

# News Letter

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## AASSA-PAS Workshop on Challenges in Water Security to Meet the Growing Food Requirement

Food Security in Asian Countries Achievable by Science-based Solutions, Engr. Baligh Ur Rahman  
Role of Pakistan Academy of Sciences in Promoting Science is Commendable, Mr. Zahid Hamid



Participants of the Workshop with Engr. Baligh ur Rahman

## President

Dr. Anwar Nasim  
SI

## Secretary General

Prof. Zabta K. Shinwari  
TI

## Treasurer

Dr. M. D. Shami  
SI

## Editor

Dr. Abdul Rashid

**Fellows of PAS may submit  
news and views to:**

Editor-in-Chief

Pakistan Academy of  
Sciences

3-Constitution Avenue,  
G-5/2, Islamabad,  
Pakistan

Email: editor@paspk.org

Tel: (+92 51) 920-7140

Web: www.paspk.org

Water is key to crop productivity and food security. Agriculture is the biggest user of water; however, the current trend of water use is not sustainable in the face of fast increasing population, especially in countries of Asia, and the challenges posed by climate change. Thus, ensuring food security for fast growing populations of Asian countries with shrinking water resources is a daunting task. The challenge is to produce more in a sustainable manner.

In order to deliberate upon this gigantic issue and to arrive at possible strategies to attain food security, the *Pakistan Academy of Sciences (PAS)* and the *Association of Academies and Societies of Sciences in Asia (AASSA)* jointly organized a Workshop on “Challenges in Water Security to Meet the Growing Food Requirement” on 19–21 January, 2016 in Islamabad. Leading experts from Pakistan, Turkey, Malaysia, Korea and Nepal were resource persons. This international forum of leading experts was inaugurated by **Engr. Baligh Ur Rahman**, Minister of State for Federal Education & Professional Training. The President of Pakistan Academy of Sciences **Dr. Anwar Nasim**, and Vice President of AASSA, **Prof. Nakim K. Aras**, who is a senior scientist of Turkey, also spoke on the occasion.

Some 1.2 billion people—almost one fifth of the world—live in areas of water scarcity, while another 1.6 billion face what is called economic water shortage. The situation is only expected to worsen as population growth, climate change, and inefficient use of existing water resources. It is estimated that by 2025, 1.8 billion people will live in countries or regions with absolute water scarcity, with almost half of the world living in conditions of water stress.

## AASSA-PAS Workshop (Contd)

Themes of the Workshop were:

- Global and local food security
- Water security for sustainable food production
- Climate change impact on agriculture
- Soil health and water productivity
- Strategies and policies pertaining to water and food security

The Workshop comprised of five technical sessions pertaining to: Water and Food Security; Climate Change and Food Security; Water Conservation, Reuse, Soil Health and Food Security; and Water, Climate Change and Food Security. In total 17 lectures were presented by the leading experts, of which five were by international speakers and nine by Pakistan speakers. In addition to the technical sessions, three Panel Discussions were also held which pertained to the following areas and were led by senior scientists like Dr. Amir Muhammed, Engr. Shamsul Mulk, and Dr. Mubarik Ali:

- (i) Climate Change Impact on Agriculture;
- (ii) Water Security for Sustainable Food Production; and
- (iii) Strategies and Policies pertaining to Food Security.

The Workshop was well attended; the participants included water and agriculture experts, university faculty members, researchers, postgraduate students, heads of scientific organizations, policy makers and other stakeholders.

In the Concluding Session, chairpersons of the three Panel Discussion Groups presented recommendations of the Workshop regarding the respective areas. While chairing Concluding Session of this important Workshop at the *Pakistan Academy of Sciences*, Mr. Zahid Hamid, Federal Minister for Climate Change, stated that, despite the constraints of water scarcity and climate change, food security for the fast increasing populations of Asian countries is achievable. He said this can be accomplished on sustainable basis by employing science-based solutions and strategies. He congratulated the *Pakistan Academy of Sciences* and AASSA for jointly organizing this international forum on a topic of immense importance of all countries of Asia. The Secretary General of Pakistan Academy of Sciences, Prof. Dr. Zabta K. Shinwari, appreciated AASSA as well as local and international resource persons for their contributions.



