

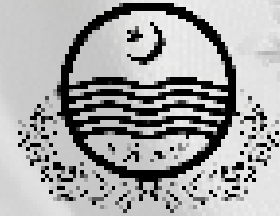
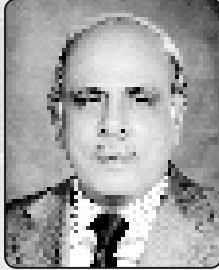
"If Pakistan is to take its proper place among the progressive nations of the world, it will have to take up a good deal of leeway in the realm of scientific and technical education which is so necessary for the proper development of the country and the utilization of its resources. The establishment of institution like the Institute of Engineers will greatly stimulate technical research and help in disseminating available information.

The Institute of Engineers will not only benefit the engineers themselves by improving their technical knowledge but also bring lasting benefits to public services which they are called upon to perform.

I wish the Institute every success"

QUAID-E-AZAM'S message to the first inaugural meeting of the Institute of Engineers Pakistan on 20th June 1948.

MESSAGE



Governor of Punjab

It is a matter of great pleasure to learn that the Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & Technology are jointly organizing the 3rd International Electrical Engineering Conference (IEEC-2018) on the theme of "Aspiring Pathways in Electrical Engineering (ASPIRE - 2018) " scheduled to be held on 9th and 10th February, 2018 at IEP Convention Center, Karachi.

I hope that this event will serve as a platform to the key decision makers in Academia and Industry, to share experience, foster collaborations through research talks and presentations, enabling them to carve out strategies for discovering new ideas and new skills, in addition to showcase their capabilities and potential.

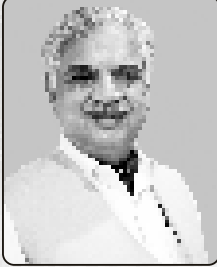
The success of a Conference is defined by the diligent efforts put by the people who meticulously planned and organized related technical activities and arrangements. I am pleased to know the dedicated efforts of the organizers of this Conference for holding such a mega event.

I am convinced that deliberations at this Conference will go a long way in establishing meaningful and fruitful collaborations for the benefit of Engineering profession as well as for experts and professionals.

I wish the Institution of Engineers Pakistan and NED University of Engineering & Technology a great success.

Malik Muhammad Rafique Rajwana
Governor Punjab

MESSAGE



Governor of Khyber Pakhtunkhwa

I feel a great pleasure to learn that the 3rd International Electrical Engineering Conference (IEEC-2018) is jointly organized by the Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & technology scheduled to be held on Friday 9th and 10th February, 2018 on Aspiring Pathways in Electrical Engineering (ASPIRE-2018) at Karachi. I wish the conference complete success.

The Federation of Engineering Institutions of Islamic Countries (FEIIC), Federation of Engineering Institutions of South & Central Asia (FEISCA), Pakistan Navy Engineering College-NUST, Balochistan University of Information Technology, Engineering & Management Sciences (BUIITEMS), Sir Syed University of Engineering & Technology (SSUET), Bahria University (BU), Dawood University of Engineering & Technology (DUET), Muhammad Ali Jinnah University (MAJU), DHA Suffa University (DSU), Hamdard University (HU), PAF Karachi Institute of Economics & Technology (PAF-KIET), Usman Institute of Technology (UIT), Power & Energy Society (IEEE-PES) and the Institute of Engineering & Technology (IET) equally deserve appreciation for their collaboration in holding of a worthy gathering of engineers. I congratulate all the organizers and particularly welcome the distinguished delegates who have traveled all the way to reach Pakistan.

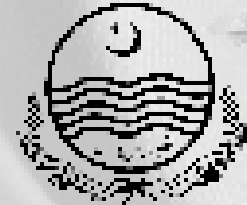
The Institution of Engineers Pakistan and NED University of Engineering and Technology's Open Access initiative is committed to make genuine and reliable contributions to the engineering community. Conferences make the perfect platform for global networking as it brings together renowned speakers across the globe. I commend you for having exciting and memorable events.

The activities of the Institution particularly its role towards the spread of technical knowledge are commendable. I hope that the Institution will strive hard to further increase the range of its services with national spirit and devotion to every nook and corner of the country.

I wish the Institution of Engineers Pakistan and NED University of Engineering and Technology a real success.

Iqbal Zafar Jhagra
Governor of Khyber Pakhtunkhwa

MESSAGE



Chief Minister Punjab

I am glad to know that the Institution of Engineers Pakistan (Karachi) and NED University of Engineering & Technology are jointly organizing the 3rd International Electrical Engineering Conference (IEEC-2018) under the theme of 'Aspiring Pathways in Electrical Engineering (ASPIRE-2018)' in collaboration with other national and international engineering institutions.

In today's technology driven world, electrical engineering is the cornerstone and driver of innovation of the devices we utilize daily to improve the quality of our life. Innovation and finding creative solutions to real problems is at the heart of what engineers do. The world has been transformed significantly by the engineers. They are the life-blood of any society that aspires to achieve development.

I fully understand the significance of electrical engineering for multiple fields like industry, energy and telecommunication to name a few. A wide range of institutional engagement in the Conference exhibits that potential of electrical engineering can be tapped in Pakistan through external and internal linkages, which can help generate valuable resources of energy together with employment avenues for the youth.

The Punjab government is playing its due role to support and improve the field of engineering and technology because engineers can change our world for the better, as long as we continue to support their innovation. They are architect and builder of the nation in terms of infrastructure development, innovation and entrepreneurship.

I am confident that this Conference will be of great benefit to the engineers associated with the power sector, manufacturing industries, academia and research, ultimately contributing to rapid economic growth and development of the country.

At academic and research level, it can also be instrumental in enhancing the knowledge of participants. which can be translated into increasing the productivity of the engineering sector through research in new areas.

I wish the organizers of this Conference all the success in their endeavours and hope that the IEP and NED University of Engineering & Technology will continue to work with the same dedication and spirit as shown in the past and scale new heights in the years ahead.

Muhammad Shehbaz Sharif

Chief Minister Punjab
Government of Punjab

MESSAGE



Chief Minister Sindh



It gives me immense pleasure to congratulate the Institution of Engineers Pakistan (IEP) and NED University of Engineering & Technology for jointly organizing the 8th International Electrical Engineering Conference (IEEC-2018) in collaboration with Federation of Engineering Institutions of Islamic Countries (FEIIC), Federation of Engineering Institutions of South & Central Asia (FEISCA), Bahria University-Karachi (BU), Balochistan University of IT, Engineering & Management Sciences-Quetta (BUIITEMS), Dawood University of Engineering & Technology-Karachi (DUET), DHA Suffa University-Karachi (DSU), Hamdard University-Karachi (HU), Institute of Industrial Electronics Engineering-Karachi (IIEE), Muhammad Ali Jinnah University-Karachi (MAJU), PAF Karachi Institute of Economics & Technology-Karachi (PAF-KIET), Pakistan Navy Engineering College-Karachi (PNEC-NUST), Sir Syed University of Engineering & Technology-Karachi (SSUET), Usman Institute of Technology-Karachi (UIT), IEEE Power & Energy Society-Karachi Chapter (IEEE-PES) and The Institution of Engineering & Technology-Karachi Chapter (IET).

This Conference Theme "Aspiring Pathways In Electrical Engineering (ASPIRE-2018)" provides a unique platform to eminent Professionals, Scientists, Researchers, Academicians, and Entrepreneurs across the globe to participate and share their research advancements and new technologies.

I sincerely hope that the two days of deliberation, discussion, interaction and proactive exchange of ideas will prove to be fruitful and contribute immensely to our mutual growth. I also congratulate the conference organizers for attracting a wide range of papers from experts in their fields.

The technical talks and papers which will be presented by eminent scientists, researchers, faculty members and industry personnel hopefully will ignite new ideas, inspire young graduates to focus on research and development, it will also pave way to work closely with industries for solutions in the relevant technical areas.

I hope that this conference would certainly induce innovative ideas among the participants paving way for new avenues of research in multiple disciplines of engineering field.

I wish all the success to the Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & Technology.

Pakistan Zindabad

Engr. Syed Murad Ali Shah
Chief Minister Sindh

MESSAGE



President Federation of Engineering Institutions of Islamic Countries (FEIC)

It is a great pleasure to share with you that the Institution of Engineers Pakistan (IEP), Karachi Centre and NED University of Engineering & Technology are organizing the 3rd International Electrical Engineering Conference (IEEC-2018) in Collaboration with Federation of Engineering Institutions of Islamic Countries (FEIC).

The Federation of Engineering Institutions of Islamic Countries (FEIC) is an international non-profit professional organization, established in 1989, with the aim of fostering cooperation in engineering education, research and professional practice in the Islamic Countries. It comprises of 22 member countries and a number of corporate and institutional members from amongst academic and research institutions, consultants, contractors and national organizations.

FEIC, in cooperation with its members, has organized many scientific and research conferences, seminars, and workshops in its member countries on various aspects of engineering and related issues, such as engineering education, accreditation of engineering qualifications, and affordable housing etc. and, we are committed to share and exchange the experiences. expertise of the member countries with each other in addressing the crucial challenges in engineering and technological fields and in adopting the emerging trends and new concepts in engineering education, research and development and their implementation.

This 3rd International Electrical Engineering Conference is one of such efforts by the Institution of Engineers Pakistan, an active member of FEIC, which we hope will bring the researchers and practicing engineers together on a shared platform to share and exchange their expertise and experiences.

Finally, I would like to congratulate and commend the partners and Organizing Committee of the Conference for all their efforts and wish all the participants a very successful and enriching experience at the Conference.

Dr. Jamil Jarallah Al-Bagawi
President, FEIC

MESSAGE



FEISCA

President The Federation of Engineering Institutions of South & Central Asia (FEISCA)

It is with pleasure that I send this message on the occasion of the 3rd International Electrical Engineering Conference (IEEC-2018) on "Aspiring Pathways In Electrical Engineering (ASPIRE-2018)".

Engineers play a critical role in the development of a country as all developed and developing countries have to rely on engineers to remain on the cutting edge of economic growth and compete at the global level.

Papers presented being of good level in international authorship and topics range, the Conference will be a forum that will enrich the regions knowledge and expertise potentials and be a platform for sharing innovations and advances in Mechanical Engineering and related disciplines among countries in the region.

The Federation of Engineering Institutions of South & Central Asia (FEISCA) as a collaborating partner to the event looks forward to the improved professional collaboration that would result among engineering.

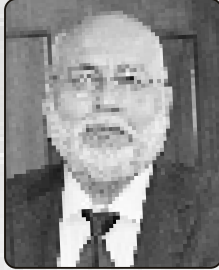
The FEISCA hopes that the confluence of technology and expertise would ultimately flow to the engineering community at large contributing to the sustainable socio-economic development in the region. Also I hope that this Conference shall bring together researchers and practicing engineers in the important area of Electrical Engineering from Pakistan and other countries in an effort to share their knowledge and experience for the good of the profession.

While congratulating the IEP-Karachi Centre and NEDUET-Karachi for successfully organizing the IEEC- 2018, I also convey my well wishes to the fellow collaborating partners to the event; Federation of Engineering Institutions of Islamic Countries (FEIIC), Bahria University-Karachi (BU), Balochistan University of IT, Engineering & Management Sciences-Quetta (BUIITEMS), Dawood University of Engineering & Technology-Karachi (DUET), DHA Suffa University-Karachi (DSU), Hamdard University-Karachi (HU), Institute of Industrial Electronics Engineering-Karachi (IIEE), Muhammad Ali Jinnah University-Karachi (MAJU), PAF Karachi Institute of Economics & Technology-Karachi (PAF-KIET), Pakistan Navy Engineering College-Karachi (PNEC-NUST), Sir Syed University of Engineering & Technology-Karachi (SSUET), Usman Institute of Technology-Karachi (UIT), IEEE Power & Energy Society-Karachi Chapter (IEEE-PES) and The Institution of Engineering & Technology-Karachi Chapter (IET).

I wish all the participants a very successful and enriching experience at the Conference.

Eng. Jayavilal Meegoda
President – FEISCA
Immediate Past President - IESL

MESSAGE



Chairman Pakistan Engineering Council

I am delighted to felicitate the management, members of the Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & Technology. Who are jointly organizing the 3rd International Electrical Engineering Conference (IEEC-2018) on "Aspiring Pathway In Electrical Engineering (ASPIRE-218). Which is going to be held on Friday 9th & Saturday 10th February, 2018 at Karachi. It is in collaboration with Federation of Engineering Institutions of Islamic Countries (FEIIC), Federation of Engineering Institutions of South & Central Asia (FEISCA), Bahria University-Karachi (BU), Balochistan University of IT, Engineering & Management Sciences-Quetta (BUIITEMS), Dawood University of Engineering & Technology-Karachi (DUET), DHA Suffa University-Karachi (DSU), Hamdard University-Karachi (HU), Institute of Industrial Electronics Engineering-Karachi (IIEE), Muhammad Ali Jinnah University-Karachi (MAJU), PAF Karachi Institute of Economics & Technology-Karachi (PAF-KIET), Pakistan Navy Engineering College-Karachi (PNEC-NUST), Sir Syed University of Engineering & Technology-Karachi (SSUET), Usman Institute of Technology-Karachi (UIT), IEEE Power & Energy Society-Karachi Chapter (IEEE-PES) and The Institution of Engineering & Technology-Karachi Chapter (IET).

The internationalization of new ventures from Emerging Technologies such as Electrical Power Systems, Renewable Energy, Mechatronics, Controls, Robotics, and Automation Signal, Image and Speech Processing Artificial Intelligence, Smart Devices, Systems and Applications, Embedded Systems Electronics and Applications, Information and Communication Technologies, Computer Systems and Networks.

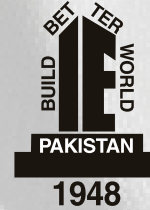
It is the era of a knowledge economy and no nation can make progress without promoting education, the universities are responsible for imparting education, creating knowledge and integrating it into society. The faculty to pay special attention to the training of students, to develop a peaceful society.

