

# Newsletter

## DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING SPRING 2019



The success stories of Electrical and Computer Engineering (ECE) Department speak volumes of the tremendous efforts and dedicated work of our students and faculty members.

### LIST OF EVENTS

- Departmental Seminars/Worksops
- Departmental CPD Activities
- Other Departmental Activities
- DICE IET 2019
- Student week
- Visit from South Korea
- Research Activities
- Faculty Rejoining

Department has worked hard at updating its lab manuals, course files and at mapping of course learning outcomes (CLOs) in line with the

regulatory body requirements. In a similar manner, faculty members produced course handbooks with mapping to Outcome Based Education (OBE) defined learning outcomes.

Our goal is not to consider this our destination, we have just embarked on a long and tedious journey, where we see landmark achievements on our way, and get motivated to keep moving ahead with same zeal and fervor to achieve greater goals. The department's success is due to its faculty and staff members who contributed to everyday routine work.



# DEPARTMENTAL SEMINARS/WORKSHOPS

## RESOURCE ALLOCATION IN COGNITIVE RADIO NETWORKS

A seminar was conducted on Wednesday, 27th February, 2019 wherein Dr. Muhammad Farooq-i-Azam, Assistant Professor (ECE) delivered a brief talk on the topic and explored the future research directions and enhancement of research in the area of wireless communication and networks.

## INTERCELL INTERFERENCE MANAGEMENT

A Seminar on PhD Thesis titled "Intercell Interference Management in LTE-Advanced Heterogeneous Networks" was conducted on 25th March, 2019 by Mr. Ahmad Mudassir, Assistant Professor (ECE).

## EMBEDDED SYSTEM

A four days workshop on embedded system was held by Industrial Application Society (IAS) in collaboration with Robotics Automation Society (RAS). The lectures were conducted by Dr. Muhammad Yaqoob Javed, Assistant Professor (ECE) on every Friday from 29th March to 19th April, 2019.

## ELECTRICAL HAZARDS AND SAFETY MEASURES

Safety Committee held a training session on "Electrical Hazards and Safety Measures" on Friday, 10th May, 2019 for Lab Engineers and Lab Staff to aware about electrical safety for the staff and students while working in labs.

## ICSEC'19

Students of IEEE CUI Lahore Branch attended a mega event named "ICSEC'19" at Capital University of Science and Technology (CUST), Islamabad on Friday-Saturday, 29th to 30th March, 2019 to participate in Robotic Competition, Poster Designing, Project Exhibition and Recycling Competition. Wherein students of ECE Department won Runner up award in speed wiring competition.

## PHOTOGRAPHY SEMINAR

IEEE-CUI-Lahore Student Branch conducted a Photography Workshop on Monday, 8th April, 2019 wherein following renowned photographers shared their experiences with participants. The souvenirs were presented to the guest speakers by Dr. Sobia Baig, Counselor CUI-IEEE Lahore Chapter: Mr. Nadeem Khawar, Mr. Tariq Sulemani and Mr. Arshad Ghori.



**PHOTOGRAPHY SESSIONS WITH 3 BEST PROFESSIONAL PHOTOGRAPHERS**

**MR. NADEEM KHAWAR**  
Studied Photography from Japan in the early nineties and making this passion into a profession. What motivates him above all else, is to try and 'involve' the viewer in the image. It's this 'caught in the moment' style that differentiates his work, making it almost tangible.

**MR. TARIQ SULEMANI**  
A photographer, conversationalist, and a mountain trekker. He has set new standards in modern photography by implying his vision with a purpose. His work is the beauty of nature captured through the lens of love.

**MR. ARSHAD GHORI**  
An internationally acclaimed award winning photographer and trainer. He is a Freelance Photographer working on Social, Documentary and Street photography with the experience of last 25 years.

Session 1: Motivational talk on photography by Arshad Ghori.  
Session 2: Future of fashion and landscape photography by Nadeem Khawar.  
Session 3: Capturing the nature and culture by Tariq Sulemani.  
Session 4: Question & Answer.

