



International Conference on Saline Resource Management in the Context of Global Climate Changes



Conference Program

(February 23 – 25, 2023)

Organized by:

**Dr Muhammad Ajmal Khan Institute of Sustainable Halophyte
University of Karachi**

In collaboration with:

**Salim Habib University, Karachi
&
Nuclear Institute of Agriculture, Tandojam**

Funded by

**Government of Sindh
Sindh Higher Education Commission**



Inaugural Session at Avari Towers (Karachi) – Thursday (February 23, 2023)

08:45	Registration / Guests to be seated
09:15	Recitation from the Holy Quran / National Anthem
09:20	Welcome address by Dr. Salman Gulzar, Director Dr. M. Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi
09:35	Keynote address by <i>Prof. Dr. John F. Cheeseman (Online)</i> <i>“Food security, food sovereignty, and the possible roles of Plant Biologists.</i> Illinois, USA.
10:05	Address by Prof. Dr. Samina Bano, Dean, Faculty of Science, University of Karachi
10:15	Address by the Chief Guest
10:25	Address by the Vice Chancellor, Salim Habib University
10:35	Address by Prof. Dr. Khalid Mahmood Iraqi, Vice Chancellor, University of Karachi
10:45	Vote of Thanks by Dr. Irfan Aziz, Conference Secretary Professor (Associate), MAK-ISHU
	PRESENTATION OF SHIELD / SOUVENIR TO GUESTS
11:00	TEA BREAK

Day 1: Technical Sessions at Avari Towers (Karachi)

Session 1a: Ecophysiological Adaptations to Climate changes (11:30 am to 1:10 pm)

Chair: Prof. Dr. Shoaib Ismail / Co-Chair: Dr. Nuriia Koteyeva

PLENARY TALK		
Time	Name of the presenter	Title
11:30 – 12:00	Prof. Dr. Shoaib Ismail (Ex-Director R&I, ICBA, UAE)	Production systems and value chain for Saline environments under climate change
12:00 – 12:30	Prof. Dr. Wang Sen (Online), (C. S. University of Forestry & Technology, P.R. China)	On the background of global climate changes, construction of ‘the Belt and Road’ International Union Research Centre for Tropical Arid Non-wood Forest, from ‘0’ to ‘1’
12:30 – 01:10	Dr. Nuria Koteyeva (Kolmogrov, Russia)	Mechanisms of salt tolerance in grasses with salt excretion
LUNCH AND PRAYER BREAK		

Session 1b: Ecophysiological Adaptations to Climate changes (02:00 pm to 03:00 pm)

Chair: Dr. Zamin Shaheed Siddiqui / Co-Chair: Dr. Faheem Siddiqui

INVITED PRESENTATIONS		
02:00 – 02:15	Dr. Irfan Ahmad (UAF, Faisalabad)	Effect of salinity on the morphological behaviour and ionic response of different multipurpose bamboo species
02:15 – 02:30	Prof. Dr. Habib-ur-Rehman Athar (Online) BZU, Multan	Physiological and molecular aspects of salt tolerance in canola
02:30 – 02:45	Dr. Beena Naqvi (PCSIR, Karachi)	Role of fresh seeds in distribution, species composition and maintenance of coastal plant communities in the coastal ecosystem
02:45 – 03:00	Shujaul Mulk Khan, QAU, Islamabad	Ecological Comparisons of Vegetation and Soil along the Fresh and Salty Water Regimes in the North-Western parts of Pakistan

Day 1: Technical Sessions at Avari Towers (Karachi)
Session 2: Biomass Production & Carbon Sequestration (03:00 – 4:50)

Chair: Prof. Dr. Muhammad Zafar Iqbal / Co-Chair: Dr. Zafar Iqbal Shams

PLENARY TALK		
Time	Name of the Presenter	Title
03:00 – 03:30	Invited lecture: Dr. Jin-Lin Zhang (Online), (Lanzhou University, P.R. China)	Roles of lignin biosynthesis in maintaining the stress tolerance of <i>Haloxylon ammodendron</i>
INVITED PRESENTATIONS		
03:30 – 03:45	Dr. Sophia Khalique Alvi (PCSIR)	Black Carbon in Ambient Air: Implication to Regional Climate, Air Quality and Global Warming
03:45 – 04:05	Prof. Dr. T. J. Flowers	Halophyte data base e-Haloph ver. 4
TEA BREAK		
PLENARY TALK		
04:30 – 05:00	Dr. Aldrie Amir (Online) (LESTARI, Malaysia)	Countering challenges of Mangrove habitat loss
INVITED PRESENTATIONS		
05:00 – 05:15	Dr. Sadaf Gul (Karachi University)	Assessing the effect of various seed pre-sowing treatments on germination in <i>Albizia lebbeck</i> under saline conditions