# Salient Glimpses of AASSA-PAS Workshop



## Induction of Fellows Elected during 2014

The following four eminent scientists, elected as Fellows of the Academy during the year 2014, were formally inducted and given medallions and certificates by the President PAS,

Prof. Dr. Haq Nawaz Bhatti  
Chairman  
Department of Chemistry  
University of Agriculture  
Faisalabad

Dr. Shahid Mansoor  
Deputy Chief Scientist / Director  
NIBGE  
Faisalabad

Dr. Anwar Nasim, during the General Body Meeting held in Islamabad on November 26, 2015. The inducted Fellows signed the Charter Book of the Pakistan Academy of Sciences.

Prof. Dr. Rasul Jan  
Vice Chancellor  
University of Peshawar  
Peshawar

Prof. Dr. Khan Bahadar Marwat  
Vice Chancellor  
SBB University  
Sheringal, Upper Dir



Prof. Dr. Haq Nawaz Bhatti  
receiving his medallions from  
the President, PAS



Prof. Dr. Rasul Jan  
receiving his medallions from  
the President, PAS



Dr. Shahid Mansoor  
receiving his medallions from  
the President, PAS



Prof. Dr. Khan Bahadar Marwat  
receiving his medallions from  
the President, PAS

## New Fellow of PAS Elected during 2015

The following eminent scientist was elected as Fellow of the Academy during the year 2015:

Prof. Dr. Muhammad Arshad  
Dean  
Faculty of Agriculture  
University of Agriculture, Faisalabad

## New Member of PAS Elected during 2015

The following scientist was elected as Member of Pakistan Academy of Sciences during the year 2015:

Dr. Tariq Mahmood  
Assistant Professor  
Department of Plant Sciences  
Quaid-i-Azam University, Islamabad

## PAS-sponsored Research Project

The following new research project was approved by the PAS-HEC Committee:

Title	Principal Investigator
Stability Analysis and Some Interesting Cosmic Issues	Dr. Muhammad Sharif University of the Punjab Lahore

## PAS-sponsored Conferences/Symposium

The PAS financial support was approved by the PAS-HEC Committee for organizing the following Conferences and Symposium by the Fellows of the Academy:

Title	Principal Organizer
Sharing Knowledge of Sustainable Use of Plant Resources of Pakistan: Support Biodiversity Conservation, January 18-19, 2015 at University of Karachi, Karachi	Prof. Dr. M. Qaiser University of Karachi Karachi

## PAS-sponsored Travel Grant

The following travel grant was approved by the Academy:

Title	Participant
TWAS 13th General Conference and 26th Annual Meeting, November 18-21, 2015, Vienna, Austria.	Dr. Bina Shaheen Siddiqui University of Karachi Karachi

# PAS Gold Medals, Prizes and Certificates awarded during 2015

The following scientists were conferred upon PAS Gold Medals, Cash Prizes of Rs. 35,000 and Certificates by the Vice-Presidents PAS, Prof. Dr. Khalid Mahmood Khan and Prof. Dr. Mohammad Qaiser, during the PAS General Body Meeting in Islamabad on November 26, 2015:

## PAS Gold Medal 2015 in Agricultural Sciences

Prof. Dr. Ghulam Murtaza  
Institute of Soil and Environmental Sciences  
University of Agriculture  
Faisalabad



## PAS Gold Medal 2015 in Biological Sciences

Dr. Naveed Ahmed Khan  
Professor and Chairman  
Department of Biological Sciences  
The Aga Khan University  
Karachi



## PAS Gold Medal 2015 in Chemical Sciences

Prof. Dr. Shahabuddin Memon  
Director  
NCE in Analytical Chemistry,  
Quaid-i-Azam University  
Islamabad



