



News Letter

PAKISTAN ACADEMY OF SCIENCES

Promoting Science, Technology and Innovation for Socio-economic Development

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Joint Pak-U.S. Workshop on Strengthening and Sustaining a Network of Public and Animal Health Clinical Laboratories in Pakistan



The Pakistan Academy of Sciences in collaboration with the US National Academy of Sciences organized a Workshop on “*Strengthening and Sustaining a Network of Public and Animal Health Clinical Laboratories in Pakistan*” on 27 to 29 September, 2016 in Islamabad. The Workshop was inaugurated by **Engr. Baligh Ur Rehman**, Federal Minister of State for Education and Professional Training.

Leading experts from Pakistan and USA were the resource persons. The Workshop deliberated upon issues and challenges related to clinical laboratories in Pakistan with respect to communicable diseases, placing emphasis on zoonotic diseases which are transmitted from animals to humans. Strategies for strengthening and networking of human and animal clinical laboratories were discussed. The Workshop participants included human and animal health experts, academicians, researchers, scientists, lab technicians, and university students in fields of Biosafety, Life Sciences, Medical Sciences, Veterinary and Microbiology.

Engr. Baligh Ur Rehman appreciated the Pakistan Academy of Sciences and US National Academy of Sciences for organizing this scientific event on an important issue concerning human and animal health. He stated that a vast majority of our rural population remains in close proximity with animals, and hence are prone to the incidence of zoonotic diseases. He cited the recent emergence of Congo virus as a salient example. He felt glad that agenda of the Workshop had a wide range of important topics relating to safety and security of the clinical labs – both for humans and animals.



The President of Pakistan Academy of Sciences, **Dr. Anwar Nasim**, stated that human health is one of the most valuable assets of a country and of a society. He thanked the US National Academy of Sciences for generously supporting this joint Workshop. In his remarks, **Dr. David Franz** from US National Academy of Sciences said that infectious diseases are a particular challenge globally and thus an immediate goal of this Workshop is to identify the most efficient and cost-effective means of managing patient information from thousands of clinical laboratories throughout Pakistan particularly the ones located in remote areas. He said that our goal is to contribute to the control of infectious human and animal diseases and support disease surveillance and health security globally.

Dr. David Franz of the US Academy of Sciences stated that globally about 15 million humans die of communicable and contagious diseases annually. He stressed that local leadership and global networks of responsible scientists should come together to enhance safety and security of the citizens. He stated that US and Pakistan have many common health challenges, common infectious diseases, and common hospital acquired infections.

Prof. Zabta K. Shinwari, Secretary General of Pakistan Academy of Sciences, thanked the US National Academy of Sciences, the eminent resource persons and participants of the Workshop from

throughout the country.

During this 3-day Workshop, leading experts from both the countries deliberated upon the state of Pakistan's human and animal clinical laboratories, key elements for effective networking of clinical laboratories and communication among the concerned entities, technical aspects and implications, clinical laboratory data, role of laboratory leadership, opportunities for collaborations and the way forward to strengthening laboratory network in the country. The participants had several brainstorming sessions on needs laboratories in remote areas, needs and initiatives of the federal government in working towards electronic data communication for betterment of the healthcare system.

The Workshop was concluded by **Prof. Dr. Arshad Ali**, Executive Director of Higher Education Commission (HEC). In his remarks, he appreciated the Pakistan Academy of Sciences and US National Academy of Sciences for organizing this scientific event on an important national issue. He also stated that HEC will always encourage for creating an environment of scientific research and is determined in Public-Private collaborative projects and supporting young scientists of the country in their R&D endeavors.



Salient Glimpses of the Workshop



PAS Gold Medals, Prizes and Certificates awarded during 2016

The following scientists were conferred upon **PAS Gold Medals, Cash Prizes** of Rs. 35,000 and **Certificates** by the President of PAS, **Dr. Anwar Nasim**, during the PAS General Body Meeting in Islamabad on October 26, 2016:

PAS Gold Medal 2016 in Chemical Sciences

Dr. Tufail Hussain Shah

Professor

National Centre of Excellence in Analytical Chemistry

University of Sindh

Jamshoro



PAS Gold Medal 2016 in Earth & Environmental Sciences

Dr. Qaiser Mehmood

Associate Professor

Department of Environment Sciences,

COMSATS Institute of Information Technology

Abbottabad



PAS Gold Medal 2016 in Emerging Technologies

Dr. Tayyab Husnain

Acting Director

Centre of Excellence in Molecular Biology

University of the Punjab

Lahore



PAS Gold Medal 2016 in Mathematical Sciences

Dr. Sohail Nadeem

Tenured Professor

Department of Mathematics

Quaid-i-Azam University

Islamabad



PAS Gold Medal 2016 in Physics

Dr. Shahid Ali

Associate Professor

National Centre for Physics

Quaid-e-Azam University Campus

Islamabad



Dr. Atta-ur-Rahman Gold Medal 2016

The Dr. Atta-ur-Rahman Gold Medal in Chemistry for Young Scientists, under 40, for the year 2016 was won by **Dr. Jameel Ahmed Baig**, Assistant Professor, National Center of Excellence in Analytical Chemistry, University of Sindh, Jamshoro. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-.



Dr. Raziuddin Siddiqi Prize 2016

The Dr. Raziuddin Siddiqi Prize in Chemistry for Young Scientists, under 40, for the year 2016 was won by **Dr. Rashid Jalil**, Associate Professor, University of Engineering and Technology, Lahore. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-.



Dr. Shah Jehan Prize 2016

Dr. Shah Jahan Prize for Scientists under 40 in Engineering Sciences for year 2016 was won by **Dr. Rafi-ud-Din**, Principal Engineer, Materials Division, PINSTECH, Islamabad. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-.



Prof. Zabta K. Shinwari Gold Medal 2016

Prof. Zabta K. Shinwari Gold Medal in Biotechnology for Scientists under 50 for year 2016 was won by **Dr. Bilal Haider Abbasi**, Associate Professor, Department of Biotechnology, QAU, Islamabad. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 30000/-.



Abdus Salam Prize in Basic Sciences 2016

Abdus Salam Prize in Basic Sciences in Mathematics for Scientists under 40 for the year 2016 was won by **Dr. Mubasher Jamil**, Assistant Professor, School of Natural Sciences, National University of Sciences and Technology, Islamabad. The Award comprised of a Certificate and Cash Prize of US \$ 2000/-.



The 2016 Nobel Laureates

Nobel Prize in Physics

The Nobel Prize in Physics 2016 was divided, one half awarded to David J. Thouless, the other half jointly to F. Duncan M. Haldane and J. Michael Kosterlitz "for theoretical discoveries of topological phase transitions and topological phases of matter".



David J. Thouless



F. Duncan M. Haldane



J. Michael Kosterlitz

Nobel Prize in Chemistry

The Nobel Prize in Chemistry 2016 was awarded jointly to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa "for the design and synthesis of molecular machines".



Jean-Pierre Sauvage



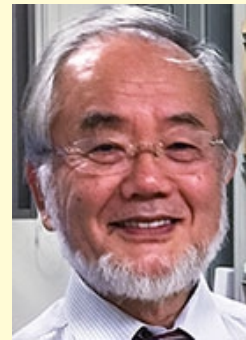
Sir J. Fraser Stoddart



Bernard L. Feringa

Nobel Prize in Physiology or Medicine

The Nobel Prize in Physiology or Medicine 2016 was awarded to Yoshinori Ohsumi "for his discoveries of mechanisms for autophagy".



Yoshinori Ohsumi

The Sveriges Riksbank Prize in Economic Sciences

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2016 was awarded jointly to Oliver Hart and Bengt Holmström "for their contributions to contract theory".



Oliver Hart



Bengt Holmström

Prof. Zabta K. Shinwari elected as Treasurer of AASSA Executive Board

The Association of Academies and Societies of Sciences in Asia (AASSA) has elected a New Executive Board.

The Executive Board comprises of President, Immediate Past President, two Vice Presidents, Treasurer, four Members at Large, Director of Projects and Executive Director.

Prof. Dr. Zabta Khan Shinwari, Secretary General, Pakistan Academy of Sciences has been elected as Treasurer of AASSA. It may be mentioned that Prof. Shinwari scored 100% votes.

