



### PROF. SHAHID MASUD, DEAN SBASSE

#### Dear Readers,

I am happy to share the third issue of the SBASSE newsletter. This issue mostly covers the festive season in the form of convocation, the summer break and the new incoming batch of undergraduate and graduate students. Our fifth graduating batch of 2017, just like previous batches, has done us proud. About 80% from this batch are either already placed in excellent jobs or have proceeded abroad for higher studies. We have recently received approval to launch Chemical Engineering program. The option of joint Mathematics-Economics degree will also be available for our students. With these interesting developments, we welcome the new students in our school and look forward to an exciting year ahead.

Please don't hesitate to share your feedback to [smasud@lums.edu.pk](mailto:smasud@lums.edu.pk)

*Happy reading!*

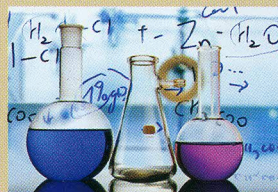


### SBASSE TO START CHEMICAL ENGINEERING PROGRAMME

By bringing scientist and engineers under one roof, the Department of Chemistry has been upgraded to Department of Chemistry and Chemical Engineering. The new programme will take up its first cohort of undergraduate students in 2018. The programme will evolve to include graduate level education through a rigorous curriculum at the MS and PhD.

This new science-based Chemical Engineering programme, currently almost non-existent in Pakistan and this is one of the fundamental engineering disciplines along with Electrical, Civil and Mechanical Engineering. The plan to launch the chemical engineering programme is a step towards including all the fundamental engineering disciplines in the SBASSE and offering the students a more comprehensive learning experience.

"It is distinguished in several ways and focused on creating enhanced synergism between science and engineering that resonates with the SBASSE interdisciplinary and no-boundaries concept," said Dr. Basit Yameen, Associate Professor, Department of Chemistry, SBASSE.



### HIGHLIGHTS

- 29th Convocation
- Orientation Sessions 2017
- High Achievers of Graduating Class 2017
- Placement of Graduating Class 2017
- New Publications
- SysNet Lab Computer Science
- Faculty Engagement
- Students' News
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## 29<sup>TH</sup> CONVOCATION OF LUMS

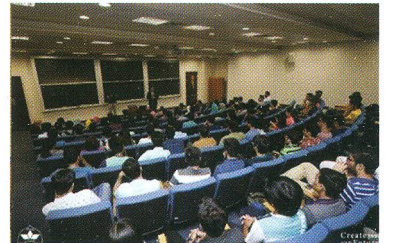
The LUMS 29<sup>th</sup> Convocation ceremony was held on July 8, 2017. SBASSE bid farewell to 302 graduates at Convocation 2017 and the University honored outstanding students with awards and medals for excellence in their academic performance.

SBASSE graduating students comprised of 96 graduates and 206 undergraduates majoring in different disciplines.



## ORIENTATION SESSIONS FOR UNDEGRADUATE AND GRADUATE CLASS 2017

Orientation sessions for undergraduate and graduate students of SBASSE were held in SBASSE at the end of August 2017. This year SBASSE welcomed around 276 undergraduates, 155 MS and 30 PhD students.



O Week is organised each year for the new batch to welcome students to the University as they embark on an exciting new journey. It is designed to give students and their parents the chance to acquaint themselves with the campus and the community by participating in group based activities. These activities help equip the newcomers with vital information and provide guidance from faculty and senior students to make an easy transition to university life.

## PLACEMENT OF GRADUATING CLASS 2017

SBASSE graduates of 2017 are marking their steps in higher studies as well as in industry. Almost 34% graduates are planning to pursue higher studies and most of them have successfully obtained admission with full or partial scholarships in prestigious international universities like University of Chicago, University of California, Cornell University, University of Pennsylvania, New York University, ETH Zurich, University of New South Wales and RWTH Aachen University etc.



Around 54% have found employment in well-known organizations like Cern Switzerland, Philip Morris International, Techlogix, TRG, Ebryx, Mentor Graphics, Affiniti, Arbisoft Pvt Ltd, Nishat Chunian Limited, and Indus Motor Company Ltd, etc.

However, it is just the start of their journey towards bigger goals and we wish students the best of luck in their career and higher studies.

## HIGH ACHIEVERS OF GRADUATING CLASS 2017

The high achievers of graduating class 2017 were honored by different awards and medals. NMF Gold Medal for best students of BS (major wise) was awarded to Romesa Asif Khan (Biology), Huda Zahid (Chemistry), Fatima Tariq (Computer Science), and Irtiza Sohail Butt (Electrical Engineering).

