Conference Proceedings of

5th INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN MULTIDISCIPLINARY RESEARCH

ICETMR-2019

Date : 20 - 22 April, 2019

Venue : National University of Singapore, Singapore

Jointly Organized By

NUS National University of Singapore

ARUNAI INTERNATIONAL RESEARCH FOUNDATION (Nonprofit Organization)

Arunai International Research Foundation (AIRF)

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MESSAGE

Dr. Manoj Gupta,
Department of Mechanical Engineering,
National University of Singapore,
Singapore 117 576

International conferences provide an important platform to geographically diverse research, scientific and industrial community to share their knowledge and to initiate meaningful research collaboration for enhancing the wellbeing of all the living organisms. To support and promote this cause National University of Singapore and Arunai International Research Foundation have come together to organize 5th International Conference on Emerging Trends in Multidisciplinary Research. The key words emphasized in this conference are 'emerging' and 'multidisciplinary'. Emerging suggests 'in the present context' and multidisciplinary indicates the research done by two or more researchers coming from different disciplines. Last twenty years, in particular, have proven beyond any doubt that findings from multidisciplinary research are unique and instrumental in developing new science, technologies and devices. It is hoped that the platform provided by this conference (April 2019) will enrich the attendees with very useful knowledge and will enable researchers at all levels to learn from each other. I wish the organizers and attendees all the best.

FOREWORD

Dr. Kasi Kamalakkannan
CEO
Arunai International Research Foundation
Tiruvannamalai.

Arunai International Research Foundation, Thiruvannamalai, Tamil Nadu, India is activity involved I promoting the realm of research, education and philanthropy for a new world order. We welcome you to the 5th International Conference on Emerging Trends in Multidisciplinary Research jointly organized by National University of Singapore and Arunai International Research Foundation during 20-22, April 2019, which held at National University of Singapore, Singapore. In addition to the contributed papers, we have much renowned keynote speakers and resource persons from esteemed institutions who readily accepted our invitations to share their expertise. The conference program represents the efforts of many people. We want to express our gratitude to the members of Directors, Secretaries, Advisory Board, Conveners, and reviewers for their hard work in bringing this conference into reality. This Proceeding will furnish the scientists of the world with an excellent reference book. I trust also that this will be an impetus to stimulate further study and research in all these areas. We feel honored and privileged to serve the best recent developments in the multidisciplinary research areas such as Science & Humanities, Engineering, Management, Physical Education to you through this exciting program. We thank all authors and participants for their contributions. Finally, the conference would not be possible without the excellent papers contributed by authors.

FOREWORD

Dr. M. Seenivasan

Organizing Secretary ICETMR-2019
Department of Mathematics
Annamalai University, Annamalainagar.

I deem it a great honor and privilege bestowed on me to write this message for this remarkable conference.

In continuation of four international conferences, Arunai international Research Foundation organizes 5th International Conference on Emerging Trends in Multidisciplinary Research jointly with National University of Singapore, Singapore. Both of them render their services to the academic community.

As a premier conference in the multidisciplinary research, this conference would server as an effective platform for Scientists researchers, engineers, educators and students from various institutions and industries across the world to share their ideas and present their research work.

In this conference, we received a total of 82 paper submissions from all over the world. Thanks to the effort of the Program Committee members, we have accepted a number of high quality submissions, including 34 full papers, 23 short papers, 10 posters for presentation and 15 skype presentation at the conference. These selected papers cover almost all of the major research topics .

My deep wishes and prayers for the success of this conference.

Good Luck.

5th International Conference on Emerging Trends in Multidisciplinary Research

PROGRAM SCHEDULE

Date : 22-4-2019

Registration: 9.00 – 9.30am

INAUGURAL FUNCTION : 9.30 to 10.00am

Prayer

Welcome Address	:	**Dr. M. Seenivasan,** **Department of Mathematics** **Annamalai University**
Presidential Address	:	**Dr. Manoj Kupta** **Department of Mechanical Engineering,** **National University of Singapore,** **Singapore 117 576**
Inaugural Address	:	**Dr. Kavikumar Jacob** **Department of Mathematics** **Universiti Tun Hussein Onn Malaysia,** **International Convener ICETMR - 2019**
Felicitation	:	**Dr. Sathosh Baboo** **Registrar** **Manonmaniam Sundaranar University**
Vote of Thanks	:	**Dr. Kasi Kamalakannan** **CEO,** **Arunai International Research Foundation,** **Tiruvannamalai, Tamilnadu, India.**

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Technical Session 3 - 2.40pm – 3.00pm	
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Resource Person 9 **Dr.Nipu Modak , Jadavpur University** (Chairperson: Dr.Chakravarthi , Gurunanak college)	Hall C
Resource Person 10 **Dr.R.Suganya** (Chairperson: Dr.M.Vanitha, Alagappa University)	Hall D
Resource Person 11 **Dr.A.Vetriselvi** (Chairperson: Dr.S.Tamilselvan , Annamalai University)	Hall E
Resource Person 12 **DR.M. Kameswari** (Chairperson: Dr M. Seenivasan Annamalai Univeristy)	Hall F
Resource Person 13 **Dr.Senthilkumar P.K** (Chairperson: Dr. R. Dhayala Krishnan, Madurai Kamaraj University)	Hall G

Refreshment (3.00pm – 3.30pm)

PAPER PRESENTATION

HALL A

Chairperson: Dr M. Seenivasan Annamalai Univeristy

S.No	Time	Name of the Presenter
1	3.30	**Effect of blends of powder and chips on the properties and performance of bulk magnesium** *- MSDK Prashanth, Sravya Tekumalla and Manoj Gupta*
2	3.40	**Effect of Addition of Graphene Oxide(GO) Particles on Microstructural and Mechanical Characteristicsof Magnesium** *- Mohammad Abid, Gururaj Parande, Vyasaraj Manakari, Manoj Gupta*
3	3.50	**Effect of Swirl and Side Mass Injection on The Nanofluid Flow and Heat Transfer in a Circular Duct** *- Ranajit Midya and Snehamoy Majumder*
4	4.00	**Application of Modified K-ε Model for the Analysis of Turbulent Flow Through A 3-D Geometry With Baffle** *- Rajat Kabiraj and Snehamoy Majumder*
5	4.10	**Flow Through Micro-Channel With Edl Effect And Heat Transfer** *- Manas Kumar Bhukta, Snehamoy Majumder and Shamik Majumder*

6	4.20	**Enhancement of Heat Transfer Using Nanofluid and Central Baffles In An Axi-Symmetric Geometry** *- Saukrit Kumar Chandra, RanajitMidya, Prakash Chandra Roy and Snehamoymajumder*
7	4.30	**Influence of Redmud on Dry Sliding Friction and Wear Behavior of Al7075 Hybrid Metal Matrix Composite and Its Parametric Optimization Using Gra Based Tops is Approach** *- M. Kumar, A.Megalingam Murugan, K. S. Hanumanth Ramji, R. Shanmuga Prakash*
8	4.40	**Influence of Silicon Carbide Particles-mixed Dielectric on the Wire EDM of AISI D3 Steel** *- R. Shanmuga Prakash, T. Karthikeyan, K. Sivakumar, M. Kumar*

HALL B

Chairperson: Dr. Snehamoy Majumder, Jadavpur University

S.No	Time	Name of the Presenter
1	3.30	**Investigation On Wear Process Parameter Of Al-Sic Metal Matrix Composite Using Rsm Optimization Technique** *- S.Vignesh Kumar, N.V.Dhandapani*
2	3.40	**Impact of Managerial Support for R&D and PDP Activities in New Product Development Using SEM and MCDM Approach** *- Sudeshna Roya, Pranab K Dan and Nipu Modaka*
3	3.50	**Control Strategy of DFIG Under Unbalanced Grid Voltages: An Overview** *- Subhasri Kar*
4	4.00	**Convolutional Neural Network (CNN) To Classify Computed Tomography Scans For Lung Cancer Detection** *- M. Muthuraman, Dr. S. Ravichandran*
5	4.10	**Analysis of Signal Strength, Elevation, Position Estimation and Satellite Visibility of Indian Regional Navigation Satellite System** *- Dr. R. Mukesh, Dr. V. Karthikeyan, P. Soma, P. Sindhu, Dr. R. Sivasubramaniyam*
6	4.20	**Evaluation of Secondary Processing on the Microstructure and Mechanical Response of Mg1Zn2Ca Eco-Alloy** *- Diksha Matta, Gururaj Parande, Sravya Tekumalla, Manoj Gupta*
7	4.30	**A Mathematical Model for Development of an of Algal Growth for the Production of Biofuels** *- Kethineni Chandrika, Yenugula Deepu, Pologani Anudeep Kumar*
8	4.40	**Predecting Surface Roughness of Electroless Coating Using Genetic Programming** *- Gautam Majumdar, Nisantika Biswas and Rishav Baranwal*

HALL C

Chairperson: Dr.M.Vanitha, Alagappa University

S.No	Time	Name of the Presenter
1	3.30	**Transport and Separation of Bio-Entities in a Lab-On-A-Chip Device Through Free Flow Magnetophoresis** *- Abhishek Samanta, Ranjan Ganguly, Amitava Datta, Nipu Modak*
2	3.40	**Temples an Abode to Airborne Fungal Bioaerosols** *- YazhiniJagadeesan and Thilagam*
3	3.50	**Variation Iteration Method for solving ethanol and acetaldehyde concentrations in a fixed bed laboratory reactor** *- K.M. Dharmalingam, M. Veeramuni*
4	4.00	**A Numerical Study on Transport And Separation of Bio-Entities in A Lab-On-Achip Device Via Free Flow Magnetophoresis** *- Abhishek Samanta, Ranjan Ganguly, Amitava Datta, Nipu Modak*
5	4.10	**No More Bindings – Unclipped Wings of Women in the Select Novels of Anita Nair** *- Dr.A.Chandra Bose*
6	4.20	**Bi-Cultural Identity and Conflict in Chitra Banerjee Divakaruni's The Mistress of Spices** *- Dr. R. Raja*
7	4.30	**Emergence of Adah as a New Woman as Depicted in Buchi Emecheta's Second Class Citizen** *- Dr. B.Siva Priya*
8	4.40	**Improving Students' English Speaking Skills Through Cooperative Interactive Learning Approach** *- Dr. Charanjit Kaur Swaran Singh*

HALL D

Chairperson: Dr.Nipu Modak , Jadavpur University

S.No	Time	Name of the Presenter
1	3.30	**Actualization Of Self In Voss: A Study Of Patrick White's Voss** *- Dr. S. Bhuvaneswari*
2	3.40	**Assessment of Mobile Learning Activities Among Post Graduate Students** *- Dr. P.B. Beulahbel Bency*
3	3.50	**Impact of High and Medium Velocity Resistance Training On Speed Endurance Among Youth Boys** *- Dr.R. Suresh*
4	4.00	**Drilling Effect on Improving Compression Response of Pure Mg** *- M. Penchal Reddy, BW Chua and SCK Wong and M. Gupta*
5	4.10	**Red algae Kappaphycus alvarezii (Doty) Doty ex. P. Silva as feed additive for improving the immune system and antioxidant parameters in Channa punctatus** *- Dr.S.Subeena Begum, R. Kavimani, A. Jeyaprabha*
6	4.20	**Effective detection of counterfeit currency, black money and expiry of currency notes** *- D.Deepak, D.Sneha Priya*

