



## INTERVIEW Pg2

Sensor tech the next big thing: Brobst

Stephen Brobst, a leading data warehousing expert, is associated with Teradata Corporation as Chief Technology Officer since 1999. He also has the privilege to start three branded companies related to data warehousing. He is recipient of



the year award in the MET Computer Science Department at Boston University. He has the honour to have worked as a member of US President Barack Obama's Innovation and Technology Advisory Committee.....

## AGRITECH Pg2

A plant that changed the world

WHEAT, the backbone of life as well as Pakistan, is an important member of the grass family which provides more nutrition for more people of the world than any



other food. It is a most important grain and staple food for more than one thirds of the world population. It is grown both in arid and semi-arid regions of the world. Pakistan is one of the countries from all over the world which use wheat as their.....

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Vermicompost is becoming a commercial product

IN PAKISTAN, the agriculture sector currently contributes about 21 per cent of GDP and generates productive employment opportunities for 45 per cent of country's labour force. It has



a vital role in ensuring food security, generating overall economic growth, reducing poverty and the transforming towards industrialization. For increasing world population, it is now important to increase the overall productivity to ensure food availability for every individual. Use of chemical fertilizers, pesticides and other such products.....

## SCIENCE TECH Pg5

COMSATS' striving for S&T led development of the South

THE COMMISSION on Science and Technology for Sustainable Development in the South (COMSATS) was established in 1994, as a realization of an ambitious plan envisaged by the Nobel Laureate from Pakistan, Prof. Dr. Abdus Salam, to catalyze the socio-economic uplift of the developing countries by promoting and inculcating science and.....

## Pakistan focusing more multiple research facilities for plasma physics

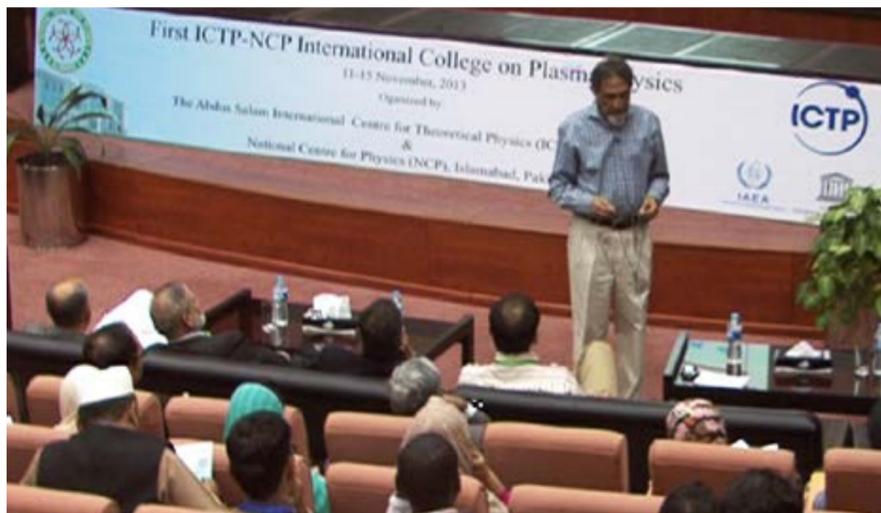
**STAFF REPORT IBD:** Collaboration among scientists and experts is very important for the development of human societies and creating harmony in the world; scientists work not only for the satisfaction of their curiosity to understand the universe, but they also want to search new principles and invent new technology for the benefit of mankind.

Renowned speakers from the science community, during the recently held five-day 'First International College on Plasma Physics' highlighted the significance of the science subjects and their application in the welfare of the society.

The aim of this college, participated by over 15 foreigners and 100 local researchers, is to promote research and collaborations among the developing countries with a special focus on the region.

Plasma — a collection of charged particles — is a state of matter that makes up most of the Universe. One of the areas of plasma research is to use its magnetic field to create the environment needed for a fusion reaction to take place. Plasma physics research is important because it might allow scientists to control thermonuclear fusion reactions for power generation. The college was conducted in collaboration with the Abdus Salam International Centre for Theoretical Physics at the National Centre for Physics (NCP), QAU Campus, Islamabad, where Dr. Ishfaq Ahmad (NI, HI, SI) was the chief guest of the ceremony.

"This is the first regional activity of ICTP organised in Pakistan. During the past few years, the NCP has emerged as an active research centre of the country and it is facilitating many researchers and students of different universities and institutes who are carrying out their research work at



the Centre.

He said the ICTP has started arranging scientific and academic activities in developing countries and with this additional programme, ICTP is playing a very important role in the promotion of science and technology throughout the world.

In his inaugural speech, Director General NCP Dr. Hamid Saleem said that holding this international college is part of the attempts to provide young Pakistani researchers with a broader scientific exposure. "Had the college been held abroad, only a few Pakistanis would have been able to participate," he remarked.

Dr. S. M. Mahajan from USA, who is also the director of this activity, showed satisfaction with the scientific

culture developing at the NCP. He paid rich tribute to Prof. Abdus Salam saying Dr. Salam is really an inspiration for the scientists and researchers of developing countries.

Scientists from various countries including the USA, Japan, China, Belgium, Italy, India, Bangladesh, Iran, Russia, Thailand, Uganda, Nigeria, Nepal, Indonesia, Egypt and Jordan participated in this activity.

"Public commitment and resources are absolutely essential for the promotion of a scientific culture in any society," said Dr. Mahajan in his remarks. He called for having more of such centres and institutions, and they must positively compete and cooperation with each other.

"Building science institutions is some-

thing the state and scientists will have to do, one cannot expect the private sector to invest in an initiative that might only deliver in the long-term," he said adding different institutions need to cooperate and build a network of sorts for which, eventually, public resources will need to be utilised.

The Pakistan Atomic Energy Commission (PAEC) had started using an indigenously developed small "tokamak" fusion reactor in 2008 to study nuclear fusion power through plasma while the NCP also has a research department dedicated to the field.

Foreign participants also seemed amazed by the number of women scientists who attended the conference.

## NAYS announces 'Best Young Scientists Award 2013'

**STAFF REPORT IBD:** The National Academy of Young Scientists (NAYS) has announced "Best Young Scientists Award 2013" for veterinary sciences.

In continuation of this award series, the Academy has announced awards for 2013, at a ceremony recently organized in collaboration with the University of Agriculture Peshawar (AUP), and TechTV. Winners are selected by eminent, dedicated jury members.