First position holders of MS were: Momina Ahsam (Biology), Haris Bilal Khan (Chemistry), Zohaa Qamar (Computer Science) and Maryam Khalid (Electrical Engineering).

**Dr. Mubasher Baig** was awarded PhD degree in Computer Science.



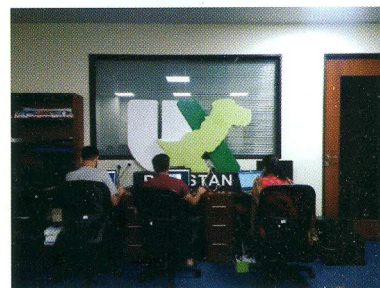
## SBASSE REPRESENTED AT IWANN 2017 IN BILKENT UNIVERSITY, TURKEY

Mr. Hafiz Muhammad Noman Amin, Lab Engineer at the Central Laboratory of Syed Babar Ali School of Science and Engineering (SBASSE), was selected to participate in the '7th International Workshop on Applications of Nanoscience and Nanotechnology (IWANN 2017)'. The workshop was organised at Bilkent University's National Nanotechnology Research Center (UNAM), Ankara, Turkey.



## SYSNET LAB COMPUTER SCIENCE DEPARTMENT

SysNet attracts collaborators from all across the globe including peer research groups from USA (NCSU, Houston), Sweden (Chalmers), Germany, (RWTH Aachen), and Italy (Polimi). Currently the lab is involved in projects related to smart buildings and new IoT information processing paradigms. The lab strives for excellence in academic research and development by publishing research outcome in top ranked journals and conference venues such as ACM Transactions on Sensor Networks, ACM IPSN, and European EWSN.



## FACULTY ENGAGEMENT

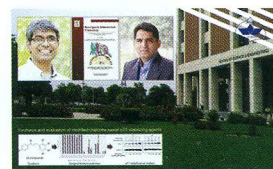
### DR. ADEEL PASHA PRESENTED PAPER AT THE ANNUAL IEEE/ACM DESIGN AUTOMATION CONFERENCE

Dr. Adeel Pasha with co-authors Dr. Momin Uppal, Mr. Muhammad Hassan Ahmad (MSEE-2015), Muhammad Aimal Rehman (MSEE-2017) presented a paper titled, "Towards Design and Automation of Hardware-Friendly NOMA Receiver with Iterative Multi-User Detection" at the 54<sup>th</sup> Annual IEEE/ACM Design Automation Conference (DAC 2017) held in Austin, Texas. The paper also won the HEC International Travel Grant as well as LUMS Faculty Travel Grant (FTG).



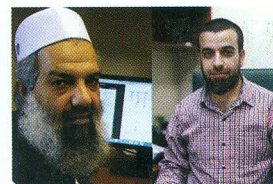
### CHEMISTRY AND BIOLOGY FACULTY PUBLISHED IN BIOORGANIC MEDICINAL CHEMISTRY LETTERS

Dr. Rahman Shah Zaib Saleem, Assistant Professor, Department of Chemistry and Chemical Engineering and Dr. Amir Faisal, Associate Professor, Department of Biology published research paper titled "Synthesis and evaluation of modified chalcone based p53 stabilizing agents", in Bioorganic Medicinal Chemistry Letters.



### RESEARCHERS AT SBASSE DEVELOPED IOT BASED SOLUTION TO IMPROVE ENERGY EFFICIENCY

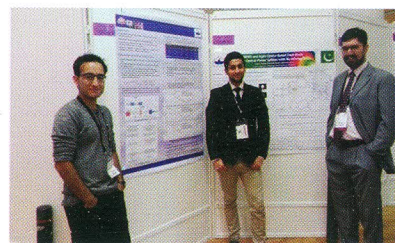
The technical programme committee of ACM BuildSys 2017 has accepted the paper titled Hawadaar submitted by the SysNet lab at SBASSE directed by Dr. Hamad Alizai (CS) and Dr. Tariq Jadoon (EE). BuildSys is one of the most prestigious forum on systems issues covering all aspects of the built environment. This paper presented results of a year long Internet of Things (IoT) deployment at SBASSE to demonstrate the ability of this emerging technology in greenifying and modernizing inefficient, older buildings in developing countries.



