arid Region: Research, Technology and Policy

9:30 – 10:00 Coffee Break

WATER	ENERGY	ENVIRONMENT	FOOD SECURITY & EWE NEXUS
<p><u>10:00 – 13:00</u></p> <p>Water Resources Management and Desalination in Arid Regions</p>	<p><u>10:00 – 13:00</u></p> <p>Opportunities in Decentralized Energy</p>	<p><u>10:00 – 13:00</u></p> <p>Environmental Challenges in a Changing Climate</p>	<p><u>10:00 – 13:00</u></p> <p>Food Security & EWE Nexus</p>
<u>13:00 – 14:30</u> Lunch and Exhibition			
<p><u>14:30 – 17:00</u></p> <p>Water Scarcity: Challenges & Opportunities</p>	<p><u>14:30 – 17:00</u></p> <p>Energy Efficiency in Building Environment</p>	<p><u>14:30 – 17:00</u></p> <p>2°C: Beyond the Limit - Climate Change and Adaptation in Desert Climates</p>	<p><u>14:30 – 17:00</u></p> <p>Food Security & EWE Nexus (Cont'd)</p>
17:00 – 18:30 Poster Competition // Exhibition // Social Activities			

Exhibition & Posters

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8:00	9:30	<p style="text-align: center;"><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Auditorium</u> Plenary Session: Developing Sustainable Cities SDG Implementation Strategies for the Arid Region: Research, Technology and Policy</p>
		<p style="text-align: center;">Keynote Address: Green Growth to achieve the Paris Agreement and the SDGs Dr. Frank Rijsberman, Director General, GGGI</p>
		<p style="text-align: center;">Panel Discussion: Sustainable EWE Development in Desert Climates Moderator Mohammed Ayoub (QEERI)</p> <ul style="list-style-type: none"> • Dr. Pranab Baruah (Global Green Growth Institute), • Dr. Veronica Bermudez (Qatar Environment and Energy Research Institute), • Dr. Roberto Bertolini (Qatar Ministry of Public Health), • Dr. Saad Jasim (International Ozone Association), • Dr. Damilola Olawuyi (HBKU College of Law), <ul style="list-style-type: none"> • Mr. Bjarne Pederson (Clean Air Asia)
9:30	10:00	<p style="text-align: center;">Coffee Break</p>

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		<p><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 103</u> <u>WATER TRACK</u> Water Resources Management and Desalination in Arid Regions Chairs: Dr. Jenny Lawler (QEERI), Dr. Basem Shomar (QEERI)</p>
10:00	13:00	
10:00	10:45	Keynote Address: Risk Assessment and Water Management, with a Focus in Desert/Arid Environments Dr. Vincent Tidwell - Sandia Laboratories, USA
		Technical Presentations
10:45	11:00	"Advanced Oxidation Processes to overcome Challenges to Safe Water Supplies" Dr. Saad Jassim, Canada
11:00	11:15	"Umm Al-Houl Case Study: Improving Energy Efficiency in Seawater Reverse Osmosis (SWRO) desalination plant in State of Qatar" Guillermo Hijos, Spain
11:15	11:30	"Experimental Study of Solar Water Desalination Using Evaporative Cooling" Dr. Khaled Asfar, Jordan
11:30	11:45	"Wells Location Techniques for the Storage, Transfer and Recovery of Desalinated Water in Oman" Dr. Chefi Triki, Qatar
11:45	12:00	"Wastewaters treatment and algal biomass production by using Innovative Multitrophic Airlift Raceway Reactor (MA2R) without O₂ supply and CO₂ Release" Dr. Moktar Hamdi, Tunisia
12:00	12:15	"History of Desalination Technology in Libya (1960-2018)" Bashir Brika, Libya
12:15	12:30	"Osmotic Concentration for Reducing Wastewater Volumes from Gas Processing Facilities in Qatar" Joel Minier-matar, Qatar
12:30	12:45	"Supercritical Water & Hydrothermal Technologies: Simultaneous Wastewater Treatment & Energy Production" Dr. Omid Tavakoli, Iran
12:45	13:00	"Innovation in Decentralized Wastewater Management in Jordan in adaption with Climate Change" Dr. Noama Shareef, Jordan
13:00	14:30	LUNCH

