



### PROF. SHAHID MASUD, DEAN SBASSE

I am delighted to share the second issue of the SBASSE newsletter that includes progress and activities of the school in the quarter April – June 2017. This is the time of the year when the academic year is coming to a close, exams are held and the graduating students anxiously await the convocation to receive their hard earned degrees. This quarter has brought some exceptionally good news for the school in terms of our faculty winning 25 research grants out of 39 submitted to HEC under NRP project, the highest acceptance in any Pakistani University; and four of our faculty members won National Research Productivity Awards from Pakistan Council for Science and Technology. Our journey towards excellence and impactful research has started to bear fruits and I hope that we will continue to share more such news in the future. Don't hesitate to provide your valuable feedback on this newsletter by writing to me directly at [smasud@lums.edu.pk](mailto:smasud@lums.edu.pk).



*Happy reading!*

### HIGHLIGHTS

- Career Information Session
- Electrical Engineering Senior Project Open Day
- Mobile Apps for Autistic Children
- Faculty Engagement
- UX Pakistan Conference
- CASM International Conference on Applied Mathematics
- WIT Summer School
- Mitsubishi Leadership Visited SBASSE
- DIC Corporation Management Visited SBASSE
- Faculty News
- Student News
- Staff News

### SBASSE FACULTY RECEIVES RESEARCH PRODUCTIVITY AWARDS 2016-17

Every year the Ministry of Science and Technology in collaboration with Pakistan Council for Science and Technology (PCST) grants Research Productivity Award (RPA) to active scientists on the basis of their publications in international journals, patents, books, Ph.D. student supervision and external research grants.



This year four of our faculty members namely Dr. Ijaz Haider Naqvi, Dr. Naveed Ul Hassan, Dr. Muhammad Zaheer and Dr. Irshad Hussain of Syed Babar Ali School of Science and Engineering (SBASSE) have successfully been awarded the Research Productivity Awards in different fields. Competing among a total of 2896 applicants for the year 2016-17, out of which 257 were awarded the RPA from the entire country, this recognition is no small feat.

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## EVENTS

### LUMS CENTRE FOR WATER INFORMATICS AND TECHNOLOGY HELD SCREENING OF DOCUMENTARY ON WATER CONSERVATION

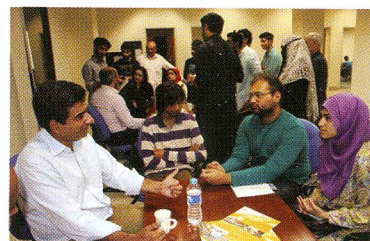
The LUMS Centre for Water Informatics and Technology (WIT), in collaboration with Media Lab and Nestle Pakistan, held a public screening of the documentary 'River Garden' on April 12, 2017. The film illuminated interesting aspects of the anthropology related to the River Indus in conjunction with the history of the architecture of the waterworks at the Shalimar Gardens in Lahore. An interactive discussion was also held with the key contributors: James L. Wescoat Jr., Sajjad Kausar (Author, Professor of Architecture and ex. Principal National College of Arts), Kamil Khan Mumtaz (renowned architect and conservationist), Abubakr Muhammad (Director WIT), Shahrukh Hamid (Director of 'River Garden'), Kunwar Schahzeb (Executive Producer of 'River Garden'), and Waqar Ahmad (Nestle Pakistan's Head of Corporate Affairs).



The screening of 'River Garden' was followed by a signing of a Memorandum of Understanding between LUMS and WWF to facilitate research on water resource use, efficiency and management, climate change, biodiversity and related areas of research. The MoU was signed by Prof. Dr. S. Sohail H. Naqvi, the Vice Chancellor of LUMS and Mr. Hammad Naqi, Director WWF in the presence of Syed Babar Ali.

