





# NATIONAL LEVEL SYMPOSIUM ON SCOPE OF RENEWABLE ENERGY AND ITS APPLICATIONS SORESA 2022

# SYMPOSIUM PROGRAMME

1 JUNE 2022, 9:00 AM-3:00 PM

TIME	EVENT / ACTIVITY	VENUE
9:00 AM — 10:00 AM	REGISTRATION	ENGINEERING LOBBY
10:00 AM — 11:00 AM	INAUGURAL PROGRAM Recitation of the Holy Quran Welcome Remarks Release of Book of Abstracts Keynote Address Honoring the Guests	LECTURE THEATRE (B002)
11:00 AM — 11:20 AM	OPENING OF PROJECT/POSTER EXHIBITION	MULTI-PURPOSE HALL (B102)
11:00 AM — 11:20 AM	TEA BREAK	RESEARCH CENTER (B103)
11:20 AM — 1:20 PM	PAPER AND POSTER PRESENTATIONS (SIMULATANEOUS ONLINE AND OFFLINE PRESENTATIONS)	REFER TO THE SCHEDULES FOR THE ASSIGNED VENUES
1:30 PM — 2:00 PM	CLOSING AND VALEDICTION PROGRAM Closing Remarks Awarding of Mementos and Certificates Vote of Thanks	LECTURE THEATRE (B002)
2:00 PM — 3:00 PM	LUNCHEON	VIP HALL GROUND FLOOR MAIN BUILDING

Website

http://www.ibrict.edu.om/soresa22/ E-Mail

soresa@ibrict.edu.om



Please scan this QR CODE for the Symposium Feedback.











# PROJECT AND RESEARCH POSTER EXHIBITION

**MULTIPURPOSE HALL (B102)** COORDINATOR: JOSEPH MICHEL SESSION CHAIR: GANESH REDDY

# Conversion of Waste Cooking Oil into Biodiesel as **Alternative to Fossil Fuel**

Almakhtar Juma Surur Al-Muqbali Mazin Said Saavid Al Hinai Dr. Divakara Shetty A.S UTAS, Ibri, Oman SORESA22\_PR\_101

### **Production of High Quality Fire Briquettes from Date Palm Industry Wastes**

Aadil Suwaid Khamis Al-Shukaili Khamis Ali Said Al Abd Al-Kindi Dr. Divakara Shetty A.S UTAS, Ibri, Oman SORESA22 PR 102

# Self-Cleaning and Unconventional Rotary Air Purifier for Industrial Area

Mohammed Qasim Al-Sadrani Rashid Mustafa Al-Wahibi UTAS, Shinas, Oman SORESA22\_PR\_105

### A Feasible Method to Reduce the Avian Mortality for Solar PV

Nawf Kalifa Said Al-Shukaili Nuzhah Masoud Rashid Al-Farsi Dr. Sharmila Deve V. UTAS, Ibri, Oman SORESA22\_PR\_103

#### Mustadeem

Sara Rashid Jaber Al-Abri UTAS, Ibri, Oman SORESA22\_PR\_104

#### **Design and Fabrication of Footstep Power Generation** System Using Rack and Pinion Gear Mechanism

Krishnakumar Kosalaram UTAS, Ibri, Oman SORESA22\_PR\_111

# **Design and Fabrication of Air Engine**

Hilal Khamid Rashid Al-Hana Hamdan Rashid Mohammed Al-Farsi Dr. Geetha Baskaran UTAS, Ibri, Oman SORESA22 PR 114

#### **Extraction and Testing of Bio-Ethanol from Lost Dates**

Majid Said Abdullah Al-Shuaili Abdallah Ali Sulaiman Nasoud Al-Ghaithi Dr. Arthur Davis Nicholas UTAS, Ibri, Oman SORESA22\_PR\_107

# **Identification and Eradication of Red Palm Weevil** (RPW) and Its Larvae and to Save Heavily Populated **Dates Palm Trees in Oman**

Amjad Mohammed Nasser Talib Al-Kalbani Hamam Salim Hamdan Al-Shaaili Dr. Arthur Davis Nicholas UTAS, Ibri, Oman SORESA22\_PR\_108

#### Solar-Powered Wireless Water Level Monitor

Manal Rashid Al-Hatmi Yasmine Al-Majarfi Hajar Masaaod Al-Badi Dr. M. Muruganandam UTAS, Ibri, Oman SORESA22\_PR\_110

# Yaw Control Mechanism for Horizontal Axis Wind **Turbine by Servo Motor Unit**

Qais Khalifa Hammad Al-Hinai AbdulWahed Salim Ali Al-Alawi Ammar Ali Salim Al-Mamari Said Hamed Saif Al-Badi Dr. G. Kumaravel UTAS, Ibri, Oman SORESA22\_PR\_112

#### Development of Cementless Green Mortar Using Industrial Waste Materials

Miaad Ali Rashid Al-Mamari Noor Hamed Hassan Al-Breiki Sara Salim Hamed Al-Hosani Noura Younis Ali Al-Sadaranid Reem Abdulwahad Khalfan Al-Zaabi Dr. Maria Raiesh UTAS, Shinas, Oman SORESA22 PR 115