Keeping in view the fast global technological advancements, we are committed to provide quality engineering and technical education. The establishment of Pakistan Engineering Council, the Institution of Engineers Pakistan, NED University of Engineering and Technology and other accredited Engineering Universities in Pakistan will prove to be a blessing for the people in general and the aspirant engineering and technology candidates in particular, to provide them an opportunity to seek education in their chosen fields to serve their homeland, society and the nation as a whole.

I wish the Institution of Engineers Pakistan, NED University of Engineering & Technology, Karachi and all collaborating Institutes a real Success in these noble endeavors.

Engr. Jawed Salim Qureshi
Chairman
Pakistan Engineering Council

MESSAGE



President

The Institution of Engineers, Pakistan


It is a matter of great pride that The Institution of Engineers Pakistan Karachi Centre (IEP) and NED University of Engineering and Technology Karachi are holding 3rd International Electrical Engineering Conference on 9th and 10th February, 2018 at IEP Convention Center, Karachi in collaboration with National, International and Regional sister Engineering organizations and universities.

It is also a matter of great satisfaction that renowned experts from within the country and from abroad shall be presenting their valuable papers during the conference under the theme "Aspiring Pathways In Electrical Engineering – (ASPIRE-2018)". This event will provide the opportunity to young Engineers to benefit from the knowledge of experienced Engineers in their relevant fields.

The Institution of Engineers Pakistan Karachi Center is working hard for dissemination of knowledge by holding National/International Engineering Conferences, Technical Seminars, Workshops and lectures for the benefit of Engineering profession and development of the Country.

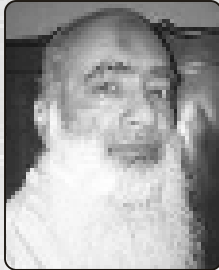
The Chairman, Chief Organizer, Secretary and Local Council Members of Karachi Center deserve appreciation for organizing the Engineering Conference and Technical lectures on various Engineering topics for the benefit of engineering community.

I pray for the success of this 3rd International Engineering Conference.


Engr. Dr. Izhar Ul Haq
President,

The Institution of Engineers, Pakistan

MESSAGE



Chairman The Institution of Engineers Pakistan Karachi Centre

The joint collaborative efforts of IEP and NED University of Engineering & Technology are bringing a sustainable quality improvement in the organization of International Conferences. This time the 3rd International Electrical Engineering Conference is scheduled in February that is, within a span of only 10 months the Joint Organizing Committee has been able to gather people from all around the globe to once again share their research endeavours in a befitting manner.

The theme of the Conference "Aspiring Pathways In ElectRical Engineering (ASPIRE-2018)" speaks volumes of the vision, mission and aspiration of all those associated in any manner with this area of specialization. The list of the collaborating partners is continuously increasing and therefore, could only be checked on the beautiful flyer of IECC 2018. This shows the credibility of the Organizing Committee and reflects the confidence posed by the collaborative partners.

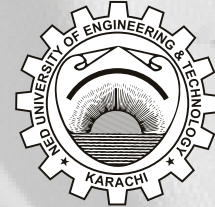
The overwhelming response of authors from all over the world placed high responsibility on the reviewers who managed to bring high quality research according to the demands of high standards of the blind review set for acceptance of papers. The participants of the Conference will indeed witness the outcome of this huge organizational effort on 9th and 10th February 2018. The valuable keynote addresses would indeed add to the take home value for all associated professionals.

There are so many to be thanked for what they have done in so many ways and I sincerely thank them all, specially the team from NED University on behalf of IEP, Karachi Centre, and welcome each participant of any category what so ever who are the main ingredients for the success of such events.

Once again wishing all of you a very enterprising participation in IECC-2018.

Engr. Prof. Dr. S. F. A. Rafeeqi, FIE(Pak)
Chairman
The Institution of Engineers Pakistan
Karachi Centre

MESSAGE



Vice-Chancellor NED University of Engineering & Technology

It is indeed a great pleasure for me to witness the overwhelming response of researchers and stakeholders from all over the world in this third of its series of annual IEEC events, which started in 2016.

Knowledge is the utmost resource of success for every nation in the world, and it is responsibility of every citizen to be the part of knowledge sharing process. Events like IEEC-2018 are not just opportunities for researchers to present their ideas, but they are also opportunities to brainstorm solutions for global challenges. Collaboration of IEP and NED University of Engineering & Technology shows the trust and commitment that industry and academia must address together for the betterment of our world.

The world is experiencing an imminent need for clean energy today. Integration of renewable resources with fossil fuel plants is a global development. However the task of economically integrating wind and solar resources with conventional power plants in these testing financial times is a global challenge. This is stimulating for the research community as well as the industrial experts. Though the energy situation in Pakistan is improving day by day, but our reliance on fossil fuels needs to be addressed for long term sustainability. IEEC-2018 provides opportunity for researchers, industry experts and state regulators to get together and address these important challenges.

At the end, I would like to congratulate the organizing team of IEEC-2018 for their efforts and making this event possible. I wish them good luck.

Dr. Sarosh H. Lodi

Vice Chancellor,
NED University of Engineering and Technology, Karachi

MESSAGE



Secretary General The Institution of Engineers, Pakistan

It is matter of great pleasure that The Institution of Engineers Pakistan Karachi Centre (IEP) and NED University of Engineering and Technology Karachi are holding 3rd International Electrical Engineering Conference on 9th and 10th February, 2018 at IEP Convention Center, Karachi in collaboration with National, International and Regional sister Engineering organizations and Universities.

The Institution of Engineers Pakistan is the premier body of Engineers in Pakistan and has made significant contributions to the development of the country. The role played by the Institution in dissemination of knowledge is highly commendable. Recent advancements in Science and Technology have placed enormous resources at our disposal which must be harnessed for the welfare of humanity. Pakistan possesses vast natural resources and it is the duty of our scientists and engineers to utilize these for the welfare of the society and eradication of disease, ignorance, poverty and hunger.

I am sure the 3rd International Electrical Engineering Conference will provide an excellent opportunity to the participants to benefit from the experiences of renowned experts authors from within the country and from abroad who shall be presenting their valuable papers during the conference under the theme "Aspiring Pathways In Electrical Engineering – (ASPIRE-2018)".

I wish the Institution of Engineers Pakistan Karachi Centre and Participations of the Conference all the success.

Engr. Mian Sultan Mahmood
Secretary General
The Institution of Engineers, Pakistan

MESSAGE



Chief Organizer, IEEC-2018
Member Executive Committee of
Federation of Engineering Institutions of Islamic Countries
& **Federation of Engineering Institutions of South & Central Asia**



As Chief Organizer of IEEC-2018, it is indeed a proud privilege for me to pen a few words on the occasion of hosting, the 3rd International Electrical Engineering Conference (IEEC-2018) which is being organized jointly by the Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering and Technology, Karachi, in collaboration with Federation of Engineering Institutions of Islamic Countries (FEIC), Federation of Engineering Institutions of South & Central Asia (FEISCA), Bahria University-Karachi (BU), Balochistan University of IT, Engineering & Management Sciences-Quetta (BUITEMS), Dawood University of Engineering & Technology-Karachi (DUET), DHA Suffa University-Karachi (DSU), Hamdard University-Karachi (HU), Institute of Industrial Electronics Engineering-Karachi (IIEE), Muhammad Ali Jinnah University-Karachi (MAJU), PAF Karachi Institute of Economics & Technology-Karachi (PAF-KIET), Pakistan Navy Engineering College-Karachi (PNEC-NUST), Sir Syed University of Engineering & Technology-Karachi (SSUET), Usman Institute of Technology-Karachi (UIT), IEEE Power & Energy Society-Karachi Chapter (IEEE-PES) and The Institution of Engineering & Technology-Karachi Chapter (IET). The organization of IEEC-2018 involves a great deal of foresight, planning and pains taking efforts by all the participating stake holders. We are lucky enough to have a dedicated team of Management and Organizers to organize such a mega event. I feel proud to acknowledge the enthusiasm and contribution of all comrades of the IEEC-2018.

I would like to place on record my profound regards to the Faculty Members of the Electrical & Allied Engineering Departments of NEDUET and all other partner Engineering Institutions particularly, Engr. Prof. Dr. Saad A. Qazi, Dean-Faculty of Electrical & Computer Engineering-NEDUET & Convener of IEEC-2018, Engr. Prof. Dr. Muhammad Ali Memon, Chairman, Department of Electrical Engineering, NEDUET & Co-Convener of IEEC-2018, Engr. Dr. Mirza Muhammad Ali Baig, Engr. Dr. Abdurrahman Javid Shaikh Secretaries of IEEC-2018, Engr. Dr. Riazuddin-Deputy Chief Organizer-IMEC-2018, Engr. Prof. Dr. M. Mohsin Aman of NEDUET, Engr. Prof. Dr. Haroon Rasheed, Engr. M. Zuhair Arfeen & Engr. Zaki Masood of BU, Engr. Prof. Dr. Imtiaz Hussain & Engr. Khalil Ansari of DSU, Engr. Dr. M. Faisal Khan of HU, Engr. Dr. Farah Haroon & Engr. M. Asghar Daudani of IIEE, Engr. Prof. Dr. Muzaffar Mahmood & Engr. Dr. Sameer Qazi of PAF-KIET, Engr. Dr. Talat Altaf of SSUET, Engr. Dr. Shoab Zaidi of UIT, Engr. Ayaz Mirza, Secretary-IEP Karachi Centre and members of IEP Central & Local Council Karachi Centre.

The Institution of Engineers Pakistan (IEP), the Prime National Institution of Engineers of Pakistan having representation in World Federation of Engineering Organization (WFEO), Federation of Engineering Institutions of South & Central Asia (FEISCA), Federation of Engineering Institutions of Islamic Countries (FEIC), Commonwealth Engineers Council (CEC) and bilateral agreements with more than 40 National Engineering Organizations of various countries has always endeavored to disseminate the ever expanding knowledge in the various field of engineering to its members through arranging Seminars, Symposiums, Conferences, Workshops, Lectures, etc.

Today, we are proud to welcome all the distinguished guests, learned speakers and delegates from all over Pakistan and abroad, in this IEEC-2018. I, take this opportunity to specially thank our distinguished Key Note Speakers Dr. Fady Shibata Al Najjar from UAE University & Brain Science University, Japan & Engr. Prof. Dr. Shafaat Ahmed Bazzaz from CASE-Islamabad, distinguish Invited guest Speakers Engr. Prof. Dr. M. Mohsin Aman from NEDUET, Engr. Dr. Faraz Hasan from Massey University-New Zealand, Mr. Owais Zahid from Autodesk Singapore, Mr. Danish Zahoor from BARQTRON, Engr. Mansoor Akram from K-Electric, Dr. Zeeshan Zia from Microsoft USA, Learned Authors / Presenters and FYP Poster Presenters who have spared their valuable time and traveled a long distance to participate in this International Conference.

I am confident that the delegates attending this Conference will be benefited by the presentation to be made by the experts from abroad and all over Pakistan, and will be able to improve their knowledge in the relevant fields of Electrical & Allied Engineering disciplines.

My sincere gratitude are to Engr. Prof. Dr. Sarosh Hashmat Lodi, Vice-Chancellor, NEDUET, Engr. Dr. Izharul Haq, President - IEP, Engr. Prof. Dr. S.F.A. Rafeeqi, Chairman, IEP Karachi Centre Engr. Mian Sultan Mahmood, Secretary General - IEP & Engr. Syed Jamshed Ali Rizvi, Past President - IEP for extending their support in organizing IEEC-2018. I take this opportunity to pay my special thanks to Engr. M. Idris Khan, Vice-Chairman (Electrical), IEP, Karachi Centre, Engr. Asim Murataz Khan, Engr. Ghulam Farooq Maniar, members of IEP Central & Local Council, Karachi Centre, Faculty Coordinators & Student Volunteers of collaborating Engineering Universities / Institutions, Mr. Sikander Mannan, Mr. M. Sharif Khan, Mr. Saif-Ud-din, Mr. Fakhir, Mr. Junaid Arshad, Mr. M. Swaleh and all other staff members of IEP Karachi Centre, for extending their full help for organizing IEEC-2018 in a befitting manner.

Pakistan Zindabad
IEP Paindabad

Engr. Sohail Bashir, FIE (Pak)
Chief Organizer IEEC-2018

MESSAGE



Secretary, The Institution of Engineers Pakistan Karachi Centre



On behalf of Local Council of the Institution of Engineers Pakistan, Karachi Centre, Organizing Committee, I am delighted to welcome you to the 3rd International Electrical Engineering Conference (IEEC-2018) being jointly organized by The Institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & Technology scheduled to be held on **Friday 9th & Saturday 10th February, 2018** in collaboration with:

- Federation of Engineering Institutions of Islamic Countries (FEIIC),
- Federation of Engineering Institutions of South & Central Asia (FEISCA),
- Pakistan Navy Engineering College-NUST
- Balochistan University of Information Technology, Engineering & Management Sciences (BUIITEMS)
- Sir Syed University of Engineering & Technology (SSUET)
- Bahira University (BU)
- Dawood University of Engineering & Technology (DUET)
- Muhammad Ali Jinnah University (MAJU)
- DHA SUFFA University (DSU)
- Hamdard University (HU)
- PAF Karachi Institute of Economics & Technology (PAF-KIET)
- Usman Institute of Technology (UIT)
- Institute of Industrial Electronics Engineering (IIEE)
- IEEE Power & Energy Society, Karachi Chapter (IEEE-PES)
- Institute of Engineering & Technology, Karachi Chapter (IET)

We believe that our diverse and dynamic group of speakers will provide in depth insight, as well as, actionable and practical tools to brainstorm discover new ideas, search for new skills and a platform to show capabilities and discoveries to the world. Our speakers representing key decision makers all around the Academic Institutions, Industries, supply chain, Logistics, as well as Academic scholars and researchers will share their ideas and find new and more effective ways of action to evaluate the results and impact.