7	4.30	**Metalinguistic Competence in English Among Undergraduate Students of Madurai District** *- Ms. T.M. Shrithika*
8	4.40	**The impact of reading skill in english language teaching** *- Dr. K. Jeyamurugan*
9	4.50	**Therapeutic Footwear in Diabetes - The Good and the Bad** *- ES. Ezhil Arasu*

VIRTUAL PRESENTATION

HALL E

Chairperson: Dr. R. Dhayala Krishnan, Madurai Kamaraj University

S.No	Time	Name of the Presenter
1	3.20	**Marine therapeutics: a panacea for a plethora of pathologies** *- Dr.S.T.Somasundaram*
2	3.30	**Vehicle Dynamic Response development of a spectral method to obtain the frequency response of the half-vehicle subjected to a measured pavement roughness in the frequency domain** *- Mutyala suryanrayana, P Udhayakumar Dr.S.Venkatanarayanan*
3	3.40	**Leakage Current Analysis Of Cascaded Multilevel Inverter For PV Systems** *- N.Rajeswari, Dr.S.Venkatanarayanan*
4	3.50	**An Efficient Image Processing Approach For Photovoltic Partial Shading Avoidance** *- M.Seema, Dr.S.Venkatanarayanan*
5	4.00	**Power quality analysis in an educational institution- Case Study** *- A.Shayaraj, Dr.S.Venkatanarayanan*
6	4.10	**Investigation on Energy Audit and Energy Conservation for Industries** *- N S Srinivasan, Dr.S.Venkatanarayanan*
7	4.20	**Asymmetric Multilevel Inverter For Solar Pv Cell Applications With Varying Irradiance** *- M.Nagajothi, Dr.S.Venkatanarayanan*
8	4.30	**Incremental Conductance Algorithm Based Solar Charge Controller For Stand Alone Photo Voltaic System** *- C.Karuppasamy, Dr.S.Venkatanarayanan, Dr.C.Senthil Kumar, A.Ashwin Kumar, T.Sankar*
9	4.40	**Identification of Opthalamic disease using MEMS sensor** *- C.Gayathri, S. Venkatanarayanan*
10	4.50	**Some Translations In Multi (T, S)-Intuitionistic Fuzzy Subfieldof A Field** *- M. Vasu*
11	5.00	**Assessing Production Efficiency of Principal Crops in India: A Dea Approach** *- P. Mariappan, M. Kameswari and A. Jenifer Christinal*
12	5.10	**Modernity and Attitude towards Information and Communication Technology of the B.Ed students** *- Dr.M.Antonyraj*

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PAPER PRESENTATION

KEYNOTE SPEAKER 1

Importance of magnesium Technology for 21st Century and Beyond

Dr. Manoj Gupta
Department of Mechanical Engineering, National University of Singapore, Singapore 117 576

Over last 100 years, researchers and scientists have rapidly developed multiple technologies to introduce comfort in humans' life and for defense applications. However, many of these technologies were not visionary and friendly to maintain the delicate ecosystem of the planet earth leading to widespread pollution of water bodies, land and air besides creating noise pollution and electromagnetic smog. As a result, over almost last 30 years, efforts were initiated to develop environment friendly, sustainable and non-toxic technologies with a primary emphasis to provide a better platform to our current and future generations through negating the adverse effects created so far. To note that over last 30 years there is a significant increase in: a) global warming, b) sea water levels, c) toxicity of water and land, d) extreme events such as droughts, floods, storms etc. and e) health issues arising due to widespread toxicity of water bodies and land, noise pollution and electromagnetic smog (carcinogenic) generated due to widespread use of electronic gadgets in and outside of home. Alarmed by the emergence of these threats, researchers are actively working worldwide to alleviate these issues from multiple fronts. Paris agreement signed by many countries reflects the common understanding reached between researchers worldwide. One such direction to mitigate air, water, land and electromagnetic smog is through the use of magnesium based materials. Magnesium is one of the most abundant element in human body, planet earth and the whole universe. It is non-toxic in nature and ~ 33% lighter than neurotoxic aluminum (also linked to Alzheimer disease). Due to its lower density, the use of magnesium based materials ensures reduction in fuel consumption in transportation sector (inclusive of automotive, aerospace, space, marine, defense and sports sectors) thus assisting in reducing global warming. Its nutritional capabilities for plants and animals alike will ensure the nourishment of earth and water bodies even if it is dumped illegally. Its use in electronic sector will assist in reducing electromagnetic smog at same or superior level as that by aluminum while further reducing the weight of portable electronic gadgets such as laptops, notebooks and phones assisting in enhancing human comfort. In view of the numerous advantages offered by magnesium based materials, the present talk will highlight the promise of these materials as wonder materials of the future.

Keywords: *Magnesium, processing, characterization, properties, pollution*

KEYNOTE SPEAKER 2

Polyaniline Magnetite Nanocomposites for fabrication of nanofiber Textile

Dr. Mohd Kamarulzaki Mustafa

Assoc. Prof., Dean,Faculty of Applied Sciences and technology (FAST), Universiti Tun Hussein Onn Malaysia,

Polymers nanocomposites containing inorganic fillers like metal particles dispersed in the polymer matrix are of great interest for the optical and dielectric application. Polymer/inorganic composites such as polyaniline/ magnetite nanocomposites (PAni/Fe3O4) can be manipulated through various treatments in fabricating desire material such as nanofibers textile for many applications. The modified magnetite (Fe_3O_4) nanoparticles were successfully synthesized and incorporated into polyaniline at different weight ratio and blended with polyvinyl alcohol (PVA) to achieve a spinning solution, further PAni/Fe_3O_4 nanofiber composites solution were used for fabrication of nanofiber textile by an electrospinning method, and the composites nanofiber textile materials were investigated. The crystalline phase structure of PAni/PVA and PAni/Fe_3O_4 composites nanofibers textile was determined by XRD, shows the existence of peaks at $2\theta = 24.13^o$ and 35.63^o for PAni and Fe_3O_4 nanoparticles respectively. The FTIR analysis indicated a slight decrease in the intensity and broadening of the absorption bands at 3462 cm^{-1} and 3431 cm^{-1}, are due to vibration stretching –NH group. The disappearance of the peak for PAni/Fe_3O_4 composites nanofibers textile sample containing 25 wt% of Fe_3O_4 nanoparticles clearly indicated the interaction of nanoparticles with nitrogen, hydrogen, carbon, and oxygen atoms in the PAni and PVA chain. FESEM analysis of the composites nanofibers textile shows clearly no accumulation of nanoparticles on the surface of polymeric composites nanofibers. This implies that the growth of nanoparticles on the surface of polymeric composites has successfully been prevented. The decrease of electrical conductivity was observed due to insulating behaviour of Fe_3O_4 nanoparticles. The composites nanofiber textile exhibit hysteric loops under an applied magnetic field of -10000 HOe to 10000 Hoe, for PAni/Fe_3O_4 composites nanofibers textile. Finally, the nanofiber textile materials were successfully fabricated and found that electric and magnetic properties composite textile materials that could be used for many applications.

KEYNOTE SPEAKER 3

Stationary Analysis of Multi- Server Fluid Queueing Model With Unreliable Server

Dr.M.Seenivasan

Department of Mathematics, Annamalai University, Annamalainagar-608002

The analysis and description of real world phenomenon through probability theory leads to stochastic modeling. Queueing theory is one of the most important field in stochastic modeling. Many real life systems can be reduced to components which can modeled by the concept of a queue. In this talk, we consider a fluid queueing model M/M/c with unreliable server. The life time of the server and repair times also negative exponentioal. This model is analyzed using Matrix Geometric Method. Some operating characteristics are also obtained. And particular models are identified by assuming specific values to the parameters.

KEYNOTE SPEAKER 4

Improving Students' English Speaking Skills Through Cooperative Interactive Learning Approach

Dr. Charanjit Kaur Swaran Singh

Senior Lecturer,English Language and Literature Department,Faculty of Languages and Communication,Universiti Pendidikan Sultan Idris

Students in higher learning institutes in Malaysia face some difficulties in expressing themselves in English language and show lack of competency in speech. They perform poorly in the English language during examination held in the university and also interviews. Based on the problems encountered by the weak students, it was deemed necessary to provide some form of guidance to enable the students to speak confidently. The guidance comes in the form of a cooperative interactive learning approach for teaching speaking to weak ESL students. The purpose of the study is to improve students speaking skills through cooperative interactive learning approach that could benefit the students at the university. This study also investigates the attitudes of the students before and after using the cooperative interactive learning approach concerning speaking. A quasi-experimental design was carried out to look at the effectivenessof the Cooperative Interactive Learning approach as to assist educators to enable them to use some of the fundamental concepts of Cooperative Interactive Learning Approach in their everyday teaching to enhance ESL students' speaking skills. The findings revealed that the Cooperative Interactive Learning Approach was effective for higher learning institutes students because it enhanced graduates' communication skills that will enable them to understand written and spoken instruction, and express ideas in a variety of situations.

Keywords: *Cooperative Interactive Learning Approach (CIL), graduates students, Speaking Skills*

RESOURCE PERSON 1

Analysis of Water Resource Availability for Wildlife in Forest using Advanced Random Forest Algorithm

Dr. S. Santhosh Baboo[1], Dr. V. J. Chakravarthy[2]
[1]Registrar, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India.
[2]Assistant Professor, Guru Nanak, Chennai, Tamil Nadu, India.

One of an essential sources in the forest is drinking water which can be frequently provide from the basis of integrated management in water resources even though exact effects may differ from place to place which are subjected to dispute between hydrologists. However, the knowledge of about age and type of trees, condition of soils and people requirement may assist to determine the type of policies for forest management which is to be beneficial for the wildlife animals and the people living in the forest. The process of transpiration is done for trees and forests cycle moisture in the atmosphere to improve the rainfall. Therefore, the availability and significant water quality have robustly influenced by forests whereas the forested catchment has served as guarantors for high surface value and drinking water. The enhancement of water provision services is a general target in the global projects of forest restoration because of development interest over freshwater scarcity. This paper proposed a method to solve the problem where by the available on-site input data is too scarce to predict the level of groundwater. In this study, an algorithm is used to make this prediction called the canonical correlation forest algorithm with a combination of random features.

Keywords: *water resource, wildlife, forest, random forest, prediction*

RESOURCE PERSON 2

Therapeutic Value of Seaweeds

P.Anantharaman
CAS in Marine Biology, Faculty of Marine Sciences, Annamalai University, Parangipettai.Tamilnadu, India.

Modern screening programmes are motivated by the chemical ecology of marine organisms. The selection of samples for assays of biological activities in drug development is often based on ecological observations and includes specimens with unique mechanisms for copying with environmental pressures. Another avenue for discovery of novel compounds is through assaying for marine toxins. Since pharmaceutical companies have access to extensive libraries of natural products, many compounds are of marine origin, high- throughput automated systems can be used for rapid screening in the search of new drugs.