# **IoT-Based Wind Speed Tracking System for Horizontal Axis Wind Turbine Using GSM** Technology

Iman Said Al-Kalbani Khadija Sulaiyam Al-Hinai Dr. G. Kumaravel UTAS, Ibri, Oman

# Highway Energy Harvesting with Vertical Axis Wind Turbine in Ibri Wilayat, Oman

Abeer Majed Al-Magbali Aisha Mohammed Al-Maqbali Maryam Nasser Al-Hinai Safa Abdullah Al-Sukaiti Dr. Sharmila Deve V. UTAS, Ibri, Oman SORESA22\_PR\_109

# Reem Mohmmed Al-Muzahmi

SORESA22\_PR\_113











	ON CA	MPUS PRESENTATIONS	ON CAMPUS PRESENTATIONS					
ТНЕМЕ	SOLAR AND WIND ENERGY SYSTEMS	RENEWABLE ENERGY	ENERGY SYSTEMS					
TIME	VENUE: LECTURE THEATRE (B002) COORDINATOR: AHMED AL-ADWANI SESSION CHAIR: DR. SIVANANTH	VENUE: ELECTRICAL SKILLS LAB (B006) COORDINATOR: SALEH AL-SHAAILI SESSION CHAIR: KHALID MEHMOOD	VENUE: ELECTRONICS SKILLS LAB (B105) COORDINATOR: ALMUHANNAD AL-NADAB SESSION CHAIR: DR. DIVAKARA					
11:20 AM to 11:40 AM	Comparison of Optimized of Fuzzy and Anfis-Based MPPT Controller for Wind Power Generation System with Buck Converter  Dr. Annamalai Muthu Dr. Uma Maheswari .T UTAS, Nizwa, Oman SORESA22_001	Intelligent Techniques Based Hybrid Renewable Energy Smart Villages with the Concepts of Distributed Generation Al Khatab Salim Ali Juma Al-Harthy Al-Anoud Hamed Ali Al-Rasbi Abdul Rahim Abdallah Ali Al-Alawi UTAS, Ibra, Oman SORESA22_004	The Condition Monitoring of Electrical Equipment Using Ultraviolet Imaging Analyzed with Machine Learning Algorithms Alreem Majid Ali Al-Risi Fatma Hassan Khamis Al-Zaabi Raqiya Khalid Mohammed Al-Maaini Azza Marwan Salim Al-Washahi UTAS, Shinas, Oman SORESA22_009					
11:40 AM to 12:00 PM	Solar Powered IoT-Based Weather Monitoring System Using Thingspeak and Blynk App Sugumaran Ganesan Khawla Yaqoob Ambu Ali Muna Mubarak Al-Nabhani Maroa Khalfan Ambu Saidi Zwina Ali Ambu Saidi UTAS, Nizwa, Oman SORESA22_005	A Techno-Economic Feasibility Study of Various Renewable Energy Power System Configurations into an Existing Utility Grid System in Oman Said Salim Al-Mashaikhi Edinburgh Napier University Edinburgh, Scotland SORESA22_006	The Condition Monitoring of the Insulating Oil Health Condition with Dissolved Gas Analysis and Thermodynamic Approach Shahad Khalifa Ali Al-Seidi Athari Abdullah Murad Al-Balushi Ahoud Saleh Rabia Al-Matani UTAS, Shinas, Oman SORESA22_010					
12:00 PM to 12:20 PM	Techno-Economic Feasibility Analysis of a Solar Photovoltaic- Powered Air Conditioning System  Manal Khamis Al-Shibli Fay Mohammed Al-Essai Asila Nasser Al-Shibli Afrah Khamis Al-Essai UTAS, Shinas, Oman SORESA22_024	Electrical Energy Harvest Using Gym Equipment Hanan, Hanan Al-Riyami Johaina Al-Kalbani Iman Al-Hinai Manal Al-Hatmi UTAS, Ibri, Oman SORESA22_007	Automated Flow Management Device for Oman Water Networking System Khalid Nasser Ali Al-Sawafi Salim Ali Salim Al-Maqbali Dr. Arthur Davis Nicholas Aaron James UTAS, Ibri, Oman SORESA22_017					
12:20 PM to 12:40 PM	Experimental Analysis of NACA4412 in a Subsonic Wind Tunnel and Validating its Results Azzan Salim Ali Al-Balushi Yousuf Abdullah Salim Al-Saidi Abdulaziz Humaid Ali Al-Hinai Dr. Arthur Davis Nicholas UTAS, Ibri, Oman SORESA22_023	Renewable Energy Status in GCC Countries Wafa Salim Al-Hinai UTAS, Ibri, Oman SORESA22_016	Electrical Power Management of Ibri College of Technology through Energy Auditing by Infrared (IR) Thermography Imaging Techniques Ahmed Hamed Hammad Al-Ghafri Abdulaziz Khalid Al-Hinai Dr. Arthur Davis Nicholas Lizette Ivy Pascual UTAS, Ibri, Oman SORESA22_018					
12:40 PM to 1:00 PM	Experimental Flow Analysis of an Uniaxial Wind Turbine Blade Using a Subsonic Wind Tunnel Mohammed Khalifa Al-Kalbani Abdullah Humaid Al-Shuaili Ahmed Khalfan Al-Shuaili Rashid Mohammed Al-Zeidi UTAS, Ibri, Oman SORESA22_019	Thermal Performance of Green Cementless Mortar Developed from Industry Waste Materials Miaad Ali Rashid Al-Mamari Noor Hamed Hassan Al-Breiki Dr. Maria Rajesh A. UTAS, Shinas, Oman SORESA22_011	Estimating the Potable Water Mismatch in the Ibri Water Supplying Network in Billing and to Locate the Mismatching Zone Almustafa Sulaiman Al-Rawahi Yusuf Ahmed Al-Mamari Ahmed Hamed Abdullah Al-Adwani Dr. Arthur Davis Nicholas UTAS, Ibri, Oman SORESA22_020					
1:00 PM to 1:20 PM	IoT Based Digital Tachometer for Wind Turbine Rotor Speed Measurement using Arduino Manal Rashid Zayid Sulaiman Al-Hatmi Yasmine Ali Khalaf Nasser Al-Majarfi Hajar Masaaod Hamood Al-Badi UTAS, Ibri, Oman SORESA22_008	IOT Based Control of Electrical Appliances with Enabled Fault Defection System Wedad Salim Hamed Al-Hashimi Samya Amur Mohammed Al-Sulaimi UTAS, Ibra, Oman SORESA22_012	Experimental and Theoretical Investigations on Composite Helical Compression Springs Used in Automobiles K. Manikandan G. Raja UTAS, Shinas, Oman SORESA22_025					