The other newly elected Members of AASSA Executive Board are:

1. Prof. Yoo Hang Kim, (Korea) President
2. Prof. Krishan Lal, (India) Immediate Past President
3. Prof. Khairul A. bin Abdullah, (Malaysia) Vice President
4. Prof. Jinghai Li, (China) Vice President
5. Prof. M. Reza Shams Ardekani, (Iran) Member
6. Prof. Yury Kulchin, (Russia) Member
7. Prof. Takashi Onishi, (Japan) Member
8. Prof. Cheryl E. Praeger, (Australia) Member

COMSATS-PAS Moot on Framework of SDGs

The development paradoxes in Pakistan are not much different from those in the developed countries. Our country, despite its various shortcomings, has emerged as one of the earliest adopters of Sustainable Development Goals (SDGs) at the parliament level. This was the crux of the views expressed by the experts at a one-day Seminar jointly organised by the COMSATS and Pakistan Academy of Sciences (PAS) in Islamabad on 22 September 2016, to commemorate the UN's South-South Cooperation Day with special focus on "Framework of Sustainable Development Goals (SDGs)".

While speaking on the occasion, UN Resident Coordinator, Mr. Neil Buhne said that the developing countries, including Pakistan, are faced with similar problems such as poverty and hunger, and scientific solutions can help solve these issues. "Realisation of SDGs would lead to peace in the world,". He said adding that China-Pakistan Economic Corridor is a good example of South-South Cooperation.

A large number of students, scientists, economists, entrepreneurs, sustainable development policy makers and practitioners, media and civil society, representatives of government, international development agencies, NGOs and education institutions attended the moot, which comprised of key note addresses followed by an interactive panel discussion.

Relevant statistics and facts concerning SDGs were reviewed including Pakistan's standing as per the Human Development Index (HDI) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) Reports.

Representing PAS, **Dr. Anwar Nasim** and **Prof. Zabta Shinwari** strongly advocated the role of science academies in promoting science and technology for sustainable development and highlighted the importance of the inter-relationship between science, society and policy.



Fellows of PAS Win National Civil Awards

The *Pakistan Academy of Sciences* announces with great pride that 5 of its Fellows have won National Civil Awards announced by the Government of Pakistan for their achievements and outstanding contributions in the field of Science. The winners are:



Prof. Dr. Muhammad Ashraf
Chairman, Pakistan Science Foundation
Hilal-e-Imtiaz



Prof. Dr. Wasim Ahmed
Dean, Faculty of Biological Sciences
Quaid-i-Azam University
Hilal-e-Imtiaz



Dr. Muhammad Iqbal
Director General
National Physical and Standard
Laboratory, Islamabad
Sitara-e-Imtiaz



Prof. Dr. Muhammad Rasul Jan
Vice Chancellor
University of Peshawar
Sitara-e-Imtiaz



Prof. Dr. Zulfiqar Bhutta
The Aga Khan University
Pride of Performance

Prof. Atta-ur-Rahman develops Novel Video Book in Organic Chemistry

Prof. Dr. Atta-ur-Rahman has produced the first-ever novel "Video Book", without any text in Organic Chemistry in Pakistan. He, along with his associate Syeda Sadia Khatoon, compiled this book entitled "Basic Principles of Organic Chemistry: A Compendium of Video Lectures", which is the first video book of its kind. The world famous French Nobel Laureate Prof. Jean-Marie Lehn in his foreword to the video book commented: "What is particularly useful about this effort is that the materials have been carefully screened by the authors to ensure quality, and are organized to cover a broad range of topics. The novel arrangement of the materials in the format of a standard book, with chapters and sections containing the video links within them, should make it particularly attractive to users. This Compendium of some 300 lectures should be a useful source of learning for organic chemistry students. It also represents a very valuable effort in line with the evolution of teaching

and knowledge transfer methodologies."

The video book is arranged in the form of a standard text book, but instead of having text in each chapter and section, it contains video links to 300 lectures by leading authorities from MIT, Yale, University of California, etc. It is being distributed free to all.

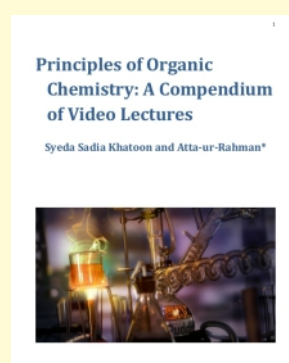
The Links to the Video Books are as under:

Organic Chemistry:

<https://www.dropbox.com/s/vhifxfdceaa3fio/Video%20Lectures%20book%20Organic%20Chemistry%2017-6-2016.doc?dl=0>

Molecular Biology:

<https://www.dropbox.com/s/wkyuacu37j88lsc/Molecular%20Biology%20Final.docx?dl=0>



Joint NASIC-Universiti Teknologi MARA Workshop in Malaysia

The NASIC-Universiti Teknologi MARA 4-day Workshop on “Drug Discovery from Indigenous Plants in Developing Countries” was held on 4 October to 7 October 2016 in UiTM Selangor, Puncak Alam campus. The Workshop was organized by Attatur-Rahman Institute of Natural Product Discovery (AuRIns) in collaboration with Network of Academies of Sciences in Countries of Organization of Islamic Conference (NASIC). This event was participated by speakers from 4 different countries, 14 NASIC delegates, 83 local and international participants from various backgrounds including academicians, science researchers and postgraduate students.

The Workshop consisted of several scientific lectures and hands-on practical sessions involving both international and local participants. The Workshop provided a platform for professionals from Islamic countries around the world to share knowledge, exchange ideas and research expertise with regards to development of drugs from indigenous plants. Both chromatography and microscopic hands-on sessions allowed participants an opportunity to experience requisite laboratory instruments and learning modern techniques in herbal identification. Apart from discussing scientific findings and achievements related to herbal medicine, this event raised awareness regarding challenges in developing herbal medicines.

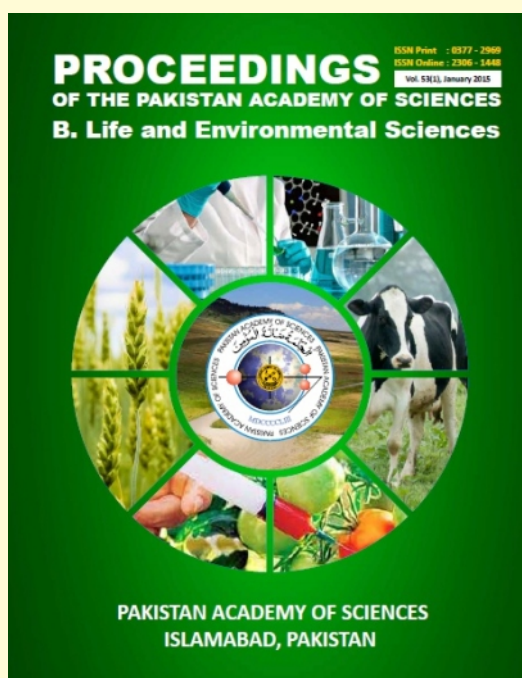
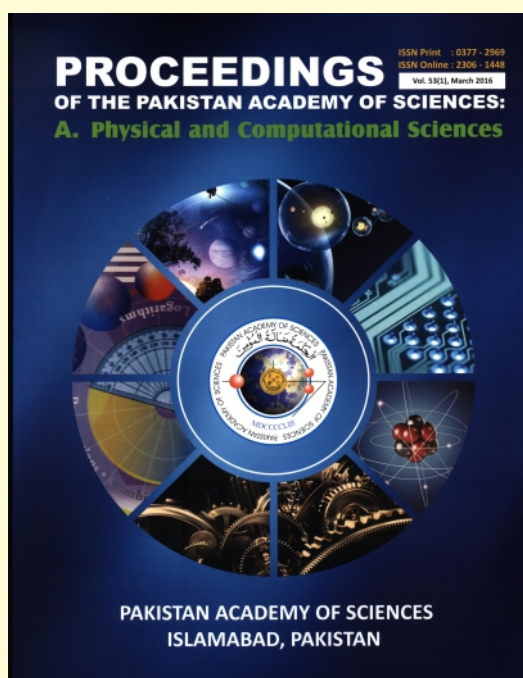
Bifurcation of Proceedings of the Pakistan Academy of Sciences

Realizing the need to enhance citations of articles, the Council of the Pakistan Academy of Sciences has bifurcated the Proceedings of the Pakistan Academy of Sciences into two journals:

- 1) *Pakistan Academy of Sciences: A. Physical and Computational Sciences; and*
- 2) *Pakistan Academy of Sciences: B. Life and*

Environmental Sciences.

