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PSF NEWS

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From the Chairman



*"Pakistan is proud of her youth, particularly the students, who are nation builders of tomorrow".
(Muhammad Ali Jinnah)*

Development in science and technology is fundamentally altering the way people live, connect and communicate with each other. To cope up with the drastically changing scenario, developing countries should invest in quality education for their youth and professional training for their managers and workers. Youth has maximum stakes in the nation building process and they constitute

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Pakistani Students at Imperial College London for LIYSF-2014

Under its Motivational programmes for students to create science awareness in them and to engage them in creative activities, PSF selected four students for London International Youth Science Forum (LIYSF-2014). The students successfully participated in LIYSF-2014 and flew the Pakistani Flag in Imperial College London, giving the message to the international community from this important forum that we are an enlightened nation and not behind from anyone in any way. Selection of two girls and two boys for this Forum, itself reflects the rational of our society towards gender equality. During the inaugural ceremony, the students sung "Milli Nagma Dil Dil Pakistan", which was highly appreciated and liked by the other students from more than 60 countries.

The students were led to the



Group Photo of LIYSF-2014 Participants in front of Imperial College London

forum by Dr. H.U. Khan, CSO, PSF held at Imperial College, London on 23 July to 6 August, 2014. For two weeks, the participants living together as international community exchanged their ideas and experiences to give a greater insight into science and its application for the benefit of the mankind. LIYSF is an educational forum regularly organized each year since 1959, it is an excellent opportunity for students from all over the

world to assemble at a single platform to discuss science and its applications in our daily life. Pakistani students are participating in this forum since 2012 under the joint venture of Pakistan Science Foundation and British Council, Islamabad. LIYSF 2014 included the Scientific lectures and demonstrations from leading scientists on different themes including Exploiting the immune system for the diagnosis on cancer and other

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From the Chairman

more than 50 percent of Pakistan's population. It is the life-line of the country because it is continually providing the homeland with fresh talent, skills and manpower.

Young generation should set precedents in the field of science and technology to make strides towards prosperity and development. The advent of fast communication has squeezed the world and turned it into a global village resulting a lot of increase in opportunities for the youth. For capacity building of the Pakistani youth, PSF is undertaking a number of activities including inquiry based science education, international traveling expos, participation of Pakistani students in International Youth Science Forums, exchange of visits of scientists and many others.

To bring out the hidden talent of Pakistani youngsters, PSF is liaising with various agencies like UNESCO, British Council, Intel Education Initiative, Boards and Directorates of Education.

We believe that the young generation has to take the lead by pushing the barriers of their potent imagination to help the crumbled society. No doubt, the day is coming when we will find ourselves in the line of the developed nations through knowledge based society, for which popularization of science is essential.



Dr. H. U. Khan with Pakistani students during LIYSF-2014 at Imperial College

diseases, Proteins in the gas changes in earth and phases-my flexible friends, understanding earthquakes, Building Brains using Solving the mystery of the computer, Nanopores, Biology of Ageing, Using Galactic Archeology, Science to fight blindness, Probing the formation history Energy in the low carbon of Galaxies through their world and number of others. stellar population, The The students were also

invited to visit leading universities of UK including Oxford university, Cambridge university and Crane field University, In addition, Sedgewick Museum, Natural History museum and many other institutions were also visited. Various other activities, meetings, seminars, debates and discussion on scientific themes of international importance were also included. Presentation of participant's projects and researches was another important component of this forum. The students ensured there best possible efforts to transfer there learning experiences to the other fellows.

Bio Energy, Bio Hydrogen, Biomethane as Alternative Fuel

Chairman, PSF Prof. Dr. Khalil Ahmed Ibupoto was the guest of honour and chaired first session of “International Conference on Bio-Energy: Bio-Hydrogen, Bio-Methane as Alternative Fuel and its Conversion into CNG from Waste Water” held on 26 August, 2014 at Academia, R & D LCCI, Lahore.

The R&D-Industry Program was initiated by PSF in 2002



Prof. Dr. Khalil Ahmed Ibupoto and Dr. Mirza Habib Ali during the International Conference

to provide a platform to research organizations, funding institutions and end-users to ensure application of research, development and transfer of technology and its commercialization. Under this programme, linkages are being established amongst Academia, R & D organizations and Industrial community. R&D-Industry Programme of the Foundation signed several MoU's with different R&D organizations, Chambers of Commerce & Industries of Sukkur, Karachi, Sargodha, Haripur, Islamabad, Rawalpindi and Lahore.

