



News Letter

PAKISTAN ACADEMY OF SCIENCES

Promoting Science, Technology and Innovation for Socio-economic Development

January 2015

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Dr. Anwar Nasim
SI

Secretary General

Prof. Zabta K. Shinwari
TI

Treasurer

Dr. M. D. Shami
SI

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Message by the President, PAS

I greatly appreciate and sincerely thank all the Fellows of the Pakistan Academy of Sciences for supporting us in the elections of the Council for the 2015–2017 term. The confidence and trust posed in us is a challenge and demands all possible efforts to work for the Academy. I am personally a strong believer in the concept of team work and, thus, request all the Fellows of the Academy to get involved and give suggestions for the way the Academy should function in future.



Dr. Anwar Nasim

We fully realize that all efforts should be made to efficiently implement the stated mandate of the Academy. The Academy must serve as a viable think tank to provide the policy makers with scholarly documents suggesting science-driven solutions to critical problems of national significance, like water scarcity, food security, and environmental pollution. We need to guide the government so that Pakistan under goes from a low value agricultural economy to a knowledge economy.

We shall place special emphasis on the International Collaborations as reflected in several MoUs signed by our Academy.

The Academy's Newsletter and Website are the most effective means of communication; therefore, we ask you to continually access these sources and give your constructive suggestions.

I take this opportunity to wish you all a Happy and Productive New Year.

A Word About the Academy

The Pakistan Academy of Sciences was established in 1953 by the then Prime Minister of Pakistan, Khwaja Nazim-ud-Din. The Academy is a non-governmental supreme scientific body of distinguished scientists of the country.

The Government of Pakistan has given consultative and advisory status to it "on all problems relating to the development of scientific efforts in the country and generally on such matters of national and international importance in the field of science as may be referred to it".

New Council of Pakistan Academy of Sciences

The office bearers of the Pakistan Academy of Sciences for the term 2015–2017 are:



President

Dr. Anwar Nasim
SI



Vice President

Prof. Dr. Khalid M. Khan
SI



Vice President

Prof. Dr. M. Qaiser



Past President

Prof. Dr. Atta-ur-Rahman
FRS, NI, HI, SI, TI



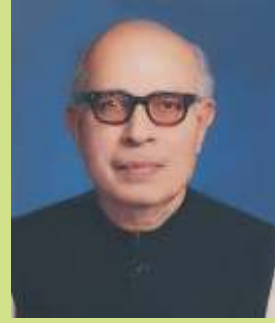
Secretary General

Prof. Dr. Zabta K. Shinwari
TI



Associate Secretary General

Dr. Muhammad Iqbal
TI



Treasurer

Prof. Dr. M. D. Shami
SI



Secretary Lahore Chapter

Prof. Dr. Ikramul Haq
SI



Secretary Peshawar Chapter

Prof. Dr. Fazal A. Khalid
SI



Secretary Karachi Chapter

Prof. Dr. Rumina Hasan



Member

Prof. Dr. M. Perwaiz Iqbal
SI



Member

Prof. Dr. M. Ashraf
SI



Member

Dr. N. M. Butt
SI



Member

Prof. Dr. Bina Shaheen Siddiqui
SI, TI

Note: Nominations are awaited from Ministry of Education and Ministry of Science & Technology for two Members of the Council.

Induction of Fellows Elected during 2013

The following three eminent scientists, elected as Fellows of the Academy during the year 2013, were formally inducted and given medallions and certificates by the President, PAS, **Prof. Dr. Atta-ur-Rahman**, during the General

Body Meeting held in Islamabad on December 04, 2014. The inducted Fellows signed the Charter Book of the Pakistan Academy of Sciences.