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		<p><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 103</u> <u>WATER TRACK</u> Water Scarcity: Challenges & Opportunities Chairs: Dr. Husam Baalousha (QEERI), Dr. Tareq Al Ansari (HBKU)</p>
14:30	17:00	
14:30	15:00	<p>Invited Speaker: Water Scarcity: Challenges and Opportunities Prof. Gordon McKay (HBKU, Qatar)</p>
		Technical Presentations
15:00	15:15	<p>“Pioneering Global Leaders for Tackling Global Water land water crises” Dr. Mokhtar Guizani, Japan</p>
15:15	15:30	<p>“Drought Management Policies and Institutional Mandate in Jordan” Dr. Tala Qtaishat, Jordan</p>
15:30	15:45	<p>“Instruments for Efficient Management of Water Scarcity - AHP for the Selection of Investments in Italian Water Service” Dr. Maria Macchiaroli, Italy</p>
15:45	16:00	<p>"Water Footprint Assessment of the Tichi-Haf Dam Waters (Soummam Valley, Bejaia, Algeria) according to ISO 14044 and ISO 14046 under the 6 and 12 UN-SDGs" Hafed Mansouri, Algeria</p>
16:00	16:15	<p>"IoT Based SMART Irrigation System (Desert Areas)" Mohamed Nadhir Abid, Algeria</p>
16:15	16:30	<p>"Historical Water Systems in the Arab Tradition: Al-Andalus, Oman and New Mexico: A documentary Film" Shobuz Iqbal, USA</p>
16:30	16:45	<p>"Scenarios of Evolution of Water Consumption and Groundwater Management in the Gabes Jeffara – Tunisia" Jean-Francois Vernoux, France</p>
16:45	17:00	<p>"Water from Solar Membrane Distillation and Atmosphere Water Harvest for Food Security and Sustainability in Qatar" Dr. Zhengdong Cheng, Qatar</p>
17:00	18:30	Poster Competition // Exhibition & Social Activities

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		<u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 104</u> ENERGY TRACK Opportunities in Decentralized Energy Dr. Cedric Broussillou (QEERI)
10:00	13:00	
10:05	10:50	Keynote Speech: "From Resource Assessment To Climate Projections: the Key Role Of Meteorology In Planning And Operations Of Solar Power" Dr. Alberto Troccoli (World Energy and Meteorology Council)
10:50	11:25	Invited Speech: "Digital technologies enabling DER integration" Dr. Santiago Banales (Iberdrola Innovation Middle East, Qatar)
		Technical Presentations
11:30	11:48	"Sustainable Energy Solutions Design Customization to achieve Eco Friendly Qatar Power Transmission System" Irshad Hussain, Qatar
12:06	12:24	"Simulation and performance analysis of 1.86 KWp grid – connected PV system installed on institutional building in Mohammedia, Morocco" Abderrazzak El Amim, Morocco
12:24	12:42	"Use of Marine Renewable Energy in Ports of Middle East: A Step Towards Sustainable Ports" Dilba Rayaru Kandiyil, Qatar
12:42	13:00	"Using of the fiber optics in Transformation of solar energy in the 21st century" Mohannad Salhab, Qatar
13:00	14:30	LUNCH