The aims and objectives of the conference were to introduce a new technology for development and generation of CNG from waste water and to bring together the various stakeholders to share their experiences about Bio-Fuel and Bio-Energy and their possible use in Domestic and Industrial Sector.

The conference was organized on the basis of research on Bio-Methane and its conversion into CNG in the backdrop of successful

Quote of the Month

“As long as youth is there, a country can never back-pedal on its goals.” Helen Keller

research on Bio-Hydrogen from different agro-industrial wastes by Dr. Saima Shahzad Mirza Ph.D. (Bio-Energy) in University of the Punjab and Washington State University, USA.

The conference was spread over four technical sessions wherein scientists briefed participants about their research experiences regarding Bio-Energy. The Chairman, PSF Prof. Dr. Khalil Ahmed Ibupoto at the end of first technical session shared his comments about the presenters' work and proclaimed that the Energy Crisis in Pakistan is linked with management lacunas rather purely being the resource scarcity and that we can overcome a major chunk of this crisis by introducing effective management of the power sector. The Chairman also highlighted PSF programmes and invited researchers to submit their



Dr. Saima Shahzad Mirza receiving souvenir from Acting President, LCCI, Engr. Sohail Lashari.



Chairman, PSF receiving souvenir from Acting President, LCCI, Engr. Sohail Lashari. projects on energy related hydrogen and bio-methane issues. Renowned scientists; as transport bio-fuel and the including Dr. Abdul Qadeer Khan, Dr. Kauser Abdulla Malik and Dr. Shabhi-ul-Hassan chaired different sessions of Conference. They briefed the participants about the sources of Bio-Methane Fuel, prospects of indigenous resources to resolve energy crisis, production of bio-

PSF meets Planning Commission under Science Talent Farming Scheme

Government of Pakistan has launched the Vision 2025 on 11 August, 2014. In addition to a number of other very good initiatives, an important part of the Vision is "Science Talent Farming Scheme" and initially a sum of Rupee One billion has been allocated for the scheme. It is envisioned to be implemented through the collaborative effort of relevant existing institutions and science enthusiasts in the public and private sector.

To discuss, various aspects of the scheme and possible role of PSF in its implementation, a number of meetings have been held between PSF and Member (S&T and IT) Dr.



Dr. Naushaba Atta, PSO, Mr. Abdul Rauf, SSO in a meeting with Dr. Muhammad Yahya Khawaja Member (S&T and IT), Planning Commission

Muhammad Yahya Khawaja. An important meeting was held on 28 August 2014 at NUST and future action plan was discussed in detail. Dr. Naushaba Nadeem and Mr. Abdul Rauf from Science Popularization Section represented PSF. In this regard, another detailed meeting is planned at PSF, in which different possibilities for making a comprehensive plan of action to achieve the objectives of the Science Talent Farming Scheme.

Interestingly, the objectives of Scheme and those of PSF are similar to each other in number of ways. Some important aspects of the Science Talent Farming Scheme are:

- ☛ Support top science talent through scholarships
- ☛ Generate Global exposure opportunities in the field of science and technology
- ☛ Arrange international visits to leading science and technology institutes
- ☛ Assist schools in updating science curricula and teachers' training
- ☛ Create a nationwide pool of volunteers for science popularization

This can be achieved by employing an inquiry-based approach to teaching in subjects that already exist in the curriculum, i.e., science and mathematics, for which PSF has already taken some

important initiatives in collaboration with international partners like LAMAP Foundation and Academy of Science, Paris. The launching ceremony of the Vision 2025 was presided

over by the Prime Minister of Pakistan, Mian Muhammad Nawaz Sharif. The Chairman, PSF Prof. Dr. Khalil Ahmed Ibupoto, also attended the event. The ceremony was attended by large number of youth, workers, scientists, teachers, politicians, bureaucracy, agriculturists, artists, sportsmen, journalists, writers and businessmen.