Prof. Dr. Amin Badshah
Chairman
Department of Chemistry
Quaid-i-Azam University
Islamabad

Dr. Abdul Rashid
Editor-in-Chief
Pakistan Academy of Sciences
Islamabad

Dr. Darakhshan Jabeen Haleem
Professor
Neuro Research Laboratory
Dr. Panjwani Center for Molecular Medicine & Drug Research
University of Karachi
Karachi



Prof. Dr. Amin Badshah
receiving his medallions from
the President, PAS



Dr. Abdul Rashid
receiving his medallions from
the President, PAS



Prof. Dr. Darakhshan Jabeen Haleem
receiving her medallions from
the President, PAS

New Fellows of PAS Elected during 2014

The following eminent scientists were elected as Fellows and Foreign Fellow of the Academy during the year 2014:

Fellows:

Prof. Dr. Khan Bahadar Marwat

Vice Chancellor
SBB University
Sheringal (Upper Dir)

Dr. Shahid Mansoor

Deputy Chief Scientist
National Institute of Biotechnology
and Genetic Engineering, Faisalabad

Prof. Dr. M. Rasul Jan

Vice Chancellor
University of Peshawar
Peshawar

Prof. Dr. Haq Nawaz Bhatti

Chairman
Department of Chemistry and
Biochemistry
University of Agriculture
Faisalabad

Foreign Fellow:

Prof. Michael Paul Searle

Professor
Department of Earth Sciences
Oxford University, UK

New Members of PAS Elected during 2014

The following scientists were elected as Members of the Pakistan Academy of Sciences during 2014:

Dr. Bilal Haider Abbasi

Associate Professor
Department of Biotechnology
Faculty of Biological Sciences
Quaid-i-Azam University, Islamabad

Dr. Gul Shahnaz

Assistant Professor
Department of Pharmacy
Faculty of Biological Sciences
Quaid-i-Azam University, Islamabad

Dr. Reaz Uddin

Assistant Professor
Dr. Panjwani Center for Molecular Medicine
and Drug Research
Center for Chemical and Biological Sciences
University of Karachi, Karachi

PAS Gold Medals, Prizes and Certificates awarded during 2014

The following scientists were conferred upon **Gold Medals, Cash Prizes** of Rs. 35,000/- each and **Certificates** by the President PAS, **Prof. Dr. Atta-ur-Rahman**, during the PAS General Body Meeting in Islamabad on December 04, 2014:

PAS Gold Medal 2014 in Agriculture

Dr. Abid Mahmood

Director General

Ayub Agricultural Research Institute

Faisalabad



PAS Gold Medal 2014 in Biochemistry

Dr. Muhammad Rashid Khan

Associate Professor

Faculty of Biological Sciences

Department of Biochemistry

Quaid-i-Azam University

Islamabad



PAS Gold Medal 2014 in Botany

Dr. Mansoor Hameed

Associate Professor

Department of Botany

University of Agriculture

Faisalabad



PAS Gold Medal 2014 in Chemistry

Dr. Irshad Hussain

Associate Professor and Chair

Department of Chemistry

SBA School of Sciences & Engineering, LUMS

Lahore



PAS Gold Medal 2014 in Mathematics

Dr. Rahmat Ali Khan

Dean, Faculty of Sciences

& Director, Quality Enhancement Cell

University of Malakand, Chakdara

Dir (Lower), KPK



(Gold Medals & Prizes..... contd.)

PAS Gold Medal 2014 in Medical Sciences

Dr. Mahmood Ahmad

Dean

Faculty of Pharmacy & Alternative Medicine

Khawaja Fareed Campus

The Islamia University

Bahawalpur



PAS Gold Medal 2014 in Physics

Dr. Farhan Saif

Chairman

Department of Electronics

Quaid-i-Azam University

Islamabad



PAS Gold Medal 2014 in Zoology

Dr. Farah Rauf Shakoori

Associate Professor

Department of Zoology

University of the Punjab

Lahore



Dr. Atta-ur-Rahman Gold Medal 2014

The Dr. Atta-ur-Rahman Gold Medal in Chemistry for Young Scientists, under 40, for the year 2014 was won by **Dr. Muhammad Balal**, Assistant Professor, Department of Chemistry, University College of Science, Mardan. The Award consisted of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-.



