



سلطنة عُمان  
SULTANATE OF OMAN  
هيئة البيئة  
ENVIRONMENT AUTHORITY

UN  
environment  
programme



وزارة التعليم العالي  
والبحث العلمي والابتكار

الرؤية  
Al Roya

يناير 16-19 2023  
January



مؤتمر عُمان  
للاستدامة البيئية  
Oman Conference for Environmental Sustainability

AGENDA

**Monday 16 January 2023**

7:30 - 8:30	<b>Registration</b>
9:00	<b>Opening Ceremony</b>
9:05 - 9:10	<b>National Anthem / Quran Recitation</b>
9:10 - 9:20	<b>Welcome Speech by HE Dr. Abdullah Bin Ali Al Amri Chairman of the Environment Authority</b>
9:20 - 9:30	<b>Strategic Partner Speech HE. Inger La Cour Andersen the Under-Secretary-General of the United Nations and Executive Director of the United Nations Environment Programme, UNEP</b>
9:30 - 9:40	<b>Keynote Speech HE. Dr. Yasmine Fouad Minister of Environment of the Arab Republic of Egypt and Ministerial Coordinator and Envoy for the 27<sup>th</sup> Session of the UN Climate Change Conference, COP 27</b>
9:40 - 9:45	<b>Movie</b>
9:45 - 10:00	<b>Keynote Speakers Awards</b>
10:00 - 10:10	<b>Green Branch Awards</b>
10:10 - 10:20	<b>Strategic Sponsors Awards</b>
10:20 - 10:40 Coffee Break	

**10:40 - 11:45**

**Panel Session**

**Panel Moderator:**

**HH Dr. Adham Bin Turki Al Said**  
Assistant Professor  
College of Economics and Political Sciences  
Sultan Qaboos University, Oman

**Panel Discussion**

**Panelists:**

**Emissions Reductions and Improved Air Quality: Insights from the IPCC Sixth Assessment Report**

**Prof. Jim Skea**

Professor of Sustainable Energy  
Imperial College London  
Co-Chair Working Group III of the Intergovernmental Panel on Climate Change  
United Kingdom

**Prof. Sergio Musmanni Sobardo**

Environmental Consultant  
Awarded the UNESCO Sultan Qaboos Prize for Environmental Conservation  
University for International Cooperation (UIC)  
Costa Rica

**Dr. Anke Roiger**

Institute of Atmospheric Physics, Atmospheric Trace Species,  
German Aerospace Centre, Germany

**Dr. Heidi Huntrieser**

Research Scientist  
Institute of Atmospheric Physics, German Aerospace Centre  
Germany

**Dr. Jaroslaw Necki**

Associate professor  
Department of Physics and Applied Computer, University of Science and Technology Science, Poland

**Dr. Sebastián Munguía**

Consultant and Project Director  
Yale Center for Environmental Law and Policy  
United States

11:45 - 12:00 Coffee Break

**Parallel Session 1 (Conference Hall No. 1)**  
**Climate Change Impacts and Resilient Development**  
**Session Chair: Dr. Salah Al Jellali**

Time	Presentation
12:00-12:15	The economic impact of California's Cap and Trade program: an interrupted time series analysis with a matching approach. <b>Tomás Baioni</b> The La Plata National University, Argentina
12:15-12:30	Advantages of Harnessing Fourth Industrial Technologies for Climate Change Alleviation in the Asia-Pacific Region. <b>Muhammad Nasif</b> Indira Gandhi Open University, India
12:30-12:45	An Integrated Approach to Enhance the Desalination Process: Coupling Solar Cell Desalination with Microbial Desalination Cell. <b>Zeinab Yavari</b> Assistant Professor Civil and Architectural Eng. Department, Sultan Qaboos university, Oman
12:45-13:00	Comparison of the observed trends and Projections of precipitation of Global Climate Models over Sultanate of Oman <b>Osama Ragab Ibrahim</b> Assistant Professor Civil Engineering Department, Sohar University, Oman
13:00-13:15	Coffee Break
13:15-13:30	Climate Change Risk Perceptions, Vulnerability, and Adaptation in High Altitude Farming Regions of Hindu Kush Himalaya- a regional perspective. <b>Saeed Ahmad Asad</b> Associate Professor Department of Biosciences, COMSATS University Islamabad, Pakistan
13:30-13:45	Modeling of Seawater Intrusion into Salalah Coastal Plain Aquifer, Sultanate of Oman. <b>Ahmad Sana</b> Associate Professor Department of Civil and Architectural Engineering, Sultan Qaboos University, Oman
13:45-14:00	Multistakeholder Engagement Via Co-Creation for Capitalizing and Innovating Nature Based Solutions <b>Eng. Wafa Bint Abdullah Al Mamari</b> , CEO, Sustainability for Environmental Services & Consulting, Associate Expert, Qualies, Oman
14:00-15:00	Launch

