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Proceeding of
World Conference on
Science, Technology
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Type of Registration	Feb. 28, 2018	Onsite
Presenter (Oral / Poster)		
International	650	750
Local	550	650
Student (Presenters)		
International	550	650
Local	450	550
Listener		
International	450	550
Local	350	450
Accompanying Person		
International	400	500
Local	300	400

IMPORTANT DATES

Early Bird Registration	Registration Deadline	Conference Date
November 30, 2017	March 10, 2018	March 20-22, 2018

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Proceeding of World Conference on Sciences, Technology and Medicine 2017

Science, Technology and Medicine: Challenges and Opportunities

Dr. Shafqat Farooq
CEO, AM Agricon, Islamabad, Pakistan

ABSTRACT

Scientific advances and technological change have a proven track record of impacting the world economies more strongly than any other driver and is perhaps the greatest agent of change in the modern world. Some of the key features of this transformation can be seen in the rapid progress of Asian countries like China, Japan, Korea and others especially OECD countries including Israel. What made them progress? Spending on science and technology: The maximum being spent by Israel followed by Korea, Japan and China. The result is that they produce highest number of high quality scientists who innovate and contribute in the economy. This spending enabled Israel to have 55% of the total companies on NASDAQ screen: Which is one of reasons that Israel is the strongest nation in world. Korea took the development plan from Pakistan when she was far behind her during late 60s and early 70s, but her current progress is beyond comprehension. Today, South Korea is the 5th largest exporter of the world with exports standing at 537 billons. Her GDP is 1.38 trillion and GDP per capita is 34.6 K. The most dramatic progress is of China that is increasing its research intensity and is 4thin the world after Israel, Korea and USA. Currently, China is a major world player in ST&I in terms of funding and human resource for R&D, is 2nd largest economy of the world with a nominal GDP of USD 10.925 trillion. Such developments present daunting challenge for those who have not realized the significance of spending in science and technology and quality human development. How they will cope with the existing situation is a big question and a challenge. From genome development to antibiotic resistance to evolution of supper bug., from disease development to personalized medicines to longer life span to development of "Dementia" to ageing mystery, the development and difficulties are being experienced simultaneously. The biggest challenge for scientists is to answer question as to why there are more and more people getting heart disease, diabetes, arthritis and cancer? Despite paradigm shift in understanding of disease, why more and more people are becoming seriously ill? From fighting cotton pest, to alleviating poverty, to fighting changing environment to coping its effects on agriculture, from diminishing arable land to increasing productivity all are challenges. This presentation will describe some of these challenges and related opportunities that may help formulating future strategies.

Dr. Shafqat Farooq was awarded the President Award for Pride of Performance in 2008 by Government of Pakistan due to her outstanding contribution in the field of crop improvement through conventional and state of the art technologies.

Efficacy and Safety of Natural Products is Influenced by their Ability to Interact at Multiple Target Sites

Dr. Anwar-ul-Hassan Gilani
Chairman, Pakistan Council for Science and Technology, Government of Pakistan, Islamabad, Pakistan

ABSTRACT

Pharmacologists are always in the search of new drugs or treatment options with better efficacy and safety profile. One way to achieve this goal is to search for chemicals with selective effect at the desired site of action while an alternate approach could be searching for novel combination of activities with synergisitc and/or side effects neutralzing potential in botanicals. In our pioneer work on the subtypes of muscarinic receptors we showed himbacine to be a prototype of novel cardioselective antimuscarinic agents, along with another compound. Similarly, we observed that the effectiveness of a popular herbal tea (Rooibos) in spasmodic and asthmatic conditions is due to the presence of two chemicals selective for gut (orientin) and airways (chrysoeriol). Our recent work on ethnopharmacogical aspects revealed that some medicinal plants contain compounds that are calcium channel blockers (CCB), which exist in nature usually in novel synergistic and/or side effects-neutralzing combinations. We observed the co-existence of CCBs and acetylcholinesterase inhibitors constituents in some plants with therapeutic potential in Alzheimer's disease. Similarly, combination of CCBs with phosphodiesterase inhibitors (PDEIs) or anticholinergic constituents shown in some plants have the therapeutic potential in spasmodic and asthmatic conditions where the inhibitory effect of CCBs on the heart is likely to offset the cardiac stimulation usually seen with PDEIs or anticholinergics when used alone. Another such combination was the co-existance of CCBs with cholinergic agonists in herbs traditionally used in hypertension and/or constipation. While both components are inhibitory in action in cardiovascular system but with opposing effects in others, thus showing potential of couteracting side effects. The antispasmodic component seen at high dose is likely to offset the abdominal cramps usually observed at high dose of gut stimulants used in constipation. Interesngly, the spasmolytic activity was more evident in hyperactive gut preparations which explains the traditional use of herbs like Ispaghol and Ginger for their dual efficacy in constipation and diarrhoea. Thus, this presentation provides enough evidence that the safety and efficiacy of of natural products is influenced by their interaction at multiple targets sites acting through the presence of synergistic and/or side effects neutralizing combinations.

Dr. Anwar-ul-Hassan Gilani is working as Chairman of Pakistan Council for Science & Technology, Pakistan since 2015. He received his Ph.D. degree from University of Sydney, Australia in 1985. His research areas are mainly Natural Products Pharmacology, Food & Dietary Supplements and Lead Detoxifying Potential of Vitamin C.

Cytomegalovirus Genotype Distribution in Immunosuppressive Patients

Mehmet Ozaslan, Saliha Gokce Alagoz, Tekin Karsligil and Ibrahim Halil Kilic
Professor, Department of Biology, Gaziantep University, Turkey

ABSTRACT

Cytomegalovirus (CMV), a common virus found all around the world, usually causes asymptomatic infections in immunocompetent hosts, however it may lead to serious complications in immunodeficient patients. The human cytomegalovirus (HCMV) has different genotypes in UL55 and UL75 genes that encodes for envelope glycoproteins. The aim of this study was to determine the gB genotypes of CMV isolates which has HIV, transplantation and leukemia. A total of 50 clinical specimens from patients who were applied Gaziantep University hospital. The patient group consisted of 10 HIV patients, 20 transplantation patients and 20 leukemia patients. CMV gB genotypes and gH genotypes were determined by PCR, DNA sequencing and phylogenetic analysis were performed for them randomly. Among 50 samples, the most frequent genotype was gB1 23 (47.9%) patients, followed by gB2 8 (16.6%) patients, gB3 11 (22.9%) patients, gB4 only one patient whereas five patients (10.4%) harboured a 2/3 mixed genotype. 2 samples could not be amplified. When analysis were interpreted according to the patient groups, it was determined that the genotypes in HIV patients were gB1; 5 (50%), gB2; 2 (20%) and gB3; 3 (30%), on the other hand all of patients gH2 (100%); in leukamia patients gB1 10 (50%), gB2 2 (10%), gB3 4 (5%), gB4 1 and gB2/3 mix genotype was 3 (66.6%) , gH1 3 (15%); gH2 17 (85%) and transplant patients gB1 8 (25%), gB2 4 (5%), gB3 6 (30%) and gB2/3 mix genotype was 2 (10%), gH1 3 (15%); gH2 17(85%). As our study was a descriptive study to determine the genotypes of CMV gB and gH regions. The significance of this study can be enhanced by considering the genotype distribution according to different factors such as the geographical origins of HCMV isolates, ethnicity, infection stage, number of samples and other factors such as the adequacy of the clinical description of the infection and the type of retrospective studies.

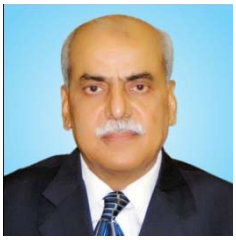
Dr. Mehmet Ozasalan is working as a Professor/Dean, Education Faculty, Gaziantep University, Turkey. He received his Ph.D. degree from University of Cukurova, Adana, Turkey in 1995. His main area of interest is cancer genetics, molecular viology, molecular genetics, microbiology and genetic mutations & cancer genetics.

Current Trends in Medical Education

Dr. Muhammad Aslam
Professor, National University of Medical Sciences, Rawalpindi, Pakistan

ABSTRACT

The goal of Tomorrow's doctor or CANMED is to have mastery of tour core bench marks namely; 1) Scientific foundation 2) Clinical/diagnostic skills 3) Professional values/attitudes 4) Population health. Whereas, medical doctor should also be equipped with critical thinking, communication skills, scholarly aptitude, collaboration acumen, advocacy and managerial skills. In order to achieve the mission teaching needs to be transformed to learning, memorizing to understanding and critical reasoning, examinations to evaluation, summative assessment to formative assessment, annual system to semester system and subjective material to objectivity and criteria to standards. It is direly needed that the curriculum fulfills the requirements of SPICES model i.e; it should be student centered, patient – oriented, integrated, community based, elective driven and systemic. Furthermore, the curriculum for medical education must encompass the pre-requisites of Bloom's Taxonomy including Knowledge, comprehension, application, analysis, synthesis and evaluative judgment. Research must be an integral part of all these parameters across. We need to rise from "what" to "why" and "how". The overloading of contents is to be shaded and merged with concepts and contextual learning. There may be adoption of multimodal learning strategies like long group interactive sessions, small group discussion, self-directed learning, problem based learning, team based learning, computer assisted learning, patient based learning, performance based learning, simulations assisted learning and projects/assignments. The evaluation methods should follow the principles of viability, reliability, specificity, accuracy and must be realistic, measureable and time-bound. Emphasis be laid to formative assessment as it reforms the process, whereas, summative assessment reframes the outcome. Medicine is now an art and science. The undergraduate studies, postgraduate training and continuing professional development/continuing medical education may be taken as a "Continuum". The thinking be rendered wider and "out of box". New strategies, methodologies and technologies be adopted and adapted to make Tomorrow's Doctor a useful and meaningful "mashia" for betterment of physical, mental and social health of the community and not merely the 'absence of disease'.