Dr. Raziuddin Siddiqi Prize

The Dr. Raziuddin Siddiqi Prize in Mathematics for Young Scientists, under 40, for the year 2014 was won by **Dr. Zaheer Abbas**, Assistant Professor, Department of Mathematics, The Islamia University of Bahawalpur. The Award consisted of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



PAS COMSTECH Prize 2014

The PAS COMSTECH Prize in Computer Science (IT) for the year 2014 was won by **Dr. Abdul Majid**, Assistant Professor, Department of Computer and Information Technology, Pakistan Institute of Engineering and Applied Science, Nilore, Islamabad. The Award consisted of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



Dr. Shah Jehan Prize 2014

The Dr. Shah Jehan Prize in Earth Sciences for Young Scientists, under 40, for the year 2014 was won by **Dr. Irfan Ullah Jan**, Assistant Professor, National Center of Excellence in Geology, University of Peshawar, Peshawar. The Award consisted of a Gold Medal, a Certificate and Cash Prize of Rs. 35000/-



3rd PAS CAS Binational Conference

The 3rd Bi-National Conference of Pakistan Academy of Sciences (PAS) and Chinese Academy of Sciences (CAS) was held at Islamabad on 22 December, 2014.

The Conference Themes were

- (i) Nano-science & Technology;
- (ii) Drug Development ;and
- (iii) Atmospheric Physics & Environment.

A 13 member delegation of CAS, led by its Vice President, traveled to Pakistan for the purpose.

Inaugural session of the Conference, held at the Pakistan Academy of Sciences, was chaired jointly by Vice President of PAS, **Prof. Dr. M. Qasim Jan**, and Vice President of CAS, **Prof. Zhang Yaping**.

After the Inaugural Session, the audience got divided into three groups to participate in three conference sessions to deliberate upon the three Conference Themes.

The Nano-science & Technology session was held at Preston Institute of Nano Science & Technology (PINSAT), Preston University, Sector H-8/1. Islamabad, while the other two sessions were conducted at the Pakistan Academy of Sciences.



Dr. Anwar Nasim addressing the audience during the Inaugural Session, Prof. Zhang Yaping and Prof. Dr. Qasim Jan are co-chairing

PAS-sponsored Research Project

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

Title	Principal Investigator
Functional Importance of O-GlcNAc Modification of Merozoite Surface Proteins of <i>P. falciparum</i> as Potential Vaccine Candidate: In Silico Approach	Dr. Nasir Uddin

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
2nd International Conference on “Biotechnology for Sustainable Development” 26-28 November, 2014, at Institute of Industrial Biotechnology (IIB), GC University, Lahore	Dr. Ikram ul Haq
5th International Symposium-cum-Training Course on Molecular Medicines and Drug Research (MMDR-4), January 12-15, 2015, Karachi	Dr. M. Iqbal Choudhary
International Conference on Relativistic Astrophysics, February 10-14, 2015, at University of Punjab, Lahore	Dr. M. Sharif

PAS-sponsored Travel Grant

The following travel grant was approved by the Academy:

Title	Participant
Presentation of Paper at the “14th International Symposium for Soil and Plant Analysis” to be held in Kona, Hawaii, USA on 26-30 January, 2015	Dr. Abdul Rashid

Making Pakistan Science Conscious

The Pakistan Academy of Sciences celebrated the New Year by organizing a consultative meeting of stakeholders in science on 1st January 2015 at its headquarters in Islamabad with a resolve to make Pakistan a Science Conscious country. The aim of the meeting was to arrive at a strategy to “Promote science and technology (S&T) with the support of scientists, technocrats, industrialists, science lovers, intellectuals, students, Government organizations, and the public at large”. Participants were representative of all stakeholders, including distinguished scientists, University Professors, PhD students, and heads of academic and scientific organizations.

The newly elected President of the Academy for the term 2015–2017, **Dr. Anwar Nasim**, informed the audience about the history and functions of the Academy.