Day 2: Technical Sessions at Salim Habib University (Karachi)

Session 3: Climate Smart Agriculture (09:00 – 12:30)

Chair: Prof. Dr. Aqeel Ahmed / Co-Chair: Dr. Muhammad Sohail

08:30 TO 09:30			TEA AND POSTER SESSION		
PLENARY TALK					
Time	Name of the Presenter		Title		
09:30 – 10:00	Dr. Bernardo Duarte (Recording) (MARE-University of Lisbon)		Bioengineering <i>Salicornia</i> rhizosphere with marine plant growth promoting bacteria to enhance plant tolerance to abiotic stress		
INVITED PRESENTATIONS					
10:00 – 10:30	Masoumeh Salehi (AREEO, Yazd, Iran)		Domestication of Halophytes for Bio-saline Agriculture in Iran		
10:30 – 10:45	Dr. Neelma Munir (L. C. W. University, Lahore)		Application of halophytic nanoparticle stimulates growth performance and salinity resistance of tomato seedlings under saline conditions		
10:45 – 11:00	Dr. Kabir (Thal University, Bhakkar)		Green revolution to combat environmental pollution		
11:00 – 11:15	Dr. Asma, (NIA Tandojam)		In Vitro salinity tolerance studies at seedling stage in Rice (<i>Oryza sativa</i> L.) Genotypes		
11:15 – 11:30	Dr. Muhammad Ali, (NIA Tandojam)		Drought Tolerance studies in wheat (<i>Triticum aestivum</i> L)		
PLENARY TALK					
11:30 – 12:00	Prof. Dr. Jean W. H. Yong (S.L.A. Sweden)		Role of bio-stimulants in salinity resistance of plants		
12:00 – 12:30	Prof. Dr. John Hancock (U.K)		Understanding Hydrogen: Lessons to Be Learned from Physical Interactions between the Inert Gases and the Globin Superfamily		
LUNCH AND PRAYER BREAK					

***Session 4: Sustainable Utilization of Crops & Plant-Microbial Interactions
(02:30 – onward)***

Chair: Prof. Dr. Shakeel Ahmad Khan / Co-Chair: Prof. Dr. Aqeel Ahmed

INVITED PRESENTATIONS		
Time	Name of the Presenter	Title
02:30 – 03:00	Dr. Brent Nielssen (<i>Recorded lecture</i>) (BYU, Provo, Utah, USA)	Plant microbial interactions
03:00 – 03:30	Prof. Dr. Aqeel Ahmed (Salim Habib University, Karachi)	Microbial Biodiversity in Health & Diseases
03:30 – 04:00	Dr. Mirza Hasanuzzaman (Dhaka University)	Biostimulants for Enhancing Salinity Tolerance in Plants
04:00 – 04:15	Dr. Qurban Ali Panhwar (NIA, Tandojam)	Screening and Biochemical Characterization of Potential Plant Growth Promoting Rhizobacterial Strains from Different Chilli Growing Areas of Sindh
04:15 – 04:30	Dr. Afshan Rehman (Karachi University)	Enzymatic profiling of halo-tolerant endophytic bacteria and mitigation of salt stress on tomato crop

Parallel Session (4): Sustainable Agriculture

Chair: Dr. Ubaidullah Sherazi / Co-Chair: Dr. Neelma Muneer

Time	Name of the Presenter	Title
02:45 – 3:00	Dr. Amanat Ali (NIA Tandojam)	Harnessing the potential of humic acid and phosphorus levels to improve bacterial abundance, nutritional quality and yield of wheat under semi-arid climatic conditions
03:00 – 03:30	Dr. Ubaidullah Shirazi, (NIA Tandojam)	Evaluation of salt tolerance potential in some newly developed wheat (<i>Triticum aestivium</i>) under controlled (Glasshouse) environments
03:30 – 03:45	Dr. Drousham Nasir (Fuaast)	Evaluation of metal resistance potential of bacteria isolated from rhizosphere of marine halophytes
03:45 – 04:00	Dr. Shaukat Ibrahim Abro (Sindh University, Tandojam)	Extraction of Banana Fiber & amp liquid fertilizer from waste Pseudostem: A Smart Agriculture technique under changing climate
04:00 – 04:15	Dr. Naila Rafique (FUAUAST, Karachi)	Isolation & characterization of plant growth promoting rhizospheric bacteria from <i>Sesuvium portulacastrum</i> for improving salinity resistance on wheat for agriculture resilience
04:15 – 04:30	Dr. Munawwer Rasheed (CEMB, UOK)	Chemical pollutants in marine organisms
CONCLUDING SESSION FOLLOWED BY REFRESHMENT (04:30 ONWARD)		