These two days' Conference is designed to provide and share the latest information and developments on electrical engineering to all the researchers, culturists and academicians who are involved in Engineering and management. This Conference highlights numerous scientific discoveries and major milestones in engineering, management and development, and, resource management and guideline. We are confident that you will enjoy a stimulating Conference here in IEP and your presence and participation will help contribute to this vibrancy and enrich discussions around the theme, developing professional knowledge exchange, insights and collaborations.

The success of the conference depends ultimately on the many people who have worked with us in planning and organizing this technical program. Eventually, I would like to thank our Chairman Engr. Prof. Dr. S.F.A. Rafeeqi, Engr. Prof. Dr. Sarosh Hashmat Lodi, Vice-Chancellor, NED University of Engineering and Technology, Engr. Sohail Bashir, Chief Organizer and Vice-Chairman, IEP Karachi Centre, Engr. Prof. Dr. Saad Qazi, Convener, Dean Faculty of Computer and Electrical Engineering Department, NEDUET, Engr. Dr. Muhammad Ali Memon, Co-Convener and Chairman, Electrical Engineering Department, NEDUET, Engr. M. Idris Khan, Vice-Chairman (Electrical), IEP Karachi Centre, Engr. Dr. Riazuddin, Deputy Chief Organizer, Engr. Dr. Mirza Muhammad All Baig, Secretary of the Conference, for their guidance, support and motivation for the success of this International Conference. It will not be fair if I do not acknowledge the support of my staff who worked day and night to make this conference a success.

As Secretary, IEP Karachi Centre, I am very well aware that the success of the conference depends ultimately on all members who have worked extremely hard for the details of important aspects of the conference program and social activities. Recognition should go to the Conference for their wise advice and brilliant suggestion on organizing the program; the Program Committee for their thorough and timely reviewing of the abstracts.

As last year's conference was a great success, this year's conference will attract attendance from all around the world; the distinguished speakers are from the top notch academic institutes as well as leading industries from all around the globe. This conference will provide the opportunity and exchange of ideas related with the Electrical Engineering.

Thus our research field is taking new exciting strives, and we have every reason for looking forward to this Conference with great expectations.

We wish you all the best, hoping that you find the conference informative and worthwhile and continue to be engaged with the Field of Engineering.

Engr. Ayaz Mirza, FIE(Pak)
Secretary,

The Institution of Engineers Pakistan, Karachi Centre

3rd International Electrical Engineering Conference

MESSAGE



**Chancellor, Hamdard University
President, Hamdard Foundation Pakistan**

I congratulate the institution of Engineers Pakistan (IEP) and the NED University of Engineering and Technology for jointly organizing the 3rd International Electrical Engineering Conference, with its theme of 'Aspiring Pathways in Electrical Engineering' being dubbed 'ASPIRE-2018'. The very word 'Aspire' is like a clarion call to all striving to improve Pakistan's progress in this field!

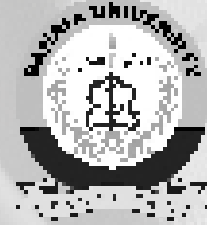
Even more heartening is knowing that no less than 15 more collaborating partners – including the Hamdard University – are taking part in this venture. As they say, 'there is strength in numbers'. And strength is what is needed if we are to even hope to come to grips with the energy crisis besetting not just this country, but the whole region! Perhaps it would not be an exaggeration to say that, to varying degrees, this is a global problem.

If transformation into a knowledge-based economy is a solution, then the challenges faced by all institutions responsible for dispersing knowledge, know-how, and professionalism – especially in this important field – must be faced. And overcome!

I pray, therefore, for the success of this key conference – not only in its duration but also in its results. May Allah help and guide all its participants. *Ameen.*

Sadia Rashid
Chancellor, Hamdard University,
President, Hamdard Foundation Pakistan

MESSAGE



Director General Bahria University Karachi Campus (BUKC)

It is a matter of great pleasure that Institute of Engineers Pakistan (IEP) and NEDUET are jointly organizing 3rd International Electrical Engineering Conference 2018 (IEEC-2018) on 9th and 10th February 2018 in collaboration with institutes Dawood University of Engineering & Technology (DUET), Pakistan Naval Engineering College (PNEC)-NUST, Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS) & DHA Suffa University (DSU), Sir Syed University of Engineering & Technology (SSUET), Bahria University (BU), Hamdard University, Usman Institute of Technology (UIT), Muhammad Ali Jinnah University (MAJU), Karachi Institute of Economics & Technology (PAF-KIET) & Institute of Industrial Electronics Engineering (IIEE).

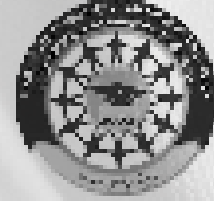
In my view, the theme of this year's conference i.e. "Aspiring Pathways In Electrical Engineering (ASPIRE -2018)" is of paramount importance keeping in view the ongoing technological advancements in the world. There is no doubt that rapid technological advancements are having a major impact on our professional and personal lives as they are changing the nature of work.

Bahria University has organized many scientific and research conferences, seminars and workshops in its campuses on various aspects of engineering and IT. I hope that this conference would certainly induced innovative ideas among the participants paving way for new avenues of research in multiple disciplines of electrical engineering fields.

Finally I would like to congratulate and commend the partners and organizing committee of the conference for all their efforts and wish all participants a very successful and enriching experience at the conference.

Vice Admiral Khawaja Ghazanfar HI(M)
Director General
Bahria University

MESSAGE



**Vice Chancellor
Balochistan University of IT, Engineering
and Management Sciences (BUIEMS)**

It is my pleasure to be part of the third **International Electrical Engineering Conference (IEEC'18)**. The conference series has successfully contributed in fostering a dialogue among the academic community, industry and the government on emerging issues in electrical engineering over the past few years. In today's era of inter-disciplinary scientific research, the discipline of electrical engineering remains a corner stone in developing modern-day technological solutions. Researchers in electrical engineering strive to provide solutions to problems in renewable energy, smart grids and distribution, next-generation telecommunications, micro and nano-electronic systems, mechatronics, electrical material sciences, and electrochemistry. The **IEEC'18** is being organized to address progress in this important arena of engineering.

The **IEEC'18** will be an excellent opportunity for academics, researchers and policy makers from Pakistan and abroad to participate and share their ideas related to national and global problems in Electrical Engineering. I sincerely appreciate the efforts of the entire organizing team in making this conference possible. I acknowledge the efforts of the Institution of Engineers Pakistan (IEP), NED University of Engineering & Technology Karachi, Pakistan, Pakistan Navy Engineering College (PNEC-NUST), Bahria University, Hamdard University, Sir Syed University of Engineering & Technology, Mohammad Ali Jinnah University, Dawood University of Engineering and Technology, DHA-Suffa University, Usman Institute of Technology, PAF Karachi Institute of Economics and Technology, Institute of Industrial Electronics Engineers, IEEE Power and Energy Society Karachi Chapter, Institution of Engineering and Technology (IET) Karachi Chapter, Federation of Engineering Institutions of Islamic Countries, Federation of Engineering Institutions of South and Central Asian Countries, and the Balochistan University of IT, Engineering and Management Sciences (BUIEMS) Quetta in jointly making this conference a success.

On behalf of BUIEMS, I would like to extend my warm wishes to all the delegates and participants.

With best wishes,

Engr. Ahmed Farooq Bazai (S.I)
Vice Chancellor
Balochistan University of IT, Engineering
and Management Sciences (BUIEMS)

MESSAGE



**Vice Chancellor
Dawood University of Engineering & Technology Karachi.**

It is with immense pleasure and satisfaction to acknowledge that the institution of Engineers Pakistan, Karachi Centre and NED University of Engineering & Technology in collaboration with other reputed institutions of higher learning in Pakistan including Dawood University of Engineering & Technology (DUET) are organizing 3rd International Electrical Engineering Conference.(IEEC-2018) on 9th & 10th February, 2018.

I must congratulate the organizer for selecting a very pertinent theme for the conference on "Aspiring Pathways in Electrical Engineering (ASPIRE-2018)."

It is acknowledged world over that the socio-economic development of many nations depend upon on its sound scientific and technological base. The aim of this conference is to expand research and innovation horizon and various challenges and solutions in the subject theme of the conference.

This conference is envisaged to be a gathering of relevant stake holders from various sectors across the country to exchange ideas and disseminating pertinent knowledge to build capacity for socio-economic development.

Organizing such a huge event is not possible without the enthusiasm, commitment and sincerity of the organizers. I appreciate their untiring effort and congratulate them!

I wish the conference a grand success.

Dr. Faizullah Abbasi
Vice Chancellor
Dawood University of Engineering
& Technology Karachi.

MESSAGE



Vice-Chancellor DHA Suffa University, Karachi

On behalf of DHA Suffa University and the conference organizing committee, I would like to greet all the delegates and attendees at the 3rd International Electrical Engineering Conference (IEEC-18).

The evolving geo-economic strategies of the Asian countries demand a shift in planning, action and quick response of our academia and industries. This is possible only if an active, efficient and performing link between all the stakeholders exists. Technical conferences are one of the best ways to build and strengthen such linkages. The IEEC-18 encompasses the recent research and developments taking place broadly in the area of Electrical Engineering and the technologies emerging as a result.

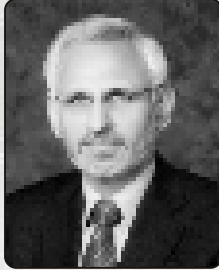
I believe that this platform will gather and allow national and international scientists, engineers, researchers and industry professionals to interact with each other, sharing experiences and ideas about current and future strategies.

I also hope that these interactions will go a long way in helping to build new relations, foster academic and research collaborations and also allow all the stakeholders to align themselves with each other's goals for the sustainable development of academic, industrial and R&D sectors of Pakistan.

I wish you all a pleasant time here and hope that your active participation and deep involvement in the event will allow you to make the most of your time in Karachi.

Rear Adm (R) Engr. Prof. Dr. Sarfraz Hussain TI(M), SI(M)
Vice Chancellor
DHA Suffa University

MESSAGE



President PAF - KIET

I congratulate NED University and Institute of Engineers (IEP) Pakistan on jointly organizing the 3rd International Electrical Engineering Conference (3rd IEEC-2018) with technical collaboration with all accredited engineering institutes of Karachi including PAF-KIET.

The theme of the conference this year ASpiring Pathways In ElectRical Engineering (ASPIRE -2018) could not be more appropriate as it is the need of the day to overcome the national challenges faced in the technical sectors due to lack of synergy between the academic, research and industrial circles in the broad field of Electrical Engineering and Information and Communications Technologies (ICT).

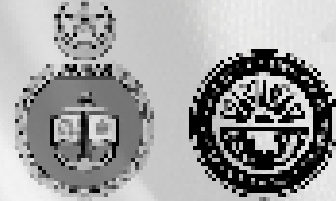
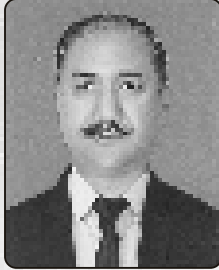
The 3rd IEEC conference will provide an ideal nurturing platform for students, academicians, researchers and representatives from industry to mingle with each other in the most cordial environment for fruitful exchange of information, research ideas and promotion of collaborative Research and Development culture for finding timely solutions to the current problems. The conference will feature technical paper presentations, final year project symposium, panel discussions and keynote speeches by eminent national and international scientists and leading industry personnel.

I sincerely hope that IEEC will forge strong ties between academics and industry to not only allow for finding indigenous solutions to our national problems but also help our country Pakistan to reap the benefits of a knowledge based economy.

I appreciate the initiative by NED University and IEB to include all stake holders in academia and industry by taking them on board as technical partners and co-organizers. I wish success to NED , IEP and all technical participating engineering universities of Karachi in their collaborative efforts and that IEEC conference continues to grow in stature and repute with each passing year.

Air Vice Marshal (R) Tubrez Asif HI(M)
President, PAF - KIET

MESSAGE



Commandant

Pakistan Navy Engineering College, Karachi

It is a matter of immense pleasure and great satisfaction that Pakistan Navy Engineering College (PNEC), a constituent college of National University of Sciences and Technology (NUST) in collaboration with IEP Karachi, NED University and other leading institutions is jointly organizing 3rd International Electrical Engineering Conference. This event will provide an opportunity to a large number of eminent Engineers, Scientists, Educationists, Technologists, Researchers and students of various Engineering universities from within Pakistan and abroad to focus in meeting challenges of today's era, particularly in the paradigm of emerging technologies and industrial applications.

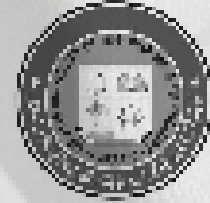
The Electrical Engineering in today's era includes renewable energy / green building, power plant automation, artificial intelligence / robotics, additive manufacturing and process optimization. PNEC is particularly involved in the field of renewable energy with particular focus on solar based technologies to meet the future energy needs.

I am pleased to acknowledge that IEP, being the chief organizer, is providing a very effective platform for researchers to present their research outcomes, which will surely educate and enhance the knowledge of conference participants. I sincerely hope that IECC-2018 will bring along the relevant research community and gel them well to share their valuable experiences and domain expertise even after the event.

I would like to extend my felicitations to the organizing committee especially IEP, NED, participants of conference and other leading institutions for their worthy contribution in making IECC -2018 a complete success.