Professor Dr. Aslam is Pro-Vice Chancellor at National University of Medical Sciences (NUMS), Pakistan. Prof Aslam's area of specialization is physiology with special interest in Reproductive Endocrinology, High Altitude Physiology and Medical Editing.

Taping Indigenous Herbal Knowledge & Inclusive Society from Bench to Bed: SWOT Analyses from Pakistan

Dr. Zabta Khan Shinwari
General Secretary, Pakistan Academy of Sciences, Islamabad, Pakistan

ABSTRACT

Pakistan is lagging behind its major competitors in economic development. In order to gain competitive advantage through innovation, there is a need for extensive policy making based on knowledge economy. Due to the lack of strong linkages between policy makers, academia and industry, the gap between research needed and research conducted is ever widening. Social inclusion ensures greater connectivity among society and all the pillars of economic development as well as offers equal opportunities for all. Besides that, sustainable competitive advantage allows a nation to continuously update its resources and capabilities according to the rapidly changing market conditions. This helps in maintaining and improving the nation's economic position in the global market. Knowledge thus embodies the most valuable asset in the new competitive economy. Pakistan has embarked on an aggressive program to boost research and development in science and technology. A number of universities and research institutions have been established in the last fifteen years, however, exclusion and lack of connectivity has failed all the commercialization efforts. Inter-connectivity challenges are typified by the issues such as research commercialization not being a top priority as well as university policy of appointments and promotions based on "publish or perish". Fortunately, in the last decade, leading universities have rationalized their policies emphasizing R&D capabilities to match the commercial strengths. Traditional knowledge can greatly contribute towards modern knowledge based economy. The revolutionary breakthroughs and developments in genetic engineering, synthetic biology, molecular biology and biotechnology during the last decade have showed that the most "insignificant" or even "disgusting" of creatures can prove invaluable to medicine, agriculture or industry. Our intrinsic strength of unani and traditional medicine can be potentially utilized through biotechnological interferences. The local communities of different regions of Pakistan have centuries old knowledge about traditional uses of plants which has been passed on generation after generation. These medicinal plants are important source of income for poor people as well as herbal medicine dealers in Pakistan. Realizing the fact that plant-based medicines are becoming more popular in the present century, biotechnological interventions in the field of traditional medicine would allow prospecting and development of drugs through combined scientific knowledge. However, keeping in mind the concept of inclusive society, involvement of communities is critical. Local people that heavily rely on wild plant resources for medicines are the most vulnerable when firms or research institutions prospect without permission or take the results of their investigations without payment or acknowledgement. Thus the real issue is how science caters to the needs of local poor community along with ensuring sustainable resource utilization. Wild plants are also exploited for research and commercial purposes leading to the endangerment of species in their particular habitats. Moreover, the knowledge is not being established through modern science. This further raises issues of misidentifications or adulteration of materials thus reduced efficacy of herbal products or accidental poisonings. Thus modern technologies can be applied to strengthen and promote indigenous knowledge based herbal medicines. Pakistan Academy of Sciences is leading several efforts to bring society including practicing managers and academia at the interface of knowledge economy. It is anticipated to bridge the gap in approach and perception and build partnerships among the three pillars to achieve the ultimate objective of self-reliance through knowledge economy. However, inclusiveness will require more efforts on part of the government with focus on regions, areas and social groups distressed by low access to education. Furthermore, linkages between S&T institutions in the provinces with world-class institutions in technologically advanced countries is essential to the cause. Exchange of personnel and development of mutual research programs will help improve R&D competences. Establishment of think tanks in various sectors including agriculture, engineering, biotechnology, information technology, pharmaceuticals, renewable energy, materials sciences, nanotechnology, space science, forensics, environmental sciences development and applied economics, business management, social awareness & conflicts resolution will ensure assessment of our national resource strengths and continuous up gradation of knowledge economy based policies. Professional teams to be set up with well-defined targets and access to well-developed facilities and privileges besides complete authority to implement their decisions.

Professor Dr. Zabta Khan Shinwari is Secretary-General of the Pakistan Academy of Sciences and Chair of the Biotechnology Department of the Quaid-i-Azam University of Islamabad. He received his Ph.D. degree from Kyoto University, Japan in 1994. His research interest fields are Plant Sciences and Agricultural Biotechnology.

ISSN 2305-1884

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HBV: Genomic Structure, HBVsAg Isolation and Speculation of Plant-based Vaccine as Innovative Virotherapy in the Middle East

Dr. Aboul-Ata Elnady Aboul-Ata
Molecular Biology Lab II, Plant Virus and Cytoplasma Reseacrh Section, Plant Pathology Research Institute, ARC, POB 12619, Giza, Egypt

ABSTRACT

Hepatitis B virus (HBV) is one of the world's major infectious diseases, with 350 million people who are chronic carriers of HBV. Significant minorities go on to develop liver cirrhosis or hepatocellular carcinoma and over 1 million die annually from HBV-diseased liver. HBV genotype D is prevalent in our Middle East area. The HBV genome is a partially relaxed-circular dsDNA molecule consisting of a full length strand (minus strand) with a single unique nick and a complementary (positive strand) of variable length. HBV is considered as a para-retrovirus because its replication involves the reverse transcription of an intermediate-RNA function, of pre-genomic RNA (pgRNA). Replication of the HBV genome starts with the encapsidation of the pgRNA and encodes HBV polymerase into an immature nucleocapsid formed by the viral core antigen. Inside the immature nucleocapsid, the viral polymerase converts pgRNA into minus-strand DNA, which in turn is used as a template for the synthesis of the plus-strand DNA, resulting in the formation of the characteristic mature double-stranded, relaxed circular DNA molecule. HBVsAg has been isolated from Egyptian samples and identified using RT-PCR by the team at VACSERA and Faculty of Science, Cairo Univ., Egypt. Regions have also been isolated and identified by one more team at Sadat University. HBVsAg (S) gene has been identified at the band size 25.42 kDa. Virotherapy, using a plant-based vaccine structure, has been speculated for future work. Proposing CMV-HBVsAg chimeric-virus construct could be followed as non-expensive procedure. Cucumber mosaic virus (CMV) 26 kDa as hybrid coat protein (CP D/S) gene for 2 strains (CMV/S and CMV/D) were isolated and amplified at Bari, Italy from sgRNA 4 using F and R primers. Replicase gene (RP) and 30 kDa movement protein gene (MP) were also included. The 35S Promoter and the Nopaline synthase terminator (Nos) are constructed between Right and left border (RB and LB). Proposing BeYDV-HBVsAg chimeric virus construct could also be speculated. Bean yellow dwarf begomovirus virus. Long and short intergenic regions (LIR & SIR) of BeYD geminivirus expression vector included the capsid protein (CP), movement protein (MP) and replication-associated protein (RepA) genes as well as the 35S P and Nos3T constructed between the right and left border (RB and LB).

Dr. Aboul-Ata Elnady ABOUL-ATA is currently working as Phytovirologist in ARC, Egypt. He was the President of ArSV (Arab Society for Virology) in 2013 for 3 years. His research interest includes Plant virus epidemiology, Molecular plant virology, Viral protein expression, Plant virus suppression and Plant-Based vaccine against human viral infection.

Clinical Implication of Antibiotic Resistance in Enterobacteriaceae

Dr. GodFred A. Menezes
Assistant Professor, RAK Medical and Health Sciences University (RAKMHSU), RAK, P.O. Box: 11172, UAE

ABSTRACT

Antibiotic resistance has grown into major public health and clinical problem. In some settings, few or none of the available treatment options remain effective against common infections. Besides misuse of antibiotics, spread of resistance genes among bacteria contributes to the problem. There is also selective pressure caused by rising use of surface antibacterials available in many household products. The bacterial pathogens have diverse genetic background with resistance genes carried on chromosomes, plasmids, transposons and integrons. The mobile gene pools mainly determine the epidemiology of present antibiotic resistance. *Enterobacteriaceae* are a significant family of Gram negative pathogens, with ever mounting number of antibiotic resistant strains worldwide. Among *Enterobacteriaceae* members, the most common resistance is detected against aminoglycosides, fluoroquinolones and beta-lactams, while lately resistance to polymyxins (colistin) has also been documented. Aminoglycoside resistance is mainly due to modifying enzymes (by acetylation, by adenylation or by phosphorylation of antibiotics). The SNPs in gyrase and topoisomerase IV genes confer resistance to fluoroquinolones. Further, recently plasmid-mediated quinolone resistance (PMQR) mechanisms including Qnr determinants, aac(6')-Ib-cr enzyme and QepA, OqxAB efflux pumps have been confirmed. Beta-lactamases confer resistance to beta-lactam antibiotics. Cephalosporinases (eg. ESBLs) and carbapnemases (eg. MBLs, KPCs and OXA-48) are the most important broad-spectrum beta-lactamases. Efflux pump activity and outer membrane protein changes add to the beta-lactam resistance mechanisms. Polymyxin resistance is due to modification of the target molecule (remarkably addition of L-Arap4N on the lipid A component of LPS). The global distribution of recently recognized self-transferable plasmid-borne colistin resistance determinant (*mcr-1* gene) is a significant public health issue. Appropriate antibiotic therapy improves the outcome of hospital acquired infections. Antibiotic resistance problem is ever growing among major sepsis causing organisms, such as *Escherichia coli* and *Klebsiella pneumoniae*. There are recommendations on contact precautions for hospitalized patients infected or colonized with ESBL producing *Escherichia coli* (ESBL-EC). However, there is worldwide spread of ESBL-EC in spite of such recommendations. The rise in carbapenem resistant *Enterobacteriaceae* (CRE) and MDR Gram-negative bacteria acquiring the *mcr-1* gene, leaves the clinicians with only a few antibiotic options for treatment, leading to further mortality. To protect the activity of colistin, it is crucial to take measures to control the *mcr-1* spread among bacteria. Although there is growing burden, the best treatment options for CRE producing infections are generally not clear. Barring a few available treatment options like tigecycline, there aren't many efficient antibiotics to ease the problem of MDR *Enterobacteriaceae*. However, the existing treatment options include the use of conventional antibiotics, such as aminoglycosides, polymyxins and fosfomycin. These agents have been seldom used due to toxicity and efficacy worries. Optimization of dosing of available antimicrobial agents and combination therapy happens to be the most apt treatment approach. An improved understanding of the evolution of resistance will let us make more exact estimation of trajectories and rates of the development of antibiotic resistance. It should also help us take clever and right steps for antimicrobial drug use to slow down the resistance and increase the lifespan of available antibiotics. Further, constant research is critically necessary to find the most suitable treatment options.