The researchers at SBASSE developed a low cost IoT based solution to improve energy efficiency of older buildings through optimized use of air conditioning devices such as split ACs, ceiling and ventilation fans, and space heaters. Hawadaar is a commercialize-able retrofitting solution with the potential to reduce per capita energy consumption by 6% in Pakistan, with just 20% penetration in the market. This work is a collaboration between SBASSE faculty (Dr. Hamad Alizai and Dr. Tariq Jadoon), MGS HSS Economics faculty (Dr. Ayesha Ali), and the graduate students of the CS department.

## EE STUDENTS PRESENTED AT SPIE DIGITAL OPTICAL TECHNOLOGIES IN MUNICH, GERMANY

Muhammad Ahsan (BS 2016), Muhammad Assad Arshad (BS 2015) and Tariq Shamim Khwaja (PhD candidate) from the Applied Optics Group (supervised by Dr. Azer Reza) of the EE Department, SBASSE presented three technical research papers at SPIE Digital Optical Technologies Conference held in Munich, Germany which was part of the World of Photonics Congress. Tariq Shamim Khwaja made a presentation titled "A high-resolution optical rangefinder using tunable focus optics and spatial photonic signal processing" the paper was co-authored by Mohsin Ali Mazhar (BS 2016), Haris Khan Niazi (BS 2016), and Dr. Syed Azer Reza.



## CHEMISTRY STUDENTS PLACEMENT FOR SUMMER INTERNSHIP

Having demonstrated its strength as a world-class teaching and research hub of Chemistry, the Department of Chemistry and Chemical Engineering has now started engaging with the industry in Pakistan for the purpose of training SBASSE students for industrial careers. This summer two MS students Muhammad Kamran and Muhammad Sohail have been placed for a summer internship at Nippon Paints and DIC Pakistan Limited respectively.



## ELECTRICAL ENGINEERING STUDENT PUBLISHED IN IEEE ACCESS AND PRESENTED RESEARCH AT IEEE PSC CONFERENCE

Muhammad Assad Arshad, Class of 2015, Department of Electrical Engineering, published a research paper in the IEEE Access that was co-authored by Dr. Syed Azer Reza. Dr. Reza previously published his research at SPIE Photonics Europe 2016 and co-authored another paper presented at IEEE Power Systems Conference (PSC), Clemson University 2016.

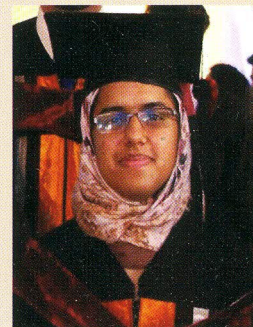


# STUDENTS' TESTIMONIALS

**Name: Huda Zahid**

**Degree Program: BS Chemistry, Class of 2017**

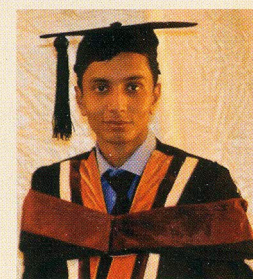
"The LUMS experience was a surreal kaleidoscope, ranging from traditional classroom learning to spending hours in the chemistry labs, embarking on challenging projects and chalking out career goals. Focusing on hands-on research, the Department of Chemistry at SBASSE equipped me with crucial skills required for graduate school. Through its unique diversity, the environment at LUMS allowed me to not only achieve academic excellence, but also to become a member of LUMS Emergency Medical Services, acquiring important first aid training and skills. The learning experience was enriched by Teaching Assistantship opportunities and the constant mentorship available at the Chemistry Department. Forming lifelong friendships and discovering my passion for travelling were the culmination of my four-year journey at LUMS."



**Name: Shah Asad Alam**

**Degree Program: BS Physics, Class of 2016**

"Coming from a modest background, I had feared that I would not be able to fit in with rich kids that prevail in LUMS. That was the stereotype prevalent and I admit I had accepted it without questioning when I applied for LUMS. However after arriving and spending some time at this institution I realized that, due the valiant efforts of LUMS NOP program, people from all backgrounds, financially as well as culturally, were present. The mission to ensure that all those who are accepted are able to pursue their dreams without fear of financial pressure has helped a staggering amount of students including me.