According to the results, Maryam Javed from the University of Vet. & Animal Sciences, Lahore, has been declared first, Ejaz Ahmad of University of Vet. & Animal Sciences bagged second position and Dr. Mian Awais of University of Vet. & Animal Sciences, secured third position.

The winners have been awarded cash prizes along

with shield and certificate of appreciation in Dairy Science Park, AUP.

The Academy has started awards in different science disciplines with the purpose to motivate young scholars and research culture in the country and highlight their achievements nationally and internationally.

"NAYS is providing a platform to mobilize the scholars and researchers by providing them an environment where they can collaborate and exchange their fruitful innovative ideas and information in multidisciplinary science domains with an advisory council," said President NAYS Aftab Ahmad on the occasion.

He added that it is helpful for young researchers for further research, to enrich their knowledge and to prove their flair in research oriented subjects.

## PTA blocks IP addresses, SIMs to curb grey traffic

**STAFF REPORT IBD:** As part of its crackdown on 'grey traffic', the Pakistan Telecom Authority (PTA) has blocked more than 200,000 internet protocol (IP) addresses, 1,382 mobile SIMs, and 3,160 phones/devices through their IMEI numbers during the past month.

According to details, the authority has begun monitoring grey traffic since early October and is blocking IP addresses automatically when they are not in the PTA whitelist.

As part of the effort, the existing whitelist has been audited as well and reduced to around 10,000



IP addresses. The regulator has also launched a complaints hotline, SMS, and e-mail facility which received 1,944 complaints to date.

The campaign against this grey telephony has been launched across the country as this illegal activity is incurring billions of rupees losses to the national exchequer annually.

## Speakers for re-evaluating Iran gas pricing

**STAFF REPORT IBD:** Pakistan's growing energy needs can be substantially met through import of gas from Iran through the Iran-Pakistan gas pipeline project.



However, there is a need to re-evaluate the gas pricing mechanism for the purpose.

This was stated by Dr. Abid Suleri, Executive Director SDPI, at a press conference recently held in Islamabad.

The press conference came as a follow-up to the recent statement by Hamid Raza, Managing Director of National Iranian Gas Company (NIGC), suggesting that the

gas price has not yet been fixed and can be changed.

He also said that funding options for the project would be more secure if a sovereign bilateral agreement is reached and signed between Iran and Pakistan.

Arshad Abbasi, Energy Advisor at SDPI, said that SDPI's study on the Iran-Pakistan gas pipeline has played an important role in generating a policy debate on the issue. He added that the report was reviewed by independent experts and requested all concerned stakeholders, including government, academia, media and intelligentsia to come forward and contribute towards a policy framework particularly in the context of Pakistan's pressing energy needs.

Shaukat Hameed, VC Center for Advanced Studies in Engineering (CASE), said that drilling options have still not been fully explored.

## Hybrid seeds can bring green revolution

**STAFF REPORT FSD:** Terming corn a profitable crop for farmers, agricultural experts have advised farmers to use best quality corn hybrid seeds to increase the production, saying that private sector needs to be encouraged to introduce new seed varieties so that crop's productivity could be enhanced.

They expressed these views during their recent visit to a hybrid corn field trial site, which serves as a learning centre for farmers in Gojra, Punjab. The visit was organised by Monsanto Pakistan.

The experts said the adoption of best quality hybrids is also important because the weather patterns are changing and farmers desperately need seeds that can cope with the harsh weather conditions.

## Bio-diesel can substantially meet energy requirements

**STAFF REPORT LHR:** The Renewable and Alternative Energy Association of Pakistan (REAP) has called upon the government to introduce legislation on the cultivation of bio-diesel in the country and ensure passage of the Bio-Fuel Act 2013 from the parliament.

"The legislation on the bio-fuel

media.

He said that Jatropa plant provides a cheap solution to the energy challenges faced by the country.

He mentioned that the Philippines' government experience, he said that Philippines government grew jatropa nurseries on a 3500 acre area which was shifted to 1.8 million acre area in the second phase.

He said that Pakistan can save 16 billion dollars on the import of diesel annually by the cultivation of jatropa plant on 5 percent of the 80 million acres of uncultivated agriculture land in the country. The bio-diesel expert said that cultivation of jatropa plant on one acre land could produce 2000-3000 litres bio-diesel besides value-added products like the Methane gas, glycerine and NPK fertilizer.

el (Jatropha plant) would provide a congenial atmosphere for the foreign investments as well," said Bio-Diesel Coordinator of the REAP, Rana Tauseef Iqbal while talking to

## E-health has potential to control epidemics

**STAFF REPORT KHI:** The COMSATS Institute of Information Technology in collaboration with World Health Organisation (WHO) has recently organised a programme on e-health and how it could play a crucial role in controlling epidemics such as polio and dengue fever through an effective surveillance system.

Speaking on the occasion, Dow University of Health Science's (DUHS) Vice Chancellor Prof. Dr. Masood Hameed Khan said, everyday, across the world, countries are making improvements in their health systems as a direct benefit of e-health technologies. Medical practitioners, doctors, public health professional, HMIS managers, IT professionals, who participated in the event, said that e-health has evolved as an important innovative subject for enhancing the proficiency of health sector.

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**EdTweet**

**Withstanding the climate change impacts**

Pakistan since the last over a decade is fast becoming a water scarcity-hit country, courtesy the climate change. The agriculture sector, which is contributing one-fourth of the country's GDP, relies on the natural weather cycle in the region especially the Himalayas, the main water source of Punjab and Sindh agriculture. Now extreme weather variability in shape of excessive rainfalls, heavy floods, droughts, etc., triggered by climate change, is continuously impacting these major sectors. Floods and other natural disasters normally result in loss of infrastructure, energy insecurity, political and economic instability and deterioration of natural ecosystems in the country. While on the other side, India's attempts to divert substantial flows of water from rivers like Sutlej, Ravi, Beas and Chenab have resulted in drying of these main water channels in Pakistan, which were not only the major contributors to agriculture in the region but also the potential source of groundwater recharge. The situation is relatively becoming from bad to worse as groundwater resources are depleting in the region and water quality has been seriously affected. There is an evidence of change in monsoon rainfall patterns in this region. Intensity in rainfall during the monsoon has increased and that there is also an increase in the heavy rain events on the sub-continent. Climate change model simulations also found similar changes in spatial distribution and magnitude of the heaviest extremes of daily monsoon rainfall as assessed through the use of high emission scenarios. These changes in patterns and frequency of extreme weather events would potentially affect the sustainable water resource management in Pakistan. In fact, the climate change causes the chain of changes from natural weather cycle, heavy floods, droughts, destruction of populated areas as well as millions of acres agriculture lands to critical food security. Remedial measures like concentrating on maintaining a better irrigation system, improved watershed management, and updated water supply and sewage systems and disaster prevention infrastructure are needed to be focused. Similarly, local people should also be mobilized through training and awareness-raising activities like holding workshops and seminars, improved planning for evacuation and increased support to the community. Pakistan needs to integrate climate change into development actions by better planning and strong policies with long-term vision, which is the only way to counter the climate change effects and ensure sustainable development.

