



PROF. SHAHID MASUD, DEAN SBASSE

Dear Readers,

With this fourth issue of the newsletter, we have completed the first year of its publication. The feedback received from stakeholders has enabled us to improve its contents and layout. The fourth issue of 2017 covers the last quarter which marks the beginning of Fall semester and the academic activity getting into full-swing. In SBASSE, the class-room activities go hand in hand with research and knowledge dissemination.

We received good news about recognition of Dr. Fareed's work by Facebook. Professor Abidi, the Abdus Salam Chair, visited us from UCLA, primarily for faculty mentoring. A new IT Lab and Programming Studio became operational in CS department. Our students and faculty presented their research work at several international venues. Indeed, it is the strong focus on academics and a vibrant environment conducive for top-quality research that has become the hallmark of SBASSE.

Happy reading and best wishes for 2018!



HIGHLIGHTS

- Cloud - W-Codec 2017 Workshop
- National Incubation Center Inauguration
- 4G Wireless Research Lab Inauguration
- CS 'W' Ranking by HEC
- Major Facebook Security Flaw
- Dean's Honour Ceremony 2017
- Nestlé Pakistan Water Plan
- Leaders at LUMS
- Save-A-Life Training
- Workshop on Molecular Dynamics
- Faculty Engagement
- Student News
- Staff News

WORKSHOP ON E-SERVICES COMPOSITION AND DEVELOPMENT IN THE CLOUD (W-CODEC 2017)

SBASSE hosted a workshop, e-Services Composition and Development in the Cloud (W-Codec 2017) on December 27-28, 2017. This workshop was sponsored through an HEC funded project, 'Codec: Composition and Management of e-Government Processes in the Cloud of Public Services' under the Pakistan – US Science and Technology Cooperation Program. The objective of this workshop was to investigate how services and business processes of public and private sector organizations can benefit by utilizing resources available in the cloud infrastructure.

The keynote talks at this workshop were delivered by Dr. Omer Rana, Professor of Performance Engineering, School of Computer Science and Informatics, Cardiff University; Dr. Syed Ismail Shah, Former Chairman, Pakistan Telecommunication Authority and Dr. Ali Butt, Professor of Computer Science, Virginia Tech, USA.



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NATIONAL INCUBATION CENTER LAHORE INAUGURATED

The National Incubation Center (NIC) Lahore was inaugurated by Minister of State for Information Technology and Telecommunications, Ms. Anusha Rahman Khan at a ceremony held at Lahore University of Management Sciences on December 23, 2017. The event began with a welcome address by the Vice Chancellor of LUMS, Prof. Dr. S. Sohail H. Naqvi, who welcomed the esteemed guests and shared his immense delight at the launch of this state-of-the-art facility. Mr. Yusuf Hussain, CEO Ignite, highlighted the role of National Incubation Center in the knowledge economy of Pakistan. Mr. Faisal Jalil Sherjan, Director NIC Lahore, shared the vision and mission of NIC Lahore, and briefed the facilities offered at this center.



ZONG SPONSORED 4G WIRELESS RESEARCH LAB INAUGURATED

China Mobile Pakistan (Zong) and ZTE officially inaugurated the 4G Wireless Research Lab, donated last year in February, at Lahore University of Management Sciences (LUMS) on Friday, December 8, 2017. Housed at the Computer Science Department at the SBASSE, this state-of-the-art facility will provide an opportunity to students to polish their academic endeavors on latest wireless network technology. The lab will be open to all kinds of innovations—not only supporting academic research but also accessible to relevant start-ups at the National Incubation Center.



The lab has broadband wireless equipment including a commercial base station to support teaching and research in the mobile and wireless networking systems at LUMS.

SBASSE COMPUTER SCIENCE DEPARTMENT AWARDED 'W' RANKING BY HEC

Following the Field Audit in May 2017, the Accreditation Inspection Committee (AIC) of the National Computing Education Accreditation Council (NCEAC) awarded full accreditation to the Department of Computer Science Undergraduate Programme at the Syed Babar Ali School of Science and Engineering (SBASSE), placing the Department in the highest quality category: "W".



