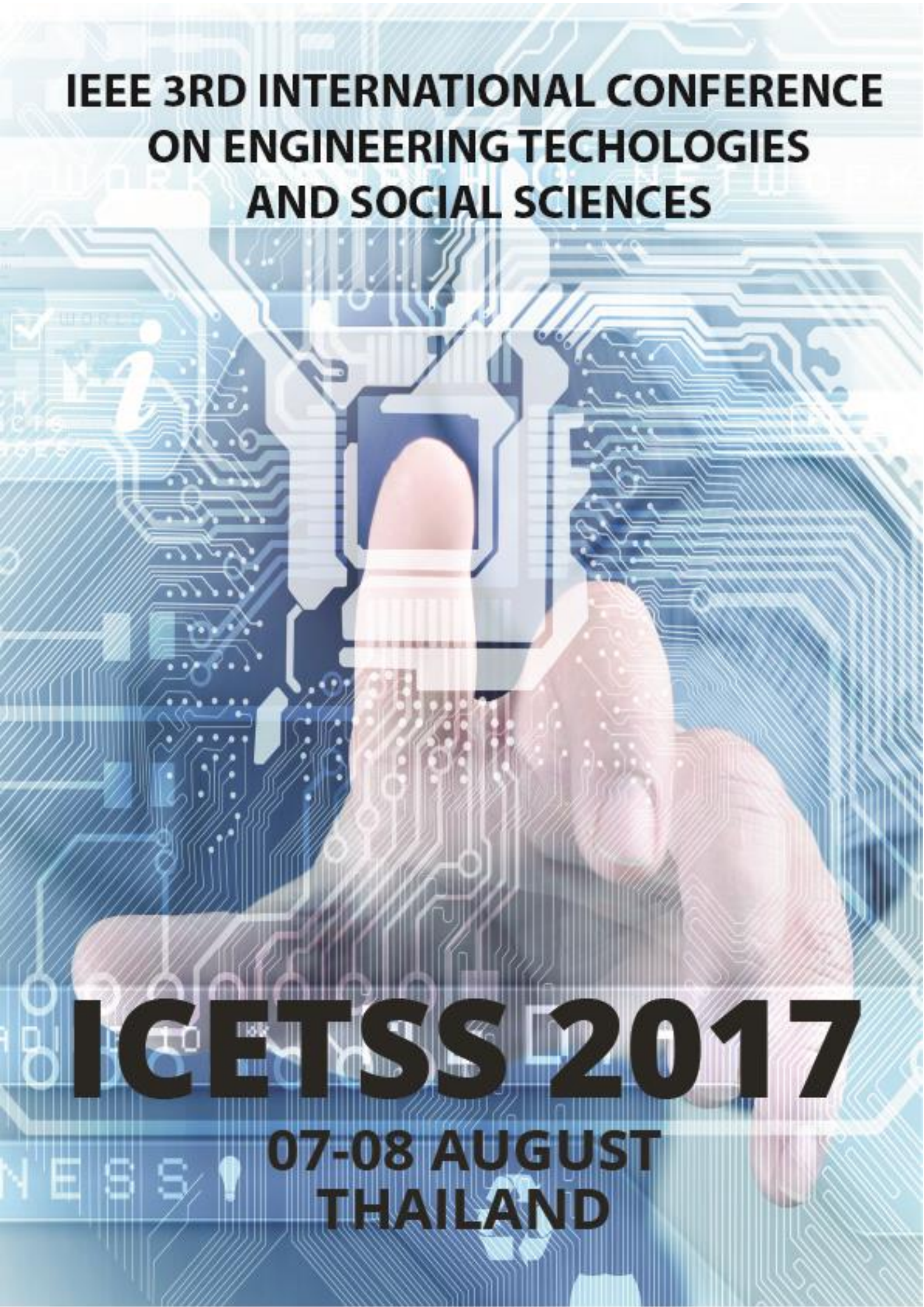
IEEE 3RD INTERNATIONAL CONFERENCE ON ENGINEERING TECHOLOGIES AND SOCIAL SCIENCES



ICETSS 2017

07-08 AUGUST
THAILAND

IEEE 3rd International Conference on Engineering, Technologies and Social Sciences 2017

The IEEE 3rd ICETSS-2017 is being organized by IEEE IIUM SB, technically supported by the IEEE IMS Malaysia Chapter with Collaboration of ETSS Management Malaysia, Knowledge-Now UK, Multimedia University Malaysia, Balochistan University of Engineering and Technology(BUETK), University of Sindh Jamshoro Pakistan and Al-Kitab University College Iraq. The theme of this conference is "Engineering, Technologies & Application of Social Sciences are Driving our Future".

Organized by:

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ETSS Management

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FOREWORD FROM EXECUTIVE CHAIR

Dear Colleagues,

It gives me great pleasure to welcome all of you to IEEE 3rd International Conference on Engineering Technologies & Social Sciences 2017 (ICETSS 2017). The IEEE 3rd International Conference on Engineering, Technologies and Social Sciences 2017 (ICETSS-2017) will provide a meeting place for the sharing of novel ideas and research findings in the field of engineering, technologies, social sciences & business management. Its main goal is to foster multidisciplinary exchange by researchers and developers as well as research students and professional experts. We invite original and unpublished work by Academics, Researchers, Business Leaders, Experts and Executives from Universities and industrial research institutes to submit for the conference.

The aim of the ICETSS 2017 is to provide a platform for professionals to share their experiences, research studies and explore innovative solutions through joint research, to contribute to the advancement in engineering, technologies and applied sciences. I hope that this conference will be helpful in developing and sharing the strategies for meeting the challenges in engineering, technologies and Social sciences.

There is no doubt that the caliber and experience of our invited distinguish high-level speakers will inspire our wide participation and makes this conference a genuine platform to discuss matters involving the connection between idea creation and wealth creation.

Once again, we are delighted to welcome all of you in the ICETSS 2017 conference and hope that it will be a productive, stimulating and successful event.

Prof. Dr. Asadullah Shah
Executive Chair
ICETSS 2017

Foreword Technical Program Chair

The International Conference on Emerging Technology and Social Sciences (ICETSS) 2017 is an IEEE Indexed Explore (Code #41681, ISBN No. 978-1-5386-1611-6CFP17L91-ART) event with much more adding on to its début since its last debut in 2016. Here participants meet for an eye-to-eye and contemplating on different subject areas. ICETSS is one of the two flagship events of Engineering Technology and Social Sciences (ETSS)- a platform where researchers, academicians and educationists from around the world meet once every year. ICETSS's Technical Committee adds values and virtues to their skills they have gained during such events in the past while attending to delegates' responses and queries diligently. Participation in our event will equip one with an unforgettable learning experience, as we are on our way to host more international events bearing flag of the major IEEE Societies. We hope that you will be having a fruitful stay here at AIT, Bangkok. We guarantee attention with service, and see you in the IEEE ICETAS, schedule to be held on 29-30Nov, Dec1, 2017 in AMA Bahrain.

Dr. Sheroz Khan
Technical Program Chair
ICETSS 2017

ORGANIZING COMMITTEE

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Technical Program Chair
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Conference Coordinator / Secretary
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KEYNOTE SPEAKERS

Prof. George Banky

(Professor, Senior Researcher & Leader in Online Experimental Engineering, Swinburne University of Technology, Australia)

Title: Beyond the glass onion: where to with engineering education?

Abstract: Over the centuries, engineering education has been delivered in a variety of modes. The recent changes in technology have facilitated dramatic opportunities for educating future engineers. In Australia, university funding pressures have been further influencing the practiced pedagogy. This has raised the obvious question: “where to with engineering education?”. In this keynote the presenter, who has over 47 years of tertiary teaching and tertiary education research experience, will discuss possible future delivery modes and their potential effects on the practice of engineering.

Prof. Siriwan Suebnukarn
Thammasat University, Bangkok Thailand

Prof. Suebnukarn's research has concentrated on the use of information and communication technology especially artificial intelligence to build intelligent clinical training and clinical decision support systems, and she has done pioneering work in the areas of intelligent tutoring and virtual reality simulation. Prof. Suebnukarn received the prestigious International Federation of Inventor Association's (IFIA) Lady Prize for the Best Women Invention, and the IFIA gold medals in World Cup for Computer Implemented Invention for her work on Virtual Reality Dental Simulator.

Keynote Title: Intelligent Clinical Training Systems

Abstract: Clinical training is one of the most challenging areas for education. Currently, training toward clinical competence follows an apprenticeship approach, which consists of close expert supervision while interacting with patients. This method of training can subject patients to discomfort, risk of complications, and prolonged procedure times, creating a clinical governance dilemma. At the same time, there may be limited access to apprenticeship training in more complex scenarios with corresponding difficulty training in a time-effective manner. Intelligent clinical training systems hold the promise to address many of these issues. A facilitating technological environment has emerged in recent years through the maturation of research in intelligent tutoring systems, medical simulation, and virtual reality (VR) techniques. I illustrate with research studies from the work of my research group starting from an overview of haptic virtual reality dental simulator developed by our group. The results from clinical trials on pre-clinical training and pre-surgical practice in dental microsurgery are presented and discussed. The strength of using a VR haptic system for clinical skill assessment is the ability to automatically record associated kinematic data which are not available in the conventional skill training environments. Such variables are needed to build algorithms for the new generation of improved clinical skill training system that may allow more effective training experience with real-time feedback of skill performance.

Emeritus Prof Dato’ Seri Ir Dr Mashkuri Yaacob

Emeritus Prof Dato’ Seri Ir Dr Mashkuri Yaacob started his academic career in the University of Malaya (UM) as a Tutor in 1976. He obtained his MSc and PhD degrees respectively in Computer Engineering from the University of Manchester, UK and a Bachelor degree in Electrical Engineering from the University of New South Wales, Australia. He has served in several management positions in UM and in Universiti Tenaga Nasional (UNITEN). He has also served as the Chairman of the Institution of Engineering and Technology (IET) Malaysia Network from 2003 till 2007, was also a Council member of the IET in London in 2003-2004, a Fellow of the IET, Fellow of the Academy of Sciences Malaysia, a Fellow of the Institution of Engineers Malaysia (IEM), a Chartered Engineer registered with the Engineering Council of UK and a Professional Engineer registered with the Malaysian Board of Engineers. He is also a Member of The Engineering Accreditation Council (EAC) of Malaysia. Professor Mashkuri Yaacob was promoted to the rank of Professor in UM in 1992 and has published 300 papers in many international Journals and Conferences in the areas of computer engineering and electronics. He was awarded the title of Emeritus Professor by UNITEN in 2015 where he has served as its 3rd Vice Chancellor from 2007-2014.

Keynote title: The Landscape of Private Higher Education Institutions in Malaysia: The Balancing Act of Quality Versus Bottom-Line

Abstract: This speech will reflect on the growth of Private Higher Education Institution in Malaysia over more than 2 decades beginning in the early 1990's. The focus is on the plans and strategies to enrich the institutions with quality academic programs balancing them against the landscape of a fast-growing economic development and rising costs.

Prof. Dr. Fateh Muhammad Burfat

Vice-Chancellor, University of Sindh, Jamshoro

Prof. Dr. Fateh Muhammad Burfat started his professional career as Social Welfare Officer in 1983. In 1988, Dr. Burfat started his career in the field of education and joined University of Karachi as a Lecturer. He did his doctorate from university of karachi in 1999. He remained on different key posts as (advisor, chairmen, director, dean and Professor) in both academic and administration. Currently Prof. Dr. Burfat is working as a Vice Chancellor of University of Sindh, Jamshoro, the oldest University of Pakistan. Dr. Burfat has vast experience of research and has published more than 50 Journal papers and produced 15 M. Phil and 25 PhD students.

Keynote title: Science Policy and Development Strategy of Pakistan

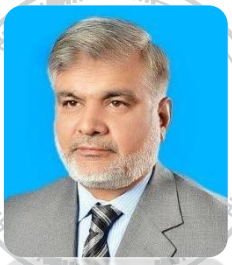
Nations with high level of Science education occupy the center stage of world today. Industrial revolution lead by scientific discoveries in England was the foundation of new social contract. Today doing science is pre-requisite for the LDCs to catch up with developed worlds.

Science is a proven road to development of a nation hence nations must create conducive environment with a viable institutional mechanism to foster Science. Highly industrialized nations today are leading their development path on science super high way. The Science Super high way ensures to multiply the existing development level of Nations. There is an increased level of awareness among the LDCS. Pakistan is one of the of fast developing South Asia Nations poised to join the club of science oriented policy driven Economy. Pakistan through vision 2025 has set impressive targets to create a policy driven knowledge base economy.

Science Policy plays an important role at policy making, science policy helps to allocate resources for much required resources to do science. Pakistan has a firm commitment to foster its sustainable development through scientific achievements. South Asian major economies (Pakistan and India) are much behind the developed world in spending on Research & Demonstration (R& D) Pakistan spends 0.2 percent of GDP and India only 0.82 of its GDP on R&D. While Turkey spends 0.94 percent of its GDP. Malaysia dedicates 1.13 percent of its GDP for Research and Demonstration (R& D).

Pakistan Government had a firm commitment in National Science and Technology Innovation Policy (2012) to increase spending on Research and Development up to 1 percent by 2015 which further to be increased up to 2 percent of GDP by year 2020. Currently Pakistan Governments spending of 0.29 percent translates to PKR.1300 per person spending on R&D which indicates a waste room to improve much further. Other nations like Israel spends 4.21 percent of its GDP, followed by South Korea 4.15 percent. However, Japan spends 3.47 percent of its GDP on R&D while USA spends much lower than Japan at 2.81 percent of its GDP on Research and Demonstration.