Later on when I taught NOP prospective students I came to the conclusion that the second key differentiating factor between all other universities in Pakistan and LUMS was the pursuance of merit as the only means of discrimination among people. This policy has allowed students, teacher and staff to succeed in a way otherwise restricted in other educational institutions of Pakistan. Another key defining feature of my stay at LUMS was how accepting and supportive everyone was of other people. From major problems like losses in the family to minor issues like exam stress, the LUMS community comes together to help each other through thick and thin. I remember how I was postponing an appendix surgery so I could give my midterms and my friends complained to my professors who in turn gave me a stern lecture about taking proper care of myself. Even now when I am immersed in corporate life (I'm an Assistant Manager at The Citizen's Foundation; I got the job before graduation) the shards of memory from the wonderful time spent here keeps me going."

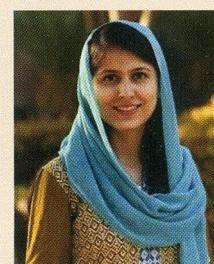
**Name: Maida Tariq**

**Degree Program: BS Physics, Class of 2017**

"I, Maida Tariq, graduated from LUMS in July 2017 with a BS in Physics. In Fall 2017, I would be starting my PhD in Experimental High Energy Physics at the University of Rochester.

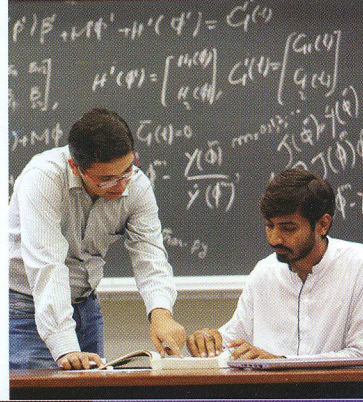
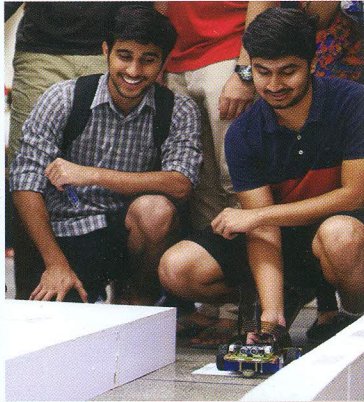
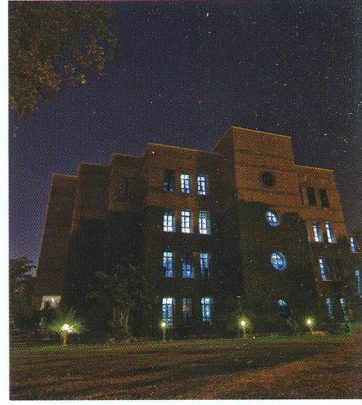
My journey in LUMS has been nothing less than a crazy, bustling and eventful roller coaster ride. It started off with the usual combination of nervousness and anxiety, making me doubt every minute about whether I would be able to survive the ride or not. During this 4-years long journey, however, like many others, I too had my share of bad experiences, be it getting diagnosed with jaundice in my third semester and taking an entire month off for recuperation or getting a bad grade in a course. At the same time, I also had the privilege of enjoying the ascents of the ride notably in the form of being able to secure a place for myself in the Dean's honor list a couple of times as well as getting offered a fully funded PhD program at some of the top universities in the USA. And so these highs and lows not only gave me the opportunity of celebrating my achievements but also taught me how to deal with different challenges and to learn from my failures.

I will forever be indebted to LUMS for giving me the opportunity to study under the mentorship of some of the finest Professors of Physics, for helping me widen my academic interests by completing a minor in Computer Science, and most importantly for helping me find some life-long friends through each of those May trips. Most of all, I am grateful to LUMS for not only transforming me into a Physicist but also a better, more hopeful and optimistic person. I look forward to the day I'll come back to this place after successfully completing my education, perhaps even to serve as a Professor of Physics in an attempt to return some of the favors that this institution has gratified me with. Though this ride has come to an end, many more await ahead."



# STAFF NEWS

- **Ms. Amnah Amjad**, Senior Officer-Academic Affairs SBASSE Dean's Office, has left to pursue her Masters from Central European University Budapest, Hungary.
- **Mr. Affan Anwar** has joined as Senior Officer in Electrical Engineering Department.
- **Mr. Naeem Ur Rehman** has joined as Admin Assistant in Electrical Engineering Department.
- **Muhammad Farooq Usman**, Department of Chemistry, has been promoted to Deputy Manager.
- **Muhammad Arshad Maral**, Department of Physics, has been promoted to Deputy Manager.
- **Zulfiqar Nasim Malik**, Department of Computer Science, has been promoted to Senior Officer.



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