The Higher Education Commission (HEC) established NCEAC in 2004 as a national-level body to assure quality in computing education. NCEAC has developed a comprehensive criterion for evaluating quality of degree programmes offered by institutions in Pakistan. An independent Audit Team involving senior academics conducts the assessment.

The Computer Science Accreditation and Quality Enhancement team has worked tirelessly along with faculty and the administrative offices of the University to achieve this milestone.

SBASSE FACULTY DISCOVERS MAJOR FACEBOOK SECURITY FLAW

A recent study conducted by Dr. Muhammad Fareed Zaffar, Assistant Professor, Computer Sciences at SBASSE, Shehroze Farooqi and Zubair Shafiq from University of Iowa, have exposed dozens of 'collusion networks' involved in fraudulent reputation manipulation activities on Facebook. The team's research paper entitled, 'Measuring and Mitigating OAuth Access Token Abuse by Collusion Networks' was presented at the 17th Internet Measurement Conference (IMC) in London.



According to Dr. Zaffar, the research has the potential to undermine the credibility of information disseminated through digital platforms such as Facebook and Twitter. The research also identifies a large number of popular third-party Facebook applications with security flaws that can be exploited to steal personal information and launch malware attacks. Facebook's Research and Academic Relations Program has also made an unrestricted gift to support Dr. Zaffar's work.

EVENTS

SBASSE ACKNOWLEDGES ITS BRIGHTEST AT THE DEAN'S HONOUR CEREMONY 2017

The annual Dean's Honour List Ceremony for the students of the Syed Babar Ali School of Science and Engineering (SBASSE) was held on Friday, November 10, 2017, where numerous students, parents and faculty members from all the School departments participated. Students received their certificates from the Vice Chancellor, Prof. Dr. S. Sohail H. Naqvi and Dean SBASSE, Dr. Shahid Masud, while the parents clapped and beamed with pride. The certificates were awarded to 31 students from the class of 2018, 37 from the class of 2019 and 43 from the class of 2020. Pro Chancellor LUMS, Syed Babar Ali was also addressed the students at the Ceremony and stressed on acquiring knowledge outside of one's own specialization.



WIT LUMS HOSTED THE LAUNCH OF NESTLÉ PAKISTAN WATER PLAN

In a rare alliance across the corporate sector, academia, think tanks, the development sector and the government of Pakistan, the Nestlé Pakistan Water Plan was unveiled at LUMS. The coalition was led by Nestlé Pakistan with Centre for Water Informatics and Technology (WIT), LUMS, Sustainable Development Policy Institute (SDPI), WWF Pakistan (World Wildlife Fund), Department of Agriculture, Government of Punjab and the Pakistan Agriculture Research Centre (PARC).



KAMAL M. AMJAD MIAN OF FAST CABLES INSPIRES 'LEADERS AT LUMS'

Mr. Kamal M. Amjad Mian, Director Fast Cables Limited delivered a stimulating and awe-inspiring session hosted by LUMS on November 16, 2017, titled Leaders at LUMS. Adeel Hashmi, popular media personality took the stage along with Mr. Mian as a Moderator.



Hira Akbar, a BS Electrical Engineering student was awarded the Fast Excellence Award (a cash prize of PKR 100,000) by Fast Cables Limited for maintaining the highest CGPA in the SBASSE at LUMS.

