

# Newsletter

## PAKISTAN ACADEMY OF SCIENCES

*Promoting Science, Technology and Innovation for Socio-economic Development*

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### Visit of Federal Secretary, Ministry of Science and Technology to Pakistan Academy of Sciences, Islamabad June 30, 2021

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Mr. Nadeem Irshad Kayani, Federal Secretary, Ministry of Science and Technology (MoST), Government of Pakistan visited the Pakistan Academy of Sciences (PAS) on June 30, 2021, to discuss the PAS's functions and constructive dialogue between the Ministry of Sciences and Technology and the Pakistan Academy of Sciences for Science, Technology and Innovation based development in the country. Prof. Dr. Tasawar Hayat, Secretary General PAS welcomed the Federal Secretary MoST and his colleagues Mr. Zahir Shah (Joint Secretary MoST) and Dr. S. Zaheer Hussain (Dir. Policy Wing, MoST). Prof. Dr. Anwar ul Hasan Gilani (Fellow PAS & VC, University of Haripur) was also present in the meeting. Dr. Riffat M. Qureshi (Director Administration, PAS) gave an overview of the PAS scientific and academic activities. There was valuable discussion among participants to streamline the mechanism for S & T development and innovation.

Secretary MoST appreciated PAS for the establishment of "Scientific Advice to Government Unit/Policy Unit" and the effort of its official/experts in reviewing and up-gradation of policy documents including S & T policy 2021. He also appreciated the idea of the PAS policy unit to join hands with Industrial stakeholders to upgrade policy documentation in a professional manner. Secretary General assured Secretary MoST of his utmost and timely cooperation and collaboration in matters related to Science, technology, and Innovation.

Furthermore, Secretary MoST elaborated that PAS hosts a very useful think tank of its Fellows in almost all domains of interest to the Ministry. Therefore, officials of MoST and PAS must meet frequently in matters related to S & T for proper solutions and advice to Government.

**Fellows and Members  
may submit news and  
views related to Science  
and Technology to:**

#### Editor

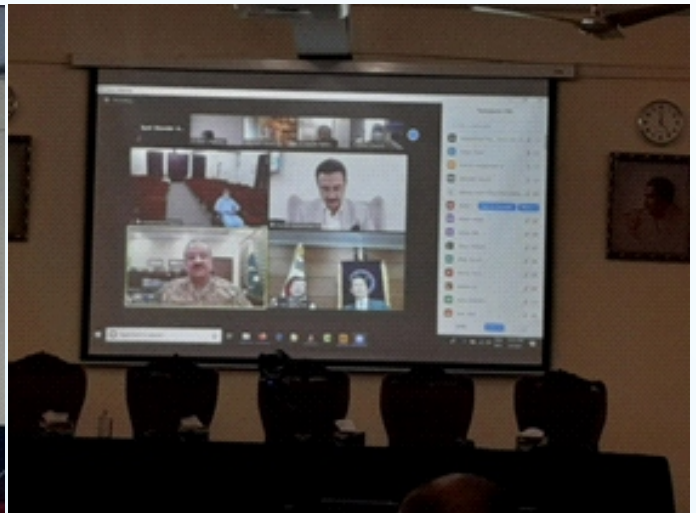
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## AASSA-PAS Webinar II on Pandemics Preparedness, One Health: Lessons Learnt May 4, 2021



Pakistan Academy of Sciences (PAS) and the Association of Academies and Societies of Sciences in Asia (AASSA) with the support of InterAcademy Partnership (IAP) organized an AASSA-PAS Webinar II on “Pandemics Preparedness, One Health: Lessons Learnt” on May 4, 2021, in the Pakistan Academy of Sciences. Speakers from Pakistan, Bangladesh, China, Indonesia, Japan, Turkey, and Sri Lanka delivered talks. Dr. Fazal e Hadi, Chairman Islamabad Healthcare Regulatory Authority inaugurated the Webinar. Dr. Fazal e Hadi noted that the Islamabad Healthcare Regulatory Authority (IHRA) is an autonomous health regulatory body enacted under the Islamabad Health Regulation Act, 2018, and discussed the efforts of the IHRA for educating and making people aware to follow standard operating procedures (SOPs) and standardize their living to counter this pandemic. He stressed the need to provide evidence for awareness. He recommended that strengthening of leadership and provision of vaccines to everybody is the only way forward to combat the pandemic.