Dr. Godfred A. Menezes is currently working as an Assistant Professor and research coordinator in the Department of Medical Microbiology and Immunology in RAKCOMS, RAKMHSU, UAE. He has worked for three years as Assistant Professor and Scientist in the esteemed Ha'il University, Saudi Arabia.

Emerging Wireless Communications towards 5G Networks and Its Impact on Society

Dr. Bushra Naeem
Chairperson Software Engineering, Faculty of Information and Communication Technology, Balochistan University of IT, Engineering & Management Sciences, Quetta, Pakistan

ABSTRACT

The services provided by the existing wireless technologies were only possible with the wired broadband services in the past. The Telcos are working on increasing the capacity and providing faster communication services, meanwhile the number of mobile subscribers and inventions of vast range of mobile applications are posing bigger challenge in terms of anytime anywhere connectivity with a greater coverage and seamless connectivity. The dilemma is that there is only a fixed amount of spectrum that may be used by wireless communications. The new generation of mobile networks is expected to evolve by 2020, commonly knownas 5G. Currently, the researchers are struggling to explore how the users can be served with an increase of tens and hundreds of user devices. Various factors are involved in the process of furnishing the requirements of 5G. These challenges include: Advanced interferencemitigation techniques, massive multiple-input and multiple-output systems and managing the network densification. A diversity of methods are under trial for achieving many-fold increase the network capacity. While wireless industry is trying to cope up with these all challenges, they believe that 5G technology will be able to provide many benefits, including lower battery consumption, multiple paths for duplex data transmissions, software defined processing, greater system level spectral efficiency, no harming effects for human health, intelligent wearable devices, cheaper charges as a result to lower infrastructure development costs, antenna systems with smart beams and many more. The influence of wireless communication in a short span of time had led the technology to reach to more than six billion people, by affecting their lives in the ways that no one had imagined.The recent breakthroughs in wireless technologies have made it possible for people to connect and communicate in the isolated regions of the world. 5G is a very heavy investment but it opens up many prospects for the betterment of the society, may it be any social class, the people can take advantage of automated facilities, given that the government and industries collaborate to provide these services to the public at easily affordable rates.

Dr. Bushra Naeem is currently a Lecturer at BUITEMS, Quetta since January 2011. She was awarded a fully funded PhD by the Higher Education Commission Pakistan by the end of 2012 and completed her PhD from Univeriti Teknologi Malaysia, Malaysia in April 2016. Her subjects of interest include Wireless Communications, Heterogeneous Networks, Cognitive Radios and 5G. She has published various scientific papers and attended high end international conferences. She is a registered member of Pakistan Engineering Council, IEEE, WIE and the editorial board in several international journals.

Molecular Diversity and Characterization of Ethiopian Linseed (Linum Usitatissimum) Land Races, Some Canadian Lines, Hybrids and Wild Relatives

Negash Worku and JS Heslop-Harrison
Assistant Professor, Education Quality Assurance and Audit Coordinator, Department of Biology, College of Natural and Computational Sciences, University of Gondar, Ethiopia

ABSTRACT

Molecular characterization of germplasm is important for sustainable exploitation of crops. DNA diversity was measured using inter-retrotransposon-amplified-polymorphism (IRAP) and intersimple-sequence-repeat (ISSR) markers. Hybrids and heterogeneous landraces were used to study diversity and inheritance in 200 Ethiopian landraces, along with reference varieties from Canada and wild Linum species. Ethiopian landraces ranged from fibre (43%) to oil-seed (57%) types. Molecular diversity was high (PIC, 0.16; GD, 0.19) compared to other reports. IRAP/ISSR genotyping results classified Linum species, separating the reference from landrace accessions and clustered accessions from different altitudes and geographical regions. Collections showed evidence for recent introduction of varieties in some regions. Evidence supported L. bienne as the progenitor of domesticated L. usitatissimum. Markers developed here will be useful for genetic mapping and selection of breeding lines. The results show the range of characters which can be exploited in breeding lines appropriate for smallholder and commercial farmers in Ethiopia, producing a sustainable, secure, high-value crop meeting agricultural, economic and cultural needs.

Dr. Worku Negash Mhiret is currently working as Assistant Professor of Plant Genetics at University of Gondar, Ethiopia. Dr. Worku has 28 years teaching and 16 years research experience. Dr Worku has published over 11 research papers and teaching materials. From 2003 to date, he is teaching different courses at University of Gondar for both undergraduate and postgraduate programmes and doing research. Dr. Worku obtained his Ph.D. Degree in 2014 from the University of Leicester, UK. His Research is focused on Molecular Characterization, Oil Crop Plant Genetics and Breeding. He has presented his works at different national conferences and participated in reviewing articles invited by various journal publishers. In addition to teaching and research, he is currently the Coordinator of Education Quality Assurance & Audit in the College of Natural and Computational Sciences.

Fractional Maxwell Fluid Flow due to Metachronal Waves of Cilia in a Tube

Dr. Khadija Maqbool
Assistant Professor, Department of Mathematics & Statistics, International Islamic University, Islamabad 44000, Pakistan

ABSTRACT

In this study, the cilia-induced flow is discussed for fractional Maxwell fluid in a tube. The mathematical model of fractional Maxwell fluid flow is obtained under the long wave length approximation. It is found that thickness of flow region increases with the increase in relaxation time thus a large amount of pressure gradient is required for fluid flow. The presence of fractional order derivatives in the Maxwell model provide the large amount of frictional force when compared with Maxwell fluid in the presence of parameters. Fractional Adomian Decomposition Method is used to calculate the pressure gradient. Results for stream function, axial velocity, pressure gradient, pressure rise and frictional force are constructed and then plotted graphically to note the effects of various interesting parameters.

Dr. Khadija Maqbool is currently working as an Assistant Professor in Department of Mathematics & Statistics of International Islamic University, Pakistan. She did PhD in Mathematics. Her research areas include Newtonian and non-Newtonian fluids, biological fluid dynamics and solutions of non-linear differential equations. Dr. Khadija Maqbool has published more than 20 research papers in ISI international journals of high repute and her citations are more than 130.

Plantago Major is A Potential Source of Health?

Mehmet Ozaslan, Sanem T. Fistik, Didem Karagoz and Izzettin Guler
Professor, Department of Biology, Gaziantep University, Turkey

ABSTRACT

In the last decade, some of the plants have preferred medicine or as a complementary medicine in the treatment of many diseases. Plantago major is one of the prevalent traditional herb almost all over the world. In particular, P. major commonly utilized for Ayurveda in the Mediterranean basin and far eastern countries. It is a specie belonging to Plantaginaceae family which has rosette leaves with dentate side, oval, 10-20 cm length, parallel vessel (5-9), glazed and perennial. It has origin European and Asia. However, it was spread around the world 4000 years ago. Anatolia is one of homeland of this herb. The usage of P. major is varying from the geographic region and cultural remedies such as, it is used for wound healing in the North, digestion and stomach gas in the West, the seeds and the oily part is used as cream for skin in the middle Anatolia. There are thousands of papers about usage of P. major. The content of leaves and green parts of P. major is fulfilled with flavonoid, phenolic compounds, alkaloid, terpenoid etc. Thus generous components made the P. major very famous either in traditional usage or in phytoparmacological research. It is a well-known to herbal medicine for diarrhea, anti-inflammatory and analgesic, antimicrobial, antitumor, cytotoxic, antiviral, antiulcerogenic, wound healing, antioxidant purposes. Work on P. major has been initiated by Ozaslan and his colloquies in 2004 and the first scientific results were published in international journals. As a conclusion, in-vivo and in-vitro studies indicated that P. major is a promising plant for pharmacognostic research. Furthermore, this plant is a challenge for anti-inflammatory, antimicrobial, anticancer formulations.

Dr. Mehmet Ozasalan is working as a Professor/Dean, Education Faculty, Gaziantep University, Turkey. He received his Ph.D. degree from University of Cukurova, Adana, Turkey in 1995. His main area of interest in cancer genetics, molecular viology, molecular genetics, microbiology and genetic mutations & cancer genetics.

Spectrophotometric Detection of Chromium (III) Using Simple Non Fluorescent Schiff Base

Aaliya Minhaz, Rozina Khattak, Muhammad Yaseen, Fawad Ali,
Muhammad Raza Shah and Muhammad Ishaq
Assistant Professor, Shaheed Benazir Bhutto Women University, Peshawar, Pakistan

ABSTRACT

A Schiff base non-fluorescent chemosensor C6 (2,2'-(1E,1'E)-(hexane-1,6-diylbis(azan-1-yl-1-ylidene))bis(methan-1-yl-1-ylidene)diphenol) was synthesized and characterized by NMR and ESI-MS analysis. It is found that this chemo sensor exhibit good sensitivity for Cr +3 over a wide range of alkali, alkaline earth and other transition metal ions in acetonitrile solution. The oRcr+3 recognition of C6 could be achieved by means of absorption spectra.