**Parallel Session 2 (Conference Hall No. 2)**  
**Climate Mitigation Technologies and Carbon neutrality**  
**Session Chair: Dr. Malik Al Wardy**

Time	Presentation
12:00-12:15	The International Methane Emissions Observatory: Using Data to Drive Methane Reductions. <b>Andreea CALCAN</b> Methane Science Studies Coordinator United Nations Environment Program , France
12:15-12:30	Estimating Methane Emissions from Oil and Gas Industry in The Sultanate of Oman Using A Bottom-Up (BU) Inventory. <b>Halima Hamed Al Hinaai</b> Lecturer Global College of Engineering and Technology, Oman
12:30-12:45	Enhancing methane production by inserting granular activated carbon coated with nano zero-valent iron in anaerobic digester as a sustainable biotechnology. <b>Zahra Khasib Al-Hasani</b> Research Assistant College of Engineering, Sultan Qaboos University, Oman
12:45-13:00	Oman's Black Carbon Emission Trends and Reduction Policy. <b>Yassine Charabi</b> Professor of Atmospheric Sciences Sultan Qaboos University, Oman
13:00-13:15	Coffee Break
13:15-13:30	The Application of Energy Simulation Modeling to Decarbonize buildings. <b>Rania Abdelrahman Osman Basheer</b> Assistant Professor of Architecture Oman College of Management and Technology, Oman
13:30-13:45	Developing the novel design of a microbial electrochemical system for desalination, sewage treatment, energy and resource recovery. <b>Abdullah Al-Mamun</b> Assistant Professor Civil and Architectural Eng. Department, Sultan Qaboos university, Oman
13:45-14:00	Novel designed microbial desalination and chemical recovery cell for chemical resource and green power recovery. <b>Jagdeep Kumar Nayak</b> Environmental engineer Department of civil and Architecture Engineering, Sultan Qaboos university, Oman
14:00-15:00	Launch

**Parallel Session 3 (Conference Hall No. 3)**

**Air Quality: Monitoring, Measuring, and Modeling Environmental Hazards.**

**Session Chair: Dr. Meshal Abdullallah**

Time	Presentation
12:00-12:15	Modeling and Monitoring of Air Quality in Gulf Co-operation Council (GCC) Capitals Using Satellite Technology and GIS Based analysis. <b>Hany Rabie Nady Mohamed</b> Assistant Professor Department of Geography and Geographic Information Systems, Beni-Suef University, Egypt
12:15-12:30	Regional characteristics of long-term PM 2.5 over Middle East under SSP Scenarios Based on CMIP 6 Models. <b>Baiju Dayanannadan</b> Associate professor Department of Mathematical and Physical Sciences, College of Arts and Sciences, University of Nizwa, Oman
12:30-12:45	Does ENSO affect PM 2.5 concentrations in Indonesia? <b>Ayuna Santika Putri</b> Meteorology, Climatology, and Geophysical Agency of Indonesia
12:45-13:00	Air Pollution Monitoring System Based on LPWAN Technologies and Cloud Computing in Industrial Areas in Oman. <b>Mahmood Al-Bahri</b> Program Coordinator and Assistant professor Sohar University, Oman
13:00-13:15	Coffee Break
13:15-13:30	Deployment of Low Cost PM 2.5 Sensors to Investigate the Spatial Distribution of Fine PM in Muscat, Oman. <b>Dr. Ahlam Al Hanai</b> Associate Rresearcher Center of Environmental Studies and Research (CESAR), Sultan Qaboos University, Oman
13:30-13:45	Air quality index and PM 2.5 predictions from 2017 to 2021 in Baghdad city, Iraq using artificial neural network models. <b>Anees Abdullah Khadom</b> Assistant Professor Department of Chemical Engineering, University of Diyala, Iraq
13:45-14:00	Spatial Temporal Analysis of Surface Industrial Heat island of Sohar Complex Industrial Area. <b>Talal Al Awadhi</b> Associate Professor Geography Department, Sultan Qaboos University, Oman
14:00-15:00	Launch