## PAS Gold Medal 2015 in Earth & Environmental Sciences

Dr. Riffat Nasim Malik  
Associate Professor  
Department of Environmental Sciences  
Quaid-i-Azam University  
Islamabad



## PAS Gold Medal 2015 in Health Sciences

Prof. Dr. Muhammad Wasay  
Department of Medicine  
The Aga Khan University  
Stadium Road, Karachi



## PAS Gold Medal 2015 in Physics

Prof. Dr. Iftikhar Ahmad  
Chairman  
Department of Physics  
University of Malakand  
Chakdara



## Dr. Atta-ur-Rahman Gold Medal 2015

The Dr. Atta-ur-Rahman Gold Medal in Chemistry for Young Scientists, under 40, for the year 2015 was won by Dr. Itrat Anis, Associate Professor, Department of Chemistry, University of Karachi, Karachi. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-.



## Dr. Raziuddin Siddiqi Prize

The Dr. Raziuddin Siddiqi Prize in Chemistry for Young Scientists, under 40, for the year 2015 was won by Dr. M. Raza Shah, Associate Professor, HEJ Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



## Dr. Shah Jehan Prize 2015

The Dr. Shah Jehan Prize in Emerging Technologies, including Biotechnology, Nanotechnology, Molecular Biology and Bioinformatics for Young Scientists under 40 for the year 2015 was won by Dr. Shamaila Sajjad, Assistant Professor, International Islamic University, Islamabad. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



## PAS COMSTECH Prize 2015

The PAS-COMSTECH Prize in Computer Science (IT), for the year 2015 was won by Dr. Asim Karim, Department of Computer Science, Lahore University of Management Sciences (LUMS), Lahore. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



## Dr. M. N. Azam Prize 2015

The Dr. M. N. Azam Prize in Computer Science (Software), for the year 2015 was won by Dr. Siffat Ullah Khan, Department of Computer Science and IT, University of Malakand. The Award comprised of a Gold Medal, a Certificate and Cash Prize of Rs. 15000/-



## Prof Abdus Salam's 90th Birthday Celebrated

The 90th birthday of Professor Abdus Salam, the Pakistani Nobel Laureate and the youngest ever elected Fellow of PAS, was celebrated on January 29, 2016 by COMSTECH in collaboration with *Pakistan Academy of Sciences (PAS)* and National Centre for Physics (NCP). Nearly 170 theoretical and experimental physicists and other senior scientists graced the occasion with their presence.

Dr. Shaukat Hameed Khan, Coordinator General of COMSTECH, welcomed the participants and recalled scientific achievements of Prof. Abdus Salam. He traced Prof. Salam's journey from a humble school in Jhang to his life in Government College Lahore, and then his work at Cambridge and Imperial College, London. He lamented the national neglect of Prof. Salam and highlighted the extremely poor condition of his ancestral home in Jhang; despite being declared a 'National Monument'. He pleaded for its rehabilitation on an emergent basis.

Prof. Dr. Aslam Baig, Prof. Dr. N. M. Butt and Prof. Dr. Fayyazuddin highlighted the achievements and supportive role of Prof. Salam not in their own professional development but also in the lives of several hundred young scientists and researchers belonging to Pakistan. Dr Fayyazuddin gave an illuminating discourse on Prof. Salam's research which led to his Noble Award and his attempt to understand symmetry and unification among the four fundamental forces of nature. He expressed disappointment at the neglect of science in Pakistan.

On the occasion, Mr. Muhammad Naeem, Chairman PAEC, paid rich tribute to the scientific mettle and diverse personality of Prof. Salam. Dr. Ishfaq Ahmad, former Chairman PAEC/Chairman BoG, NCP, passionately described his association with Prof. Abdus Salam and elaborated many incidents when he went out of the way to help young scientists and researchers of Pakistani origin. He stated that Prof. Salam played a crucial role in development of scientific and technical human resource of PAEC when the institution was in the nascent stage. His role in the creation of Pakistan's space agency, SUPARCO, as well as of PINSTECH, the 'mother institute' of PAEC, was highlighted.