Imran Ahmed SI(M)
Rear Admiral
Commandant, PNEC-NUST

MESSAGE



Vice Chancellor

Sir Syed University of Engineering and Technology

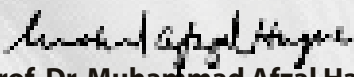
I appreciate that the Institution of Engineers Pakistan (IEP) in collaboration with various other institutions will be organizing the 3rd International Electrical Engineering Conference on 9th & 10th February, 2018 at Karachi. The conference most likely would address an important national issue as our country is faced with acute challenge of energy shortfall. As we all are aware, the phenomenon of climate change is a reality now and overall rise in global temperature is expected. There is a need to address energy crises as it has become so important as never in the past

Consumption of electricity is generally considered as an index of economic prosperity and technological progress of a country. Pakistan as a developing country is experiencing growing demand for electricity. Pakistan's energy requirement is growing rapidly due to an increase in population and high energy intensive industrial sector. There is enormous shortfall in demand and supply of electricity in the country. Demand for electricity is nearly 24,000 MW. Due to weak transmission and distribution system there is a short fall of over 6000 to 7000 MW requiring long hours of load shedding.

The mainstay of energy in Pakistan has always been fossil fuel using furnace oil. Fuel has to be imported using foreign exchange. The oil prices fluctuate with the passage of time, depending upon global economic conditions. With the rising fossil fuel prices, the cost of oil import is creating problem for foreign exchange reserves. The rising oil prices along with the rising demand for uninterrupted power, is an additional pressure on the already fragile energy grid of Pakistan.

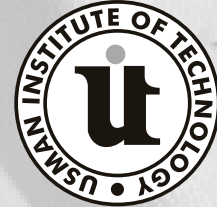
Our country is yet to fully diversify our energy mix and reduce dependency upon use of furnace oil. Pakistan has potential for renewable sources of energy. Sindh-Baluchistan coastal belt has wind corridor and can be utilized to produce abundant wind energy. Pakistan is one of those countries that have sunlight throughout 365 days and solar energy could be another option. We are yet to fully utilize Thar coal reserves for energy generation. Northern part of country is rich for generation of hydro energy. We must develop renewable sources up to the optimal level.

I am sure experts at the Conference will come up with some do-able, pragmatic and cost-effective solutions to address problems pertaining to the energy sector on long lasting basis.


Prof. Dr. Muhammad Afzal Haque
Vice Chancellor,

Sir Syed University of Engineering and Technology, Karachi

MESSAGE



**Director
Usman Institute of Technology**

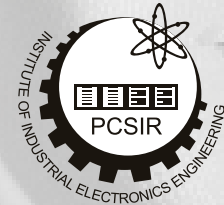
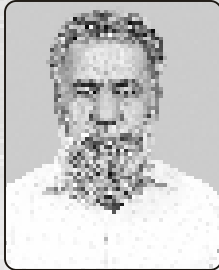
I would like to congratulate Institution of Engineers Pakistan for organizing the 3rd International Electrical Engineering Conference.

Education and especially technical higher education plays vital role in the well-being of any nation. In this regard, IEEC initiative will significantly contribute towards fostering of Electrical Engineering education and profession. It will be really helpful for the people in this line and for the students, who are the future of the nation. This will provide an opportunity to faculty researcher, and students to learn about the latest in this field and share best practices. Surely the highly qualified and experienced speakers who would be sharing their knowledge and experience would help in significantly improving the know-how of the participants.

I am sure that the event will be a resounding success.

Dr. Zahir Ali Syed
Director
Usman Institute of Technology, Karachi

MESSAGE



Principal Institute of Industrial Electronics Engineering

It is my pleasure to welcome you in 3rd International Electrical Engineering Conference, IEEC-2018. The International Conference will offer to Pakistani electrical engineering intellectuals an international platform to share and discuss their research findings with local / foreign technical researchers.

This unique bi-lateral collaboration of **Institution of Engineers Pakistan** and **NED University** is very well concentrated in promoting the coordination of Academia and Industry for the betterment of the society. The theme "**Aspiring Pathways in Electrical Engineering**" opens the doors of research inspiration and technological development not only in Electrical engineering but in all its associated disciplines.

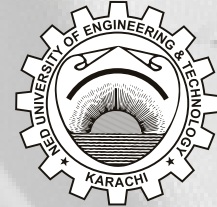
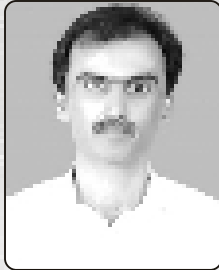
IIEE-PCSIR, (which is also working as collaborator of IEEC-2018), is functioning in crafting skilled nation in the discipline of Industrial Electronics Engineering with the spirit of knowledge and technological advancement. On this auspicious occasion, I take an opportunity to invite the youth to come forward and face the technical challenges of new millennium and carve out a bright future for themselves and their country, Pakistan.

It is quite imperative that technical congregation like IEEC-2018, is a pathway for new researchers and innovators. I sincerely wish the Organizing, Managing and Technical committees of the event all success in their efforts to build up this tradition and achieve the goals by serving the nation with excellence.

Engr. Ashab Mirza

Principal
Institute of Industrial Electronics Engineering

MESSAGE



Pro-Vice-Chancellor NED University of Engineering & Technology

It is a matter of immense pleasure for me that IEP and NED University of Engineering & Technology are conducting 3rd International Electrical Engineering Conference (IEEC-2018).

IEP and NED have always promoted these platforms where experts of various domains interact and exchange knowledge and experience. Contemporary challenges demand collaboration, a single institute can never solve vast variety of challenges faced by society. IEEC-2018 is a great opportunity for engineering professionals to sit together and brainstorm ideas for solving regional and global issues. IEEC 2018 encompass the wide spectrum of Electrical Engineering, which includes Electrical Power Systems and Policies, Renewable Energy Technology, Controls, Robotics, Automation Signal Processing, IoT, Big Data, Artificial Intelligence, Embedded Systems, Information and Communication Technologies, Computer Systems and Networks etc which will provide a platform for all professionals to learn from each other.

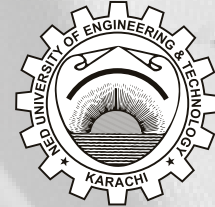
IEP and NED University deserves a great applause for bringing experts and stakeholders from all over the world to address common challenges.

I congratulate all office bearers, and organizers of the conference, for organizing such a wonderful event and I wish them great success.

Prof. Dr. Muhammad Tufail

Pro Vice Chancellor and
Dean (Faculty of Mechanical & Manufacturing Engineering)
NED University of Engineering & Technology

MESSAGE



Convener 3rd IEEC-2018

It is a pleasure for me welcoming you to IEEC-2018. IEP and NED University of Engineering & Technology deserves appreciation for their efforts in bringing academia and industrial experts together for sharing experience and knowledge. Platforms such as IEEC are crucial in today's world for the key to success in these times is collaboration. The world nowadays is facing global challenges, therefore it is our responsibility to solve these problems together.

At IEEC 2018 I hope the participants will be able to identify the challenges and also devise methods to start collaborated approaches for solving technological and policy problems.

It is heartening to note the industrial participation in the conference which is a good sign for an otherwise lacking academic-industry linkages.

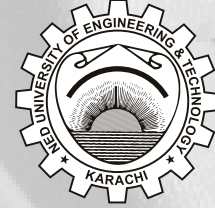
I wish all the authors, presenters and delegates a successful gathering.

Prof Dr. Saad A. Qazi

Dean

Faculty of Electrical & Computer Engineering
NED University of Engineering & Technology
& Convener 3rd IEEC-2018

MESSAGE



Co-Convener, 3rd IEEC-2018 & Chairman, IEES-PES, Karachi Chapter

There is an increasing trend of interdisciplinary interaction and the mega projects globally. Pakistan has also committed to such a gigantic task encompassing many multi-interdisciplinary mega projects named as CPEC (China Pakistan Economic Corridor). This huge economic activity needs an increased multi-disciplinary interaction among all the stakeholders.

Third IEIEEC which is being organized with mutual collaboration of NEDUET and IEP is a great step towards such needed collaboration and interaction.

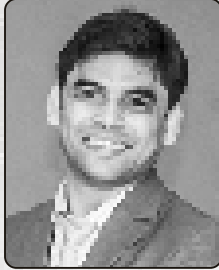
This conference will provide an excellent opportunity to all stakeholders to meet, coordinate/ collaborate and know each other's strengths and weaknesses and thus can plan for meaningful cooperation to achieve the skills, which can help to acquire the expertise needed to participate effectively in such a huge economic activity.

I wish all the best to the participants from various sectors and hope such positive activities will continue to provide a platform for healthy discussion/interaction.

Engr. Prof. Dr. Muhammad Ali Memon

Chairman, Department of Electrical Engineering
NED University of Engineering & Technology, Karachi
& Co-Convener 3rd IEIEEC-2018

MESSAGE



Deputy Chief Organizer (IEEC 2018)



To bring Pakistan among the top nations in the world, there is a need to swiftly promote the research and development culture here. In this context, events like IEEC play a vital role where research-oriented smart and innovative solutions are presented and debated by intellectuals for the betterment of the society and fulfill national needs. Specifically, talking about the Electrical Engineering and related fields, there is need to address issues in power sector industry (from renewable to smart and sustainable supply of energy), communication industry issues (from improved cellular to satellite communication), automobile and heavy industry (from mechatronics, automation and control to intelligent robotics), computer/software industry (from software innovation to cloud computing), electronics industry (from IC design to embedded systems development) and many more. The innovative solutions and researches obtained from the highlighted fields can directly influence advances in industries such as power, automobile, process, foods, textiles, house hold product, heavy, fertilizers etc., where smart solutions will be used for automated devices and set-ups performing collaborative tasks in order to save time, men power and energy, which will directly boost the socio-economic development of the country. Based on this ideology, IEEC (brought by IEP and NED) is motivated to play its active role as a platform to bring experts nationally and around the world to discuss their valuable ideas and researches in this prestigious event.

Following the footsteps of our past successful and landmark events (where I served as Co-convenor IEEC 2016 and as Conference Chair IEEC 2017), the organizing Committee both from IEP and NED, not only continue this academic and professional Interaction through our 3rd International Electrical Engineering Conference (IEEC 2018) but also ensure a wide participation of intellectuals from all across Pakistan and from overseas.

This time as 'Deputy Chief Organizer' IEEC 2018 and on behalf of the IEEC organizing team, I am honored and delighted to welcome you all to this IEEC 2018 event on the 'Aspiring Pathways In Electrical Engineering (ASPIRE -2018)'. IEEC is now emerging as an annual event having the consecutive 3rd conference, giving us an opportunity of immersing ourselves in groundbreaking research and innovations in electrical engineering and related fields. I believe IEEC-2018 is the venue that will guarantee a successful technical conference, which is aimed to bring all relevant stakeholders of electrical engineering and related fields under one umbrella.

Engr. Dr. Riaz Uddin
Deputy Chief Organizer (IEEC 2018) and
Member Local Council, IEP, Karachi Centre

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Engr. Tafseer A..Khan, IEP

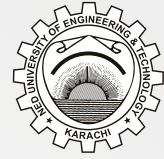


The Institution of Engineers Pakistan

Karachi Centre

in collaboration with

NED University of Engineering & Technology



PROGRAMME

Day 1 – Friday 9th February, 2018

INAUGURAL SESSION

03-25-04:10 pm	Registration
04:15 pm	Recitation from the Holy Quran
04:20 pm	National Anthem
04: 25 pm	Conference Briefing by Engr. Sohail Bashir, FIE (Pak) Vice-Chairman, IEP, Karachi Centre & Chief Organizer 3rd- IEEC-2018
04:30 pm	Address by Engr. Prof. Dr. Saad A.Qazi , Dean Faculty of Electrical & Computer Engineering, NEDUET & Convener IEEC-2018
04:35 pm	Welcome Address by Engr. Prof. Dr. S.F.A. Rafeeqi, FIE(Pak) Chairman, IEP Karachi Centre
04:40 pm	Address by Engr. Dr. Izhar ul Haq, President, IEP
04:45 pm	Asr Prayer
05:00 pm	Key Note Address by Dr. Fady Shibata Al Najjar , United Arab Emirates University & Brain Science Institute, Japan on <i>"Hybrid Robot-Virtual Avatar Autism Treatment & Evaluation System"</i>
05:50 pm	Address by Engr. Mian Sultan Mahmood , FIE (Pak), Secretary General, IEP
05:55 pm	Address by Dr. Sarosh Hashmat Lodi , FIE (Pak), Vice-Chancellor , NEDUET
06:00 pm	Address by Guest of Honor
06:05 pm	Address by Chief Guest
06:10 pm	Presentation of Conference Memento
06:15 pm	Vote of thanks by Engr. Ayaz Mirza , FIE(Pak), Secretary, IEP Karachi Centre
06:20 pm	Conference Photo with Chief Guest
06:25 pm	Maghrib Prayer
06:30 pm	Mushaira
07:40 pm	Isha Prayer
07:55 pm	Conference Dinner

Keynote on Hybrid Robot-Virtual Avatar Autism Treatment & Evaluation System by Dr. Fady Shibata Al Najjar

An intelligent treatment tool for children with Autism Spectrum Disorder (ASD). The approach was made of an assistive system and an automatic scoring system. The assistive system uses a combination of humanoid robot-avatar and virtual-avatar controlled by the therapist's body movements and his facial expressions, respectively, through artificial neural networks (ANN) as an intermediate. The automatic scoring system uses Kinect-camera to provide quantitative assessments of the patient's attention and engagement level. The scores were used to feedback the therapist on the engagement status of the patient, as well as, to adjust the intervention level of the assistive system. From the experimental study involving ASD and five neurotypical development children, it could be empirically prove that the proposed tool is superior to the traditional human therapist and pre-programmed robot-based approaches in increasing the children attention and engagement, the key to ensure good outputs from the planned treatment by the therapist. More importantly, the system is auto-adapted based on the individual patient's need.

