

# International Workshop on Renewable Energy Technologies in Pakistan

## Rationale

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 efforts to explore and promote renewable energies and energy efficiency. Potential for almost all types of renewable energies exists in the country viz. solar (PV and thermal), wind, biogas, micro-hydel/canal-fall, biodiesel production, biomass/waste to energy production, geothermal, tidal/ocean energies etc. On an average solar global insolation  $5-7 \text{ kWh m}^{-2} \text{ day}^{-1}$  exists in the country over 95% of its area. 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. According to a survey, Pakistan possesses more than 20,000 MW of economically viable wind power potential. Moreover, 720 million kg  $\text{day}^{-1}$  animal dung can produce 1243 MW of electricity while 81 million tons of biomass can contribute significantly for energy production without harmful effects on the environment. The International Workshop on Renewable Energy Technologies would go a long way in the mitigation of energy deficient scenario in Pakistan.

## Objectives

- Dissemination of knowledge to the stakeholders (students, researchers, end-users etc.) about renewable energy technologies viz. Solar thermal and solar PV, Wind, biogas, and biomass etc.

- Capacity building of students, trainers and entrepreneurs for appropriate selection and operation of efficient, economical and environment friendly renewable energy technologies acceptable to end-users

## Workshop Thematic Areas

- 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

## German Academic Exchange Service (DAAD)

- The German Academic Exchange Service (DAAD) is the largest funding organization in the world supporting the international exchange of students and scholars.
- Since it was founded in 1925, more than 1.5 million scholars in Germany and abroad have received DAAD funding.
- This International Workshop on Renewable Energy Technologies in Pakistan is funded under the DAAD project entitled "German Pakistan Research Collaboration" operated by Prof. Dr. Oliver Hensel (Germany) & Dr. Anjum Munir (Pakistan).



## Program Schedule

### December 16, 2014 (Tuesday)

- Welcome Address by Prof. Dr. Iqrar Ahmad Khan (S.I), Vice Chancellor, UAF
- Address by Honorable Chief Guest
- Oral presentations (Two sessions)

### December 17, 2014 (Wednesday)

- Poster Presentations
- On-site presentations of solar and biogas technologies

### December 18, 2014 (Thursday)

- Lessons and training sessions for newly launched degree "Energy Systems Engineering" (Video conference room)

## Eminent International Speakers

- Dr. Uwe Richter
- Mr. Michael Hesse
- Ms. Katherine Troeger

## Organizing Committee

- Prof. Dr. Iqrar Ahmad Khan (Sitara-e-Imtiaz), Vice Chancellor, UAF (Patron in Chief)
- Prof. Dr. Oliver Hensel, University of Kassel, Germany
- Prof. Dr. Allah Bakhsh, Dean, Deptt. of Irrigation & Drainage, UAF
- Prof. Dr. Asif Ali, Director, ORIC, University of Agriculture, Faisalabad
- Dr. Manzoor Ahmad, Chairman, Deptt. of Farm Machinery and Power, UAF
- Prof. Dr. Arshad Ahmad, Chairman, Deptt. of Irrigation & Drainage, UAF
- Dr. Abdul Nasir, Chairman, Deptt. of Structures & Environmental Engg., UAF
- Dr. Muhammad Azam Khan, Chairman, Food Engineering, UAF
- Dr. Assad Farooq, Chairman, Deptt. of Fiber and Textile Technology, UAF
- Dr. Abdul Ghafoor, Workshop Secretary, Deptt. of Farm Machinery & Power, UAF
- Engr. Muhammad Tayyab, Deptt. of Farm Machinery & Power, UAF
- Engr. Syed Nabeel Husnain, Deptt. of Energy Systems Engineering

## Chief Organizer Dr. Anjum Munir

Coordinator

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Faculty of Agricultural Engineering and Technology

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(Please feel free to ask for further details about workshop participation.)

## Renewable Energy Technologies developed at UAF



**DAAD**  
Deutscher Akademischer Austausch Dienst  
German Academic Exchange Service

**USDA**



**AGRARTECHNIK  
WITZENHAUSEN**

**U N I K A S S E L  
V E R S I T Ä T**



## International Workshop on Renewable Energy Technologies in Pakistan (December 16-18, 2014)



Faculty of Agricultural Engineering &  
Technology  
**UNIVERSITY OF AGRICULTURE  
FAISALABAD-PAKISTAN**