The Higher Education Commission of Pakistan is the major vehicle of Pakistan's Science and technology development. The Institutional reforms to transform University Grants Commission to Higher Education Commission of Pakistan was meant to change the culture of doing science. The cultural adaptability of Science in society is one of the important dimensions to be considered in science policy making. This article tries to look on the social bottle necks of doing science in Pakistani Society and make recommendations for policy making institutions.



Prof. Brig (Retd) Muhammad Amin, SI(M)
Vice Chancellor Balochistan University of Engineering and Technology Khuzdar

As Vice Chancellor of a prestigious and leading public-sector university of Pakistan, it is pride and honor to be guest speaker of an international conference to represent Pakistan & Balochistan University of Engineering and technology khuzdar:

“A Entrepreneurship vision of the future”

Abstract:
As Entrepreneurship is the tendency of an individual to organize & undertake the business of his own and to run it profitably, using all the qualities of leadership, decisions making and managerial caliber etc. According to Schumpeter, “entrepreneurship is essentially a creative and an innovative activity” In modern era of industrialization and globalization, Entrepreneurial development has become very significant; in view of its being a key to economic development. The objectives of industrial development, regional growth, and employment generation depend upon entrepreneurial development.

Schedule DAY-1: Monday 7th AUGUST 2017

Time(Hrs)	Venue	Program	Duration
08:00	B108	Conference Registration	60 minutes
09:00		ICETSS 2017 Conference welcome speech by Technical-Chair Dr. Sheroz Khan	10 minutes
09:15		Commencement and speech by Conference Executive Chair Professor Dr. Asadullah Shah	15 minutes
Keynote Speech			
09:30	B108	• Prof. George Banky • Prof. Siriwan Suebnukarn • Prof. Dr. Fateh Muhammad Burfat	35 minutes each
		Vote of Thanks Dr. Muhammad Yaqoob	15 Min
11:30		**Refreshment Break**	**30 minutes**
12:00	B202	IT and COMPUTING Parallel session	(15 minutes of presentations + 5 minutes of Q&A)
	B206	ENGINEERING Parallel session	
	B144	SOCAIL SCIENCES Parallel session	
13:40		**lunch Break**	**60 minutes**
14:40	B202	IT and COMPUTING Parallel session	(15 minutes of presentations + 5 minutes of Q&A)
	B206	ENGINEERING Parallel session	
	B144	SOCAIL SCIENCES Parallel session	
16:00		**Tea break**	**30 minutes**
16:30	B202	IT and COMPUTING Parallel session	(15 minutes of presentations + 5 minutes of Q&A)
	B206	ENGINEERING Parallel session	
	B144	SOCAIL SCIENCES Parallel session	
END of Day 1			

Schedule DAY-2: Tuesday 8th AUGUST 2017

Time	Venue	Programme	Duration
09:00	B202	IT and COMPUTING Parallel session	(15 minutes of presentations + 5 minutes of Q&A)
	B206	ENGINEERING Parallel session	
	B144	ENGINEERING Parallel session	
		Online Session	
11:00		**Refreshment Break**	**30 minutes**
11:30	B202	IT and COMPUTING Parallel session	(15 minutes of presentations + 5 minutes of Q&A)
	B206	ENGINEERING Parallel session	
	B144	SOCIAL SCIENCES Parallel session	
		Online Session	
13:30		**END of Parallel Sessions**	
13:30		**Lunch BREAK**	**90 minutes**
15:00	**B108**	**Closing Ceremony**	**80 minutes**
15:00		Keynote by Prof Dato' Mashkuri Yaacob	25 minutes
15:25		Keynote Prof. Muhammad Amin	25 minutes
15:50		Vote of Thanks	15 minutes
16:05		Closing Remarks	15 minutes
END of Conference			

TECHNICAL SESSIONS: SCHEDULE

IT AND COMPUTING TRACK

TIME(Hrs.)	PAPER ID	PAPER TITLE
DAY-1: Monday 7th AUGUST 2017: Room B202		
12:00	27	Doing it with a glass onion: Investigating affordances provided by a head-mounted augmented reality immersive device for the real-time online supervision of experimental learning.
12:20	39	Virtual Reality Markup Framework for Generating Interactive Indoor Environment
12:40	98	A study of internet of things (IOT)-based healthcare acceptance in Pakistan
13:00	101	An empirical study to explore the acceptance of Internet of Things (IoT)-based healthcare in Pakistan: Pilot Study
13:20	108	The Internet of Things Adoption in Healthcare Applications
13:40	**lunch BREAK (60 MIN)**	
14:40	118	Load Balancing with preemptive and non-preemptive task scheduling in Cloud Computing
15:00	31	Trust Development in Virtual teams to Implement Global Software Development (GSD): A Structured Approach to Overcome Communication Barriers
15:20	11	HYBRID: An Efficient Unifying Process to Mine Frequent Itemsets
15:40	73	User Perception on the State of Online Fake News
16:00	**Refreshment BREAK (30 MIN)**	
16:30	14	A Survey of Soft Computing Applications for Decision Making in Supply Chain Management
16:50	68	Analysis of the Effects of Redundancy on the Performance of Relational Database Systems
17:10	69	Tactile Discrimination of Fabrics using Machine Learning Techniques
17:30	**END of Day 1**	

TIME(Hrs)	PAPER ID	PAPER TITLE
DAY-2: Tuesday 8th AUGUST 2017: Room B202		
09:00	59	Knowledge Sharing of Virtual Teams: The Mediating Effect of Trust on Relationship Communication
09:20	56	Improving Network Coding throughput in Multi-hop Networks through DCF adoption in 802.11
09:40	119	A Method of Cloud and Image Based Tracking for Indonesia Fruit Recognition
10:00	91	Data Processing in Hive vs. SQL Server: A comparative analysis in the query performance
10:20	126	Applying d-RSA with Login System to Speed Up Decryption Process in Client Side
10:40	137	Assessing prospective teachers' use of social media by Technology Acceptance Model (TAM)
11:00	**Refreshment BREAK (30 MIN)**	
11:30	152	The Effects of Online Social Networks on the Social Aspect of an Individual's Life
11:50	150	Kids' Education App comprises English, Math and Urdu Qaida.
12:10	64	The Utilization of Social Media While Driving in Bangkok
12:30	46	A Personalized Recommendation Framework with User Trajectory Analysis applied in Location-Based Social Network (LBSN)
12:50	81	Filtering the Big Data Based on Volume, Variety and Velocity by Using Kalman Filter Recursive Approach
13:10	36	Effects of T-stack probes On Affymetrix Human GeneChip® Data
13:30	83	Inductive Resonant Power Transfer and Topology Consideration
	END of Session	

ENGINEERING TRACK

TIME(Hrs.)	PAPER ID	PAPER TITLE
DAY-1: Monday 7th AUGUST 2017: Room B206		
12:00	6	Modeling & Simulation of Nonlinear Dynamics of Periodic Cardiac Pacemaker Using Bond Graph Techniques
12:20	84	Artificial Elbow Joint Classification Using Upper Arm Based on Surface-EMG Signal
12:40	16	QBLE – Theme Park Queueing System Using Wearable Device
13:00	140	Smart and Wearable Technology Approach for Elderly Monitoring in Nursing Home
13:20	74	A Comparative Study Between SPWM and SEH-PWM Modulation Techniques for DC-AC Inverters
13:40	**lunch BREAK (60 MIN)**	
14:40	149	Simulation and analysis of magnetic field strength with magnetoresistive sensor: A future application
15:00	134	Optical Response Computations in Type-II Doped AlSb/InAs Nano-Heterostructure under External uniaxial strain in SWIR Range
15:20	93	Preliminary Optimization of Process Conditions for Biohydrogen Production from Sago Wastewater
15:40	5	Comparative study of different susceptor material in order to increase the efficiency of metal melting furnac
16:00	**Refreshment BREAK (30 MIN)**	
16:30	48	Non- Conventional Machining Processes as Expedient Alternatives for Conventional Machining Processes
16:50	32	Prior Investigation for Flash Floods and Hurricanes, Concise Capsulization of Hydrological Technologies and Instrumentation: A survey
17:10	75	A CFD Investigation of Airflow in a Hard Disk Drive Production Line to Detect the Cause(s) of Contamination and Its Mitigation
17:30	**END of Day 1**	

TIME(Hrs)	PAPER ID	PAPER TITLE
DAY-2: Tuesday 8th AUGUST 2017: Room B206		
09:00	113	D Ultra-Wideband Antipodal Vivaldi Antenna for Radar and Microwave Imaging Application
09:20	125	The Wearable Textile-Based Microstrip Patch Antenna Preliminary Design and Development
09:40	**38**	Smart Parking Management System: An Integration of RFID, ALPR, and WSN
10:00	109	Development of Mini Hydrography Survey Robot
10:20	136	Designing a 3D Human Movement Analysis System
10:40	78	Anti-Collision System for Unmanned Mobile Robot System
11:00	**Refreshment BREAK (30 MIN)**	
11:30	110	Simulation Analysis for Maximizing Renewable Solar Energy to Improve the Power Generation Capacity in the State of Kuwait
11:50	130	Modeling and Simulation of a Microgrid consisting Solar PV & DFIG based Wind Energy Conversion system for St.Martin's Island
12:10	123	Wind Turbine Power Evaluation Based on Performance and Cost Factors
12:30	15	Energy Management for a Microgrid with Renewable and Hybrid Power Sources
12:50	17	Self-energy sustainable playgrounds for children
13:10	35	A New Decomposed Strategy for Energy Flow in Integrated Electrical, Natural Gas, and Heating Networks
13:30	**LUNCH BREAK (90 MIN)**	

TIME(Hrs)	PAPER ID	PAPER TITLE
DAY-2: Tuesday 8th AUGUST 2017: Room B144		
09:00	82	Optimized RC Timing Technique for Accurate Measurement of Minute Capacitance Changes
09:20	127	Design and Operation of Microgrid with Renewable Energy Sources and Energy Storage System: A Case Study
09:40	122	Modified Homotopy Perturbation Method with Double Auxiliary Operator for Nonlinear Equations
10:00	151	Energizing Model Village of Tharparkar through Solar PV System
10:20	141	Stress and Displacement Analysis of Dental Implant Prosthetics Using Three-Dimensional Finite Element Method
10:40	7	Combined Wavelet Singular Values and Fuzzy Logic for Fault Detection and Classification in Transmission line
11:00	**Refreshment BREAK (30 MIN)**	

SOCIAL SCIENCES Track

TIME(Hrs.)	PAPER ID	PAPER TITLE
DAY-1: Monday 7th AUGUST 2017: Room B144		
12:00	41	Identification of Noun + Verb Compound Nouns in Malay Standard Document Based on Rule Based
12:20	95	Characteristics of Start Up Company and Its Strategy: Analysis of Indonesia Fashion Start Up Companies
12:40	96	Developing a Strategy Map based on Sustainability Balanced Scorecard Framework for Manufacturing Industry in Indonesia
13:00	106	Coverage Analysis of Indonesia Sustainability Assessment Tools: Similarity in Dimension and Assessment Results
13:20	107	Political Marketing Communication Strategy of the X Political Party in Increasing the Electability of Constituent in the Election in Indonesia
13:40	**lunch BREAK (60 MIN)**	
14:40	120	The Worth and Obstacles of Using Quizizz for Learning Indonesian Language at Higher Education
15:00	139	Characteristics of Highways Traffic Accidents in Thailand*
15:20	10	Effects of Knowledge Acquisition, Information Capability and Relationship Quality on Product Innovation Flexibility Among Manufacturing Firms in Malaysia
15:40	34	Key Success Measures for Billing and Revenue Management System in Thailand
16:00	**Refreshment BREAK (30 MIN)**	
16:30	67	Optimal Promotion Prices Facing Strategic Customers with Setup Cost: Numerical Experiments
16:50	70	The Decision Making of Freight Route in Multimodal Transportation Between Thailand and Cambodia
17:10	111	Optimal Inventory Control of Perishable Products in a Retail Business
17:30	**END of Day 1**	

TIME(Hrs)	PAPER ID	PAPER TITLE
DAY-2: Tuesday 8th AUGUST 2017: Room B144		
11:00	**Refreshment BREAK (30 MIN)**	
11:30	116	Implementation of Information Technology Platform for Rice Supply
11:50	135	Mapping factors influencing the operation of freight transportation
12:10	158	The Perception of Policyholders, Insurance Operators, Islamic Finance Experts and Politicians Towards the Viability of Takaful in India
12:30	157	Job Satisfaction and Women's Turnover Intentions in Pakistan's Public Universities. A case study of Jamshoro Education City (JEC)
12:50	159	The Use of Information Retrieval Tools by the Postgraduate Students of Mehran University of Engineering & Technology, Jamshoro
13:10	160	The Failure of Muslim League in Post-Colonial Pakistan: A Critical Appraisal
13:30	**LUNCH BREAK (90 MIN)**	
END		

Online Presentations

TIME(Hrs)	PAPER ID	PAPER TITLE
DAY-2: Tuesday 8th AUGUST 2017		
09:00	33	Knowledge Management: Process Mapping in Commercial Banks
09:20	87	Near Field Communication enabled payment system adoption: A conceptual framework
09:40	88	Knowledge Management Practice in Private Sector in Saudi Arabia: Is it line with Saudi Arabia Strategic Growth and Transformation to Knowledge-based Economy
10:00	89	Roadmap for Successful Knowledge Management System Deployment
10:20	62	Experimental Investigation on the contribution of pristine multi-walled carbon nanotubes (MWCNTs) addition to the strength enhancement of cement composites
10:40	65	Inhibiting corrosion effect of Phosphate glass on mild steel in acid solution
11:00	**Refreshment BREAK (30 MIN)**	
11:30	156	Cloud Computing Characteristics Framework: A new paradigm for cloud computing
11:50	161	MPC-PID Comparison for Controlling Therapeutic Upper Limb Rehabilitation Robot Under Perturbed Conditions
12:10	79	Effect of Diesel Generator Characteristics on the Design Optimization of a Stand-alone Hybrid Micro-Power System for Baghdad City
12:30	-	
12:50	-	
13:10	-	
13:30	**LUNCH BREAK (90 MIN)**	
END		

ABSTRACTS (Note these abstract and names are from the easy chair account. For publication, your pdf express versions will be used)

Paper ID: **5**

Comparative study of different susceptor material in order to increase the efficiency of metal melting furnace

Atif Saeed, Ismail Mansoor and Ahmar Hayat

An energy efficient and time saving furnace for heating purpose in a melting industry is of great use. Microwave based industrial furnace has certain advantages over conventional blast furnaces which is discussed in quite detail in this paper along with the efficiency of microwave based melting furnace based on the correct selection of susceptor material. This paper discusses the criteria for the selection of correct susceptor material based on the comparative study of different available susceptor for this purpose. The finding of this paper suggests that SiC is the best available susceptor for metal melting purposes in a microwave furnace as it has the tendency of generating and transmitting higher temperature when microwaves are applied using magnetron.