**EdMail**  
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**Teaching of the syllabus**

SYLLABUS is the yardstick of measuring the standard of education being practised in any educational institution. Institutions in the advance world try to excel in formulating their syllabus on the pattern of the world-famous educational institutions. This concept of adopting the latest trends in education is very useful for raising the standard of education. Institutions have a great responsibility towards implementing the syllabus in letter and spirit for the reputation and recognition of their institution. Earlier, working days of educational institutions were fully utilised and there used to be the least interference of any kind in the continuation of studies and teaching in the classes. But now unforeseen closures of educational institutions have badly affected the syllabus completion. However, good institutions devise emergency plans for the recovery of the left-out classes. It is deplorable that institutions in the public sector seldom take pain to compensate for the lost hours of studies. As a result, syllabus is not completed and students suffer immensely. Teachers and students are stakeholders, and must complete the syllabus. However, there are teachers who sometimes provide notes to students and encourage rote learning. This attitude of the teachers deprives students of their mental growth and communicative skills. What is important is that both teachers and students work together to make the syllabus effective.

M. SALEEM ANSARI  
Karachi

**Privatising vocational**

institutes  
ACCORDING to a media report, FPCCI has proposed establishment of vocational institutes in private sector. However, it is not clear if this suggestion is backed by detailed analysis or studies as to the physical infrastructure conditions of all these institutes. It is also not clear on what basis the FPCCI and possibly other chambers would be willing to take over management of these institutes for improved vocational training. The proposed transfer of vocational training from the government to the private sector is a gigantic task. Initially, it may be possibly considered only on a pilot project basis. The government could consider this suggestion for possible public-private partnership in order to lessen the shortage of the skilled and trained manpower and thus improve productivity for eventual economic development in the country. It is felt though that the FPCCI's idea may possibly have more weight if supported by detailed reports on actual performance of the FPCCI and different chambers in the past in such activities, particularly on: (1) performance of the apprenticeship schemes required to be implemented by the business and industry according to the law, rules or regulations; (2) establishment of any centres of excellence by FPCCI or business groups as presumably has been done by the chambers in India or other countries; and (3) earlier actual adoption by FPCCI of any govt-owned technical/vocational institutes and the improvement in the performance of such institutes thereafter. M. BASHIR CHAUDHRY, Karachi

**INTERVIEW**

**Sensor tech the next big thing: Brobst**

**Stephen Brobst, a leading data warehousing expert, is associated with Teradata Corporation as Chief Technology Officer since 1999. He also has the privilege to start three branded companies related to data warehousing. He is recipient of the year award in the MET Computer Science Department at Boston University. He has the honour to have worked as a member of US President Barack Obama's Innovation and Technology Advisory Committee. During his recent interview with the Technology Times, Brobst explained in detail the prospects of technology future in Pakistan**



Q: Kindly explain a bit about the Teradata CTO road show?

A: The roadshow is really to help our customers understand what the new trends in technology are and how they can use those technologies to create business value for analytics. Right now, there is a lot of focus on big data analytics - how we can use it to improve operations

and customer experience. So the CTO roadshow is really about education and knowledge sharing.

Q: What has been the response?

A: We have done similar shows in Pakistan for several years - the turnout and reception has been really good. This is one of the reasons why I keep coming back to Pakistan. In the past, we did it a little bit later in the year. This time around we did it in September last but there wasn't really much difference in the number of attendees. The Pakistani customer is quite enthusiastic and is interested in learning about the latest technologies as well as best practices from overseas.

Q: Will the technology that you are bringing to Pakistan have an impact on virtual reality?

A: Virtual reality is a very

specific technology - we are more interested in sensor technology. So it's about using sensors to monitor the health of a person or driving habits in a car. So sensor technology is more aligned to what we are interested in than its virtual counterpart.

Q: How many customers do you have?

A: It's probably over a thousand but I don't know the exact number right now.

Q: How can people use the sensor technology to solve their everyday work problems?

A: It's basically through better decision making so if you want to optimize your decisions related to customer risk, customer relations or the analytics around the quality for what you are manufacturing, you make use of data.

Q: Do you think Pakistan will change as far as online

business is concerned?

A: Pakistan is already changing. For example, if you consider how people had to go to a bank to open an account versus today where people an account online, there is a huge difference. There is a shift towards businesses interacting with customers directly so that they can make use of their products and services. So I think it is going to continue. Internet in Pakistan is certainly getting better and smartphones are becoming more common so it's only a matter of time when things change completely.

Q: What is your biggest technology issue right now in Pakistan and other countries?

A: If you look at what is going on in the industry, you see that data growth is exponential so one of the main problems we solve is that how

do you handle this growth with an exponential growth in cost. It is a challenge to do cost-efficient compression and use high-performance access to the data in order to deliver but not spend more money.

Q: What is your opinion on the next big technology in Pakistan or other countries?

A: The next big technology is sensor technology. It will change almost every industry. Just imagine, driver-less cars, smart grids and power meters in delivering electricity, being able to track every product on the supply chain and so on. These things will dramatically change how efficiently we can manage business.

Q: Do you think the youth in Pakistan will adopt these technologies?

A: The youth in Pakistan is definitely more technology-oriented so if you look at

people who are less than 25 of years, they spend more time on the internet than on watching TV. They are comfortable with technology and online decision-making tools so they really are the future.

Q: Any message that you would like to give to the Pakistani youth?

A: I enjoy coming to the country. I think there is a great desire to learn so the personal reward as far as knowledge sharing is concerned is quite high.

Q: What do you think of the Pakistani IT industry?

A: Pakistani industry is very competitive, especially in telecommunications. Where there is competition, there is innovation so that is a good thing.

There are a lot of smart people here who make the industry all the more competitive.

By Shakeel Ahmad

**AGRITECH**

**A plant that changed the world**

Wheat, the backbone of life as well as Pakistan, is an important member of the grass family which provides more nutrition for more people of the world than any other food. It is a most important grain and staple food for more than one third of the world population. It is grown both in arid and semi-arid regions of the world. Pakistan is one of the countries from all over the world which use wheat as their major staple food.