Seaweeds or marine macro algae are non-flowering plants occurring in the sea, estuaries and backwaters and most of them are attached to rocks by holdfast and also grow on other plants as epiphytes. Seaweeds are really not weeds but form one of the important living resources of the ocean, and have both economical and commercial importance Seaweeds have been known to produce compounds with interesting biological and pharmaceutical properties. For centuries, many of the Seaweed Secondary Metabolites (SSM) has been used for traditional medicines due to their therapeutic potentials. Biological compounds extracted from seaweed families namely Chlorophyceae, Phaeophyceae, and Rhodophyceae were proven to have potential medicinal activities such as antioxidant, anti inflammatory, antibacterial, antiviral, anticoagulant and apoptotic activity . Seaweeds are considered a source of bioactive compounds as they are able to produce a great variety of secondary metabolites characterized by a broad spectrum of biological activities. Although seaweeds grow in harsh environments, they seldom suffer any serious photodynamic damage during metabolism, which implies some protective compounds and mechanisms in them. Since seaweeds are a good source of antioxidants, antimicrobial compounds, ω3 fatty acids, and other bioactive compounds, there is an interest to utilize these products as nutraceuticals and in functional foods.

Keywords: *Seaweeds, Pharmaceuticals, Nutraceuticals*

RESOURCE PERSON 3

Eco-Consciousness in the Verses of Indian English Poets

Dr. S. Ayyappa Raja

Assistant Professor of English, Department of English,
Annamalai University, Annamalai Nagar - 608 002,Tamil Nadu, India,

This study aims at an analysis of the select poems of Indian English poets such as A.K. Ramanujan, R.Parthasarathy, Manjeri S. Esvaran, Syed Amanuddin and Gieve Patel so as to bring out their love of nature and concern for environment. The world faces threat from ecological issues such as global warming and rising sea level. There is a necessity to protect nature and its resources. These poets urge the mankind to preserve nature and they express their concern for environment. A.K. Ramanujan's "Breaded Fish," R. Parthasarathy's "River, Once," Manjeri S. Esvaran's "The Neem is a Lady," Syed Amanuddin's "Mother Earth," and Gieve Patel's "On Killing a Tree" are chosen for analysis in the study. All these poets treat nature as mother of human beings and urge them to protect nature. It is the duty of the human beings to entrust the best world to the hands of future generations. They strongly condemn the desecration of nature by the modern people in the name of development. This study establishes their true love of nature and their eco-consciousness.

Keywords: Nature, Environmental Concern, Desecration of Nature, Preservation

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RESOURCE PERSON 4

Efficient Techniques using Cryptic Iris Recognition System (CIRS) for Securing Data

Dr.M.Vanitha

Assistant Professor, Department of Computer Applications, Alagappa University, Karaikudi, Tamilnadu,India

Network security is essentially used in most areas of information transfer for securing data and is an important area of research in computer science. Authentication techniques can be done in many ways. It is necessary to uncover stronger and better techniques for securing network information in evolving technologies. A biometric system identifies an individual by processing unique features of an individual. Iris Recognition systems are considered as a reliable and accurate biometric identification system. Iris Recognition systems use an eye's iris while matching patterns. The main idea of this paper is to study unique iris patterns and use them in identifying individuals. Any unauthorized access to the Iris database is avoided using a framework proposed in this paper. The proposed work is an easy, efficient and viable scheme for capturing and storing Iris information securely.

Keywords: *Network Security, Authentication, Biometric System, Recognition System and Pattern Matching.*

RESOURCE PERSON 5

Bioencapsulation of Chironomus Larva With Red Algae and Its Immuno-Nutritious Effect On Channa Punctatus.

[1]Dr.S.Subeena Begum, [2]M. Saiyad Musthafaa, [3]A.Jeyaprabha

[1]Dept of Animal Health and Management, [3] Research scholar,
[1,3]Alagappa University, Karaikudi. Sivagangai District Tamilnadu, India.
[2]P. G. & Research Department of Zoology, The New College, Chennai 600 014, Tamilnadu, India

The current aquaculture production system, supported by fish meal is unsustainable. The use of fishmeal other than fish feed is limited, due to the high price, unavailability and also it is a neutraceutical value. In recent years the use Chironomus Larvae, Rotifers, Tubifex are used for substitution of fishmeal. Live feed enrichment techniques may also be an excellent tool for prophylactic,therapeutic measures and growth enhancer of fish and its fry and fingerlings. Using Channa punctatus as a model organism, we evaluated the immuno-nutritional studies and disease resistance test by giving chironomus larva which is bioencapsulated with the red algae Kappaphycus alvarezii (in powder form)to Channa punctatus as live feed .The Channa punctatus were divided into three experimental groups and one control group, each group containing ten fish. The control was group I. Three experimental fish groups namely group II, group III and group IV were fed with Chironomus larvae which is bioencapsulated with 0.5gms,1.0gms and 1.5gms dry powder of red algae (per liter of water) respectively. Group I served as a control fed with non- encapsulated larvae. Every 10 days of feeding trial blood sample were collected from experimental fish group and control group. the total RBC, total WBC, Haemoglobin, Growth conversion efficiency, Serum Lysozyme Activity and Disease resistant test were evaluated. Among the experimental groups (group III)1 gm bioencapsulated Chironomous larva with red algae fed fish group shows the most significant effects in total RBC, total WBC, Haemoglobin, Food conversion ratio, Serum lysozyme activity and Disease resistant test compared with control. The present study indicates that Chironomus larva which is bio encapsulated with 1 gm of red algae fed fish group have significant immuno-nutritional effects and disease resistance capability when fishes challenged with Aeromonous hydrophila . The bio encapsulated Chironomous larvae with red algae fed fish group recorded significantly enhanced total count of RBC, WBC, ,Haemoglobin, Food conversion ratio , Serum lysozyme activity and Disease resistant test. Overall, the results provided evidence that chironomus larvae bioencapsulated with 1gm of red seaweed could be used as a natural live feed for the fresh water fish Channa punctatus to improve the health status and preventing microbial diseases.

Keywords: *Bioencapsulation, Chironomus Larva, Channa punctatus, Serum lysozyme activity, Kappaphycus alvarezii*

RESOURCE PERSON 6

The Sufferings Of Gustad Noble Due To Political Crisis: A Study Of Rohinton Mistry's Such A Long Journey

Dr. R.Dhayalakrishnan

Assistant Professor & Head i/c , Department of English, Directorate of Distance Education, Madurai Kamaraj University, Madurai, Tamilnadu, INDIA

Among the top Parsi writers in Indo-Canadian writing in English, Rohinton Mistry makes up a part of the Indian Diaspora. Mistry has emerged as a strong voice of the Indian Diaspora and his extraordinary artistic talent finds ample proof in his literary works. He has emerged as a significant literary figure during the twentieth century. Mistry's Such a Long Journey (1991) is a brilliant novel, set in Bombay against the backdrop of the Indo-Pakistan war of 1971 and the emergence of Bangladesh as a separate independent nation. The novel has many themes such as family, love, separation and reunion, friendship, corruption in politics, racial discrimination, loss of identity and exploitation. Gustad Noble, a devout Parsi, the protagonist of the novel passes through heavy odds amidst a series of political and social turmoil that India underwent during the 1970s under Indira Gandhi. The paper titled, "The Sufferings of Gustad Noble due to Political Crisis: A Study of Rohinton Mistry's Such a Long Journey" is an attempt to explore the typical real conditions of Gustad Noble due to political crisis.

Keywords: *political crisis, turmoil, social exploitation, separation*

RESOURCE PERSON 7

On E-Connectedness in Intuitionistic Fuzzy Topological Space in Ŝostak's Sense

Dr. S. Tamilselvan

Associate Professor,Mathematics Section, Faculty of Engineering and Technology
Annamalai University, Annamalainagar-608002

In this paper, we introduce various types of fuzzy -connectedness in intuitionistic fuzzy topological spaces in view of $\hat{S}$ ostak's sense. The interrelationship between different notions of intuitionistic fuzzy *e*-connectedness are investigate. Also, we inspect some interrelations between these types of intuitionistic fuzzy *e*-connectedness together with the preservation properties under intuitionistic fuzzy -continuous maps.

Keywords and phrases: (α,β) *intuitionistic fuzzy e-open set, intutionistic fuzzy* $ec_i^{\alpha,\beta}$ $(i=1,2,3,4)$, $ec_s^{\alpha,\beta}$, $ec_M^{\alpha,\beta}$, $eO^{\alpha,\beta}$, $eO_q^{\alpha,\beta}$ *-connectedness, -intuitionistic fuzzy super e-connectedness.*

RESOURCE PERSON 8

Energy Audi and its importance

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An energy audit is an inspection survey and an analysis of energy flows for energy conservation in a building. It may include a process or system to reduce the amount of energy input into the system without negatively affecting the output. In commercial and industrial real estate, an energy audit is the first step in identifying opportunities to reduce energy expense and carbon footprint. ncreasingly in the last several decades, industrial energy audits have exploded as the demand to lower increasingly expensive energy costs and move towards a sustainable future have made energy audits greatly important. Their importance is magnified since energy spending is a major expense to industrial companies (energy spending accounts for ~ 10% of the average manufacturer's expenses). This growing trend should only continue as energy costs continue to rise.

While the overall concept is similar to a home or residential energy audit, industrial energy audits require a different skillset. Weatherproofing and insulating a house are the main focus of residential energy audits. For industrial applications, it is the HVAC, lighting, and production equipment that use the most energy, and hence are the primary focus of energy audits. Common types/levels of energy audits are distinguished below, although the actual tasks performed and level of effort may vary with the consultant providing services under these broad headings. The only way to ensure that a proposed audit will meet your specific needs is to spell out those requirements in a detailed scope of work. Taking the time to prepare a formal solicitation will also assure the building owner of receiving competitive and comparable proposals. Generally, four levels of analysis can be describedLevel 0 – Benchmarking: This first analysis consists in a preliminary Whole Building Energy Use (WBEU) analysis based on the analysis of the historic utility use and costs and the comparison of the performances of the buildings to those of similar buildings. This benchmarking of the studied installation allows determining if further analysis is required;

Level I – Walk-through audit: Preliminary analysis made to assess building energy efficiency to identify not only simple and low-cost improvements but also a list of energy conservation measures (ECMs, or energy conservation opportunities, ECOs) to orient the future detailed audit. This inspection is based on visual verifications, study of installed equipment and operating data and detailed analysis of recorded energy consumption collected during the benchmarking phase;

Level II – Detailed/General energy audit: Based on the results of the pre-audit, this type of energy audit consists in energy use survey in order to provide a comprehensive analysis of the studied installation, a more detailed analysis of the facility, a breakdown of the energy use and a first quantitative evaluation of the ECOs/ ECMs selected to correct the defects or improve the existing installation. This level of analysis can involve advanced on-site measurements and sophisticated computer-based simulation tools to evaluate precisely the selected energy retrofits;

Level III – Investment-Grade audit: Detailed Analysis of Capital-Intensive Modifications focusing on potential costly ECOs requiring rigorous engineering study.