Paper ID: **6**

Modeling & Simulation of Nonlinear Dynamics of Periodic Cardiac Pacemaker Using Bond Graph Techniques

Muhammad Usman Gul, Bilal Masood, Hisham Khalil and Waseem Nazar

A lot of research has been done targeting differential equations and state space of cardiac pacemakers while very few authors have discussed the circuit of the van der Pol oscillator. This paper aims at developing the van der Pol oscillator using RLC circuits with non-linear resistance. This was done by representing the modified forced van der pol oscillator with nonlinear resistance using piecewise S curve obtained through an operational amplifier. The state space has been obtained, using 20-Sim software, followed by its differential equation. The phase portrait of the modified forced van der Pol oscillator has also been developed. In this paper, the behavior of real cardiac pacemaker has been reproduced in time domain and a comparison of the real and the reproduced cardiac pacemaker has been made.

Paper ID: **7**

Combined Wavelet Singular Values and Fuzzy Logic for Fault Detection and Classification in Transmission line

Bahman Bahmani-Firuzi, Taher Niknam, Moslem Dehghani, Mohammad Hassan Khooban and Sayed Aboozar Bozorgavari

In current paper, a novel technique has been applied for detecting and classifying the fault in transmission lines. In this scheme, which is termed Fuzzy-Wavelet Singular Values, fuzzy logic is utilized for detecting and classifying the fault after combining the advantages of both wavelet transform and singular value decomposition. The suggested algorithm detects and classifies the fault by using the singular values of wavelet transform of zero sequence and three phases of current. Singular values wavelet transforms of three phase currents and zero sequence are the fuzzy logic input that three-phase is utilized as an indexes for detecting the sound phase fault from faulty phase, and the zero sequence is an index for recognizing phase to ground fault. The proposed algorithm can detect different kinds of fault including single phase to ground, double phase to ground, three phase to ground and phase to phase and this protection method is robustness to factors including resistance, location and types of fault. The fault can be detected from the fault inception within 10 ms by using the suggested method to avoid some difficulties including stability loss and equipment damage. Modeling the system and the algorithm performance is performed by using the Matlab software.

Paper ID: **10**

Effects of Knowledge Acquisition, Information Capability and Relationship Quality on Product Innovation Flexibility Among Manufacturing Firms in Malaysia

Gogila Vani Malasamy, Devika Nadarajah and Sultan Adal Mehmood

Knowledge management is the process of identifying, creating, assimilating and applying corporate knowledge to take advantage of new opportunities and enhance organizational performance. It involves both internal and external organizational capabilities. This study focuses on information capability, knowledge acquisition and relationship quality as capabilities pertinent to organisations aiming to achieve greater product innovation flexibility. Understanding and improving product innovation flexibility is crucial in the context of Malaysia in order to enable the nation to be at par with other countries enjoying better knowledge capital. Central tenets in building knowledge capital are creativity and innovation. The study is carried out in the manufacturing arena specifically on Electrical and Electronics (E&E) subsector as this subsector has achieved remarkable growth and has significant influence over the Malaysian economy. Quantitative research method using survey instrument was adopted in this study. Interestingly, the findings from this study revealed only knowledge acquisition and relationship quality as having significant relationship with product innovation flexibility. The findings are important to research and practice. Firms setting out to improve product innovation flexibility should pay careful attention to knowledge acquisition and relationship quality.

Paper ID: **11**

HYBRID: An Efficient Unifying Process to Mine Frequent Itemsets

Nurul Zulkurnain and Ahmad Shah

Current advancement in technology inexorably leads to data flood. More data is generated from banking, telecom, scientific experiments, etc. Data mining is the process of extracting useful information from this flooded data, which helps in making profitable future decisions in these fields. Frequent itemset mining is one of the focus research areas and an important step to fin association rules. Time and space requirements for generating frequent itemsets are of utter importance. Algorithms to mine frequent itemsets effectively help in finding association rules and also help in many other data mining tasks. In this paper, an efficient hybrid algorithm was designed using a unifying process of the algorithms Improved Apriori and FP-Growth. Results indicate that the proposed hybrid algorithm, albeit more complex, consumes fewer memory resources and faster execution time.

Paper ID: **14**

A Survey of Soft Computing Applications for Decision Making in Supply Chain Management

Syed Muhammad Aqil Burney, Syed Mubashir Ali and Shamaila Burney

It is widely recognized that effective supply chain management (SCM) is imperative in order for organizations to compete and have strategic competitive advantage. In order to maintain profit margins, organizations are working extensively on reducing operational costs and improving customer service. A number of processes within SCM involve complex decision making (DM). Therefore, a lot of academicians have developed research interest in improving and/or optimizing SCM performance and decision making capability. Numerous soft computing(SC) techniques including but not limited to fuzzy logic and fuzzy sets, artificial neural networks, genetic algorithm, Bayesian network, rough set theory etc has been applied for decision making and analysis within a number of supply chain management processes. This paper aims to review the existing research articles that deal with the applications of SC techniques for DM in SCM and provides future research directions.

Paper ID: 1**5**

Energy Management for a Microgrid with Renewable and Hybrid Power Sources

Mahshid Javidsharifi, Taher Niknam and Sayed Aboozar Bozorgavari

Microgrid (MG) can be considered as a fundamental solution in order for distributed generators' (DGs) management in future smart grids. Accordingly, the optimal energy management of a typical MG is investigated in this paper. A modified bird mating optimizer (MBMO) algorithm is presented in order to schedule a grid-connected MG with renewable energy sources (RESs) consisting of photovoltaic (PV) and wind turbine (WT), along with a hybrid power source (micro-turbine, fuel-cell and battery) to accumulate excess energy or to equalize power mismatch, by optimal scheduling of DGs and the power exchange between the utility grid and storage system. Results show the effectiveness of the proposed method in satisfying the load and minimizing the operation cost. The efficiency of the presented algorithm is validated through comparison of different methods, including PSO and the original BMO, in a typical MG.

Paper ID: 16

QBLE – Theme Park Queueing System Using Wearable Device

Rudwiky Okta Putra, Sani Fathuddin Musoffa, Siti Nurhasanah, Erwin Anggadjaja and Handri Santoso

Visiting theme park is one of the most popular activities for spending holiday. However, there is always a long and time-consuming queue which is contradictory to the vacation goal. The previous studies have discussed about how to lessen this queuing problem. Using the classic queuing machine for instance, where book-and-wait approach is used and also the use of more advanced technology such as NFC card reader. Similar ideas can be applied as long as the system can identify the parameter of visitor's number, rides, and the scale of customer satisfaction of queuing. A research implies that redesigning a queuing system using technology has great impact to reduce waiting duration and increase the customer satisfaction. In this paper, a novel about wearable-based system named QBLE is proposed as a reference to solve the queuing problem mentioned above. QBLE enables the visitors to reserve the rides by tapping the wrist-band in the reservation station in order to let the system calculate the queue number and or estimated time. The information will be shown to the user so that they can decide whether enjoying or booking another ride without queuing in one particular line. The system has been tested through hybrid simulation to handle up to 3000 visitors of 16 rides in the period of 9 hours. The evaluation has been done and it shows a positive result.

Paper ID: 17

Self-energy sustainable playgrounds for children

Ahmar Hayat Khan and Atif Saeed

A new study is proposed for converting human energy found in children's playgrounds and public place where swings, sea-saw, merry-go-round, and similar types of rides are found. During holidays and vacations, large number of children and adults visit amusement park for fun and enjoyment. The energy consumed by them can be converted into useful energy by modifying the existing rides such as swings, sea-saws, slides and merry-go-round in a way that the playful energy is converted into electrical energy that should be sufficient to light up the park and other small appliances used in the playgrounds. The proposed method can be easily adapted in existing rides and can save energy in emerging countries. The idea of this concept is to develop a culture of green energy from basic mechanisms. The paper is based on the theory behind the proposed method.

Paper ID: 27

Doing it with a glass onion: Investigating affordances provided by a head-mounted augmented reality immersive device for the real-time online supervision of experimental learning

George Banky and Aaron Blicblau

The focus of this work was to assess the affordances provided by a head-mounted augmented reality immersive device for the real-time online supervision of experimental learning for off-campus engineering student experimentation. The data collection involved recordings of first year electronics laboratory classes where students, under realtime face-to-face and online supervision, carried out their experiments using real components and test instruments. The identification of kikan-shido events in the collected data was used to find the affordances that were present in both the face-to-face and the remotely supervised experimental sessions.

Paper ID: **31**

Trust Development in Virtual teams to Implement Global Software Development (GSD): A Structured Approach to Overcome Communication Barriers

Asim Iftikhar, Muhammad Alam, Shahrulniza Musa and Mazliham Mohd Suud

Global software development is increasingly used in organizations where specialized skills are required to address specialized software development and support. The Global software development industry is such business that has had a huge impact over the last several years, demanding expert resources and their timely availability whenever and wherever needed. This dependence on software engineering has led to the transformation of the way the softwares are being developed today. Project team members from different geographical locations and cultures are involved in software development and getting many benefits include cost advantage, time, risk, productivity and 24/7 development. Communication and collaboration are the key technologies used in Global software development. These tools have their inherent problems and gray areas on which further research is required. These technologies must ensure the availability of sufficient resources, Project management needs to monitor project progress and status reports, planned milestones that must be understood and agreed among all team members and a refined high-performance process of Global Software development without unnecessary project activities that creates delays in the project. In this paper several communication barriers have been addressed that lead to project failure. The need to use faster, cheaper and cost-effective means of communication tools has exerted a lot of pressure on software professionals to cater to the demand of the global world.

Paper ID: **32**

Prior Investigation for Flash Floods and Hurricanes, Concise Capsulization of Hydrological Technologies and Instrumentation: A survey

Talha Ahmed Khan, Muhammad Alam, Zeeshan Shahid and Mazliham Mohd Suud

An energy efficient and time saving furnace for heating purpose in a melting industry is of great use. Microwave based industrial furnace has certain advantages over conventional blast furnaces which is discussed in quite detail in this paper along with the efficiency of microwave based melting furnace based on the correct selection of susceptor material. This paper discusses the criteria for the selection of correct susceptor material based on the comparative study of different available susceptor for this purpose. The finding of this paper suggests that SiC is the best available susceptor for metal melting purposes in a microwave furnace as it has the tendency of generating and transmitting higher temperature when microwaves are applied using magnetron.

Paper ID: **33**

Knowledge Management: Process Mapping in Commercial Banks

Shabina Shaikh and Arabella Butto

Knowledge Management contains variety of practices performed by organizations to represent, identify, transfer and create knowledge. Various organizations have resources allocated to Knowledge Management, usually named information technology and banking sector is one of them. This research tries to measure the existence of knowledge management practices in the context of commercial banks. This research paper studies five top banks on the basis of age, networking and income and explores the contribution of knowledge management practices adopted by these commercial banks in Pakistan. The commercial banks offer variety of applications including "Account Deposits". In order to understand the contribution of knowledge management practices the Bohn's Eight Scale Stages are rephrased and applied for the said application. The Bohn's Eight Scale Stages measure the knowledge management practices from the level of complete ignorance to the level of complete knowledge. This study first develops the process map of the "Account Deposit" activities then through fully structured interviews measures standing of these banks on the Bohn's eight scale stage. The findings reveal a positive association amongst the knowledge management practices adopted by commercial banks with their age, networking and income.

