

*International Workshop on*  
**International Workshop on Green Energy Technologies:  
 Opportunities and Challenges**

(October 29-30, 2019)



Organized by  
**Department of Energy Systems Engineering &  
 Faculty of Agricultural Engineering & Technology  
 University of Agriculture, Faisalabad, Pakistan**  
 ([www.uaf.edu.pk](http://www.uaf.edu.pk))  
 &  
**University of Kassel, Germany**  
 ([www.uni-kassel.de](http://www.uni-kassel.de))

Sponsored by

**International Center for Development and Decent Work (ICDD) Germany  
 Higher Education Commission (Technology Development Fund)  
 (Project # 061 & Project # 082)**

## 1. Preamble

In connection to international conference and workshops on Renewable Energy Technologies in Pakistan organized at University of Agriculture, Faisalabad in 2013, 2014, 2015 and 2016, this year Department of Energy Systems Engineering, Faculty of Agricultural Engineering and Technology is going to organize an International Workshop on "Green Energy Technologies: Opportunities and Challenges" on October 29-30, 2019 at University of Agriculture, Faisalabad-Pakistan in collaboration with International Center for Development and Decent Work (ICDD), German Academic Exchange Service (DAAD) Germany, Higher Education Commission of Agricultural Linkages Program (ALP) PARC Islamabad and Endowment Fund Secretariat (EFS) UAF.

This international workshop will focus on oral and poster presentations on different aspects of sustainable and green energy solutions viz. Renewable Energy Technologies, Energy Saving, Energy Conservation and Energy Auditing etc.

Moreover, a special awareness campaign regarding Energy Saving Strategies in the country will also be carried out. A special session will also be organized for the Continuing Professional Development (CPD) activity in collaboration with Pakistan Engineering Council (PEC) Islamabad where registered and professional engineers will be able to participate to equip their knowledge regarding sustainable energy solutions. Various international and national speakers/experts will deliver their keynote address regarding these innovative and sustainable energy solutions.

Pakistan has been facing an acute energy crisis for over more than a decade which has disturbed the domestic, industrial and commercial sector of the country. There is an urgent need to lessen the ever-widening gap between the demand and supply of electricity in the country. Given the need for energy, the Government of Pakistan is doing its utmost to explore and promote renewable energy and energy efficiency. Among renewable energy resources, solar energy is of special significance as it is abundantly available. The average solar energy available in Pakistan is  $5.5 \text{ kWh m}^{-2} \text{ d}^{-1}$  with annual mean sunshine duration between 8-10 h per day all over the country, except in the northern areas. Wind speed  $5-7 \text{ m s}^{-1}$  persists in coastal regions of Sindh and Baluchistan provinces and in a number of North West frontier valleys. More than 1200 MW micro/mini hydropower potential is estimated to be available in the country while including power generation at northern mountainous region and southern plane region including energy generation through canal fall also. Total biogas generation potential of  $14.25 \text{ million m}^3 \text{ day}^{-1}$  is available in the country. About 82 million ton biomass is available per annum which can be used to generate around 5000 MW electricity employing thermal power plants.

In developed regions like Europe and America, renewable energy is successfully utilized for power generation in the form of off-grid and grid-integrated PV systems, wind energy, biogas technology, biofuels etc. Moreover, the most important industrial processes using solar thermal energy at mean temperature level are: sterilizing, extraction, pasteurizing, drying, solar cooling and air conditioning, hydrolyzing, distillation and evaporation, washing and cleaning, and polymerization. The temperature range of these processes lies between  $60-280^\circ\text{C}$ . Most of the agro-based industries can be operated in this medium temperature range. Moving from traditional food processing facilities to modern renewable energy technologies and demand-based post-harvest facilities requires comprehensive information of the resources (solar thermal and solar PV), their potentials and requirements. Detailed information on supply and demand enables optimal use of these resources to improve livelihoods through maximizing profit. Innovative German solar thermal technologies like Scheffler fixed focus concentrator, solar tunnel dryer (STD), solar distillation system, solar bakery, solar milk pasteurizer, solar roasting system, solar cooker, solar milk chilling, solar cold storage units for perishables, controlled solar dehydrators etc. can easily be developed and used in Pakistan for the processing of fruits and vegetables as well as for value addition of different agricultural products for community development. Another source of renewable energy available from materials derived from

biological sources like wood, bio waste, straw, manure, sugarcane, and many other byproducts. By 2010, there was 35 GW of globally installed bio-energy capacity for electricity generation. In its most narrow sense, it is a synonym to bio-fuel, which is fuel derived from biological sources.

## 2. Workshop Aims and Objectives

The main objectives of the international workshop is to disseminate the knowledge about sustainable and green energy solutions for community development in the country and to share the success stories and lessons learned. Furthermore, focusing on indigenous renewable energy technologies to integrate academic learning with practice orientated industrial experience and internship for career planning.