RESOURCE PERSON 9

Transport and separation of bio-entities in a Lab-On-a-Chip device through Free Flow Magnetophoresis

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In clinical applications magnetic bead-based separation and fractionation has attracted interests over other types of separation techniques in microfluidic protocol for bulk cell separation. Free flow magnetophoresisis a compact version of separation technique, can be used for separating magnetic particle-based bioassays from each other and from nonmagnetic particles. In continuous flow configuration two different size magnetic particles and one nonmagnetic particle introducing through a single inlet can be selectively isolated through designated outlets using free flow magnetophoresis. The selective separation of the respective particles through the designated outlets is characterised by the impact of viscous drag and externally applied magnetic force. It is very crucial to know the influence of fluidic force in magnetophoretic drifting of the magnetic and nonmagnetic particles. Herein a numerical study is conducted for analysing the free flow magnetophoresis in a two inlet and three outlets microfluidic device (as shown in Fig. 1) for getting optimum operating regime. Transport of the three different types microspheres in the microchannel is prescribed following a Eulerian-Lagrangian model by using an in-house numerical code. In the present study two types of magnetic particles of diameter of 2μm and 1μm and one nonmagnetic particle of size 0.5μm diameter is used. The device is characterized by capture efficiency and separation index for three different types of particles. Influence of flow rate, fluid viscosity, magnetic strength and magnetic susceptibility of the magnetic particle on capture efficiency and separation index is identified. A group variable comprising of magnetic and fluidic force found exclusive function of capture efficiency and separation index. The present numerical study can be very useful for understanding the impact fluidic and magnetic forces in separation for practical biomedical applications.

Keywards: *Free flow magnetophoresis; Lab-On-a-Chip; Magnetic particle; Separation; Microfluidics.*

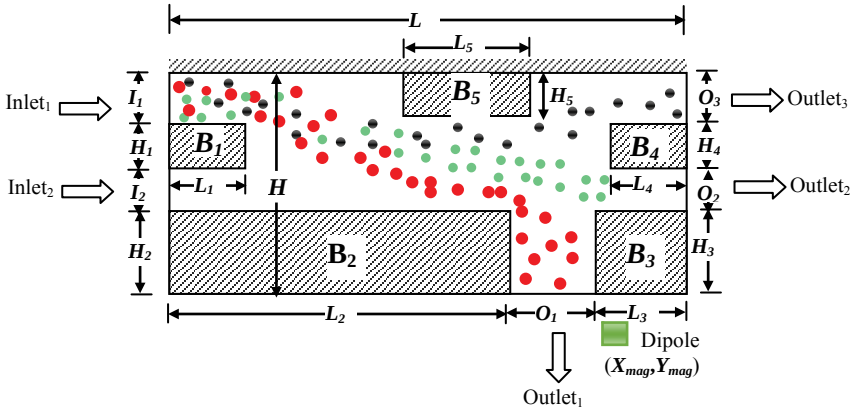

Fig 1: Schematic of a two inlet and three outlet magnetic Lab-On-a-Chip device; the line dipole P is placed at (X_{mag}, Y_{mag}) for producing magnetic force; red dots denote particles having larger magnetophoretic mobility than the cyan ones; black dots denote nonmagnetic particles.

PAPER PRESENTATION

1. Effect of blends of powder and chips on the properties and performance of bulk magnesium

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This study ventures into examining the mechanical characteristics of magnesium blends prepared using powder metallurgical process. Different proportions of magnesium powder and magnesium chips, obtained from machining (turning) process, are subjected to cold compaction and hot extrusion. The blends include five proportions: 0T (100 % Powder and 0% turnings), 30T (70% powder, 30% turnings), 50T (50% powder and 50% turnings), 70T (30% powder and 70 % turnings) and 100T (100% turnings) which are compacted and extruded. Different characterization studies are carried on the extruded materials to study the mechanical and microstructural properties. This work is aimed at promoting the use of enormous amounts of metal swarf generated during the machining processes which has been an ecological and economical concern globally.

Keywords: *Magnesium; turnings; powder; microstructure and mechanical properties.*

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2. Effect of Addition of Graphene Oxide(GO) Particles on Microstructural and Mechanical Characteristicsof Magnesium

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Magnesium is a very light,silvery metal with high specific strength and low density (1.74g/cc). Magnesium alloys are used in various applicationssuch as aircraft, automobile andmore recently inbiomedical fields. Automobile field uses magnesium alloys toreduce the consumption offuel upto mitigate greenhouse gas emissions.Pure magnesium is rarely used in application because of its limited high temperature properties and limited ductility and corrosion resistance. Addition of secondary reinforcements like graphene oxide could be used to enhance the mechanical and corrosion properties of pure magnesium. In this study,graphene oxide (GO) reinforcedmagnesiumcomposites are synthesized using powder metallurgy technique assisted with hybrid microwave sintering.Post material preparation,study is carried out for the microstructural (grain size and phase analysis), mechanical (hardness and damping)and corrosion properties. Testing results were subsequently analysed and the variation in mechanical properties between the pure magnesium and the composite was critically investigated.

Keywords: *Magnesium, graphene oxide, mechanical properties, corrosion*

3. Effect of Swirl and Side Mass Injection on The Nanofluid Flow and Heat Transfer in a Circular Duct

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In the present research work, the analysis of the flow geometry and the conjugate heat transfer of nanofluids in a circular duct using CuO-Water, Al2O3-Water and TiO2-Water respectively have been conducted numerically.The fluid flow is assumed to be steady, axi-symmetric laminar and incompressible with no chemical reaction. A constant inlet temperature and constant wall temperature have been adopted and a swirl is imparted at the inlet. Also side mass injection effect has also been investigated. The friction factors, overall heat transfer coefficient along with the Nusselt number variation have been estimated. The detail velocity field, has been found, validated and presented for a particular Reynolds number and particle volume fraction of the nanoparticles considered. The most important achievement is the enhancement of the overall heat transfer coefficient and Nusselt number indicating those parameter increases with the increase in swirl.

Keywords: *heat transfer,circular duct, nanofluid, particle, volume fraction, swirl, side mass injection.*

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4. Application of Modified K-ε Model for the Analysis of Turbulent Flow Through A 3-D Geometry With Baffle

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The fluid flow almost all geometry and boundary conditions are mainly turbulent in nature. The turbulent flow is very complicated particularly when the flow is in a three dimensional geometry. The condition becomes even severe if baffle is present obstructing the flow with due changes in the downstream flow generating the recirculation bubble. The governing equations include the RANS in 3-Dwith the k-ε modeling equations along with the application of the wall functions for estimating different flow parameters associated. However the standard model does not perform well particularly in the presence of the separating flow. Hence a modification in the k-ε model in the model constants has been carried out for the solution of such a complicated flow to capture the actual flow properly. The numerical methodology adopted is the S. V. Patankar's Control Volume Formulation using staggered grids and power law scheme for the solution of the governing equations. It has been observed that the numerical results obtained by the modified model provide physically possible and meaningful results with the properly capturing the flow geometry in a plausible way. The results so obtained include the detailed velocity distributions, the coefficient of friction estimation and flow visualization with the help of stream traces and velocity vectors at different vertical and horizontal planes respectively. The presence of baffle generates the recirculation bubble both in the downstream and at the upstream of the baffle which affect the downstream flow geometry. The estimation of the recirculation length and breadth has been done and variation of those parameters with the Reynolds number has also been estimated.

5. Flow Through Micro-Channel With Edl Effect And Heat Transfer

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The generation of the Electrical Double Layer (EDL) in Newtonian fluids is a very familiar phenomenon and in the recent past researchers focused their attention to this field as electronic devices and lot of other micro devices where heat generation rate within very tiny space is substantial and need to remove the heat in a faster rate for better performances. The micro channel flow with little charged particles in the working fluid passing through them generates the EDL, while the same fluid with same charged particle in the working fluid has negligible or no EDL effect at all in conventional geometry of higher dimension than the micro channel. The present research paper is about this interesting physical process in a rectangular micro channel in which a numerical analysis has been conducted to analyze the flow through micro channel with heat transfer and estimate the effects of EDL on the flow as well as on the heat transfer process particularly the convective heat transfer mode. For this reasons the governing equations solved are the Poisson-Boltzman's equation and the equations of motion in a rectangular micro channel. The fluid considered is Newtonian with constant density and laminar flow conditions. The heat transfer has been considered with constant wall temperature under steady conditions. The equations are solved in non-dimensionalized form and the effect of potential distribution on the fluid flow properties and heat transfer has been estimated respectively. The detailed velocity field, distribution of coefficient of friction and Nusselt number has been estimated. It has been observed that the resistance of the flow is much more than the same for the same flow in a conventional geometry with higher dimension.

6. Enhancement of Heat Transfer Using Nanofluid and Central Baffles In An Axi-Symmetric Geometry

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Anumerical analysis of the nanofluid flow with conjugative heat transfer through an axi-symmetric circular duct with baffles present at the central position at the downstream has been conducted. The flow is steady, laminar, incompressible and non-reacting with nanoparticles of CuO with the base fluid as water has been considered. Different set of volume fraction of 0,1,2,3,4 and 5 percent volume fraction of the nanoparticles of CuO have been consider for the numerical experimentation. The numerical methodology applied is the S.V. Patankar's SIMPLER algorithm with power law scheme to solve the governing Navier-Stokes momentum equations and the energy equations respectively using staggered grids. The heat transfer analysis has been done by solving the energy equation considering the wall temperature to be constant. The results obtained are the detail velocity and pressure field distributions, temperature distribution and other parameters like the skin friction coefficient and the Nusselt number variations have also been estimated. The nanofluid improves the thermo-physical property and it has been observed that the heat transfer rate increases with the nanoparticle volume fraction in the base fluid. The heat removal rate increases with the increase in volume fraction. Consequently the Nusselt number has been found to increase showing the enhancement of the heat removal rate. These results are also corroborated by the temperature contour plotted. The velocity field has been found to vary accordingly some asymmetry due to the presence of the baffles while the pressure field variations indicated a systematic drop at each segment of the baffles present in the flow field. All the results have also been estimated at different Reynolds number and the results show that the velocity, temperature and pressure everything changes with the change in Reynolds number. The Re-attachment phenomena have also been investigated.

7. Influence of Redmud on Dry Sliding Friction and Wear Behavior of Al7075 Hybrid Metal Matrix Compositeand Its Parametric Optimization Using Gra Based Topsis Approach

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The present work attempts to investigate the dry sliding friction and wear behaviors of Al7075/ 4wt.%Alumina/ 3wt.% Graphite/ 2 and 6wt.% Redmud reinforced hybrid metal matrix composite fabricated by stir casting method.The as cast specimens are machined to have 10mm diameter with 30 mm height (ASTM G99-05) to dry slide against EN32 steel disc (63HRC) of Pin-on-Disc apparatus. The test conditions for dry sliding friction and wear tests are, applied load from 20 to 40N, sliding velocity from 1.05 to 3.14m/s and sliding distance from 2000 to 4000m. The responsesmeasured are,Specific Wear Rate (SWR) and Coefficient of Friction (CoF). The experimental results revealed that increase in Redmud content reduces the specific wear rate even at maximum sliding conditions and also offer stable and moderate coefficient of friction. Grey Relational Analysis (GRA)based TOPSIS - a multi response optimization technique is employed to find the most significant parameters that influence the responses. The results indicated that the applied load primarily influences the responses followed by to sliding speed and sliding distance.