SBASSE CONDUCTED SAVE-A-LIFE TRAINING

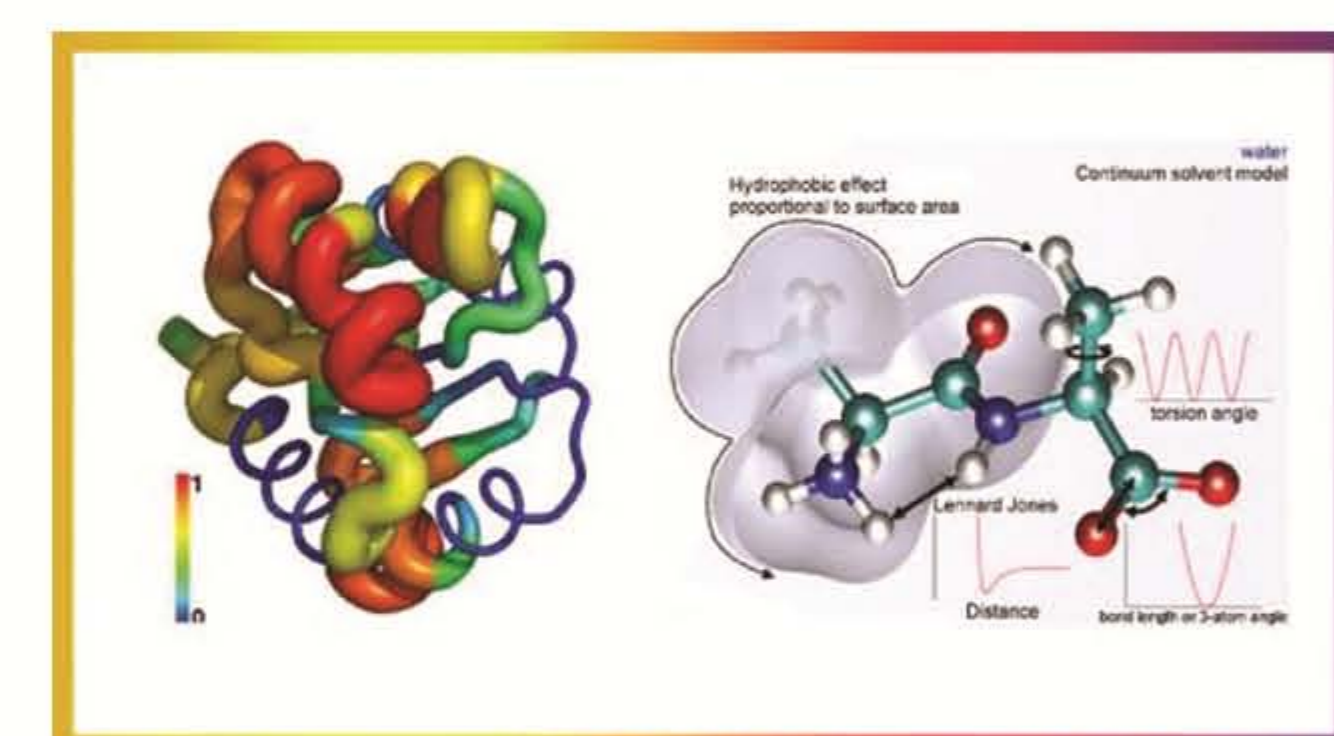
SBASSE organised a one-day "Save a Life" training on October 20, 2017 at the campus. The training was carried out by a team of Occupational Safety and Loss Prevention International Professionals (OSALP). The training involved interactive lectures, video sessions and hands-on training on first aid with practical CPR and firefighting.



All the participants were asked to perform CPR on a dummy and a fire-fighting drill was carried out at the designated area behind the SBASSE building. The participants of the training later received certification for this training.

WORKSHOP ON MOLECULAR DYNAMICS

Department of Physics, SBASSE faculty Dr. Muhammad Faryad organized a one day workshop on "Molecular Dynamics" on December 8, 2017. The workshop was aimed at faculty and post-doctoral students looking to initiate international collaborative projects and research programmes involving molecular dynamics (MD). Dr. Shahid Masihuddin Khan was a keynote speaker. He is a Senior Scientist at the Molecular Biology Consortium, Lawrence Berkeley National Laboratory (California, USA).



SEMINAR ON SCIENTIFIC BASIS OF ADDICTION

A seminar regarding scientific basis of addiction was hosted by Dr. Ali Jawaid, a physician-scientist trained in both clinical and basic neuroscience. The session addressed why do people become addicts? Is there an 'addiction' gene Can addictions be cured?



