

## TWAS 14<sup>th</sup> General Conference & 28<sup>th</sup> General Meeting

Venue: ICTP Campus & SISSA (Miramare Campus)

### Programme

27-29 November 2018, Trieste, Italy

**Sunday, 25 November** - Dark shade: closed sessions (for members only)

19:00	<b>Nominations &amp; Selections Committee Meeting</b>
20:00	Buffet Dinner at Adriatico Guest House Cafeteria (AGH)- (only for those participants attending meetings on 26 November)

**Monday, 26 November** - Dark shade: closed sessions (for members only)

**VENUE: ADRIATICO GUEST HOUSE (AGH)-ICTP CAMPUS**

08:30-10:30	<b>TWAS Elections Committee Meeting</b> <i>Lundqvist Lecture Hall</i>	<b>Meeting of TWAS Young Affiliates Network (TYAN)</b> <i>Kastler Lecture Hall</i>	
10:30-11:00	Refreshments		
11:00-13:00	<b>TWAS Prizes Committee Meeting</b> <i>Lundqvist Lecture Hall</i>	<b>Meeting of TWAS Young Affiliates Network (TYAN) – cont.</b> <i>Kastler Lecture Hall</i>	
13:00-14:00	Buffet Lunch at AGH Cafeteria (Committee members only)		
14:00-19:00	<b>TWAS 38<sup>th</sup> Council Meeting</b> <i>Lundqvist Lecture Hall</i>	<b>TWAS-OWSD Gender Advisory Panel Meeting</b> <i>Giambiagi Lecture Hall</i>	<b>Meeting of TWAS Young Affiliates Network (TYAN) – cont.</b> <i>Kastler Lecture Hall</i>
16:00-16:30	Refreshments		
16:30-19:00	<b>TWAS 38<sup>th</sup> Council Meeting (cont.)</b> <i>Lundqvist Lecture Hall</i>	<b>Meeting of TWAS Young Affiliates Network (TYAN) – cont.</b> <i>Kastler Lecture Hall</i>	

**Tuesday, 27 November** - Dark shade: closed sessions (for members only)

**VENUE: LEONARDO BUILDING (LB) & SISSA (MIRAMARE CAMPUS)**

08:00-09:00	<b>Regional Meetings of TWAS Members, Young Affiliates and Vice Presidents (parallel sessions)</b>				
	• Arab Region <i>Luigi Stasi Seminar Room (LB)</i>	• Central and South Asia <i>SISSA Auditorium (Miramare Campus)</i>	• Latin America and the Caribbean <i>Euler Lecture Hall (LB)</i>	• Sub-Saharan Africa <i>Aula D – SISSA (Miramare Campus)</i>	• East and South-East Asia and the Pacific <i>Lecture Room B (LB)</i>
09:00-09:50	TWAS Regional Partners Coordinators Meeting <i>Euler Lecture Hall (LB)</i>				
10:00-13:30	TWAS 28 <sup>th</sup> General Meeting <i>SISSA Auditorium (Miramare Campus)</i>				
10:45-11:15	Refreshments				
11:15-13:30	(cont.)				
13:30-14:30	Buffet Lunch at LB Cafeteria				
14:30-15:00	Participants and guests to be seated for Opening Ceremony				