### SBASSE HELD CAREER INFORMATION SESSION

In order to help students, as well as their parents, get information about the major of their interest and how it will lead to a career of their choice, the Academic Affairs Office at the Syed Babar Ali School of Science and Engineering (SBASSE) organized Career Information Sessions in three major cities of Pakistan: Karachi, Islamabad and Lahore. The session in Lahore was held on April 15, 2017. It comprised of a presentation session, where an informed overview of the SBASSE curriculum was provided by Dr. Shahid Masud, Dean of the School and the six Department Chairs. After the presentation session, a Q&A session was also arranged for the parents to have their queries and concerns addressed by the faculty members of their respective departments.



### LUMS ELECTRICAL ENGINEERING SPROJ OPEN DAY 2017

Like the previous years, the graduating EE students (2017-batch) demonstrated the work done during their senior year design projects which were well-spread in all the important concentration areas of Electrical Engineering i.e. Power & Energy Systems, Communications, Signals & Control, Electronics & Embedded Systems and Devices, Optics & Electromagnetics. Numerous personnel from industry and academia attended this event to see the state-of-the-art work being carried out at the EE department of SBASSE, LUMS.

## BIOCHEMISTRY AND STRUCTURAL BIOLOGY RESEARCH LABORATORY

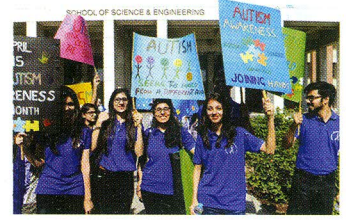
The focus of Biochemistry and Structural Biology Lab is to develop structure-based vaccine against the most prevalent viral infection in Pakistan, Hepatitis C (HCV), discover new molecules that could inhibit the infections of HIV, HCV and Dengue virus, and understand the molecular level mechanism of viral infections to identify new drug targets. Several research projects are moving forward in close collaborations with renowned institutes such as Food and Drug Administration (FDA), National Institutes of Health, USA, University of Luebeck, Germany and Punjab AIDS Control Program, Pakistan. At least 15 MS and BS students completed their research thesis in last three years in this lab, 12 of these students opted for higher studies by securing admissions to high ranking universities of the world such as MIT, Yale, University of North Carolina and ETH Zurich. Two HEC NRPU grants of PKR 17 million and an international grant by DAAD worth 80,000 euro have been awarded to this lab in last three years. Our aim is to establish state of the art research in virus related structural biology, to teach and train our young students and answer the latest scientific questions in particular relevant to our local problems.



# MOBILE APPS

## LUMS LAUNCHED MOBILE APPS FOR AUTISTIC CHILDREN AT WORLD AUTISM AWARENESS DAY

The Human Computer Interaction Lab (Chisel) at LUMS, directed by faculty member, Dr. Suleman Shahid, Computer Science Department in collaboration with Autism Spectrum Disorders Welfare Trust (ASDWT) and the Rising Sun Institute, Lahore launched three mobile apps for autistic children: AGHAZ, AHSAS, BOL.



AGHAZ is the application that aims to cater to this need. It can be used by teachers/therapists and parents to work with these special children and help them learn Urdu. AHSAS, The Emotional Express, another mobile application developed by LUMS students, aims to provide an interactive interface that helps autistic children understand their own emotions, as well as the emotions of others. It also focuses on improving their social interaction; understanding emotions in a social context and being able to react to everyday situations effectively. The third app, also developed by LUMS students, BOL is an AAC application designed with a focus to develop a child's language and improve his intent to communicate.

# FACULTY ENGAGEMENT

## DR. IHSAN AYYUB QAZI SPOKE AT FACEBOOK ABOUT INTERNET ACCESS IN DEVELOPING COUNTRIES

Dr. Ihsan Ayyub Qazi, Assistant Professor of Computer Science at SBASSE, recently gave a research talk at Facebook about challenges of Internet access in developing countries at their headquarters in Menlo Park, California, USA.