Keywords:*Al7075-T6 alloy, Redmud, Hybrid Metal Matrix Composite, GRA based TOPSIS*

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8. Influence of Silicon Carbide Particles-mixed Dielectric on the Wire EDM of AISI D3 Steel

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In the present research work, the influence of silicon carbide particles-mixed with dielectric medium (Demineralised water) is investigated by varying the input parameters such as pulse on, pulse off, current and voltage on the output responses such as material removal rate (MRR) and root mean square value of roughness (Rq). The experiments are planned as per Taguchi L18 orthogonal array (OA). Reusable molybdenum wire of 0.35 mm diameter is used as tool electrode to cut the workpiece in 5×5 mm sizes. The mean experimental values were tabulated and a mathematical model was developed for MRR and Rq using linear regression analysis. The mathematical equation helps to understand the relationship between the input and the output parameters. Optimisation of MRR and Rq is attempted using the Taguchi and differential evolution (DE) algorithm. The optimised results show that SiCparticles-mixed dielectric medium had significant improvements in MRR and Rq. Further analysis of results reveals that the SiCparticles-mixed dielectric medium shows 15 – 16 % higher MRR than the dielectric medium without SiCparticles. The confirmation tests were carried out to verify the optimised parameter and the results were found to be good and fit.

Keywords: *Differential Evolution Algorithm; Material Removal Rate; Silicon Carbide Powder; Surface Roughness;Taguchi; Wire EDM.*

9. Investigation On Wear Process Parameter Of Al-Sic Metal Matrix Composite Using Rsm Optimization Technique

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Aluminum-reinforced with silicon carbide (SiC) have been fabricated by stir casting method and their wear resistance and Co-efficient of Friction is investigated on different load condition and different percentage of reinforcement. With help of Pin-on-disk wear testing machine the dry sliding wear properties of single reinforced composites were investigated at a constant sliding velocity of 1.05 m/s and sliding distance of 1774m over a different loads of 10N, 20N and 30N for particle weight percentage ranges from 10, 15 and 20%. The reinforcement addition upto a 20% weight reduces the wear rate. As a result, the wear rate of the specimens decreases with the increasing sliding distance and the wear rate of the specimens increases with increase in load. Vickers hardness testing machine is used to measure the hardness of the specimen at room temperature. By increasing in percentage of reinforcements, the hardness of the composite test specimens increasesthe uniform distribution of reinforcement in matrix is confirmed by the scanning electron microscope image.A plan of experiment generated through RSM technique is used to conduct experiments based on L15 orthogonal array. The optimum wear under the influence of applied load, timeand percentage of reinforcement were identified by ANOVA and the regression equations.

Keywords: *Dry sliding wear; mechanical properties; orthogonal array; stir casting; RSM technique*

10. Impact of Managerial Support for R&D and PDP Activities in New Product Development Using SEM and MCDM Approach

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Abstract Globalization necessitates the need of new product development (NPD) activities for sustaining in the worldwide competition. Role of research & development (R&D) practices for developing innovative products is indispensible. It upgrades product development process (PDP) of the firm which is essential to develop new products. Top management support (TMS) and motivation encourages the R&D activities in turn the PDP to escalate NPD success. Success can be quantified in various aspects as per the requirements. This study considers product quality, development cost, customer satisfaction, technological developments and development time as performance attributes for development of comprehensive framework by structural equation modeling (SEM) approach using IBM SPSS AMOS 21.0 software packages. It accumulates primary data from 263 experts from Indian manufacturing industries for analyzing the results. Construct validity and reliability of the data has been tested using IBM SPSS 21.0. Weight calculation of the performance attributes has been performed by using analytic hierarchy process (AHP). Prioritization of these performance attributes has also been conducted by another multi-criteria-decision-making approach named as Technique of Order Preference by Similarity to Idea Solution (TOPSIS). This empirical research represents the influential role of TMS, R&D practices and PDP activities for escalating NPD success. It also portrays the interrelationship model depicting managerial support to enhance R&D practices as well as PDP for successful NPD. This study also identifies the significance of product quality as the vital most performance attribute which the firms must take care for industrial sustainability. Keywords: Top management support (TMS), Research & development (R&D), Product development process (PDP), Structural equation modeling (SEM), Technique of Order Preference by Similarity to Idea Solution (TOPSIS).

11. Vehicle Dynamic Response development of a spectral method to obtain the frequency response of the half-vehicle subjected to a measured pavement roughness in the frequency domain

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The goal of the present study is the development of a spectral method to obtain the frequency response of the half-vehicle subjected to a measured pavement roughness in the frequency domain. For this purpose, a half-vehicle dynamic model with a two-point delayed base excitation was developed to correlate with the spectral density function of the pavement roughness, to obtain the system spectral transfer function, in the frequency domain. The vertical pavement profile was measured along two roads sections. The surface roughness was here expressed in terms of the spectral density function of the measured vertical pavement profile with respect to the evenness wave number of the pavement roughness. A frequency response analysis was applied to obtain the vertical and angular modal vehicle dynamic response with the excitation of the power spectral density (PSD) of the pavement roughness. The results show that at low speed, the vehicle suspension mode is magnified due to the unpaved track signature. At 120 km/h in an undulated asphalted road, the first vehicle vibration mode has a significant motion amplification, which may cause passenger discomfort.

Keywords: *vehicle, dynamic, pavement, roughness, random*

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12. Big Data in Medical Image Processing a Novel Recommender System for Content Based PCOD Image Retrieval Using Deep Learning Algorithms

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Big data technologies are being increasingly used for biomedical and healthcare informatics research. Large amount of biological and clinical data have been generated and collected at an exceptional speed and scale. Recent years have witnessed an escalating volume of medical image data and observation are being gathered and accumulated. In today's modern era, information technology is expanded widely; many of the technologies and digital marketing are improved. People who are working in IT are highly suffered from physical and mental disorder like, lack in sleep, fatigue, change in food habit, stress, depression, obesity, hair fall. In earlier days the women are healthy because they have proper diet and exercise. But now in this busy world both men and women going to job and they don't have proper time to take care of themselves. Because of change in environment and change in culture women at the age of 18-35 are affected from hormonal imbalance called Poly Cystic Ovary Syndrome. Early stage of finding PCOD by scan images are very challenging task. One of the diagnose method for polycystic ovary disease is polycystic ovary by abdomen scans. Polycystic ovaries mean above 12 cm of follicle or cyst are present in the ovarian. Existing systems classified the image normal and abnormal class but feature extraction is done by manually. The proposed system is classification of polycystic images using Convolutional neural network with feature extraction are done automatically.

Dataset used for this project are collected from radiology center 10 images of each 30 patients and 15 testing images used to classify the image. Convolutional neural network is providing best accuracy compared to other existing algorithm. In this research focus on anisotropic diffusion filter to remove the noise without remove parts in the image, anisotropic diffusion is a non-linear diffusion method. It gives a better quality of the image after denoise the image. The second module is data augmentation used to increase the training dataset using the rotation method. The deep Convolutional neural network need a large amount of dataset but the medical image is confidential. So we can use data augmentation method to increase the dataset and avoid over fitting.

13. Control Strategy of DFIG Under Unbalanced Grid Voltages: An Overview

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Generation of electricity from renewable energy sources is a well researched subject due to depletion of fossil fuels and the inevitable harms to nature caused by the burning fossil fuels in the quest of harnessing energy. Wind energy is abundant and one of the most secure and reliable source of energy among all the nonconventional resources. Fixed speed wind turbine equipped with squirrel cage induction generator as energy conversion device has several drawbacks like uncontrollable reactive power output, mechanical stress, limited power quality control and above all more expensive mechanical construction. Variation in wind speed is responsible for fluctuation in the mechanical torque and therefore in the electrical power output. Double fed induction generator (DFIG) is a well known choice for harnessing wind power with rotor circuit fed from a dual converter connected with grid. The DFIGs are in great demand due to better flexibility of control from the rotor side converter for the grid connected systems. Development of different control strategies under various grid conditions has become a challenge for the researchers in the recent past. This paper presents a brief review on different control methodology of DFIG under unbalanced grid voltage condition which is one of the most frequent abnormalities in the grid connected systems. The methodology adopted in this condition can also help to mitigate the negative effects caused by grid faults, load disturbances, distorted supply conditions. Keywords Double fed induction generator (DFIG), wind energy converter system (WECS), rotor side converter (RSC), grid side converter (GSC), grid disturbance, voltage unbalance.

14. Convolutional Neural Network (CNN) To Classify Computed Tomography Scans For Lung Cancer Detection

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Improvements in medical image processing and classification play an important role in medical research. Lung CT images can be divided into normal and abnormal images and their classification is dependent on the features extracted from the image. This paper analyzes texture of a computed tomography (CT) abdominal images and finds values of various texture features. The analysis is based on texture-based features like GLCM (Gray Level Co-occurrence Matrix) features. Twelve different statistical features are selected and extracted from CT scan lung images using a sequential selection algorithm. Bayesian classification is applied on the extracted texture features as it performs better than convolutional neural networks in extractions. Convolutional neural network algorithm is modified in terms of computational rate for better efficiency. It is improved by modifying the criteria for iterating and updating the membership value. The paper also analyzes the performance of the chosen classifier which is a hybrid combination of Bayesian and ConvNets.

Keywords: *Classifier, CT scan, Disease prediction, Feature selection, neural network, Tumor.*

15. Analysis of Signal Strength, Elevation, Position Estimation and Satellite Visibility of Indian Regional Navigation Satellite System

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Navigation satellite system such as GPS plays a significant role in determining the user position. Similar to GPS, Indian Regional Navigation Satellite System (IRNSS) is a navigation system indigenously developed by India to meet the country needs. It is essential to evaluate and upgrade the performance of the IRNSS continuously for various applications. The IRNSS Standard Positioning Service User Receiver (UR) placed at ACS college of Engineering,Bangalore for field trail and data collection.MATLAB Graphical User Interface (GUI) is developed to analyze and plot the signal strength, Elevation angle variation,Visibility of Satellites, User position and Position error,Geometric Dilution of Precision (GDOP) and Availability of number of satellites for every seconds.From the received data, it is observed that, signal strength (C/No) is good i.e.above 40 dbHz.Visibility of satellites at recevier location is good. Position at user location is found that, X=1349700 m, Y = 6070902 m, Z = 1386897.425 m and latitude of 12.8914 degree, longitude of 77.465 degree and altitude of 739 m and it is compared with google map which matches well. The radius of recevier location with respect to earth center is estimated. From this esimation, we have observed that, delta radius varies from 0 to 1m. RMS of position error for L1,L5 and dual frequency (L5+S) at ACSCE, Bangalore is 9.7444m, 6.6873 m and 5.6667m respectively.Hence, dual frequency (L5+S) receiver gives less position error than compare to signal frequency(L1 /L5).