PSF Officers at “Best Project Presentations and Open House” at Raisalpur

Dr. Syed Lal Shah, Principal Scientific Officer and Dr. Mirza Habib Ali, Team Leader, R&D-Industry Programme attended the “Best Project Presentations and Open House” at PAF College of Aeronautical Engineering (CAE), PAF Academy, Raisalpur on 08 August, 2014. The students displayed their innovative prototypes in the fields of Aerospace and Avionics. The completed projects were also handed over to their sponsoring organizations. Both the



Dr. Syed Lal Shah, PSO and Dr. Mirza Habib Ali, PSO/Team Leader, R&D-Industry Programme with Air Commodore Abdul Munem Khan, Commandant CAE and Jahangir Khan Kiani, Dean CAE, PAF Academy Raisalpur.

officers held a formal meeting with Abdul Munem Khan, Aeronautical Engineering and

Dr. Jahangir Khan Kiani, Dean, College of Aeronautical Engineering, PAF Academy, Raisalpur and briefed them about PSF activities and the possible avenues of collaboration between CAE & PSF. The commandant showed keen interest in PSF activities and informed that they have 22 PhDs in CAE involved in different sort of R&D activities and this collaboration could prove to be instrumental to carry out research in the fields of Avionics and Aerospace.

OIC Secretary General Holds a Meeting

Secretary General Organization of Islamic Countries (OIC) H.E Iyad Ameen Abdullah Madani hold a meeting with Federal Minister for Science and Technology Mr. Zahid Hamid at MoST on 5th August, 2014. Mr. Kamran Ali Qureshi Secretary Science & Technology and all the heads of 15 S&T organizations including Dr. Khalil Ahmed Ibupoto, Chairman, PSF along with the Heads of MoST organization attended the meeting. Areas of mutual interest, cooperation in the field of education, science and technology came under discussion.

OIC Secretary General was accompanied with Mr. M Naeem Khan, Assistant



Prof. Dr. Khalil Ahmed Ibupoto, Chairman PSF present in a meeting with Mr. Iyad Ameen Abdullah Madani Secretary General OIC headed by Federal Minister for S&T Mr. Zahid.

Secretary General OIC for Science & Technology, and Mr. Salahuddin Mahmud, Political Officer, OIC Secretariat.

The Minister briefed about the Ministry of Science and technology and its organizations. He apprised that the Ministry

of Science and Technology is vigorously working for the Scientific and Technological policies, Formulation of standards, Popularization of Science and Research and Development in the country. Mr. Iyad Ameen Abdullah Madani, OIC, Secretary

General commended the positive role of Pakistan in the Muslim world and the OIC activities and expressed hope that Pakistan would continue to play its active role in strengthening unity in Muslim Ummah and various activities of the OIC.

SACAM Meeting's plan discussed with UNESCO

To discuss the arrangements of the forthcoming International meeting of SACAM, a meeting headed by Prof. Dr. Khalil Ahmed Ibupoto, Chairman, PSF was held at National Centre for Physics (NCP) on 28.08.2014. Dr. Hafeez-ur-Rehman Roohani, Incharge, NCP and Dr. M. Aslam Baig participated in the meeting. Mr. Raza Shah from UNESCO & Dr. M. Rafique from PMNH were also present. Matters regarding stay of International Delegates and venue for the SACAM meeting were discussed in detail. In addition, expansion of PSF science popularization activities with the help of UNESCO and NCP were also discussed.

Visit of Science Centre, Faisalabad

The Coordinator PSF Science Caravans visited Science Centre, Faisalabad on 25 August. Various issues related to Science Caravan Punjab unit and Science Centre were discussed in detail with the officers at Faisalabad. Plan for installation of some new scientific models, animated dinosaurs and planetarium at the Centre were also discussed.

Global Eco Challenge 2015

PSF initiated Global Eco Challenge 2015 in collaboration with UNESCO through all Caravan offices. It is an online game competition for the school students between the ages of 14-17. In the game students will compete in playing a water simulation game called "Aqua Republica". The purpose is to educate our future generations on the importance and interconnectivity of water to our eco system through a fun and engaging competition and to inspire our future generation on importance of innovation in adversity, diligent in planning and working in collaboration with others. PSF has planned to organize the competition all over the country among the students by engaging its Science Caravan Units. This will be a good opportunity for students to express their skills and to learn more about water management. In this regard, initial competition in schools will be arranged and on the basis of their online score,. The winners of regional competitions will participate for national competition .PSF will award cash prizes to the top three position holders and finally they will become eligible to register and participate at international level The students may also get a chance to win at international level prizes and visit abroad.