## DR. IHSAN AYYUB QAZI SPOKE AT MIT AND HARVARD UNIVERSITY

He spoke about his recent work on measuring Internet censorship and its impact on the Internet's advertising ecosystem.



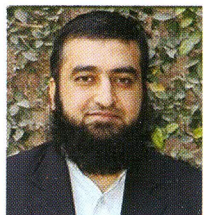
## DR. RAHMAN SHAH ZAIB SALEEM DELIVERED TALK AT BHAUDDIN ZAKARIA UNIVERSITY

Dr. Rahman Shah Zaib Saleem, Assistant Professor of Chemistry at SBASSE, recently delivered a talk at Bahauddin Zakariya University, Multan, on his research work in the field of cancer therapeutics. He is developing small organic molecules to target cellular mechanisms like p53-MDM2 interaction, tubulin dynamics and centrosome clustering and he presented his on-going work in these areas and showcased the potential of these compounds as potential adjuvants to improve current therapeutic practices.



## SBASSE MATHEMATICS FACULTY SELECTED AS HUMBOLDT FELLOW

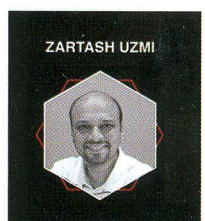
Dr. Muhammad Imran Qureshi, Assistant Professor at the Department of Mathematics, SBASSE has been awarded the Alexander von Humboldt Foundation Research Fellowship. Beginning this summer, he will be staying in Germany to initiate work on the research fellowship. He is among the approximately 500 internationally renowned scientists and scholars selected for the competitive fellowship, which was established by the Federal Republic of Germany for the promotion of international research cooperation. The foundation's network of over 27,600 alumni in 140 countries includes 52 Nobel Prize winners.



## SBASSE FACULTY SPOKE AT TEDx HABIB UNIVERSITY

TEDx Habib University recently brought together experts from diverse fields to talk about "Unanswered Questions" that can help develop and engage with ideas enabling people to reshape the world they live in.

SBASSE faculty member, Dr. Zartash Afzal Uzmi, Associate Professor, Department of Computer Science and Electrical Engineering was invited to speak at the event. Dr. Uzmi spoke about "Innovation" What, Why and How?



# CONFERENCES & SEMINARS

## DESIGN SOCIETY HELD UX PAKISTAN CONFERENCE AT LUMS

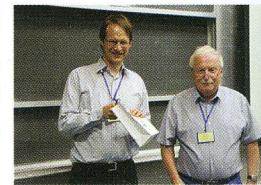
The Design Society at LUMS in collaboration with the LUMS Department of Computer Science's Human Computer Interaction Lab (CHISEL) and UX Pakistan, arranged Pakistan's inaugural UX focused conference that was held on April 22 and 23 at Lahore University of Management Sciences (LUMS).



The aim of the conference was to establish a dialogue for UX-enthusiasts from Pakistan. It started off with an interesting workshops in website design, AR/VR design hackathon on the first day, followed by a day of talks with a stellar line up from leaders of the industry and design professionals. The conference was a platform for start-ups and UX designers to get their ideas evaluated by professionals of the field.

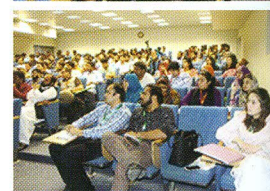
## CENTRE FOR ADVANCED STUDIES IN MATHEMATICS (CASM) HELD AN INTERNATIONAL CONFERENCE ON APPLIED MATHEMATICS

Centre for Advanced Studies in Mathematics (CASM) Held an International Conference on Applied Mathematics. The conference aim was to provide a platform for researchers, scientists, engineers, academics and professionals to present their recent research work and to explore future trends in various areas of applied mathematics. Alongside new methodology, there were application trends led by the industry to showcase the power of mathematical approaches in practical applications. The conference was addressed by various international and national academicians including Prof. Dr. Tao Pang, North Carolina State University, USA, Dr. Alexander Linke, Weierstrass Institute, Germany, Prof. Dr. Lutz Tobiska, Otto-von-Guericke University, Germany.