Paper ID: **34**

Key Success Measures for Billing and Revenue Management System In Thailand

Akaret Tangsuwan and Paul Mason

Billing and revenue management system (BRMS) is one of the core enterprise applications in the telecommunications industry. Most generic international surveys show high failure rates for IT projects, though few address success measures for enterprise software in the industry. This study identifies the measures of BRMS success for Telecoms organizations. Our study applied the Delphi technique to identify both benefit and success measures of BRMS by interviewing key experts of major telecom service providers in Thailand. The results show that organizations expect BRMS to cut operating costs while reducing time-to-market as major benefits. The measures are grouped into 5 dimensions: information quality, system quality, service quality, use, and user satisfaction. 25 success measures under those dimensions were identified under those dimensions. Our main research contribution is the provision of a means for organizations to evaluate and predict the success of BRMS in the telecoms sector. This study was solely concerned with the list of success measures. Future study will extend this study to include the relationship between those measures and level of influence on success.

Paper ID: 3**5**

A New Decomposed Strategy for Energy Flow in Integrated Electrical, Natural Gas, and Heating Networks

Hamid Reza Massrur, Jamshid Aghaei, Seyed Aboozar Bozorgavari and Taher Niknam

Recently, in order to enhance the efficiency in supplying electrical and thermal loads, Multi-Carrier Energy (MCE) systems and energy hub have been introduced. However, one of the most important issues related to the MCE systems is power flow of sub-networks of MCE considering interdependent equipment. In this paper, a new decomposing strategy is presented to solve the power flow of a large-scale MCE system including gas, electrical and heating sub-networks. In the proposed decomposition strategy, the energy flows of various sub-networks are decoupled without losing the major benefits of simultaneous analysis of the sub-networks and losing accuracy. By proposed strategy, the hardness of power flow calculating of the interdependent equipment is diminished. In order to test the capability and the efficiency of the proposed decomposed strategy to solve the large-scale Power Flow of MCE (PFMCE) systems, the proposed method is tested on a large-scale multi-carrier energy system. The obtained results consequently demonstrated the superiority of the proposed strategy on solving the large-scale MCE systems including gas, heat and electrical sub-networks.

Paper ID: **36**

Effects of T-stack probes On Affymetrix Human GeneChip® Data

Syed Akbar Ali Shah, Farhat Naureen Memon, Zain-Ul-Abdin Khuhro and Abdul Rasool Abbasi

The Karst Hoogsteen theory, that bases can also pair up in many different ways, opens up another door of research for scientists. It is found that nucleotide sequences having continuous guanines (G-stack probes) form unusual structures called GQuadruplex structures due to guanine-guanine (G-G) bindings. Researchers have found that some abnormal behaviors are seen on microarray particularly on Affymetrix GeneChip® and they associated these abnormal behaviors with the formation of Gquadruplex structures due to the presence of G-stack probes. Hence, G-stack probes were suggested unreliable for gene expression measurement. This left another question that if G-G can affect GeneChip® then interaction among other bases like A-A, TT and C-C may also be problematic for GeneChips®. The main objective of this research is to analyze the effects of TT binding at probe level data of Affymetrix GeneChip®. Data of HG_U95C GeneChip® designed for Homo Sapiens (Human) is downloaded from NCBI-GEO repository. The abnormal behavior of G-stack probes was shown as the G-stack probes were not correlated with their other member probes while they were correlated with each other regardless of their genes/probe sets. Similarly, the correlation among the T-stack probes is calculated to verify if they are behaving like G-stack probes. The results suggest that thymine-thymine binding does not affect the human chip. Hence it is all fine if T-stack probes are present on any GeneChip® design.

Paper ID: **38**

Smart Parking Management System: An Integration of RFID, ALPR, and WSN

Hans Chandra, Kenny R. Hadisaputra, Michael, Handri Santoso and Erwin Anggadjaja

Parking space has become a prominent problem due to the increasing number of vehicles which is not fully accommodated by the available parking space. In this paper, a Smart Parking Management System (SPMS) based on the combination of Radio Frequency Identification (RFID), Automatic License Plate Recognition (ALPR), and IEEE 802.15.4 Wireless Sensor Network (WSN) technologies is presented. Using ALPR and WSN, the system is able to collect information about the occupancy status of parking spaces and transmit them to a database server. This information can be accessed by user through mobile application to receive real-time updates. The application also encourages an NFC-based user identification and facilitates user with parking space reservation and online payment system. A proof-of-concept has been deployed, tested, and validated. The validation demonstrates that the proposed system can meet the real requirement of SPMS.

Paper ID: **39**

Virtual Reality Markup Framework for Generating Interactive Indoor Environment

Yasas Sri Wickramasinghe, Cherani Liyanage, Ruwandi Seram, Ruwan Liyanage and Dr. Lochandaka Ranathunga

This research proposes an interactive threedimensional (3-D) application which can be used for modelling and manipulating interior architectural environments. This incorporates the concept of Virtual Reality [1] (VR) giving the user a real world experience. Virtual Reality is a trending technology which is gaining popularity due to the user experience it gives and its effectiveness. The proposed system consists of 4 major components. The user can add objects to the environment either using a description given in natural language or by giving a hand drawn sketch of the objects to be added. Natural Language Processing (NLP) techniques will be used to extract object details from the user description and Image Processing techniques will be used to extract object details from the hand drawn sketch. The user can control the 3D environment either by using hand gestures or voice commands. The hand gestures will be captured using a web camera and the voice commands will be captured using a microphone and Natural Language Processing (NLP) techniques will be used in order to extract the user's command. The 3-D application will be developed using VRML [2] (Virtual Reality Markup Language) which is a language for describing three-dimensional (3-D) image sequences and possible user interactions to go with them. Using the application developed using VRML, the user can interact with the virtual environment by viewing, navigation, moving and rotating objects within the environment thus it gives the user a feeling as actually living in the environment.

Paper ID: **41**

Identification of Noun + Verb Compound Nouns in Malay Standard Document Based On Rule Based

Zamri Abu Bakar, Normaly Kamal Ismail and Mohd Izani Mohamed Rawi

In this paper, we describe our methods to identifynNoun + Verb Compound Nouns in Malay Standard document. We addressed the problem on detection of combination noun and verb in sentences to become a compound word. We proposed several identification rules based by using Malay grammar theory and syntactic information to increase the percentage of recall and precision. For compound noun identification, we used dictionary based and thesaurus information for implementing Part of Speech (POS) tagging to all words in the selected Malay document. Testing was done on selected Malay document. The result showed an improvement compared to previous research with a precision of 93.5% and a recall of 27.5%.

Paper ID: **46**

A Personalized Recommendation Framework with User Trajectory Analysis applied in Location-Based Social Network (LBSN)

Guang Xing Lye, Ileladewa Adeoye Abiodun, Wai Khuen Cheng and Teik Boon Tan

There are several existing technologies to tracking down what favors the preferences or increase the satisfaction of a user in a social networking environment. These technologies range from the conventional manual approaches (with high human intervention) to automated approaches (e.g. vision-based, participatory sensing with mobile devices). In this paper, the user's trajectories were recorded with a Location-Based Social Network (LBSN) mobile application namely UniCAT, which provides several smart community services (e.g. information sharing, social networking, e-commerce functionalities) to its users. This paper proposes a personalized recommendation framework, which adopts the generic recommendation process with the integration of KDI (Knowledge-Desire-Intention) model in capturing the user's preferences. The proposed framework is evaluated with the trajectory records from 100 active users over a period of one year by recommending a list of Point-Of-Interests (POIs) during each user's request. The satisfactions of the generated POIs from various selected approaches are benchmarking with the standard information retrieval metrics of precision and recall. From the experimental results, the proposed hybrid approach outperformed other generic recommendation frameworks, and also proves that personalization can further improve user's experience and satisfaction.

Paper ID: **48**

Non- Conventional Machining Processes as Expedient Alternatives for Conventional Machining Processes
Tanzila Younas, Maha Manzoor and Jalpa Kumari

The technological developments in the field of materials and manufacturing processes have been increased rapidly over the last few decades. The machining of advanced materials and alloys with greater mechanical and physical properties using conventional machining processes has got more difficult and inconvenient in context with high tool maintenance and high cost of machining in conventional methods. Moreover, the necessity to use new materials and the demand of functional requirements and miniaturization has led to evolution of traditional machining processes. Unconventional machining processes offer an attractive and viable alternative for conventional processes of machining. The Non-Conventional machining methods are implemented in cases where Conventional machining processes are not workable, competent or available in cutprice. This paper aims to provide a comparison between Conventional and Non-Conventional Machining processes that are currently under use/ research in the manufacturing arena.

Paper ID: **56**

Improving Network Coding throughput in Multi-hop Networks through DCF adoption in 802.11
Khaled Alferaidi and R J Piechocki

Wireless Multi-Hop networks often rely on the use of IEEE 802.11 technology, Regardless of the robustness of IEEE 802.11 Distributed Coordination Function (DCF) is not optimal in various network scenarios. In this study and other have experienced the inefficacy's of DCF when Network Coding is applied, therefore the room of improvement is needed to consider Network Coding technique. DCF is fairer to nodes than the process of Network Coding. Since the rely nodes in multi-Hop scenario have urgent requirements to gain more access and regulated access, which accommodate the network Coding process. We propose enhanced algorithm to DCF mechanism on MAC layer that favouring Network Coding, and guarantee to give more access to medium and better share of medium for relay nodes between bidirectional traffic flows in saturated network traffic scenario.

Paper ID: **59**

Knowledge Sharing of Virtual Teams: The Mediating Effect of Trust on Relationship Communication
David Kauffmann and Golan Carmi

This study examines the relationship between relationship communication and knowledge sharing by exploring the mediating effect of interpersonal trust in a virtual team environment. A multiple-mediation model was developed to examine this relationship, where cognitive trust and affective trust are defined as mediation variables between relationship communication and knowledge sharing. The main results of this study demonstrated significant positive correlations between relationship communication, trust, and knowledge sharing. Furthermore, this study identified interpersonal trust as playing an important role in mediating the relationship between task communication and knowledge sharing. However, only the rational aspect of trust has an impact, unlike that of the emotional aspect. Thus, only cognitive trust was found to be a mediator for knowledge sharing. This research model can help virtual teams resolve some of the emerging organizational challenges by increasing knowledge sharing.

Paper ID: **62**

Experimental Investigation on the contribution of pristine multi-walled carbon nanotubes (MWCNTs) addition to the strength enhancement of cement composites
Ali Naqi and Naseem Abbas

The research discusses the different dosages of pristine carbon nanotubes that can be added for the strength enhancement of cement composites. Carbon nanotubes dispersion in the cement composite was aided using silica fume particles. Addition of silica fume was found to be helpful in strength increment by improving the bond between the nanotubes and cement matrix. The experimental results showed an increase in compressive strength up to 4.2% and 19% at 7 and 28 days testing for the CNTs dosages of 0.05%, 0.075% and 0.10% (by weight of binder) compared the reference specimen. This strength increment is due to improved microstructure formed by the addition of nanotubes

Paper ID: **64**

The Utilization of Social Media While Driving in Bangkok

Wuttikrai Duangjui and Veeris Ammarapala

Driving and talking or using a smart phone has long been recognized as dangerous activity which could result in injuries and fatalities. However, many people are still using smart phone while they are driving although they know it is dangerous. The extremely increasing trend in using social media also makes the number of people using smart phone while driving rising as they purpose is not for calling only. This paper focuses on the determination of functions of smartphone application that affect the decision to use smart phone while driving. The questionnaires survey was conducted through direct survey and internet randomly distributing to Thai people who is older than 18 years old and be able to drive any vehicles in Bangkok area. Then the Regression was used to analyze the data. The factors to be investigated are features of each social media applications such as notification, chatting, or updating status, and etc. The outcomes obtained is the insight knowledge about which applications and features are most used by Thai people while driving. Also, this could be developed to be policy recommendations to government entities and suggestion to the application makers to have some restriction about the usages of application while driving.

Paper ID: **65**

Inhibiting corrosion effect of Phosphate glass on mild steel in acid solution

Naseem Abbas, Maryama Hammi, Siham Echihi and Nida Zahra

A new corrosion inhibitor, namely glass of composition 50%K2O-25%CaO-25%P2O5 has been synthesized and its inhibiting action on the corrosion of mild steel in molar hydrochloric acid (1 M HCl) has been investigated using electrochemical impedance spectroscopy method (EIS). Data obtained from EIS measurements were analyzed to model the corrosion inhibition process through appropriate equivalent circuit model. The experimental results revealed that Phosphate glass is an efficient inhibitor and the inhibition efficiency increases with increase in inhibitor concentration, reaching value up to 93% at a concentration of 500 ppm. The inhibition mechanism of the studied glass system was discussed in details.

Paper ID: 67

Optimal Promotion Prices Facing Strategic Customers with Setup Cost: Numerical Experiments

Kajonjit Kulrawang and Aussadavut Dumrongsiri

This paper studies the two-stage supply chain consisted of a single retailer who sells multiple products to multiple strategic customers. The retailer as the leader of the game, who aims to maximize profits, announces the retail promotion information, whereas the strategic customers, who are the followers, response to the given promotion and make purchasing decision to minimize total shopping cost. The mixed-integer programming model is developed to find the optimal price discount promotion. In numerical experiments, many price discount patterns are conducted to see the effect of retail price and promotion period to the strategic customers. To compete with Everyday Low Price (EDLP) competitor, the result suggests that the retailer should offer the price discount at the beginning of the time period. For High-Low pricing competitor, the retailer should offer the price discount before the competitor and offer at the same price.

