



# Newsletter

## PAKISTAN ACADEMY OF SCIENCES

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### General Body Meeting of the Pakistan Academy of Sciences (December 03, 2022)



The General Body Meeting of the Pakistan Academy of Sciences (PAS) was held on 03 December 2022 in the Auditorium of the Academy. On the request of the Secretary General PAS, the General Body offered Fatiha for the departed soul of Prof. Dr. Zikria Butt. The main agenda of the GB meeting was to induct Fellows and Members elected during the year 2021; announcement of new Fellows and Members elected during the year 2022, announcement/award of PAS Gold Medals and Prizes to the winning scientists, academicians, and engineers in recognition of their novel contributions to Science in Pakistan during the year 2021; as well as to inform the Academy Fellows and Members about the salient scientific & academic achievements and upgradations of the Academy during the year 2022.

The GB Meeting was chaired by Prof. Dr. Khalid Mahmood Khan S.I., President PAS. Prof. Dr. Tasawar Hayat (H.I., S.I., T.I.), Secretary General PAS gave a power point presentation to the attendees of the GB Meeting portraying the vibrant and extraordinary contributions of PAS in terms of collaborations with other scientific organization and institution within Pakistan and abroad during the year 2021-2022. These included Glimpses of the Inauguration of Pakistan Academy of Sciences Lahore Office in the University of Punjab, Lahore - December 2, 2021, MoU signed between Pakistan Academy of Sciences (PAS) with COMSTECH April 25, 2022, and the Academy of Sciences of the Islamic Republic of Iran September 29, 2022, PAS Lecture Series on: Artificial intelligence (AI), and Climate Change and Environmental Sciences; Invited Talk on Paleocological Insights into the Response of Biodiversity and Ecosystems to Climate Change by 'Prof. Dr. Daniel Gavin' - September 11, 2022; 6th National Symposium on Laser Matter Interaction (LMI) September 12-13, 2022; World Science Day for Peace and Development Basic Sciences for Sustainable Development November 16, 2022; Hybrid seminar on "Building Climate Resilient Healthcare infrastructure: Post Disaster scenario in Pakistan" October 17, 2022; Collaboration with Global Partners (Sri Lanka Association for the Advancement of Science (SLAAS) Annual Sessions December 7, 2021; Islamic World Academy of Sciences (IAS) & Pakistan Academy of Sciences (PAS) Webinar Series on 'Climate Change'; Visit of Delegation of Academy of Sciences of the Islamic Republic of Iran, Tehran - May 12, 2022, PAS Scientific Events in collaboration with the Alliance of International Science Organizations (ANSO) and MAAP-PAS;

Representation of PAS in International Events; Recognition of PAS Fellows at the National Level (Civil Award; Report of the Editorial Office; Criteria for the initiation of new Gold Medal and Prizes. Finally, Prof. Dr. Khalid Mahmood Khan, President PAS addressed the participants of the GB Meeting. He

appreciated the contributions of PAS Fellows and PAS Members in the uplift of the Academy. The meeting was well attended by PAS Fellows, PAS Members and recipients of PAS Gold Medals, Cash Prized/ Certificates as well as their families.

## Induction of Fellows Elected during 2021

The following candidates were approved by the GB to be inducted as PAS Fellow in the year 2022. They have been formally inducted as PAS Fellow.

Dr. Mushtaq Ahmad, Professor, Department of Plant Sciences, Quaid-i-Azam University, Islamabad was elected as Fellow of the Academy in 2021. The Secretary General introduced him by reading his brief citations and given a medallion and certificate by the President PAS, Dr. Khalid Mahmood Khan, during the GB meeting held in Islamabad on December 3, 2022.



Dr. Muhammad Idrees, Vice Chancellor, University of Peshawar, Peshawar, Khyber Pakhtunkhwa was elected as Fellow of the Academy in 2021. The Secretary General introduced him by reading his brief citations and given a medallion and certificate by the President PAS, Dr. Khalid Mahmood Khan, during the GB meeting held in Islamabad on December 3, 2022.



Dr. Sardar Khan, Vice Chancellor, Kohat University of Science and Technology, Kohat, Khyber Pakhtunkhwa was elected as Fellow of the Academy in 2021. The Secretary General introduced him by reading his brief citations and given a medallion and certificate by the President PAS, Dr. Khalid Mahmood Khan, during the GB meeting held in Islamabad on December 3, 2022.



Dr. Irshad Hussain, Professor, Department of Chemistry & Chemical Engineering, SBA School of Sciences & Engineering, Lahore University of Management Sciences (LUMS), Lahore was elected as Fellow of the Academy in 2021. The Secretary General introduced him by reading his brief citations and given a medallion and certificate by the President PAS, Dr. Khalid Mahmood Khan, during the GB meeting held in Islamabad on December 3, 2022.