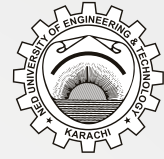


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PROGRAMME

Day 2 Saturday 10th February, 2018

TECHNICAL SESSIONS

09:30 am - 11:00 am	Technical Sessions - I at Convention Center		Technical Session - V at Seminar Hall No. 2
11:00 am - 11:20 am	Tea Break	12:50 pm - 02:00 pm	Zohar Prayer/Lunch
11:20 am - 12:50 pm	Technical Session - II at Convention Center	02:00 pm - 03:30 pm	Technical Session - VI at Convention Center
	Technical Session - III at Dr.S.A. Hasan Hall (Parallel Session)		Technical Session - VII at Dr. S.A.Hasan Hall (Parallel Session)
	Technical Session - IV at Engr. Asifa Aleem Hall (Parallel Session)		Poster Presentations at Seminar Hall No. 2

CLOSING SESSION

on Saturday 10th February, 2018

03:40 pm	Guest to be seated
03:50 pm	Recitation from the Holy Quran
03:55 pm	Conference Highlights by Engr. Dr. Mirza Muhammad Ali Baig , Programme Secretary, IEEC-2018
04:00 pm	Address by Engr. Prof. Dr. S.F.A. Rafeeqi , FIE (Pak), Chairman, IEP Karachi Centre
04:05 pm	Address by Engr. Dr. Izhar Ul Haq , FIE (Pak), President, IEP
04:10 pm	Key Note Address by Dr. Fady Shibata Al Najjar , United Arab Emirates University & Brain Science Institute, Japan on <i>"Wearable Robotic Hand for Home Rehabilitation Operated by the Patient Intention, Therapist Instructions and Mobile Games"</i>
04:50 pm	Address by Guest of Honor
04:55 pm	Address by Chief Guest
05:00 pm	Conference Recommendation by Engr. Prof. Dr. Muhammad Ali Memon Chairman, Department of Electrical Engineering NEUET & Co-Convener, IEEC-2018
05:05 pm	Presentation of Chairman, IEP Karachi Centre medal for Best Paper and Conference Mementos
05:10 pm	Concluding Remarks by Engr. Ayaz Mirza , FIE (Pak), Secretary, IEP, Karachi Centre
05:15 pm	Vote of Thanks by Engr. M. Idris Khan , FIE (Pak), Vice-Chairman (Electrical), IEP, Karachi Centre
05:20 pm	Asr Prayer
05:30 pm	Refreshments

**Keynote on Wearable Robotic Hand for Home Rehabilitation Operated by the Patient Intention, Therapist Instructions and Mobile Games
by Dr. Fady Shibata Al Najjar**

A low cost 3D printed wearable robotics hand for home rehabilitation is presented. The robot able to train/assist the stroke affected wrist and fingers joints and could be used for multi stages of motor impairments after stroke. For the severe impairment, the hand performs physical exercises controlled by either a preprogrammed motions commands recorded by the therapist, or by the user unaffected arm's commands in real-time. For moderate impairment, the hand is assisting the user figures movements, when needed, to complete the desired training defined by mobile application. Electromyogram (EMG) is as an optional attachable module to assess motor recovery. The proposed robotic arm can be used as a motivational home rehabilitation tool for stroke patients. The system was tested on a number of healthy individuals to validate the design requirements. It is believe that the system could be economically beneficial for the patient in term of the used material and the time needed from therapist's supervision.

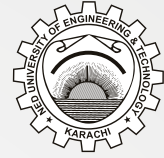


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Programme

IEEC-2018 (Day II)		
PROGRAM SCHEDULE FOR ORAL SESSIONS		
Technical Session-I (Electrical Power Systems I)		
Convention Center		
Session Chairs: Dr. Muhammad Ali Memon (NED), Prof. Dr. Talat Altaf (SSUET), Engr. Gulzar Memon (IEP)		
Time:	Paper ID:	Title and Presenters
09:30-10:00	Invited Talk	<i>Need for Arc Flash Analysis for Low Voltage Distribution System</i> by Dr. Muhammad Mohsin Aman, Associate Professor, Department of Electrical Engineering and Technology, NEDUET, Karachi
10:05-10:30	IEEC-2018-10	<i>Impact of reconfiguration and demand response program considering Electrical vehicles in smart distribution network</i> by Beenish Sultana and M.W. Mustafa
10:35-11:00	IEEC-2018-27	<i>Low Cost GSM based Smart Energy Meter Design: Capable of Demand Side Management and Data Logging</i> by Rana Asad Ali, Mudassir Hussain and Tahir Mahmood
11:00-11:10		Certificate Distribution
Technical Session-II (Renewables and Energy Conservation)		
Convention Center		
Session Chairs: Engr. Dr. Hashim Raza (NED), Engr. Dr. Muhammad Faisal Khan (Hamdard), Engr. Abdul Raouf (IEP)		
Time:	Paper ID:	Paper Details
11:30-12:00	Keynote	<i>Boosting Economy through R&D in software Industry: Healthcare Software Systems</i> , Dr. Shafaat Ahmed Bazaz, Dean Academia CASE
12:05-12:30	IEEC2018-26	<i>Energy Saving by Double Electrochromic Glazing- A Case Study for Central Library MUET, Jamshoro, Pakistan</i> by Oshaque Ali , Pervez H. Shaikh, Mazhar Uddin, and Zeeshan Anjum Memon
12:35-13:00	IEEC2018-42	<i>Increasing the Efficiency of Transformer for High Efficiency Isolated Boost Converter Design</i> by Muhammed Sohaib Anwer, Afia Khan, Danish Waheed, Syed Waqas Hussain, Muhammad Bazal Siddiqui, Amin-ul-Haq
13:00-13:10		Certificate Distribution

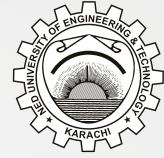


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Programme

Technical Session-III (Information and Communication Technology-I)		
Dr. S. A. Hasan Hall		
Session Chairs: Engr. Dr. Imran Aslam (NED), Engr. Dr. Abdul Qadir (UIT), Engr. Dr. Sameer Qazi (PAF-KIET)		
Time:	Paper ID:	Paper Details
11:30-12:00	Keynote	What Infrastructure-free 5G will look like? by Dr. Faraz Hasan, Senior Lecturer Massey University, New Zealand
12:05-12:30	IEEC2018-13	RADIO RESOURCE MANAGEMENT ISSUES IN 5G NETWORKS – A REVIEW by Naureen Farhan and Bushra Aijaz
12:35-13:00	IEEC2018-09	Software Defined Radio Waveforms implementation on GNU Radio by Atif Javed, Abdul Samad, Faisal Saleem and Wajid Gulistan
13:00-13:10		Certificate Distribution
Technical Session-IV (Information and Communication Technology-II)		
Engr. Asfia Aleem Hall		
Session Chairs: Engr. Dr. Farah Haroon (IIEE), Engr. Dr. Sadia Muniza Faraz (IEP/NED) and Engr. Dr. Arshad Aziz (PNEC-NUST)		
Time:	Paper ID:	Paper Details
11:30-12:00	Keynote	Rethink Product Development by Owais Zahid Autodesk, Inc.
12:05-12:30	IEEC2018-11	Design and Analysis of UWB-MIMO Antenna with Enhanced Isolation by Muhammad Abid Ur Rehman, Sajid Ali, Amjad Iqbal and Muhammad Hameed Khan
12:35-13:00	IEEC2018-16	Video Stream Transmission over Network on board UAVs for Surveillance Applications by Muhammad Naveed and Sameer Qazi
13:00-13:10		Certificate Distribution

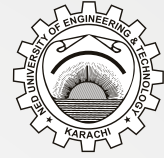


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Programme

Technical Session-V (Electrical Power Systems II)		
Seminar Hall No. 3		
Session Chairs: Engr. Dr. Riazuddin (IEP/NED), Engr. Dr. Muhammad Mohsin Aman (NED), Engr. Idrees Khan (IEP)		
Time:	Paper ID:	Paper Details
11:30-12:00	Invited Talk	<i>Entrepreneurship in Electrical Engineering</i> by Mr. Danish Zahoor, BARQTRON
12:05-12:30	IEEC2018-32	<i>Short Circuit and Overload Current Sensing for Power Converters Using Indirect Current Sensing</i> by Atif Mehmood, Sajid Hussain, Faizan ur Rehman
12:35-13:00	IEEC2018-18	<i>Prospects and implementation of solar energy potential in Pakistan: Based on hybrid grid station employing incremental conductance technique</i> by Muhammad Hamza Latif, Ayesha Aslam, and Tahir Mahmood
13:00-13:10	Certificate Distribution	
Technical Session-VI (Industrial Considerations and Applications)		
Convention Center		
Session Chairs: Engr. Dr. Fady Alnajjar (UAEU), Engr. Dr. Vali Uddin (Hamdard), Engr. Dr. Haroon Rasheed (BAHRIA)		
Time:	Paper ID:	Paper Details
14:00-14:30	Invited Talk	<i>Implementing Safety in Electrical Utility</i> by Mansoor Akram, Head of Department, HSE for Generation & Transmission, K-Electric.
14:35-15:00	IEEC2018-33	<i>Design and Analysis of Anti-Lock Braking System</i> by Mansaf Ali Abro, Shoaib Shaikh, Ali Asghar, Syed Nadeem Mian
15:05-15:30	IEEC2018-41	<i>A Validity of Transparency Optimized 4-Channel Architecture in Bilateral Teleoperation</i> by Muhammad Hammad Saleem and Riaz Uddin
15:30-15:40	Certificate Distribution	

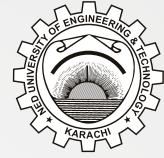


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Programme

Technical Session-VII (A.I. and Computer Systems)		
Dr. S. A. Hasan Hall		
Session Chairs: Engr. Dr. Muhammad Khurram (NED), Engr. Dr. Imtiaz Hussain (DSU), Engr. Syed Sarfraz Ali (SSUET/IEP)		
Time:	Paper ID:	Paper Details
14:00-14:30	Invited Talk	<i>Artificial Intelligence and its impact on the craft of Engineering</i> by Dr. Zeeshan Zia Senior Scientist, Microsoft Corporation, USA
14:35-15:00	IEEC2018-15	<i>An Overview of Lexicon-Based Approach For Sentiment Analysis</i> by Azeema Sadia , Fariha Khan and Fatima Bashir
15:05-15:30	IEEC2018-29	<i>Performance analysis of load balancer and Self Organized webservers using HA-Proxy</i> by Muhammad Shakeeb, Bilal Muhammad Khan
15:30-15:40		Certificate Distribution

PROGRAM SCHEDULE FOR POSTER SESSION			
Technical Session-VIII (Poster Presentations) at Seminar Hall No. 2			
Time:	Seminar Room 2	Paper ID:	Paper Details
10:00- 15:00	Session Chairs: Engr. Muhammad Javed, Engr. Uzma Perveen, Engr. Abdullah Munir, Engr. Fezan Rafique, Engr. Iqbal Azeem, Engr. Syed Muhammad Zahid, Engr. Arjumand Samad, Engr. Shahnaz Tabassum, Engr. Muhammad Umer Sajid, Engr. Samiya Zafar, Engr. Anila Abbas, Engr. Shariq Shaikh, Engr. Rashid Hussain, Engr. Nabeel Fayyaz, Engr. Najia Naveed, Engr. Saddam Hussain, Engr. Muhammad Waseem Sangi, Engr. Muhammad, Engr. Ayesha Khan, Engr. Muhammad Furqan, Engr. Uzair Ahmed Khan, Engr. Arshad Khan, Engr. Nimra Riaz Malik,	IEEC2018-07	Spent Fuel Calculation With Image Processing In Rod Bundle Nuclear Reactor Core Maqsood Jan Mohammad, Tahir Qadri and Shakil Ahmed
		IEEC2018-25	Arc flash mitigation techniques Abeera Khan and Muhammad Mohsin Aman
		IEEC2018-34	Management of Solar power with Thermal power Generation Unit Using FPGA based Algorithm Shehryar Ahmed , M. Nouman Hashmi, S. Shahzaib Shah , Ramiz Ahmed, S. Sheraz Ul Hasan Mohani S. Safdar Hussain
		IEEC2018-40	Future of Renewable Energy Technologies In Pakistan: A Policy Recommendation For Energy Storage Systems Syed Atif Naseem , Athar Rashid, Riaz Uddin , Syed Wasif Naseem
		IEEC2018-38	Tri-Stage Cascaded Data Compression Framework for Smart Distribution Systems Syed Muhammad Atif and Anees
		IEEC2018-39	DC Motor Controlling and Modeling Through 3-Phase Thyristor based-Inverter Syed Atif Naseem , Athar Rashid, Riaz Uddin , Syed Wasif Naseem
15:20-15:30			Certificate Distribution

IEEC-2018 - Session No. 1

Session Name **ELECTRICAL POWER SYSTEM - 1**

NEED FOR ARC FLASH ANALYSIS FOR LOW VOLTAGE DISTRIBUTION SYSTEM

Dr. Muhammad Mohsin Aman
Associate Professor
Department of Electrical Engineering
NED University of Engineering and Technology, Karachi-75270.

Arc flash analysis is a tool to calculate the incident energy on different location on power system. Industry should be well about the hazards due to the arc flash. Arc flash analysis is useful for high voltage (HT panel) and low voltage system (LT Panel). In this presentation the procedure, Standards, practices & signification of arc flash analysis will be discussed.

IEEC-2018 - Session No. 1

Session Name **ELECTRICAL POWER SYSTEM - 1**

IMPACT OF RECONFIGURATION AND DEMAND RESPONSE PROGRAM CONSIDERING ELECTRICAL VEHICLES IN SMART DISTRIBUTION NETWORK

Beenish Sultana
Department of Electrical Engineering, NED University of Engineering and Technology
M.W. Mustafa
Department of Electrical Power Engineering, Universiti Teknologi Malaysia
Johor Baharu, Malaysia (UTM)

Depletion of energy reserves has promoted plug-in-hybrid electric vehicles to replace gasoline fueled automobiles. The charging of these vehicles increases the grid load demand and therefore active power losses are increased. This paper presents combined demand response program and reconfiguration approach to simultaneously reduce active power losses and utility operating cost, considering vehicles load uncertainties. Demand response program based on load management contract is executed to manage load consumption, whereas for reconfiguration purpose Grey wolf optimization algorithm is used. Standard 69-bus system is considered for the authentication of the proposed work. The implementation of reconfiguration and demand response has reduced 57.2% losses and has benefitted both consumer and utility economically.

