

6<sup>th</sup> , 7<sup>th</sup>  
April

## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

### Abstract

The Saudi Vision 2030 focuses on the investment power to create a more diverse and sustainable economy. The vision highlights the indispensable role of science and technologies to develop sustainable local solutions and preventing the exhaustion of natural resources. Accordingly, the motivation behind the **International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021**, hosted by the college of science at **Imam Abdulrahman Bin Faisal University**, is to promote and strengthen the role of science and technologies so they effectively respond to the Saudi Arabia 2030 vision. During this webinar, we aim at looking for inspiring experiences and advanced intelligent solutions in water and waste management, renewable energy, advanced materials, ecosystem management, and recent advances in mathematical modeling that would support and activate the role of science in sustainable development.

### Webinar Themes

- Biosciences, Ecosystems, and Environment.
- Sciences and Technology of Advanced Materials.
- Numerical and Mathematical Modeling for Sustainable Development.
- Renewable Energy and Water Sustainability In KSA.

For information please  
visit our website





6<sup>th</sup>, 7<sup>th</sup>  
April

## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

### Speakers of the First Day Tuesday 6 April, 2021



**Dr. Yarub AlDouri**  
Professor

Nanotechnology and  
Catalysis Research Centre  
University of Malaya

Malaysia



**Dr. Sining Yun**  
Professor

Functional Materials  
Laboratory, School of  
Materials Science and  
Engineering, University of  
Architecture and Technology

China



**Dr. Tewfik Sari**  
Professor

The French National  
Research Institute for  
Agriculture, Food and  
Environment INRAE

France



**Dr. Safia Anjum**  
Professor

Lahore College for Women  
University, Lahore

Pakistan



**Dr. Mejd Azaiez**  
Professor

Mechanical Engineering at  
the Polytechnic Institute of  
Bordeaux

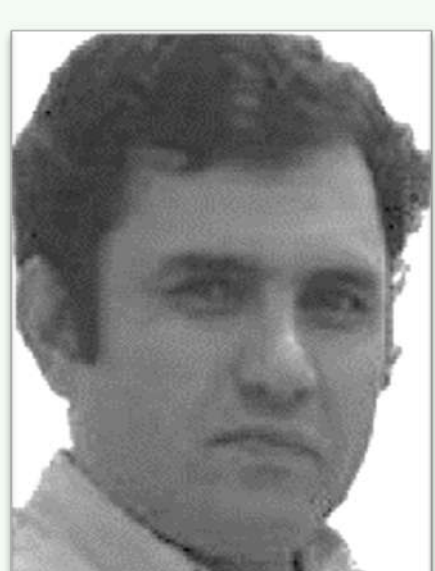
France



**Dr. Nabil Gmati**  
Professor

Mathematics Department  
College of Science, Imam  
Abdulrahman  
Bin Faisal University

Saudi Arabia



**Dr. Ilyas Khn**  
Associate Professor

The Department of  
Mathematics, Majmaah  
University

Saudi Arabia



**Dr. Yasser S Alajerami**  
Associate Professor

AL-AZHAR University -Gaza,  
Palestine  
Ohio University-USA  
HCT-UAE

Palestine, USA, UAE



**Dr. Muhammad Iqbal**  
Associate Professor

GIK Institute of Engineering  
Sciences & Technology, Topi  
23640, Khyber Pakhtunkhwa

Pakistan



**Dr. Sharidan Shafie**  
Associate Professor

Department of Mathematical  
Sciences, Faculty of Science,  
Universiti Teknologi

Malaysia



**Dr. Mohd Arif Agam**  
Associate Professor

University Tun Hussein Onn

Malaysia



**Dr. Muhammad Awais**  
Senior Research Scientist

The University of Liverpool,  
UK

United Kingdom



**Dr. Ridha Hamdi**  
Assistant Professor

Department of Physics, Imam  
Abdulrahman Bin Faisal  
University

Saudi Arabia



**Dr. Maram Alwohaibi**  
Assistant Professor

Department of Mathematics  
Imam Abdulrahman Bin  
Faisal University

Saudi Arabia

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April

## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

### Speakers of the Second Day Wednesday 7 April, 2021



**Dr. Nouar Tabet**  
Professor

Dean of College of Sciences  
University of Sharjah

UAE



**Dr. Mohamed Ibrahim**  
Professor

Kean University NJ, USA

USA



**Dr. Andre Schleife**  
Professor

University of Illinois Urbana-  
Champaign

USA



**Dr. Abir Abdel-naby**  
Professor

Department of Chemistry  
College of Science, Imam  
Abdulrahman Bin Faisal  
University