**Parallel Session 4 (Conference Hall No. 4)**

**Environmental Effects & health impacts of air pollution**

**Session Chair: Dr. Ghazi Al Rawas**

Presentation
Ambient air pollution and its influence on human health and welfare: an overview. <b>May Bin-Jumah</b> Associate Professor Biology Department, College of Science, Princess Nourah bint Abdulrahman University Kingdom of Saudi Arabia
State's legal liability for air pollution Comparative Study. <b>Ekramy Khattab</b> Associate Professor of Administrative and Constitutional Law Imam Muhammad bin Saud Islamic University, Kingdom of Saudi Arabia
An Overview of Municipal Waste Management and Recycling in the Gulf Cooperation Council Countries (GCC): Focusing on Bahrain. <b>Ameera Alqattaf</b> Head of the International Parliamentary Relations Department, of the Council of Representatives Kingdom of Bahrain's Parliament, Kingdom of Bahrain
Impact of Environmental Pollution on Historical Buildings: An Overview. <b>Mohammad Rizwan</b> Professor Department of Electrical Engineering, Delhi Technological University, India
Analysis of Climatic parameters and Dust Accumulation on PV Power Production. <b>Rahma Aman</b>
The Efficiency of Thumrait Engineering Landfill Operation in Conserving the Ambient Air Quality: A case in Dhofar Governorate, Sultanate of Oman. <b>Mahaad Issa Shammass</b> Assistant Professor and Chair of Civil and Environmental Engineering Department College of Engineering, Dhofar University Oman
Impact of afforestation on thermal reduction and air quality in Bahrain. <b>Mohamed Shamlooh</b> Environmental Specialist Supreme Council for Environment, Manama Kingdom of Bahrain

**Tuesday 17 January 2023**

**Plenary Session**

**Session Chair: Dr. Amer Saif Al Hinaï**

Deputy Vice-Chancellor for Postgraduate Studies & Research  
Sultan Qaboos University

8:30-8:45	<b>Nature for Climate: from Forests to Deserts</b> <b>Mr. Nady Mahmoud</b> Land use system transformation lead Climate champions team, UNFCCC Germany
8:45-9:00	<b>When the path to climate change mitigation needs reengineering think out of the box</b> <b>Prof. Sergio Musmanni Sobardo</b> Environmental Consultant University for International Cooperation (UCI) Awarded the UNESCO Sultan Qaboos Prize for Environmental Conservation Costa Rica
9:00-9:15	<b>Methane emissions from offshore oil and gas production activities in Gabon and Angola: First results from the airborne METHANE-To-Go campaign 2022</b> <b>Dr. Anke Roiger</b> Institute of Atmospheric Physics, Atmospheric Trace Species, German Aerospace Centre Germany
9:15-9:30	<b>Methane emissions from industrial activities: A novel airborne concept applied to coal mines in Poland, is it applicable for quantifying methane emissions from the oil &amp; gas exploration and production in Oman?</b> <b>Dr. Heidi Huntresier</b> Research scientist Institute of Atmospheric Physics, German Aerospace Centre Germany

9:30-9:45 **Distribution of methane release rates accompanying the upstream sector of Oil & Gas in Romania and Poland detected with mobile, ground based, indirect measurements**

**Dr. Jaroslaw Necki**

Associate professor  
Department of Physics and Applied Computer, University of Science and Technology Science  
Poland

9:45-10:00 **Climate Change, Air Quality, and Acid Rain indicators in the Environmental Performance Index**

**Dr. Sebastián Munguía**

Consultant and Project Director  
Yale Center for Environmental Law and Policy  
United States of America

10:00-10:15 **Highlights from UNEP Emissions Gap Report (EGR)**

**Dr. Abdelmenam Mohamed**

Regional Coordinator for Science,  
UN Environment Programme (UNEP)  
West Asia Office  
Lebanon