ONLINE PRESENTATIONS				
ТНЕМЕ	RENEWABLE ENERGY	SOLAR ENERGY SYSTEMS		
TIME	VENUE: COMPUTER LABORATORY (B118) COORDINATOR: VEERA NAGI REDDY SESSION CHAIR: NAWAL AL-SAWAFI	VENUE: AUTOCAD LABORATORY (B117) COORDINATOR: DR. SUTHAGAR JOHN SESSION CHAIR: DR. STEPHEN LEON JOSEPH		
11:20 AM to 11:40 AM	Generating Electricity by Using Wave Energy  Budoor Hilal Al-Wahaibi  Malak Mohammed Al-Wahaibi  Dr. Rajalakshmi Devaraj  UTAS, Muscat, Oman  SORESA22_002	Intelligent Solar Tracking System Using Arduino  Jasim Hamed Nasser Al-Siyabi Zahid Zahir Mohammed Al-Rawahi Abdul Aziz Faiz Taysir Al-Khalili Dr. Vimalakeerthy Devadoss UTAS, Nizwa, Oman SORESA22_015		
11:40 AM to 12:00 PM	Comparative Analysis of Solar-Fed Multilevel Inverter with Conventional Inverter Nidhal Adil Al-Maharbi Abdulaziz Zahir Al-Abri Sulaiman Mohammed Al-Wahaibi Hassan Sumar Al-Balushi Dr. Rajalakshmi Devaraj UTAS, Muscat, Oman SORESA22_003	Impact of Dust on the Performance of PV Panel  Bayan Ibrahim Al-Siyabi  Umaima Hamood Al -Rawahi  Fadwa Juma Al-Zadjali  Sundus Yousuf Al-Rumhi  Satheesh Sampath  UTAS, Muscat, Oman  SORESA22_021		
12:00 PM to 12:20 PM	Solar Power Monitoring Using Arduino Mega  Asma Abid Al-Toubi Buthaina Saif Al-Busaidi Athari Abudullah Al-Zakwani Hanadi Said Al-Harrasi Dr. Vimalakeerthy UTAS, Nizwa, Oman SORESA22_014	Performance Studies on Solar Refrigerators with Alternative Refrigerants and Their Mixtures K. Manikandan Dr. Joseph Sekhar UTAS, Shinas, Oman SORESA22_022		
12:20 PM to 12:40 PM	Renewable Energy Scenario in the Sultanate of Oman Abdul Malik Abdul Baseer Dr. Krishnamoorthy Keerthivasan UTAS, Muscat, Oman SORESA22_013	Comparative Analysis of Solar-Based Thermoelectric Cooler with Conventional Vapour Compression Refrigerator E Devandiran M. Udayakumar N Sellappan UTAS, Salalah, Oman SORESA22_026		
12:40 PM to 1:00 PM		Design and Fabrication of Solar- Operated Pesticide Sprayer for Agricultural Purpose Abdul Aziz Musallam Said Musallam Masan Al- Kathiri E Devandiran UTAS, Salalah, Oman SORESA22_027		