Dr. Riffat Naseem Malik, Tenured Professor, Department of Environmental Sciences, Quaid-i-Azam University, Islamabad was elected as Fellow of the Academy in 2021. The Secretary General introduced him by reading his brief citations and given a medallion and certificate by the President PAS, Dr. Khalid Mahmood Khan, during the GB meeting held in Islamabad on December 3, 2022.



## New Fellows of PAS Elected during 2022

### Dr. Mujahid Abbas

Professor  
Department of Mathematics  
Government College University, Lahore



### Dr. Faqir Muhammad Anjum

Ex Vice Chancellor  
University of The Gambia, The Gambia  
Address: 16-B, University town, Sargodha road,  
Faisalabad



### Dr. Shahid Mahmood Baig

Chairman  
Pakistan Science Foundation (PSF)  
1-Constitution Avenue, G-5/2, Islamabad



### Dr. Jamshed Iqbal

Professor  
Centre for Advance Drug Research (CADR),  
COMSATS University Islamabad, Abbottabad  
Campus



## New Member of PAS Elected during 2022

### Dr. Abdul Sadiq

Associate Professor (Tenured)  
Department of Pharmacy,  
University of Malakand, Chakdara,  
KP



### Dr. Yasir Waheed

Associate Professor & In Charge  
Multidisciplinary Labs  
Foundation University, Islamabad



### Dr. M. Zahir Iqbal

Associate Professor  
GIK Institute of Engineering  
Sciences & Technology, Topi, KP





## PAS Gold Medals and Prizes 2022

### Agricultural Sciences

**Dr. Rao Zahid Abbas**

Associate Professor

Department of Parasitology

University of Agriculture, Faisalabad



### Biological Sciences

**Dr. Muhammad Shahid**

Associate Professor

Department of Biochemistry

University of Agriculture, Faisalabad

Chemical Sciences



### Chemical Sciences

**Dr. Umar Farooq**

Professor

Department of Chemistry

COMSATS University, Abbottabad



### Earth and Environmental Sciences

**Dr. M. Zaffar Hashmi**

Assistant Professor

Department of Chemistry

COMSATS University, Islamabad



### Emerging Technologies

**Dr. Imran Amin**

Principal Scientist

NIBGE, Faisalabad



### Engineering Sciences

**Dr. Qaisar Abbas Naqvi**

Professor

Department of Electronics

QAU, Islamabad



### Health Sciences

**Dr. Haroon Ahmed**

Associate Professor

Department of Biosciences

COMSATS University, Islamabad



## PAS Gold Medals and Prizes 2022

### Mathematical Sciences

**Dr. Rahmat Ellahi**

Professor

Department of Mathematics & Statistics

Islamic International University Islamabad



### Dr. Atta-ur-Rahman Gold Medal in Chemistry for Scientists under 40

**Dr. Zia ul Haq Khan**

Assistant Professor

Department of Environmental Sciences

COMSATS University, Vehari, Multan



### Dr. M. Raziuddin Siddiqi Prize in Physics for Scientists under 40

**Dr. Ghulam Ali**

Assistant Professor

US-PAK Center for Advance Studies in Energy,  
NUST, Islamabad



### Dr. Shah Jahan Prize for Scientists under 40 in Biochemistry

**Dr. Saadullah Khan**

Associate Professor

Kohat University of Sciences and Technology  
(KUST), Kohat, KPK



### PAS-COMSTECH Prize in Computer Science-IT

**Dr. Muhammad Sharif**

Associate Professor

Department of Computer Sciences

COMSATS University, Wah



### Prof. Zabta K. Shinwari Gold Medal in Biotechnology for scientists under 50 (Shared)

**Dr. Abdul Qayyum Rao**

Professor

Centre for Excellence in Molecular Biology,  
University of Punjab, Lahore



## PAS Gold Medals and Prizes 2022

### Dr. Muhammad Jamil

Professor

Department of Biotechnology & Genetic Engineering, Kohat University of Sciences & Technology, Kohat



