2014 National Seminar on Coal Technologies – Geology, Mining, Processing and utility

November 26th 2014 (Wednesday)
Faletti’s Hotel Lahore, Pakistan

Hosted By:

Centre of Energy Research and Development
University of Engineering and Technology, Lahore, Pakistan.

2014 National Seminar on Coal Technologies – Its Geology Mining, Processing and Utility
**Introduction**

Coal is the world’s most abundant and affordable fossil fuel. Currently, *it provides around 30 percent of global primary energy needs, generates 41 percent of the world's electricity and used in the production of about 70 percent world's steel. Pakistan is an energy deficient country and coal can fill the gap between energy demand and supply. In the current scenario, there is dire need for extensive research to improve coal mining and handling, coal processing and cleaning, and to develop cost-effective coal utilization technologies with reduced environmental emissions.*

*This seminar will serve as a kick start event to share research ideas, experiences, success stories and obstacles in coal technology and its usage as an energy source. Moreover, this seminar aims to promote research activities that will improve the economic benefits of Pakistani coal and its utilization.*

*http://www.worldcoal.org/resources/coal-statistics/

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**Proposed/Tentative Program, Technical Sessions and Respective Topics**

*Registration and Pre-Seminar Networking: 9:45 AM*

*Opening Ceremony: Start at 10:15 AM*

**Welcome & Keynote Address:**

Speech 1

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**Tea Break (11:00 to 11:30)**

**Technical Session I**

(Current research activities on Coal Geology, Mining & Processing technology will be presented in this session)

Time: 11:30 to 1:30 AM

**Proposed list topics for technical session I**

1. **Coal Science, Geology and Mining**
   - Chemistry, Geochemistry and Geoscience
   - Coal resources of Punjab, Pakistan
   - Thin seam coal mining with particular reference to Punjab coal seams
• Geological and technical issues related to coal mining in Punjab
• Coal mine safety

2. Coal Processing and its Up-gradation

• Coal processing effects on coal utilization
• Coal processing technologies
  o Sizing
  o Blend optimization
  o Dense medium separations
  o Water based density separators
  o Surface properties based separators (Flotation)
  o Solid liquid separation (Dewatering)
  o Waste handling and disposal
• Coal preparation plant design and latest developments
• Issues and concerns for coal processing

Relevant researchers/organizations for Technical Session-I

• Dr. Zulfiqar Ali (CERAD & UET, Lahore)
  ➢ Coal Processing: The Way Ahead...
• Dr. Saqib Nasir (PCSIR Laboratories Lahore)
  ➢ Coal Quality & Beneficiation Methodologies for Low-Rank coal - Challenges & Future Perspective
• Dr. Khan Muhammad (UET, Peshawar)
  ➢ Pilot Scale Coal Up-gradation Study in Khyber Pukhtunkhwa Pakistan.
• Dr. Shahid Munir (Center for Coal Technology, Punjab University, Lahore)
  Right Strategies to Utilize Pakistani Coal

Networking Luncheon + Prayer Break (1:30-2:30 PM)

Technical Session II
(This technical session is reserved for research presentation on coal utilization processes and technologies)
(Time: 2:30 to 3:30 PM)

Proposed list topics for technical session II

3. Coal Combustion Technologies

• Industrial applications, economics, and environmental issues related to coal combustion
• Advance pulverized coal combustion technologies (Supercritical, Fluidized Bed, etc.)
• Novel technologies (Oxyfuel, Chemical Looping, etc.)
• Flue gas clean up
• Simulation and modeling
• Materials, instrumentation, and controls
• Steam and gas turbines

4. Coal Gasification Technologies

• Underground coal gasification (UCG)
• Plasma Gasification
• Synthesis gas cleanup
• Gasification simulation and modeling
• Novel gasification technologies and concepts
• Co-gasification of coal and other carbon-based fuels
• Low rank coal utilization in UCG

5. Other Clean Coal Technologies and Usages

• Coal to liquid, CTL (Direct liquefaction, Fischer-Tropsch)
• Gas to liquid, GTL
• Methanol to gasoline
• Substitute natural gas (SNG)
• Hydrogen production
• Syngas utilization (Gas turbines, Fuel cells)
• Chemicals

_Relevant researchers/organizations for Technical Session-II_

• Dr. Aamer Iqbal Bhatti (Muhammad Ali Jinnah University)
  ➢ Modelling and Control of THAR Underground Coal Gasification (UCG) Plant
• Shahid Hussain Innsari (NUST, Islamabad)
  ➢ FT Synthesis Lab-scale Facility & Development of Ceramic Supported Metallic FT Catalyst

_Penal Discussion & Professional Networking + (Tea Break)_
(While penal discussion tea will be served)
(Time: 3:30 to 4:00 PM)

• Professional networking will be a sort of penal discussion and common research areas will be identified and discussed
• Professional networking aims to promote research collaboration amongst academia and industry.

_Commercial Session_
(This session is reserved for commercial coal technology users and vendors)
Proposed list topics for Commercial session


Session dedicated for coal technology equipment suppliers, technology end users, project developers, financing institutions etc. The presentations may cover the following areas:

- Existing and planned clean coal commercial projects
- Problems in existing coal fired utilities
- Lessons learned from clean coal technology commercial deployments
- Latest commercially available clean coal technologies reviews and updates
- Financing, business and risk management strategies for coal related commercial projects.
- Environmental impacts of coal related projects
- Regulatory bodies regarding the clean coal projects

Relevant researchers/organizations for Commercial Session

- Rao Khaild (NSR Energies)
  - Share their success stories about the installation of power plants fired by local Pakistani coal.

Closing Ceremony
Time: 4:30 PM

Concluding Remarks
Time: 4:45 PM

End: 5:00 PM