Prof. Khalid Mahmood Khan, President of the Pakistan Academy of Sciences welcomed all the speakers, guests, and organizers of the webinar. He appreciated the efforts of PAS and AASSA for arranging these webinars in this difficult time of the COVID-19 pandemic. Prof. Yoo Hang Kim, President AASSA, appreciated the collective efforts of various stakeholders in organizing the webinar for the awareness and strengthening of SOPs across the world. He recommended inviting more people in the future to speak about this epidemic. He emphasized making people aware of this pandemic. Prof. Zabta Khan Shinwari, Chief Organizer of the Webinar, thanked all the speakers of the Inaugural Session and the Chief Guest for being part of the Webinar Series. He explained scientific reasons as to why to observe

social distancing. Coronavirus drifts through the air in microscopic droplets: the science of the infectious aerosols. Wearing masks and practicing social distancing can, in large part, prevent people from spreading or inhaling aerosols.

Prof. Muhammad Ali (Vice Chancellor, Quaid-i-Azam University, Islamabad, Pakistan) and Prof. Zabta Khan Shinwari (Chief Organizer of the Webinar) served as the moderators of this webinar. Different countries shared their experiences on covid-19. Prof. Nariyoshi Shinomi, from Japan, highlighted the current situation of COVID-19 in Japan, while Prof. Zabta Shinwari sensitized the participants about biosecurity & neglected aspects of pandemics in Pakistan. The keynote address by Prof. Jinghua Cao (Executive Director, Alliance of International Science Organizations, ANSO) discussed the efforts of ANSO members to counter the COVID-19 epidemic. He emphasized the role of ANSO to bring people together and promote solidarity and unity within ANSO to oppose the spread of this epidemic collectively. Prof. Dr. Mehmet Bulut (Member, TUBA) emphasized the importance and role of social finance in achieving SDGs objectives. He expressed the need for sustainable development that incorporates meeting the needs of the present and future.

While giving concluding remarks Prof. Zabta K. Shinwari, emphasized collective working to share data and lead the research on the pandemic to reduce the overall impact of this epidemic. All the stakeholders and researchers should work together to collaborate and find out how epidemics can be controlled and the economy can be improved. He gave recommendations on regulating media, proper law enforcement, and handling misinformation to support each other against this pandemic.

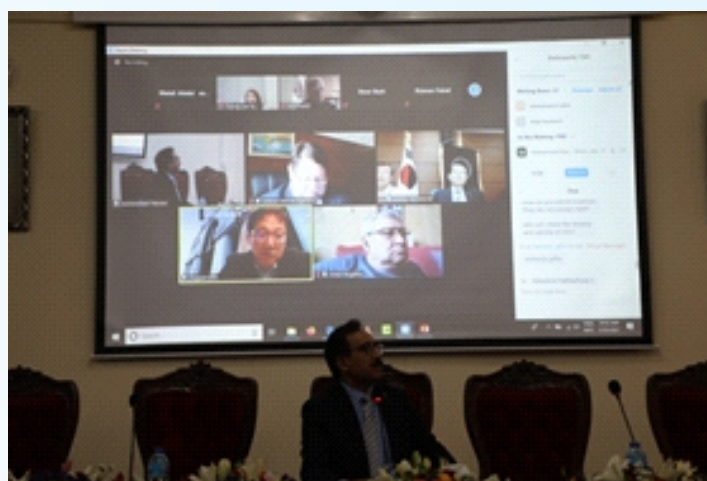


## AASSA-PAS Webinar III / Hybrid Workshop on “How to Counter Infodemics: Role of Scientists & Role of Complementary Medicine in Pandemics” and “Diagnosis, Critical Care; Vaccines and Herd Immunity” May 25, 2021