### Abdus Salam Prize in Basic Sciences in Physics for Young Scientists under 40

### Dr. Javed Iqbal Saggu

Professor

Department of Physics

Quaid-I-Azam University, Islamabad



### Salimuzzaman Siddiqui Prize in Applied Science-Technology in Medical Sciences for Scientists under 40

### Dr. Muhammad Ayaz

Lecturer

Department of Pharmacy

University of Malakand, Chakdara

Dir Lower, KPK



## ANSO-PAS-MAAP Conference on "Epidemic and Pandemic Preparedness" (December 5-7, 2022)

Over 400 national and international registered participants from 30 different universities, academic institutions, and S&T organizations attended the event physically and/or virtually. Prof. Dr. Tasawar Hayat welcomed the participants, resource persons (lecturers), and moderators of the ANSO-PAS-MAAP Conference. He also highlighted the salient aims and objectives of the event. He highlighted the key role of the academy in supporting Pakistani academicians, scientists, and researchers in conducting innovative research and development in different scientific fields. The conference was inaugurated by Prof. Dr. Mukhtar Ahmed (Chairman Higher Education Commission). In his inaugural address, he admired the collaborative efforts of PAS, ANSO, and MAAP in organizing this conference focusing on safeguard of human health and safety from epidemics and pandemics. He also encouraged young scientists and postgraduate students, emphasizing their pivotal role in virus diagnosis, control, therapeutic approaches, and vaccine strategies. The Conference covered topics of immense importance in relation to 'Epidemic and Pandemic Preparedness' for the scientists, researchers, medical specialists, and

technologists who are engaged in developing innovative vaccines, medicines, and technologies to combat COVID-19 and alike pandemics and epidemics across the globe for the health and safety of the mankind. In total, 31 lectures were delivered in five Technical Sessions at the Conference by leading experts. Of these, seven (07) lectures were presented by international speakers, and twenty-six (26) lectures were presented by Pakistani speakers. The resource persons at the conference were leading foreign experts from different countries, i.e., China, New Zealand, Italy, the USA, and Pakistan. The technical sessions of the conference were moderated by renowned scientists, including Prof. Dr. Masoom Yasinzai (Former Rector, IIU, Islamabad), Prof. Dr. Muhammad Aslam Baig, Maj. Gen. Dr. Aamer Ikram (Executive Director, NIH, Islamabad), Dr. Osman Yusuf, Dr. Quaid Saeed, Prof. Dr. Mushtaq Ahmad, and Dr. Saeed Khan who steered the progression of the Conference activities with full zeal and command within the allocated time frame. In addition to the technical sessions, four Working Group Sessions were conducted at the venue to formulate recommendations for the event.





In addition, a poster competition was also held, in which young scientists from across the country participated. A poster exhibition was also arranged during the conference to enhance participants awareness w.r.t. Epidemic and Pandemic Preparedness. In recognition of their outstanding contributions, cash awards, and certificates were bestowed upon the top three positions of the poster competition. Ms. Sibgha Batool from the Department of Pharmacy at Quaid-i-Azam University, Islamabad, and Ms. Khoula Sharif Mughal from the Department of Pharmacy at Comsats University, Abbottabad Campus, secured first place. The second position was attained by Ms. Humna Sajjad from the Department of Biotechnology at Quaid-i-Azam University, Islamabad, and Mr. Muhammad Bilal Khan from the Department of Biological Sciences at the National University of Medical Sciences (NUMS), Rawalpindi. Ms. Reema Iqbal from Agriculture University, Peshawar, and Mr. Amjid Khan from the Department of Plant Sciences at Quaid-i-Azam University, Islamabad, secured third position in the poster competition.

The Federal Minister for Science and Technology, Agha Hassan Baloch, concluded the event. He congratulated the Pakistan Academy of Sciences for organizing the 3-day International Conference on "Epidemic and Pandemic Preparedness." Speaking at the occasion, he emphasized that Pakistan must have an integrated health system to cope with future epidemics.

He said that as exemplified by the ongoing coronavirus disease (COVID-19) pandemic, major infectious diseases and epidemics have devastating impacts on human lives, causing destruction to long-term social and economic development. The global health crises threaten to overwhelm the already overstretched health systems, disrupt global supply chains, and cause unequal devastation of the livelihoods of people, including women and children, and the economies of the poorest and most vulnerable countries. The Federal Minister for S&T

stated that the Covid-19 pandemic is a human tragedy. However, this pandemic has also created a generational opportunity to build back a more equal and sustainable world. He added that the response to the pandemic and the widespread discontent that preceded it must be based on a new social contract and a new global deal that creates equal opportunities for all and respects the rights and freedoms of all. There is an urgent need to have a strong and robust health system that reaches those who are vulnerable or invulnerable situations. He emphasized the great need for timely raising awareness, exchange of information, scientific knowledge & best practices, quality education, and advocacy programs on epidemics at the local, national, regional, and global levels as effective measures to prevent and respond to epidemics. He advised the participants to utilize the knowledge and skills gained through this event in their research so that the objectives of the Conference may be fully realized. The Minister distributed shields among the three Winners of the poster competition held during the Conference.

On behalf of the Pakistan Academy of Sciences and the Organizing Committee of the ANSO- PAS- MAAP Conference on "Epidemic and Pandemic Preparedness," Prof. Dr. Tasawar Hayat, Secretary General PAS thanked Agha Hasan Baloch for sparing time out of his busy schedule to grace the occasion.