Keywords: *C/No, GDOP, Position Error, IRNSS, GPS.*

16. Leakage Current Analysis Of Cascaded Multilevel Inverter For PV Systems

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This paper presents an improved Cascaded Multi-Level Inverter (CMLI) based on a highly efficient and reliable configuration for the minimization of the leakage current. Apart from a reduced switch count, the proposed scheme has additional features of low switching and conduction losses. The proposed topology with the given PWM technique reduces the high-frequency voltage transitions in the terminal and common-mode voltages. Avoiding high-frequency voltage transitions achieves the minimization of the leakage current and reduction in the size of EMI filters. Furthermore, the extension of the proposed CMLI along with the PWM technique for 2m+1 levels is also presented, where m represents the number of Photo Voltaic (PV) sources. The proposed PWM technique requires only a single carrier wave for all 2m+1 levels of operation. The Total Harmonic Distortion (THD) of the grid current for the proposed CMLI meets the requirements of IEEE 1547 standard. A comparison of the proposed CMLI with the existing PV Multi-Level Inverter (MLI) topologies is also presented in the paper. Complete details of the analysis of PV terminal and common-mode voltages of the proposed CMLI using switching function concept.

17. An Efficient Image Proessing Appraoch For Photovoltic Partial Shading Avoidance

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The photovoltaic (PV) technology that uses the solar energy to generate electricity has encountered a rapid growth in deployment over the past years .It is a well-known fact that partial shading of a photovoltaic array decreases it output power capability. The performance of a PV system is subject to varying environmental conditions, and it becomes more difficulties to track the maximum power point (MPP) and maintain the optimal performance when partial shading occur. In this paper, we propose a novel concept which is an earlier detection of partial shading occurrences with the knowledge of cloud crossing over the sun. With the help of image processing, the sun positioning and the cloud movement will be captured and segmented using the Fuzzy C-Means (FCM) algorithm and also proposes a Multi Single Vector Machine (MSVM) classifier. Our proposed system has been implemented in ARDUINO controller with MATLAB image processing tool to evaluate a performance.

18. Power quality analysis in an educational institution- Case Study

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An Energy audit is an inspection Analysis an analysis of energy flows, for energy conservation in an Industry to reduce the amount of energy input into the system without negatively affecting the output. Power quality issues are becoming more significant day by day because of increase in the usage of recent equipment's which is having power electronic circuits. These devices are responsible for generating more harmonics in the electrical networks. Both end users and utilities are highly concerned of power quality as it is disturbing the Electrical loads. In an Educational Institutions nonlinear loads which are connected to Electrical circuits are the major reasons for majority of power quality issues. Power quality (PQ) investigation can facilitate in considerate the performance of Electrical networks in an Institution with a objective to enlarge standards of power quality. The Analysis provide the present trends of power, voltage, current, harmonics and other electrical parameters which can be helpful to upgrade the limits. PQ Analysis can also guide the electrical and electronic equipment designer to extrapolate the electrical parameter as per present trends and design the future products which can with stand adverse situations. In this report the results of power quality Analysis conducted in an Engineering college with respect to different load feeders are presented with PQ issues and suggestions given to improve the power quality for this institution.

19. Investigation on Energy Audit and Energy Conservation for Industries

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Investigation of an Energy Audit requires excellent Energy management for reducing the Energy usage in the Industries. An Energy audit is an inspection survey an analysis of energy flows, for energy conservation in an Industry to reduce the amount of energy input into the system without negatively affecting the output. In commercial and industrial estate, an energy audit is the first step in identifying opportunities to reduce energy expense. The available systems can be improved to increase the productivity. Energy audit will be focused such as Electrical, Thermal etc in industries for all the performance on energy use. Electrical energy, fuel consumption, optimization, thermal energy like heat or cool etc. Industry environment is to monitor and control of Energy use paten. Suitable analysis will be made, aiming to conserve the energy. The Energy Audit will focus on Low investment, Medium Investment and High Investment possibilities by regular monitoring by which it will support on energy saving measures in the Industries which will give the short term, medium term and long term benefits to the Industries. This will focus on return on Investment. The proposed research work will support to the societies as well as LT,LTCT,HT industries on energy usage, energy bill, prices. weather data and end-users' performance, in order to produce daily and weekly action plans for the energy which gives the good performance for Industries production.

20. Asymmetric Multilevel Inverter For Solar Pv Cell Applications With Varying Irradiance

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Abstract

A new asymmetrical multilevel inverter topology is reported that is capable to operate satisfactorily with wide variation in dc link voltage, while feeding power to the ac grid. A topological building block is first introduced that has one full bridge inverter connected in series with a level doubling network. Following this, the interconnection of such building blocks is attempted to increase the number of levels at the output voltage waveform. The investigation reveals that for a 3-phase system, a converter configuration with two such building-blocks is capable to generate a nominal asymmetry of 14:7:2:1 using only four voltage sources. In solar PV applications, one main source may be fed by PV array and the other three auxiliary sources may be fed through separate dc/dc converters, each having power rating of 3.2% of the peak power rating of PV-arrays. The proposed converter can generate 3097 space vectors. Asymmetrical hexagonal decomposition is modified (to ensure satisfactory operation of LDN and to eliminate any dc component in the phase voltage waveform) to control such converter. The converter is extensively simulated in MATLAB/Simulink. A solar PV system of 9.4kWp available in the laboratory is used to feed power to the grid at different irradiance. Simulation results match well with the prototype experiments confirming the usefulness of the proposed topological alternative for solar PV applications.

Index Terms—Multi level Inverter, THD.

21. Incremental Conductance Algorithm Based Solar Charge Controller For Stand Alone Photo Voltaic System

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This paper focuses on advancement and development of power converter technology in PV systems generally used in standalone residential setup. Solar PV systems play a key role in power systems to meet the power demand, which are connected by power electronics converters. The conventional DC – DC Converter and inverters with transformers connected in PV grid-tied generation systems are now being replaced by Incremental conductance based MPPT. Thus this paper gives an Incremental conductance based MPPT Controller for standalone PV System. Various MPPT inverter topologies are presented, but in this paper we proposed the boost converter with Incremental conductance(IC) is implemented to maintain voltage stability. And reduce power losses in the converter.

Keywords: *MPPT, PV System, Grid,*

22. Identification of Opthalamic disease using MEMS sensor

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One of the vital part of our body is human eye. Only with this,we could enjoy human life. On the same sense, it is one which is more sensitive part and sensitive to disease.It is the basic indicator of body disease. Human eye affected by many disease and it affect the vision thus make human life to tragedy.In this paper we discuss about most commonly affecting eye diseases and the latest device that uses MEMS technology that indicate or protect such diseases. Diabetic retinopathy, glaucoma, pink eye are affecting majority of the peoples and lead their life to big burden. Here we also discuss about MEMS data knife which is pre indicator of eye diseases. Thus this paper gives clear clarity on some diseases and the eye related MEMS devices.

23. Evaluation of Secondary Processing on the Microstructure and Mechanical Response of Mg1Zn2Ca Eco-Alloy

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Due to the similarity of mechanical properties to natural bone, magnesium and its alloys have often been evaluated for their application as temporary orthopaedic implants. Magnesium has several salient advantages over other light metals like high specific strength, natural availability, high electromagnetic shielding effectiveness, amongst others. However, its limited corrosion resistance restricts its application in real-time biomedical applications. By alloying with biocompatible elements, this issue of high corrosion rate can be alleviated without inducing any apparent toxicity to the host. In this study, a novel magnesium-based alloy is synthesized using disintegrated melt deposition and the effect of the secondary extrusion process on the mechanical properties and corrosion response is studied. Damping capacity, Youngs Modulus and Density measurements were done to characterize the material physically whereas microhardness and compressive properties were analysed for mechanical properties. Microstructure studies showed a huge impact on the grain-size which was further confirmed with SEM. XRD was performed to analyze the phase formation. Corrosion rates evaluated using simulated body fluid(HBSS) displayed promising results in both the samples with delayed degradation profile.

Keywords: *Mg Zn Ca, extrusion, biomedical alloy, mechanical properties, corrosion*

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24. Green Isolation and Characterization of Marine Actinomycetes in Tharangambadi Coastal Area in Nagapattinam District, Tamil Nadu

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The present study was designed to isolate and identify actinomycetes from different ecological habitats and possessing antimicrobial activities.As a result of the continuous evolution of microbial pathogens towards antibiotic resistance, thereforedevelopment of new and effective antimicrobial compounds. Source of novel antimicrobial metabolites. Further, the antimicrobial metabolites were extracted from the isolate using ethyl acetate solvents and the antimicrobial efficacieswere screened by chemical analysis and tested against bacterial pathogens. The metabolites of isolate showed maximum zone of inhibition against all the pathogens viz., Pseudomonas aeruginosa, Escherichia coli, Klebsillapneumoniae, Bacillus cereus and Staphylococcus aureus as 21 ± 0.12, 20 ± 0.42, 21 ± 1.2, 16 ± 2.01, 15 ± 0.47 respectively. The marine samples which displayed antibacterial activity of actinomycetes may be useful in the clinical conditions where higher secondary metabolites against antibiotic resistant bacteria. The result of marine Actinomycetesis composed of potent secondary metabolites. Isolation, screening of marine Actinomycetescan be useful in discovery of novel metabolites.

Keywords: *Marine actinomycetes; Chemical screening; Antimicrobial activity; Cross-streak method; Molecular characterization.*

25. Antioxidant and Anticancer Efficacy of Methanolic Extracts Codium Tomentosum and Ulva Reticulata

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Introduction: Seaweedsare characterized the most important reservoirs of new therapeutic compounds for humans. Seaweed has been shown to have several biological activities, including anticancer activity.

Objective: This study have been determined the antioxidant activity of green seaweed methanolic extract and its efficacy against on HCT116 colon cancer cell line.

Methods: The green seaweeds are Codium tomentosum and Ulva reticulatawere collected and isolate the methanolic extracts were tested in thein-vitro antioxidant activity of three complementary assays the assays are Nitric oxide radical activity, Hydroxyl radical activity and DPPH (2,2-diphenyl-1-picryl-hydrazyl-hydrate)assays. Additionally, the cytotoxicity activities were also determined in coloncancer(HCT116)in-vitro model.

Results: The up regulated antioxidant activitypotential was detected in the methanolic extracts from Codium tomentosumin Hydroxyl radical activity when compare toNitric oxide radical activity and DPPH. In addition,Ulva reticulata potential has been detected in DPPH free radical scavenging activity when compare to Nitric oxide radical activity and Hydroxyl radical activity. The Codium tomentosumcontains high amount of phytochemical compounds compare toUlva reticulata. Further the Codium tomentosumand Ulva reticulatashowed the cytotoxic viabilityon HCT116.

Conclusion: This study has been described the highlights of seaweeds potential which might be useful for antioxidant activity and act as an anticancer agents.

Keywords: *Seaweeds,Codium tomentosum,Ulva reticulata.*

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26. A Mathematical Model for Development of an of Algal Growth for the Production of Biofuels

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The mathematical modelling for the growth of microalgae (Nanochloropsis) was developed under flue gas in a photo-bioreactor. Carbon dioxide (CO_2) was the major growth parameter used to model algal growth. The critical SOx concentration and CO_2 mass transfer rate were considered under the growth inhibitory model (GIM) which played a big role in pH based inter-conversion of the bicarbonate. The Nanochloropsis profile was validated at 0.04% of CO_2 in air and in a range of 2% to 12% (v/v) CO_2 and the predicted values were observed consistent with the measured values. Sensitivity analysis was used to justify the constants used in the Growth inhibitory model (GIM). The growth inhibitory model was defined as ±0.5Lpm of the calibrated flow rate of 3.0 Lpm .The growth inhibitory model was used to predict the growth of microalgae under flue gas to generate biomass as a feed stock for the production of biofuels.