Pakistan's economy continued to face challenges like energy shortages, floods and rains, poor law and order situation, and a host of other structural impediments that have held back investment and growth in the country. The economy of Pakistan during the last five years grew on average at the rate of 2.9 per cent per annum. In Pakistan wheat is grown over 9.046 million hectares with annual production of 24,032 million tons. Wheat production increased to 24.231 million tons in 2012-13 as compared to 23.473 million tons in 2011-12 showing an increase of 3.2 per cent (Source: Economic Survey of Pakistan 2012-13). The possible reason for substantial increase in wheat yield may be the better management practices by the growers and the introduction of new high yielding wheat varieties possessing tolerance to biotic and abiotic stresses by Plant Breeders.

Wheat provides food for

36 per cent of world population, about 40 per cent (278.6 million tonnes) of the total world wheat production (681.4 million tons) has been produced from the Asia (Anon., 2010). It contributes 14 per cent to the value added in agriculture. Wheat is being grown around one million hectares with annual production of 3.5 million tons in the province of Sindh. The average wheat yield in Sindh is comparatively higher (3543 kg/ha) than other provinces in the country.

It is an important food for the world and vital cereal crop of Pakistan. Ever you

100 kgs of wheat contain 2 million grains which are enough to make 100 loaves. More foods are made from wheat than any other grain. It is also an important amongst the cereal crops because it is rich in:

- Carbohydrates (mainly as starch) for energy. At least 80 per cent of the content of wheat is comprises of carbohydrate
- Protein essential for growth and development and it comprises 9-15 per cent of the total content of wheat.
- Essential vitamins and minerals such as; Bvitamins which are vital for digestive

emissions, saves energy and improves air quality and hence public health. The portion of the wheat plant that is not used as a food source can, therefore, be used as an effective alternative to petroleum. It's not over here but have many more. Gluten which is extracted from wheat has many uses as;

- Gluten is used by the pharmaceutical industry in the manufacture of capsules.
- Gluten is also used in the paper making industry to coat paper.

After that wheat-germ is a rich source of vitamin E, it protects body tissue from damage by oxidation. Creams containing wheat-germ oil improve the structure and appearance of the skin. It is also a popular health food.

In context to these entire benefits the world is focusing on wheat and utilizing it almost in every food.

In Pakistan although it has "Rice" as its substitute but it's not a choice of every one. As wheat is playing an important role in the health of human beings so everyone wants to use wheat in his/her food.

By keeping in view all these discussed points, the government of Pakistan, researchers and scientists should focus on it.

To become self-sufficient in wheat, Pakistan has all the required basic ingredients such as fertile land, sufficient irrigation water, hardworking

**The government of Pakistan, researchers and scientists should focus on how to have more wheat quantity. To become self-sufficient in wheat, the country has all the required basic ingredients such as fertile land, sufficient irrigation water, hardworking farmers, certified seed varieties of local and foreign origin and modern technology in abundance, provided these are utilised to full potential, which is possible only if there is a firm will on the part of the planners**

think that why it is an important food for the world? It is an important one because:

It contains 40-60 per cent of the calories in the diet of a developed nation. Only wheat has enough gluten to make raised or leavened bread. According to an estimated idea,

system and help the body to use energy in accurate way

- Calcium which is necessary for healthy bones and teeth
- Iron an important element for making blood.

ethanol is liquid fuel made from the carbohydrate content of plants.

This is then converted in to sugars that are fermented and distilled to make ethanol. Compared with fossil derived fuels, bio-ethanol generally has lower

**AGRITECH**

**Vermicompost is becoming a commercial product**

In Pakistan, the agriculture sector currently contributes about 21 per cent of GDP and generates productive employment opportunities for 45 per cent of country's labour force. It has a vital role in ensuring food security, generating overall economic growth, reducing poverty and the transforming towards industrialization. For increasing world population, it is now important to increase the overall productivity to ensure food availability for every individual. Use of chemical fertilizers, pesticides and other such products to obtain maximum production in short time, doubtlessly is the need of the time but these approaches has become a danger for a safe and sound environment where we live. It not only increased the soil toxicity level and water and air pollution but also reduces the soil biota as well. So it is necessary to use the other approaches in agriculture sector

on sustained basis to enhance the productivity.

By knowing the importance of earthworms, over the past several years, many people have begun raising earthworms as a source of income and as a means of managing organic waste. Some are drawn to the business by extravagant claims of vast potential markets for earthworms in large waste disposal systems and agriculture and as a source of food for animals. Although several other outlets for sales of worms exist, there is much competition for markets. Research and development on uses for worms are under way throughout the world, but the opening of new markets for worms and castings will be slow and somewhat uncertain. Those interested in getting into the earthworm business should explore potential of local markets carefully, particularly if a full-time occupation is the goal.

Earthworm growers can make money by selling earthworms and vermicompost or from tipping fees (charging to have organic materials normally disposed of in landfills "tipped" by a dump truck onto the worm grower's site, to be fed to the earthworms).

Vermicomposting is the process of turning organic debris into worm castings (manure). The focus is on processing the waste rather than creating ideal conditions for raising earthworms. Large vermicomposting facilities typically make money primarily from tipping fees, followed by sales of castings, and then, in a distant third place, by sales of earthworms. Several options are available for the sale of earthworms. Home vermicomposters, composters, and gardeners are interested in buying earthworms. It may be possible to sell earthworms to locally owned sporting goods or fishing tackle stores, although most of the

larger stores of this type rely on established wholesalers for their bait supplies.

Other markets for earthworms include: Large-scale vermicomposting facilities, Institutions and businesses that do on-site vermicomposting of their food scraps and other organic materials (including prisons, hospitals, schools, colleges and universities, restaurants, grocery stores, and office buildings), farmers desiring to vermicompost animal manure (including livestock and poultry farms, rabbitries, and horse stables), worm growers with orders too large to fill from their own stocks, Industries with organic wastes suitable as feedstock for worms, such as paper mills, breweries, cardboard manufacturers, land reclamation sites, generators of sludge/bio-solids, food processors, canneries, wineries, and cotton mills.

Due to its high cost, compared to commercial ferti-

lizers, vermicompost is not commonly used as a soil amendment or plant growth enhancer by large commercial plant growers. Nonetheless, vermicompost is increasingly being used by organic gardeners and is sold commercially in some nurseries as a soil amendment or planting medium for ornamental plants. A growing body of research demonstrating the beneficial uses of vermicompost is helping to increase market outlets. Markets include home improvement centers, nurseries, landscape contractors, greenhouses, garden supply stores, grocery chains, flower shops, discount houses, and the general public.