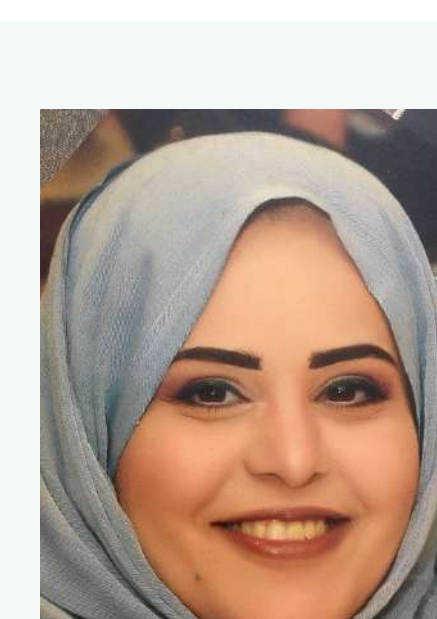
Saudi Arabia



**Dr. Asmaa Mohamed**  
Associate Professor

Basic Science Department,  
Higher Technological  
Institute, 10th of Ramadan,  
6th of October Branch

Egypt



**Dr. Zainab Almutairi**  
Associate Professor

College of Science and  
Humanities  
Prince Sattam bin Abdulaziz  
University

Saudi Arabia



**Dr. J. Francis Borgio**  
Associate Professor

IRMC, Imam Abdulrahman  
Bin Faisal University

Saudi Arabia



**Dr. Asma Elsharif**  
Associate Professor

Department of Chemistry  
College of Science, Imam  
Abdulrahman Bin Faisal  
University

Saudi Arabia



**Dr. M Zafar Hashmi**  
Assistant Professor

Department of Chemistry  
COMSATS University

Pakistan



**Dr. Omeje Maxwell**  
Assistant Professor

Department of Physics  
Convenant University

Nigeria



**Dr. Amani Rached**  
Assistant Professor

Department of Physics  
College of Science, Imam  
Abdulrahman Bin Faisal  
University

Saudi Arabia



**Dr. Maryam AL-Soufi**  
Assistant Professor

Department of Biology  
Sciences, Science College,  
Imam Abdulrahman Bin Faisal  
University

Saudi Arabia



**Dr. Nadiyah Alabdullah**  
Assistant Professor

Department of Biology  
Sciences, Science College,  
Imam Abdulrahman Bin Faisal  
University

Saudi Arabia



**Eng. Mohamed Alsufi**  
Engineer

Engineering consulting castle  
of SOFIA (ECCOS)

Saudi Arabia

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# International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