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		<p><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 104</u> <u>ENERGY TRACK</u> Sustainability for Buildings and Cities Chairs: Dr. Abdulkarem Amhamed (QEERI), Dr. Adel Gastli (Qatar University)</p>
14:30	17:00	
14:35	15:10	<p>Invited Speech: Re-Engineering energy Sustainability for Buildings and Cities Prof. Jorge Gonzalez (NOAA Crest, City College of New York, USA)</p>
		<p>Technical Presentations</p>
15:15	15:35	<p>"Local Renewable Energy Generation and Storage for Resilient Neighborhoods" Stephen Blows, Qatar Green Building Council</p>
15:35	15:55	<p>"Innovative solar-absorbing façade for hot and warm climate applications" Dr. Tin Tai Chow, Hong Kong</p>
15:55	16:15	<p>"Effect do The U_Shape Exterior Walls on Energy Consumption of Buildings. Case Study in Four Orientations for a Building in Morocco." Imane Srhayri, Morocco</p>
16:15	16:35	<p>"Towards Sustainable Buildings in Qatar: Passivhaus Design Integrated with PV and Solar Cooling", Dr. Abdelhakim Hassabou, QEERI, Qatar</p>
16:35	16:55	<p>"Development of a PV-Driven Solar Cooling Pilot Plant for Desert Climate", Bernd Heithorst, Germany</p>
17:00	18:30	<p>Exhibition and Social Activities</p>

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		<u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 105</u> ENVIRONMENT TRACK Environmental Challenges in a Changing Climate Chairs: Mohammed Ayoub (QEERI)
10:00	13:00	
10:05	10:50	Keynote: TBD Dr. David Saah (University of San Francisco)
		Technical Presentations
10:55	11:15	"Regional Dust Storm Intensity and Climate Change" Dr. Christos Fountoukis, QEERI
11:15	11:35	"China's Improving Air Quality" Dr. Fu Lu, Clean Air Asia - China Office
11:35	11:55	"Global near Realtime Vehicular Emissions Estimator - Bottom-up Traffic Emissions Inventory", Luis Ackermann, Monash University
11:55	12:15	"TBD" Gregory Scott, Qatar Petroleum
12:15	12:35	"TBD" Dr. Talar Sahsuvaroglu, SCDL
12:35	12:45	"TBD" Dr. Behzad Heravi, Vortex
12:45	13:00	Open discussion and take away highlights (chairs)
13:00	14:30	LUNCH

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14:30	17:00	<p style="text-align: center;"><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 105</u> ENVIRONMENT TRACK Environmental Challenges in a Changing Climate Chairs: Mohammed Ayoub (QEERI)</p>
		<p style="text-align: center;">Panel Discussion: 2°C: Beyond the Limit - Climate Change and Adaptation in Desert Climates</p>
		<p>Moderator: TBD Panelists:</p> <ul style="list-style-type: none"> • Mohammed Ayoub, QEERI • Yousef Al-Horr, Gulf Organization for Research & Development • Saud Ghanim, Qatar University • Abdulla Al-Mannai, Qatar Meteorology Department • Neeshad Shafi, Arab Youth Climate Movement, Qatar • Jos Lelieveld, Max Planck Institute for Chemistry in Germany • Zeke Hausfather, Berkeley Earth
17:00	18:30	<p style="text-align: center;">Exhibition and Social Activities</p>

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		<p><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 106</u> FOOD SECURITY & EWE NEXUS Food Security & EWE Nexus Chairs: Dr. Yehia Manawi (QEERI), Dr. Alex Amato (QGBC)</p>
10:00	13:00	
10:05	10:50	<p>Invited Talk: The Development of the Water-Energy-Food Nexus concepts in desert environment, Dr Abdelkarem Amhammed (QEERI, Qatar)"</p>
		<p>Technical Presentations</p>
10:55	11:15	<p>“Analyses of the long-term energy demand of the Vienna city and modelling related key food-water-energy nexus-effects” Dr. Ali Hanon, AIT Austrian Institute of Technology, Austria</p>
11:15	11:35	<p>Exploring the food in the urban/regional food-water-energy-nexus: Innovations for Resilient and Sustainable Urban Development Dr. Annette Piorr, Leibniz Centre for Agricultural Landscape Research (ZALF), Germany</p>
11:35	11:55	<p>An integrated Modelling Approach to Managing a Food, Energy and Water Nexus, Damian Staszek, Bristol Water plc, United Kingdom.</p>
11:55	12:15	<p>“Roadmap for Future Food Systems and Smart Cities: Making the Ecosystem Connections and Policies” Dr. Sima Hamadeh, Lebanon</p>
12:15	12:35	<p>"Standard Method for the Determination of the Photocatalytic Activity of Titanium Dioxide and Zinc Oxide over Bentazon Photodegradation under UV light" Dr Shorouq Abduljaleel, Kuwait</p>
12:35	13:00	<p>Open discussion and take away highlights (chairs)</p>
13:00	14:30	<p>LUNCH</p>