15:00-17:30	<b>Opening Ceremony and Presentation of Prizes, Medals and Certificates</b> <i>SISSA Auditorium (Miramare Campus)</i>
	Welcome Addresses
	<b>Presentations of Prizes and Medals</b> <ul style="list-style-type: none"> <li>• Abdus Salam Medal: Fernando Quevedo</li> <li>• TWAS Medals 2018: Subra Suresh; Hala El-Khozondar</li> </ul> <b>TWAS 2016 prizes to</b> <ul style="list-style-type: none"> <li>• Amitabha Chattopadhyay and Qi Zhou, Biology</li> <li>• Yuliang Zhao, Chemistry</li> <li>• Mario Hamuy, Earth, Astronomy and Space Sciences</li> <li>• Carlos Coello Coello, Engineering Sciences</li> <li>• Lorenzo Justiniano Díaz Casado, Mathematics</li> <li>• Shiraz Minwalla, Physics</li> <li>• Marilda Antônia de Oliveira Sotomayor, Social Sciences</li> </ul> <b>TWAS 2018 prizes to</b> <ul style="list-style-type: none"> <li>• Dabing Zhang, Agricultural Sciences</li> <li>• Luisa Lina Villa, Biology</li> <li>• Thalappil Pradeep, Chemistry</li> <li>• Alejandro Raga and Guochun Zhao, Earth, Astronomy and Space Sciences</li> <li>• Sanghamitra Bandyopadhyay, and Yu-Chee Tseng, Engineering Sciences</li> <li>• Ricardo Guillermo Durán, Mathematics</li> <li>• Seza Özen and Lynn Morris, Medical Sciences</li> <li>• Daniel Mario Ugarte, Physics</li> <li>• Alex Chika Ezech and Yansui Liu, Social Sciences</li> </ul> <ul style="list-style-type: none"> <li>• <b>TWAS-Siwei Cheng Prize:</b> Arunava Sen (2018)</li> <li>• <b>TWAS-C.N.R. Rao Awards:</b> Kalulu Taba (2017) 2018 and Yeya Tiemoko Touré (2018)</li> <li>• <b>TWAS-Atta-ur-Rahman Awards:</b> Rémy Bertrand Teponno (2017) 2018 and Hervé Tchakouté Kouamo (2018)</li> <li>• <b>TWAS-Fayzah M. Al-Kharafi Prize:</b> Fathiah Zakham (2017) 2018 and Lydie-Stella Koutika (2018)</li> <li>• <b>TWAS-Abdool Karim Prize:</b> Barbara Burmen (2017) 2018 and Sedaminou Judith Gbenoudon (2018)</li> <li>• <b>TWAS-Samira Omar Prize:</b> Caroline Asimwe (2017) 2018 and Hazir Farouk Abdelraheem Elhaj (2018)</li> <li>• <b>TWAS-Lenovo Science Prize:</b> Victor Alberto Ramos (2017 - Geological Sciences) and R.A. Mashelkar (2018 - Engineering Sciences)</li> </ul>
17:30-18:00	<i>Refreshments</i>
18:00-18:45	<b>Abdus Salam Medal Lecture</b> <i>SISSA Auditorium (Miramare Campus)</i> <b>Chair: Mohamed H.A. Hassan</b>  <i>ICTP and the Human Aspect of Science</i> <i>Fernando Quevedo</i>

### Wednesday, 28 November

08:30-09:15	<b>TWAS-Lenovo Science Prize Lecture (2017)</b> <i>SISSA Auditorium (Miramare Campus)</i> <b>Chair: Bishal Upreti</b>  <i>The Andes Mountains: An active tectonic system</i> <i>V.A. Ramos</i>
09:15-10:00	<b>TWAS-Lenovo Science Prize Lecture (2018)</b> <i>SISSA Auditorium (Miramare Campus)</i> <b>Chair: Abdin Salih</b>  <i>Trapeze artistry of biomimetic hydrogels</i> <i>Raghunath Anant Mashelkar</i>
10:00-10:30	<i>Refreshments</i>