10:15-10:30 **Environmental Issues in the GCC Countries 2020: Requirements of the Current Environmental Situation**

**Mr. Waleed Al Hamood**

Director of Environmental Management Department  
Secretariat General of the Gulf Cooperation Council  
Kingdom of Saudi Arabia

**Coffee Break 10:30-11:00**

**Parallel Session 5 (Conference Hall No. 1)**  
**Climate Change Impacts and Resilient Development**  
**Session Chair: Dr. Talal Al Awadhi**

Time	Presentation
11:00-11:15	Influence of urban canopy ratio and morphology on CO2 concentration and thermal comfort in new proposed residential urban canopy complex. <b>Mohamed A. Eid</b> Professor Department of Architecture and Urban Design, Faculty of Engineering, Assiut University Egypt
11:15-11:30	Cooperative On-line International Learning (COIL) to Educate Health Professionals About Climate Change. <b>Ruth McDermott-Levy</b> Professor & Co-Director Mid-Atlantic Center for Children's Health and the Environment at Villanova University's Fitzpatrick College of Nursing United States of America
11:30-11:45	The Water-Food-Ecosystem Nexus in a Changing Climate: Toward a Holistic System of Thinking for Climate Change Mitigation. <b>Meshal Abdulllah</b> Assistant Professor Geography Department, College of Arts and Social Sciences, Sultan Qaboos University Oman
11:45-12:00	Crossing multi-source climate data to estimate the effects of climate change on evapotranspiration data: application to the French Central Region. <b>Abdelkrim bensaid</b> Lecturer Department of Geography, University of Orleans France
12:00-12:15	The Impact of Different Courtyard Ratios in University Buildings on CO2 Concentration and Air Quality in Hot Arid Climate. <b>Amr Sayed Hassan Abdallah</b> Associate Professor Department of Architecture, Faculty of Engineering, Assiut University Egypt
12:15-12:30	Coffee Break

**Parallel Session 6 (Conference Hall No. 2)**  
**Climate Mitigation Technologies and Carbon neutrality**  
**Session Chair: Dr. Mohammad Saif Al Kalbani**

Time	Presentation
11:00-11:15	UAE 's National Net Zero by 2050 Pathway. <b>Athra Khamis Ibrahim</b> Ministry of Climate Change and Environment United Arab Emirates
11:15-11:30	Gas generated from landfills in Oman. <b>Ahmed Al Hajri</b> Senior Technical Auditor Oman Environmental Services Holding Company Oman
11:30-11:45	Microbial electrosynthesis as novel biotechnology for CO2 sequestration and renewable resource recovery for zero carbon emission. <b>Noor Juma Karim Al Balushi</b> Research Assistant Engineering Sultan Qaboos University Oman
11:45-12:00	Reducing GHG Emissions and Optimizing Renewable Energy in a Full-Scale (A2/O) Treatment Plant by Novel Process that Eliminates Side Streams Effects on Mainstream Sewage Treatment. <b>Haider M. Zwain</b> Associated Professor of Environmental Engineering College of Engineering, Al-Qasim Green University Iraq
12:00-12:15	Recent advances in biochars applications for climate change mitigation and wastes sustainable management. <b>Salah Al Jellali</b> Senior researcher Centre of Environmental Studies and Research, Sultan Qaboos University Oman
12:15-12:30	Coffee Break

**Parallel Session 5 (Conference Hall No. 1)**  
**Climate Change Impacts and Resilient Development**  
**Session Chair: Dr. Talal Al Awadhi**

Time	Presentation
12:30-12:45	Climate Change Impacts on Irrigation Water Requirements and Implications for the Agriculture Sector in Oman. <b>Ghassan Al Ghassani</b> Environmental Team Leader Occidental Oil and Gas Company Oman
12:45-13:00	Threats of Pollution and climate change to the Arabian Oryx Sanctuary, Oman. <b>Kurram Goraya</b> Veterinarian, Al Wusta Wildlife Reserve (WWR) Environment Authority Oman
13:00-13:15	Climate modeling soil moisture quality prediction Using the Internet of Things (IoT) and LPWAN Sensors in Oman. <b>Maha Al-Hindasi</b> Web Engineer computing And Information Technology Sohar University Oman
13:15-13:30	The impacts of the summer season on the hotel occupancy rate in the Sultanate of Oman. <b>Dr. Said Al Mashrafi</b> Assistant Director General for Projects & Product Development Ministry of Heritage and Tourism Oman
13:30-13:45	Rainfall vulnerability and its impacts on water resources in Oman. <b>Dr. Salim Al Hatrush</b> Associate Professor Oman
13:45-15:00	Lunch