All the speakers lauded his work in breaking the gap between the developed and developing countries, which led to the creation of International Centre of Theoretical Physics (ICTP), now named as Abdus Salam International Centre of Theoretical Physics.

Dr. Anwar Nasim, President of PAS, presented vote of thanks and described the literary talent of Prof. Salam as he had been the editor of both English and Urdu languages of "RAVI" magazine at Government College Lahore.

Mr. Imran Rasheed, a nephew of Prof. Salam, shared his personal childhood memories of Prof. Salam with the audience and appreciated the organisers for arranging this event.



L-R: Dr. Shaukat Hameed Khan, Prof. Dr. M. Aslam Baig, Dr. Anwar Nasim, Mr. Muhammad Naeem, Dr. Ishfaq Ahmad, Prof. Dr. N. M. Butt, Prof. Dr. Fayyazuddin



## Chinese Academy of Sciences Elects Prof. Atta-ur-Rahman as “Academician”

The Chinese Academy of Sciences (CAS), the largest national scientific institution of China, has elected Prof. Dr. Atta-ur-Rahman as its “Academician” (Foreign Member). Prof. Atta-ur-Rahman is the first scientist from the Muslim World to have this honor.

Prof. Atta-ur-Rahman would attend 18th General Assembly of CAS scheduled to be held in June in Beijing, during which a certificate of foreign membership will be presented to him. As a comprehensive and large national scientific institution, CAS comprises three major parts – a comprehensive research and development

network, a traditional merit-based academic society like National Academy of Sciences in many countries and a system of higher education consisting of three universities.



## Prof. Zulfiqar A. Bhutta honored with TUBA Prize

A Fellow of PAS, and scholar at Aga Khan University (AKU) Hospital, Prof. Dr. Zulfiqar A. Bhutta has been conferred the International TUBA Academy Prize in Health and Sciences by President of Turkey, Mr. Tayyip Erdogan, at the Ankara Presidential Palace in Turkey. Dr. Bhutta is founding director of Centre for Excellence in Women and Child Health at the AKU and co-director of SickKids Centre for Global Child Health, Toronto.

The TUBA prize is awarded by the *Turkish Academy of Sciences* (TUBA) to scientists whose

work is original, whose work is leading, and whose accomplishments are path-breaking. Prof. Bhutta received the award in recognition of his groundbreaking research on ‘mother and child health’ and his scholarly contributions to global health and policy.

Prof. Bhutta is already recipient of two prestigious international prizes, i.e., WHO Ihsan Dogramaci Family Prize and the American Academy of Pediatrics’ Samuel J. Fomon Nutrition Award.



Prof. Zulfiqar Bhutta receiving TUBA Prize from President of Turkey

## Renewal of MoU between Royal Society of Edinburgh and Pakistan Academy of Sciences

A Memorandum of Understanding was signed between Royal Society of Edinburgh (RSE) and Pakistan Academy of Sciences in November 2007. The MoU was effective till November 2013.

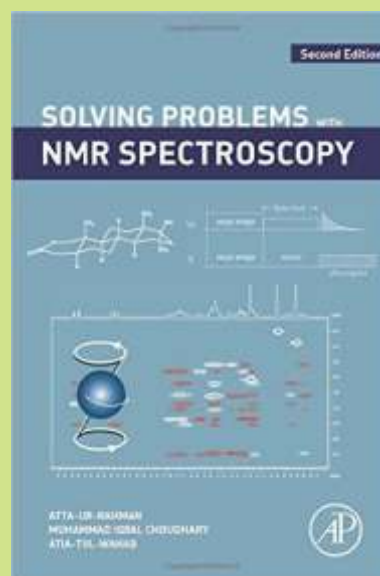
On January 15, 2016, during the visit of Dr. M. Tariq Durrani, Vice President, Royal Society of Edinburgh (RSE) to Pakistan Academy of Sciences, a meeting of the Vice President of RSE was held with some senior Fellows of PAS including Dr. Anwar Nasim, Dr. Amir Muhammed, Prof. Dr. G. A. Miana, Prof. Dr. M. D. Shami, Dr. Abdul Rashid, Dr. N.M. Butt and Prof. Dr. Asghari Maqsood. During his visit the MoU was renewed.