A relatively new product coming on the market is vermicompost tea (a liquid). Organic matter, microorganisms, and nutrients are extracted from vermicompost to produce the tea. Unlike vermicompost and compost, this tea may be applied directly to

plant foliage, reportedly to enhance disease suppression. These worms are also capable of accelerating the processing of waste. This means they can be used to detoxify soils contaminated with solid waste, pesticides or heavy metals from industrial or agricultural waste.

So, the vermicompost is gaining much importance day by day and is a key tool for sustainable agriculture. Whether we are backyard gardeners or fully fledged farmers, it must be remembered that earthworms are not the antidote to infertile soils and poor management. If soils are to be improved through the use of earthworms, we must provide them with sufficient food and moisture. Only then we may profit from their activities as ploughmen and builders of the soil.

The authors are associated with the Agro-biology Lab, University of Agriculture, Faisalabad, Pakistan.

By Umair Ashraf, Ehsanullah and Shakeel A. Anjum

# International Students Day 2013

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## Reviving pledge for cause of education

**INTERNATIONAL** Students' Day is an international observance of student community, held annually on November 17. Taking the day differently than its original meaning commemorating German storming of Czech universities in 1939 and killing and sending of its students to concentration camps, a number of universities mark it, sometimes on a day other than November 17, for a nonpolitical celebration of the multiculturalism of their international students.

The 17th of November is the International Students' Day, an international observance of student activism. The date commemorates the anniversary of the 1939 Nazi storming of the University of Prague after demonstrations against the killing of Jan Opletal and the occupation of Czechoslovakia, and the execution of nine student leaders, over 1200 students sent to concentration camps, and the closing of all Czech universities and



colleges.

The day was first marked in 1941 in London by the International Students' Council (which had many refugee members) in accord with the Allies, and the tradition has been kept up by the successor International Union of Students, which has been pressing with National Unions of Students in Europe and other groups to make the Day an official United Nations observance.

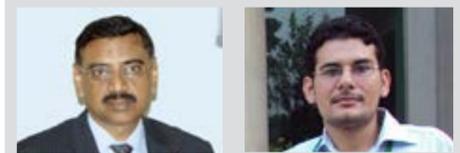
The Athens Polytechnic uprising against the Greek military junta of 1973 came to a climax on November 17, with a violent crackdown and a tank crushing the gates of the university. The Day of the Greek Students is today among the official student holidays in Greece. The 1989 Prague demonstrations for International Students Day helped spark the Velvet Revolution in Czechoslovakia. The Struggle for Freedom and Democracy Day is today marked among both the official holidays in the Czech Republic (since 2000, thanks

to the efforts of the Czech Student Chamber of the Council of Higher Education Institutions) and the holidays in Slovakia.

**BACKGROUND**  
 During late 1939 the Nazi occupants of the Czechoslovakia (at that time it was called the protectorate of Bohemia and Moravia), in Prague, suppressed a demonstration held by students of the Medical Faculty of the Charles University. The demonstration was held to commemorate the creation of an independent Czechoslovak Republic.

This demonstration resulted in Jan Opletal's death. November 15 is the date when he was meant to be transported from Prague back to his home in Moravia. His funeral procession consisted of thousands of students, who turned this event to yet another anti-Nazi demonstration. This, however, resulted in drastic measures being taken by the Nazis. All Czech higher education institutions were closed down; more than 1200 students were taken and sent to concentration camps; and the most hideous crime of all: nine students/professors were executed without trial on the 17th of November. Due to this the date of 17th November has been chosen to be the International Students' Day.

### Messages



**Dr. B.S. Chowdhury**  
 Dean Faculty of Electrical and Computer Engineering, MUET, Jamshoro

**Aftab Ahmad**  
 President National Academy of Young Scientists

The International Students' Day is celebrated every year to pay tribute to the efforts of student unions and student movements at different time course during the history. In the present age, we are facing enormous challenges and students can play an important role to meet these challenges. They have proved during the history through educational campaigns, civil movements that they are the most vital and vibrant part of any society. In Pakistan we have even more challenges and students here can play a significant role for progress and prosperity of the country. The challenges that students are facing directly include, lack of proper guidance and training, privatization and commercialization of education, lack of single education system, etc. So students have to realize these issues and should make their voice heard by higher officials so that these issues could be solved. In addition, we are the country which is spending least on education and our literacy rate is still less than 60 per cent. So students through a combined effort can play a significant role for improving the literacy rate in Pakistan. If we want to make our country a prosperous and progressive nation, we will have to educate our people at all levels. In Pakistan, the NAYS is playing an important role to promote education, science and technology. An educated Pakistan will be prosperous Pakistan, which should be our ultimate goal.

### COMSATS' striving for S&T-led development of the South

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was established in 1994, as a realization of an ambitious plan envisaged by the Nobel Laureate from Pakistan, Prof. Dr. Abdus Salam, to catalyze the socio-economic uplift of the developing countries by promoting and inculcating science and technology (S&T) culture.

COMSATS is an apex body whose Commission comprises Heads of State/Government as its Members. Currently, there are 21 Member States of COMSATS with the President of the Republic of Ghana as its incumbent Chairperson. The structure of COMSATS is unique in a way that it not only leverages the organization to facilitate capacity building of scientists from developing countries, but also enables clusters of high-quality R&D centres, working independently in their national capacities, to cooperate with one another as a part of COMSATS' Network of Centres of Excellence. Currently, 18 such Centres spread across four continents are affiliated with COMSATS and provide it an enormously rich resource base for scientific cooperation at the level of working scientists. The heads of these Centres constitute COMSATS' Coordinating Council. The political patronage of the Member States towards the Network comes from a Consultative Committee comprising relevant officials from local ministries in these countries.

been conducted through seminars, symposia, workshops, training programmes, pilot-projects and sponsorship of scientific activities. Over 180 national and international events have been organized in specific areas of science and technology that have a direct relevance to the socio-economic development of the Member States. Despite its engagement in a number of such activities, COMSATS is not a funding agency and manages the execution of its programmes with its limited financial resources. Apart from voluntary financial inputs from member countries, its major contribution comes from the Government of Pakistan, which generously provides adequate funding to cover the operating expenditure of COMSATS Secretariat based in Islamabad. In spite of its financial limitations, the organization

common people in Pakistan. It was realized during mid 90s that Information and Communication Technology was going to dominate the world in future, affecting all segments of society with respect to information dissemination and interactivity among scientists as well as common people. Two institutions were, therefore, set up by COMSATS to get the country ready for this unfolding information revolution. The COMSATS Internet Services (CIS), started in 1996, was the pioneer of high-quality Internet access in Pakistan, while in 1998, an I.T. training centre was launched under the name of COMSATS Institute of Information Technology (CIIT). The latter is now a well-established public sector degree-awarding institute with around 26,000 enrolled students, and over 2,295 faculty members, 615

on highly competitive prices. COMSATS also launched other pioneering projects, which were later patronized and up-scaled by other stakeholders, such as pilot-project of bio-gas production and the tele-health programme. The COMSATS' project on the provision of medical consultation to remote areas of Pakistan through tele-health facility is being expanded under a grant approved by the Planning Commission of Pakistan. The remarkable success of these projects is a testimony of how investment in a scientific organization pays back several-times of the original investment.