IEEC-2018 - Session No. 1

Session Name **ELECTRICAL POWER SYSTEM - 1**

LOW COST GSM BASED SMART ENERGY METER DESIGN: CAPABLE OF DEMAND SIDE MANAGEMENT AND DATA LOGGING

Rana Asad Ali, Mudassir Hussain and Tahir Mahmood
Department of Electrical Engineering, University of
Engineering and Technology Taxila,

In modern power system, it is primarily desired that power utility companies and electricity consumers should be aware of energy usages at every instant. In this paper, a low-cost multifunction smart energy meter design and fabrication is proposed for domestic electricity consumers. The proposed design of smart energy meter has been first implemented in a software environment and then a prototype model has been developed, which communicates the consumed energy data through GSM network. In addition to this, time of use (TOU) metering, data Logging and the Demand Side Management (DSM) during peak hours techniques are utilized in proposed design which will help utility companies to make electricity metering system more efficient. The meter tampering detection feature is also added to handle power theft challenges.

IEEC-2018 - Session No. 2

Session Name **RENEWABLES & ENERGY CONSERVATION**

ENERGY SAVING BY DOUBLE ELECTROCHROMIC GLAZING- A CASE STUDY FOR CENTRAL LIBRARY MUET, JAMSHORO, PAKISTAN

Oshaque Ali , Pervez H.Shaikh, Mazhar Uddin
MEHRAN University of Engineering and Technology(MUET), Jamshoro, Pakistan
ZeeshanAnjum Memon
MEHRAN University of Engineering and Technology(MUET), SZAB Campus, KhairpurMirs, Pakistan

Depletion of energy reserves has promoted plug-in-hybrid electric vehicles to replace gasoline fueled automobiles. The charging of these vehicles increases the grid load demand and therefore active power losses are increased. This paper presents combined demand response program and reconfiguration approach to simultaneously reduce active power losses and utility operating cost, considering vehicles load uncertainties. Demand response program based on load management contract is executed to manage load consumption, whereas for reconfiguration purpose Grey wolf optimization algorithm is used. Standard 69-bus system is considered for the authentication of the proposed work. The implementation of reconfiguration and demand response has reduced 57.2% losses and has benefitted both consumer and utility economically.

IEEC-2018 - Session No. 2

Session Name **RENEWABLES & ENERGY CONSERVATION**

INCREASING THE EFFICIENCY OF TRANSFORMER FOR HIGH EFFICIENCY ISOLATED BOOST CONVERTER DESIGN

Muhammed Sohaib Anwer, Afia Khan, Danish Waheed, Syed Waqas Hussain, Muhammad Bazal Siddiqui, Amin-ul-Haq
 Department of Electrical Engineering, NED University of Engineering and Technology
 Dr. Ishtiyaq Ahmed
 Habib University, Karachi

This paper discusses the design of high efficiency isolated boost converter for low voltage applications, including DC micro grid systems, fuel cells and battery applications. A new method to reduce the AC resistance factor and leakage inductance of the isolating transformer is proposed, based on better core selection, comparative analysis of Foil and Litz windings and interleaved configuration, resulting in highly efficient transformer design. The integration of this transformer in the converter increases the overall efficiency of converter. The high efficiency of converter is further achieved by using repetitive avalanche rated MOSFETs for unclamped switching and Schottky diodes for fast switching action. The experimental results verify the high efficiency of the transformer and the designed converter.

IEEC-2018 - Session No. 3

Session Name **INFORMATION & COMMUNICATION TECHNOLOGY - I**

WHAT INFRASTRUCTURE-FREE 5G WILL LOOK LIKE?

Dr. Faraz Hasan
 Senior Lecturer
 (Communication Engineering and Networks)
 School of Engineering and Advanced Technology
 Massey University, Palmerston North, New Zealand

The coverage range of the much-anticipated 5G network is expected to be considerably small in comparison with the present networks. This is because of the inherent nature of the so-called mm-waves that are envisaged for the 5G technology. This talk explores different challenges and their potential solutions that will emerge when 5G is deployed at a large scale. This talk particularly emphasizes on scenarios where mobile communication is enabled in the absence of network infrastructure.

IEEC-2018 - Session No. 3Session Name **INFORMATION & COMMUNICATION TECHNOLOGY - I****RADIO RESOURCE MANAGEMENT ISSUES IN 5G NETWORKS – A REVIEW**

Naureen Farhan and BushraAijaz
Department of Computer Science, Bahria University Karachi Campus

This review paper presents a study of different techniques that will be used to manage radio resources in a self-optimized and self-organized manner. So that in the approaching 5G networks that are proven to be ultra-dense HetNets comprising of small cells and macro cells the resources will be managed efficiently. In this paper, after discussing various issues and techniques of managing radio resources, finally, the research is resolved by applying ML clustering technique to manage and categorize radio resources for which LEACH protocol is proposed for low energy consumption in dense networks.

IEEC-2018 - Session No. 3Session Name **INFORMATION & COMMUNICATION TECHNOLOGY - I****SOFTWARE DEFINED RADIO WAVEFORMS IMPLEMENTATION ON GNU RADIO**

Atif Javed, Abdul Samad, Faisal Saleem and WajidGulistan
Research and Development Department of National Radio and
Telecommunication Corporation Haripur, Pakistan

A Software Defined Radio (SDR) is comprised of both software and hardware that can be dynamically reconfigured to enable communication between a wide variety of changing communication standards, protocols and radio links. It is a rapidly evolving technology that has generated a widespread interest all over the telecommunication industry. SDR technology facilitates implementation of some of the functional modules of a radio system such as modem, up/down converter, source and channel encoders/decoders and data link-layer protocols at a software level. Waveform development is one of the most crucial development part of an SDR. By Loading different waveforms on a single SDR one can switch between multi-mode, and multi-band wireless devices as well as be able to communicate with legacy radios and compatible with a modern Internet protocol(IP) Adhoc router in self-healing and self-forming data networks. Using GNU Radio platform, an analog (AM/FM) and a digital (OFDM) waveform is implemented with selection of different parameters like secure/non-secure, codecs, and modulation order along with an RF hardware to work in a real time environment. Output of each waveform is tested in a real time environment (GNU radio) in simulation using multiple RF front end hardware and on a spectrum analyzer is observed that is in close conformity with theoretical approximation.

IEEC-2018 - Session No. 4Session Name **INFORMATION & COMMUNICATION TECHNOLOGY -II****RETHINK PRODUCT DEVELOPMENT**

Owais Zahid
Software Development Manager
MCP – FLC, Autodesk, Inc.

"Change is imminent. We are transitioning from digital to the machine age. Are we prepared for it? In this session, I will talk about the challenges and opportunities emerging in the construction, infrastructure and manufacturing industries. How to position ourselves to not only survive this change but to thrive with it".

IEEC-2018 - Session No. 4Session Name **INFORMATION & COMMUNICATION TECHNOLOGY -II****DESIGN AND ANALYSIS OF UWB-MIMO ANTENNA WITH ENHANCED ISOLATION**

Muhammad Abid Ur Rehman, Sajid Ali, Amjad Iqbal, and Muhammad Hameed Khan
Department of Electrical Engineering, CECOS University of IT and
Emerging Sciences, Peshawar, Pakistan

An efficient and useful technique of mutual coupling reduction between MIMO antenna elements has been presented in this paper. Mutual coupling of the proposed ultra-wideband antenna has been reduced by introducing a slotted ground plane. The proposed two elements MIMO antenna operates in UWB range with edge to edge separation of 3mm. Isolation of 9dB between the MIMO elements is achieved by introducing slotted ground between the radiating elements. Transmission coefficient $[S_{21}]$ up to 36dB and reflection coefficient $[S_{11}]$ up to 20dB is realized for the proposed antenna. The proposed antenna has very low mutual coupling of $|S_{12}/S_{21}| < -20.14\text{dB}$ over the entire UWB range. The proposed antenna is studied in term of S-parameters, radiation pattern, diversity gain, channel capacity loss (CCL) and envelop correlation coefficient (ECC).

IEEC-2018 - Session No. 4

Session Name **INFORMATION & COMMUNICATION TECHNOLOGY - II**

VIDEO STREAM TRANSMISSION OVER NETWORK ON BOARD UAVS FOR SURVEILLANCE APPLICATIONS

Muhammad Naveed

Collage of Computing & Information Sciences (CoCIS) Pakistan Air Force Karachi Institute of Economics & Technology (PAFKIET)

Sameer Qazi

Collage of Engineering (CoE) Pakistan Air Force Karachi Institute of Economics & Technology (PAFKIET)

Nobody can deny the importance of technology in modern times to ensure proper surveillance. In recent days, voluminous attention gained by unmanned aerial vehicles (UAVs) to achieve this objective. The economical and optimize solution provided by UAVs for continuous surveillance through video at distant sites in rural and urban regions are great source of convenience where otherwise a lot of human resource and technological equipment's are needed. In this paper we proposed a framework that is UAV based which serves as an active monitoring scheme for disaster prevention or crime by taking timely action if required. Using models of wireless propagation, multipath propagation loss and shadowing, we examined the performance of mobile and stationary camera mounted UAVs in terms of throughput of such a video streaming system in a simulated environment.

IEEC-2018 - Session No. 5

Session Name **ELECTRICAL POWER SYSTEMS - II**

SHORT CIRCUIT AND OVERLOAD CURRENT SENSING FOR POWER CONVERTERS USING INDIRECT CURRENT SENSING

Atif Mehmood, Sajid Hussain, Faizan ur Rehman

Department of Electrical Engineering, Faculty of Engineering, Science & Technology (FEST), Indus University, Karachi, Pakistan

All power semiconductor devices have limited operating capabilities. Reliable use of power devices has always been challenging. Traditionally, relays and fuses are used to detect the fault current and high speed switches are used to remove the fault current. However, for high speed sensitive environments the reaction time of these devices is too high to sense fault current. In this research, high speed digital detection technique is implemented using indirect current sensing to sense the short circuit current (SCC). This technique detects the fault current efficiently in small time as compared to other techniques. The result shows that our proposed system takes 20-30ms to detect the fault and 10-15 ms to system resume.

IEEC-2018 - Session No. 5

Session Name **ELECTRICAL POWER SYSTEMS - II**

**PROSPECTS AND IMPLEMENTATION OF SOLAR ENERGY POTENTIAL IN PAKISTAN:
BASED ON HYBRID GRID STATION EMPLOYING INCREMENTAL
CONDUCTANCE TECHNIQUE**

Muhammad Hamza Latif, Ayesha Aslam, Tahir Mahmood
Department of Electrical Engineering,
UET Texila, Pakistan

Due to the conventional sources getting scarce with the passage of time, the trend of relying on conventional energy sources is changing. In Pakistan, an exponential increase in the power demand has been recorded over the span of last two decades that has led to a demand and supply gap. Currently, shedding of load is one of the methods used to counter this problem. Developed countries have long been using solar energy on mass level for generation but in third world countries like Pakistan, the use is still on domestic household level mostly. To eradicate the power shortage, conventional single source grid is not enough. An upgradation to the system is required in the form of source hybridization on distribution sub-station level employing PV. This paper presents a model of hybrid distribution substation designed on MATLAB Simulink based on Incremental conductance technique for implementation and reviews the potential and scope of solar energy in Pakistan. The model is designed for a preexisting distribution substation present in Rawalpindi. The result of the paper will help understand the scope of solar energy in Pakistan and hybrid distribution substation design implemented on Incremental conductance technique.

IEEC-2018 - Session No. 6

Session Name **INDUSTRIAL CONSIDERATIONS & APPLICATIONS**

IMPLEMENTING SAFETY IN ELECTRICAL UTILITY

Mansoor Akram
Head of Department
HSE for Generation & Transmission
K-Electric.

Challenges in current scenario Safety regulations Available options in implementing safety
K-Electric safety model

IEEC-2018 - Session No. 6Session Name **INDUSTRIAL CONSIDERATIONS & APPLICATIONS****DESIGN AND ANALYSIS OF ANTI-LOCK BRAKING SYSTEM**

Mansaf Ali Abro ,Shoaib Shaikh , Ali Asghar , Syed Nadeem Mian
Department of Energy Engineering, Hamdard University main campus Karachi, Pakistan
Imtiaz Hussain Kalwar
Department of Electrical Engineering, DHA Suffa University Karachi, Pakistan

Fatal road accidents are increasing day by day. The life of people while driving on roads is becoming dangerous. Researchers have come to know that accidents occur due human error but majorly due to mechanical fault. This research paper primarily focuses on development of such a mechanical system which can control vehicle automatically and save human lives. Therefore development of such a system is depicted in this research paper. Initially the system model is developed using Simulink in Mat lab and results are obtained in last. The modeling is such that the individual components of model are formed from the equations which are shown and discussed separately. The components of model include (tire model, quarter car model, brake actuator and PI controller). Furthermore the model shows robustness of controller where it is implemented in continuous time. In continuous time it behaves robustly to control vehicle when excessive slip occurs. The results obtained in this research work are validated with published work. However, the system can be adopted rudimentary for Anti-lock braking system (ABS) and anti-slip regulatory system (ASR). Sometimes driving the vehicle on slippery or icy surfaces causes it to get out of control. Therefore major focus of this research is to get vehicle under control when slip occurs.