## Elsevier Publishes Book on NMR by two PAS Fellows

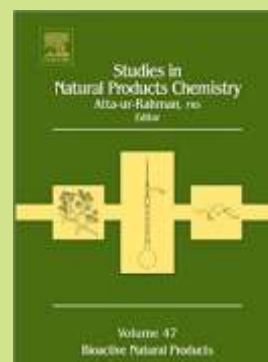
Elsevier Science Publishers published a book entitled, "Solving Problems with NMR Spectroscopy" written by Prof. Atta-ur-Rahman, FRS, Prof. M. Iqbal Choudhary and Dr. Atia tul Wahab. The book provides a comprehensive discussion on NMR spectroscopy, making it ideal for students, researchers and practicing analytical scientists.

The Nobel Laureate Prof. Dr. Richard R. Ernst has written the Foreword of this book in which he states that "Solving Problems with NMR Spectroscopy" is certainly a useful addition to the NMR literature.



## Volume 47 of Encyclopaedic Series "Studies in Natural Products" published by Elsevier


Volume 47 of the series of "Studies in Natural Products Chemistry", edited by Prof. Atta-ur-Rahman, has been published by Elsevier Science in February 2016. This encyclopaedic series of volumes was initiated by Prof. Atta-ur-Rahman 26 years ago, and 47 volumes have been published under his editorship since 1988.





## Recipients of 2016 Breakthrough Prizes Announced

The Breakthrough Prize Foundation has announced recipients of the 2016 Prizes. These winners each receive a US\$ 3 million prize. The Prizes were Presented at Live Ceremony on Nov. 8, 2015, in the 3rd Annual Breakthrough Prize Awards Ceremony in Silicon Valley co-hosted by founders of the Breakthrough Prize Foundation and Vanity Fair editor at NASA's Ames Research Center, Mountain View, California, USA.


The Breakthrough Prizes are funded by grants from The Brin Wojcicki Foundation, Mark Zuckerberg's fund at the Silicon Valley Community Foundation, Jack Ma Foundation; and Milner Foundation. The Prizes aim to celebrate scientists and generate excitement about the pursuit of science as a career. Laureates of all Prizes are chosen by Selection Committees, which are comprised of prior recipients of the Prizes.

 The 2016 Breakthrough Prize in Mathematics was Awarded to Ian Agol, University of California at Berkeley and Institute for Advanced Study.

 The 2016 Breakthrough Prize in Life Sciences was Awarded to Five Individual Recipients: Edward S. Boyden, Massachusetts Institute of Technology; Karl Deisseroth, Stanford University and Howard Hughes Medical Institute; John Hardy, University College London; Helen Hobbs, University of Texas Southwestern Medical Center and Howard Hughes Medical Institute; and Svante Pääbo, Max Planck Institute for Evolutionary Anthropology.

 The 2016 Breakthrough Prize in Fundamental Physics was Awarded to Seven Leaders and 1370 Members of Five Experiments Investigating Neutrino Oscillation: Daya Bay, Chinese Academy of Sciences; KamLAND, Iwate Prefectural University, Japan; K2K / T2K, High Energy Accelerator Research Organization, Japan; Sudbury Neutrino Observatory, Queen's University, Canada; and Super-Kamiokande, University of Tokyo, Japan.

 The 2016 New Horizons in Physics Prizes were presented to B. Andrei Bernevig, Princeton University; Liang Fu and Xiao-Liang Qi, Stanford University; Raphael Flauger, University of Texas at Austin; Leonardo Senatore, Stanford University; and Yuji Tachikawa, University of Tokyo, Japan.

