



Bangladesh University of Engineering and Technology



e-learning course

# **Solar Solutions for Energy Wise Communities in Asia**

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## Short CV of Dr. Shahidul Islam Khan

- B.Sc.Engg. (Electrical), 1974  
Bangladesh University of Engineering and Technology (BUET), Dhaka
- M.Sc.Engg. (Electrical), 1979, BUET
- Ph.D. 1987, Concordia University, Montreal, Canada
- 1974-76 Apprentice, AMC, Hamburg, Germany
- 1977-81 Assistant Engineer, Power Development Board, Dhaka
- 1981-96 Asstt. Prof., Assoc. Prof., & Prof., EEE Dept., BUET  
(Ph.D. Student 1983-87 at Concordia University)
- 1996-1999 Visiting Faculty, University Teknologi Malaysia (UTM)  
Johor Bharu, Malaysia
- 1999-till-to-date Professor, EEE Department, BUET
- 2005-till-to-date Director, Centre for Energy Studies, BUET
- Speciality: Motor Drives, Renewable Energy
- Published over 50 papers in Journal and conferences



## COURSE OUTLINE:

### Objective:

- To present a comprehensive picture of present state and usage of solar energy and how best solar energy can meet the demand of rural and urban population of this region
- This course on solar energy will contain 8 lectures, each of 1 hour duration with  $\frac{1}{2}$  hour Q & A period
- Discussion/question also through email



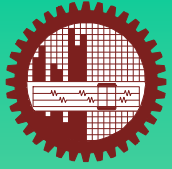
## Lecture 1

- Solar energy
  - Solar energy resources/potential
  - Present solar energy technology
  - Status of solar energy in Asia
  - Institutional aspects of rural energy
  - Social and environmental impact



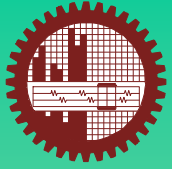
## Lecture 2

- Solar Photovoltaic
  - Working principles and types of applications
  - Solar cell, module and array
  - Solar home system, PV mini grid, grid connected PV system
  - Building integration of solar PV
  - Financial analysis/economic viability



## Lecture 3

- Financing Mechanism
  - Micro financing model in Bangladesh
  - Micro financing experience in Asia



## Lecture 4

- Case studies
  - Solar home system
  - Solar mini and micro grid
  - Grid connected PV system



## Lecture 5

- Solar Thermal
  - Working principles and types of application
  - Solar dryer
  - Solar heater
  - Case studies



## Lecture 6

- Design of PV system

## Lecture 7

- Income generation, poverty mitigation, gender issues
  - Employment opportunity
  - Involvement of rural women
  - Mass Education

## Lecture 8

- Market for solar energy