Paper ID: **68**

Analysis of the Effects of Redundancy on the Performance of Relational Database Systems

Muhammad Saleem Vighio

Redundancy and complexity in user queries put extra burden of simplification on database management system software. As a result, the overall performance of database management system software is reduced. In order to get query results efficiently, queries need to be simplified before their processing. In this paper, we present a tool that simplifies user queries in the initial phase of their processing. Simplification is achieved using idempotent and equivalence rules for simplification. Tool automatically performs normalization upon complex and redundant queries, and as a result provides a simplified query along with the statistics of cost incurred on the simplification process. Experimental results show that the queries involving redundancy and complexity require more time and resources as compared to executing simple and non-redundant queries.

Paper ID: **69**

Tactile Discrimination of Fabrics using Machine Learning Techniques

Abdul Attayyab Khan, M. Hassan Tanveer, Tahir Rasheed and Abdul Azees Ajmal

Data mining and machine learning methods are proposed in order to discriminate between various fabrics. In particular textile classes are distinguished, like awning, jeans, jute, pile and satin. The real signals are acquired by a laboratory setup that includes: a Cartesian robot with ability to apply controlled constant pressure and speed, a MEMS piezo capacitive sensor and a Simulink module for signal recording. A set of static and dynamic features is extracted from the data series. A novel approach to feature selection is designed, based on an iterative p-value filter, with separate runs (and results) for different pairs of classes. A set of one-to-one class classifiers (a support vector machine) is learned in corresponding feature spaces. The evaluation procedure, in terms of a ten-fold cross validation, confirmed a 100% of classification accuracy of the proposed approach on available sensor data.

Paper ID: **70**

The Decision Making of Freight Route in Multimodal Transportation Between Thailand and Cambodia

Kwanjira Kaewfak and Veeris Ammarapala

This paper develops a framework for route selection in multimodal transportation about the case study of transportation from Thailand to Cambodia in beverage industries. The optimized route can help optimize cost, lead time, and risk in the systems. The route selection process applies a five phases framework to determine an optimal multimodal route. The first phase is to define areas of study and identify all the related routes. The second phase is to calculate time and cost of each route. The third phase is to integrate quantitative and qualitative decision making which are assessed by the experts or Logistics Service Providers for each criterion. The fourth phase is to prioritize criteria by using Analytic Hierarchy Process. The final phase is to optimize the route by using the Zero-one goal programming. The results have shown that the approach can provide guidance in choosing the optimal cost, time and risk effectively.

Paper ID: **73**

User Perception on the State of Online Fake News

Nur Fatihah Alwani Azmi, Sakeena Mohamed Sirajudeen and Adamu Abubakar Ibrahim

In the recent years, the outburst of the spread of online fake news distract and disrupt many human activities. Crucial to this, involves microblogging sites interactions. This has been one of the major platform in which online fake news spread rapidly within a twinkle of an eye. Although there many attempts to uncover an extensive technique that can filter out intentionally deceptive information or fake news, on social media, unfortunately users' studies on the impact and consequences of intentional manipulation of online content and spread of fake news appears to be relatively low. As a result, this research conducted an exploratory survey within a sample drawn from Malaysia on user's views pertaining the state of spread of fake online information. The finding indicate that the privacy and security vulnerabilities of Microblogging sites is a top concern to the users. There is also a good awareness about the spreading of online fake news. Hence, spreading online fake news becomes a critical issue to grasps. Users are adamant that there could be a method that can prevent the act, which currently not enough effort has been given to avoid the spreading of online fake news.

Paper ID: **74**

A Comparative Study Between SPWM and SEH-PWM Modulation Techniques for DC-AC Inverters

Ezzidin Hassan Aboadla, Sheroz Khan, Mohamed Hadi Habaebi, Belal Ahmed Hamida and Teddy Surya Gunawan

DC-AC Inverters are basically used to convert renewable sources DC, like solar energy or storage batteries into AC power. However, the outputs of these converters contain undesirable harmonic distortion due to the ON and OFF switching. There are a number of modulation schemes employed to control ON-OFF the switching of IGBT (or MOSFET) of Inverters and to mitigate these harmonics effectively. The most popular modulation methods in this regard are Sinusoidal Puls Width Modulation (SPWM) and Selective Harmonics Elimination Puls Width modulation (SHE-PWM). The common parameters between two techniques are modulation index (m) and the number of pulses (Np). A minimum Total Harmonic Distortion (THD) is used as Figure of Merit to comparing results by both techniques. This paper demonstrates the comparison between SPWM and SHE-PWM implemented in the unipolar inverter. To assess and validate the utility of the techniques, simulation results are obtained using MATLAB software..

Paper ID: 7**5**

A CFD Investigation of Airflow in a Hard Disk Drive Production Line to Detect the Cause(s) of Contamination and Its Mitigation

Adisorn Khaokom, Jatuporn Thongsri and Polsate Kaewkhaw

Contamination exceeds the standards in certain areas within the production line of hard disk drive (HDD) manufacturing, such as in the clean room of a factory. In order to find the cause(s) and solve the problem, we decided to use the computational fluid dynamics (CFD) to simulate the airflow within the production line. The results show the cause of contamination, which is from the exhaust fan installed in the electrical testing machine in the production line of HDD manufacturing, which releases large amounts of particles. To resolve this problem, the CFD results were analyzed to design and create a new cover for the exhaust fan. Once this invention is installed to the electrical testing machine, it can control the airflow to float into other areas that do not affect nor contaminate the product. The factory utilized this research. Other than solving contamination problems that exceed standards, it also saves production costs from purchasing new machines as well.

Paper ID: **78**

Anti-Collision System for Unmanned Mobile Robot System

Abadal-Salam T. Hussain

In the world of leading edge, modern, hi-tech product vary has been designed to fulfill the requirements of users nowadays. Merchandise out there on the market designed to resolve human issues. This includes merchandise that may facilitate students in electronic engineering studies. for college students UN agency take subjects concerning the motor theory within the room isn't decent for understanding the conception of movement and control, speed and then on. So, the project is termed Anti-Collision Mobile will facilitate students perceive the sensible in subjects concerning the motor system. This robot could be a mobile machine that may sight and follow the road drawn on the ground. Generally, the trail is predefined and might be either visible sort of a black line on a white surface with a high contrasted color or it will be invisible sort of a force field. Therefore, this type of robot ought to sense the road with its heat ray (IR) sensors that put in beneath the robot. After that, the info is transmitted to the processor by specific transition buses. Hence, the processor goes to make your mind up the correct commands and so it sends them to the driving force and therefore the trail are going to be followed by the road follower robot. This line follower robot designed to following the road with in anti-collision. The project gift contributes proposing anti-collision strategies supported the employment of infrared as distance sensors. A protecting barrier, observed as virtual wall, is constructed around associate obstacle, and is ready to come back a virtual force supported the detected distance.

Paper ID: **79**

Effect of Diesel Generator Characteristics on the Design Optimization of a Stand-alone Hybrid Micro-power System for Baghdad City

Amer Ali, Sameer Algburi and Abadal – Salam Hussain

This paper investigates the effect of diesel generator characteristics on the design optimization of a hybrid, off-grid, and micro-power system in Baghdad city. Four case studies, including diesel generator loading ratio, lifetime, fuel consumption and fuel type were implemented based on HOMER software. HOMER assign the lower cost combination of hybrid system components to attain the lower total net present cost for 25 years of system lifetime. The obtained results show a close relationship between system optimization and these generator characteristics.

Paper ID: **81**

Filtering the Big Data Based on Volume, Variety and Velocity by Using Kalman Filter Recursive Approach

Fatima Riaz, Muhammad Alam and Attra Ali

For the past seven decades the term Big Data is known, but due to the emerging technology shift of this era, it is captivating a lot of attention from the researchers of mathematics, computing, telecommunication, information technology, data warehousing, and mining. As this generation is living in the age of technology where data is playing a vital role and especially the Big Data has many success stories, but at the same time it is becoming the biggest threat to network service provider, telecom industry, and homeland security. Every device such as smart phones, laptop, desktop, etc. connected with the network is contributing to add data to a Big Data pool by using different applications. Social media such as Instagram, WhatsApp, Apple, Google, Google+, Twitter, Flickr, etc. are few famous tools which are used to add redundant data. The question appears, is it mandatory to store and especially process all the data either useful or redundant? This research paper is focusing for filtering useful data from redundant data by using their parameters, which are velocity, variety, and volume. In proposed architecture, Memcache DB (for velocity), Voldemort layers (for variety) and MapReduce (for volume) are linked with Hadoop to achieve filtered data. Kalman filter recursive approach is used to inject the data back into Hadoop Distributed File System to reduce processing cost of next iterations.

Paper ID: **84**

Artificial Elbow Joint Classification Using Upper Arm Based on Surface-EMG Signal

Jicheng Wang and Warit Wichakool

This paper proposes a method of elbow joint motions recognition using surface electro-myography (sEMG) signal for disable people with below-elbow amputation. It solves the situation that forearm without muscle cannot control forearm pronation. The pre-processing system processes sEMG signal to remove noise by soft threshold method, then denoising sEMG signal is sent to artificial neural network which trains features to recognize motions. The probability of this method activating 4 motions is 91.78% that was demonstrated by experimental results of recognition motions.

Paper ID: **87**

Near Field Communication enabled payment system adoption: A conceptual framework

Imtiaz Ali Brohi, Najma Imtiaz Ali, Asadullah Shah, Mostafa Karbasi, Abdul Rahman Gharamah, Ali Akbar and Asif Ali

Digital payment system has become essence of today's advanced technological society and consumers are trying to have substitute over cash. Most recent promising technology development is Near Field Communication that has changed life of consumers in mobile based payment system. Near field communication is short range contactless communication technology that has made users life convenient around the world by offering transactions, digital content exchange and connecting electronic devices with a simple touch. Near field communication enabled payment system has been introduced in consumer payment market well-known companies have invested in this technology because of its convenience and security. purpose of this paper is to propose a conceptual framework in context of developing economies by integrating constructs from Extended Unified Technology Acceptance and Use of Technology (UTAUT2) with some external variables.

Paper ID: **88**

Knowledge Management Practice in Private Sector in Saudi Arabia: Is it line with Saudi Arabia Strategic Growth and Transformation to Knowledge-based Economy

Abdul Rahman Gharamah, Mohamad Fauzan Noordin, Najma Imtiaz Ali and Imtiaz Ali Brohi

Saudi Arabia strategic growth main objective is to be a major player of global economy and moving toward knowledge-based economy, therefore private sector in various fields needs to be in line with country's ambition goal by improving their Knowledge Management (KM) handling and readiness for the foreseen customer demands. This study is a is a critique review to evaluate existing KM practice in private sector in Kingdom of Saudi Arabia (KSA) to see the readiness of this sector to play an integral role of knowledge-based economy and support nation's growth strategy. The research will examine current states in term of how knowledge management practiced. The study will address various aspects of knowledge management ranges from the need of implementing knowledge management systems to the added value by deploying such systems. In addition, the review will discuss if the private sector is heading to the right direction and coherent with KSA strategic goal by examining a sample of four major firms in private sector. The outcome the sample reflected that the private sector is harmonized with KSA objective.

Paper ID: **89**

Roadmap for Successful Knowledge Management System Deployment

Abdul Rahman Gharamah, Mohamad Fauzan Noordin, Najma Imtiaz Ali and Imtiaz Ali Brohi

Globalization and competitions are the main two challenges facing firms who are trying to sustain their success or even to stay in the market. Therefore; investments in technology, process and people become necessary for organization to ensure having desired share in the marketplace. Large firms set up advanced and complex websites and hi-tech technology to create, maintain and share knowledge internally by accumulating and applying gained knowledge to create economic value. Knowledge is an important focus in organization's strategy, where knowledge is seen as vital organizations possess. Companies can become more efficient by transferring and sharing what workers know, and then they can develop learning strategies. The main objective of this research is to identify existing knowledge management practice in order to improve it. A clear road map will be theoretically proposed to be implemented and implanted in the corporate operational and business strategy.

Paper ID: **91**

Data Processing in Hive vs. SQL Server: A comparative analysis in the query performance

Nadeem Ahmed, Shakil Ahamed, Jahir Ibna Rafiq and Sifatur Rahim

Data processing means manipulating the input raw data using application program to get the desired output. The main target behind data processing is to convert unusable data into a usable form. Relational database management system (RDBMS) is playing main role for data processing in most of the organizations. MySQL, SQL Server, Oracle, SQLite are some of the well-known database management systems. Moving forward big data technology is becoming more admired towards many organizations as nature and size of data sets grow rapidly. Big data is particularly apt for extreme large volume where conventional data processing application is inadequate to deal. Generally, large organizations use big data technology for processing large volume of data. However, this paper targets the audience of Small Enterprises (SE) where the database size is relatively small and is not distributed over multiple servers. The attempted study examines the query execution time between traditional data warehouse, grounded on the SQLite, SQL Server and a parallel data warehouse grounded on the Hive built on the top of Hadoop so that SE can decide which system performs better in terms of the time of data processing. The study finds that it is better to use traditional database systems if SE does not have a plan in near future to work with vast amount of data i.e. the data set fits on a single computer.