Jawad Sajid +92 323 4751442 A-Block Seminar Room 8th April, 2019  
Soban Tariq +92 300 8889888 11:30 am - 2:30 pm Monday



IEEE Industrial Application Society (IAS) Student Chapter conducted a workshop on Friday, 12th April, 2019 on Arduino to write and upload computer code to physical board and observe it functioning. The concept of ubiquitous computing is fast becoming a cultural norm.

## WORKSHOP ON ARDUINO

In order to support and strengthen the entire efforts of our Institute, the nominated faculty members of ECE Department attended the opening ceremony of "7th Global Forum on Islamic Finance (GFIF)" on Wednesday, 13th March, 2018 at Pearl Continental (PC) Hotel, Lahore.

## 7TH GLOBAL FORUM ON ISLAMIC FINANCE

IEEE-CUI Lahore Students Branch conducted three-day workshop on Monday-Wednesday, 4th to 6th March, 2019 on following topics:

## THREE DAY WORKSHOP

- "Artificial Intelligence, Machine Learning, Office 365 Development & Cloud Solutions" by two of the Microsoft's most valuable professionals, Mr. Adnan Amin and Mr. Bilal Amjad.
- "React Native Cross Development" by Mr. Abdul Azeem and Mr. Abdul Basit from Hashlogics.

A series of seminars has arranged by Collaboration and Outreach Committee (COC). And its first session on "Preparing an Impressive CV" delivered by Mr. Samar Kamal Fazli, Assistant Professor (English), Department of Humanities on Thursday, 23rd May, 2019.

## PREPARING AN IMPRESSIVE CV

Collaboration and Outreach Committee (COC) conducted the following seminars

Seminar topic.

## SERIES OF SEMINAR

- "Entrepreneurship" delivered by Mr. Samiullah, Lecturer, Department of Management Sciences on Tuesday, 28th May, 2019.
- "Organizational Behavior" delivered by Dr. Muhammad Farooq Abdullah, Assistant Professor, Department of Humanities on Monday, 27th May, 2019.
- "Getting Ready for a Job Interview" delivered by Ms. Maryam Jehangir, Lecturer, Department of Humanities on Tuesday, 28th May, 2019.



**SCOPE OF POWER STREAM**

Department has arranged the series of seminars to facilitate the students of 4th semester of its undergraduate program BS Electrical Engineering (BSEE) regarding selection/scope of each stream i.e. Power, Telecommunication or Electronics for their final years. And its first session on “*Scope of Power Stream*” was held on Wednesday, 8th May, 2019 by Engr. Abdul Waheed, Senior Manager, Balloki Power Plant.



**ETHICAL HACKING**

IEEE-CUI-Lahore Student Branch conducted a seminar on “*Ethical Hacking and Career in Cyber Security*” delivered by Mr. Kaukab Jamal Zuberi, Director Digital Forensics Research Service Center on Friday,

12th April, 2019



**SEMINAR SERIES**

Department has arranged the series of seminars to facilitate the students of 4th semester of its undergraduate program BS Electrical Engineering (BSEE) regarding selection/scope of each specialization stream i.e.

Power, Telecommunication or Electronics for their final years. Seminar topic “*Job opportunities in Industry after Telecom Engineering*” to be delivered by guest speaker Mr. Kashif Nazar, NOC Performance Specialist, Jazz Pvt. Ltd. on Tuesday, 28th May, 2019



**CONFERENCE CM EXPO**

Five Final Year Projects (FYPs) were presented in “*Conference Cum Expo*” on 11th to 13th February, 2019 at PCSIR Laboratories Complex, Lahore under the supervision of Project

Advisory Committee of the Department.