TALK ON VALORISATION OF LIGNOCELLULOSIC RESIDUES IN THE ARID REGIONS USING A BIO-REFINERY CONCEPT

Talk regarding valorization of lignocellulosic residues in the arid regions using a bio refinery concept was delivered by Dr. Muhammad Tahir Ashraf on December 8, 2017. Talk included details of mitigating the ever-increasing greenhouse gases (GHG) emissions requires alternative sources of energy and chemicals that mostly are coming from fossil fuels. Utilisation of lignocellulosic residues in a bio-refinery can be a potential way to achieve that. Lignocellulosic residues are non-food biomass and can be obtained from trees, grasses and agricultural crops. Polymeric carbohydrates in the lignocellulose, e.g. cellulose and hemicellulose, can be hydrolyzed to monomeric sugars (C6+C5) using a pre-treatment process.



BIOLOGY TALK ON MARRIAGE BETWEEN THE BRAIN AND THE MACHINE

Dr. Naweed Syed visited SBASSE and gave a talk on his Lab, which was the first in the world to connect brain cells to a computer chip and this study was highlighted in Time Magazine and the Discovery Channel. His research now makes it possible to connect the brain with electronic devices and holds the promise of developing brain controlled prosthetics; restoring vision and regaining lost brain function resulting from brain damage.



SBASSE HOLDS SESSION WITH DR. MUHAMMAD AFZAL DOGAR, INSELPITAL BERN, SWITZERLAND

This discussion session conducted by Dr. Muhammad Afzal Dogar on October 11, 2017 highlighted that cancer cells secreting excess latent TGF- β are often resistant to TGF- β induced growth inhibition. A mechanism of escape from TGF- β -mediated growth inhibition at the earliest point in the signaling pathway is regulated by microRNAs.



MicroRNAs derive from stem-loop structures which are processed by the Dicer to mature miRNAs. Here we show that in some cell-types the alternative splicing factor RBFOX2 binds GCAUG sequences in the terminal-loops of miRNA precursors and influences their processing to mature miRNAs.



COMPUTER SCIENCE AND ECONOMICS RESEARCHERS WIN ACCOLADES

LUMS Computer Sciences and Economics researchers recently won the People's Choice Best Paper Award at ACM BuildSys conference. The team of researchers from LUMS Computer Science and Economics departments claimed people's choice best paper award at ACM BuildSys 2017, the premier home automation conference.



The paper titled, Inverting HVAC for Energy Efficient Thermal Comfort in Populous Emerging Countries, received maximum votes from the conference audience to claim this award. The paper presents a low cost IoT based solution to improve energy efficiency of older buildings through optimised usage of air conditioning devices such as split ACs, ceiling and ventilation fans, and space heaters. Dr. Hamad Alizai, Assistant Professor, Department of Computer Sciences received this award on behalf of all the co-authors including CS graduate students, Khadija Hafeez, Yasra Chandio, Abu Bakar and LUMS faculty members, Dr. Ayesha Ali, Assistant Professor, Department of Economics and Dr. Tariq M. Jadoon, Associate Professor, Department of Electrical Engineering.

SBASSE FACULTY'S WORK PUBLISHED IN NATURE MATERIALS

Dr. Ata Ulhaq, Assistant Professor, Department of Physics with Dr. Evgeny Checkhovich from the University of Sheffield have performed important experiments demonstrating the energy distribution of nanoscale spin systems. Their work addresses some fundamental aspects of these spin systems and the results have been published in the prestigious Nature Materials, a peer-reviewed scientific journal published by Nature Publishing Group with a wide readership including scientists, in both academia and industry involved in either developing materials or working with materials-related concepts.



EE FACULTY PRESENTED RESEARCH AT IDAACS 2017

Dr. Adeel Pasha, Assistant Professor and Director of the Electronics and Embedded Systems Lab (EESL) at the EE Department, SBASSE presented three research papers at the 9th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing: Technology and Applications (IDAACS 2017) held in Bucharest, Romania.