The Pakistan Academy of Sciences (PAS) and the Association of Academies and Societies of Sciences in Asia (AASSA) with the support of InterAcademy Partnership (IAP) organized an AASSA-PAS Webinar III/Hybrid Workshop on 25 May 2021, in the Pakistan Academy of Sciences. The webinar/Hybrid Workshop covered specific themes i.e. “How to Counter Infodemics: Role of Scientists & Role of Complementary Medicine in Pandemics” and “Diagnosis, Critical Care; Vaccines and Herd Immunity”. In total, 13 lectures were delivered by leading experts, of which five were delivered by international speakers from Iran, Korea, Russia, USA, and Vietnam and eight by Pakistani speakers. H.E. Zartaj Gul, Minister of State for Climate Change, Government of Pakistan (GoP) was the Chief Guest of the Webinar. The concluding session of the Workshop was chaired by H.E. Masood Khan, President AJ&K. Prof. Dr. Shahid Mahmood Baig (Chairman, PSF) and Maj. Gen. Aamer Ikram (Executive Director, NIH) were the moderators of the Technical Sessions. Lessons learnt from Canada, Korea, Pakistan, Russia, USA, and Vietnam and were shared.

Prof. Khalid Mahmood Khan, President-PAS, welcomed the guests and participants and appreciated the endeavours of PAS, AASSA, IAP, the organizers, participants and webinar attendees to cooperatively organize these webinar series and discussed the role of these webinars for improving the situation in this epidemic. Prof. Yoo Hang Kim, President-AASSA, appreciated the efforts of AASSA, PAS, Prof. Zabta Khan Shinwari, the organizers, participants (both at the venue and online), and all the people who contributed to the webinar. He gave various recommendations for COVID-19 that included global coordination, global organization, and adoption of all the safety and biosecurity measures suggested by the World Health Organization (WHO).

Prof. Tasawar Hayat, Secretary General PAS gave a brief account of the Pakistan Academy of Sciences (PAS) in terms of its aims and objectives and key success stories. Prof. Zabta Khan Shinwari, Chief Organizer of the webinar, appreciated the efforts of AASSA and young scientists at PAS in arranging this webinar.



Finally, at the conclusion of the webinar series, Prof. Tasawar Hayat, PAS Secretary General, announced the gold, silver, and bronze medals for the best posters by young graduates in the Poster Competition. The prize money was donated by the AASSA President. A partial contribution was also made by the organizers of the workshop. He expressed his special gratitude to Prof. Dr. Yoo Hang Kim (President AASSA), and Prof. Dato Dr. Khairul Anuar Bin Abdullah (President-Elect, AASSA) for

provision of valuable technical and financial support and guidance to the Pakistan Academy of Sciences to organize this Webinar series in a successful and productive manner. He also thanked Prof. Dr. Khalid Mahmood Khan, (President PAS), and Prof. Dr. Zabta Khan Shinwari, (Chief organizer of the Webinar Series) for their continuous and gracious support & patronage to organize the webinar series at the Academy. In the end, Shields were distributed among dignitaries, Speakers, and Organizers.

## Fourth International Conference on Biosciences (ICBS-2021) June 7, 2021

Department of Plant Sciences, Faculty Biological Sciences, Quaid-i-Azam University in collaboration with the Biological Society of Pakistan (BSP) and Pakistan Academy of Sciences (PAS) organized Fourth International Conference on Biosciences (ICBS-2021). The conference aimed to highlight the recent advancements in Biosciences, in addition, to bring the leading researchers and scientists together for future collaborative research. conference covered a wide range of Botany (Biodiversity, Ecology, Physiology, Plant-Microbe Interaction, Mycology etc.); Zoology (Physiology, Pharmaceuticals, Biochemistry, Medical Sciences, etc.); Agricultural Biology (Agronomy, Plant Breeding, Soil Sciences, Food Sciences, Climate change, Plant Pathology, Smart Agriculture), Biotechnology, Bioinformatics, and Microbiology.