The event was facilitated by a Fellow of the Academy, **Dr. Hamid Saleem**. **Prof. Dr. Javed Ashraf**, Vice Chancellor, Quaid-i-Azam University, and **Prof. Dr. Masoom Yasinzai**, Rector, IIU, were guest speakers who spoke about the functions of the Academy and assured of all possible support for the activities

of the Academy. **Dr. Mukhtar Ahmed**, Chairman, Higher Education Commission, welcomed the idea of having regular consultative meetings of this nature for making an effort to make Pakistan a Science Conscious country. He assured that HEC will always be ready to support any idea which is in the interest of the nation. **Prof. Dr. M. Qasim Jan**, Advisor Science, COMSTECH, appreciated the initiative of stakeholder consultation for enhancing awareness about the Academy in the interest of promoting S&T in the country. **Dr. Manzoor H. Soomro**, President, ECO Science Foundation suggested for imparting science awareness at school level. He proposed evidence-based science activities of school teachers and students.

The newly elected Secretary General of the Academy, **Prof. Dr. Zabta K. Shinwari**, stressed on the pivotal role of the Academy in the promotion of S&T in the country with the help and support of all stakeholders. It was unanimously decided that such stakeholder meetings will be held on a regular basis at the Academy's headquarters. Chairman HEC offered to host the next meeting at HEC headquarters.



The consultative meeting being chaired by Dr. Anwar Nasim, President, Pakistan Academy of Sciences

Recognition of Pakistani Scientists

Prof. Atta-ur-Rahman Elected as Chairman, International Organizing Committee of Eurasia Conferences

Prof. Dr. Atta-ur-Rahman was elected as Chairman of the International Organizing Committee of future Eurasia Conferences. These Conferences are held once every two years in Asia or Europe and bring together top scientists including many Nobel Laureates from these regions in the field of chemistry. The next Eurasia Conference will be held at International Center for Chemical and Biological Sciences (ICCBS) in Karachi on December 15-18, 2016.



Prof. Atta-ur-Rahman Honored as International Distinguished Lecturer by Academia Sinica, Taipei, Taiwan

Academia Sinica in Taiwan selects one top scientist each year and invites him to deliver a lecture as an “International Distinguished Lecturer”. The

Academia Sinica selected Prof Atta-ur-Rahman for this lecture in 2014 which was delivered by him to a large audience on November 07, 2014.

Prof. Dr. Fazal Ahmed Khalid Appointed as Vice Chancellor of University of Engineering and Technology Lahore

Prof. Dr. Fazal Ahmad Khalid has been appointed as Vice-Chancellor of University of Engineering and Technology (UET), Lahore. He has assumed the charge on 18th December, 2014. All the Deans of Faculties, President Teaching Staff Association and Registrar of the University have warmly welcomed the newly appointed Vice-Chancellor.



Prof. Dr. M. Ashraf Appointed as Chairman Pakistan Science Foundation

Prof. Dr. M. Ashraf has been appointed as Chairman of Pakistan Science Foundation (PSF) for 3 years period. Currently, he is Vice Chancellor, Muhammad Nawaz Sharif University of Agriculture, Multan. He will assume the charge of Chairman, PSF, after relinquishing the charge of his present appointment.



Prof. Anwar Gilani Appointed as Chairman Pakistan Council for Science and Technology

Prof. Dr. Anwar ul Hassan Gilani has been appointed as Chairman of Pakistan Council for Science and Technology for 3 years period. He was National Professor & Program Director, Drug

Discovery and Natural Products Research Noor Mohammed Shamji Professor of Pharmacology, Department of Biological and Biomedical Sciences, Aga Khan University Medical College, Karachi.

Prof. Anwar Gilani wins Dr. Z. A. Hashmi R&D Gold Medal

Prof. Dr. Anwar-ul-Hassan Gilani, Fellow, Pakistan Academy of Sciences was awarded “Dr. ZA Hashmi R&D Gold Medal” by the Pakistan Science Foundation for being the most outstanding and productive Principal Investigator of Pakistan Science Foundation funded projects during 2001-2011.

The Medal along with a cash prize Rs. 100,000/-, was awarded in a graceful ceremony held at the PSF Auditorium in Islamabad on November 10, 2014 on the occasion of 'World Science Day for Peace and Development'..



Professor Anwar Gilani receiving the Gold Medal with the Certificate of Recognition from the Federal Minister for Science & Technology Mr. Zahid Hamid.