Paper ID: 93

Preliminary Optimization of Process Conditions for Biohydrogen Production from Sago Wastewater

Tami Astie Ulhiza, Noor Illi Mohamad Puad and Azlin Suhaida Azmi

High organic content in the untreated sago wastewater (SWW) can cause severe environmental pollution. The starch content in SWW can be utilized as a potential substrate for biohydrogen production. SWW taken from Johor contains 23700 mg/L COD and 0.146 g/l glucose. After acid pretreatment process using 1.5% (v/v) H2SO4 at 121oC for 60 minutes, the glucose content increased to 9.36 g/l. Early stage of optimization was carried out using one-factor-at-a-time (OFAT) method. The variables involved in this experiment were temperature, inoculum size and yeast extract. Enterobacter aerogenes (E. aerogenes) was used as hydrogen producer. It was found that the highest concentration of hydrogen was obtained when the temperature, inoculum size and yeast extract were 30oC, 5% and 3 g/l, respectively.

Paper ID: **95**

Characteristics of Start Up Company and Its Strategy: Analysis of Indonesia Fashion Start Up Companies

Rahmat Nurcahyo, Mohammad Akbar and Djoko Gabriel

Start up companies, as an organization in the early phase, have different characteristics than mature organization. The research method is qualitative because the purpose is trying to understand the start up characteristics. The research object is Indonesia fashion start up companies because it is one of the most promising start ups in Indonesia. Strategy choices are crucial in fashion start ups in Indonesia. Objective of this paper is to analyze the strategy that has been used in fashion start ups in Indonesia. Most of the start ups use intuitive decision making. The result is most fashion start ups tend to use intensive strategy because the market is still growing. Intensive market penetration through marketing strategy and related diversification are the two strategies that commonly used in fashion start ups in Indonesia.

Paper ID: **96**

Developing a Strategy Map based on Sustainability Balanced Scorecard Framework for Manufacturing Industry in Indonesia

Rahmat Nurcahyo, Saripuji Pustiwari and Djoko Sihono Gabriel

This study proposes a structural evaluation to link key performance indicator into a strategy map based on sustainability balanced scorecard framework for manufacturing industry in Indonesia. With four perspectives (finance, stakeholder, internal business process and learning & growth) on Sustainability Balanced Scorecard, the evaluation of relationship between perspectives and indicators of manufacturing industry are synthesized from relevant literature and experts. The Decision Making Trial and Evaluation Laboratory (DEMATEL) method employed to identify critical central and influential factors, to determine the causal relationship and finally to develop a visual strategy map to improve corporate sustainability. The three most important indicators are sustainability award, certification of environmental and social standards and resource productivity. The result can help prioritizing the performance indicators and show which areas that need improvement most.

Paper ID: **98**

A STUDY OF INTERNET OF THINGS (IOT)-BASED HEALTHCARE ACCEPTANCE IN PAKISTAN

Zulfiqar Ali Solangi, Dr. Madihah S. Abd. Aziz and Prof. Asadullah Shah

The Future technology Internet of Things (IoT) has immense prospects to improve future health care and its related issues to delivery, management, and development. IoT is a network founded on the use of sensors, actuators, beams, RFID devices and software in things that can transform the future healthcare into pervasive healthcare. IoT-based healthcare can improve the delivery of healthcare services efficiently and innovatively by growing huge volume of patients' data (big data) that can invoke proactive, predictive decisions and insights in future healthcare of Pakistan. The health sector in Pakistan is confronting a number of challenges, including rising steeply costs; amplified aged population; chronic disease due to contemporary lifestyle; a growing incidence of medical errors, inadequate technical staffing, and lack of coverage and medical professionals in rural and underserved areas. The research paper intends to contribute to the community, medical professionals (doctors, support staff, health administrator) and end-users of proposed system with the development of ubiquitous healthcare framework specifically in rural and underserved areas of Pakistan. The purpose of the research study is to evaluate the acceptance and use of IoT in the healthcare system by medical professionals, clinicians and patients in Pakistan in the precision of the Unified Theory of Acceptance and Use of Technology model (UTAUT), and Health Belief Model (HBM). This paper extends the existing research to study IoT-based healthcare acceptance, HBM will be contextualized with the assimilation of UTAUT model constructs to assess the acceptance study in general health sector of Pakistan. It is also expected that this research study will help in providing solutions to improve prevailing healthcare conditions of rural and underserved areas in Pakistan. In this research study triangulation, which is mix mode of research methodology involves both quantitative and qualitative research, will be used to achieve all the research objectives and test the research hypothesis. This research will be using cluster sampling for data collection.

Paper ID: **101**

An empirical study to explore the acceptance of Internet of Things (IoT)-based healthcare in Pakistan: Pilot Study

Zulfiqar Ali Solangi, Yasir Ali Solangi, Madihah S. Abd. Aziz and Asadullah Shah

The motivation behind the study is to incorporate Health Belief Model (HBM) and Unified Theory of Acceptance and Use of Technology (UTAUT) model alongside and trust and doctor-patient relationship keeping in mind the end goal to research the acknowledgment of IoT-based health services framework. In order to understand technological, and clinical context the proposed framework of this study is synthesis of UTAUT, and HBM theories respectively, finally trust and doctor-patient relation factors are used to measure individual and patients' perspective about IoT-based health care systems. The proposed framework is validated with a pilot study of 40 respondents from five thickly populated cities of Pakistan. The findings verified that the proposed framework is appropriate to implement with empirical data. Based on the confirmations of the most familiar both theories, in health framework, this study demonstrates Perceived Health Risk which is composed of two independent factors, Perceived Susceptibility (PSS) and Perceived Severity (PS) have significantly positive effect on cues to action. While in technological context, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) have jointly significant positive effect on cues to action to use behavior. Furthermore, both trust and doctor-patient relationship have also positive effect on cues to action to use behavior. Cluster sampling technique was adopted in questionnaire survey for data collection, and examined hypotheses by applying structural equation modeling (SEM) method to validate the model. The findings may be used and generalized to other similar population as a theoretical basis to improve the health care services of developing countries like Pakistan.

Paper ID: **106**

Coverage Analysis of Indonesia Sustainability Assessment Tools: Similarity in Dimension and Assessment Results

Rahmat Nurcahyo, Komang Tattya Lokhita A. Kartika and Djoko Sihono Gabriel

The number of sustainability assessment tools in Indonesia is growing rapidly, concerns are raised on whether the assessment results of different tools present similar and valid conclusion about the sustainability performance in manufacturing industry. In this paper, we analyze dimensions of sustainability assessment tools and compare the structures of sustainability tools in Indonesia. Using a coverage analysis to demonstrate the similarity and differences between two sustainability assessments in Indonesia (PROPER and Industri Hijau) we then compare the results of both and analyze it. This study shows that two sustainability assessment tools in Indonesia which are PROPER and Industri Hijau have high variations in their structures, indicators, criteria, and sub-themes despite their similar dimension and purpose. Consequently, these sustainability assessment tools show differences in assessment results and conclusions on the sustainability performance of firms. Future research may propose a new integrated sustainability assessment tool so there will be only one sustainability assessment tool in Indonesia.

Paper ID: **107**

Political Marketing Communication Strategy of the X Political Party in Increasing the Electability of Constituent in the Election in Indonesia

Muhamad Aras

The background of this research are the increase in the number of political parties in Indonesia and the declining interest and public confidence in the political party so that it affects the electability of the political party itself. Although the phenomenon occurs, the X political party remains a winner in the election of 2014. This is certainly because the X political party has a strategy in designing the political marketing communication strategy to improve the electability. Based on this background, the research problem is how the marketing communication strategy of the X political party in improving the electability of the constituents. Then the purpose of the research is to determine the marketing communication strategies of the X political party in improving the electability of the constituents in the general election. The approach of research is qualitative and the data collection technique is in-depth interview to the informant. Data analysis techniques are data reduction, display, and verification. The research result shows that the marketing communication strategies of the X political party in introducing the work program and service to the community through concrete activities and issues of bias to people such as poverty reduction program, empowerment of farmers and fishermen, the rejection of the increase in fuel prices, have the political marketing plan, political parties program analysis and implementation as well as the evaluation and supervision of political party activities and then promote it by following the steps in the process of political marketing communication to the stage of program development.

Paper ID: **108**

The Internet of Things Adoption in Healthcare Applications

Zainab Alansari, Nor Badrul Anuar, Amirrudin Kamsin, Safeeullah Soomro and Mohammad Riyaz Belgaum

The Internet of Things (IoT) integrated with various healthcare applications and medical fields such as remote care system for patients, warning systems for emergencies, fitness programs, chronic diseases and also elderly care such as heart rate checking system, blood pressure measurement system, health check systems, artificial heart rate provider and hearing aids. Furthermore, IoT adopted applications monitor the treatment or drugs quantity process. Additionally, many applications are produced based on IoT adoption in healthcare systems that are used by doctors to monitor their patients after discharging from hospital. The aim of this study is to give priority to the adequate healthcare field. The study distinguishes different users of IoT in healthcare systems as well as its functions and preferences. The Fuzzy Analytic Hierarchy Process (FAHP) along with the development analysis of Chang, Da-Yong has been used to prioritize the IoT adoption in healthcare applications.

Paper ID: **109**

Development of Mini Hydrography Survey Robot

Supachai Prainetr and Kamrai Janprom

The survey an environment and monitoring to need practicality and measurement with a human in the target area. This paper proposed the development of survey robot for support of navigation work. The robot automatically used sonar to measured the lake depth, while simultaneously using GPS to get present position and depth topology. We evaluated its performance in the lake a practical test, confirming that it could easily be run by remote control from land and succeeded in drawing 3D surface underwater map, which this invention could be supported in work of navigator and protect risky in the hazard area with very low- cost budget, comparing and conventional past studied.

Paper ID: **110**

Simulation Analysis for Maximizing Renewable Solar Energy to Improve the Power Generation Capacity in the State of Kuwait

Naser Muhaisen, Sheroz Khan, Zeyad Ismail, Mohamed Habaebi, Nabil Ahmed and Musse Ahmed

This paper aims to present how to improve power generation capacity in the State of Kuwait through simulation analysis for maximizing the usage of renewable energy applications. Power demand in Kuwait increases every year by 6% that causes load-shedding problems in the national utility grid system. An effective solution is proposed in this paper to enhance the power demand shortage which leads to reduce the effects of load demands excesses, by employing some solutions in the field of solar energy system. The on-grid solar energy system to be spread on roof of buildings connected to utility grid in Kuwait is a fantastic solution for backing up the increasing power demand. In this paper, the research work is directed towards the study of new approach by adopting power generation system based on PV on-grid systems installed on rooftops of commercial and residential buildings. The system performance analysis is carried out by choosing Mono crystalline PV modules using PSIM software simulation. This simulation covers the analysis of power generated by the PV system as an input passing through a selected maximum power point tracker (MPPT) to achieve the maximum energy output. A control algorithm for power regulation has been developed with maximum power generation of enhanced AC power grid with power factor close to unity. A reliable tracker for the power output was shown by the simulation results generated by the model.

Paper ID: **111**

Optimal Inventory Control of Perishable Products in a Retail Business

Naleak Heng and Navee Chiadamrong

Perishable products are likely to deteriorate, and their quality varies with time. This paper experiments with different replenishment policies of perishable inventory control for retail store planning, which considers shelf life and uncertain operating conditions. A simulation-based optimization model is carried out using ARENA and an added-in Genetic Algorithm for the optimization process. This study is aimed to recommend the best replenishment policy in a certain situation by enhancing different inventory management policies. The net profits of different policies are compared under variable cost structures to find whether enhancing a typical periodic review policy with another policy can lead to a better outcome. It was found that enhancing a typical periodic review policy with a backroom and a reorder level policy helps a shop to significantly gain a higher net profit. Results from the study can help shop managers to make right decisions on the optimal inventory policy of perishable products under an uncertain environment.

Paper ID: **113**

D Ultra-Wideband Antipodal Vivaldi Antenna for Radar and Microwave Imaging Application

Faraz Ahmed Shaikh, Sheroz Khan, Zarimin Zaharudin, Farah Diyana Abdul Rahman, A. H. M. Zahirul Alam and Mashkuri Bin Yaacob

In this ultra-wide band antipodal Vivaldi antenna among end fire radiation patterns function at UWB (3.1 GHz to 10.6 GHz) frequency range for radar and microwave imaging application is proposed. This article presents the design of two different types of antipodal Vivaldi antennas, a conventional and a modified antipodal Vivaldi antenna. This paper presents a parametric analysis of each antenna. While designing the proposed antennas, originally a conventional antipodal Vivaldi antenna is presented for a wide impedance bandwidth performance assessment. Furthermore, the Vivaldi antenna is modified by incorporating corrugations on the edges which resulting in gain significantly along with increased directivity in the low frequency band. In addition, the modified antenna offers high gain and flat gain in the operating UWB band. The design and optimization process is carried out using the CST simulation software for parameters performance assessment of return loss, radiation pattern, directivity and input impedance. Prototypes of the two different proposed antennas are fabricated and tested for its return loss and directional pattern.

Paper ID: **116**

Implementation of Information Technology Platform for Rice Supply

Pichcha Bunvorn and Apichat Sopadang

Nowadays, information technology plays increasingly important roles in business, as it improves efficiency and effect trade advantages. This study implemented an e-commerce system that allowed Thai farmers to sell rice via social media and a website directly. Using the existing information network to form a market could save time and add values in logistics and supply chain, as well as improving service quality. A group of volunteered farmers in Chiang Mai and Chiang Rai provinces participated in the study by using the implemented system, thus allowing it was evaluated. The study tracked the sale statistics and surveyed users after three months of implementation. It was determined that the system added value to rice product by approximately 25 percent and increased sales by 20 percent. The system also provided useful information to sellers, allowing them to adapt to market changes, for example, it allowed farmers to forecast daily demands based on sale statistics.