Prof. Dr. Muhammad Ali, Vice Chancellor, Quaid-i-Azam University and Prof. Dr. Taswar Hayat, Secretary General PAS, attended the conference as chief guest. Prof. Dr. Mushtaq Ahmad (Member, PAS) was the Chief Organizer of the ICBS-2021.

Prof. Dr. Zabta Khan Shinwari, Prof. Dr. Tariq Mahmood, Prof. Dr. Bilal Haider Abbasi, and Dr. Shuja ul Mulk were among the organizers of the Conference. The theme of the Prof. Zabta Khan Shinwari gave a Keynote presentation entitled, "Biodiversity Loss, Emerging Infectious Diseases Frontier Technologies and Impact".





# AASSA-PAS Webinar IV / Hybrid Workshop on COVID-19 and Higher Education: Addressing Food Insecurity through Policy Support and Research June 24, 2021

The Pakistan Academy of Sciences (PAS) and the Association of Academies and Societies of Sciences in Asia (AASSA), with the support of the InterAcademy Partnership (IAP), organized an AASSA-PAS Webinar VI/Hybrid Workshop on COVID-19 and Higher Education: Addressing Food Insecurity through Policy Support and Research: 24 June 2021, in the Pakistan Academy of Sciences. In total, 13 lectures were delivered by leading experts, of which four were delivered by international speakers from Australia, Canada, China, and the UK, and eight lectures by Pakistani speakers. H.E. Syed Fakhar Imam, Federal Minister, National Food Security, and Research, Government of Pakistan, inaugurated the webinar and highlighted the impact of the pandemic on people. Mrs. Farah Hamid Khan, Federal Secretary, Education, and Professional Training, Chief Guest of the Concluding Session, expressed her views about misinformation in the epidemic. Prof. Dr. Iqrar A. Khan (VC-UAF), Prof. Dr. Kausar A. Malik (Fellow, PAS), and Prof. Dr. Zia Ul-Qayyum (VC, AIU) were the moderators of the Technical Sessions.

Prof. Khalid M. Khan, President Pakistan Academy of Sciences (PAS), welcomed the guests, speakers, organizers, and webinar participants to the fourth workshop of this series on Pandemic Preparedness, Science, and Countermeasures. Prof. Zabta Khan Shinwari, Treasurer AASSA, and Fellow PAS recognized the participation of all in this webinar and emphasized arranging other similar webinars in the

future with the collaboration of AASSA and IAP. He thanked all the eminent personalities and other participants from various ministries of the Government of Pakistan for their physical presence to participate in this webinar. Prof. Viktor Bogatov, Academician of Russian Academy of Sciences and Chief Academic Secretary of Far Eastern Branch of Russian Academy of Sciences, discussed the imbalance in COVID-19 cases across the world and emphasized the role of science and technology in tackling the pandemic.

In the concluding session, Prof. Yoo Hang Kim, President-AASSA, appreciated the efforts of the AASSA-PAS webinar organizers, participants, and speakers to make this event a success. Prof. Zabta Khan Shinwari gave recommendations for countering this epidemic. He suggested the realization of the needs of students' learning and encouraged universities to revive their policies for providing education in this epidemic as students face internet connectivity issues in far-off places.

Prof. Dr. Tasawar Hayat, Secretary General, PAS thanked Prof. Dr. Zabta Khan Shinwari (Chief organizer of the Webinar Series) for his contributions to the organization of the webinar. Towards the end of the concluding session, Medals/Cash Prizes were distributed among the winners of a poster competition.