**Day 1: Tuesday 6 April 2021**

QR code for Attendance



## Advanced Materials and Recent Advances in Mathematical Modelling For Sustainable Development

**Session 1**

**Chairman : Dr. Tahani Al-Qahtani**  
Assistant Professor of Materials, Department of Physics, CSD, IAU

8 :30 am → 9:00 : **Opening Ceremony**

Time (KSA)	Title of the Presentation	Speaker
9:00 → 9:25	Solar Cell and Nanotechnology	<b>Prof. Yarub Aldouri</b> Nanotechnology and catalysis research center University of Malaya <b>Malaysia</b>
9:25 → 9:50	Investigation of Gamma radiation shielding properties of cadmium bismuth borate glass experimentally, XCOM program and MCNP5 code	<b>Dr. Yasser Alejrami</b> Ohio state university <b>USA</b>
9:50 → 10:15	Investigation of magnetic and ferroelectric properties of chromium substituted M-type barium hexaferrites	<b>Prof. Safia Anjum</b> Lahore College for women university <b>Pakistan</b>
10:15→ 10:35	Liquid crystals for LCDs technology	<b>Dr.Ridha Hamdi</b> College of Science , Imam Abdulrahman Bin Faisal University <b>KSA</b>
10:35→ 11:00	Newtonian, and non-Newtonian fluid	<b>Dr.Ilyas khan</b> Al Majmaah university <b>KSA</b>
11:00 → 11:25	New Neural Network classification method	<b>Prof. Nabil Gmati</b> -College of Science , Imam Abdulrahman Bin Faisal University <b>KSA</b>  <b>Dr.Harouna Soumare</b> National Engineering School of Tunis <b>Tunisia</b>
11:25 → 11:50	Modelling the Risk of Underfunding in ALM Models	<b>Dr. Maram Alwohaibi</b> College of Science , Imam Abdulrahman Bin Faisal University <b>KSA</b>
Break from 11:50 → 1:00		



## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

Session 2	<b>Chairman : Dr. Lulwah Al-Essa</b> Assistant Professor of Algebra, Department of Mathematics, CSD, IAU	
Time (KSA)	Title of the Presentation	Speaker
1:00 → 1:25	Recent Trends and Inovations Towards Next Generation Hybrid Energy Storage Devices	<b>Dr. Zaheer Iqbal</b> GIK Institute of engineering science and technology <b>Pakistan</b>
1:25 → 1:50	Characteristic of Various Essential Dimensionless Numbers on Fluid Flow and Heat Transfer Phenomenon	<b>Dr. Sharidan Bin Shafie</b> University Technology Malaysia <b>Malaysia</b>
1:50 → 2:15	The Chemostat: Mathematical Theory of Microorganism Cultures	<b>Prof. Sari Tewfik</b> The French National Research Institute for Agriculture, Food and Environment (INRAE) <b>France</b>
2:15 → 2:35	Tantalum-based Transition Metal Nanohybrid: From Nano-size to Single Atom	<b>Prof. Sining Yun</b> XIAN university of Architecture and Technology <b>China</b>
2:35 → 3:00	Laser Irradiated Doped Polystyrene as Facile Technique in Fabricating Graphitic Materials	<b>Dr. M Arif Agam</b> Faculty of Applied Sciences and Technology UTHM <b>Malaysia</b>
3:00 → 3:25	Novel technology for detection of environmental hormones in live cells	<b>Dr. Muhammad Awais</b> University of Liverpool UK <b>United Kingdom</b>
3:25 → 3:50	Virtual material for Thermal Energy Storage	<b>Prof. Azaiez Mejdi</b> Bordeaux University <b>France</b>



# International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

**Day 2: Wednesday 7 April 2021**

QR code for Attendance



Biosciences, Ecosystems, Renewable Energy, and Water Sustainability		
Session 1	Chairman : Dr. Hanan Almahasheer Assistant Professor of Plant Ecology, Department of Biology, CSD, IAU	
8 :30 am → 9:00 : Opening Ceremony		
Time (KSA)	Title of the Presentation	Speaker
9:00 → 9:25	Diversity of Local Pear Millet Varieties: Toward Food Security in Saudi Arabia	Dr. Zainab Almutairi College of Science and Humanities Prince Sattam bin Abdulaziz University KSA
9:25 → 9:50	Gene - Environment (G×E) Interactions Influence Human Phenome	Dr. J. Francis Borgio IRMC, Imam Abdulrahman Bin Faisal University KSA
9:50 → 10:15	Arsenic levels and biomethylation genes abundance in Paddy soils from Pakistan	Dr. M Zafar Hashmi Department of Chemistry COMSATS University Pakistan
10:15→ 10:35	Sustainable Soil Amendment for Saudi Arabian Sandy Soil	Dr. Maryam Haroon AL-Soufi College of Science, Imam Abdulrahman Bin Faisal University KSA
10:35→ 11:00	Impact of algal biofertilizer on plants growth and metabolism under Salt Stress Conditions	Dr. Nadiyah Alabdullah College of Science, Imam Abdulrahman Bin Faisal University KSA
11:00 → 11:25	Soil contamination and Remediation	Prof. Mohamed Ibrahim KEAN UNIVERSITY, School of Natural Sciences NJ USA
11:25 → 11:50	Modelling and performance optimization of InGaN based PIN Solar cells	Dr. Amani Rached College of Science, Imam Abdulrahman Bin Faisal University KSA  Dr. Rabeb Belghouthi Université de Lorraine, Centrale Supélec, LMOPS, Metz France
Break from 11:50 → 1:00		



## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021




Session 2	<b>Chairman : Dr. Reem AlBilali</b> Assistant Professor of Physical Chemistry, Department of Chemistry, CSD, IAU	
Time (KSA)	Title of the Presentation	Speaker
1:00 → 1:25	PV Technology: R&D Paths to Exit the Oil Age	<b>Prof. Nouar Tabet</b> Dean of College of Sciences University of Sharjah <b>UAE</b>
1:25 → 1:50	LIBS as a strategy for enhancing water Quality	<b>Dr. Asmaa Elhassan Ramadan Mohamed</b> Basic Science Department, Higher Technological Institute, 10th of Ramadan, 6th of October Branch <b>Egypt</b>
1:50 → 2:15	Graft Copolymerization of Diallylamine onto starch, as non-Energy consuming Resins for water treatment use	<b>Prof. Abir Abdel-naby</b> College of Science, Imam Abdulrahman Bin Faisal University <b>KSA</b>
2:15 → 2:35	Increasingly Important of Sustainable water Resource Management: Challenges and Prospects in Saudi Arabia	<b>Dr. Omeje Maxwell</b> Department of Physics Covenant University <b>Nigeria</b>
2:35 → 3:00	Water & Energy Production Dreems, Protection & Tariffs(Including Renewable Resources)	<b>Eng. Mohamed AL-Sufi</b> Engineering consulting castle of SOFIA (ECCOS) <b>KSA</b>
3:00 → 3:25	Solar Energy Water Splitting for Storable Fuel Generation	<b>Dr. Asma Elsharif</b> College of Science, Imam Abdulrahman Bin Faisal University <b>KSA</b>
3:25 → 3:50	Materials Design Driven by Computation and Shared Research Data: The Example of Excited Electrons	<b>Prof. Andre Schleife</b> University of Illinois Urbana-Champaign <b>USA</b>





## International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia 2021

### Poster Session

#### Day 1: Tuesday 6 April 2021

Time	Title of Presentation	Speaker	QR for Attendance
11:50→ 1:00	The Selective Hydrogenation of Furfural over Supported Palladium Nanoparticle Catalysts Prepared by Sol-Immobilization: Effect of Catalyst support and Reaction Conditions	<b>Dr.Reem AlBilali</b> College of Science, Imam Abdulrahman Bin Faisal University	
11:50→ 1:00	Structural and radiation shielding features for a new series of borate glass samples	<b>Dr. Mohammad Abu Mhareb</b> College of Science, Imam Abdulrahman Bin Faisal University	
11:50→ 1:00	Microbial influenced corrosion by sulfate reducing bacteria	<b>Sara Alsaggaf</b> College of Science, Imam Abdulrahman Bin Faisal University	

#### Day 2: Wednesday 7 April 2021

Time	Title of Presentation	Speaker	QR for Attendance
11:50→ 1:00	III-Posed Multi-Dimensional Boundary Value Problems for Linear Hyperbolic Equations of Higher Order	<b>Dr.Noha Aljaber</b> College of Science, Imam Abdulrahman Bin Faisal University	
11:50→ 1:00	Scalable synthesis of Cu–Sb–S phases from reactive melts of metal xanthates and effect of cationic manipulation on structural and optical properties	<b>Dr. Tahani Al-Qahtani</b> College of Science, Imam Abdulrahman Bin Faisal University	
11:50→ 1:00	Effective Adsorption Heavy Metals from wastewater by using polyamide Graphene (PAG)	<b>Afnan Ajeebi</b> College of Science, Imam Abdulrahman Bin Faisal University	