## EMBEDDED SYSTEM WORKSHOP

A four days workshop on embedded system was organized by Industrial Application Society (IAS) in collaboration with Robotics Automation Society (RAS). The lectures are conducted by Dr Muhammad Yaqoob Javed on every Friday from 29th March, 2019 to 20th April 29, 2019. There were 30 participants in the workshop. The main purpose of this Workshop is to develop an understanding on the basics of microcontroller and embedded systems. The topics included are Arduino, Digital Input/output, multiple traffic light control using digital outputs, basics of sensors with Arduino along with the output display at serial monitor and LCD, controls of DC motor, H-bridge, Servo and Stepper Motor, different types of shield used for arduino, basics of Raspberry Pi, PLC and Ladder Logics. Each seminar include 45 minutes lecture and then 2 hours for hardware implementation on hardware. Hardware used are Arduino UNO(Atmega328), sensors, motors, LCD, Raspberry Pi was used with complementary components to facilitate programming and incorporation into other circuits. At the end of workshop students were enough confident with Arduino programming, its applications and how to design Smart System using microcontroller.



## AGENDA OF WORKSHOP

- **Day 1:** Basics of Micro-controller, pin configuration, blinking+fading of LED, traffic light (Simple)
- **Day 2:** Basics of sensors, sensors with Arduino, output display at serial monitor, output display at LCD.
- **Day 3:** DC monitor, H-bridge using transistors, servo motor, stepper motor, robots type and control.
- **Day 4:** Arduino shields and their working, different types of modules, PLC, single board computer (Raspberry PI)

# DEPARTMENTAL CPD ACTIVITIES

## CPD #1 4G, LTE AND EVOLUTION TO 5G MOBILE COMMUNICATION

Continuing Professional Development (CPD) Committee of the Department conducted one day seminar as CPD activity with collaboration of IRCBM (Interdisciplinary Research Centre in Biomedical Materials) on *“Development of Robot Aided Micro-Manipulation System for Single Cell Mitochondria Biopsy and Transfer”* on Thursday, 31st January, 2019. Wherein certificates containing 0.5 CPD points were issued to the participants.



## CPD #2 POWER TRANSMISSION AND GRID STATION

*“Power Transmission and Grid Stations”* on Friday, 3rd May, 2019. Wherein Engr. Qazi Nisar Ahmed delivered a lecture on the topic. All the Participants were awarded with CPD certificates.



## CPD #3 SEMINAR SERIES

Dr. Ali Nawaz Khan, Assistant Professor attended a PEC-CPD two days workshop for capacity building for Faculty members *“Outcome Based Education and Assessment System for Accreditation”* (1.0 CPD Credit Point) on Friday, 22nd March, 2019 at Superior University, Lahore.



# OTHER DEPARTMENTAL ACTIVITIES

## FACULTY GET TOGETHER

ECE Department arranged a faculty get together at Monal Restaurant, Lahore for Hi-Tea on Friday, 25th January, 2019, wherein the worthy Director, CUI Lahore Campus joined the gathering and graced the occasion.

## FAREWELL PARTY

Students of BS Electrical (Telecommunication) Engineering Fall 2016 batch arranged a farewell party for their senior batch Fall 2015 on Tuesday, 16th April, 2019.

## INDUSTRIAL TOUR

Collaboration and Outreach Committee of the Department arranged an industrial tour at Perfect Electro Mek Pakistan (Pvt.) Ltd. for students of BS Electrical (Electronics) Engineering on Friday, 1st March, 2019.

## VISIT OF DELEGATION FROM BELGIUM

A delegation of Professors from Hasselt University Belgium visited CUI, Lahore Campus on Friday, 22nd February, 2019. On behalf of Head-ECE, Dr. Ejaz A. Ansari, Associate Head-ECE attended a meeting with the delegation.



# DICE IET 2019

Department of Electrical and Computer Engineering hosted all Pakistan Distinguished Innovations, Collaboration Entrepreneurship (DICE)-information & Enabling Technologies (IET) 2019 on Friday-Saturday, 8th to 9th March, 2019.