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14:30	17:00	<p style="text-align: center;"><u>4 December 2019, Wednesday</u> <u>Qatar National Convention Centre – Meeting Room 106</u> FOOD SECURITY & EWE NEXUS Food Security & EWE Nexus Chairs: Dr. Ali Hanon (AIT), Dr. Annette Piorr (ZALF)</p>
14:35	15:10	<p style="text-align: center;">Invited Speech: A vision for Circular Agriculture Mr. Erik Smidt Agricultural Counsellor for the Gulf region, Embassy of the Kingdom of The Netherlands</p>
		Technical Presentations
15:15	15:35	<p style="text-align: center;">SUNEX FWE-nexus guidelines for sustainable urban governance Dr. David Ludlow, University of the West of England, UWE, UK</p>
15:35	15:55	<p style="text-align: center;">A tool to Estimate Differences in the CO₂ Emission Balance in Organic vs Conventional and Local vs Long-Distance Food Production and Supply Systems Within the FWE Nexus” Dr. José Luis Vicente, Leibniz Centre for Agricultural Landscape Research (ZALF)</p>
15:55	16:15	<p style="text-align: center;">Feasibility of Water Reuse for Agriculture as an Adaptation Measure to Climate Change - Case Study of Ain Temouchent, Algeria Dr. Chérifa Abdelbaki, Algeria</p>
16:15	16:35	<p style="text-align: center;">"Monitoring the Effect of Climate Change on Groundwater and Vegetation Changes in Central of Iran" Dr Hassan Khosravi, Iran</p>
16:35	16:55	<p style="text-align: center;">"Development of a Predictive Neighborhood Model to Assess Quantitatively the Practicability of Sustainable Urban Farming in Qatar" Dr. Theodora Karanisa, Qatar Green Building Council</p>
17:00	18:30	Exhibition and Social Activities

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5 December 2019, Thursday		
Megatrends in the EWE Nexus		
<u>08:00 – 09:30</u>		
Plenary Session: Innovative Strategies for Sustainable Industry		
<u>09:30 – 09:40</u> Coffee Break		
WATER	ENERGY	ENVIRONMENT
<u>09:40 – 12:00</u> Innovative Material and Technologies for Water Treatment and Water Desalination	<u>09:40 – 12:00</u> Sustainable Oil and Gas Processes	<u>09:40 – 12:00</u> Environmental Challenges in a Changing Climate
<u>12:00 – 12:20</u> Coffee Break		
<u>12:20 – 13:30</u> Panel Discussion: "Implementing a Policy Framework to Support Sustainable Development through the Water-Energy- Environment NEXUS"		
<u>13:30 – 14:00</u> Closing Remarks		
Sunset Desert Trip with Dinner		

Exhibition & Posters

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8:00	9:30	<p style="text-align: center;"><u>5 December 2019, Thursday</u> <u>Qatar National Convention Centre – Auditorium</u> Plenary Session: Megatrends in the EWE Nexus Innovative Strategies for Sustainable Industry</p>
8:05	8:35	<p style="text-align: center;">Keynote Address: "Future Challenges for the Terawatt PV Manufacturing" Dr. Pierre Verlinden Amrock Consulting, former VP Trina Solar</p>
8:35	9:30	<p style="text-align: center;">Panel Discussion: Innovative Strategies for a Sustainable Industry Transformation Moderated by: Dr Antonio Sanfilippo (QEERI)</p> <ul style="list-style-type: none"> • Dr. Pierre Verlinden, Founder Amrock Consulting, former VP Trina Solar • Jack Michalowski, Senior Advisor Business Development, Nebras Power • Dr. Samer Adham, Global Water Sustainability Center Manager, Conoco Phillips • Eng. Abdulaziz Al Mahmoud, Manager Production & Water Resource Planning & Business Development, Kahramaa • Steven Olivier, Managing Director Catalysis, Avantium
09:30	09:40	<p style="text-align: center;">Coffee Break</p>