## 3. Registration Form **(Available on a separate sheet)**

## 4. Important Deadlines

Deadline for submission of abstracts	Oct. 20, 2019 (Deadline Extended)
Notification of Acceptance	Oct. 24, 2019
Deadline for registration (Contact Persons for Registration)	October 28, 2019 Engr. Owais Manzoor (03458178768) Engr. Fatima Akram (0306-0223712) Mr. Ataa ur Rehman -Chair-IEEE (0323-9706703.) Ms. Roha Shahzad - Chair-WIE (0311-6569550)
Workshop dates	Oct. 29-30, 2019

## 5. Registration Fee

Local Participants	PKR 1000/-
UAF Students	PKR 500/-
International Delegates	100 € or equivalent
Accompanying Person	50 € or equivalent

## 6. Call for Abstracts (Workshop themes)

The interested scientists/researchers from all over the world are encouraged to submit their abstracts as per deadlines mentioned above. Please send your one page abstract (Template Attached) on one of the following workshop themes;

- Innovations in sustainable energy solutions
- Smart solutions for energy saving technologies (Energy Efficiency)
- Technology developments in the field of solar thermal and cooling applications
- PV systems (off-grid, on-grid and hybrid solutions) for household, commercial and industrial applications as well as for solar water pumping and drip irrigation purposes
- Renewable energy applications in agriculture sector
- Development and promotion of biogas and gasification technology for rural applications
- Sustainable power generation from agricultural wastes/biomass and bio-diesel (biofuels)
- Energy generation from wind/hydel/geo-thermal and fuel cells
- Energy conservation

## 7. Abstracts Submission

All abstracts clearly indicating the aims and conclusions of the work, not exceeding one page (A4 written in times new roman, 1.15-line spacing with 4-5 keywords) with authors and affiliations, contact details should be submitted to Dr. Anjum Munir, Associate Professor/Chairman, Deptt. of Energy Systems Engineering ([anjum.munir@uaf.edu.pk](mailto:anjum.munir@uaf.edu.pk)), Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad (PAKISTAN) on or before October 20, 2016. Abstracts will be selected by the organizers after peer review. A book of accepted abstracts will be produced and handed over to the workshop participants.

## 8. Sponsorship

All participants will have to arrange for their travel and registration fee etc. The registered delegates will be served with local hospitality including registration dossier and post workshop tour.

## 9. Visa Formalities

International participants will arrange their visas through Pakistani Embassies or Consulates in their respective countries. The workshop secretariat will be happy to facilitate their participation by providing them official invitation and acceptance letter for this workshop or any other required assistance.

## 10. How to Reach Faisalabad?

Faisalabad is connected with Karachi through air flights. Delegates arriving at Lahore and Islamabad Airports can reach Faisalabad within 2-3 hours and 4-5 hours respectively by AC coaches or DAEWOO buses via Motorway. Pleasant weather with 15-20°C at night and 20-25°C during day temperatures are expected during month of October.

## 11. Accommodation

The University rest house and foreign faculty hostel will be available for accommodation of international participants only. However, national participants can book local hotels available in the Faisalabad city. Local pick and drop service will be available for international participants. International participants are encouraged to intimate Dr. Anjum Munir, Associate Professor ([anjum.munir@uaf.edu.pk](mailto:anjum.munir@uaf.edu.pk)) well in time about their arrival schedule, flight information and accommodation, etc.

## 12. For Further Information

<p><b>Dr. Anjum Munir (On behalf of organizing committee)</b> Associate Professor/Chairman Department of Energy Systems Engineering Faculty of Agricultural Engineering &amp; Technology University of Agriculture, Faisalabad, PAKISTAN <i>Tel:</i> + 92 (041) 9200161-70 Ext. 3002 Cell No: +92-300-9667687 E-mail: <a href="mailto:anjum.munir@uaf.edu.pk">anjum.munir@uaf.edu.pk</a></p>	<p><b>Prof. Dr. Allah Bakhsh</b> Dean Faculty of Agri. Engineering &amp; Technology University of Agriculture, Faisalabad, 38040, PAKISTAN <i>Tel:</i> + 92 (041)-9200161-70 Ext. 3001 E-mail: <a href="mailto:bakhsh@uaf.edu.pk">bakhsh@uaf.edu.pk</a></p>
--	---



## University of Agriculture, Faisalabad, Pakistan

*International Workshop on*  
**Green Energy Technologies: Opportunities and challenges**  
**October 29-30, 2019**

### Registration Form

Prof/Dr/Mr/Ms: \_\_\_\_\_

Position/Title: \_\_\_\_\_ Qualification: \_\_\_\_\_

Affiliation/Address: \_\_\_\_\_

Ph./Fax: \_\_\_\_\_ Cell: \_\_\_\_\_

E-mail: \_\_\_\_\_ Pre-registered: \_\_\_\_\_ Y / N \_\_\_\_\_

**Registration Fee:**

Rs. \_\_\_\_\_ Mode of payment \_\_\_\_\_ Cash/check/credit card/bank transfer \_\_\_\_\_

*I would like to make an (i) Oral presentation, (ii) Poster session, or (iii) Display our products.*

Title of the Abstract/Paper: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

*Workshop Secretariat:*

<p><b>Chief Organizer</b></p> <p><b>Dr. Anjum Munir,</b>  <b>Chairman,</b> Dept: of Energy Systems Engineering  Faculty of Agricultural Engineering &amp; Technology University of  Agriculture, Faisalabad, PAKISTAN  Tel: + 92 (041) 9200161-70 Ext 3002  E-mail: <a href="mailto:anjum.munir@uaf.edu.pk">anjum.munir@uaf.edu.pk</a></p>	<p><b>Dean</b></p> <p><b>Prof. Dr. Allah Bakhsh,</b>  <b>Dean</b>  Faculty of Agri. Engineering &amp; Technology  University of Agriculture, Faisalabad, 38040, PAKISTAN  Tel: + 92 (041)-9200161-70 Ext. 3001  E-mail: <a href="mailto:bakhsh@uaf.edu.pk">bakhsh@uaf.edu.pk</a></p>
--	--

**Patron: Prof. Dr. Muhammad Ashraf (Sitara-e-Imtiaz, Tamgha-e-Imtiaz), Vice Chancellor, UAF**

*NB: Only selected abstracts will be presented orally, while others can be included in poster sessions, however, all accepted abstracts will be published in the Abstract Book.*