IEEC-2018 - Session No. 6Session Name **INDUSTRIAL CONSIDERATIONS & APPLICATIONS****A VALIDITY OF TRANSPARENCY OPTIMIZED 4-CHANNEL ARCHITECTURE IN BILATERAL TELEOPERATION**

Muhammad Hammad Saleem and Riaz Uddin
Department of Electrical Engineering, NED University of Engineering and Technology

In order to perform any task remotely using teleoperation system, transparency is considered as an important performance measure. There are many teleoperation architectures, which are used in several applications of teleoperation. In this research, 4-channel architecture is analyzed and validated as it provides adequate number of parameters for achieving better transparency as compared to other teleoperation architectures. Initially, transparency index is defined then further expressions for hybrid parameters are derived. Later, controller gains are designed to achieve good transparency. Force and position profiles of the master and slave devices showing transparency improvement are obtained by the help of Matlab/Simulink with/without time delay. The controllers are designed in such a way that the required number of sensors are used as minimum as possible.

IEEC-2018 - Session No. 7

Session Name **A.I. COMPUTER SYSTEMS****ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON THE CRAFT OF ENGINEERING**

Dr. Zeeshan Zia
Senior Scientist
Microsoft Corporation, US

I am hoping to emphasize the limitations of present engineering practice, where we attempt to mathematically model physical systems from transistors to control systems, and from electrical machines to communication channels. The Artificial Intelligence revolution provides us with new tools: data-driven approaches that provide an alternative to explicit mathematical analysis. This is especially useful for engineering problems which the old approach has completely failed to crack, from robotic manipulation (control systems) to speech processing (DSP) to machine vision (instrumentation). I will present a few case studies from my own work in academics and industry, as well as from the work of colleagues to highlight the differences and advantages.

IEEC-2018 - Session No. 7

Session Name **A.I. COMPUTER SYSTEMS****AN OVERVIEW OF LEXICON-BASED APPROACH FOR SENTIMENT ANALYSIS**

Azeema Sadia , Fariha Khan and Fatima Bashir
Department of Computer Science, Bahria University Karachi Campus, Pakistan

Sentiment Analysis is the extraction of thoughts, attitudes and subjectivity of script or text to identify polarity i.e. positive, negative or neutral. There are three methods available for sentiment analysis, supervised, lexicon-based and hybrid approach, where the supervised method supersedes in performance from lexicon-based method and hybrid is a combination of both. The performance of supervised method is extremely reliant on on the excellence and the size of exercise data while on the other hand several lexical objects seem positive in the script of a domain while appearing negative at the same time in another domain therefore lexicon based analysis doesn't have high accuracy yet and optimizing it is still a very interesting research topic in the domain of Sentiment Analysis. This paper provides a comprehensive overview of the last updates in this field of lexicon based sentiment analysis along with their limitations and also shows our own methods' comparison of results for binary class classification and multiclass classification in the continuation of our future work.

IEEC-2018 - Session No. 7

Session Name **A.I. COMPUTER SYSTEMS****PERFORMANCE ANALYSIS OF LOAD BALANCER AND SELF ORGANIZED
WEB SERVERS USING HA-PROXY**

Muhammad Shakeeb, Bilal Muhammad Khan

National University of Sciences and Technology, Pakistan Navy Engineering College Karachi, Pakistan

Self-organize and load balancing of computing system is one of the emerging research areas. Despite of having robust infrastructure; several organizations still face system downtime due to hardware failure, high load, memory exhaustion and network choking. The best way to avoid downtime is to have the ability to predict and analyze the behavior of link and infrastructure. This paper presents an experimental implementation and evaluation of load balancing using HA-Proxy as a software-based load balancer and a proactive approach for self-organizing of network systems using algorithms in case of system failure.

(POSTERS)

Seminar Hall No. 2

Session Chairs:

Engr. Muhammad Javed, Engr. Uzma Perveen, Engr. Abdullah Munir,
 Engr. Fezan Rafique, Engr. Iqbal Azeem, Engr. Syed Muhammad Zahid,
 Engr. Arjumand Samad, Engr. Shahnaz Tabassum, Engr. Muhammad Umer Sajid,
 Engr. Samiya Zafar, Engr. Anila Abbas, Engr. Shariq Shaikh, Engr. Rashid Hussain,
 Engr. Nabeel Fayyaz, Engr. Najia Naveed, Engr. Saddam Hussain,
 Engr. Muhammad Waseem Sangi, Engr. Muhammad, Engr. Ayesha Khan,
 Engr. Muhammad Furqan, Engr. Uzair Ahmed Khan,
 Engr. Arshad Khan, Engr. Nimra Riaz Malik,

IEEC-2018

**SPENT FUEL CALCULATION WITH IMAGE PROCESSING IN ROD BUNDLE
 NUCLEAR REACTOR CORE**

Maqsood Jan Mohammad, Tahir Qadri and Shakil Ahmed

Department of Computer Engineering, Sir Syed University of Engineering & Technology, Karachi.

Rod bundle in the nuclear reactor core which exists in the nuclear plant must be continuously monitored for spent fuel rods. Digital cameras continuously obtain videos of the core from which images can be obtained of the rod matrices, we have processed these images with digital image processing techniques and through iteration algorithm initially those images were de-blurred to get precise images and then through correlation techniques it was found that how many rods are spent because each rod spent shows a hole in the image apart from other control holes.

IEEC-2018

ARC FLASH MITIGATION TECHNIQUES

Abeera Khan and Muhammad Mohsin Aman

Department of Electrical Engineering, NED University of Engineering and Technology, Karachi

Arc flash is a major cause for injuries and even death of working personnel around the globe. Arc flash hazard analysis is necessary to protect the personnel against damage or fatalities related to an arc flash event. If a worker is wearing a flash suit (adequately rated or not), it does not mean that the worker can work safely anytime and anywhere. PPE do not give a worker such freedom from hazards even if it is chosen appropriately. This paper explores different mitigation techniques which would help engineers and technicians to reduce incident energy levels at electrically energized equipment during an arc flash event.

IEEC-2018**MANAGEMENT OF SOLAR POWER WITH THERMAL POWER GENERATION UNIT USING FPGA BASED ALGORITHM**

Shehryar Ahmed , M. Nouman Hashmi, S. Shahzaib Shah , Ramiz Ahmed, S. Sheraz Ul Hasan Mohani
Faculty of Engineering Sciences and Technology Iqra University, Karachi
S. Safdar Hussain
National University of Sciences and Technology, Islamabad

Performance of solar Power generation units are totally depends on weather condition. In cloudy condition, the throughput of solar power house is affected. Thermal units will be considered as alternative to fulfill the energy gap. In this research Field Programmable Gate Array (FPGA) based algorithm is developed for the management of solar power shortage during cloudy and foggy weather condition. Algorithm take decision on the basis of less solar power throughput and arrange the alternative thermal resource using switching mechanism. Switching unit is operated by FPGA for the arrangement of alternate generator. In our consideration throughput is totally depends on the final power output of solar station.

IEEC-2018**FUTURE OF RENEWABLE ENERGY TECHNOLOGIES IN PAKISTAN:
A POLICY RECOMMENDATION FOR ENERGY STORAGE SYSTEMS**

Syed Atif Naseem, Athar Rashid
Department of Electrical & Electronics Engineering, Izmir University of Economics, Izmir, Turkey
Riaz Uddin , Syed WasifNaseem
NED University of Engineering and Technology

Energy demand and supply will become a difficult and complex process when electricity is generated through modern renewable energy resource such as solar photo voltaic plant, wind turbine power plant and tidal resources which heavily rely on environmental conditions. For a reliable and sustainable energy to the power grid, Electricity storage technologies have a significant function while considering the weather changes effects on renewable energy technologies. In this paper, we have presented and briefly discussed the electricity storage technologies by providing the operational mechanism of each type of energy storage technologies and policy recommendations for the energy storage technologies utilization have been suggested in order to attain, sustainable, reliable and secure energy provision.

IEEC-2018**TRI-STAGE CASCADED DATA COMPRESSION FRAMEWORK FOR SMART DISTRIBUTION SYSTEMS**

Syed Muhammad Atif and Anees

Graduate School of Science and Engineering , PAF Karachi Institute of Economics and Technology

Modern smart distribution system requires storage, transmission and processing of big data generated by sensors installed in electric meters. On one hand, this data is essentially required for intelligent decision making by smart grid but on the other hand storage, transmission and processing of that huge amount of data is also a challenge. This paper proposes a data compression technique called Tri Compress that blends three different methods in order to achieve high compression rate for efficient storage and transmission. It is a lossy data compression technique. Our simulation results are excellent, i.e. data compression ratio is as low as 100:1, and shows that this technique is far better than contemporary techniques.

IEEC-2018**DC MOTOR CONTROLLING AND MODELING THROUGH 3-PHASE THYRISTOR BASED-INVERTER**

Syed Atif Naseem , Athar Rashid

Department of Electrical & Electronics Engineering, Izmir University of Economics, Izmir, Turkey

Riaz Uddin , Syed Wasif Naseem

NED University of Engineering and Technology

Separately excited DC motor with variable speed can be controlled through three phase inverter by applying firing delay angle α of 0-90 degree. In this paper, we modeled the DC motor in MATLAB simulation by utilizing the angular acceleration and current derivative equation. Moreover, modeling of bridge rectifier along with thyristors is also constructed in MATLAB simulation scenario and generated the controlling result of DC motor speed at different thyristor delay angle.



The Institution of Engineers Pakistan

Glimpses of 1st International Electrical Engineering Conference
held at IEP, Karachi Centre on 15th & 16th July, 2016



3rd International Electrical Engineering Conference

The Institution of Engineers Pakistan

Glimpses of 1st International Electrical Engineering Conference
held at IEP, Karachi Centre on 15th & 16th July, 2016



3rd International Electrical Engineering Conference

List of Papers presented in 1st Electrical Engineering Conference held on 13th & 14th May, 2016 at IEP Karachi Centre

ORAL PRESENTATION

Key Note Presentation on “Recent Research of Power Systems : An Outlook”

- Prof. Ir. Dr. Mohd Wazir Bin Mustafa, Deputy Dean (Academic) from Universiti Teknologi, Malaysia (UTM).

2ND Keynote Lecture on “4.0 Framing Co-Creative Mobile Services in Agriculture”

Dr. Saqib Bukhari, German Research Centre for Artificial intelligence DFKA

“Feasibility Analysis of Solar Powered Vehicle with Integrated MPPT Based Charging Controller”:

- Muhammad Kashan, M. Ihsan Ul Haq and Muhammad Mansoor

Plug-in-Hybrid Electric Vehicles via Distribution Network Reconfiguration with Improved Electric Vehicle Charging Load Model

- Beenish Sultana, M.W.Mustafa, R. M. Larik

Modeling, Simulation and Control of Battery Charging Mechanism of PV Array System

- Saghir Amin and Syeda Nashra Raza

Analysis of Wake Effect in Clustered Wind Farm

- Sara Noor, Maryum Waris and Sajjad Haider Zaidi

Invited on line Talk on “Device-free Passive Localisation: Concepts and Results with Current Setup”

- Dr. Debraj Basu School Of Engineering And Advanced Technology, Massey University, Palmerston North, New Zealand

Evolving Internet Traffic Trend in Pakistan

- Muhammad Haris Rais and Muhammad Asad Arfeen

Comparative Analysis of Different Patch Antennas

- Rana Khan, Tahzeeb Jamal, Muhammad Imran Aslam, and Irfan Ahmed

Impact of Elevation Angle on Rain Attenuation in Satellite Communications

- Syed Nauman Ahmed and Aamir Zeb Shaikh

The Smart Monitoring Unit

- Syed Rafay Ali, Muhammad Hassan-ul-Haq, Mohammad Ahmed Khan, and Muhammad Hamza Ovais

A novel Topology of Symmetric Multilevel Inverter

- Ashraf Yahya and Syed M. Usman Ali

Design of Advanced Neutral Point Clamped Multilevel Converter for AC Drive Systems

- M. Mansoor Alam, Mumtaz Ahmad, M. Asim Amin, M. Ihsan Ul Haq, and Attiq ur Rehman

A Practical Way to Reduce Technical Losses in Distribution System

- Kashif Iqbal Ghazi and Muniba Mazhar

A Predictive Energy- Bounding Approach for Bilateral Teleoperation: An Overview

- Engr. Riaz Uddin ,PhD Scholar, GIST, South Korea

Kinect Based Edutainment System For Autistic Children

- Humaira Rana, Shafaq Zehra, Almas Sahar, Saba Nazir and Hashim Raza Khan

ICA based Blind Source Separation in Voice Applications

- Humera Hameed, Um-e-Rubab, Bilal Shahid and Abbas Abbasi

Electro-Pneumatic Multi-Level Suspension System for All Terrain Vehicles (ATVs)

- S. Raza A. Jafri, M. Fahad Ghouri, Usman Ali Shah, Farrukh Ahmed and Sammam Mughees

Over-the-air Programming for Low Cost, Small Scale WSNs based on ZigBee Protocol

- Muhammad Inshal Uddin and Muhammad Khurram

Meta-heuristic optimization Methods for Under Voltage Load Shedding Scheme

- Raja Masood Larik and Mohd.Wazir Mustafa

Estimation of Depth & Existence of Underground Water Using Ground Penetration Radar

- Abdul Hadi and Muhammad Khuram

A Smart Safety Gadget Design to Avoid Accidents in Warehouse Environment

- Muhammad Yaseen, Engr. Laeeq uz Zaman, Muhammad Khurram and, Rana Noman Mubarak

GSM based an open access E-TICKETING system through mobile devices

- Ali Hussain Sajid and Sahar Arshad

Wireless System Based Smart Wheelchair

- Usama Fareed Ahmad , Muhammad ShahRukh Khan, Muneeb ur Rahman, S.M Daniyal Hasan Shah, Irfan Ahmad, and Muhammad Imran Aslam

Study of Beamforming Methods with Steering Vector Errors

- Muhammad Saleem and Muhammad Zia Ur Rehman

Application of smart solar system for irrigation purposes

- Adnan Tahir, Abdul Basit Amjad and Tahir Khan

Comparative Analysis of Wind-Electric and Solar Based Water Pumping System

- Areez Khalil Memon, Naima Arshad, Abdul Latif Shah, Muhammad Suhail Shaikh

Fast Distributed Parameters Process Control for theMotivation of local flow in industries