## **Prof. Dr. Tasawar Hayat, Secretary General PAS honored with the prestigious International Obada Prize**

Prof. Dr. Tasawar Hayat, Secretary General, Pakistan Academy of Sciences and distinguished Professor of Mathematics at Quaid-i-Azam University and has been honored with the prestigious International Obada Prize for his outstanding research and scholarly contribution.

Obada-Prize is an international award, endowed by the Natural Sciences Publishing supported by the African Academy of Sciences (North Africa Branch). This prize was initiated as a recognition of his excellence Professor Abdel-Shafy Obada. The Obada-Prize recognizes and encourages innovative and interdisciplinary research that cuts across traditional boundaries and paradigms. It aims to foster universal values of excellence, creativity, justice, democracy, and progress and to promote the scientific, technological, and humanistic achievements that advance and improve our world.

This award is an honor not only for the Pakistan Academy of Sciences but also for the entire nation.



## **Prof. Dr. Gary Stein (Foreign Fellow PAS) Awarded with 9-Million Dollar Grant to Study Epigenetics in Breast Cancer**

A team of scientists and physician-investigators at the University of Vermont (United States of America) has been awarded a \$9 million, five-year grant from the National Cancer Institute (NCI) to investigate the underlying causes of breast cancer to identify new cellular-level targets that could be treated with drugs to prevent the disease or halt its progression. The principal investigators for the project are Prof. Dr. Gary Stein, Foreign Fellow PAS, Perelman Professor and chair of the UVM Larner College of Medicine Department of Biochemistry, and professor of surgery, and Janet Stein, Ph.D., a professor of biochemistry at the Larner College of Medicine. They lead a large, collaborative team representing scientific expertise across three collegeagues at the University of Vermont.

The research will focus on three interrelated projects to determine what goes awry when cell division in healthy breast tissue becomes defective and produces cancer cells. The focus will be on epigenetics, the instructions that proteins and nucleic acids within a cell's nucleus give to its genetic code—its DNA—that tell genes to turn on or off. When a cell reproduces, these epigenetic instructions are passed on to newly formed cells,

along with the parental cell DNA, its genetic blueprint. If the epigenetic instructions don't function precisely, cells can become cancerous. The goal is to understand cancer-compromised epigenetic control of genes in breast tumors.





## **Prof. Dr. Syed Qaim (Foreign Fellow PAS ) participated in the Organization of Advanced International Schools in South Korea**

Prof. Dr. Syed Muhammad Qaim, Foreign Fellow of the Pakistan Academy of Sciences, based at the Forschungszentrum Juelich and the University of Cologne, Germany, and Honorary Professor at the Government College University Lahore, Pakistan, has been invited to co-organize Advanced International Schools on Radionuclides and Radiopharmaceuticals, held every year since 2019 in Seoul, South Korea. Supported by the International Atomic Energy Agency (IAEA), the World Council on Isotopes (WCI), the Korea International Cooperation Agency (KOICA), and the Korean Atomic Energy Research Institute (KAERI), the advanced schools in the form of e-learning courses, extending over several weeks, are held for the benefit of young researchers, mostly from developing countries in Asia, Africa, and Latin America. As Chair of the Standing Committee on Education and Training of the WCI, Professor Qaim represents the WCI in the



Organisation Committee of the Schools. In addition, he gives a series of lectures on „Nuclear Data“ and “Accelerator-based Radionuclides“ and acts as a tutor to the participants. This type of advanced course constitutes a great service to developing countries. The last course was held in July 2021.