10:30-12:00	<b>Medal Lectures</b> <i>SISSA Auditorium (Miramare Campus)</i> <b>Chair: Mansourou Moudachirou</b>	
10:30-11:15	<i>Attacking human diseases at the intersections of engineering, sciences and medicine</i> Subra Suresh	
11:15-12:00	<i>Metamaterials (MTMs) and their applications</i> Halal El-Khozondar	
12:00-13:30	<i>Buffet Lunch at LB Cafeteria</i>	
13:30-15:45	<b>Symposium 1: Breakthroughs in Science of Stem Cells and Gene Editing</b> <i>SISSA Auditorium (Miramare Campus)</i> <b>Convener: Dorairajan Balasubramanian</b>	
13:30-13:45	<b>Introduction by Convener</b>	
13:45-14:15	<i>Development of assays for culture and manipulation of haematopoietic and mesenchymal stem cells for single-cell therapies in a sub-Saharan Africa setting</i> Marianne Mureithi	
14:15-14:45	<i>Ocular Surface Stem Cell Application at Ibadan, Nigeria</i> Bade Ogundipe	
14:45-15:15	<i>Using Stem Cells to Regenerate Cells of the Retina of the Eye, to address Problems of Retinal Disorders leading to Loss of Vision</i> D. Balasubramanian	
15:15-15:45	Q&A	
15:45-16:15	<i>Refreshments</i>	
16:15-18:15	<b>Lectures by Winners of 2017 &amp; 2018 TWAS Fellows' Awards and Prizes (parallel sessions)</b>	
	<i>SISSA Auditorium (Miramare Campus)</i>	<i>Euler Lecture Hall (LB)</i>
16:15-16:35	<b>TWAS-C.N.R. Rao Award Lecture (2017)</b> <b>Chair: Theonest Mutabingwa</b>  <i>Plant extracts in malaria treatment and water disinfection</i> Kalulu Taba	<b>TWAS-Samira Omar Prize Lecture (2017)</b> <b>Chair: Zeyaur Rahman Khan</b>  <i>Determinants and patterns of illegal activities in Budongo Central Forest Reserve, Uganda</i> Caroline Asimwe
16:35-16:55	<b>TWAS-C.N.R. Rao Award Lecture (2018)</b> <i>Discovery of genetic populations of Anopheles gambiae s.s. in Mali and its implications for vector control and research</i> Yeya Tiemoko Touré	<b>TWAS-Samira Omar Prize Lecture (2018)</b> <i>The scientific contribution towards sustainable development of bioenergy in Sudan</i> Farouk Abdelraheem Elhaj
16:55-17:15	<b>TWAS-Abdool Karim Prize Lecture (2017)</b> <b>Chair: Yunus Mgaya</b>  <i>Staffing needs-assessment for a Kenyan HIV clinic using the workload indicators of staffing need WISN</i> B. Burmen	<b>TWAS-Fayzah M. Al-Kharafi Prize Lecture (2017)</b> <b>Chair: Xiaofeng Cao</b>  <i>Whole genome sequencing for investigation of local tuberculosis transmission clusters halted potential larger international outbreak</i> F. Zakhm
17:15-17:35	<b>TWAS-Abdool Karim Prize Lecture (2018)</b> <i>Immune modulation during severe malaria: Coinfections with C. Albicans supports severe malaria and rapid "preventable" death in children</i> Sedaminou Judith Gbenoudon	<b>TWAS-Fayzah M. Al-Kharafi Prize Lecture (2018)</b> <i>How sustainable management in Central Africa can improve soil fertility and mitigate climate change</i> Lydie-Stella Koutika
17:35-17:55	<b>TWAS-Atta-ur-Rahman Award Lecture (2017)</b> <b>Chair: Eliete Bouskela</b>  <i>Bioactive secondary metabolites from medicinal plants and microorganisms</i>	<b>TWAS-Siwei Cheng Prize Lecture (2018)</b> <b>Chair: Ratna Ghosh</b>  <i>Engineering in economics: The theory of mechanism design</i> A. Sen

17:55-18:15	R.B. Teponno <b>TWAS-Atta-ur-Rahman Award Lecture (2018)</b> <i>Synthesis and characterization of geopolymer cements from aluminosilicate sources and hardeners</i> Hervé Tchakouté Kouamo
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### Thursday, 29 November