## Vital Statistics and Non-Communicable Diseases Multi Stakeholders Conference Organized by the PAS Sindh Chapter and Aga Khan University, Karachi (December 19, 2022)

Experts in Pakistan claim that there is no official record or data on the mortality ratio along with the cause of death with any public sector organization, confirming only 30 percent of deaths are recorded by the National Database and Registration Authority (NADRA). Realizing the situation, National Health Services, Regulations and Coordination said that it could launch a pilot project from the platform of the National Institute of Health (NIH) Islamabad to collect data on deaths along with causes of deaths in the Islamabad Capital Territory (ICT).

The importance of vital statistics can't be denied as it helps the authorities in decision-making. In the absence of a comprehensive system of collecting vital statistics, especially death data, the health ministry can take the lead in collecting the death data at the ICT level from the platform of the National Institute of Health (NIH).” In this scenario, an interactive multi-stakeholder conference was organized by the Sindh Chapter of the Pakistan Academy of Sciences (PAS) and the Aga Khan University, Karachi on 19 December 2022 at Serena hotel, Islamabad. Fifteen (15) health experts and stakeholders representing more than 10 different institutions and organizations such as Ministry of NHSRS, NIH, NADRA, Gallup Pakistan, Shifa International hospital, BIDE (Karachi), law firms and media representatives attended the meeting. Prof. Dr. Mohammad Wasay (Secretary, PAS Sindh Chapter and Aga Khan University, Karachi) welcomed the participants and highlighted the main objective of the Conference. He mentioned that it is need of the time to discuss and deliberate on the availability of vital health statistics in relation to non-communicable diseases in the country and the legislation.

Special Secretary Health, Mirza Nasiruddin Mashhood chaired the meeting of health experts and stakeholders. He opined that all we need to see is if there is any legal framework available in the country with regards to vital health statistics in relation to non-communicable diseases or not. He announced that the health ministry is ready to write letters to the private and public sector hospitals for making sure the provision of the data and records on the death ratio and their causes to the health ministry.

Prof. Dr. Mohammad Wasay (Secretary, PAS Sindh Chapter and Aga Khan University, Karachi) the resource person of the event elaborated on three major topics namely: (i) Vital statistics data in Pakistan; (ii) Collaboration among stake holders,; and , Unified cause of death data in Pakistan. In his address, he highlighted that no institution in Pakistan has official data and/or records of the mortality ratio

and the causes of death in the country. Interestingly, in Pakistan, only Union Councils are considered to be the key source to collect the data at the local level. He informed the meeting participants that only 25 to 30 percent of deaths are recorded with the National Database and Registration Authority (NDARA) while causes of death are also not conveyed to the authorities. He said that the National Database and Registration Authority (NADRA) has no legal framework or legal authority to collect data on deaths in Pakistan. He suggested that authorities should develop a standardized death certificate and portal of death data entry, saying letters should be sent to all hospitals, coffin careers, and graveyard managers with links for registration and training videos. Requesting NADRA to establish a portal for the registration of deaths and causes of death in the country, he said laws should be promulgated if necessary for the collection of vital statistics.

Addressing the session, Major General Amer Ikram, Executive Director, National Institute of Health (NIH), Islamabad informed that NIH had started collecting data on diseases by launching the Diabetes Registry of Pakistan (DROP) while national cancer and cardiovascular disease registries were to be launched soon, adding that NIH was ready to collect data of various diseases and ailments on the national level. Other experts including Prof. Abdul Basit from the Baqai Institute of Diabetology and Endocrinology (BIDE), Karachi, NADRA officials, Prof Anwar Gillani, Ijaz Shafi Gillani, Aziz Nishtar and Bilal Gillani from the Gallup and Gillani Pakistan urged the National Institute of Health (NIH) Islamabad to take lead and start collecting data of vital statistics in the country. Finally, Prof. Dr. Mohammad Wasay (Secretary, PAS Sindh Chapter and Aga Khan University, Karachi) presented vote of thanks and concluded the event with the resolve that a pilot project related to vital statistics will be conducted in Islamabad by NHSRS.





## ANSO-PAS Workshop on Biological Safety and Risk Management (December 23, 2022)



The one-day ANSO-PAS workshop on “Biological safety and risk management” was successfully organized at Quaid-i-Azam University (QAU), Islamabad, by the Department of Biotechnology, Quaid-i-Azam University, in collaboration with the Pakistan Biological Safety Association (PBSA), supported by the Alliance of International Science Organization (ANSO) and the Pakistan Academy of Sciences (PAS). The Workshop was organized in the format of two sessions, one comprising of Inaugural and Keynote Lectures, and the other comprising of Training & Practicals. More than 160 participants attended the inaugural session. However, 45 participants from nine different universities and research institutions attended the training sessions under the guidance of 3 master trainers led these training sessions.