Dr. Aaliya Minhaz is currently working as an Assistant Professor at Shaheed Benazir Bhutto Women University Peshawar, Pakistan. Dr. Aaliya completed her Ph.D. in 2016 in the field of Environmental Chemistry from Institute of Chemical Sciences, University of Peshawar, Pakistan. Her fields of research are synthesis of Gold and Silver Nanoparticles and their Sensing Ability toward Pharmaceuticals, Toxic Metals and Dyes.

Genetic Mutation/Polymorphism in VEGF Gene in Diabetes Mellitus & Diabetic Retinopathy Patients of Balochistan

Rozeena Shaikh, Sanam Zeib Khan, Muhammad Zeeshan, Muhammad Azhar, Abdul Wali, Naseebullah Kakar, Mohammad Mushtaq and Jamil Ahmad
Assistant Professor, Department of Biotechnology, Faculty of Life Sciences and Informatics, Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS), Quetta, Pakistan

ABSTRACT

Diabetes Mellitus (DM) is group of metabolic disorders that has become most prevalent among the adults around the world from past few decades. An important candidate gene for DR is Vascular Endothelial Growth Factor (VEGF). The VEGF gene is extremely polymorphic. The 18bp segment (I/D) polymorphism is of at -2549 position of the promoter region is of great importance. The present study aimed to identify VEGF (I/D) polymorphism in DM and DR patients of Balochistan. This cross section study involved 50 Healthy Control subjects, 50 DM subjects and 50 DR subjects. Blood samples were collected after informed consent of study subjects, DNA extraction was performed using inorganic method, Polymerase Chain Reaction (PCR) was used to identify (I/D) polymorphism of 18 bp fragment at position -2549 of the VEGF gene promoter region, that was confirmed using 2% agarose gel. DNA Sequencing was done commercially to confirm the presence of 18bp I/D polymorphism. The allele (I/D) and genotypes (DD, I/D, II) frequencies of VEGF gene were compared among all the study subjects. The frequency of DD genotype in DR was 52% while in DM was 40% and in control was 2%. The significant differences ($p<0.05$) were observed when genotypes were compared among control and DM and Control and DR. The significant differences ($p<0.05$) were observed in Control and DM Control and DR, DM and DR at 95% CI. These findings suggest that the DD genotype is possible risk factor for development and progression of retinopathy as compared to uncomplicated subject II genotype in Balochistan population.

Dr. Rozeena Shaikh is currently working as Assistant Professor at Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS), Pakistan since 2014. She did her PhD in Biotechnology from University of Karachi, Pakistan. Her research interest includes Genetic Mutation/Polymorphism in ACE and AGT genes in Diabetes, Hypertension and Nephropathy. She has expertise in Molecular based Diagnosis of Several Infectious Diseases as well as Molecular Genetic Studies of Inherited Diseases. She has published research papers in various International Journals.

Preliminary Development on Freak Wave Modeling in Taiwan Coastal and Ocean Environment

Dr. Chih-Chieh Young
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Assistant Professor, Department of Marine Environmental Informatics, National Taiwan Ocean University, Taiwan

ABSTRACT

The so-called mad-dog waves or freak waves are exceptionally large, steep and asymmetric waves whose heights usually exceed by 2 ~ 2.2 times the significant wave height. These waves, described as "holes in the sea" or "wall of waters", have caused many deadly accidents for people who came to coastal recreation or notorious hazards to navigation vessels and marine structures. For example, several huge waves attacked the coast at northeastern tip of Taiwan in Nov. 2013, causing 8 deaths and 8 wounded tourists. In 1992, four fishing boats were totally destroyed by sudden huge waves in the vicinity of Suao Harbor at the east coast of Taiwan. Many freak waves' devastating impacts and sinister marine episodes have raised great interests in predicting their occurrence. Over the past two decades, a great deal of efforts has been paid to examine the mechanisms that cause formation of freak waves. The purpose of this study is to reproduce freak waves numerically for Taiwan coastal environment while earlier attempts mainly focused on the statistical analysis. Recognized that these transient giant and steep waves can mysteriously occur from either deep- or shallow-water wave groups in random open seas, a higher-order non-hydrostatic model free from limitations on water depth and spectrum width was developed. The model used an implicit finite difference scheme on a staggered grid to solve the unsteady Navier-Stokes equations with the free-surface boundary conditions simultaneously. Besides, an integral method was employed to resolve the top-layer non-hydrostatic pressure, allowing for accurately resolving free-surface wave propagation. Model accuracy was validated by linear/nonlinear progressive waves and nonlinear bi-chromatic deep-water wave groups. The model was then used to examine the two-dimensional and three-dimensional freak waves. Features of downshifting focusing location and wave asymmetry characteristics are predicted on the temporal and spatial domains of a freak wave. In the near future, an effective freak wave warming system could be developed by the present modeling framework together with sufficient observation data.

Dr. Chih-Chieh Young is Currently an Assistant Research Fellow at HRI, NTU and will join MEI, NTOU as an Assistant Professor in August 2017. Dr. Young received his Ph.D. degree from the Department of Civil Engineering of National Taiwan University, Taiwan in 2009. His specialty covers multidisciplinary research of Nonlinear Wave Dynamics, Coastal Oceanography and Riverine Hydrology/Hydraulics. One of his main research topic is about coastal/oceanic mad-dog waves (freak waves) which have caused numerous hazards in Taiwan in recent years.

Analysis of Stress Regulatory Transcription Factors Expression in Human Cardiac Valvular Disorders from Respective Diseased Tissues

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ABSTRACT

Cardiovascular diseases (CVDs) are one of major source of global morbidity. However, since the last century far more cases were evident. Heart valves are a group of complicated, fragile and flexible connective tissues which enable the blood to flow through the chambers of heart in one direction. Abnormality in either valve of the heart refers to valvular heart disease. Surgical intervention or valve replacement is the most worldwide accepted treatment for this serious cardiovascular condition. Therefore it is imperative to understand the pathophysiology of the heart diseases for possible preventive measures. In this work, the proteomic analyses were performed along with spectrophotometry and western blotting. In addition, histology of the heart tissue containing the valvular disorders was studied with hematoxylin/ eosin staining. Furthermore, promotor region target matching, comparative analysis of DNA and protein content in samples and expression of GATA-4, NFATc3 and CALPAIN1 protein was studied in the human heart valvular tissue. GATA-4 and CALPAIN1 gave expression in patients and control while NFATc3 expression was confined to patients only in comparison with control. We report that GATA-4 have conserved binding motifs for Staf, Ap4 and Smad, NFATc3 have high conserved sites for Ap4, Staf, Smad-Q6 and Ap4-Q6 while CALPAIN1 has no such conserved binding sites. The comparative analysis of DNA and protein contents in samples showed that DNA contents remained unaltered in all tissues while differences in protein expression was evident. Histological study highlighted that patient's heart valve tissue exhibited decellularization, disturbance of myofibrillar structure, calcification mediated shortened striations and a large deposition of lipids in the fibrosa layer in comparison with control. Here we report abnormal expression of GATA-4, NFATc3 and CALPAIN1 and attribute this as one of the major cause of valvular disorders. Current study can provide basis for new insights for the regulations of therapeutic interventions.

Mr. Shiv Ram Ashraf is currently studying as Ph.D. scholar in Department of Biochemistry and Molecular Biology at University of Gujrat, Gujrat, Pakistan. He Completed M.Phil from Quaid-i-Azam University Islamabad at Signalling Transduction Lab. His research is mainly focused on Biochemistry, Molecular Biology and Genetics.

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Pervasive Learning Environment with Emerging Technologies and Teaching and Learning Transformation

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ABSTRACT

The 21st century has seen some emergence of new and innovative teaching and learning trends. Among these; Pervasive Learning (P-Learning) is one of the emerging teaching and learning method due to handheld devices' price reduction, technological support and smartness of smartphone technology. Teachers and learners are now no more restricted by place or time or device and can access digital teaching and learning material whenever and wherever they are. Thus, P-learning has the ability to access teaching and learning material beyond the boundaries of the traditional classroom arrangement. This paper presents the idea of P-learning which is not limited to a single geographic location or mobile or location based technologies; rather, it facilitates teaching and learning from anywhere and at any time with any handheld device means 24*7*12. The purpose of this paper is to propose how this digital teaching and learning paradigm helps physically disabled, geographically scattered, learners through recorded or live audio/video lectures without physically attending or delivering academic classes.

Dr. Muhammad Yaqoob Koondhar is a Regional Director of ETSS Management, Malaysia and faculty member of Sindh Agriculture University, Tandojam, Pakistan. His research interest includes web-based teaching and learning techniques, behavioral study and information system.

Optimum Functioning in Society: Focusing Mental Health and Well-Being

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ABSTRACT

Optimum functioning can be 'defined as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community'. Thus, mental health is the foundation for well-being and effective functioning of an individual and for a community. This keynote speech will focus on factors that enable optimum functioning and how wellbeing is an outcome of managing the life that one has got. Mental health and mental illness is determined by social, psychological and biological factors. It also has a clear relationship with indicators of poverty, including low levels of education. On macro level, mental health for each person may also be affected by individual factors and experiences, social interaction, societal structures and resources and cultural values. For example it was found that married couples' optimum health was not only determined by individual factors but by relation factors also. Individual characteristics like self-reliance, self-confidence, sense of humor etc. were as important as relational factors like forgiveness, appreciation, conflict resolution and compromise. Other research evidence suggests that wellbeing varies with experiences of everyday life: in families and schools, on streets and at work. For instance it was found that among six professional categories lecturers/teachers have moderate levels of flourishing mental health closely followed by doctors and managers. It was further illustrated that male professionals have greater flourishing mental health states than women employees. The mental health of each person in turn affects life in each of these domains and hence the health of a community or population. Wellbeing is not a fixed state and can be altered. A person can achieve flow at work by identifying individual resources that can help cater to the negative effects of stress, have the freedom to choose and give meaning to their lives and having the ability to reframing and finding the balance between different aspects of their life. For example it was found that for a group of obese subjects, wellbeing was defined by their ability to recreate a new normal for themselves and redefine parameters of physical beauty.