Prof. Qaim receives Plaque of Recognition from American Nuclear Society

Professor Dr. Dr. h.c. mult. Syed M. Qaim, a Foreign Fellow of the Academy, was recently honoured by the American Nuclear Society. He received a special "Plaque of recognition" from the American Nuclear Society for his contributions. The award was presented to him during the 8th International Conference on Isotopes and Expo in Chicago in August 2014.



Pakistan becomes First Asian Country to win CERN's Associate Membership

The European Organisation for Nuclear Research (CERN) Council in its meeting held on September 18, 2014 has unanimously approved the application of Pakistan for the Associate Membership— facilitating Pakistan's formal entry into the world's premier scientific organization engaged in investigating fundamental structure of the universe.

CERN members include 21 countries mostly from Europe. CERN has three Associate Members and five observer states. Earlier in February 2014, a four-member high level CERN Technical Team (CTT) led by CERN's Director for Research and Scientific Computing, Dr Sergio Bertolucci, visited Pakistan as part of the evaluation process for the Associate Membership of CERN for Pakistan.

The status of Associate Member is the pre-stage to full Membership. As an Associate Member, Pakistan would be entitled to attend open and restricted sessions of the CERN Council, topmost decision-making body. After becoming Associate Member there are numerous benefits including: staff positions for scientists and engineers, access to various educational programmes (summer student, doctoral student and technical student), and engineering contracts for Pakistani industry. It would also help in technology transfer in key areas of accelerator technology, radio frequency technology, development of magnets, ion beam optics, and cryogenics.

Ambassador of Belarus Visits Pakistan Academy of Sciences

The Ambassador of Belarus to Pakistan, His Excellency **Dr. Andrei Ermolovich**, visited the *Pakistan Academy of Sciences* on 5th January, 2015. The Republic of Belarus, is a landlocked country in Eastern Europe; its capital is Minsk. During the dissolution of the Soviet Union, Belarus declared independence in 1991. Belarus has opened its embassy in Pakistan in September 2014.

In his meeting with President of the Academy, **Dr. Anwar Nasim**, and Secretary General of the Academy, **Prof. Dr. Zabta K. Shinwari**, the Ambassador expressed keen interest in developing

scientific collaboration between Academies of the two countries. He expressed his desire to formalize the collaboration by signing an MoU, and stated that “Science will remain an element of cooperation between our two countries”. The breakthrough event in Belarusian science was the launching of Belarusian satellite into outer space for remote sensing of the Earth during 2012.

The President of Pakistan Academy of Sciences assured the visiting Ambassador of full cooperation in terms of scientific collaboration.



Dr. Anwar Nasim, Prof. Dr. Zabta K. Shinwari, H.E. Dr. Andrei Ermolovich, and Prof. Dr. Anwar ul Hassan Gillani at Pakistan Academy of Sciences

Endophytes of Invasive and Stress Resistant Plants as an Alternative Means of Growth Promotion and Yield Enhancement of Major Crops

This project awarded in 2012 to **Dr. Zabta Khan Shinwari**, Chairperson, Biotechnology Department, Quaid-i-Azam University by Pakistan Academy of Sciences has been completed in December 2014. Its budget was Rs. 4 Million.

The project research revealed that wild, stress resistant and perennial plants can be the potential source of unique endophytic bacteria for the development of an integrated strategy towards plant growth promotion. Endophytic bacteria isolated from perennial, stress resistant and wild *Dodonaeaviscosa*, *Cannabis sativa*, *Partheniumhysterophorus* and *Lantana camara* possess immense potential to be used as bio-inoculants for agronomic crops to enhance their growth. The work revealed some new endophytic isolates that

significantly enhanced root length of canola in gnotobiotic.

Some of the isolates also have the potential to be used as plant bio-pesticide against fungal phytopathogens. All the isolates need to be further evaluated in detail to fully harness their biotechnological potential for growth promotion of agronomic crops.