**Parallel Session 6 (Conference Hall No. 2)**  
**Climate Mitigation Technologies and Carbon neutrality**  
**Session Chair: Dr. Mohammad Saif Al Kalbani**

Time	Presentation
12:30-12:45	Production of bio diesel from fresh water algae. <b>Said salim al Harizi</b> Planning and development specialist Dhofar Governor's Office Oman
12:45-13:00	Utilizing Renewable Energy Sources to Reduce Carbon Dioxide Air Pollution in a Heath Clinic in Oman Through Modelling Process. <b>Paul Okonkwo</b> Assistant Professor Mechanical & Mechatronics Engineering Department, Dhofar University Oman
13:00-13:15	Improving Microbial Desalination Cell Performance by cathode modification using BiOCl/gCN as electro-catalyst to achieve a low-carbon emitting technology.. <b>Sadik Rahman</b> Civil Engineer Sultan Qaboos University Oman
13:15-13:30	The reality of achieving carbon neutrality in school system in the Sultanate of Oman from the point of view school administration and teachers. <b>HE. Pro. Abdullah Ambusaidi</b> <b>Dr. Huda Mubarak Al Dayri</b> Cultural Affairs Specialist Omani National Commission for Education Culture and Science Oman
13:30-13:45	Comparison between Conventional Activated Sludge (CAS) and Membrane Bioreactor (MBR) Process in the Municipal Wastewater Treatment. <b>Eng. Balqis Ibrahim Al Ajmi, Civil Engineer</b> <b>Eng. Hajar Mohammed Al Shezawi, Architectural Engineer</b> North Al Batinah Municipality, Oman
13:45-15:00	Lunch

**Parallel Session 7 (Conference Hall No. 3)**  
**Air Quality: Monitoring, Measuring, and Modeling Environmental Hazards**  
**Session Chair: Professor Yassine Charabi**

Time	Presentation
11:00-11:15	Analysis of a Synoptic Severe Dust Storm Event in the Middle East and its Impacts on PM10 and PM2.5 Levels in Oman. <b>Dr. Rahma Al Nadhairi</b> Environmental Management Expert Environment Authority Oman
11:15-11:30	Long term Seasonal variation of aerosol optical properties over Middle East using MERRA-2. <b>Imran shahid</b> Research Associate Professor Environmental Science Centre, Qatar University Qatar
11:30-11:45	Real-Time Air pollution Notification System Based on Raspberry Pi Microcontroller and IOT Sensors for Sohar port. <b>Rayyan Salim Al-Breiki</b> Computing and Multimedia (CMM) Sohar University Oman
11:45-12:00	Towards Air Quality Improvement Via Various Renewable Energy Approaches. <b>Zeinab Yavari</b> Assistant Professor Civil and Architectural Engineering Department Sultan Qaboos university Oman
12:00-12:15	Anthropogenic Emissions of Aerosol over an urban Environment of Northern Pakistan: Implication to Air Quality and Climatic impacts. <b>Khan Alam</b> Associate Professor Department of Physics, University of Peshawar Pakistan
12:15-12:30	Coffee Break

**Parallel Session 8 (Conference Hall No. 4)**  
**Environmental Effects & health impacts of air pollution**  
**Session Chair: Dr. Hassan Ali Al-Reasi**