Paper ID: **118**

Load Balancing with preemptive and non-preemptive task scheduling in Cloud Computing

Mohammad Riyaz Belgaum, Zainab Alansari, Safeeullah Soomro , Shahrulniza Musa, Muhammad Alam, and Mazliham Mohd Su'ud

In Cloud Computing environment, the resources are managed dynamically based on the need and demand of resources for a particular task. With lot of challenges to be addressed our concern is Load balancing where load balancing is done for optimal usage of resources and reduces the cost associated with it as we use pay-as-you-go policy. The task scheduling is done by the cloud service provider using preemption and non-preemption based on the requirements in a virtualized scenario which has been focused here. In this paper various task scheduling algorithms are studied to present the dynamic allocation of resources under each category and the ways each of this scheduling algorithm adopts to handle the overload and have high performance computing.

Paper ID: **119**

A Method of Cloud and Image Based Tracking for Indonesia Fruit Recognition

Dewi Agushinta R., Ihsan Jatnika, Henny Medyawati and Hustinawaty Hustinawaty

Rapid technology development is proved by calm technology usage and people with different ages, starting from children to adults. Technology is a tool to facilitate someone who does her/ his work so it is often used as a medium for giving information about anything, transportation, type of disease, types of fruits for the society, etc. Augmented Reality (AR) is a variation of Virtual Environments (VE), or well known as Virtual Reality (VR). VR technology allows users to join a virtual environment. The main purpose of AR is to create a modern environment by combining real and virtual environments' interactivity so the users feel that the environment created is real. By the help of AR technology (such as computing vision and object recognition) real environment around will be able to interact in digital form (virtual). Information about the environment and the object can be added to the AR system which then those informations showed on the real-world screen in real-time as if the information is real. The expected result is the application produced will be in line with the purpose of research. Three-dimension object can be appeared exposed various informations on the types of fruits at AR that can be felt directly by the support of multiple sensors located on mobile devices in AR. The acknowledgment of fruit is often published and introduced to public in a conventional way such as books, advertisements, brochures or by using web. Unfortunately these make people less motivated to dig more information about the fruit and even some of them who do not know the fruit by type. Therefore, one innovation will create a way of delivering fruit recognition information with Augmented Reality technology.

Paper ID: **120**

The Worth and Obstacles of Using Quizizz for Learning Indonesian Language at Higher Education

Rina Patriana Chairiyani, Sukron Ma'Mun Yusuf and Joice Yulinda Luke

Indonesian language learning is often considered boring and unattractive to college students. This study aims to provide an overview of the use of Quizizz.com games in Indonesian language learning. The methodology used in this research is qualitative research method using interview technique to fourteen students. The theory used in this study is based on the theory of the use of games in language learning. This study found that 100% of the informants stated that the use of Quizizz.com games can be used for learning Indonesian language in college because it is considered to make the class more interesting and not boring

Paper ID: **122**

Modified Homotopy Perturbation Method with Double Auxiliary Operator for Nonlinear Equations

Jamshaid Ul Rahman, Waseem Asghar Khan

In this paper, we discussed homotopy perturbation method. Inspired and motivated by ongoing research activities in this area, we introduce a modified homotopy perturbation technique by combining elegantly the homotopy analysis method and homotopy perturbation technique. This new homotopy perturbation method is quite flexible and allows us to choose the auxiliary operator and the auxiliary parameter arbitrarily. This new modified homotopy perturbation technique may be a starting point for a wide range of further applications for solving linear and nonlinear problems arising in various branches of pure and applied sciences. Using the modified homotopy perturbation technique system of coupled equations with two auxiliary parameter, we obtain some new iterative methods for solving nonlinear equations. It has been shown that these new iterative methods include a wide class of known and new iterative methods as special cases. Several examples are given to illustrate the efficiency and performance of these new methods. We also compare these new methods with other recent ones with the same convergence order.

Paper ID: **123**

Wind Turbine Power Evaluation Based on Performance and Cost Factors

Sarmad Nozad Mahmood, Abadal – Salam Hussain, Haider Easa and Sameer Algburi

The efficiency of renewable energy system using wind is normally affected by several factors. The work in this paper focuses only on two of these factors: performance and cost. Three locations in three different big cities in Iraq were taken in a comparison. The anemometer height played an important role in this comparison. The comparison based on anemometer height results. Three different heights were taken. These are 9, 5, and 3 meters. As a performance, the simulation results show an effective output power at Amarah city. It was around 355kW using Northern Power wind turbine with anemometer height of 9 meters. According to cost, the lowest was at Nasiriyah city with anemometer height of 5 meters.

Paper ID: **125**

The Wearable Textile-Based Microstrip Patch Antenna Preliminary Design and Development

Khairul Najmy Abdul Rani, Engku Nur Farhah Syafiqa Engku Embong and Hasliza A Rahim

This paper presents a preliminary development of a wearable textile microstrip patch antenna operating for wireless body area network (WBAN) at the center frequency, fc of 2.40 GHz. Textile materials are suitable to be designed as wearable antenna substrates due to their low dielectric constant or relative permittivity characteristics. Precisely, in this project, jeans fabric or denim with the relative permittivity, ε_r = 1.70 and thickness of 1.00 mm is chosen as a substrate attached to SheildIt Super as a conductive material with the thickness of 0.17 mm and conductivity of 6.67 × 10^5 S/m, respectively. In the first stage, a microstrip patch antenna layout with an edge feeding technique is designed and simulated by using Keysight Advanced Design System (ADS) software. In the second stage, a wearable textile microstrip patch antenna is fabricated, integrated, and hidden inside clothing, properly. Simulation and fabrication measurement results show that the designed antenna characteristics are suitable for an industrial, scientific, and medical radio (ISM) band, which is at the fc = 2.40 GHz. Moreover, relative permittivity, ε_r and thickness, h of the developed textile-based substrate affect significantly a wearable microstrip patch antenna radiation performance.

Paper ID: **126**

Applying d-RSA with Login System to Speed Up Decryption Process in Client Side

Kritsanapong Somsuk

Login System is the important process to indentify the right for accessing the application by identifying and authenticating. Usually, username and password are the personal details of user for the system. However, if both of them are stolen over the insecure channel, then the system is broken. With this problem, some of cryptographic algorithms are chosen to apply with the login system to avoid breaking the system. In the beginning of the year, the strong login system was proposed by applying with two different cryptographic algorithms, RSA and One Time Pad (OTP). RSA which is the asymmetric key cryptosystem is chosen for exchanging the OTP's key. One the other hand, user's password will be protected by using OTP. Although the improved login system is very strong and is very difficult for attackers to trap the information, the speed becomes very slow especially the decryption process of RSA taking very high computation time. In this paper, the new modified login system is proposed to speed up the login process with the same security level when compared with the login system applying with RSA and OTP. In fact, d-RSA is chosen instead of RSA by choosing the new private key with the lower Hamming weight in comparison to RSA. In particularly, with the lower Hamming weight, it implies that the new modified login system applying with d-RSA and OTP is faster than the login system with RSA and OTP. The experimental results show that the new modified system can speed up the login system although it becomes slower in registration process. The reason is that in registration process, it must also take time to find the new private key with the lower Hamming weight. However, the registration system is the process that is implemented only one time at the first for user to sign up the application.

Paper ID: **127**

Design and Operation of Microgrid with Renewable Energy Sources and Energy Storage System: A Case Study

Anis Ur Rehman, Shah Zeb, Hanif Ullah Khan, S. Shahbaz Ullah Shah and Attaullah Khidrani

Modern power system expert's attentions have been diverted from the centralized power generation to the microgrid system due to availability of high potentials of renewable energy resources. Microgrid is designed so that a little dependency on national grid. In this paper a microgrid design guidelines, procedures and techniques have been presented where the renewable energy resources are available in abundant. A case study of an educational institute with academic blocks has been taken for which a microgrid is designed with available resources (solar and wind) and energy storage system. Optimal sizes and sites for wind and solar PV units were investigated using an analytical approach. The proposed scheme presents the effective utilization of energy sources with a ranked load distribution system. The results obtained in this research work clearly demonstrates the cost effectiveness of microgrid compare to the dependency on power utility grid. Cost analysis of the microgrid with proposed renewable sources, batteries and diesel generators has also been carried out.

Paper ID: **130**

Modeling and Simulation of a Microgrid consisting Solar PV & DFIG based Wind Energy Conversion system for St.Martin's Island

Abir Muhtadi and Ahmed Mortuza Saleque

This paper presents modeling and simulation of an entirely renewable energy based microgrid in MATLAB/Simulink environment for a chosen sample number of population at St. Martin's Island in Bangladesh. The proposed microgrid system consists of wind turbine farm, solar PV array farm and AC loads. The wind turbine farm is interfaced to the microgrid along with PV farm while the PV array is connected via an inverter and a boost converter with a maximum power point tracking system. The microgrid system is tasked with meeting the peak load demand power and primary load demand power for the community, entirely from solar PV and wind farm, whereas in present the region is dependent on diesel generators for fulfilling electricity demand. The overall stability of the microgrid is maintained by employing a small portion of generation mean using redundant diesel generators to meet minimum power requirement of the community for a time being when it's acute and beyond favorable conditions to produce power from renewable energy sources. Finally,

simulation study of the microgrid is carried out for various operating conditions and proposed microgrid's feasibility and functionality are observed as tasked earlier.

Paper ID: **134**

Optical Response Computations in Type-II Doped AlSb/InAs Nano-Heterostructure under External uniaxial strain in SWIR Range

Amit Rathi and Amit Kumar Singh

Transformations in wave symmetry and optical gain spectrum in type-II quantum well heterostructures is observed under external uniaxial strain. This paper reports the wavefunctions and optical gain in type II doped AlSb/InAs single quantum well heterostructure subjected to external uniaxial strain along [100] in SWIR range. Apart from optical gain, energy bandstructure along with valence and conduction band envelope functions have been computed under electromagnetic field perturbation. The 6×6 diagonalised k·p Hamiltonian has been solved and Luttinger- Kohn model is used for the computation of light and heavy hole energies. For the injected carrier density of 4×10^12 / cm ^2, the peak optical gain in TM polarization is found to be 3600/cm at 0.47 eV. Significant shift towards right is observed in the optical gain spectrum under uniaxial strain applied along [100].

Paper ID: **135**

Mapping factors influencing the operation of freight transportation

Said Basalim and Danang Parikesit

Freight transport is one of the important things to a country's economy. The importance of freight transport is related to the close relationship between economic activity and freight transport. While the freight transport has brought undoubted the benefits, but their complexity had also brought additional problems: congestion, pollution, accident, financial deficit. There are nine factors influencing the operation of freight transport has elaborated in this paper.

Paper ID: **136**

Designing a 3D Human Movement Analysis System

Nantakrit Yodpijit, Kengkaj Pongmit, Teppakorn Sittiwanchai and Manutchanok Jongprasithporn

Human movement is fast and complicated. Human movement analysis system is used in occupational biomechanics to have a better understanding of the kinematics of human movement. The purpose of the current research project is to create a low-cost portable human movement analysis system that can be used to investigate human movement for three-dimensional (3D) kinematics analysis using two cameras. This human movement analysis system performs image analysis with MATLAB. The design and development method has five major steps, which include (1) the design and calculation of XYZ coordinates, (2) the design and development of human movement analysis system, (3) the design and development of system calibration, (4) the determination of a 3D Cartesian system, and (5) the design and development of human movement tracking and recording systems. Findings indicate that the total costs of a human movement analysis system in the current are less than 1,500 USD. In addition, this human movement analysis system has many practical uses for outdoor research projects.

Paper ID: **137**

Assessing prospective teachers' use of social media by Technology Acceptance Model (TAM)

Saira Soomro, Tarique Bhatti, Arjumand Bano Soomro, Najma Imtiaz Ali, Fiza Qureshi and Nazia Perveen Gill

In Pakistan, the major transition took place in the field of teacher education with the launch of Teacher Education Project by United States Agency International Development (USAID) in collaboration with Higher Education Commission (HEC), Pakistan. Under this transition, the traditional one year teacher education programs were phased out and new technology integrated four years B.Ed. (Hons.) teacher education programs were launched. This study aims to explore the issues and challenges faced by prospective teachers to use modern technology especially social media effectively in learning process. It is based on Technology Acceptance Model (TAM) which was developed by Davis (1986) [1]. This research focuses on use of social media by prospective teachers in their professional teaching during their teaching practicum component of B.Ed. (Hons.) program. The sample of this study are the students studying in B.Ed. (Hons.) at Faculty of Education, University of Sindh, Hyderabad, Pakistan. In total 77 students were enrolled into four batches of B.Ed. (Hons.) degree program selected through census sampling method. A survey questionnaire was adopted by using framework of TAM for data collection. The main findings of the study are that prospective teachers are fully motivated to use social media networking sites in their practicum teaching and they are eager to use social media in their professional teaching as well. The study concluded that use of social media has become integral part of modern teaching-learning process.