## SUMMER SCHOOL ON WATER INFORMATICS: SCIENCE AND SYSTEMS

The LUMS Centre for Water Informatics and Technology hosted its third School on 'Water Informatics: Science and Systems' from 20th to 23rd of May, 2017 in Lahore, Pakistan. The aim of the school was to bring together academics (students, researchers, scientists) and practitioners (policy makers, government representatives) and engage them in addressing water management through a multidisciplinary approach. This is important because addressing water challenges requires water managers to apply an integrated and interdisciplinary approach, involving hydrological, economic, institutional, legal, policymaking and planning aspects. A number of national and international speakers addressed the audience including Dr. Afsheen Siddiqi MIT, USA, Dr. Susan L. Ustin, UC Davis, USA, Dr. Stefano Vignudelli, CNR, Italy, Dr. Elena Rovenskaya, IIASA, Austria and Dr. Waqas Qazi- IST, Islamabad.



## ROUNDTABLE DISCUSSION ON FUTURE OF ENERGY IN PAKISTAN

SBASSE organized an Energy Roundtable Discussion that took place on 3rd February 2017 where thought leaders from government, industry and non-profit organizations came to attend. The SBASSE advisory board members including Dr. Sally Benson and Dr. Khalid Aziz, from Stanford University, lead the discussion in the areas such as:

The needs for increasing electricity supply and improving reliability, extending access to grid, use of renewable energy, off-grid-solutions, expanded natural gas supplies, etc. The opportunities for expanding the availability of energy supplies to support industrial growth and the work being undertaken to improve energy access in locations that do not have electricity was also deliberated.



## FACULTY GRANTS

### SBASSE FACULTY RECEIVES 25 RESEARCH GRANTS BY HEC UNDER NRP

SBASSE faculty received 25 research grants by HEC. From among the 6 departments at the School, the Department of Chemistry had the largest number of research proposals accepted and that was nine. The department also secured the highest acceptance rate of 100 percent. Two faculty members including Dr. Rahman Shah Zaib Saleem and Dr. Muhammad Saeed obtained two grants each. Meanwhile, the Department of Electrical Engineering submitted 14 proposals and obtained 7 grants, while the Department of Biology obtained 4 grants. The Department of Physics obtained 2 out of 4 that were submitted while the Department of Computer Science and the Department of Mathematics both obtained 1 grant each.



### SBASSE FACULTY SECURED JOINT FUNDING FOR PSF GRANT

In fall 2016, Pakistan Science Foundation (PSF) launched a joint call with the Scientific and Technological Research Council of Turkey (TÜBİTAK). The call received more than 100 joint proposals from researchers of Pakistan and Turkey. After a detailed review by relevant subject experts, 5 projects were selected for joint funding. The proposal of Dr. Imran Cheema, Assistant Professor, Department of Electrical Engineering, Lahore University of Management Sciences (LUMS) and Dr. Alper Kiraz, Professor, KOC University, Turkey, titled "Milk Contamination Sensor Based on Optical Fiber Cavity Ring Down Spectroscopy" was chosen among the funded projects. LUMS is the only institution in Lahore which received this funding.



## VISITS

### MITSUBISHI LEADERSHIP VISITED SBASSE

A delegation of Mitsubishi Corporation's top leadership comprising Mr. Eichii Tanabe, Senior Executive Vice President, Mitsubishi Corporation, Mr. Kimihide Ando, CEO, Mitsubishi Corporation Pakistan, Mr. Daisuke Tsurumi, Team Leader, Asia and Oceania Team, Global Strategy and Coordination and Mr. Seiji Matsumoto, Europe, Africa, Middle East and Central Asia Global Strategy and Coordination visited SBASSE, LUMS on April 29, 2017.