STUDENT MENTORED BY PHYSICS FACULTY PUBLISHED RESEARCH IN ROYAL SOCIETY OPEN SCIENCE

The Physlab was approached by the Pakistani organisers of the International Young Physics Talent Competition, considered the World Cup of Physics, for preparing and mentoring the Pakistani team comprising of students from around the country. Working with Dr. Anwar and the Physlab staff comprising Azeem Iqbal, Umar Hasan and Muhammad Rizwan, these students addressed ten original problems ranging from mind-baffling phenomena such as electric honeycombs, hot water geysers, rollers on rollers, magnetic trains, ultra-hydrophobic water, acoustic lenses and mechanical machines to generate random numbers.



Muhammad Shaheer Niazi's worked on the electric honeycomb involved building a structure that enabled the application of high voltages, constructing a housing with transparent conductive electrodes, and infrared imaging techniques that the Physlab specializes.

The young scientist's work has also been featured in The New York Times Science section. The article also features the views of Alberto T. Pérez Izquierdo, a physicist at the University of Seville in Spain whose 1997 work on the subject inspired Niazi's project. Praising Niazi's experimental skills, he said, "I think it's outstanding for so young a scientist to reproduce these results." Niazi hopes to continue his work on the electric honeycomb, and in the future, dreams of earning a Nobel Prize.

CHEMISTRY FACULTY PUBLISHED IN ROYAL CHEMICAL SOCIETY

Dr. Rahman Shah Zaib Saleem, Assistant Professor, Department of Chemistry and Chemical Engineering, SBASSE had been working on the chemistry of selenium-containing organic compounds. In order to commemorate the bicentenary of its discovery by the Swedish Scientist J. J. Berzelius, Dr. Saleem, together with his co-workers, had contributed a book chapter titled "Reactive Selenium Species: Redox Modulation, Antioxidant, Antimicrobial and Anticancer Activities" in the book titled "Organoselenium Compounds in Biology and Medicine: Synthesis, Biological and Therapeutic Treatments". The book is published by Royal Chemical Society and covers the recent advances in the organoselenium compounds.



STUDENT NEWS

SBASSE BS COMPUTER SCIENCE STUDENT LANDS JOB AT GOOGLE

Jehangir Kazi, BS Computer Science (CS) student at the SBASSE has been offered a full-time position as a Software Engineer at Google, Japan. He has recently concluded internship at the Google office in Tokyo. Kazi has worked in the Maps (Local Discovery) Team from June to September 2017. Kazi is the second student from the CS department at SBASSE to have received this offer. Naina Raisinghani received a similar offer for a full-time position as a Software Engineer at Google, Sydney for fall 2015 after her internship at the office in Sydney, Australia.

CS STUDENT WON AT ACM SenSys DOCTORAL SCHOOL HACKATHON

At ACM SenSys Doctoral School Hackathon, CS PhD student, Saad Ahmed claimed first position. The participants included PhD students from some of the finest graduate schools in the world such as Carnegie Mellon and ETH Zurich. Saad's team built the most efficient intermittent computing solution during the event. Congratulations to the winners.

SBASSE STUDENTS VISIT THE PACKAGES FACTORY

SBASSE freshmen students from the Engineering Workshop EE 100 course along with their instructors visited the Packages factory. The objective of the visit was to introduce students to various manufacturing processes. The experience was helpful for students in their learning process, which relate to various traditional and modern manufacturing techniques, a key focus of study in the EE 100 course.

STAFF NEWS

- **Ms. Fareeha Hassan** has joined as Lab Instructor - Department of Biology.
- **Ms. Aleena Khan** has joined as Senior Officer - Academic Affairs in SBASSE Dean's Office.
- **Mr. Muhammad Mujtaba** has joined as Lab Engineer - Department of Electrical Engineering.
- **Mr. Ghulam Sarwar** has joined as Scientific Officer - in SBASSE Dean's Office.
- **Ms. Hina Ahmad** has joined as Lab Instructor - Department of Biology
- **Mr. Talha Tahir** has joined as Lab Engineer - Department of Electrical Engineering
- **Ms. Sana Arshaf** Assistant Manager Quality Assurance in SBASSE Dean's Office has left LUMS.

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

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