Paper ID: **139**

Characteristics of Highways Traffic Accidents in Thailand*

Bunna Chhour and Veeris Ammarapala

The objective of this paper is to study the characteristics of Highways Traffic Accidents (HTAs) in Thailand. This study updates and compares the behavior of HTAs in Bangkok Metropolis to other regions of Thailand, and raise the awareness among authorities regarding the HTA problems. In this study, descriptive statistical methods are applied to describe the accident data obtained from the Department of Highways (DOH) during the 3-year-and-3-month period from January 2014 to March 2017. The data indicates that the number of accidents is not strongly related to the number of injuries/ fatalities, and the damage costs. The number of male deaths in the accidents is about 2.5 times higher than the female deaths, while the number of registered driving licenses between male and female is only about 2.2 times different. In addition, loss of control of a vehicle due to over speeding is found to be the significant cause of HTAs in Thailand. From the study, 4 types of vehicles, namely passenger car, pickup truck, truck, motorcycle, are found to be frequently involved in HTAs in Thailand. Therefore, to promote highways safety, more emphasis should be placed on the study of how different types of vehicles affect the occurrences of the accidents. At the same time, more attention should also be focused on the reinforcement of traffic regulations regarding the over speeding.

Paper ID: **140**

Smart and Wearable Technology Approach for Elderly Monitoring in Nursing Home

Kambey Elisabet Ansefine, Muzakki, Sanudin, Erwin Anggadjaja and Handri Santoso

In Indonesia, the amount of nursing home continues to increase due to aging population. There are some downsides in keeping the elderly stay in there, such unwanted incidents, reluctantness of sharing their conditions to the guardians, and also the old-fashioned means of monitoring the elderly. This paper proposes a smart wearable technology for monitoring the elderly in a nursing house. A wristband is used to monitor health conditions (heart rate and body temperature) as well as information such a sudden unwanted movement occurs. With several network-connected access points (APs), the wristband will provide information about the position of the elderly. This information will be displayed on the (website) server, so the guardians can monitoring each person continuously and evaluate a condition of the elderly easily. Based on our observation, our systems shows promising result that it can detect the occurrences, then send notifications and related information to the server for further actions taken by the guardians.

Paper ID: **141**

Stress and Displacement Analysis of Dental Implant Prosthetics Using Three-Dimensional Finite Element Method

Aswin Yodrux, Nantakrit Yodpijit and Manutchanok Jongprasithporn

This paper presents the use of three-dimensional finite element method for biomechanical analysis on dental implant prosthetics. The current research focuses on three patents of threads of dental implant systems from United States Patent and Trademark Office (USPTO) and a new conceptual design model. The three-dimensional finite element analysis is performed on dental implant models, with compressive forces of 50, 100, and 150 N, and a sheer force of 20 N with the force angle of 60 (degree) with the normal line respectively. Stress and displacement analysis is conducted at four different areas, including abutment, implant, cortical bone, and cancellous bone. Findings from this research provide guidelines for new product design of dental implant prosthetics with stress distribution and displacement characteristics. Limitations and suggestions on dental clinical treatment are also discussed for future work.

Paper ID: **149**

Simulation and analysis of magnetic field strength with magnetoresistive sensor: A future application

Sangharatna Ramteke, H. Chelladurai and K K Soundra Pandian

The optimum orientation of four bar magnets to give an effective magnetic field strength with Magneto-resistive(MR) sensor is proposed in this paper. The bar magnets having same magnetic field strength of 4.51 kA/m are used and placed at a certain distance from the MR sensor to get the maximum magnetic field strength and sensor voltage. The magnetic orientation and it's field strength is simulated and analysed through Comsol Software and validated with the laboratory experimental results. The experimental result shows that the SSNN orientation at a distance of 0.5 cm from MR sensor comparatively gives higher magnetic field strength and sensor output voltage.

Paper ID: **150**

Kids' Education App comprises English, Math and Urdu Qaida.

Nareena, Safeeullah Soomro, Zainab Alansari and Mohammad Riyaz Belgaum

The Kids Educational App (KEA) provides the practical learning activities through intriguing entertainment. Kids Educational App was designed to motivate and interest children in learning. KEA activities different that were assumed to child include mathematics (Math), English and Urdu exercises. Parent is interested in their learning growth of early school entrance children. Parent interferences in chidren's academic performance contain helping with and supervising at home. The survey was made to examine the efficiency and performance effect with designed prototype. The result of the survey clearly proved that designed system helps the children in studies and raises self-confidence. It can be simply achieved due to the growth of smartphones and tablets usage and we believe that the application in highly efficient. Index Terms-Kids Educational App, learning, children, Parents Interface design.

Paper ID: **151**

Energizing Model Village of Tharparkar through Solar PV System

Irfan Yousuf and Zeeshan Shahid

The increase in electrical power requirements and impacts of conventional power generation on global climate is diverting the focus of researchers to green energy production. The conventional ways of power generation made an intensive carbon growth which widely contributes in the global warming. As a result, it is the vital need of time to take a strong initiative for the effective utilization of renewable energy resources. In this paper, a techno economic research has been conducted in a model village of Tharparkar, Pakistan, where a technical survey is conducted to analyze the load profile of the village for making -energy consumption report in order to design a state of the art solar power system to fulfill the basic electrical needs of the village. This study also focuses on the resulted social economic impacts and life style improvement analysis. In addition to that, it also will help the readers, NGOs, academicians and other energy stake holders for planning and implementing the renewable energy based projects in deprived areas of Pakistan.

Paper ID: **152**

The Effects of Online Social Networks on the Social Aspect of an Individual's Life

Altaf H. Abro, Aram Van Meurs and Michel C.A. Klein

Nowadays, online social networks receive a lot of attention all around the world. Social networks include a variety of platforms to facilitate easy ways of communication. It is generally believed that having friends within social circles and frequent contact with them gives a sense of social integration also helps to decrease feelings of loneliness and improve one's perception of social support. However, little research has been done on this subject and needs to be further investigated. In this paper we report on a study in which the relation between the usage of online social networks and the perception of social support, loneliness and social integration is investigated. In total 61 individuals responded to the questionnaires, with age ranging from 18 to 43 and a mean of 22. After obtaining scores from the respondents, we have used various statistical measures to investigate the possible relationships between social network sites usage and their effects on the social aspects of users. Although no significant correlations were found, an analysis of the distribution of the data suggested that there are some common trends that hold for most users. The most prominent trend shown was that users with more than average chat activities are likely to have a more positive perception of their social life. We recommend to perform further research on this subject with a more automated approach and with a larger set of participants.

Paper ID: **156**

Cloud Computing Characteristics Framework: A new paradigm for cloud computing

Sheeba Shahid, Jherna Devi, Asadullah Shah

This paper introduces the cloud computing technology and its usage in recent years, as well, as how cloud-computing techniques are employed in today's world. It also discusses common characteristics shared by cloud computing solutions, highlighting the benefits of this new paradigm in IT architectures. The document concluded with an overview of common offering of cloud based as-a service solution concluding the whole scenario of cloud computing.

Paper ID: **157**

Job Satisfaction and Women's Turnover Intentions in Pakistan's Public Universities. A case study of Jamshoro Education City (JEC)

Ali Raza Zaidi*, Liaqat Ali Rahoo*, Maria Memon*, Waqas Arain*, Sohrab Khan Chandio

The purpose of this research is to examine the impact of women's job satisfaction on their turnover intentions, specifically for those women who are employed in the education sector. The study used a sample drawn from two different public sector universities in Jamshoro, Sindh, Pakistan, their levels of job satisfaction were measured by evaluating their general working conditions, pay and potential for further promotion, professional relationships, use of skills and abilities, and activities assigned. It was found that flexible working hours, workplace location, performance appraisal, and skills utilization have a very positive significance on turnover intentions, while professional autonomy, job security, and promotion have an inverse impact on job satisfaction and turnover intentions.

Paper ID: **158**

The Perception of Policyholders, Insurance Operators, Islamic Finance Experts and Politicians Towards the Viability of Takaful in India

Syed Ahmed Salman

Insurance is a well-known mechanism for risk management in India, and it has been in existence since 1818. It is undeniable that insurance is helpful to the policyholders because if misfortune inflicts them, insurance can provide the financial assistance according to the terms and conditions of the policy. However, the main drawback of the conventional insurance scheme is that its practices are prohibited from the Islamic perspective. Many Muslim and non-Muslims countries have introduced the Takaful as an alternative to insurance. However, India as the second largest Muslim populated country has no experience with Takaful. This encourages the researcher to identify why Takaful has not been introduced in India. The main objective of this study is to examine the perception and acceptability of insurance policyholders, insurance operators, Islamic finance experts and politicians to introducing Takaful in India. Primary data is collected by distributing a survey questionnaire to the insurance policyholders and conducting interviews with insurance operators, Islamic finance experts and politicians. Based on the analysis of the survey questionnaire from the insurance policyholders, the findings are in line with four alternative hypotheses and not in line with the last alternative hypothesis. The main findings from the interviews are that it is viable to introduce Takaful in the near future although some obstacles and challenges might hinder its introduction. Insurance operators highlight the strengths, weaknesses, opportunities and threats of introducing Takaful. Islamic finance experts suggest using a hybrid Mudarabah-Wakalah model for both general and family Takaful products. Politicians seem to support it as long as the Takaful scheme can contribute to the economic development of the country and serve the needs of the community. This research offers a comprehensive study on the viability of Takaful in India, and hence, it will be of interest to operators, investors, regulators as well as the current and potential participants.

Paper ID: **159**

The Use of Information Retrieval Tools by the Postgraduate Students of Mehran University of Engineering & Technology, Jamshoro

Liaquat Ali Rahoo, Syed Ali Raza Zaidi, Nisar Ahmed Memon

The research examined the use of Information Retrieval Tools (IRTs) by the post-graduate students of Mehran University of Engineering and Technology. The research used descriptive survey and was carried out over a period of six months between August 2016 and January 2017. The sample size comprises of 2,000 postgraduate students which were randomly selected from different faculties/institutes and were served with copies of the questionnaire. A total of 1,970 copies of useable questionnaire were retrieved which represent 98.5% response rate. The responses were collated and analyzed using frequency counts and percentages. The outcome shows that respondents make use of IRTs for a variety of purposes and that university library's user education and information literacy program forms the key source of their knowledge of IRTs' usage. Through it, it can be safely concluded that the university library plays major role in assisting the students to make use of IRTs. Secondary findings show that the main IRTs made use of by the respondents is the Internet Search Engines. Furthermore, findings of the study also revealed that the use of the tools has impacted positively on their social and academic life and has also enhanced their global knowledge of different issues. The major constraint to student's use of the tools is that of Internet fluctuations. The paper concludes with recommendations on the need to give training on the use of IRTs to students.

Paper ID: **160**

The Failure of Muslim League in Post-Colonial Pakistan: A Critical Appraisal

Irfan Ahmed Shaikh, Arshad Islam

The main objective of this research is to highlight the failures of political parties particularly Muslim league who was the founder party of Pakistan and the role played by politicians and to examine how bureaucracy became dominant in power play. This is a qualitative research entirely based on literature survey from library data collected from books and articles. Over and above, down the history of Pakistan, the democratic forces were not permitted to enhance their political power due to the continual interventions by the bureaucracy and dictators in the military. When the military took over the political and democratic institutions of Pakistan, the elected representatives in power could not actually wield their influence. On the other hand, in alliance with the military, the bureaucracy had been repeatedly establishing its stronghold over the affairs of the state thereby subjugating those in the political power and controlling them.

Paper ID: **161**

MPC-PID Comparison for Controlling Therapeutic Upper Limb Rehabilitation Robot Under Perturbed Conditions

Athar Ali, M Kamran Joyo, Syed Faiz Ahmed

Increase in the number of stroke patients upsurges the need of rehabilitation robots. It's the ability of human muscles to recover from stroke if it performs certain movements repetitively and robots are the best way to perform repetitive tasks. In this study, three degree of freedom (3DOF) upper limb rehabilitation robot has been developed to recover the patient who have impaired limb, physical trauma or hit by a stroke. In therapeutic exercise robots, the position accuracy and stability are two major concerns, how effectively exercise is being performed and how much stable robot is from external disturbances. To ensure that, an analysis has been performed on comparison of PID (Proportional integral and derivative) and MPC (Model Predictive Control) control algorithms to find out which control algorithm is most suitable for upper limb rehabilitation robots.

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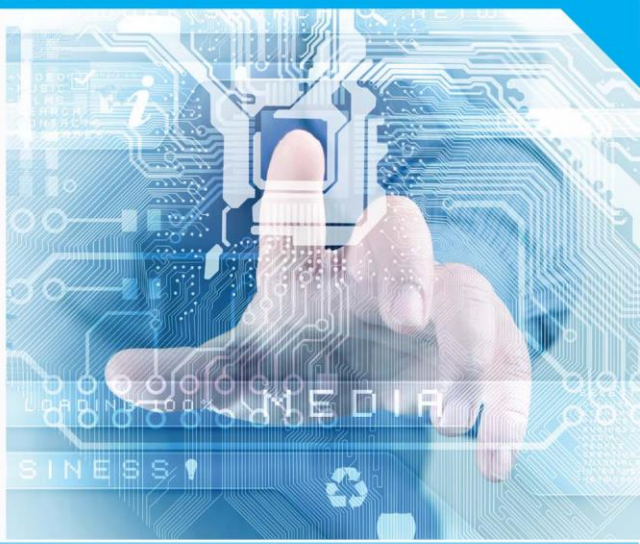

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Important Dates

Conference Dates: 29 Nov - 1 Dec 2017

Submission of Full Paper: 30 Aug 2017
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Early Bird Registration: 25 Oct 2017
Registration Deadline: 5 Nov 2017

Conference Tracks

The conference will be consisted of three tracks i.e. Engineering, Technologies and Applied Sciences. Topics of interest in each track include, but not limited to the following:

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