

QUAID-I-AZAM UNIVERSITY

ISLAMABAD



Sustainable Development (Exploring the hidden potential of microorganisms)”

March 26-30 2012

Department of Plant Sciences
QUAID-I-AZAM UNIVERSITY PAKISTAN



CONTACTS

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The Quaid-i-Azam University (QAU) Islamabad is rated as one of top public institution of higher education in Pakistan. The Department of Plant Sciences at QAU has threefold mission, Research & discovery, teaching and Learning and offers M.Sc, M.Phil and Ph.D Degree in Plant Sciences and aligned disciplines. Under the umbrella of German Academic Exchange Service (DAAD) initiative (Studies and research for sustainability), the Department is hosting a one week international summer school from 26-30 March, 2012 titled “Recent Advances in Plant Biotechnology for Sustainable Development (Exploring the hidden potential of microorganisms)” at Quaid-i-Azam University coordinated by Plant Sciences Department. The summer school program will include key-note speeches of professors and scientists from Germany, from ICARDA and from various departments of different research institutes/universities to share current research activities for sustainable development. The summer school is financially supported by DAAD - support from resources of the federal ministry for economics cooperation and development Germany. The itinerary will include guided tours through laboratories and test facilities. Representatives of renowned universities/institutes/companies will be invited to present their research goals and expectations.

In addition, a large part of the program will be carried out by the participants themselves by presenting the potentials and problems of agricultural in their countries/regions and identifying opportunities for future research cooperation. A social and cultural program will round off the event and will enable the participants to strengthen their social network.

At the end of the event, the attendee will be given certificates of participation. A proceeding of the abstracts of the summer school participants will be published.

Coordinators

Prof. Dr. Masoom Yasinzai VC-QAU Pakistan
Prof. Dr. Abdul Hameed, QAU Pakistan
Prof. Dr. Asghari Bano, QAU Pakistan
Prof. Dr. H.J Jacobsen, Hanover Germany
Dr. Anwar Naseem Pakistan
Prof. Dr. Kauser Abdullah Malik FCCU Lahore
Dr. Hans Peter Klenk, DSMZ, Germany.
Dr. Iftikhar Ahmad, Chairman PARC Pakistan
Dr. Michael Baum, ICARDA
Prof. Dr. Zabta Khan Shinwari, QAU Pakistan
Dr. Zahid Ali - QAU Pakistan
Dr. Mushtaq Ahmad QAU Pakistan
Dr. Jehan Bakht Pashawar Pakistan
Dr. Abdul Samad Mumtaz , QAU Pakisatn
Dr. Tariq Mahmood , QAU Pakistan

DAAD

Change by Exchange
German Academic Exchange Service

TOPICS OF THE SUMMER SCHOOL

- **Advances in Plant Genetic Engineering – Impact of transgenic technologies for sustainable development**

The recent advances in research are aiming at implementing into the societies sustainable land use concepts. The main agenda of the summer-school will be to discuss at what extent solutions that have proven to be beneficial and functional in one country may apply more generally. Plant biotechnology provides significant opportunities for agriculture, horticulture, and the pharmaceutical and food industry by developing transgenic plants with altered characteristics. World's agriculture and farming are mainly dependent on crops that provide base food for human use, either directly or through livestock. In the summer school session it will be discussed and elaborated if plant genetic transformation, in addition to its wide use in basic cell research, is conceivably one of the most important molecular tools existing today in modern molecular breeding of crops. The production of transgenic plants resistant to biotic and abiotic stress, the improvement of plant qualities, the use of transgenic plants as bioreactors, and the use of plant genomics for genetic improvement and gene cloning will be discussed. Considerations of regulatory processes to release genetically modified plants, as well as the public acceptance and concerns of the transgenic plants will be also be highlighted.

- **Plant Microbe Interactions (Bio-fertilizers, Bio-pesticides)**

The use of inorganic fertilizers and crop protection by the application of pesticides and other using chemical agents has become the core habit of the farming community during the past 40-50 years throughout world. However this fact can not be denied that the use of these products has provided tremendous yield improvements to fulfill the food demands of growing population. But this led to the increase of environmental problems, including soil degradation, loss of biodiversity, reduction in soil fertility, nitrate contamination of ground water, major involvement to global warming from nitrous oxide emission and the use of these pesticides threatens the long term survival of major ecosystems by disruption of predator-prey relationships and ultimately loss of biodiversity. The main focus of this session of summer school will be to high light the importance of beneficial microorganisms in terms of plant growth promotion and increasing the soil fertility and to find and expand the knowledge of bio-agents, such as bio-fertilizers and biopesticides, in order to achieve improved and sustainable crop production. The attendee will discuss and highlight the strategies for developing, using, and commercializing bio-pesticides and bio-fertilizers using beneficial bio-agents and their persistence by growing public and private investment in this area.

- **Biodiversity and Integrated Gene Management**
Biotic and abiotic stresses—especially heat, salinity and drought is becoming increasingly important in the context of climate change. It is utmost requirement to find ways in developing improved technologies, enhanced germplasm and associated knowledge and crop management practices, as well as pioneering methodologies, to improve food security, nutrition, and livelihoods of the rural areas. During the past decades, unfortunately the genetic resources are being rapidly eroded, which is threatening the loss of landraces and wild relatives of agriculturally important species, as well as the associated beneficial insect predators and microorganisms that co-evolved with them. In the summer school session, potential ways and methodologies will be find out and will be discussed, how to promote the conservation of wild relatives and land races of important agricultural species and microorganisms present in different regions of the country. The agenda of the school will focus on the crops that are central to national economic and food security needs e.g wheat rice maize legumes etc. Sustainable area use implies to maintain biodiversity and screen plant material native to an area for physiological and biochemical parameters allowing natural growth. along with information on former area use and predictions on future climate scenarios, future concepts for sustainable management concepts may be developed and discussed.

Participants Selection

The participants will be selected by QAU coordinators from the plant sciences dept. on the basis of quality of the work to be presented. . Travel + full accommodation & meal will be provided to first 30-35 short listed local DAAD Alumni.

Applications must be submitted using the attached form along with abstract (2-3 pages) and motivational letter preferable by email or by post at the address below on/before **22-02-2012**.

The selected Abstracts will be published in the proceeding of summer school.

The selected candidates will be informed by Email during the **1st week of March 2012**.

Address for post:

Dr. Zahid Ali
Department of Plant Sciences, Faculty of
Biological Sciences, Quaid-i-Azam University
Islamabad Pakistan

Email: zahi06@gmail.com

Cost:

There will be no bench fee for the first 30-35 selected DAAD Alumni, but other attendees will be selected on the basis that they will cover travel and accommodation costs on their own. The summer school registration fee for the DAAD Alumni is Rs 500 whereas for all others is Rs. 1000

Application (Please fill up the form completely)

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First name:

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Family name:

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DAAD Reference (if any)

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Year of studies:

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E-mail address and Cell No:

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Address:

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Street & City:

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Country:

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Present Position:

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Faculty:

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Field of specialization:

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Topic of summer school:

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Signatures: