

15:00-15:25 Role of Emerging Sciences for a Glorious Pakistan. Prof. Dr. Ahmad Mukhtar Khalid, University of Sargodha, Sargodha.

15:25-15:55 Conversion of Coal into Liquid Fuels/Diesel. Dr Ashraf Moten, Chief Chemical Engineer, UCG Thar Project

15:55- 16:20 Status of Coal Biotechnology in Pakistan. Dr. Afzal Ghauri, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad.

16:20-16:45 Biotechnology of Bioenergy Production: An overview. Prof. Dr. Muhammad Ibrahim Rajoka (S.I), Govt. College University, Faisalabad.

16:45- 17:10 Gas hydrates: A potential energy resource. Prof. Dr. Naureen Aziz Qureshi, Dean, Faculty of Science and Technology, Govt. College University, Faisalabad, Pakistan

17:15 CLOSING CEREMONY

REGISTRATION

Registration Fee: Faculty: Rs. 800/-
Students: Rs. 400/-

Last Date for Registration: December 06, 2013
Please e-mail the Registration Form at ashfaqua@gcuf.edu.pk on or before the deadline.

VENUE

Department of Bioinformatics and Biotechnology,
Government College University, Faisalabad,
Pakistan (www.gcuf.edu.pk).

SYMPOSIUM SECRETARIATE

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Dr. Shamaila Kiran

One Day Symposium on

“Prospects for A Glorious Pakistan: Role of Emerging Technologies”

December 12, 2013



Organized by:

Department of Bioinformatics and
Biotechnology
&
Department of Applied Chemistry and
Biochemistry
Govt. College University, Faisalabad



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INTRODUCTION

As long as there have been people, there has been technology. Technology like language, ritual, values, commerce and the arts is an intrinsic part of a cultural system and it both shapes and reflects the system's values. Technological innovation is one of the primary tools that promote economic development which depends on several factors. All the developed and developing countries are making efforts for technology improvement in all sectors including agriculture, industry, health etc. Likewise, there is a strong dependence on technology to solve the energy problems of today's world. Sustainable development policies seek to change the nature of economic growth rather than limit. They are based on the belief that continuous growth in a finite world is possible through the power of technology to enable us to find new sources or substitutes for the depleting resources. To meet our national requirements we need to trust our indigenous natural resources such as Thar coal mines and the Reko Diq copper gold reserves and biofuels, among others.

Thar coal: Pakistan's coal resource potential is estimated to be around 186 billion tonnes out of which 175 billion tonnes are found in Thar— having the sixth largest coal reserves in the world, which is spread over 9000 sq. km. Pakistan has emerged as one of the leading countries- seventh in the list of top 20 countries of the world after discovery of these huge resources which have the potential to solve the energy crisis in Pakistan single handedly and to meet energy requirements of the country for decades.

Reko Diq: Reko Diq is famous for its huge reserves of gold and copper. These reserves include the fifth largest gold mine in the world. The mineral resource at Reko Diq is estimated to be approximately 5.9 billion tons, with an average copper grade of 0.41 % and average gold grade of 0.22 g/t. The estimated mine life is 56 years and the annual production of the Reko Diq project is estimated at 200,000 tons of copper and 250,000 ounces of gold from 600,000 tons of concentrate.

Biofuels: The research is going on for the selection of suitable biomass for biofuels. With current yields, a large quantity of soil and fresh water is required for the production of biofuel sufficient to completely replace the use of fossil fuels. Particularly improved varieties of crops, algae, household waste and municipal waste can produce high enough oil yields, and have the advantage that the meal that remains after oil has been pressed out can act as an effective fertilizer. Use of biofuels is increasing at an exponential rate in the West due to many advantages it provides.

PROGRAM

08:00-09:00 Registration
09:00-11:00 Inaugural Session

- Welcome Address

Dr. Naureen Aziz Qureshi, Dean, Faculty of Science and Technology, Government College University, Faisalabad, Pakistan

- Symposium Introduction

Dr. Asma Haque Coordinator/ Assistant Professor, Department of Bioinformatics & Biotechnology, Government College University, Faisalabad, Pakistan

- Keynote Lecture

Dr. Samar Mubarakmand (N.I, H.I, S.I), Coordinator General for Thar Coal and Reko Diq Copper Gold projects and Member Planning Commission, Pakistan

Dr. Rai Niaz Vice Chancellor, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi
Energy from Agriculture in 21st Century.

- Presidential Address

Prof. Dr. Zakir Hussain, Vice Chancellor, Government College University, Faisalabad, Pakistan

11:00-11:30 TEA BREAK

TECHNICAL SESSION-I

Chair: Prof. Dr. Naureen Aziz Qureshi, Dean Faculty of Science & Technology, Government College University, Faisalabad, Pakistan.

Co-Chair: Prof. Dr. Muhammad Ibrahim Rajoka (S.I), Professor, Department of Bioinformatics and Biotechnology, Government College University, Faisalabad, Pakistan.

11:30-12:00 *Prospects for a Glorious Pakistan: Role of Emerging Technologies.* Dr. Samar Mubarakmand (N.I, H.I, S.I)

12:00-12:30 *Biotechnology for food security.* Dr. Kauser Abdullah Malik (S.I, T.I, H.I) Department of Biological Sciences, Forman Christian College, Lahore

12:30-13:00 *Suitability of Thar Coal for Underground Coal Gasification.* Dr. Muhammad Shabbir (H.I, S.I), Managing Director, UCG Thar Project.

13:00-13:30 *Richest 100 Km² in the world.* Arshad Mahmood. Managing Director. Balochistan Copper Gold Project.

13:30-14:30 LUNCH & PRAYER BREAK

TECHNICAL SESSION-II

Chair: Dr. Zafar Mahmood Khalid, Former Director National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad.

Co-Chair: Prof. Dr. Iftikhar Hussain Bukhari, Department of Chemistry, Govt. College University, Faisalabad.

14:30-15:00 *Mathematical Modeling and Validation of Underground Coal Gasification Process.* Dr. Erum Aamir and Dr. Raza Samar. Centre of Excellence in Sciences and Applied Technologies, NESCOM, Islamabad.