Separate Editorial Boards (i.e., Discipline Editors and Editorial Advisory Boards) have been constituted for each journal. The two journals are being published by the Academy since March 2016. In addition to hard copies, both the Journals are freely accessible on official website of the Academy, i.e., www.paspk.org/proceedings.



Prof. Dr. Ikramul Haq wins ISESCO Prize in Science and Technology

The Islamic Scientific, Educational, and Cultural Organisation (ISESCO) has conferred "ISESCO Prize in Science and Technology 2016" upon Prof Dr. Ikramul Haq, Secretary, Lahore Chapter of Pakistan Academy of Sciences and Professor Emeritus Government College University (GCU), Lahore.

The award comprising of certificate, gold medal and cash prize of \$5,000 was conferred in recognition of his outstanding contributions in the field of science and technology.

Prof. Ikramul Haq, a recipient of *Sitara-i-Imtiaz* and two international awards, was invited to

Bamako, Republic of Mali, to receive the award at the "8th Islamic Conference of Ministers of Higher Education and Scientific Research" held on November 14, 2016.



Prof. Dr. Zulfiqar A. Bhutta wins TWAS Prize 2016

Prof. Dr. Zulfiqar Ahmed Bhutta, Fellow of Pakistan Academy of Sciences has won World Academy of Sciences (TWAS) Prize 2016 for his incisive work on academic pediatrics and public health in Pakistan, which has contributed to shape global child health & policy.

TWAS Prizes are awarded in nine fields: Agricultural Sciences, Biology, Chemistry, Earth Sciences, Engineering Sciences, Mathematics, Medical Sciences, Physics, and Social Sciences (called the TWAS-Celso Furtado Prize).

Each TWAS Prize carries a cash award of

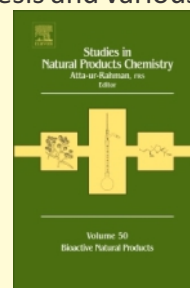
USD15,000. The winners will lecture about their research at TWAS's 28th General Meeting in 2017, when they will also receive a plaque and the prize money



Prof. Atta-Ur-Rahman's 50th Book Published By Elsevier

Volume 50 of the Series of "Studies in Natural Product Chemistry", edited by Prof. Atta-ur-Rahman, has been published by Elsevier Science. This encyclopedic series of volumes was initiated by Prof. Atta-ur-Rahman 26 years ago. Elsevier is celebrating publication of 50th volume of this series of volumes. The volumes cover articles by leading scientists in the field of bioactive compounds

derived from terrestrial and marine sources, their structures, synthesis and various aspects of medicinal chemistry.



Leopold von Buch Plakette Medal conferred upon Prof. Brian Windley

Prof. Brian Windley, a Foreign Fellow of Pakistan Academy of Sciences, has been awarded the prestigious Leopold von Buch Plakette Medal 2016 on October 28, 2016 in Innsbruck, Austria during GeoTirol 2016 Conference.

The Leopold-of-book plaque of the Geological Society is annually awarded to scientists for outstanding achievements in the area of Geosciences.



“Beijing Declaration”

To be issued at the First International Science Forum of National Scientific Organizations on the Belt and Road Initiative

Since Chinese President Xi Jinping proposed the Silk Road Economic Belt and the 21st-century Maritime Silk Road (the Belt and Road Initiative) in 2013, the proposal has received wide positive response and strong support from a large number of international organizations and over 120 countries. The Key achievements in this regard are the establishment of the Silk Road Fund, the development of fast-train railways, the expansion of trade and business, a deepening of communication on policy and enhanced exchange between people and cultures. However, the countries in the Belt and Road routes still face major challenges of different kind from development itself to sustainable development, and need to contend with differences in natural environment, social policy, economies and culture. For these challenges to be addressed, S&T and innovation must play a major role. National scientific and research organizations and scientists from different academic disciplines along the Belt and Road routes need to cooperate with each other more in science and innovation to develop the Belt and Road communities of common interests, common responsibility and common goals. They need to work hand-in-hand to address major challenges to supply a strong scientific basis for shared and sustainable development.