- Sahar Arshad, Muhammad Ismail, Shayan Qazi, Waleed Raza, Engr. Abbas Abbasi, Engr. Bilal Shahid

Advanced Metering Infrastructure and Customer Side System

- Syed Sajjad Haider Zaidi, Rao Saim Zafar, Arsalaan Zia Mughal, Anas Masood, Saadan Ahsan

Real Time Dynamic Performance of Multi-Machine System Using Smart Technology

- M. Asim Amin, M. Mansoor Alam, M. Talib Faiz, Akhter Hussain Javed, Attiq Ur Rehman

Acquisition and Processing of EEG Signals for Automation

- Syed Sajjad Haider Zaidi, Syed Saim Asghar, Isra Jamil, Hammad Anis

Design & Development Of A System For Hiding Information Within Images Using Steganography

- Suhail Shaikh, Naima Arshad, Areez khalil, Ghazala Shafi Sheikh, Ghous Baksh Narejo

Design 1-bit full adder and Comparative Study of Different Type of Adders in terms of Power Consumption, Area and Delay

- Humera Hameed, Sahar Arshad, and Tauseef-ul-Hassan

Control the Temperature of Hot Air Blower Rig using PI (Proportional Integral) and Adaptive PI Controllers

- by Sheikh Muhammad Ameer Ur Rehman, David Baglee, Muhammad Sheikh and Omara Parveen

Intelligent Robotic Waiter with Menu ordering System

- Usman Ali Shah, Engr Faraz Ali, Sana Sohail, Haris Khan

Invited online talk on "Future of cellular technology and foundations for 5G cellular networks"

- Syed Shan-e-Raza Jaffry Massey University, New Zealand

Synthesis of Dye Sensitized Solar Cells Using Natural Resources

- Maheen Mazhar, Hafiza Mazia Ada, Umme Hani, Humair Ahmed Siddiqui, and Sadia Muniza Faraz

Stimulated Raman Scattering in Nonlinear Silicon Nanophotonic Waveguides: Theory and Applications in Photonic Integrated Circuits

- Abdurrahman Javid Shaikh and Othman Sidek

Evaluation of SilTerra's 130nm CMOS Radio Frequency Integrated Circuit (RF IC) Technology for Power Amplifier Design

- Iffrah Jaffri, Usama Ahmed Siddiqui, Faizan Hadi, and Hashim Raza Khan

Invited online Talk on "Dielectric Resonator Antennas: State of the Art and Future trends"

- Engr. Ubaidullah Khan School of Electrical and Electronic Engineering, Universiti Sains Malaysia.

Two-Machine Stability Analysis and Inter-Area Oscillation Detection using Simulink Model of Phasor Measurement Unit

- Khurram Shabbir and Serhat Seker

Smart Home - An Energy Conservation Initiative

- Barkha Parkash and Riaz uddin



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Efficacy Measurements of Commercially Available Ceiling Fans

- Farah Jalal, Muhammad Hammad Uddin, Saad Ahmed Qazi, Hira Hassan, Aliya Batool and Yusra Fatima

Hybrid Trust Model for Enhancing Operational Trust in Cloud Computing

- Muhammad Faraz Hyder and Muhammad Ali Ismail

Network Delay Regulator for Sampled Data-like Channels : A Feasibility

- Riaz Uddin, Muhammad Ali Baig and Jeha Ryu

Deterministic Approach Available Transfer Capability (ATC) Calculation Methods

- Azhar B. Khairuddin ,Othman O. Khalifa, Abdelwahab I. Alhammi, Raja Masood Larik

Poster Presentation Over-the-air Programming for Low Cost, Small Scale WSNs based on ZigBee Protocol

- Muhammad Inshal Uddin and Muhammad Khurram

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The Institution of Engineers Pakistan

Glimpses of 2nd International Electrical Engineering Conference
Held at IEP Karachi Centre on 19 & 20 May, 2017



3rd International Electrical Engineering Conference

**List of Papers presented in
2nd International Electrical Engineering Conference
held on 19th & 20th May, 2017 at IEP Karachi Centre**

Key Note Presentation was presented by Prof. Dr. Ted Johansson of Integrated Circuits and System, Department of Electrical Engineering, Linkoping University, Sweden, on "The 28 nm CMOS Power Amplifier" which was an online presentation via skype

Keynote speech in Inaugural Session by Engr. Prof. Dr. Uvais Qidwai, Qatar University, Qatar

Keynote Speech in Closing Session Energy Efficiency and Renewable Resources: The Soft Solution of Energy Crisis

-Engr. Mian Sultan Mahmood, Secretary General, The Institution of Engineers Pakistan, during

Cross-sectional Analysis of Brain Magnetic Resonance Images for Abnormal cell growth by using Histogram Equalization

-Mashal Tariq and Shehla Andleeb, Department of Electrical Engineering, Usman Institute of Technology, Karachi, Pakistan

Estimating Reconstruction Error due to Jitter of Gaussian Markov Processes

Mudassir Javed and Dawood Shah, Department of Electrical Engineering College of Electrical and Mechanical Engineering,, National University of Sciences and Technology, Islamabad, Pakistan.

Comparison of Different Economical Dispatch Algorithms for a Hybrid Power System

-Syed Muhammad Faraz Ali, Sheikh Usman Uddin, Umer Hayat, Dr. Sajjad Haider Zaidi Pakistan Navy Engineering College, National University of Sciences and Technology, Karachi, Pakistan

Indigenous Vertical Wind Turbine

-Umer Iqbal, Asif Gulraiz, Hassan Bin Muslim , Taha Khan, Usman Institute of Technology, Karachi, Pakistan² Department of Electrical Engineering , DHA Suffa University, Karachi, Pakistan, Department of Electrical Engineering, Usman Institute of Technology, Karachi, Pakistan

Anthocyanin based Photosensitizer for Natural Dye-Sensitized Solar Cells

-Maheen Mazhar , Muhammad Hassan Sayyad and Sadia Muniza Faraz, Department of Electronic Engineering, NED University of Engineering and Technology, Karachi, Faculty of Engineering Sciences, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi, District Swabi, Khyber Pakhtunkhwa

Energy Conservation Through Load Balancing

-Muhammad Osama bin Shakeel, Muhammad Faheem Ali, Syed Ali Jaffar Cdr. Sajjad Haider Zaidi Pakistan Navy Engineering College, National University of Science and Technology Karachi, Pakistan



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Realization of Spectrum Sensing in Cognitive Radio

-Yasir Iqbal, Yusra Kaleem², Ayesha Asad and Muhammad Waseem, Department of Telecommunication Engineering,, Sir Syed University of Engineering and Technology, Karachi, 75300, Pakistan, Department of Telecommunication Engineering, Sir Syed University of Engineering and Technology, Karachi

Security in Vehicular Ad hoc Networks

-Yasir Iqbal, Yusra Kaleem, Department of Telecommunication Engineering, Sir Syed University of Engineering and Technology, Karachi

Edutainment System For Autistic Children

-Asma Yousuf, Rida Irfan, Iqra Siddiqui, Syed Saad-ul-Hasan⁴ and Hashim Raza Khan⁵ Department of Electronics Engineering, NED University of Engineering and Technology, Karachi,

Supply Chain Management System: A Web-Application for Distributors

-Zuhaib Ali, Muhammad Shoaib and Riaz Uddin, Department of Computer Science, Newports Institute of Communication and Economics, Karachi, Department of Electrical Engineering, NED University of Engineering and Technology, Karachi,

Sniffing, Decoding and Decryption of GSM signals using Open Source Software and Low Cost Hardware

-Muhammad Talha Choudary, Arish Yaseen, Muhammad A Javaid, Abeer R Khan, Bilal A Khawaja, Sajid Saleem, Muhammed Mustaqim, Department of Electronics and Power Engineering, PNEC-NUST, Karachi

Actively Biased Differential Drive Rectifier circuit with Backscattering Communication

-Asma Mahar, Ayesha Hassan, Naveed, Arham Iqbal, Madiha Azhar⁵, Yasir⁶, Arsalan Jawed⁷ PAF-KIET (Karachi Institute of Economics and Technology Korangi Creek, Karachi,, Department of Electronic Engineering, NED University of Engineering and Technology, Karachi,

Efficiency Improvement of a Wireless Power Transfer System

-Ayesha Hassan Asma Mahar, Naveed³, Sidra Saeed Gillani, Yasir Siddiqui and Arsalan Jawed, AF-KIET (Karachi Institute of Economics and Technology), Main Campus, Korangi Creek, Karachi NEDUET (NED University of Engineering and Technology, Main Campus, Karachi

Fault detection and localization of symmetrical fault using PCA and WT

-Shariq Shaikh*, Adnan Ali, Abdullah Munir and Muhammad Ali Memon Department of Electrical Engineering, NED University of Engineering and Technology, Karachi,

Evaluation Of Electromagnetic Environmental Impact Of Different Transmission Line Configurations Used In Pakistan

-Adnan Ali, Shariq shaikh, Abdullah Munir, Shahzaib Naveed, Zoha Furqan, Ramzan Murree Electrical Engineering Department, NED university of Engineering & Technology Karachi, National Electric Power Regulatory Authority, NEPRA.



The Institution of Engineers Pakistan

Comparative analysis of ST1A and ST2A excitation system models for voltage stability of alternator

-Shariq Shaikh , S.Taha Ahmed , Shiraz Khan , M. Maaz Naseer and M.A. Rehman, Department of Electrical Engineering,, NED University of Engineering and Technology, Karachi.

Wireless Building Automation Using ESP8266: An Energy Efficient Approach

-Afrah Ziauddin, Sabah Fatimah, Samra Ashraf, Iqbal Azeem and Riaz Uddin, Department of Electrical Engineering, NED University of Engineering and Technology, Karachi

Power Sharing using Phase Shift Mechanism in Grid Interactive Photo-voltaic Power Systems

-Iqbal Azeem, Abdul Maalik Naeem, Umair Anwar, Shakir Jilani, Hassina Suleman Shah & Shayan Khan
Department of Electrical Engineering, NED University of Engineering and Technology, Karachi

Hardware Implementation Of Non Directional Over Current Relay on Arduino®

-Arsalan Zahid, Tahir Nisar Gondal , Naveed Ali , Muhammad Umair¹ , Muhammad Mohsin Aman
Department of Electrical Engineering, NED University of Engineering and Technology, Karachi.

Meta- Heuristic based Optimization Algorithms: A Comparative Study of Genetic Algorithm and Particle Swarm Optimization

-Mohammad Affan, Department of Electrical Engineering, NED University of Engineering and Technology, Karachi



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POSTER PRESENTATION

Thermal and Electrical failure analysis of lithium-ion battery after crash

-Muhammad Sheikh , Ahmed Elmarakbi and Sheikh Rehman' Department of Computing, Engineering and technology, University of Sunderland, Sunderland, UK, Department of Electrical Engineering, Indus University of Engineering and Technology, Karachi

Analysis of The Awareness of Present Day Undergraduate Electrical Engineering Students About

Contemporary Technologies An Educational Survey About FACTS Devices Samiya Zafar, Yusra Rauf, -Fizzah, Hira Haider, and Sana Department of Electrical Engineering, NED University of Engineering and Technology, Karachi

Clustering Algorithms of Wireless Sensor Networks: A Survey

-Muhammad Noman Riaz, Department of Avionics Engineering, National University of Sciences & Technology, Islamabad

Internet Traffic Management with Multiprotocol Label Switching (MPLS)

-Muhammad Saleem, Aqeel-ur-Rehman, Muzaffar Rao, Irfan Usmani and Fawadul haq Department of Telecommunication Engineering, Sir Syed University of Engineering and Technology, Karachi, Hamdard University of Engineering & Technology, Karachi

Transformer Health Monitoring

Syed Shahzeb Raza Bilgrami, Muhammad Awais Aitmad, Ameer Hamza Muhammad Farhan Siddiqui Dr. Sajjad Haider Zaidi, Muhammad Salman Khan and Muneeb Islam, Department of Electrical Engineering, National University of Sciences and Technology, Pakistan Navy Engineering College Karachi

Power Line Control and Monitoring using FPGA

-Usama Bin Rehan, Asif Gulraiz, Khyzer Amin, Shayaan Amin, Musa Raza

Home Area Networks: A cost effective desing and its implementation

-Sana Fatima, Iqra Amjad, Maliha Yasin & Dr. Sajjad Amin, Musa Raza

Detection and station of Slip Effect on the Parameters of DC Motor Mounted on Computer Rail using Kalman Filter: A feasibility

-Shahzor Memon and Raizuddin

25th & 26th
January 2019
Karachi, Pakistan

IEEC
2019

4th International Electrical Engineering Conference

**ASpiring Pathways In electRical
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CALL FOR PAPERS

IEP Karachi Centre and NED University of Engineering and Technology, Karachi (Faculty of Electrical and Computer Engineering) is organizing the 4th International Electrical Engineering Conference on 25th and 26th January 2019. It will be a 2-day event, spread over an inaugural and technical sessions. ASPIRE-2019, aims to bring together local and international academic scientists, researchers and professionals from industry to exchange and share their experiences and research results on various aspects of Electrical Engineering. Authors are invited to submit original technical papers for presentation and publication. All accepted and presented papers will be published in IEEC proceedings.

The conference covers all areas of Electrical Engineering, including but not limited to the following:

- Electrical Power Systems and Policies
- Renewable Energy
- Mechatronics, Controls, Robotics, and Automation
- Signal, Image and, Speech Processing
- IoT, Big Data and Artificial Intelligence
- Smart Devices, Systems and Applications
- Embedded Systems
- Electronics and Applications
- Information and Communication Technologies
- Computer Systems and Networks

IMPORTANT DATES

Full Paper Submission: 12th October 2018

Full Paper Acceptance: 14th December 2018

Camera Ready Paper: 4th January 2019

For further details, kindly follow
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