Dr. Rubina Hanif is a well known social scientist and currently working as a Tenured Associate Professor in National Institute of Psychology, Center of Excellence, Quaid-i-Azam University, Islamabad, Pakistan.

HAZOP Study on Refinery Waste Water Treatment Plant Conducted in Pakistan

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ABSTRACT

Disposal of Petroleum refineries include various hazards before and after treatment, this needs to be analyzed by using different risk assessment tools. This study focuses on the detection of hazards, estimation of risk factors and reduction of accidents in the oil refinery of Pakistan. HAZOP (Hazard and Operability Study) is widely used technique for the identification of process hazards in the design and operation of various oil Refineries. For reliable HAZOP study, whole process design was done based on Process flow diagram (PFD), Piping and Instrumentation diagram (P&ID) and standard guide words by a team of qualified professionals. The waste water disposal from the Oil Refinery to Sea as per standard like Environmental Protection agency (EPA) is very critical task for Pakistani Engineers. To solve this problem the whole study were carried out with a team of about 05 Engineers. In this study HAZOP of existing Refinery based waste water were analyzed in detail and then suggested modifications in waste water treatment plant to minimize the existing hazards. This study was conducted before/after the installation and commissioning of Waste water treatment plant on site.

Dr. Shagufta Ishtiaque is currently working as In charge Assistant Professor in Department of Chemical Engineering at University of Karachi since 2011 having more than 25 years experience in the field of Chemical Engineering. Her research areas include extraction of natural antioxidants from different plant sources, Manufacturing of food grade plastic films with improvement in barrier properties.

Organization Providing Accommodation Services like Learning Organization: Skills Development by Shared Leadership

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Head and Professor, Department of Sport Management, Economics and Sociology, Lithuanian Sports University, Lithuania

ABSTRACT

In the informational century, it is crucial for tourism organizations to improve and develop various skills which helps to respond to the environmental changes fast and remain dynamic in the customer service industry. Organization providing accommodation services is always moving forward, where the main highlight is the staff with leadership skills, initiative and self-confidence. The learning organization will always be one step ahead, because its activities are based on knowledge and skills that are constantly improving. The members of the modern organization should have leader's competences, regardless what position they are working and be able to share leadership when is necessary. The shared leadership helps not only to divide the simple tasks, but also to expand the responsibilities, to participate actively in making decisions and to encourage the staff to become a leader. Synchronizing these two conceptions will let improve the organization, will make it easier to reach the agreement and the aims. The aim of this article is to evaluate the organization providing accommodation services as a learning organization ability development through shared leadership. The research is quantitative: Literature review and questionnaire. Literature review showed leadership difficulties in learning organization context. The questionnaire revealed that the staff of the organization providing accommodation services are aware of innovations, trust and the position within the team. There is a lack of awareness shown to the personal development of the staff, the managers are not good example of the leader, shared leadership expressions are poor and not all of the staff members are feeling appreciated. Overall, there is a need to strengthen the shared leadership, continuously develop the skills of the staff, encourage making decisions individually. It is recommended to strengthen the shared leadership shaping aspects through the development of the abilities. The created product is relevant and adaptable for the organization providing accommodation services. This product will improve the activities of the organization, enhance feedback and helps to develop shared leadership.

Dr. Biruta Svagzdiene is currently working as Professor in the Department of Sport Management, Economics and Sociology at the Lithuanian Sports University, Lithuania Since 1999. She obtained her Ph.D. in Tourism & Sports Management from University of Siauliai, Lithuania in 2010. Her Research interest includes Tourism Organization Research, Business Economic Development and Management & Economics of Sports Industry. Dr. Biruta is a member of groups of scientists working on projects "Organization of Sports Industry and Research on Business Development" and "Strategic Management of Human Resources in Sports Industry".

Phase Recognition for an Interactive Assistance in Surgical Interventions Based on People Tracking

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ABSTRACT

Assistance function applied proactively during a surgical intervention can support the surgeon team and help to prevent treatment errors as well as enhancing the patient`s outcome. We studied Random Forests to integrate the classification method into the area of computer assisted surgery based on a model of acting persons and the tracking data of the instrument in use. The Random Forest Classifier decide the current phase from new incoming data. Nevertheless especially by using models of the acting persons some feature vectors are similar, e.g. insert the instrument into the patient situs or remove them. Hence an extension of the Random Forest Classifier to remember the history (which phases were already detected) could increase the prediction results. For the model of the acting persons, we used four Kinect One Cameras and a skeleton algorithm. Furthermore an instrument tracking was done with the ARTTrack2 system. We performed a compromised surgical workflow. 12 datasets were recorded including seven phases. The seven phases had different characteristics within a 17-dim feature vector (position of the hand of the surgical team, velocity of the hands, number of instruments used). All data were recorded in the ROS-based OP: Sense environment. According to improve the Random Forest Classifier to enrich the history we propose an extension based on a Bayes Filter. A cross-validation with a leave-one-out iterator was performed on the 12 datasets. We increased the prediction results, especially on the phases which were mixed up quite often by using the Random Forest Classifier. The prediction quality is improved and helps to integrate proactive assistance function during a surgical intervention.

Dr. Heinz Woern is currently working as a Professor in Institute for Anthropomatics and Robotics (IAR), Intelligent Process Control and Robotics at Karlsruhe Institute of Technology, Germany. He obtained his PhD from the Institute for Control of Machine Tools and Manufacturing Equipment at University of Stuttgart, Germany. His Research interest includes Robot Applications, Robot Controls, Sensors for Robots and Programming & Simulation of Robotic Installations.

Development and Evaluation of Supplementation of Oysters Mushroom Powder in Functional Foods

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ABSTRACT

Mushroom is well recognized as "meat" in the vegetable world and considered as the next generation vegetable. It is the rich source of carbohydrates, protein and dietary fiber and only non-animal source of vitamin D. Its supplementation in different food products can enhance the quality of these products. In modern life style the consumption of pasta products like spaghetti, noodles, vermicelli and macaroni are getting fame among the masses due to convenience and palatability especially in urban population. Spaghetti is becoming popular in Pakistan due to convenience in cooking and taste liked by all age groups. However, its nutritional profile can be upward by elevating protein and dietary fiber contents. The present project has been designed to prepare mushroom powder supplemented spaghetti for diet diversification and better presentation and dietary fiber boost. For the purpose, six formulations of flours were developed by supplementing mushroom powder at rate of 5,10,15,20 and 25% along with control. Spaghettis were manufactured from all formulations along with control were analyzed for physico-chemical composition, mineral analysis and physical parameters like hardness, color and sensory characteristics. Mean values for proximate and mineral analysis revealed moisture content (9.56-13.19%), crude protein (9.64-12.90%), crude fat (1.07-1.53%), crude fiber (0.57-2.39%), ash (0.65-1.70%), NFE (68.72-78.03%), Na (545.82-593.85mg/100g), K (7.16-26.39mg/100g), Ca (34.33-45.17mg/100g), Mg (221.07-338.24mg/100g), Fe (4.54-7.80mg/100g) and Zn (3.13-5.17mg/100g). Mean values for hardness ranged from (0.71-2.12) while color examination mean values for L* (65.59-69.88), a*(1.55-2.46) and b* (43.44-47.89). Sensory attributes of spaghetti made from supplemented flours containing 15% mushroom powder were more preferred by judges due to appealing color, pleasant taste and flavor, better chewability and overall acceptability. It is suggested that mushroom powder should be used in different food products to enhance their nutritional and therapeutic effect.

Sirt1 and eNOS Pathway is Essential for Oxidative Stress and Endothelial Cell Dysfunction

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ABSTRACT

Mitochondrial dysfunction has emerged as a major contributing factor to endothelial dysfunction and vascular disease, but the key mechanisms underlying mitochondrial dysfunction-induced endothelial dysfunction remain to be elucidated. In this study, we aim to determine whether mitochondrial dysfunction in endothelial cells plays a key role in vascular disease, by examining the phenotype of endothelial-specific CR6-interacting factor 1 (CRIF1) knockout mice. We also used siRNA mediated downregulation of CRIF1 gene in the endothelial cells to study about the in vitro pathophysiological underlying mechanisms. Downregulation of CRIF1 in endothelial cells caused disturbances of mitochondrial OXPHOS complexes and membrane potential leading to enhanced mitochondrial reactive oxygen species (ROS) production. Gene silencing of CRIF1 results in decreased SIRT1 expression along with increased eNOS acetylation leading to reduced nitric oxide production in vitro and in vivo. Endothelium-dependent vasorelaxation of aortic rings from CRIF1 knock out (KO) mice were considerably less than in wild-type mice and it was partially recovered by Sirt1 overexpression in CRIF1 KO mice. Our results show for the first time a relationship between mitochondrial dysfunction and impaired vascular function induced in CRIF1 deficiency conditions and also the possible underlying pathway involved. These findings indicate that CRIF1 plays an important role in maintaining mitochondrial and endothelial function through its effects on the SIRT1-eNOS pathway.

Mr. Cuk-Seong Kim is currently working as Postdoctoral Associate at Chungnam National University, South Korea. He obtained his Ph.D. in Vascular Disease from Chungnam National University in 2005. His research interest includes Medicine, Oxidative Stress and Cell Dysfunction.