For strengthening of mutual understanding, common interests and aspirations, the heads and representatives of over 20 national scientific and research organizations from the Belt and Road routes, of a number of international organizations and around 200 Chinese and international scientists and experts gathered in Beijing on November 7 and 8, 2016. A delegate from Pakistan Academy of Sciences represented the scientific community of Pakistan. This was the First International Science Forum of National Scientific Organizations for the joint development of the Belt and Road initiative

which is jointly organized by the Chinese Academy of Sciences, Pakistan Academy of Sciences, National Academy of Sciences of the Republic of Kazakhstan, Kyrgyzstan Academy of Sciences, Tribhuvan University of Nepal, Pakistan Academy of Sciences, National Academy of Sciences of Poland, Russian Academy of Sciences, University of Ruhuna, Sri Lanka, Academy of Sciences of the Republic of Tajikistan, Uzbekistan Academy of Sciences, International Centre for Integrated Mountain Development (ICIMOD) and The World Academy of Sciences for the Advancement of Science in Developing Countries (TWAS). Delegates and experts held extensive discussions on various topics concerning development of the Belt and Road communities with the support of science and innovation. Based on the consensus reached at the forum, the participating organizations made the following statement:

1. Strengthen S&T cooperation for the promotion of shared development;
2. Build a platform for co-innovation and a long-term S&T cooperation mechanism; and
3. Focus on major scientific challenges and organize related international programs

The Belt and Road Initiative aims at shared development, harmonize fundamental interests of the international community and adds a new positive force to world peace and development. National Scientific Organizations, scientists and experts from different fields need to strengthen cooperation and work together to provide a strong scientific support for shared development and common prosperity. It was proposed to establish Intercontinental Scientists Association (ICSA). **Prof. Dr. Zabta K. Shinwari** has been nominated on this Working Group

Obituary

Prof. Dr. Syed Qasim Mehdi

We are grieved to report the sad demise of an eminent scientist and a senior Fellow of the Pakistan Academy of Sciences, Prof. Dr. Syed Qasim Mehdi, who breathed his last in Lahore on Tuesday, 27th September, 2016. Prof. Mehdi was born in British India on 13th February, 1941. He obtained his MS degree from Massachusetts Institute of Technology, USA in 1966 and received his D.Phil from University of Oxford, UK in 1969.

Prof. Mehdi served as Director General, Biomedical and Genetic Engineering Division of Dr. A. Q. Khan Labs; Head, National Institute of Biotechnology and Genetic Engineering, Biomedical Division, Lahore, 1986-1991; Director, The Alexandar Medical Foundation, Woodside, California, USA, 1980-1986;

Prof. Qasim Mehdi had won many prestigious honors and recognitions including *Hilal-e-Imtiaz* in 2003; *Sitara-i-Imtiaz* in 1998; Sigma Xi

Award, American Society for the Promotion of Research in 1966.

May Allah Almighty bless the departed soul with eternal peace. Aameen. His residential Telephone No. is 021-35680225



Obituary

Prof. Dr. Muzaffer Ahmad

A highly accomplished and decorated scientist and a senior Fellow of Pakistan Academy of Sciences Prof. Dr. Muzaffer Ahmad, expired on Tuesday, 22nd November 2016. He was born in Sitapur, British India, on 20th September, 1920. He obtained his M.Sc. from Aligarh Muslim University, India in 1941, Faislabad and PhD from University of Chicago, USA in 1948.

Prof. Muzaffer Ahmad spent major period of his professional career in University of the Punjab, Lahore as Professor Emeritus from 1983 till his death; He was Mian Afzal Husain Professor of Zoology, 1975-1980; He was Founder Fellow of the Zoological Society of Pakistan in 1968 and also Editor of Pakistan Journal of Zoology since 1968 till his death. Dr. Muzaffer Ahmad had earned many national and international honors and awards, including Izaz-i-Kamal, Government of Pakistan, 1993; Open Gold Medal, Pakistan Academy of

Sciences, 1979; Gold Medal, jointly by United States Department of Agricultural and Pakistan Agricultural Research Council, 1986.

May Allah Almighty bless the departed soul with eternal peace. Aameen. His residential Telephone No. is 042-9923 1246