The visitors were given a detailed tour of the Energy and Power Electronics Research Lab at the Department of Electrical Engineering and were briefed about various undergoing as well as the completed projects related to smart grids and renewable energy. Guests were also taken to the newly built facility in SBASSE, established through Mitsubishi's funding, where complete operations of the said lab will soon be shifted.

### DIC CORPORATION'S TECHNICAL MANAGEMENT VISITED LUMS

A delegation of DIC Corporation's technical management comprising Mr. Makoto Shinozuka, Senior Manager Global Strategic Planning Polymers Products Division; Mr. Atsushi Miyagaki, Technical Advisor, Siam Chemical Industry Co. Ltd. and Dr. Asad Javaid, Project Manager Polymers, Pigments & Fine Chemicals DIC Pakistan Ltd. visited SBASSE on May 3, 2017. The visitors were given a detailed presentation and tour of the Chemistry Research Labs and SBASSE Central Lab facilities. Keeping in view the current and future product portfolio of DIC in Pakistan, workable strategies of establishing an effective collaboration between Department of Chemistry at LUMS and DIC Corporation were discussed.



## STUDENT NEWS

### SBASSE STUDENT ACCEPTED AT MIT



Iqra Nadeem (LUMS graduate, 2016) has received an offer from MIT to attend the institute's Technology & Policy Programme

(TPP) starting this fall. Iqra completed a minor in Biology along with her Physics major and conducted independent research with the Technology for People Initiative (TPI) in the Computer Science department after graduation.

### POSTER PRESENTATION AWARD



Munazza Shahid and Saira Dar, Ph.D. students working under the supervision of Dr. Shahzad ul Hussan at Department of Biology, won first and second prize,

respectively in scientific poster presentations during Symposium on Awareness of HIV AIDS held at the University of the Punjab on 30th March, 2017. This symposium was organized by Punjab AIDS Control Program of Govt of Punjab in collaboration with the University of the Punjab.

### LUMS ALUMNUS SPOKE AT COLUMBIA UNIVERSITY CONVOCATION



LUMS alumnus, Usama Javed Mirza, BS 2013 from the Syed Babar Ali School of Science and

Engineering (SBASSE), was the Class Speaker at the Teacher's College, Columbia University convocation ceremony on Monday, May 15, 2017.

## STAFF NEWS

- **Mr. Bilal Khalid** transferred from Administrative Assistant to Officer-Dean's Office.
- **Ms. Sana Ashraf** transferred from Senior Officer-Academic Affairs to Assistant Manager-Quality Assurance in Dean's Office.
- **Ms. Uzma Baig** joined as Assistant Manager in Dean's Office.
- **Ms. Ayesha Ikram** joined as Officer-Academic Affairs in SBASSE Dean's Office.
- **Ms. Saira Naz** joined as Senior Officer-Academic Affairs in SBASSE Dean's Office.
- **Ms. Maryam Amir** Joined as Programme Coordinator in Mathematics Department.
- **Ms. Noor E Sehar** Joined as Assistant Manager in Computer Science Department.
- **Mr. Ahmad Tariq** Officer-Dean's Office left to pursue his business in Japan.
- **Ms. Tahnait Ali Khan** Assistant Manager Dean's Office left to settle in Canada.

## FACULTY NEWS

**Dr. Asif Khan** joined as visiting faculty and research director at Water informatics and technology. He has completed his Ph.D. in Climate Change and Water Resources from University of Cambridge, United Kingdom.



### SYED BABAR ALI SCHOOL OF SCIENCE AND ENGINEERING

Lahore University of Management Sciences

Opposite Sector U, Defence Housing Authority (DHA),

Lahore, 54792

Phone: 042 - 3560 8000, ext: 8344

Email: [deansbasse@lums.edu.pk](mailto:deansbasse@lums.edu.pk)

URL: <https://sbasse.lums.edu.pk>