OxPhos Defect Brings about Decrease of GDF15 Production in Macrophages and Leads to Adipose Inflammation and Systemic Insulin Resistance

Saet-Byel Jung, Min Jeong Choi, Seong Eun Lee, , Seul Gi Kang, Cuk-Seong Kim and Minho Shong
Research Professor, Department of Endocrinology, Chungnam National University Hospital, Korea

ABSTRACT

Although epidemiological studies have linked inflammation with obesity for decades, the underlying mechanisms remained obscured. It is now widely accepted that the interaction between insulin target cells and the accumulated macrophages that secrete proinflammatory mediators is known to be one of the main reasons of IR. A reduced mitochondrial capacity has been confirmed in patients with type 2 diabetes. However, little is known about soluble macrophage factors with the potential to reverse insulin resistance associated with adipose inflammation. To find out the soluble factors of macrophages in adipose inflammation, we have sought six transcriptomes from control macrophages and macrophages that were treated with rosiglitazone. We identified a secretory factor, GDF15, which is required for increased oxidative metabolism in M2-like macrophages stimulated with IL-4 and the PPARgamma agonist, rosiglitazone. Administration of GDF15 increased the oxidative function of macrophages, leading to their polarization into an M2-like phenotype and reversed insulin resistance in ob/ob mice and in HFD-fed mice harboring myeloid-specific deletion of Crif1. Reintroduction of GDF15-null macrophages into HFD-fed mice in which macrophages were depleted with clodronate treatment rendered them glucose intolerant. Moreover, GDF15 deficiency prevented improvement of insulin sensitivity in mice treated with the Th2 cytokine IL-4. Thus, GDF15 is an important microenvironmental factor regulating phenotypic polarization of macrophages linked to improvement of systemic insulin resistance.

Dr. Saet-Byel Jung is currently working as a Research Professor in Chungnam National University Hospital, South Korea. She received her Ph.D. degree in Medicine from Chungnam National University, Korea in 2006. Her Research interest includes Microbiology, Medicine, Cardiology and Endocrinology.

Segmental Arterial Mediolysis with 5 Splenic Artery Aneurysms. A Rare Finding of a Rare Disease: Case Report and Literature Review

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ABSTRACT

Splenic artery aneurysms (SAA) is an uncommon finding. They are usually single and isolated; however they can be multiple; hence vasculopathy and segmental arterial mediolysis may be considered. In our manuscript we present a case of a 54 year old multiparous lady, who was incidentally discovered to have a diseased splenic artery containing five SSAs. The largest aneurysm was close to the takeoff of the splenic vessel from the celiac trunk and the smallest was very distal embedded in the splenic hilum. Endovascular option was technically not feasible. Therefore the patient underwent a complete splenic artery resection with splenectomy. The histopathological examination was suggestive of segmental arterial mediolysis (SAM). Segmental arterial mediolysis with Multiple SAAs remains a rare finding of a rare disease. It should be suspected in patients with a diseased vessel and the presence of several aneurysms in one anatomic site. Abdominal angiography and CT brain should be performed to rule out both adjacent and distant vascular involvement, in order to plan further management. In our case, complete splenic artery resection with splenectomy was the optimal treatment option due to the increased risk of potentially life-threatening sequellae.

Dr. Muhammad Alali is currently training in the Department of General Surgery at Al-Amiri hospital, Kuwait. Dr. Alali is a 28 year old Kuwaiti doctor. He has graduated from the Royal College of Surgeon in Ireland in 2014. Since then he has been rotating in many divisions of different specialties. He takes part in the academic activities and he also has an interest in medical research.

The Possibilities of Sustainable Development of Tourism Object: The Case of Lithuanian Adventure Parks

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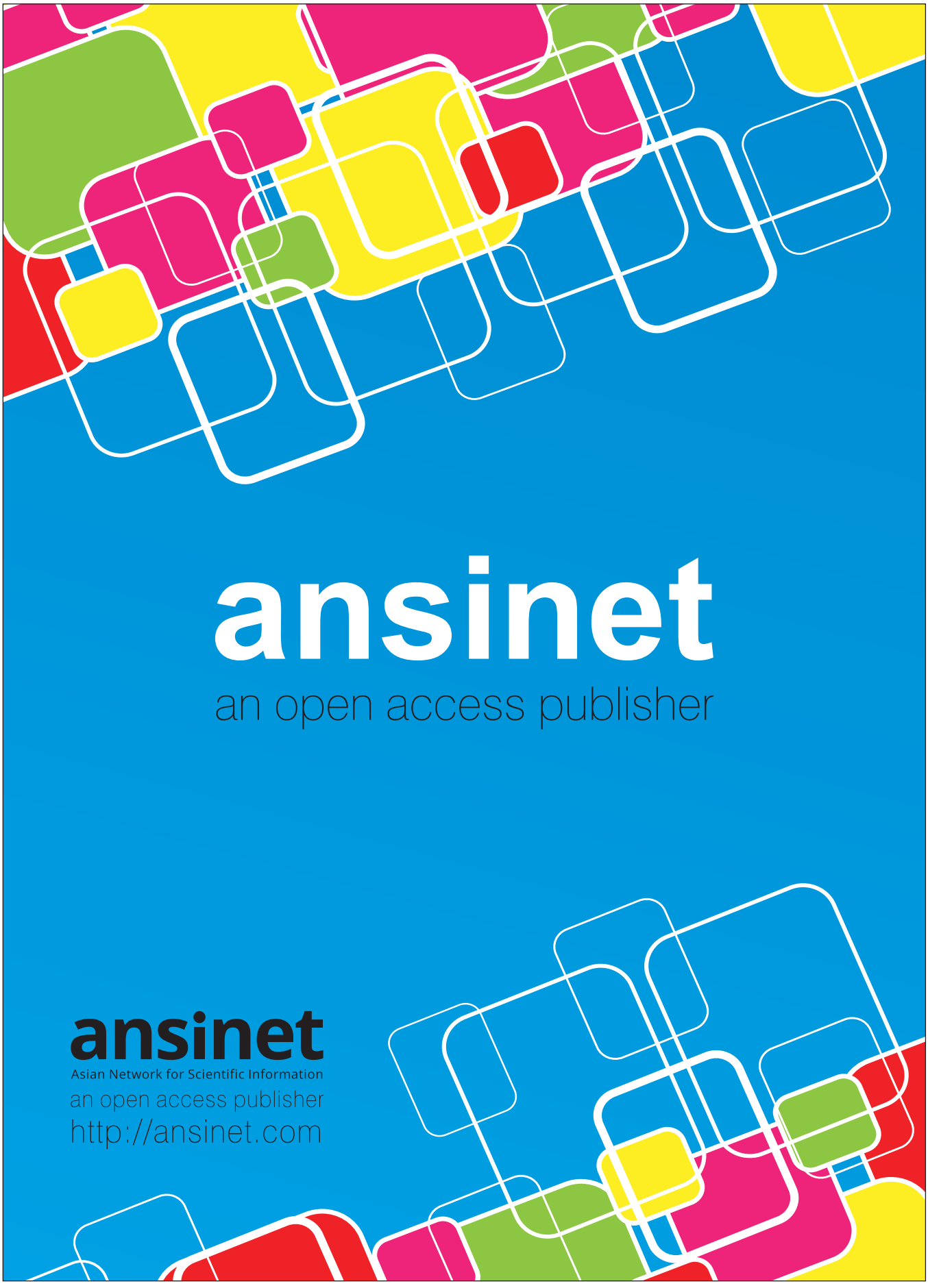
ABSTRACT

The adventure parks - are an important object for tourism attraction. Though the first adventure park in Lithuania was opened in 2005, however more and more parks are being opened and they are successfully developed. But tourism objects should be developed purposefully, with responsibility and sustainability. The compromises should be found in pursue of environmental, social and economic objectives. This is a sustainable tourism, based on the principles of sustainable development. The application of these principles is significant in the development or creation of every tourism object, it is necessary to assess possible threats and to look for the ways, on the basis of sustainable development principles, which would decrease this possible harm, negative impact on the environment and to increase positive tourism benefits. The sustainability is widely studied in the hotels as tourism objects. The sustainability is not widely researched by the scientists in the case of adventure parks, which are not traditional tourism objects as hotels or rural tourism homesteads. The research of sustainability in adventure parks gives an opportunity to assess the sustainability not only in traditional tourism objects and making use of opportunities to increase tourism sustainability in various tourism objects. After the analysis of the answers of adventure parks' managers and obtained assessment results it was found, that the most unused possibilities of sustainability increase of adventure parks may be related with the criteria of environmental and economic dimensions. This is proved by insufficiently promoted approach to renewable energy, also the decrease of water use is not promoted as well as, the conservation of animal species is ignored.

Dr. Edmundas Jasinskas is currently working as Professor at the Department of Sports Management, Economics and Sociology in Lithuanian Sports University, Lithuania and Associate Professor at the Department of Business Economics and Management in Kaunas Faculty of Humanities at Vilnius University, Lithuania. He was awarded with PhD degree in Economics from Vilnius University, Lithuania. His research interests include Government's Support For Business, Sustainable Development, Organization Learning, Human Resource Management, Corporate Social Responsibility and Leisure Economy.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Energy Harvesting using Radio Frequency Sources

Dr. Bushra Naeem, Maaz Ali Khan, Dr. Faisal Khan and Engr. Muhammad Shoaib Ali
Chairperson Software Engineering, Faculty of Information and Communication Technology, Balochistan University of IT, Engineering & Management Sciences, Quetta, Pakistan

ABSTRACT

The energy in daily lives is being used at the highest ever pace, while it is feared that up to 62% of generated energy is wasted. According to some researchers, the world uses petroleum 100,000 times faster that they can form and the world is predicted to be running out of petroleum and natural gas on 2025. Thus, the scientists are working hard to find alternative energy generation methods to overcome this problem, specifically to decrease the dependency on non-renewable energies. A possible method of deriving the energy from external sources is called 'Energy Harvesting'. Normally harvested energy is used for low powered devices including small autonomous robots and wearable electronic devices. Among different kinds of energy found in surroundings, a very useful resource for harvesting energy is identified as radio frequency sources. Energy from radio frequencies may be easily detected in surroundings as it is used widely by various applications, such as television broadcasting, telecommunication and in microwave based appliances. Recently, there has been an upsurge of research interests in radio frequency sourced energy harvesting. This technique is anticipated as a promising solution to power/energy-constrained wireless networks. The world is looking forward to the fifth generation of wireless technology where low power devices and energy harvesting nodes will be used. Thus, energy harvested using radio frequency sources may be able to provide power to many daily life electronic gadgets, helping the serious energy crisis.