Science Caravan Activities

Science Caravan Tando Jam Unit arranged science exhibition w.e.f. 19-28 August, 2014 at Govt Boys Higher Secondary School Tando Bago, District Badin. About 2740 students, 38 Teachers and 11 schools visited the science caravan exhibition. All the visitors greatly appreciated the exhibition. Scientific Literature was also distributed among the visitors.

Science Caravan Sukkur Unit arranged the Science Caravan exhibition at Haider Bux Jatoti Govt. (Boys/ Girls) high / higher secondary Schools of taluka Dokri District Larakana from 19-29 August, 2014. Mr. Nisar Ahmed Solangi, Head Master Govt. (B) High School Dokri inaugurated the Science Caravan Exhibition. Above 2900 students, teachers and other staff of 13

schools visited the science exhibition. Science Exhibition became very much popular among the students and teachers of various schools. They appreciated this activity by PSF in rural areas. Urdu Science Encyclopedia set, Disaster Master Kit, Books set and brochures were also distributed. Science Caravan KPK unit arranged Exhibition in

GHSS- Garam Chashma, GCMHS Chitral & GHS Mastuj Chitral from 06.08.2014 to 01.09.2014. During these exhibitions 5192 students and 209 teachers participated, feedback forms were filled by the teachers and students gadgets including Urdu Science Encyclopedia set, Disaster Master Kit, Books set and brochures were distributed.



Students busy in studying microorganisms through a Microscope in Caravan Exhibition



Students are taking keen interest in a Scientific film show arranged by Tandojam unit



An inside view of Planetarium Show arranged at GGHS, Dokri by Sukkur unit

Independence Day Celebrations

Science Caravan KPK Unit Schools). National Flag Raising Ceremony was carried out. In the formal ceremony, Mr. Khalifa Arif Chashma, Chitral in collaboration with CBS Director, CBS and Pamir (Community Based Public School and College



Independence Day Celebrations by Science Caravan KPK Unit, Peshawar at Chitral

Izh, Chitral was the Chief Guest of the occasion and addressed the audience. During his address, he stressed upon science education and also highlighted the importance of Independence Day. Other distinguished guests also addressed the audience and share their views. Mr. Sher Ali Baz, Ad, KPK Unit also highlighted the role of PSF in

promotion of science. He shared his thought about the freedom and conveyed his message to the youngster to play their role in the development of our country. Independence Day celebration was also observed in PSF Science Centre, Faisalabad. The building of Science Centre, Faisalabad was beautifully decorated on the occasion.



Students singing National Songs on Independence Day at Chitral



PSF Science Centre – PASTIC Sub Centre, Faisalabad building illuminated for celebrating 67th Independence Day

Important Meetings/Events attended

Prof. Dr. Khalil Ahmed Ibupoto, Chairman PSF attended following important meetings and events during the Month of August-2014;

- Meeting of the BoG, Centre of Excellence in Solid State Physics, University of the Punjab, Lahore on 7th August.
- Meeting with the Vice Chancellor and Director (ORC), University of Veterinary & Animal Sciences, Lahore on 26th August

Pakistan Museum of Natural History (PMNH)

Editor: Dr. Saleem Ahmad, Curator

Rich collection fossils in PMNH repository

Pakistan has a varied topography and possesses several areas of paleontological interest. At several places, the rock formations are well-exposed which are of great interest to the paleontologists. The Salt Range of Pakistan is known as the show-case of fossils and paleontologists and geologists come from all parts of the world to search fossils of extinct animals and plants from this area. The skeleton of the largest ever



PMNH Scientists working in the field for the collection of vertebrate fossils.

extinct mammal that lived 30 million years ago in Balochistan area was discovered from Dera Bugti area of Balochistan. The tectonic activities prevailing in these areas. These fossils tell us about the species that were dominant in the past but are now extinct. Study of these fossils can give us clue about their food habits, past climate and much other important information. ESD scientists have so far collected over 4000 fossils during their field trips. These fossils have been preserved in the repository of the division or future reference.



Vertebrate fossils in the Earth Science Division reference collection.