ICSEVEN19

		<p><u>5 December 2019, Thursday</u> <u>Qatar National Convention Centre – Meeting Room 103</u> <u>WATER TRACK</u> Innovative Material and Technologies for Water Treatment and Water Desalination Chairs: Dr. Gordon McKay (HBKU), Dr Deema Al Masri (QEERI)</p>
09:40	12:00	
9:40	10:25	<p>Keynote: "Nano-Enabled Water Treatment: Safe and Effective Route of Application" Dr Navid Saleh (University of Texas at Austin, USA)</p>
		Technical Presentations
10:25	10:40	<p>"Summary of Field Trial Results of the Treatment of Contaminated Water using Nonfouling Superhydrophilic Functionalized Ceramic Membranes" Prof. Andrew Barron, UK</p>
10:40	10:55	<p>"Aluminium Fumarate Coated Wire Finned Heat Exchanger for Enhanced Adsorption Desalination" Dr. Raya Al Dadah, UK</p>
10:55	11:10	<p>"Preparation and Characterization of Polyacrylonitrile/TiO₂ Nanofiber Adsorbent Modified with 6-Amino-1-Hexanethiol Hydrochloride for the Adsorption of Thorium (IV) Ion" Dr. Babak Rouhi Broujeni, Qatar</p>
11:10	11:25	<p>"Microplastic Detection and Analysis in Water Samples" Dr. Christian Hagendorf, Fraunhofer CSP</p>
11:25	11:40	<p>"New Simple Device for Long Lasting Water Sampling " Dr. Viktor Gasso, Ukraine</p>
11:40	11:55	<p>"Microbial Remediation for Industrial Waste Water" Sara Al-Marri, Qatar</p>
12:00	12:20	COFFEE BREAK

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		<u>5 December 2019, Thursday</u> <u>Qatar National Convention Centre – Meeting Room 104</u> ENERGY TRACK Sustainable Oil & Gas Processes Chair: Dr. Sarim Dastgir (QEERI)
9:40	12:00	
9:45	10:25	Keynote Speech: Contribution from Chemistry and Catalysis for a Sustainable World Prof. Matthias Beller, Executive Director Leibnez Institute for Catalysis, Germany
10:25	11:00	Invited Speech: “Mineral Carbonation: an effective approach to carbon management” , Prof. Muftah H. El-Naas, Director Gas Processing Center, Qatar University
		Technical Presentations
11:00	11:20	"Water Treated Promoted Catalysts for the Conversion of Ethanol to Various Hydrocarbons" Dr Yusuf Isa, South Africa
11:20	11:40	"Towards a Low-Carbon Hydrogen Economy in Qatar" Moiz Bohra, United Kingdom
11:40	12:00	Open Discussion and take away highlights (chairs)
12:00	12:20	Coffee Break