Mr. Ameer Muhammad Khan, Special Assistant to Chief Minister of Punjab graced the opening ceremony as chief guest. Dr. Khursheed Qureshi, Chairman DICE Foundation USA, Ms. Afia Khan from DESCON, Prof. Dr. Junaid Mughal, Chairman Electrical Engineering, Prof. Dr. Qaisar Abbas, Director CUI Lahore Campus, representatives of Hong Kong Institute of surveyors and renowned academicians and

researchers were also participated in DICE-IET 2019.

Ms. Afia Khan joined as key note speaker wherein she elaborated the latest technologies which are under research now a days. Dr. Junaid Mughal welcomed all on behalf of host organization, Dr. Qaiser Abbas uttered a note of thanks to all the distinguished guest for gracing the occasion.

The major theme of the event was Control and Automation. The filed is one of the most important part of Electrical Engineering and highly demanded by the Industry in this fast age. The objective of this event to motivate faculty and students to bridge the gap between academia, industry and entrepreneurs for innovations and development of technologies. It provides an opportunity to share knowledge and further collaborate with each other for the development of the knowledge-based economy of Pakistan.

The event was visited by more than 2000 participants from industry, academia and Govt. sector organizations. More than 40 student projects from universities and 15 industries from all across Pakistan exhibited their projects and products. In the closing ceremony the Awards were distributed to the participants by the worthy Director, CUI Lahore Campus. Students of ECE Department, CUI Lahore Campus won the 1st prize.





# STUDENT WEEK ACTIVITIES

IEEE and IET CUI Lahore Student Branches held a mega event named “PRAXIS’ 19” series of educational and recreational events during the Student Week of Spring 2019 semester w.e.f Monday-Wednesday, 25th to 27th March, 2019.

Finger Painting, Battle Grounds, Tower Challenge, Friends Quiz, Drone Warfare, Battle of Minds, Pirate Hunt, Play On, Dodge Ball and Fi-Tek. were played and participants showed great interest in these activities. The worthy

Director, CUI Lahore Campus, Head-ECE and Associate Head-ECE inaugurated the event along-with Senior Faculty members. Faculty/Staff and Students of the department participated in Student Week activities.

Dr. Saleem Akhtar, HoD-ECE and Dr. Ejaz A. Ansari, Associate Head-ECE along-with faculty/staff members attended the closing ceremony of Student Week



## VISIT FROM SOUTH KOREA

Professor Soo Young Shin from South Korea visited ECE Department on Wednesday, 20th February, 2019. He is an Associate Professor and Laboratory head in Kumoh National Institute of Technology Gumi, South Korea. Dr. Sobia and Dr. Arsla greeted him in the morning. Then he was escorted to HoD office where Dr. Saleem Akhtar, Head-ECE and Dr. Ejaz Ahmed Ansari, Associate Head-ECE welcomed him to Pakistan and CUI, Lahore. The honorable guest discussed research collaborations with CUI, Lahore in detailed manner. HoD-ECE highlighted the future prospects of students exchange program with the guest. After this, an interaction session was arranged between Prof. Shin and ECE PhD faculty where worthy guest gave presentation about projects running in his laboratory in Korea. All the discussions were taken place in a friendly environment. Later, Prof. Shin met worthy Director CUI, Lahore Campus in his office where he was welcomed in Pakistan and it was decided that in the future, more visits would be arranged so that the relation between all stake holders may be strengthen in terms of research and exchange programs.



## FACULTY REJOINING



### DR. AAMER BILAL

**Degree:** PhD.

**Institute:** Faculty of Electronic Information & Electrical Engineering , Dalian University of Technology(DUT), Dalian, P.R. China