Keywords: *Microalgae, Nanochloropsis, Growth Inhibitory Model, Sensitivity Analysis*

27. Predecting Surface Roughness of Electroless Coating Using Genetic Programming

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The metal deposition by aqueous solution can be divided into two categories:electrolytic and electroless. The electroless coating is an auto-catalytic chemical reduction process. It isfirst invented by Brenner and Riddell in the year 1946.Owingto its excellent properties such as corrosion resistance, lubricity, uniform deposition, increase in surfacehardness etc., electroless Nickel based plating has wide range applications in Mechanical, Electronics,food, textile and Chemical industries.To impart some new properties, electroless ternary and quaternarycoating can be deposited by adding more than one metal salt to the electroless bath. The reduction of thesecond metal is determined, by its electro-chemical potential. The corrosion resistance of electrolessNickel based plating is relatively high for a high-phosphorus content in Nickel deposit and low for a low-phosphorus electroless Nickel deposit. The crystallization temperature is almost same with similar Pcontent, of the hypereutectic Ni–P deposit and the amorphous Ni–W–P deposit. The corrosion resistanceof the Ni–Cu–P alloy coatings is better than electroless Ni–P coatings. InElectroless Ni–W–P coating was synthesised on pure mild steel substrate in an alkalinemedia. The Surface roughness which is a useful property for the wear measurement, estimation of the friction parameters etc. depends on amount of porosity present. This porosity varies with the concentrationsof the metal ion sources and reducing agent. A regression equation has been developed consideringsurface roughness values as the response by doing some pre-planned changes in the processparameters through Central Composite Design (CCD). The variation in surface roughness isstudied by varying three parameters, such as Tungsten ion concentration, reducing the agent concentration and temperature of the chemical bath. The mathematical models have been developed for surfaceroughness prediction using Response Surface Methodology and genetic programming. Thetechnique used to find best fitted formulae for surface roughness is Genetic Programming (a non-linear extension of Genetic Algorithm). By using the proposed approach, more accurateprediction of surface roughness was reached than if only modelling by genetic programming hadbeen carried out. It was also established that the surface roughness is most influenced byreducing agent concentration and bath temperature.

28. Transport and Separation of Bio-Entities in a Lab-On-A-Chip Device Through Free Flow Magnetophoresis

Abhishek Samanta[1], Ranjan Ganguly[2], Amitava Datta[2], Nipu Modak[3]

[1]Haldia Institute of Technology, Haldia, [2, 3] Jadavpur University, Saltlake, West Bengal, India

In clinical applications magnetic bead-based separation and fractionation has attracted interests over other types of separation techniques in microfluidic protocol for bulk cell separation. Free flow magnetophoresisis a compact version of separation technique, can be used for separating magnetic particle-based bioassays from each other and from nonmagnetic particles. In continuous flow configuration two different size magnetic particles and one nonmagnetic particle introducing through a single inlet can be selectively isolated through designated outlets using free flow magnetophoresis. The selective separation of the respective particles through the designated outlets is characterised by the impact of viscous drag and externally applied magnetic force. It is very crucial to know the influence of fluidic force in magnetophoretic drifting of the magnetic and nonmagnetic particles. Herein a numerical study is conducted for analysing the free flow magnetophoresis in a two inlet and three outlets microfluidic device (as shown in Fig. 1) for getting optimum operating regime. Transport of the three different types microspheres in the microchannel is prescribed following a Eulerian-Lagrangian model by using an in-house numerical code. In the present study two types of magnetic particles of diameter of 2μm and 1μm and one nonmagnetic particle of size 0.5μm diameter is used. The device is characterized by capture efficiency and separation index for three different types of particles. Influence of flow rate, fluid viscosity, magnetic strength and magnetic susceptibility of the magnetic particle on capture efficiency and separation index is identified. A group variable comprising of magnetic and fluidic force found exclusive function of capture efficiency and separation index. The present numerical study can be very useful for understanding the impact fluidic and magnetic forces in separation for practical biomedical applications.

Keywards: *Free flow magnetophoresis; Lab-On-a-Chip; Magnetic particle; Separation; Microfluidics.*

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29. Temples an Abode to Airborne Fungal Bioaerosols

YazhiniJagadeesan and Thilagam

Quaid-E-Millath Government college for Women

The airborne fungal contamination are increasingly gaining importance.In the present study the airborne cultural moulds in indoor and outdoor environments of religious worship places like temples in Chennai city was studied. Sampling was done in 15 temples in Chennai. A total of 34 species belonging to 15 genera were recorded within the temple premises(indoor). Among the genera Aspergillus was represented by 11 species followed by Pencillium with 5 species, Cladosporium and Fusarium (3speceis each) and Curvularia (2species). In outdoor environment ,a total of 32 species belonging to 14 genera were recorded. Among the genera , Aspergillus was represented by 10 species followed by Pencillium with 5 species , Cladosporium (3species), Fusarium and Curvularia (2 species each).The present study give us a knowledge on the prevalence of airborne fungi within the worship places

30. Assessing the Efficiency of Quality of Living Condition among Asian Countries using Data Envelopment Analysis

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The quest for greater efficiency is a never ending aspiration, as managers are always under pressure to improve the performance of their organizations. An efficiency study not only provides the efficiency score for each unit but also indicates by how much and in what areas an inefficient unit needs to improve in order to be efficient. This information can enable targets to be set which could guide inefficient units to improve their performance. Data Envelopment Analysis (DEA) aims to integrate several performance measures into an aggregate output measure and several resource usage characteristics into an aggregate input measure. This is mainly due to the fact that DEA takes simultaneous account of all resources and outputs in assessing performance while ratio analysis relates only one resource to one output at a time. Ratio analysis, unlike DEA, is not found to be suitable for setting targets so that units can become more efficient. The objective of this paper is to determine the living efficiency of some of the Asian countries. The key methodology used in this study proposes a process for evaluating the quality level for living in Asian countries by considering different types of input and output measures. For this study, four input measures, namely, Cost of living, Groceries, Pollution, Local Purchasing Power and two output measures namely Safety and Quality of Life are considered. This study makes a comparison in the living efficiency among Asian countries using Constant Return to Scale and Variable Return to Scale approach of DEA .

Keywords: *Data Envelopment Analysis, Decision Making Unit, Input Measure, Output Measure, Constant Returns to Scale, Variable Returns to Scale.*

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31. "Variation Iteration Method for solving ethanol and acetaldehyde concentrations in a fixed bed laboratory reactor"

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In this paper, we investigated the effects of nonlinear behaviour of the dimensionless concentrations of the ethanol and acetaldehyde in a fixed bed laboratory reactor. The main aim of this study is based on solving the nonlinear differential equation of concentration of the ethanol and acetaldehyde by using the He's variational iteration method. Also, the numerical simulation (4th order Runge – Kutta method) is also reported using Matlab software. The analytical solution have been compared with numerical result in order to achieve conclusions based on not only accuracy and efficiency of the solutions, but also the simplicity of the taken procedures which would have remarkable effects on the time devoted for solving process. The analytical result reported in this work is useful to understand the behavior of the system.

Furthermore, due to the accuracy and convergence of obtained solutions, it will be demonstrating that VIM could be applied through other nonlinear problems even with high nonlinearity.

32. A Numerical Study on Transport And Separation of Bio-Entities in A Lab-On-Achip Device Via Free Flow Magnetophoresis

Abhishek Samanta[1], Ranjan Ganguly[2], Amitava Datta[2], Nipu Modak[3]

[1]Haldia Institute of Technology, Haldia, [2, 3] Jadavpur University, Saltlake, West Bengal, India

In clinical applications magnetic bead-based separation and fractionation has attracted interests over other types of separation techniques in microfluidic protocol for bulk cell separation. In continuous flow configuration two different size magnetic particles with one nonmagnetic particle can be selectively isolated from the mixture through designated outlets using free flow magnetophoresis. The selective separation of the respective particles through the designated outlets is inspected by the impact of viscous drag and externally applied magnetic force. It is very crucial to know the influence of fluidic force in magnetophoretic drifting of the magnetic and nonmagnetic particles. Herein a numerical study is conducted for analysing the free flow magnetophoresis in a two inlet and three outlets microfluidic device for getting optimum operating regime. Transport of the three different types microspheres in the microchannel is prescribed following a EulerianLagrangian model by using an in-house numerical code. In the present study two types of magnetic particles of diameter of 2μm and 1μm and one nonmagnetic particle of size 0.5μm diameter is used. The device is characterized by capture efficiency and separation index for three different types of particles. Influence of flow rate, fluid viscosity, magnetic strength and magnetic susceptibility of the magnetic particle on capture efficiency and separation index is identified. A group variable comprising of magnetic and fluidic force found exclusive function of capture efficiency and separation index for the magnetic particles. Another group variable consisting the fluidic and particle parameter found function of capture efficiency and separation index. The present numerical study can be very useful for understanding the impact fluidic and magnetic forces in separation for practical biomedical applications. Key wards: Free flow magnetophoresis; Lab-On-a-Chip; Magnetic particle; Separation; Microfluidics.

33. Some Translations In Multi (T, S)-Intuitionistic Fuzzy Subfieldof A Field

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In this paper, some translations in multi (T,S) intuitionistic fuzzy subfield of a field are given. These translation are giving a new algebraic structure and this type of translations is very useful for convert to the one intuitionistic fuzzy algebraic structure to another intuitionistic fuzzy algebraic structure.

34. No More Bindings – Unclipped Wings of Women in the Select Novels of Anita Nair

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Anita Nair has been projecting women characters and their struggles in her novels. Most of the leading characters are middle-aged women. Some of them are married and a few are unmarried, but all of them face unexplainable inner sufferings in their lives. This paper tries to trace marital issues, tussles between husband and wife and their own way of finding solutions. This article focuses on two novels of Anita Nair viz., Lessons in Forgetting and Mistress. Shyam and Radha are the husband and wife in Mistress. Both of them have different economic backgrounds. Radha hails from the rich family whereas Shyam comes from middle class. Though Shyam fulfils all the needs of Radha, she is not very much satisfied with him. The result of dissatisfaction in her life with Shyam makes Radha to have illicit relationship with Chris, a foreigner. This widens the gap between husband and wife and finally she decides to lead a separate life without her husband and 'paramour'.

Giri and Meera are the husband and wife in Lessons in Forgetting. Though Meera satiates her husband, he escapes and never returns. This makes her to find another partner Professor JAK. Both female characters Meera in Lessons in Forgetting and Radha in Mistress find their own solutions and decide to lead a new life. Further, this paper elaborates the intricacies of the complex relationship between husband and wife and their inner sufferings.

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35. Bi-Cultural Identity and Conflict in Chitra Banerjee Divakaruni's The Mistress of Spices

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Literature replicates and resembles socio-political, cultural and historical realities of humans. In particular, fiction writing represents human identity and social conflicts and cultural realities. Diasporic literature gets attention in the field of research in recent times and in a specific way, it is concerned with cultural identity, individual immigrant conflict, physical isolation, geographical dislocation, familial and marital relationship, re-rooting, uprooting, multiculturalism and quest for identity. Diasporic writers tussle between two cultures, two languages, two nations, and fluid identities. Chitra Banerjee Divakaruni is one such diasporic writer who exposes the immigrant experience in her novels. This paper traces the bi-cultural identity and conflict in Chitra Banerjee Divakaruni's The Mistress of Spices.