The inaugural session started with reciting the Holy Quran, followed by a warm welcome address by the focal person of the workshop, Dr. Muhammad Ali (Assistant Prof. Department of Biotechnology, QAU). The workshop was jointly inaugurated by Prof. Dr. Saeed Khan (President, PBSA and Professor at Dow University of Health Sciences, Karachi). Prof. Dr. Hazir Ullah (Director ORIC and Chairperson, School of Sociology, QAU) attended the inaugural session as Guest of Honor. Other guests of the session included Dr. Imran Khan Khattak (Director, Halal Food and

Safety Authority) and Dr. Ihsan ul Haq (Chairman, Department of Pharmacy, QAU). The keynote speakers and trainers at the event included Prof. Dr. Zabta Khan Shinwari (Distinguished National Professor & Prof Emeritus at QAU; Fellow Pakistan Academy of Sciences), Dr. Ali Talha Khalil (Assistant Professor & Consultant Molecular Biologist at LRH-MTI, Peshawar), Dr. Javed Muhammad (General Secretary PBSA and Assistant Professor, Department of Microbiology, University of Haripur), Dr. Faouzia Tanveer Mirza (IFBA-Certified Professional in Bio-risk Management, and Senior Lecturer, Department of Biosciences, Shifa Tameer-e-Millat University, Islamabad).

The Workshop was concluded by Prof. Dr. Shahid Hameed (Dean, Faculty of Natural Sciences, QAU). Prof. Dr. Syed Wiqar Ali Shah (Former Dean Faculty of Social Sciences/acting vice-chancellor, QAU) attended the concluding session as a Guest of Honor. The honourable Chief Guest of the concluding Session, Prof. Dr. Shahid Hameed, appreciated the organization of this useful event and distributed shields and certificates among organizers, trainees, and resource persons. Special thanks go to the Chairperson, Department of Biotechnology, QAU, Organizers, Speakers, Trainers, Participants, and Guests for making this Workshop worthy.



## **Health Journalists Training Workshop Organized by PAS (Sindh Chapter) in Collaboration with ICCBS-Karachi and Avoidable Death Network-UK (January 19, 2023)**

Unprecedented rains, floods and their aftermath were out of the control that caused colossal damage to the province and its people. Unfortunately, unverified information or disinformation is misguiding people and spreading hopelessness and despair among them. In these circumstances, it is responsibility of the mainstream media to highlight people's sufferings and present their solutions.

Accordingly, the role of mainstream media in disasters is becoming crucial due to the issue of disinformation on social media. In this scenario, a one day National Training Workshop titled, "Building Capacity of Health Journalists on Reporting Disasters Triggered by Natural Hazards and Human Activities" was held at the International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, on Thursday 19th January, 2023. The training workshop was jointly organized by ICCBS-University of Karachi, Pakistan Academy of Sciences (PAS), Avoidable Deaths Network (ADN)-UK, and Sindh Innovation Research Educational Network (SIREN). Fifty (50) participants representing more than 15 media organizations and academic institutes attended the training workshop. The main objective of the training workshop was to building the capacity of Health Journalists on reporting disasters triggered by natural hazards and human activities. In his opening remarks, Prof. Dr. Mohammad Wasay (Secretary PAS Sindh Chapter, Aga Khan University, Karachi) welcomed the participants and introduced the aims and objectives of the training workshop.

The workshop was inaugurated by the Sindh's Parliamentary Secretary Mr. Muhammad Qasim Siraj Soomro. Speaking at the occasion, he appreciated the ICCBS administration for organizing such a useful training session for health reporters. He pointed out that unauthentic and unverified information on social media is creating hopelessness and disappointment among masses, especially those affected by recent floods and natural disasters. He urged the journalists working in the domain of "health and disaster reporting" to highlight the sufferings of poor people besides presenting solution to their problems. He opined that it is the responsibility of the qualified journalists to replace the fake information with research-based news or stories. He highlighted that although the flood and its aftermath were unprecedented, the provincial government made its all-possible efforts to provide relief to the flood-affected people in the Sindh Province. He stressed upon the need for proper training of journalists, especially the health reporters to write about natural

disasters and health-related issues. He offered the organizers all government support for holding more training events like this. Advisory remarks;

The workshop was addressed by key resource persons namely, Prof. Dr. Mohammad Wasay (Secretary PAS Sindh Chapter, Aga Khan University, Karachi); Dr. Nimra Iqbal (Avoidable Deaths Network-ADN; and HEJ, Karachi); and Mr. Waqar Bhatti (Special Correspondent Health, The NEWS, Islamabad). Major topics addressed at the event included the following: Effects of disaster on communities, Health effects of disasters, and Health reporting of disasters. Other resource persons included Dr. Hideyuki Shiroshta (Founding President of the Avoidable Deaths Network), Prof. Dr. Nibedita S. Ray Bennett, Associate Professor in Risk Management (University of Leicester, UK), Dr. Aditya Ghosh (University of Leicester), , Mr. Julian Coetzee (AND), and Dr. Humaira Zafar. Prof. Dr. M. Iqbal Choudhary (Director ICCBS and COMSTECH Coordinator-General) was also present on the occasion.