## **Prof. Dr. Jinde Cao (Foreign Fellow PAS )Elected as a Member of Academy of the United Nations Sciences and Technology Organization**

The United Nations Sciences and Technology Organization recently announced 53 prestigious scholars as to the first members of the Academy of the United Nations Sciences and Technology Organization (AUNSTO). Prof. Jinde Cao from Southeast University was listed in the elected member of AUNSTO. The Academy of the United Nations Sciences and Technology Organization (abbreviated as AUNSTO) is an academic wing to the United Nations Sciences and Technology Organization. The Academy intends to unite worldwide scientific and technological talents and to explore revolutionary scientific and technological issues. The objective of the AUNSTO is to establish a global talent pool, highlighting the leading talents and backbones emerging in global scientific and technological innovation, building a high-end talent platform to show scientific and technological innovation, serving industrial improvement, and making positive efforts for serving humankind.

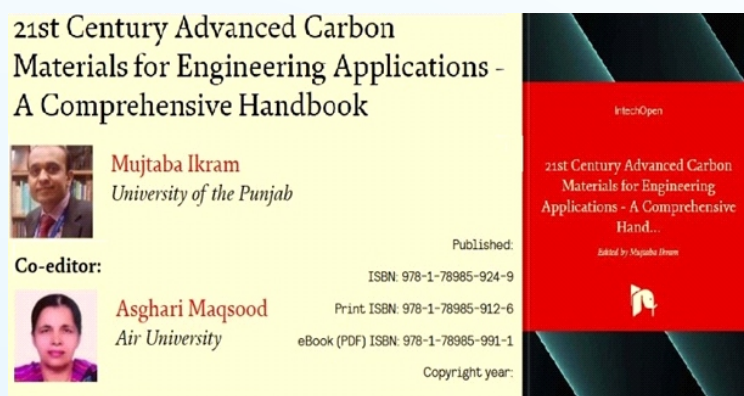
There are 20 scientific divisions in the AUNSTO. In principle, the Academy requires that the candidates must be already members of a national academy of sciences or a national academy of engineering before becoming a full member of the AUNSTO. The election of new members from the AUNSTO is held once a year, with no more than five members being elected per division.



The AUNSTO abides by the Charter of the United Nations, carrying out works under the guidance of the local national laws and regulations, and promoting global high-end talent exchanges, scientific and technological innovation, and project cooperation, participating in the global scientific and technological exchange, discussing global scientific and technologic competition, and promoting in-depth cooperation in general sciences and technology. Regarding the development of global industries, the AUNSTO will conduct in-depth exchanges and docking, promote the transformation of technological achievements and implement the development of projects. The AUNSTO will also promote exchanges and cooperation among scientists, and promote the training of scientific and technological personnel as well.

## Prof. Dr. Asghari Maqsood FPAS has Co-edited a book entitled “21st Century Advanced Carbon Materials for Engineering Application: A Comprehensive Handbook”

21st Century Advanced Carbon Materials for Engineering Application: A Comprehensive Handbook had edited by Dr. Mujtaba Ikram and Prof. Dr. Asghari Maqsood. It is an open-access peer-reviewed book published by Intech Open, London. This book is handy for researchers working in sensors, energy storage, drug delivery, and supercapacitor applications.



## Dr. Muhammad Zaffar Hashmi (Member, PAS) Book Series Editor of Springer and Elsevier

Dr. Muhammad Zaffar Hashmi member PAS is book series editor with Springer: Emerging Contaminants and Associated Treatment Technologies and Elsevier: Advances in Environmental Pollution Research.

Dr. Hashmi published three books under Emerging Contaminants and Associated Treatment Technologies. These include:

1. Organic Pollutants: Toxicity and Solutions
2. Contaminant Levels and Ecological Effects
3. Environmental Contaminants and Neurological Disorders



Under Elsevier series: Advances in Environmental Pollution Research

1. Biological approaches to Controlling Pollutants
2. Cost-Effective Technologies for Solid Waste and Wastewater Treatment



Further Dr. Hashmi published two more books on hot topics

1. Biochemistry of Drug Resistance
2. Building Climate Resilience in Agriculture: Theory, Practice and Future Perspective