Dr. Bushra Naeem is currently a Lecturer at BUITEMS, Quetta since January 2011. She was awarded a fully funded PhD by the Higher Education Commission Pakistan by the end of 2012 and completed her PhD from Univeriti Teknologi Malaysia, Malaysia in April 2016. Her subjects of interest include Wireless Communications, Heterogeneous Networks, Cognitive Radios and 5G. She has published various scientific papers and attended high end international conferences. She is a registered member of Pakistan Engineering Council, IEEE, WIE and the editorial board in several international journals.

Burnout Tendencies and Mental Health Issues in University Administrative Staff

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ABSTRACT

Burnout is a reaction to prolonged job-related stress that can affect the health of the people, mainly working staff of any organization. In relation to burnout there are few evidences in Pakistan especially on administrative employees who suffer from burnout and even have the tendencies. This study was carried out to explore the prevalence of burnout tendencies and to find out the relationship of these tendencies with Mental Health of University administrative staff. A total of 193 professionals were recruited as sample in the study with different levels of posts and experiences i.e. senior, middle, junior (75% males, 25% female) with the age range of 30 to 45 year (M 32.35, SD 8.40). This study indicated that more the burnout tendencies the more the mental health issues in administrative staff and also the burnout tendencies are the significant predictors of mental health issues. The results are discussed in terms of stress management and counseling for the administrative staff of the University.

Ms. Sana Daud is currently working as an Assistant Manager Academics in the Institute of Clinical Psychology at University of Management and Technology, Lahore, Pakistan. She is associated with the field of Clinical psychology since 2007. She has been involved in Research and Counseling. She has presented Research papers in National and International conferences.

Development of Fragility Curve using HAZUS Method for Assessing Seismic Vulnerability of RC Buildings in Surat City-India

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ABSTRACT

In this study, seismic vulnerability assessment of RC buildings of Surat (Zone III) is done because recently an earthquake, of magnitude 4.7, occurred on July 17, 2016, with epicenter located at 14 km from Surat. This assessment can help the consultant to know what will happen if a certain earthquake occurs, by understanding the damage state of building the consultant can decide to enhance the building strength with an appropriate retrofit strategy which leads to saving of lives. Fragility curve is lognormal functions which describe the probability of reaching or exceeding a particular damage state; vulnerability curves are derived from fragility curve and represent mean damage state for earthquake intensity. In this study, fragility curves were developed followed by the development of vulnerability curve to find the probability of mean damage in buildings as a result of an earthquake. Reinforce concrete buildings in a range of 2 to 12 storey constitute the major part of the infrastructure of Surat, therefore, three prototype models, which include two-, five- and twelve-storey concrete moment frame structures were defined and designed based on IS 456-2000. SAP2000 was used to perform nonlinear static (pushover) analysis. The outcome of pushover analysis in the form of pushover curve was converted to capacity spectrum to find the control points (i.e. yield and ultimate point) and performance point. Results of pushover analysis in converted form, HAZUS a well-known loss estimation methodology and Barbat theory were used to develop the fragility curve of models for slight, moderate, extensive and complete damage state. Total probability theorem was then used to transform fragility curve to vulnerability curve. This study shows that reinforce concrete buildings located in Surat are more vulnerable to slight damage and least vulnerable to complete damage. It also shows that the mean damage probability increases as the height of building increases.

Mr. Ashok J. Shah is working as Associate Professor in S V National Institute of Technology, India. He received his M.E. Degree in Civil Engineering having specialization in Structure from Veer Narmad South Gujarat University, India in 1985. His research interest includes Repair Rehabilitation of Structure, Steel Structure, Industrial Structure and Disaster Management.

Cognitive Behavior Therapy for Shyness: A Cultural Perspective

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ABSTRACT

Cognitive behavior therapy (CBT) helps client to acknowledge cognitive errors, reevaluate and to change them through various techniques that can be appropriate according to the needs. This case illustrates the use of CBT in cultural perspective where the origin of problem was related to collectivistic culture. A 21 years old male came with problems of shyness, low confidence, sadness and lack of communication skills. The client was assessed with the help of clinical interview, observation, subjective rating, Self Esteem Scale (SES) and Student Problem Checklist (SPCL). The assessment indicated that he had low self esteem, high sense of being dysfunctional, loss of confidence, lack of self regulation and anxiety. Psycho-education, Relaxation exercise, Assertive skills training, Behavioral experiment, cost benefit analysis and perspective taking were the core techniques used with the client. The post assessment shows a marked improvement in confidence and assertiveness. In relation to family dynamics, this change was appreciated by youngest sister whereas his elder sister didn't like it in him. The overall therapeutic process was based on 10 sessions and for 2 follow up within 6 months.

Ms. Zobia Amin is currently working as a Clinical Counsellor in the Institute of Clinical Psychology at University of Management and Technology, Lahore, Pakistan. Ms. Zobia has been working as Clinical Psychologist since 2008. She has presented research papers in both National and International Conferences.

Modified Vogel's Approximation Method (MVAM): A Better Approach for Finding Initial Basic Feasible Solution

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ABSTRACT

The Vogel's Approximation Method (VAM) is an itterative procedure for computing an Initial Basic Feasible Solution (IBFS) of a Transportation Problem. The main concept of VAM is to determine penalty cost obtained from the difference of minimum and next to minimum cost in each row or column. The difficulty arises when any row or column contains the minimum costs two or more than two times, which leads to zero penalty. Also there is a problem when maximum penalty appears in two or more than two rows or columns. In such cases VAM does not give logical or an efficient IBFS. In economic terms, the idea of VAM is to determine the opportunity cost associated with each possible assignment and then pick the cell with the maximum opportunity cost. In this paper the limitations of VAM are resolved and a new algorithm "Modified Vogel's Approximation Method (MVAM)" is introduced which maximizes the opportunity cost for each allocation. The performance of proposed MVAM is compared with that of VAM and it is concluded that MVAM provides an efficient IBFS and sometimes direct optimal solution for a transportation problem.

Ms. Gul Rukh is a lecturer in Statistics at Women University Swabi, Pakistan. Prior to this position she was serving as a visiting faculty member at International Islamic University Islamabad, Pakistan. Her M.phil is from Quaid-i-Azam University Islamabad, Pakistan. Her dissertation at the university was focused on an algorithm for finding an efficient initial basic feasible solution for a given transportation problem in linear programming.

Schizophrenia and Its Forensic Potential

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ABSTRACT

Objective of this study is to highlight the idea of what psychiatry calls "emerged" schizophrenia. We refer to an onset of an axis I disorder (that later turned out to be schizophrenia), with forensic implications, that started with a criminal offense - rape and a detention. Hypothesis were based on the scan of instinctual tendencies of the patient, emphasize a close connection between a vein sex eminently expressed in the sex act, shorting out the emotional sphere (for which the patient is currently flattened) and in direct connection with abandonment problematic. Long term psychiatric hospitalization, the study of older forensic documents, including psychiatric reports, supervision in the absence of medical staff - in order to identify the relations and actions undertaken in the imprisonment environment, complex psychological investigation (personality and intelligence), monitoring of adverse reactions under medication. Results showed the evolution of the professional life, as well as: life events, personal vision of the world, the severity of the antisocial actions, repeated forensic potential - raises the need of a detailed study of the differential diagnosis between: paranoid type schizophrenia (considering the persistence of hearing imperative hallucinations with negative content), an antisocial personality disorder (ASPD) with transitional decompensations and gansseroid pathology (mimic mental illness). From psycho-dynamic point of view, the patient concerns and his attraction for rape, highlights the size of his intrinsic sadistic impulses, together with the lack of criticism, guilt or doubts. The simple existence of his childhood psycho traumas (abandonment pathology) is not sufficient to demonstrate the transition to action in the area forensic actions, reiterated. At the base, it is a loaded heredity for major depressions and suicide, together with the absence of a Self construction.

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Strategies for Genetic Improvement of Dairy Animals in Pakistan

Dr. Khalid Javed
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ABSTRACT

Pakistan supports approximately 69 million heads of large ruminants (34 buffaloes and 35 cattle) and approximately 99 million small ruminants (70 million goats and 29 million sheep). Pakistan has two main dairy type large ruminants i.e. buffaloes nad cows. There are two major breeds of buffaloes (Nili Ravi in Punjab and Kundi in Sindh). Both are considered as dairy breeds having a good milk production potential whereas there are more than 15 cattle breeds but only three (Sahiwal, Cholistani and Red Sindhi) are categorized as dairy breeds, while rest are categorized as draught or dual purpose cattle breeds. Although Pakistani buffaloes and indigenous cattle breeds are among the best tropical dairy breeds however, their average per lactation production level is much lower than well developed dairy breeds of West and United States (3000 vs 10000 liters). There are many factors including genetic and environmental, influencing the production potential of any individual. Considering all these factors different strategies can be formulated to improve the genetic potential of farm animals and dairy animals are not an exception. Selection and mating systems along with improvement in feeding, management, disease control measures and the most important marketing, play major role in performance improvement. Identification of genetically superior breeding animals especially the males in dairy animals and their efficient use in breeding operations is the most important strategy for genetic improvement of farm animals. For the purpose implementation of progeny testing program and genetic evaluation through the most modern procedures (Animal Model) is the best option. In Pakistan since 1979 a progeny testing program for buffaloes and Sahiwal cattle in underway. Although there are some hurdles at farmers as well as at institutional level but it has made a considerable progress.