Prof. Mohammad Wasay (Secretary PAS Sindh Chapter) underlined the importance of a positive collaboration between academia and Pakistani media and said that there is a dire need to apply a filter on the spread of fake news on social media. In the training session, he described statistics regarding the prevalence of diseases in Pakistan and mentioned that "an estimated annual incidence of stroke in Pakistan is 250 per 100,000, translating to 350,000 new cases every year (~1000 every day)." Mr. Waqar Bhatti (Special Correspondent Health, The News International) said that the journalists' community was in a state of demoralization, which required support and encouragement at the government level. He elaborated that although Pakistan was one of the countries most affected by the climate change, media outlets depute junior reporters to cover the events pertaining to natural disasters. Mr Murtaza Noor (Senior Journalist) highlighted the important role of health journalists and said that media outlets are required to have health reporters even at the district level. In the training session, Prof. Dr. Nibedita S. Ray Bennett (Associate Professor in Risk Management, University of Leicester, UK) remarked that the disaster deaths were avoidable through preventative measures. Over the past decades, extreme weather events and climate disasters have led to more than 410,000 direct disaster deaths. Dr. Hideyuki Shiroshta (Founding President of the Avoidable Deaths Network) highlighted the importance of disaster education.



Dr. Nimra Iqbal Choudhary (Avoidable Deaths Network-AND) presented vote of thanks and concluded the event by saying that the “Health journalism” is a highly technical branch of mass

communication which requires not only writing skills but also fundamental understanding of various health issues, complex reasons behind them, and their socio-economic impact.”



Group photo of participants at health journalists training workshop organized by PAS (Sind Chapter)

## Highest Chinese Government Award Bestowed to H.E. Prof. Dr. M. Iqbal Choudhary (November 28, 2022)

The People's Republic of China has awarded the Chinese Government's Friendship Award to the eminent Pakistani scientist, Prof. Dr. M. Iqbal Choudhary Mustafa (PBUH) Prize Laureate, H. I., S. I., T. I. The Friendship Award of China is the highest award of the Chinese Government to commend foreign experts who have made outstanding contributions to China's modernization drive. His Excellency Mr. Nong Rong, Ambassador of the People's Republic of China in Pakistan presented the Chinese Government's Friendship Award to Prof. Choudhary in the Chinese Embassy in Islamabad.

Prof. Choudhary, Distinguished National Professor /UNESCO Chair on Medicinal and Bio-Organic Natural Product Chemistry / Fellow of Islamic Academy of Sciences, is currently serving as Director International Center for Chemical and Biological Sciences (H. E. J. Research Institute of Chemistry, and Dr. Panjwani Center for Molecular Medicine and Drug Research), University of Karachi, Pakistan, and Coordinator General of COMSTECH, the Ministerial Standing Committee on Scientific and Technological Cooperation of the OIC (Organization of Islamic Cooperation).





## **Prof. Dr. Zabta Khan Shinwari (Fellow, PAS) Received the 2022-PUAN Distinguished Alumni Award for the Year 2022 (August 20, 2022)**

Fellow Pakistan Academy of Sciences and Vice President Islamic World Academy of Sciences has received the Pakistan US Alumni Network (PUAN) Distinguished Alumni Award for the year 2022. The Pakistan-U.S. Alumni Network (PUAN) is a vibrant and active platform that connects Pakistani professionals who have taken part in a range of government-sponsored exchange programs with the United States, including the International Visitors Leadership Program (IVLP), the Fulbright Program, and the Hubert H. Humphrey Fellowship, among others. Dr. Zabta Khan Shinwari, an exceptional IVLP alumnus, has been Pakistan's youngest Vice-Chancellor. Originating from Kohat, Dr. Zabta Khan Shinwari's academic journey encompasses a Doctor of Science degree from Kyoto University in Japan, followed by several Post-Doctoral Fellowships. He has served various esteemed institutions such as the Pakistan Museum of Natural History, National Agricultural Research Center, WWF-Pakistan, and COMSTECH before assuming the role of Vice Chancellor at the prestigious Kohat University of Science & Technology. Dr. Zabta Khan Shinwari's tenure as Vice Chancellor revolved around the vision of extending higher education opportunities to underprivileged communities, particularly females. Being situated in an area where educational access was scarce, his relentless efforts focused on providing educational facilities to all. By engaging with local and international agencies, Dr. Zabta Khan Shinwari initiated collaborations aimed at achieving his noble