Due to its international programmes, COMSATS is taking a leadership role in the South for promoting S&T in the developing countries and providing them a platform to cooperate with one another. To further augment its efforts

### News in brief

The student community across Pakistan marked November 17 as the International Students' Day with a number of multiple activities. The students of schools, colleges, universities and other educational forums participated in different colourful programmes highlighting the students' role in nation building. On the occasion, they exchanged greeting cards and SMSs with their friends to wish the day and participated in gatherings, seminars, conferences, rallies and walks. At these events, the speakers highlighted the cruel role of Nazis against the 1939 Nazi storming of the University of Prague after demonstrations against the killing of Jan Opletal and worker Vaclav Sedlacek as well as against the occupation of Czechoslovakia and the execution of nine student leaders, sending of over 1,200 students to concentration camps and the closure of all Czech universities and colleges.

It was on November 17 when nine students and professors were executed in Germany without trial. That's why November 17th is celebrated as International Students' Day. International Students' Day is an international observance of student activism.

How International Students' Day is celebrated?

International Students' Day celebrations inspire students all over the world including Pakistan in their quest for truly democratic education and a democratic society. As many as 65 countries established November 17 as the International Student's Day. This Day represents the struggle of students all over the world. During the International Student's Day, students come out on streets and protest against suspending human rights, demeaning of freedom of word and religion and equal opportunities for education. Students use this Day as an opportunity to demonstrate their opinions and act against injustice.

### COMSATS' Network of Centres of Excellence

- Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh;
- Embrapa Agrobiologia, Brazil;
- International Center for Climate & Environment Sciences (ICES), China;
- Centro Internacional de Física (CIF), Colombia;
- National Research Centre (NRC), Egypt;
- Council for Scientific and Industrial Research (CSIR), Ghana;
- Iranian Research Organization for Science and Technology (IROST), Iran;
- International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica;
- Royal Scientific Society (RSS), Jordan;
- National Mathematical Centre (NMC), Nigeria;
- COMSATS Institute of Information Technology (CIIT), Pakistan;
- International Center for Chemical and Biological Sciences (ICCBS), Pakistan;
- University Cheikh Anta Diop (UCAD), Senegal.
- Industrial Technology Institute (ITI), Sri Lanka;
- Industrial Research and Consultancy Centre (IRCC), Sudan;
- Higher Institute for Applied Sciences and Technology (HIAST), Syria;
- Tanzania Industrial Research and Development Organization (TIRDO), Tanzania;
- TÜBITAK Marmara Research Center (MAM), Turkey;

has instituted a number of mechanisms to meet its funding requirements. First and foremost in this connection is the policy of organizing international capacity-building programmes in partnership with other international organizations, such as UNESCO, to gain maximum benefits with limited financial input.

Being signatories of the International Agreement to establish COMSATS, all member countries have been contributing to, and taking tangible benefits from, the organization, especially the host country, Pakistan. Soon after the establishment of COMSATS, ways and means were considered to bring the benefits of science to the

of which have Ph.D degrees. The Institute offers 86 degree programmes spread in eight campuses across Pakistan. The Institute's quality of education can be judged by its HEC ranking, according to which CIIT is placed at number 4 among 132 universities of Pakistan in terms of 'Research Productivity'; whereas it has been ranked as top most in the field of Computer Science & IT. The university also offers post-graduate scholarships to students from COMSATS' Member States. COMSATS Internet Services (CIS) is operating successfully although a multitude of Internet service providers have entered the field with corporate investment, offering services

of making S&T a vehicle for progress, COMSATS has devised a five-year strategy, the lynch-pin of which is a radically new initiative of conducting COMSATS' sponsored thematic research in areas relevant to direct socio-economic benefits. The three International Thematic Research Groups (ITRGs) are currently undertaking research in areas of: 'Information and Communication Technologies (ICTs)'; 'Natural Products Sciences'; and 'Climate Change and Environmental Protection'. COMSATS, employing various cooperative mechanisms, remains committed to its mission of scientific and technological progress of the developing world.

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## 25 million tons wheat production target set up

**STAFF REPORT IBD:** The Federal Committee on Agriculture (FCA) has set up 25 million tons wheat production target during the Rabi 2013-14 with availability of fertilizer during December and January.

The meeting held at the PARC headquarters with Federal Food Minister Sikandar Hayat Bosaan in the chair, reviewed the kharif crops 2013-14 and to plan production target Rabi Crops 2013-14 for major food crop wheat, gram, lentil, potato, onion, oilseed like rapeseed, mustard and to address the domestic consumption and for exporting.

The position of availability of different farm inputs including seeds, fertilizers, pesticides, irrigation water and agriculture credit was also reviewed in the meeting.

Availability of certified seeds, agriculture credit and pesticides particularly herbicides was also ensured by the relevant departments.

During the meeting, Secretary Food Seerat Asghar said that it is the first meeting of FCA after 18th Constitutional Amendments that held after three year and with the consultation of provinces we will succeed to achieve maximum target.



He also said that all provinces complete their wheat sowing targets on time. Delay in sowing causes decrease in production. He said weather and agriculture are related with each other. During this rabi season rain and snow falls are expected more which will meet our water requirement for agriculture.

## NAYS, COMSATS hold posters exhibition on science

**STAFF REPORT IBD:** The National Academy of Young Scientists (NAYS) Pakistan in collaboration with COMSATS and Emerging Nations Science Foundation (ENSF) has recently organized a poster exhibition and hepatitis awareness campaign in order to mark World Science Day.

On the occasion, over 200 booklets were distributed among students, having information regarding hepatitis and its preventive measures. The posters were prepared by NAYS Community Education and Awareness team for awareness purpose on more than 25 topics.

