

International Conference on
Renewable Energy Technologies in Pakistan

(October 1-3, 2013)



DAAD

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Organized by

Faculty of Agricultural Engineering & Technology
University of Agriculture, Faisalabad, Pakistan

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1. Preamble

The limited availability of fossil fuels and their environmental impact have led to a growing awareness of the importance of renewable energy sources especially in tropical countries. Energy needs are indelibly linked to Pakistan's economic and sustainable growth capabilities. Pakistan has been in increasing demand across various areas of energy sources. Given the need for energy, the Government of Pakistan is doing its utmost to explore and promote renewable energies and energy efficiency. Renewable energy resources are very important for Pakistan as it is acutely short of fossil fuels. Among renewable energy resources, solar energy is of special significance as it is abundantly available. The average solar energy available in Pakistan is $5.5 \text{ kWh m}^{-2} \text{ day}^{-1}$ with annual mean sunshine duration between 8 and 10 hours per day all over the country, except for the northern parts. In advanced countries like Germany, solar energy is successfully utilized for power generation in the form of grid-tied PV systems. From a number of studies on industrial heat demand, several industrial sectors have been identified with favorable conditions for the application of solar energy. The most important industrial processes using solar 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 $60\text{--}280^\circ\text{C}$. 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) can easily be developed in Pakistan and used for the processing of fruits and vegetables as well as for value addition of different agricultural products for rural community. Second aspect of the research is to introduce the rural people about off-grid rural electrification and solar pumping using solar PV technologies.

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.

Potential for almost all types of renewable energies exist in Pakistan. These types include solar (PV and thermal), wind, biogas, micro-hydel/canal fall, biodiesel production, biomass/waste to energy production, geothermal, tidal/ocean energies etc. On average solar global insolation $5\text{--}7 \text{ kWh m}^{-2} \text{ day}^{-1}$ exists in the country over more than 95% of its area. Wind speed $5\text{--}7 \text{ m s}^{-1}$ persists in coastal regions of Sindh and Baluchistan provinces and in a number of North West frontier valleys. According to a survey, Pakistan possesses more than 20,000 MW of economically viable wind power potential.

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.

2. Conference Aims and Objectives

The objective of the conference is to train students and researchers through teaching and innovative ideas of presenters in the field of "Renewable Energy" which includes; equipping them with technical knowledge and skills required for the design and development, operation and maintenance. 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	Aug 15, 2013
Notification of acceptance	Aug 31, 2013
Deadline for online registration	Sep 25, 2013
Conference dates	October 1-3, 2013

5. Registration Fee

Local participants	PKR 1000/-
UAF alumni	PKR 500/-
International delegates	100 € or equivalent
Accompanying person	50 € or equivalent
UAF students	Free participation

6. Call for Abstracts (Conference 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 on one of the following conference themes;

- Innovative technologies in solar thermal heating and cooling
- Off-grid and on-grid solar PV systems for household and industrial applications (including solar pumping systems)
- Challenges/Impediments in the implementation of biogas technology in Pakistan
- Sustainable Power generation from agricultural wastes/biomass and bio-diesel
- Energy production potential in wind/hydel/geo-thermal and fuel cells

Eminent International Speakers Announced

1. Prof. Dr. Oliver Hensel, Renewable Energy Expert, University of Kassel, Germany
2. Mr. Wolfgang Scheffler, Director, Simply Solar, Germany
3. Ms. Heike Hoedt, Vice President, Simply Solar, Germany
4. Mr. Christian Schellert, Solar pumping and simulation, Germany
5. Dr. Uwe Richter, Expert in Solar Instrumentation and Networks, Germany
6. Dr. Franz Roman, Solar drying modeling and simulation
7. Prof. Dr. Hubert Leitner, CEO, Leitner solar Ag, Italy
8. Prof. Dr. Rainer Kertess, CEO, STCS Ag, Switzerland
9. Prof. Dr. Anton Josef Hotz, CAE Ag solar and wind, Germany
10. Mr. Daniele Marrazzi, Deputy CEO, Leitner solar Ag, Italy

7. Abstracts Submission

All abstracts clearly indicating the aims and conclusions of the work, not exceeding one page (A4) with contact details should be submitted to Dr. Anjum Munir, Assistant Professor (anjum.munir@uaf.edu.pk), Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad (PAKISTAN) on or before August 15, 2013. Abstracts will be selected by the organizers after peer review. A book of accepted abstracts will be produced and handed over to the conference participants.

8. Certificate

The registered participants will be awarded a letter of participation from the conference secretariat. The presenters will be given souvenirs.

9. 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 conference tour.

10. Visa Formalities

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

11. How to Reach Faisalabad?

The Faisalabad, being the third largest city, is the Manchester of Pakistan. It is an industrial as well as agricultural city with this premier institute, the University of Agriculture, Faisalabad (UAF), being the mother of many world renowned agricultural research organizations, like AARI, NIAB, NIBGE, and PFRI, etc. The city is also decorated with the presence of many Universities and Colleges like National Textile University, GC University, NFC Institute of Sci. & Tech., Education University, Faisalabad University and a well-known Punjab Medical College.

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 25-30°C during day temperatures are expected during months of Oct-Nov.

12. Accommodation

The University rest houses will be available to 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, Assistant Professor (anjum.munir@uaf.edu.pk) well in time about their arrival schedule, flight information and accommodation, etc.

13. For Further Information

Dr. Anjum Munir (On behalf of organizing committee)

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University of Agriculture, Faisalabad, Pakistan

International Conference on
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 October 1-3, 2013

Registration Form

Dr/Mr/Mrs/Miss: _____

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: _____

Conference Secretariat:

Conference Secretary	Convener
Dr. Anjum Munir, Assistant Professor Faculty of Agricultural Engineering & Technology University of Agriculture, Faisalabad, PAKISTAN Tel: + 92 (041) 9200161-70 Ext 3002 E-mail: anjum.munir@uaf.edu.pk	Prof. Dr. Muhammad Iqbal Dean, Faculty of Agricultural Engineering & Technology University of Agriculture, Faisalabad, PAKISTAN Tel: + 92 (041)-9200161 Ext 3002 E-mail: uaf_miqbal@uaf.edu.pk

Patron: Prof. Dr. Iqrar Ahmad Khan (Sitara-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 as mentioned in the Abstract Book.