goal. During this time, the US Consulate General in Peshawar informed him about the International Visitors Leadership Program (IVLP), which sought to select leaders in higher education from various countries in Asia, Africa, and South America. Recognizing his potential, the Consulate General nominated Prof. Dr. Zabta Khan Shinwari as the public sector representative. Dr. Zabta Khan Shinwari accepted the opportunity and embarked on his IVLP journey to the United States. This experience proved to be a transformative turning point, enabling him to learn from the US education system and its accreditation practices, particularly CHEA. Upon his return, he applied his newfound knowledge not only within Pakistan but also internationally, resulting in the successful replication of his initiatives.



## **Excellency Prof. M. Iqbal Choudhary's Bust Installed in the “Scientists' Garden” at PTP, Iran (December 17, 2022)**

The Mustafa (PBUH) Science and Technology Foundation (MSTF), Iran, has constructed a sculpture of the 2021 Mustafa (PBUH) Prize Laureate eminent Pakistani scientist Prof. Dr. M. Iqbal Choudhary, aimed at the valuing efforts and endeavours made by this well-known scientists of the world. The sculpture was unveiled in a graceful ceremony held at the Pardis Technology Park (PTP) in Tehran on December 17, 2022. The monument was dedicated to Prof. Choudhary, who is serving mankind in the field of natural product chemistry and has brought pride and honour to his country Pakistan.

Prof. Choudhary has skillfully used his deep understanding of chemical principles and biological processes in the discovery of a large number of fascinating molecules with potential therapeutic applications. More specifically his research group has discovered and studied new inhibitors of clinically important enzymes, which can be used to stop the

molecular processes involve in the enzyme-related disorders. As a result, several new classes of lead molecules were introduced to the world of science along with associated understanding of their mechanism of action. The most notable contribution of Prof. Choudhary is in a broad area of Bioorganic Chemistry where he used structural diversity of natural and synthetic compounds combined with biological targets to discover lead molecules with the potential to be developed as effective pharmaceutical agents. Some of his internationally recognized discoveries include the discovery of novel classes of antiepileptic natural products, acetylcholinesterase, urease, and alpha glucosidase inhibitors. His research group has discovered and developed the potent antiepileptic natural products (isooxylitones), patented in USA, from a local medicinal plant *Delphinium denudatum*, which has attracted a major attention internationally.

. Preclinical studies of isoxylitones and its active pure isomeric analog is completed. Novel class of AED drug candidates were developed with higher potency, greater efficacy and minimal side effects than existing AED as established in their preclinical studies. His research group has developed herbal health supplements to provide people with a cost-effective treatment/ management for Parkinsonian symptoms. His research group studies have led to the identification of natural steroidal lactones i.e., physalins as potential drug candidates against cutaneous Leishmaniosis. Many of the structurally novel compounds, discovered by his research group, were found to have interesting pharmacological

profiles, and are in different stages of drug development.



## **Prof. Dr. M. Iqbal Choudhary Awarded Lifetime Achievement Award (December 10, 2022)**

Prof. Dr. M. Iqbal Choudhary awarded “Lifetime Achievement Award” on December 10, 2022, during the 3rd Rectors Conference: Association of Private Sector Universities of Pakistan (APSUP).



## **Three PAS Fellows Honored by TWAS**

The World Academy of Sciences (TWAS) has elected Prof. Dr. M. Iqbal Choudhary as TWAS Vice-President for Central and South Asia for the four-year term from

2023 to 2026. Prof. Dr. Zabta Khan Shinwari and Prof. Dr. Muhammad Wasay have also been elected TWAS Fellows.

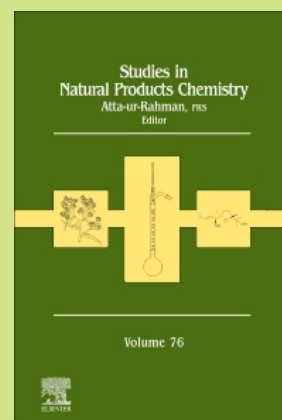
## **Published/Upcoming Books by PAS Fellows**