 Two 2016 New Horizons in Mathematics Prizes Awarded to Larry Guth, MIT and André Arroja Neves, Imperial College London.

Inaugural Breakthrough Junior Challenge Winner is Ryan Chester, North Royalton High School, Ohio.

The Laureates were honored at glittering awards gala hosted by Seth MacFarlane, with live performance by Pharrell Williams, and presenters Russell Crowe, Hilary Swank, Lily Collins, and Kumail Nanjiani & Martin Starr of HBO's Silicon Valley.

More information on the Breakthrough Prizes is at : [www.breakthroughprize.org](http://www.breakthroughprize.org)



Recipients of 2016 Break Through Prizes

## Obituary

### Prof. Dr. Muhammad Arshad

A highly accomplished and decorated scientist and the only elected Fellow of the Pakistan Academy of Sciences during 2015, Prof. Dr. M. Arshad, expired in Faisalabad on 30th January, 2016. He was born on April 1, 1956. He did B.Sc. (Hons) in Agriculture and M.Sc. (Hons) in Soil Science from University of Agriculture, Faisalabad. Later, he did Ph.D. in Soil Microbiology and Biochemistry from University of California, Riverside, CA, USA.

Prof. Arshad worked as Director, Center for Agricultural Biochemistry and Biotechnology (1998-2000); Director, Center for Agricultural Genetics and Saline Agriculture (1998-99); and Director, Institute of Soil & Environmental Sciences; at University of Agriculture, Faisalabad. He was Editor-in-Chief, Pakistan Journal of Soil Science (later renamed as "Soil and Environment") and President, Soil Science Society of Pakistan.

Dr. Arshad's professional contributions brought him many national and international honors and awards, like "Best Scientist in Agriculture" by the Pakistan Academy of Sciences; "Best University Teacher" by Higher Education Commission (HEC); "*Tamgha-i-Imtiaz*" 2005 by Govt of Pakistan; and best performance shield

by the President of Pakistan. Dr. Arshad was honored as Fellow of Soil Science Society of Pakistan in 2006 and by TWAS Prize in Agriculture Sciences for 2007. Also, he was decorated by HEC as "Distinguished National Professor" for the year 2015-16. He was a recipient of Research Productivity Award throughout. At the time of his death, Prof. Arshad was working as Dean, Faculty of Agriculture, University of Agriculture, Faisalabad.

May Allah Almighty bless his soul with eternal peace. Aameen.

His residential Phone No. is: (041) 8710240



## Obituary

### Dr. Agha Ikram Mohyuddin

We are grieved to report the sad demise of an eminent scientist and a senior Fellow of the Pakistan Academy of Sciences, Dr. Agha Ikram Mohyuddin, who breathed his last in Islamabad on Wednesday, 10th February, 2016. He was born in Jullundur, British India, on September 21, 1932. He obtained his M.Sc. in 1956 from University of the Punjab, Lahore, Pakistan; and PhD. from Queen's University, Kingston, Ontario, Canada.

Prof. Mohyuddin was the one of the founding members of Eco-Conservation Initiatives (ECI). He served as Chief Consultant, Integrated Pest Management Project and Chief Executive of Integrated Pest Management Consultants. He was Scientist-in-Charge and Director, PARC-IIBC Station, International Institute of Biological Control (IIBC), 1980-1994. He also served as Principal Entomologist IIBC, 1960-1979.

Prof. Ikram won many prestigious honors and recognitions including President's Award "Pride of Performance", 1996; Ismail H. Zakria Gold Medal (by Pakistan Society of Sugar Technologists), 1997; Open

Gold Medal by Pakistan Academy of Sciences, 1990; Dr. Norman Borlaug Award by Govt. of Pakistan, 1988; Ghulam Muhammad A. Fecto Gold Medal, 1983 and 1986.

May Allah Almighty bless the departed soul with eternal peace. Aameen.

His residential Phone Number is: (051) 444 0334