Young scientists were also briefed to promote community education and awareness. The basic purpose of event

was to aware general public about hepatitis and to celebrate the Day.

"NAYS celebrates World Science Day every year to raise awareness regarding benefits of science worldwide.

On the occasion, events are organized to highlight important role of science in peace and development," said President NAYS Aftab Ahmad while talking to this scribe.

The Foundation dedicated the event to Dr. Samar Muhrakmand for his great contribution in the field of science and Technology. The UNESCO works with people, government agencies and organizations to promote World Science Day for Peace and Development (WSDPD) each year.

## Pakistan, Argentina agree for S&T cooperation

**STAFF REPORT IBD:** Pakistan and Argentina enjoy close and cordial relations and there is need to learn from each other's experiences and adopt best practices in the field of science and technology.

Federal Minister for Science and Technology Zahid Hamid said this during his meeting with a three-member delegation headed by Member of National Assembly of Argentinian, Julia Arpetina Perie, who has recently called on him in Islamabad. During the meeting, the areas of mutual interest, bilateral ties, and cooperation particularly in the field of science and technology came under discussion.

Talking to the delegation, the minister said that there is a great potential to enhance the mutual cooperation, business cooperation and trade between the two countries. The Argentinian delegation expressed their willingness for cooperation and said that their country is interested to strengthen relation with Pakistan.

## Nestle to help mango farmers boost yield

**STAFF REPORT LHR:** Nestlé Pakistan has planned a pilot initiative which will support mango farmers in southern Punjab through a



joint effort with the Australia-Pakistan Agriculture Sector Linkages Programme (ASLP). In the initial phase of the endeavour titled the 'Chaunsa Project' - farmers in Multan and Khanewal will benefit from training on best farm practices to increase yield and improve quality of 'chaunsa' mangoes.

"By enhancing the quality and improving the yield of chaunsa mangoes in the market, Pakistani consumers buying our products will directly impact the livelihoods of small farmers in the Nestlé value chain," said Magdi Batato, Managing Director of Nestlé Pakistan.

## Warid Poetry Junction to mark Iqbal Day

**STAFF REPORT LHR:** In order to commemorate Allama Iqbal Day, Warid Telecom has launched the Poetry Junction service to entertain and capture the interest of all poetry lovers. "Poetry is the art form which is read, heard and appreciated by all segments of the society and receives special appreciation in literary circles," remarked an official of the company while commenting on this poetry launch. He said that through this service Warid aims to provide a platform to all poetry lovers to listen and record poetry in their own voice.

## UCL, LCWU jointly launch climate change subjects

**STAFF REPORT LHR:** Warid Telecom has sold more University College London (UCL) UK and Lahore College for Women University (LCWU) have joined hands to introduce courses on environment, climate change and sustainable development in various disciplines of natural sciences, social sciences and humanities to be taught at BS and MS levels.

According to details, the Higher Education Link Project between Environmental Science Department of LCWU and Department of Civil, Environment and Geomatic Engineering UCL is for the "Development of Collaborative Postgraduate Programme on Climate Change and Sustainable Development."

The partnership is established under INSPIRE-Transnational Education Partnership Programme and is managed by the British

Council, Pakistan. The 36-hour long course has recently been concluded with a certificates distribution ceremony.

Richard Weyers, Director, British Council, Lahore, Vice Chancellor LCWU Dr Sabiha Mansoor, Dr Sarah Bell, Faculty from UCL, UK, Prof Dr Kousar Jamal Cheema Dean of Natural Sciences LCWU and students had participated in the event.

"UK-Pakistan link would be strengthened by encouraging the development at a wider partnership agenda," said Dr Cheema while highlighting the aims of INSPIRE strategic partnership.

In his remarks, Dr Sarah Bell said that main activities of the project between UCL and LCWU were the development of courses and programmes for the new specialisation for the existing environmental science programmes at MS and Ph.D. levels.

## PIF to launch first 'idea-to-reality' innovative contest

**STAFF REPORT IBD:** Indus Motor Company (IMC) and Pakistan Innovation Foundation (PIF) has started the one-year National Innovation Grand Challenge (NICG) 2013-14 in order to encourage Pakistani innovators, youth, students, professionals, entrepreneurs, and citizens to innovate various areas like agriculture, energy, rural development, and manufacturing.

The challenge invites creative minds from across the country to come up with unique and innovative ideas in two critical domains.

The first challenge is to develop a replicable, scalable and marketable product or process that enhances productivity, reduces energy requirement or reduces indus-

trial waste by at least 33 per cent. The second challenge is to develop an innovative product, service, or tool that complements or enhances the utility of a manufactured product and has a compelling market potential and cost-performance profile for rapid commercialization in Pakistan. The Winners shall bag Rs. one million 'Open Innovation' prize and Rs. 500,000 Dedicated Student Prize.

"The corporate sector has a special role to play in innovation...many of them have systems and processes in place to drive innovation internally...so they can help us in driving innovation projects across Pakistan," said Saad Amanullah Khan, who the Chairman PIF and also the CEO of Gillette Pakistan.

## Zong partners with UBL for online recharge facility

**STAFF REPORT IBD:** Zong, a local telecom network, under its O2O project has partnered with UBL to establish a service enabling its subscribers to recharge their accounts and pay post-paid bills online.

The company has been taking giant leaps in the competitive market of telecom services by introducing customer centric services for different segments of mobile phone users along with expanding its network at an exponential rate. According to details, this



service allows subscribers to make payments via an Etilat/UBL powered portal using their debit or credit cards to avail the online recharge or bill payment option regardless of the card issuing bank. Simplifying service availability and establishing an alternative channel, the option is meant to introduce a fast and effective way for the subscribers to reach Zong, says a press release issued here.

"At Zong, we believe in continuous progress and innovation, which in turn means better services and facility for our esteemed customers. This new billing system in partnership with UBL is just another example of our dedication towards providing better and time efficient services to our subscribers," said Sikandar Naqi, Chief Public Relation Officer, Zong, while commenting on this service. He also said that through such endeavors we show our commitment towards taking the telecom services in Pakistan to the next level.

## IT youth potential can ensure national progress

**STAFF REPORT IBD:** Youth are our future and we should fully tap the potential of youth equipped with technology and telecommunication skills in a proper manner in order to make progress especially information technology, communication and science & technology.

"The government is providing opportunities in the field of Information Technology (IT) and Telecom so that young people could make progress in an appropriate manner," said Minister for Information Technology and Telecommunication, Anusha Rahman, while talking a local TV channel.