08:30-11:10	<b>Lectures by Winners of 2016 &amp; 2018 TWAS Prizes (parallel sessions)</b>		
	<b>Agricultural Sciences, Biology, Medical Sciences</b> <i>SISSA Auditorium (Miramare Campus)</i> Chair: Baljinova Tsetseg	<b>Earth, Astronomy and Space Sciences, Mathematics, Physics</b> <i>Luigi Stasi Seminar Room (LB)</i> Chair: Francisca Okeke	<b>Chemistry, Engineering Sciences, Social Sciences</b> <i>Euler Lecture Hall (LB)</i> Chair: Elisa Reis
08:30-08:50	<i>Pediatric diseases in the Eastern Mediterranean</i> Seza Özen	<i>The acceleration of the Universe in the light of supernovae</i> Mario Hamuy	<i>Nano-bioeffects and nanomedicines</i> Yuliang Zhao
08:50-09:10	<i>Membrane cholesterol and G protein-coupled receptors: An Intimate Association</i> Amitabha Chattopadhyay	<i>Averages and non-hyperbolic ergodic measures</i> Lorenzo Justiniano Díaz Casado	<i>Reactions between nanoparticles</i> Thalappil Pradeep
09:10-09:30	<i>Progress of stem cell research and application in regenerative medicine</i> Qi Zhou	<i>Title to be announced</i> Shiraz Minwalla	<i>On the regulatory network of transcription factors, microRNAs and genes and discovery of markers</i> Sanghamitra Bandyopadhyay
09:30-09:50	<i>Understanding the molecular control of cereal inflorescence development and male fertility control</i> Dabing Zhang	<i>Young stars playing the flute</i> Alejandro Raga	<i>Bio-inspired metaheuristics for solving multi-objective optimization problems</i> Carlos Coello Coello
09:50-10:10	<i>Primary and secondary prevention of cancers caused by human papillomaviruses (HPV)</i> Luisa Lina Villa	<i>Assembly of a 1.8 billion years old supercontinent and its record in the North China Craton</i> Guochun Zhao	<i>Artificial Intelligence and Internet of Things: The capability of seeing beyond ordinary sight</i> Yu-Chee Tseng
10:10-10:30	<i>Preventing HIV infection with broadly neutralizing antibodies</i> Lynn Morris	<i>Numerical approximation of partial differential equations by non standard finite element methods</i> Ricardo Guillermo Durán	<i>Manipulability of stable matching rules for the college admission model</i> Marilda Antônia de Oliveira Sotomayor
10:30-10:50	<i>Fighting human malnutrition with plant mineral nutrition</i> Ismail Cakmak	<i>Manipulation and characterization of individual nanosystems by electron microscopy experiments</i> Daniel Mario Ugarte	<i>Population growth and sustainable development in Africa</i> Alex Chika Ezeh
10:50-11:10			<i>China's land policy and the rural revitalization strategy</i> Yansui Liu
11:10-11:30	<i>Refreshments</i>		
11:30-13:00	<b>Symposium 2: Data Analytics, Social Media and Sustainability (sponsored by Elsevier Foundation)</b> <i>SISSA Auditorium (Miramare Campus)</i> Co-Conveners: Maria de Kleijn and V.S. Subrahmanian		
11:30-11:40	<b>Introduction by Conveners</b>		
11:40-12:00	<i>Using data analytics to explore how research supports the SDGs</i> Maria de Kleijn		
12:00-12:20	<i>Data Science for Sustainability – Opportunities and Challenges</i> V.S. Subrahmanian		