The research output has been submitted for publication as under:

Article Title: “Selective isolation and characterization of agriculturally beneficial endophytic bacteria from wild *Cannabis sativa L.* using canola” submitted in Applied Soil Ecology, Elsevier; Impact Factor 2.2

Survey and Awareness of Dual Use Education in Pakistan

The Project entitled “Survey and Awareness of Dual Use Education in Pakistan” was awarded to Pakistan Academy of Sciences by IAP (Inter-Academy Panel).

Survey

In continuation of the previous survey on “General Awareness about Biosecurity and Dual Use related Concepts among Educators of Graduate Life Sciences in Pakistan” conducted in 2013, another round of awareness survey was done in 2014 from the teaching faculty (Biosciences) of various universities of Pakistan as part of this project. The survey comprising of 233 questionnaires was conducted to assess the awareness levels of educators in life sciences about bioethics and dual use issues. The educators were questioned about their know-how of the terms such as Biosafety, Biosecurity, Bioweapons, Bioterrorism etc. and whether these topics were included in the curriculum taught at their universities.

The survey urged the need to introduce separate courses for the student on dual use

concept or at least incorporate it in the curriculum of all the universities offering life sciences subjects in Pakistan.

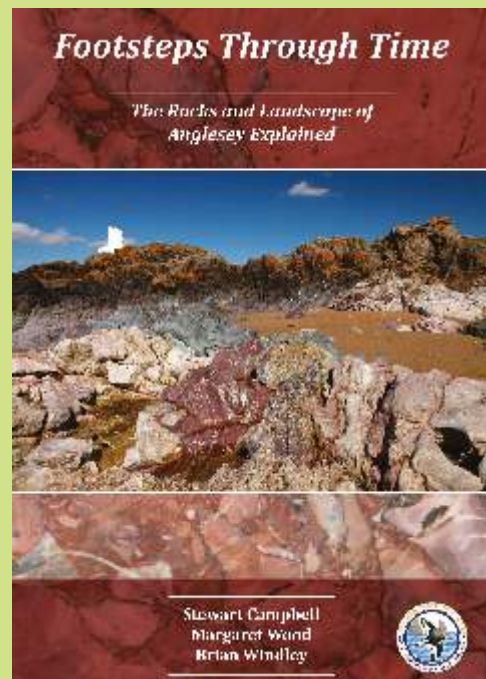
Publications

- Shinwari ZK, Khalil AT and Nasim A 2014 Natural or Deliberate Outbreak in Pakistan: How To Prevent or Detect and Trace its Origin: Biosecurity, Surveillanc, Forensics. ArchivumImmunologiaeEt. Therapiae Experimentalis. DOI: 10.1007/s00005-014-0295-9
- Khalil AT, Shinwari ZK. 2014. Threats of agricultural bioterrorism to an agro dependent economy: what should be done. Journal of Bioterrorism and Biodefense.

<http://omicsonline.org/open-access/threats-of-agricultural-bioterrorism-to-an-agro-dependent-economy-what-should-be-done.php?aid=27096>

Prof. Brian Windley Coauthors “Footsteps Through Time”

The Book “Footsteps Through Time: The Rocks and Landscape of Anglesey Explained” is written to stimulate interest in the Island's Geology and to help visitors and inhabitants alike understand the complex geological history of Anglesey's vast array of rocks and their fascinating and exciting origins. For those who find difficulty in visiting the geosites and seeing the new geoboards or following the trails, the photographs and explanatory text in this book provide an alternative virtual study of the island. It contains around 200 pages and the illustrations; maps and diagrams are top quality. It has been written by Dr Stewart Campbell (NRW). Dr Margaret Wood (GeoMon) and **Professor Brian Windley**, (University of Leicester) a Foreign Fellow of the Pakistan Academy of Sciences, with contributions from Robert Crossley (Fugro Robertson Ltd), David Jenkins (University of Bangor), Michael Roberts (University of Bangor). It was a joint project by GeoMon and Isle of Anglesey County Council.





ANNOUNCEMENT

35th

**PAKISTAN CONGRESS OF ZOOLOGY
(INTERNATIONAL)**

March 1 - 4, 2015



to be held at
**Centre of Excellence in Marine Biology,
University of Karachi, Karachi**



For Further Information:

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