ICSEVEN19

9:40	12:00	<p><u>5 December 2019, Thursday</u> <u>Qatar National Convention Centre – Meeting Room 105</u> ENVIRONMENT TRACK Environmental Challenges in a Changing Climate Chairs: Dr. Khaled Mahmoud (QEERI)</p>
		<p>Technical Presentations</p>
9:45	10:00	<p>"A Comprehensive Benthic Habitat Map for the Qatari Peninsula; The Journey" Josh Butler Exxonmobil Qatar</p>
10:00	10:15	<p>"A Circular Economy Centered on Microalgae: Moving Towards Economic Commercial Scale Recycling of Industrial, Agricultural and Domestic Waste for a Sustainable Environment" Darren Oatley-Radcliffe, UK</p>
10:15	10:30	<p>"Theoretical and Experimental Study of Air Humidification by Geothermal Water in Air Lift Pump Packed Column Humidifier" Dr. Adel Oueslati, Tunisia</p>
10:30	10:45	<p>"Limitation of Environmental Impact by Reuse of Waste Materials" Dr. Adel Djellali, Algeria</p>
10:45	11:00	<p>"Shale Gas in Algeria: The Future Environmental Disaster" Dr. Omar Ben Mya, Algeria</p>
11:00	11:15	<p>"AeroSpec: IoT-Enabled Personal Air Quality Monitoring System" Dr. Alexander Mamishev, USA</p>
11:30	11:45	<p>"Characterization of Doha Bay: A Case Study" Dr. Abdulla Al Maamoun, Qatar</p>
12:00	12:20	<p>Coffee Break</p>

ICSEVEN19

12:20	13:30	<u>5 December 2019, Thursday</u> <u>Qatar National Convention Centre – Auditorium</u> Closing Plenary Session
12:20	13:30	<p style="text-align: center;">Panel Discussion:</p> <p style="text-align: center;">“Implementing a Policy Framework to Support Sustainable Development through the Water-Energy-Environment NEXUS”</p> <p style="text-align: center;">Moderated by: Dr Marcello Contestibile. QEERI</p> <p>Panelists:</p> <ul style="list-style-type: none"> • HE Fahad Al Attiyah, Ambassador of Qatar to Russia; • Yousuf Al Jaida, CEO, Qatar Financial Centre; • Dr. Mohammed Al Kuwari, Ministry of Municipality & Environment, Qatar • Omran Al Kuwari, CEO, Qatar Foundation International • Eng. Abdul Aziz Al Hammadi, Manager - Conservation & Energy Efficiency, Kahramaa
13:30	13:55	Closing Remarks. Best oral and Best poster students awards announcement
14:00	22:00	Sunset Trip with Gala Dinner

ICSEVEN19

		<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Hall</u> Student Oral Presentation Competition – WATER TRACK
9:00	11:00	
09:00	09:15	"Emulsion Transport through Graphene Oxide Modified Polyvinylidene Fluoride (PVDF) Membranes" Rasha Fekri, Qatar
09:15	09:30	"The Importance of Phase Separation and Their Impact to Improve the Magnetoresistance Effect, Magnetocaloric Effect and Temperature Coefficient of Resistivity in Polycrystalline La _{0.4} Ag _{0.2} Ca _{0.4} MnO ₃ " Dafallah Wadi, China
09:30	09:45	"Column Adsorption and Desorption Studies of Phenolic Compounds on Nanoparticles Synthesized from Hydroxyapatite" Rabia Bennadi, Morocco
10:00	10:15	"Assessment of Groundwater Aquifer Impact from Artificial Lagoons and the Re-use of Wastewater in Qatar" Hayat Al Jabir, Qatar
10:15	10:30	"The Fabrication of Polystyrene Based Porous Sorbent through Electrospinning, with Multipurpose Properties for Wastewater & Oil Spill Treatment" Ali El Samak, Qatar
10:30	10:45	"Contribution of Hydrochemistry and Geophysics (Electrical Tomography) to the Study of the Salinization of a Groundwater table in an Arid Area. Case of El Berka(Southern Tunisia)" Marwa Ghaib, Tunisia
10:45	11:00	"Spatial Temporal Analysis of TRMM Satellite Data to Estimate Drought Index in Iran" Majid Kazemzadeh, Iran
10:45	11:00	"Assessing vulnerability to Agricultural Drought in the Central Europe: Hungary as a Case Study" Safwan Mohammed, Hungary