12:20-12:40	<i>Rational Decision Making with Incomplete Information: A developing world perspective</i> Tshilidzi Marwala		
12:40-13:00	Q&A		
13:00-14:30	<i>Buffet Lunch at LB Cafeteria</i>		
14:30-17:00	<b>Presentations by TWAS Young Affiliates 2017 &amp; 2018 (parallel sessions)</b>		
	<b>Biological &amp; Agricultural Sciences</b> Euler Lecture Hall (LB) Chair: Imtiaz Ahmad	<b>Medical &amp; Health Sciences</b> SISSA Auditorium (Miramare Campus) Chair: Firdausi Qadri	<b>Physics, Mathematics, Engineering, Earth Sciences</b> Lecture Room B (LB) Chair: Bikash Sinha
14:30-14:40	<i>Characterization and development of UV and Aluminium tolerance in maize</i> Pablo Alberto Bolaños-Villegas	<i>Health risk associated with lead and cadmium in different brands of lipstick in Kumasi</i> Marian Asantewah Nkansah	<i>Standardized tuberculosis contact investigation: a case study from Kenya</i> Barbara Burmen
14:40-14:50	<i>Eliciting demographic responses of a tropical tree to serial auto-correlation in stochastic environment</i> Kolawolé Valère Salako	<i>Integration of Bioengineered Polypeptides in Stem Cell Technology for the Intervention of Infectious and Non-Communicable Diseases</i> Nihad Adnan	<i>Geo-hazard research for sustainable risk reduction in the Nepal Himalaya</i> Basanta Raj Adhikari
14:50-15:00	<i>Tantalizing Dilemma in Genetics Risk from Disease Scoring Statistics</i> Emile Rugamika Chimusa	<i>Bridging genomics technology and modern agriculture</i> Wirulda Nik Pootakham	<i>Dark Matter: where we stand?</i> Encieh Erfani
15:00-15:10	<i>Unseen but essential: Exploring soil microorganisms for a healthy living</i> Warshi Shamila Dandeniya	<i>Zika virus replicates in adult human brain tissue</i> Claudia Figueiredo	<i>Instability theorems for measure differential equations and dynamic equations on time scales</i> Jaqueline Godoy Mesquita
15:10-15:20	<i>Niche partitioning between the African lion (Panthera leo leo) and the spotted hyena (Crocuta crocuta)</i> Etotepe A. Sogbohossou	<i>Tackling herpes simplex virus infections: novel prophylaxis and therapy strategies</i> Pablo Alberto Gonzalez Munoz	<i>Impact of Predator Signals on the Stability of a Predator-Prey System: A Z-Control Approach</i> Ibrahim Elmojtaba
15:20-15:30	<i>Common bean breeding using local germplasm and agrobiotechnological tools</i> Oswalt Rafael Jiménez Caldera	<i>Lessons from Traditional Medicine: Case of Satureja punctata as an example</i> Mariamawit Yonathan Yeshak	<i>Mathematical research and postgraduate training in Vietnam and some other developing countries</i> Hoang Hiep Pham
15:30-15:40	<i>Fermented millet and sorghum based products in Africa</i> Eugenie Kayitesi	<i>A rare bone infection with Erysipelatoclostridium ramosum in a young immunocompromised patient</i> Fathiah Zakham	<i>Emission of greenhouse gases from municipal wastewater treatment plants</i> Azzaya Tumendelger
15:40-15:50	<i>Effects of feeding increasing levels of grape pomace on lamb growth performance, carcass and meat quality</i> Cletos Mapiye	<i>Molecular elements for temperature sensing in the cold receptor TRPM8 channel</i> Karen Castillo	<i>Understanding the consequences of climate change in remote mountain regions: The Himalayas case</i> Norbu Wangdi
15:50-16:00	<i>Ethnobotanical survey and phytochemical analysis of medicinal plants for the treatment of gastrointestinal pathologies</i> Hichem Sebai	<i>Medicinal and functional values of natural antioxidants in different vegetable oils</i> Eqbal Mohammed Abdu Dauqan	<i>A systems approach to the next step in the ongoing arms race between shrimp and diseases</i> Han-Ching Wang
16:00-16:10	<i>The amphibian fauna of Vietnam: Research and conservation activities</i> Tao Thien Nguyen	<i>A simple SI-type model for HIV/AIDS with media and self-imposed psychological fear</i> Nasser Said Fayal Al Salti	<i>ENZease: an intelligent enzyme for one-step desizing and scouring process of cotton fabric</i> Thidarat Nimchua
16:10-16:20		<i>Impact of environmental contaminants on the embryo-larval development of the Mediterranean sea urchin</i> Jamel Jebali	<i>A wrapped skew-generalised-normal family</i> Theodor Loots

17:00-17:30	<i>Refreshments</i>
17:30-19:30	<b>Induction of new TWAS Members and Young Affiliates (2016 &amp; 2018) &amp; Closing Ceremony</b> <i>SISSA Auditorium (Miramare Campus)</i> Master of Ceremony: Ajay Sood  <b>Induction</b>  <b>Screening of "Science in Exile" (abridged version)</b> Remarks by Edward Lempinen, TWAS Public Information Officer  <b>Closing Ceremony</b>
19:30	<i>Buffet Dinner at LB Cafeteria</i>