She said that there is need to make progress through youth getting degrees in the information technology and telecom sectors.

Anusha also said that geographically Pakistan is located at a very important place and added that collaboration and cooperation of the regional

countries could help boost the economy of our country. The minister said that 125 million people of Pakistan are using mobile facility and add-



ed that this industry is growing day-by-day in the region. The focus should be given to manufacturing sector to achieve objectives in the IT and Telecom sectors, she said adding Pakistan wants peace in the region for prosperity of the people. She maintained that vast opportunities are available in the country, which should be utilised through youth equipped with information technology and telecom skills.

## Hydrolink arranges training for MHP operators

**STAFF REPORT IBD:** Hydrolink has recently organized a five-day training workshop for operators of SWAT on Operation, Maintenance and Management of Micro Hydro Power plant in collaboration with the Sarhad Rural Support Programme (SRSP) under the EU funded PEACE projects.

The main aim of the PEACE project is to reduce the negative impact of economic deprivation, poverty and social inequality in the areas affected by security crisis and natural disasters and to turn this into opportunities to build and empower the communities.

As many as 30 operators for ten micro hydel projects successfully participated in the training and learned the

theoretical and practical training. SRSP field engineers also participated in the training and appreciated the training. On the occasion, Bahar Ahmed, SRSP HRD Head, also presented his views about the need and outcome of the training and appreciated the efforts of Hydrolink management team for successfully organizing operation & management training for SRSP MHPs Operators of Swat.

Engr. Fazli Rabbi, CEO of Hydrolink, at the opening session of the training appreciated SRSP for organizing such trainings and said that Hydrolink being leader & professional manufacturer of the sector is in discussion with international manufacturers and consultants to transfer the technology.

## PTCL rewards customers thru free 4Mbps upgrade

**STAFF REPORT LHR:** PTCL, the largest ICT services provider, is now enabling its 2Mbps customers to upgrade to 4Mbps broadband package without any additional charges.

The promotional package will expire on December 31 and discounted 4Mbps rates of Rs.1,999 per month will apply after the expiry date. Customers can opt out of this offer by calling 1236 or by contacting their nearest PTCL One Stop Shop (OSS).

PTCL 'Broadband Pakistan' enables seamless internet experience, uninterrupted streaming and fastest downloading speeds. It provides access to rich high-definition multimedia resources over the Internet enabling PTCL customers to download latest movies, TV shows and music files.

"Our broadband products are geared towards delivering innovation and accessibility. PTCL is committed to provide lasting and effective customer experience and this offer is aimed at rewarding our customers and giving them more value for their money," said Asif Inam, PTCL Executive Vice President (EVP) Wire-line Business.

## Denmark offers coop for joint academic research

**STAFF REPORT IBD:** Prospects of research cooperation between Pakistani and Danish universities were discussed at a recently held meeting between Jesper Moller Sorenson, Ambassador of Denmark, and Dr. Mukhtar, Executive Director, HEC.

During the meeting, the Ambassador said that Pakistan is one of the 18 select group of countries where engagement is being focused considerably.

"Joint research can be initiated after identifying research areas by the institutions of higher learning," remarked the Ambassador urging the youth of Pakistan to apply for scholarships offered by the Danish universities to enhance people to people contact.

Dr. Mukhtar appreciated the Danish support to primary education and welcomed the offer to extend cooperation in higher education.

## Water scarcity can drag Pakistan to more troubles

**STAFF REPORT IBD:** Pakistan is experiencing acute water scarcity which is badly hampering agriculture, evaporating potable water and creating energy crisis, however, if scientific and innovative methods are applied effectively it could ensure optimal usage of the available water resources, boost agriculture yield with less labour and lessen many other water-related issues.

These consensus views were expressed by speakers at a one-day seminar organized by the COMSATS at the Institute of Information Technology (CIIT) recently to commemorate the 'World

Science Day for Peace and Development'. Title of the seminar was 'Science for Water Cooperation: Sharing Data, Knowledge and Innovations'.

Presiding over the inaugural ceremony of the event, Dr. Ishfaq Ahmad, a veteran Pakistani scientist and former advisor to PM, underscored the importance of the World Science Day for Peace and Development, and reviewed it in its historical perspective. He stressed the need for keeping water-related issues on high priority by the organizations like IASIA, UN, and COMSATS.

He revealed that Pakistan

has the distinction of being the country on whose request, the United Nations had decided to celebrate World Science Day every year.

In his address, COMSATS Executive Director, Dr. Imtihan Elahi Qureshi, gave a broader perspective whereby science has been used both for the betterment of mankind as well as for the purpose of war and destruction.

He also elaborated worldwide focus on freshwater availability and cautioned that Pakistan will face a major destabilizing situation if water management is not addressed at the highest priority.

## DoST plans more training facilities in KPK

**STAFF REPORT LHR:** The Directorate of Science and Technology has the plan to strengthen the existing common facility centers in order to enhance technical facilities available so that they can be utilized & mobilized for the socio-economic growth of Khyber Pakhtunkhwa.

The Garamchashma Area Development Organization (GADO) submitted a proposal for the strengthening of existing Gems & Cutting Polishing Center at Garamchashma, Chitral, to create entrepreneurship opportunities for the local people.

After the approval of the proposal, an agreement was signed between the Directorate of Science and Technology, AKRSP and GADO under the said scheme wherein the directorate agreed to provide an amount of Rs. 0.6 million to GADO for the strengthening of existing center.

GADO will be responsible for utilization of funds granted under the scheme "Strengthening and promotion of gems cutting and polishing centre" exclusively for development of Gems cutting and polishing centre in Garamchashma and will ensure proper utilization of human, financial and other resources.

## UVAS convocation on Dec. 30

**STAFF REPORT LHR:** The 5th convocation of the University of Veterinary & Animal Sciences (UVAS) Lahore is going to be held on December 30. Chancellor and Governor Punjab Ch Muhammad Sarwar will preside over the convocation.

The decision to hold the convocation has been taken a recently held a meeting of subcommittees of the convocation with Vice-Chancellor Prof. Dr. Talar Naseer Pasha in the chair and also reviewed preparation for the convocation.

### COMSATS Stands Along the World Community in Commemorating International Students' Day

# COMSATS

Paving the Way for Sustainable Development through:

- Promotion of Science, Technology and Innovation as a means to fast-track socio-economic development;
- Mobilization of scientific and technological resources and human resource development through South-South cooperation;
- Capacity-building of Member States through a Network of S&T Centres of Excellence.

**Commission on Science and Technology for Sustainable Development in the South (COMSATS)**

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