ICSEVEN19

		<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Hall</u>
11:30	13:00	Student Oral Presentation Competition – WATER TRACK (cont'd)
11:30	11:45	"Assessment of Stakeholders Engagement According to Contract Type in Water Mega-Projects in Qatar" Ayman Mashali, Qatar
11:45	12:00	"Effect of Bed Configurations on the Performance of Adsorption Water Desalination Using Aluminium Fumarate – Experimental Investigation" Majdi Saleh, UK
12:15	12:30	"Pharmaceutical Wastewater Treatment by Photocatalytic Methods using Reduced Graphene Oxide Nanocomposite: A Review" Satyajeet Arya, India
12:45	13:00	"Agricultural Waste-Based Alternative Adsorbents for the Remediation Of Organophosphate Pesticide from Water" Siham Suleiman, Qatar

ICSEVEN19

		<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Hall</u> Student Oral Presentation Competition – ENERGY TRACK
14:00	16:00	
14:00	14:15	"The Influence of Cooling System Fouling on the Thermal Performance of a CSP Plants: Current Researches Updated" Afaf Zaza, Morocco
14:15	14:30	Life-Cycle Assessment of The Manufacture of Photovoltaic Modules: Crystalline Si Cells Meaad Aljassim, Qatar
14:30	14:45	Control Strategy of Hybrid Energy Storage in Photovoltaic/Fuel Cell/ Battery /Electrolysis Cell Hang Li, China
14:45	15:00	"Improving Stability of Organometallic-Halide Perovskite Solar Cells Using Two-Dimensional Transition Metal Dichalcogenides" Meiying Liang, Ireland
15:00	15:15	"The Influence of Cooling System on LNG Storage Tank Filling" Mohamed Haddar, Tunisia
15:15	15:30	"Optimum PV Module Interconnection Layout to Reduce Soiling Losses in Desert Environments" Hamed Hanifi, Germany
15:30	15:45	"Copper Zinc Sulfide Thin Films as Ternary Semiconducting Material for Solar Energy Applications" Jubimol Jabbar, India
14:45	16:00	"A Comparison Between Fuzzy Logic and Vector Control for the Asynchronous Machine" Fatiha Bekroui, Algeria

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		<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Hall</u> Student Oral Presentation Competition – ENVIRONMENT TRACK
16:00	17:15	
16:00	16:15	"Climate Change Impacts on the Future Hydropower Energy Generation Capacity in the Upper Indus Basin under the RCP4.5 and RCP8.5" Hazrat Bilal, Malaysia
16:15	16:30	"Use of Electrical Resistivity Tomography to Study the Impact of Long Term Application of Sewage Sludge: Case Study of Oued Souhil Experimental Station, Nabeul (Tunisia) " Sarra Hechmi, Tunisia
16:30	16:45	"Predicting and Benchmarking the Carbon Abatement Costs of Renewables: A Technical Comparative Study" Saeed Alokkeh, UK
16:45	17:00	"Climate Change and National Security : Implications for South Asia" Sushil Kumar, India
17:00	17:15	"The Impact of Economic Growth on CO2 Emissions and Energy Consumption - In the Gulf Cooperation Council Countries" Noura Elagouz, South Korea

ICSEVEN19

		<u>3 December 2019, Tuesday</u> <u>Qatar National Convention Centre – Exhibition Hall</u> Student Oral Presentation Competition – FWE NEXUS TRACK
17:15	18:30	
17:15	17:30	"Environmental Impact Assessment of Food Waste Management Using Two Composting Techniques" Aisha Al-Rumaihi, Qatar
17:30	17:45	"Local Community Perceptions Towards Water-Energy-Food Nexus Resources: A Perspective on Food Security" Zinabu Wolde, China
17:45	18:00	"Evaluation of Oxygen and Steam Fed Biomass Gasification within Energy, Water and Food Nexus" Ahmed Alnouss, Qatar
18:00	18:15	"Waste compost Quality Assessment for Efficient use in Agriculture. Case of the Khenifra Region – Morocco" Driss Elhamdouni, Morocco
18:15	18:30	"Strategies to Tackle Water Scarcity and Food Security in The Mena Region" Aishwarya R, India

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