Dr. Khalid Javed is a Professor (TTS) of Animal Breeding and Genetics in the Department of Livestock Production at the University of Veterinary and Animal Sciences, Lahore, Pakistan. He earned his Doctorate degree in Animal Breeding & Genetics from University of Agriculture, Faisalabad. He joined Government of Punjab, Livestock and Dairy Development as Veterinary Officer in 1983 and remained engaged in research in different capacities (Assistant Research Officer, Research Officer and Deputy Director) at different livestock research stations in Punjab. Dr. Khalid conducted research, trainings and teaching in the fields of Animal Breeding, Population/Quantitative Genetics and Statistical Genetics. He analyzed the production data of various livestock species (e.g., cattle, buffalo, sheep, goat, chicken) to characterize the phenotypic and genetic structure related to different traits of economic importance and subsequent selection. He has a vast experience in teaching, training, advising and examination of the undergraduates and postgraduates in the disciplines of animal sciences and livestock production. He is an HEC approved supervisor for PhD scholars. He is also working as Senior Editor of an internationally recognized (ISI Thomson Impact Factor 0.381; JCR 2016) Journal of Animal and Plant Sciences (The JAPS).

Medicinal Plants and Their Uses in Nigeria

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ABSTRACT

Medicinal plants are plants with one or more of its part serving a therapeutic function. Plants have been used for centuries to provide means of treating many diseases and the inhabitants of continents including Africa have taken advantage of this. Nigeria is a developing country situated in West Africa. It has a population of about 150 million people. A large percentage of Nigerians live in the urban areas. Traditional medicine remains the cheapest and most readily available source of intervention in the treatment of diseases in Nigeria. However, the utilization of medicinal plants is undergoing rapid decrease amongst the population in rural areas as a consequence of modernization and civilization.Therefore, the need for proper documentation of traditional medicinal practices among the people in Nigeria where there has been a dearth of published information is immediately called for and this accounts for the rationale to undertake this study. There has been several reported ethnobotanical surveys highlighting the use of different medicinal plants in traditional medicine in different geographical regions of Nigeria. This review presents the most important medicinal plants used throughout Nigeria, the different ailments they treat, the parts of the plant with the therapeutic property and the mode of administration of the plant preparation. The use of medicinal plants in Nigeria in the treatment of ailments has not been standardized. There is need for more research in this area.

Dr. Ridwan Abiodun Lawal is currently working as Lecturer in University of Lagos, Nigeria. He received his Ph.D. degree in Biochemistry from University of Lagos in 2015. He has research interest in Phytomedicine, Biochemical Pharmacology and Pharmaceutical Sciences.

Centennial Journey of Bacterial Viruses in Combating Global Havoc of MDR pathogens

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ABSTRACT

The very present year 2017 marks the centennial of the discovery of bacterial viruses (Bacteriophage, popular as phages) capable of infecting bacteria. Phages have been central in most meaningful advances over the past hundred years and are poised to play expanded roles in biomedicine, biotechnology, ecology and the biosphere. Before the advent of phages, antibiotics had been a panacea in veterinary as well as in medical science for decades. However, the indiscriminate and inappropriate use of antibiotics in non-infected patients and in the food industry to promote the growth of poultry and farm animals has led to the development of resistance in bacteria as an ultimate means of their survival. The world-wide evolution of antibiotic-resistant bacterial strains and nosocomial and community-acquired infections usually caused by multidrug resistant strains (MDR), totally resistant strains (TDR), extensively-drug resistant (XDR) and pandrug-resistant (PDR) bacterial strains has exacerbated inquisitiveness in exploration of alternative novel antimicrobial agents as therapeutic modality to conventional drugs. One of the effective, nature friendly alternative way is to explore natural enemies of bacteria viz; bacteriophages (phages) for biological control of bacterial induced infections. Lytic phages as therapeutic agents and temperate phages as gene-delivery vehicles into pathogens have proved their significance. Use of bacteriophage or bacteriophage-based therapies offers significantly distinct advantages over antibiotic therapy in terms of their specificity, self-replicating and self-limiting nature and safety to the environment. Paper highlights the historical journey of bacteriophages, common sources, mechanism behind the therapeutic activity, factors influencing the success rate of phage therapy, available commercial phage products along with important safety concerns before advocating and adopting the century old bacteriophage therapy. Current addendum discusses advantages of phage therapy in current scenario of antibiotic resistance with special attention on the genetic modification of phages to formulate the strategy of investigating multifaceted benefits of edible viruses globally and summarizes the hopes and challenges for future development of phage therapy.

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Can Machine Learning Find Hidden Patterns of Severe Sepsis in FDG PET-CT to Help with Medical Decision Making?

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ABSTRACT

Severe sepsis is a serious disease that must be quickly diagnosed to adapt patient management. In this study a predictive model is building from FDG PET-CT data to identify patients with severe sepsis. We hypothesise that severe sepis affect the biodistribution of 18-F FDG. We analyse FDG PET-CT of 13 patients aged between 22 and 82 with a suspected severe sepsis hospitalized in an Intensive Care Unit and for whom a final diagnostic of severe sepsis could be achieved. These PET-CT were compared to those frome a group of control subjects matched for age and sex. Regions of interest were used to quantify the maximal standardised uptake value (SUVmax) of differents tissues and organs. Several statistical machine learning techniques were utilized to predict the status of every patients (severe sepsis or not). These models contain tuning parameters which necessite the use of resampling techniques to be estimated. The entire data set was repeatidly split into training (96%) and test sets (4%). This process was repeated 260 times. Models were fits on the training sets and the associated hold out values were used to estimate performances (sensitivity, specificity, positive predictive value, negative predictive value). The final estimates of performance were calculated by averaging the 260 sets of performance value from the resampling procedure. The best performances were obtained by Boosted Trees, a tree-based ensemble model : accuracy = 92%; sensitivity = 92%; specificity = 92%; positive predictive value = 92%; negative predictive value = 92%. Used as a medical decision support by a clinician taking into account the clinical context, our model could probably improve patient management. For exemple, one patient with a severe sepsis and no infectious foci identified was rightly classified. This approach can bring precious informations that can impact positively the management of patients with severe sepsis and maybe reduce mortality.

Dr. Cyril Besseau is currently working as a Nuclear Physician in the Nuclear Medicine Department of The Princess Paola Hospital, Belgium Since 2016. Dr. Cyril worked as a medical intern both in clinical services (cardiology, oncology & neurology) and in the field of medical imaging (radiology and nuclear medicine) from 2009 to 2013. His research interest is related to the field of Applied Genomics, Molecular Biology and Pathophysiology.

Emerging Hazards of Mosquito Repellent/Killer with Climate Change: A Survey Study in Karachi

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ABSTRACT

The use of mosquito repellent is increasing with the climate change pattern, a numbet of cases reported of arboviral diseases in Karachi. As a preventive measure the use of mosquito repellent/killer is also increasing causing many health hazards. The study aims to find the least harmful ways to prevent mosquito bite. In this study the health hazards of mosquito repellent/ killer were evaluated by a survey study conducted among hundred families in different regions of Karachi by filling questionnaire. The study reveals that which practices were widely used by the citizens, causing them severe health impacts. Different products available in the market were checked for its active ingredients and their concentration whether it was satisfactory or not because mosquito bite is one of the leading cause of death in the world. 41% people were using chemicals in form of mosquito repellent. 43% people used it only in the season of mosquito breed. Rest of the 9% never used anything at all to avoid the vector. 32 % were using mosquito coil during sleep. 17% were using in form of spray, 9% using in form of lotion applying on the skin. Main findings of the study revealed that majority of the people face serious problems while they used or exposed to the product which were used to repel or kill the vector. Mostly breeding sites of mosquitoes were noticed in the areas which were near to the unmanaged dumping sites or stagnant water. Surveyed people preferred to use chemicals rather intending to remove the source points i.e. the breeding grounds of mosquitoes so thats why their exposure to chemicals is un avoidable. The awareness level of the surveyed people was quite low, they did not know about the toxic effects of chemicals, they bought from market without noticing the ingredients of the product.

Dr. Suraiya Jabeen is currently working as Assistant Professor at University of Karachi, Pakistan since 2000. Dr. Suraiya has research interest in fields of Environmental Science like Biodegradation, Integrated Waste Management and Waste Water Treatment. She has 22 publications in national and international journals.

The difference in antioxidant responses to salt stress between wild and cultivated barleys

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ABSTRACT

Oxidative stress signaling and reactive oxygen species (ROS) detoxification are important components of salinity stress tolerance mechanisms. Salt stress can induce ionic and osmotic stress in plant cell consequently these toxic effect enhanced accumulation of reactive oxygen species (ROS). The present study was focused on the response of the antioxidant defense system in wild and cultivated barley roots and leaves under salt stress. Wild barley XZ16 enhanced their ROS scavenging ability by exhibiting increased levels of superoxide dismutase, peroxidase, catalase activity and proline content, along with decreased content of reactive oxygen species (O2.- and H2O2) and less DNA damage as compared with cultivated barley CM72 and Gairdner. Gairdner being the most sensitive among the genotypes accumulated more Na+ ion and less K+, Ca2+, and Mg2+ ions in the leaves and roots compared with CM72 and XZ16 under salt stress.

Dr. Zahra Jabeen is working as an Assistant Professor at Biosciences Department, COMSATS Institute of Information Technology, Islamabad, Pakistan from November 13, 2014 to date. She has a doctorate degree in Crop Science from Department of Agronomy, Institute of Crop Science, College of Agriculture and Biotechnology, Zhejiang University, Hangzhou, P.R. China. She achieved the award of Chinese

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