PMNH scientists add more specimen data for sharing

More than a decade ago, PMNH developed a visionary database for storing and sharing the huge data about its natural history specimens of plants and animals. It was named as Biodiversity of Pakistan: Global data base Networking (BGN). This mega-project was financed through a PC-I by the Ministry of Science and Technology. A network of computers was developed and linked with the server. The researchers of PMNH started entering the data of plants, animals and fossils. Due to this capability, PMNH was made an



GBIF web page image

Associate Member of Global Biodiversity Information Facility (GBIF). GBIF provides access to the biodiversity data of numerous

organizations of its member countries. Many researchers received training on working with databases in various countries. In the month of August, 636 specimens, including plants, animals and fossils were entered in the database. Dr. Khalid Mehmood (196), Curator, ZSD and Dr. Muhammad Ismail, Associate Curator, BSD (186), were the major contributors. Other contributors were Aamir Yaseen (92), ESD, Khalil ul Rehman (74), ESD, Dr. Syed Anel Ahmad Gilani (52), BSD, Hamad ur Rahim (25), ESD and Dr. Saleem Ahmad (16).

Earthquake: A Popular exhibit of PMNH



A visitor experiencing earthquake in the Earthquake animated exhibit at PMNH

The Earthquake is an animated exhibit of PMNH Display Centre where the visitor gets a live feeling of earthquake. The visitors sit on two chairs and as the operator turns the earthquake switch the chairs shake in manner similar to earthquake. This exhibit is quite popular among the visitors. It was built as part of an expansion programme of PMNH exhibits, which included animated exhibits too. Other animated exhibits like the Dinosaur, Solar System, Revolving Earth and Volcano are also popular.

Pakistan Scientific & Technological Information Centre (PASTIC)

Editor: Ms. Rahila Khurram

PASTIC/PSF Officers Participate in Training on “Office Automation”

SAARC Documentation Accounts Section. This Centre (SDC), a regional training is being held at SDC, centre of SAARC organized a New Delhi, India from 4th to 5th September, 2014. This five weeks training course is being attended by two officers of Administration/Human Resources/ Finance/ Madiha Rafique, Assistant

Director, PSF and Mr. Akhtar Ali Shah, Accounts Officer, PASTIC. This training opportunity was provided to Pakistan under the human resource development programme of SDC in capacity of PASTIC as National Focal Point of SAARC Documentation Centre in Pakistan.

Forthcoming Event

A one day seminar and exhibition on “Alternate Energy Resources” is scheduled in last week of October, 2014 at NED University, Karachi.

Development of Industry Driven Technologies

The capacity building of scientists for conducting applied and commercialized research results in development of industrial technologies. In order to encourage the problem solving research, PASTIC has taken initiative for organizing workshops for orientation and capacity building of researchers and scientists for creating a culture of development of industry driven technologies. In this regard two workshops have been successfully organized at Peshawar and Faisalabad respectively. Another workshop is scheduled in September 2014 at Faisalabad. Three more workshops will be organized at Islamabad, Jamshoro and Karachi in last quarter of 2014. The workshops will be based on case studies and focused on orientation of researchers and scientists about the approaches and practices used in industry driven technologies, processes fabrication and pilot tests trials of market driven products.

PASTIC Stall at Ayub Agriculture Research Institute, Faisalabad

PASTIC Sub Centre Faisalabad organized one day PASTIC Service stall at Ayub Agriculture Research Institute (AARI), Faisalabad on August 20, 2014. Scientists and researchers of AARI, Faisalabad visited the PASTIC stall and showed interest in PASTIC services leaflets about PASTIC activities and services were also distributed among the visiting researcher and scientists.



PASTIC Services Stall at Ayub Agriculture Research Institute, Faisalabad

PASTIC Membership Number Reaches to 14000

PASTIC offers free membership to researchers and scientists of all the universities and R&D organizations for expansion of its S&T information services and reaching out to maximum scientific community. The number of PASTIC Members has now reached to 14000. Members of PASTIC receive following services online:

- Free literature survey/offline literature search from International Databases.
- E-alerts about PASTIC activities/training opportunities.
- Technology Roundup (PASTIC e-bulletin).
- PASTIC Library Fresh Arrivals.

Another important service of PASTIC is the selective dissemination of information from national and international journals and other information resources of PASTIC, through which member may get latest information in their areas of interest. We therefore would like to invite students, researchers, industrialists and entrepreneurs to join PASTIC as free member to keep them abreast with latest S&T information.

PASTIC membership form can be downloaded from PASTIC Website (www.pastic.gov.pk) and returned to us via mail, e-mail or fax.

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