Time	Presentation
11:00-11:15	Impact of the Cov2 on the environment found the right solution. <b>Adel El Hadidy</b> Professor of Technical Textiles & Apparel Technology Textile Engineering Department, Faculty of Engineering Mansoura University Egypt
11:15-11:30	Investigating the role of atmospheric circulation and temperature inversion in persistent smog events over South Asian mega cities. <b>Mujtaba Hassan</b> Assistant professor Institute of Space Technology, Islamabad Pakistan
11:30-11:45	Phytomining of Pure Nickel from special Plants for environmental impact in Oman. <b>Mohamed Ahmed AbdelKawy</b> Environmental Specialist Supreme Council for Environment, Manama Kingdom of Bahrain
11:45-12:00	Effects of Indoor Air Pollution on Health and Olfactory System by Using Internet-Of-Things (IoT) and Smart Sensors. <b>Shafeeque ur Rehman</b> Plantation Officer The Benazir Bhutto Shaheed University of Technology and Skill Development Pakistan
12:00-12:15	Influence of Some Gaseous and Particles Emissions from Municipal Solid Waste Dumps on Ambient Air Pollution in Selected Baghdad regions. <b>Maitham Abdulah Sultan</b> Head of Environment and Water Department Ministry of Science and Technology Iraq
12:15-12:30	

**Parallel Session 7 (Conference Hall No. 3)**  
**Air Quality: Monitoring, Measuring, and Modeling Environmental Hazards**  
**Session Chair: Professor Yassine Charabi**

Time	Presentation
12:30-12:45	Modeling the Nexus between Air Pollution and Growth: A VECM and Causality Analysis for Oman. <b>Sufian Abdel-Gdir</b> Associate Professor in Economics Department of Public Law, Sultan Qaboos University Oman
12:45-13:00	Spatial Management of Quarries and Crushers: Al Obeid Village, South Al Batinah Governorate, a case study. <b>Abdullah Al-Saqri</b> Project Manager Environment Authority Oman
13:00-13:15	The Mathematical Modeling of air pollutants emitted from a fixed source. <b>Khaled Al Mashrafi</b> Assistant professor of Mathematics College of Applied and Health sciences A'Sharqiyah University Oman
13:15-13:30	The suitability of utilizing slag in subbase and base course of flexible pavements. <b>Osama Ragab Ibrahim</b> Assistant Professor Civil Engineering Department, Faculty of Engineering, Sohar University Oman
13:30-13:45	
13:45-15:00	Lunch

**Parallel Session 8 (Conference Hall No. 4)**  
**Environmental Effects & health impacts of air pollution**  
**Session Chair: Dr. Hassan Ali Al-Reasi**

Time	Presentation
12:30-12:45	Environmental and Health Risk Assessment and Characterization Resulting from Air Pollution in Al-DORA District in Baghdad. <b>Basim Abdul Sattar Hussain</b> Environmental and Water Research Directorate, Ministry of Science and Technology, Baghdad Iraq
12:45-13:00	Influence of enzyme on biogas generation using conductive material assisted thermophilic anaerobic digester. <b>Abdullah Al-Mamun</b> Assistant Professor Civil and Architectural Eng. Department, Sultan Qaboos University Oman
13:00-13:15	Air Quality During COVID-19 Lockdown Period in the Eastern Mediterranean Region. <b>Heba Safi</b>
13:15-13:30	Contribution of atmospheric processes to the degradation of air quality: case study (Sohar Industrial Area, Oman) <b>Abdulla Al Khadouri</b> Directorate General of Meteorology, Civil Aviation Authority Oman
13:30-13:45	Does climate change explain the rising incidence of early onset colorectal cancer? Dr. Adhari Al Zaabi <b>Assistant Professor</b> College of Medicine and Health Sciences Sultan Qaboos University Oman
13:45-15:00	



### Wednesday 18 January 2023

8:00-10:00

#### Closing Ceremony:

- National Anthem / Quran Recitation
- Closing Speech: HE. Dr. Abdullah Bin Ali Al Amri, Chairman of the Environment Authority
- Closing Movie
- The Five Best Presentations Awards
- Winners in Youth Eco-Thone Awards
- Conference Organizers Awards
- Conference Scientific Committee Awards
- Sponsors Awards
- Conference Organizing Committee Awards

10:00-10:30

#### Coffee Break

10:30-13:00

#### Site Visits:

- Oman Botanic Garden
- Royal Opera House Muscat
- The National Museum

13:00-14:00

#### Lunch

14:00-20:00

#### Tourism Tours:

Tour around Muscat / Mutrah Souq

### Thursday 19 January 2023

8:00 - 20:00

#### Open Day

THANK YOU