**Specialization:** Control Theory and Control Engineering

**Degree:** MS

**Institute:** GC University Lahore, Pakistan

**Specialization:** Electrical Engineering

**Degree:** BS Electronics Engineering

**Institute:** UCET-IUB, Pakistan

**Specialization:** Electrical Engineering



### SIDRA SALEEM

**Degree:** MS

**Institute:** CUI Islamabad Campus

**Specialization:** Computer Engineering

**Degree:** BS

**Institute:** CUI Islamabad Campus

**Specialization:** Computer Engineering

## RESEARCH ACTIVITIES

1. A research paper of Dr. Yaqoob Javed titled "Mitigating the Load Frequency Fluctuations of Interconnected Power Systems Using Model Predictive Controller" published in *the Electronics Journal* with Impact Factor:2.11
2. A research paper of Dr. Imran Ghous, Dr. Jahanzeb Akhtar and Dr. Muhammad Jawad, Assistant Professors (ECE) titled "*Robust stabilization of uncertain 2-D discrete-time delayed systems using sliding mode control*" accepted for publication in *Franklin Institute Journal* with Impact Factor: 3.576.
3. A research paper of Dr. Yaqoob Javed titled "Novel MPPT techniques for photovoltaic systems under uniform irradiance and Partial shading" published in *Solar Energy Journal* with Impact Factor : 4.374
4. A research paper of Dr. Mirza Tariq Hamayun entitled "LPV Modelling and Tracking Control of Dissimilar Redundant Actuation System for Civil Aircraft" was published in *International Journal of Control, Automation and Systems*, in Collaboration with Nanjing University, IF 2.2.
5. A research paper of Dr. Mirza Tariq Hamayun entitled "Active Fault Tolerant Control Scheme for Aircraft with Dissimilar Redundant Actuation System subject to Hydraulic Failure" was published in *Elsevier Journal of the Franklin Institute*, in Collaboration with Nanjing University, IF 3.576.
6. A research paper of Dr. Mirza Tariq Hamayun entitled, "Adaptive Fault Tolerant Control of Dissimilar Redundant Actuation System of Civil Aircraft based on Integral Sliding Mode Control Strategy" was published in *Transactions of the Institute of Measurement and Control*, IF 1.6.
7. A research paper of Fatima Ijaz (MS student) and Dr. Mirza Tariq Hamayun entitled "An Adaptive Sliding Mode Actuator Fault Tolerant Control Scheme for Octorotor System" was published in *International Journal of Advanced Robotics Systems*, IF 1.0.

## ACHIEVEMENTS

A project of following ECE students titled "***DIP based beverage inspection on conveyor***" under the supervision of Dr. Muhammad Yaqoob Javed, Assistant Professor (ECE) got 2nd position and won Rs.25,000/- cash prize in SOFTEC 2019 held on Saturday-Sunday, 16th to 17th March, 2019 at FAST-NU Lahore:

- Ahmad Hameed FA15-BCE-002
- Nayyab Saeed FA15-BCE-026
- Rimsha Tariq FA15-BCE-004
- Ayesha FA15-BCE-030



# NEWSLETTER COMMITTEE



Dr. Muhammad Yaqoob Javed (Convener)

Assistant Professor, Electrical and Computer Engineering

**Program Faculty:** BSEE

**Area of Interest:** stand-alone Solar Photovoltaic (PV) systems including DC micro-grids, DC-DC converters, I-V Curve tracing, maximum power point trackers for PV systems, PV plant energy evaluation and partial shading effects.



Ms. Amna Arif (Secretary)

Lecturer, Electrical and Computer Engineering

**Program Faculty:** BEEE

**Area of Interest:** Wireless Networks



Ms. Tabassum Nawaz Bajwa (Member)

Lecturer, Electrical and Computer Engineering

**Program Faculty:** BETE

**Area of Interest:** Signal Processing



Ms. Wajeeha Khan (Member)

Lecturer, Electrical and Computer Engineering

**Program Faculty:** BCE

**Area of Interest:** Embedded systems and Computer Architecture



Mr. Assad Ali (Member)

Lecturer, Electrical and Computer Engineering

**Program Faculty:** BCE

**Area of Interest:** Signal and Image Processing



Mr. Faisal Tariq (Member)

Lab Engineer, Electrical and Computer Engineering

**Program Faculty:** BEEE

**Area of Interest:** Power Systems, Unit Commitment, Optimization Techniques



Mr. Imtiaz Najam (Member)

Coordination Officer

Department of Electrical and Computer Engineering