### **Elsevier Publishes Book of Prof. Atta-ur-Rahman**

A volume of “Studies on Natural Product Chemistry” has been published by Elsevier Science Publishers (Volume 76) by Prof Atta-ur-Rahman, FRS. The series was initiated under the editorship of Prof. Atta-ur-Rahman, FRS 30 years ago and now has become the most comprehensive encyclopedic series which covers the chemistry and biological activities of natural products derived from terrestrial and marine. Natural products in the plant and animal kingdom offer a huge diversity of chemical structures that are the result of biosynthetic processes that have been modulated over the millennia through genetic effects. With the rapid developments in spectroscopic techniques and accompanying advances in high-throughput screening techniques, it has become possible to isolate and then determine the structures and biological activity of natural products rapidly, thus opening up exciting opportunities in the field of new drug development to

the pharmaceutical industry. Some key features of the published book include the following:

- Focuses on the chemistry of bioactive natural products.
- Contains contributions by leading authorities in the field.
- Presents sources of new pharmacophores



## Prof. Atta Among Top 500 Influential Personalities

Prof. Atta-ur-Rahman, FRS has been selected among the most influential Muslims of the world in the encyclopedic volume entitled, "The Muslim 500-The World's 500 Most Influential Muslims" (2023 Edition). The Jordan-based Royal Islamic Strategic Studies Centre (RISSC) has released its latest list of the World's 500 most influential Muslim personalities.

Prof. Atta-ur-Rahman was the Federal Minister of Science and Technology (2000-2002) and Chairman Higher Education Commission (2002-2008). He has been elected as the president of the Pakistan Academy of Sciences twice from 2003-2006 and 2011 – 2014. He is President of the Network of Academies of Sciences of Islamic Countries (NASIC), and Foreign Fellow of the Chinese and Korean Academies of Science. The largest university in Malaysia, the University of Technology Mara, Malaysia UiTM, established an institution entitled, "Atta-ur-Rahman Institute on Natural Product Discovery (AuRins)" in 2013. The leading Chinese University on Traditional Medicine in Changsha, Hunan established a major research institute in honour of Prof. Atta-ur-Rahman ("Academician Professor Atta-ur-Rahman One Belt

and One Road TCM Research Center") in October 2019.

He was elected as a Fellow of the prestigious Royal Society (London) (2006). And Honorary Life Fellow of Kings College, Cambridge University, UK (2007). Prof. Rahman won the UNESCO Science Prize (1999). The Austrian government has honoured him with its high civil award ("Grosse Goldene Ehrenzeischen am Bande") (2007). He has been conferred honorary doctorate degrees by Cambridge University (UK) (1987), Honorary Coventry University UK (2007), Bradford University (2010), Asian Institute of Technology (2010) and University of Technology, Mara, (2011).



## Frontiers in Pharmacology Issue Theme "Re-emergence of Natural Products for Drug Discovery" in Honour of Prof. Dr. M. Iqbal Choudhary

About this Research Topic: This Research Topic will honor Prof. M. Iqbal Choudhary for his pioneering contribution in the field of Bioorganic, Synthetic, and Natural Product Chemistry. Prof.

M. Iqbal Choudhary is Director and Professor of Bioorganic and Natural Product Chemistry at the International Center for Chemical and Biological Sciences (H. E. J. Research Institute of Chemistry and Dr. Panjwani Center for Molecular Medicine and Drug Research), Pakistan and Coordinator General COMSTECH. Since 1990, Prof. Choudhary has been among the world leaders in the field of natural product chemistry, and has made pioneering contributions in the discovery of novel natural products. Prof. Choudhary has 1,212 publications (cumulative impact of > 2500) with 33,550 citations (h index 76) in the fields of organic and bioorganic chemistry. He also published 94 patents (64 US Patents), 90 books and 40 chapters in books, published by major U.S. and European presses. He discovered many potent anti-epileptic and anti-leishmanial compounds from indigenous medicinal plants that are under clinical trials. His contributions to reverse bacterial resistance to antibiotics represent seminal contributions in this important field. He has trained hundreds of young researchers, especially women, from across the Afro-Asian region in natural product chemistry and established several research centers in Pakistan, and helped to setup

research units in Africa, and South and Central Asia. His scientific contributions have been recognized by prestigious national and international awards and honors, and fellowships of several academies of science.

Nature has always been a notable source of lead compounds and provided unprecedented opportunities for medicinal chemists in order to continuously provide the drug candidates. Natural products (NPs) and their derivatives have historically made a major contribution to pharmacotherapy, in particular for cancer and infectious diseases. NPs are characterized by fascinating scaffold diversity together with structural complexity and due to this NPs have long been the key source of new drugs for the treatment of numerous human diseases.

This Research Topic welcomes original articles, communications and reviews dealing with the isolation and/or the investigation of mechanisms of action of natural products and pseudo natural products (synthetic analogs of natural products) for the treatment of cancer, diabetes, infectious diseases, microbial diseases, cardiovascular diseases and other human diseases. In addition, this Research Topic also welcomes articles about the target-identification of natural products (with biological assays together with computational studies), in vivo studies and the design of novel natural product derivatives with improved biological effects.