Keywords: *bi-cultural, immigrant, Diaspora, experience, conflict*

36. Emergence of Adah as a New Woman as Depicted in Buchi Emecheta's Second Class Citizen

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Buchi Emecheta, a remarkable Nigerian born writer is respected for her imaginative and documentary writing about African women's experiences in Africa and in Great Britain. The novel Second Class Citizen which is set in a traditional Igbo society of Nigeria and Great Britain with a heavy patriarchal grip revolves around the life and experiences of heroine Adah Obi who struggles to raise her five children all alone in Great Britain despite the prevalence of sexism, poverty and intra-racial challenges in the home and within the Black Community in London. The novel is also about Adah's dream to pursue education and her ambition to go to the United Kingdom. The paper titled, "Emergence of Adah as a New Woman as Depicted in Buchi Emecheta's Second Class Citizen" attempts to highlight how Adah struggles to adapt to her new life in UK and overcomes the oppression of her husband, Francis.

Keywords: *struggle, oppression, education, ambition, challenges*

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37. Improving Students' English Speaking Skills Through Cooperative Interactive Learning Approach

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Students in higher learning institutes in Malaysia face some difficulties in expressing themselves in English language and show lack of competency in speech. They perform poorly in the English language during examination held in the university and also interviews. Based on the problems encountered by the weak students, it was deemed necessary to provide some form of guidance to enable the students to speak confidently. The guidance comes in the form of a cooperative interactive learning approach for teaching speaking to weak ESL students. The purpose of the study is to improve students speaking skills through cooperative interactive learning approach that could benefit the students at the university. This study also investigates the attitudes of the students before and after using the cooperative interactive learning approach concerning speaking. A quasi-experimental design was carried out to look at the effectiveness of the Cooperative Interactive Learning approach as to assist educators to enable them to use some of the fundamental concepts of Cooperative Interactive Learning Approach in their everyday teaching to enhance ESL students' speaking skills. The findings revealed that the Cooperative Interactive Learning Approach was effective for higher learning institutes students because it enhanced graduates' communication skills that will enable them to understand written and spoken instruction, and express ideas in a variety of situations.

Keywords: *Cooperative Interactive Learning Approach (CIL), graduates students, Speaking Skills*

38. Actualization of Self In Voss: A Study of Patrick White's Voss

Dr. S. Bhuvaneswari

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Being the recipient of the Nobel Prize, Patrick White has won the reputation as a novelist of global significance. Suffering is inevitable in a successful quest. Patrick White insists the value of suffering in almost all his novels that finally turns to be the knowledge of the self. Self-actualization is the desire for self-fulfillment and the tendency to actualize one's own potentials. Self-actualized people tend to accept themselves and others as they are. This paper titled "Actualization of Self in Voss: A Study of Patrick White's Voss" attempts to explore how actualization of self takes place through the experience of love in Patrick White's novel Voss.

Keywords: *suffering, actualization, self-fulfillment, love*

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39. Assessment of Mobile Learning Activities Among Post Graduate Students

Dr. P.B. Beulahbel Bency

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Quality has been one of the major concerns of education across all levels. In the context of globalization and networking, Information Communication Technology has made an impact on the system of education. E - Learning, Computer Based Instruction, Web Learning, Mobile Learning and Online Education have transformed the teaching learning process and created more opportunities for the learners. Mobile learning is a term used to describe learning through portable, handheld, electronic devices generally with wireless communications capabilities. It implies learning while 'on the move' outside the classroom outside the home. It enables students to interact through Computer Supported Learning environment not just from conventional desktop computers connected to high speed networks, but also from mobile terminals with low speed wireless connections. From a technology perspective, handheld devices such as handheld computers and personal digital assistants are more affordable today than before. From a pedagogical perspective, mobile learning supports a new dimension in the educational process. Mobile learning is currently the most useful as a supplement of ICT, online learning and other traditional learning and other traditional learning methods, and is playing a central role in enriching the learning experiences. In this study the researcher intends to assess the mobile learning activities of Post Graduate students. The objective of the study was to assess the mobile learning activities and to find the significant difference in the mobile learning activities of Post Graduate students based on their Sex, Age, Locality of Residence, Type of Stay of students, Fathers Educational Qualification and Fathers Occupational Status. Normative Survey Method was adopted for the study with a sample of 230 Post Graduate Students from Virudhunagar district using simple random sampling technique. Self Constructed Mobile Learning Activities rating scale was used for the study. Mean, Standard Deviation, t-test and Chi Square were the statistical techniques used. Data were analysed using SPSS and findings were derived. Based on the findings educational implications were given.

Keywords: *Educational Technology, e-learning, Mobile learning, Mobile Technology and Mobile Devices*

40. Impact of High and Medium Velocity Resistance Training On Speed Endurance Among Youth Boys.

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The purpose of the present study was to find out the impact of high and medium velocity resistance training on speed endurance among youth boys. To achieve this purpose, thirty (n=30) youth boys were selected as subject at random. The age of the subjects were ranged between 17 and 20 years. The selected subjects were further divided into three equal groups of high and medium velocity resistance training groups and the control group of ten (n=10) each in strength. The training groups were treated with systematic high and medium resistance training for twelve weeks duration as three sessions in a week. The speed endurance was taken as a criterion variable for this study and 150 M run test was used as a test item. The data were collected before and immediately after the training protocol. The collected data were analyzed statistically by using analysis of covariance (ANCOVA). The level of confidence was fixed at 0.05 in all aspects. The results of the study show that the high and medium velocity resistance training group have significant improvement ($p \leq 0.05$) in speed endurance as compare with the control group and the significant difference ($p \leq 0.05$) occurred between the training groups of high and medium velocity resistance training groups to each other. It was further conclude that the high velocity resistance training procedure is better for improve the quality of speed endurance as compare with the medium velocity resistance training protocol.

Keywords: *speed endurance, systematic training and youth boys.*

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41. Impacts of Yogic Exercise on Memory for School Children

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Memory is critical to our daily lives. Memory is the capacity to retain information about past events, and helps us plan future events. We should be aware of how our memories work, what changes occur in memory over time, and how we can improve our memories as we get older. Fortunately, most changes in memory are normal changes of the aging process, or may be caused by temporary or treatable problems. Memory is the capacity to retain and recall information about past and present incidents. Memory capacity is the ability to analyze and synthesize the assimilated information and not information storage alone. Memory power varies between individuals. In Sanskrit, the word 'Memory' is called 'smriti' The yoga sutras of Patanjali describe memory as 'an experienced object not being lost from the mind'. Yogic practices like asanas, pranayama, meditation and Om chanting increase the circulation of blood to the brain. This helps calm the mind and enhances concentration skills. Memory lapses can also be prevented through yogic practices that enhance the power of recall. One can draw upon the immense power of the mind with consistent yogic endeavor. Regular practice of pranayam along with asana is helpful for all round development and improving the memory power. Bhastrika, kapalbhati and Brahmari Pranayam are the best. They improve the memory power and cures forgetfulness. Meditation and yoga are two words that are very often used interchangeably and for good reason. No other health regimen gives so much importance to meditation. Yoga is a wholesome discipline that focuses on bodily, emotional and spiritual health equally. It also recognizes the importance of balance and harmony between the three and strives to achieve this balance through the practice of physical poses, breath techniques and meditation.

42. Modernity and Attitude towards Information and Communication Technology of the B.Ed students

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In this study the investigator made an attempt to study the modernity and attitude towards information and communication technology of the B.Ed students the major objectives of the study were:

i. To find out the modernity of B.Ed students.

ii. To find out the level of attitude towards Information and Communication Technology of B.Ed students

iii. To find out the relationship between modernity and attitude towards information and communication technology of B.Ed students

Survey method was adopted in this study. Sample consisted of 266 B.Ed college students. Modernity scale and Attitude towards information Communication Scale were the tools used in this study. Percentage analysis, t-test, ANOVA, and Pearson's product moment correlation were the statistical techniques used to analyze the data.

Findings of the study revealed that 16.2% of B.Ed students had high level of modernity and 15.8% of the B.Ed students had high level of attitude towards ICT. Findings also showed that there existed a positive relationship between modernity and enthusiasm, anxiety, acceptance, use of email for classroom learning, productivity, confidence, relevancy and attitude towards ICT of the B.Ed students.

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43. Assessing Production Efficiency of Principal Crops in India: A DEA Approach

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Agriculture Productivity depends on several factors. These include the availability and quality of agriculture inputs such as land, water, seeds and fertilizers. In this paper, the researcher evaluates the production efficiency of principal crops in India. The key methodology used in this study suggests a process for looking into the efficiency point of principal crops in India, by viewing different types of input and output measures. Also the researcher determines that which of the Indian state is highly efficient in crop production. This study helps to analyze the efficiency one among all and to identify the efficiency affecting factors.

Keywords: *Data Envelopment Analysis, Efficiency, Input measure, Output measure, CRS, VRS.*

44. Drilling Effect on Improving Compression Response of Pure Mg

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Applications of magnesium is increasing in different industrial sectors due its favourable properties in comparison to conventional structural materials. Among the main properties of magnesium is its low density that makes it a suitable choice to be used in various weight critical applications like aerospace, space, sports, automobile and electronic industries. In the present study, pure Mg was fabricated by disintegrated melt deposition followed by hot extrusion techniques. The effect of centralized hole (0, 1, 2 and 3mm) on the physical and compression properties of the pure Mg materials was investigated. The theoretical density of undrilled Mg was expectedly higher than the drilled Mg. Compression test was performed in order to evaluate the mechanical properties of the drilled Mg samples. Compared to undrilled monolithic Mg, a significant increase in the compressive yield strength (24.6%) and ultimate compression strength (2.3%) were observed for the 1 mm drilled Mg sample (Table 1). Also, the specific compressive strength was higher for all the drilled samples compared to pure Mg. The results suggest that creating a controlled defect may not always adversely affect the overall compressive response of a material.

Keywords: *magnesium; disintegrated melt deposition; compressive properties; microstructure, drilling*

45. Red algae Kappaphycus alvarezii (Doty) Doty ex. P. Silva as feed additive for improving the immune system and antioxidant parameters in Channa punctatus.

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The present study was performed to investigate the immunostimulatory, and Antioxidant parametres of Channa punctatus after its diet supplemented with Kappaphycus alvarezii(red algae). A total of 240 fishes were divided into 4 groups and 3 replicates each containing 20 fishes. The fish were fed for 28 days with 10% ,20% and 30% of Kappaphycus alvarezii (red algae) and un-supplemented diet as the control group. Estimation of antioxidant parameters lysozyme activity, respiratory burst activity of the sample (blood and serum)were tested for every seven days. All treated groups recorded that the enhancement of antioxidant parameters lysozyme activity, respiratory burst activity in the experimental groups compared to the control group. Among the experimental groups 30% Kappaphycus alvarezii (red algae) fed fish group shows the most significant enhancement of Antioxidant parameters, lysozyme activity, and respiratory burst activity compared with control and other experimental fish groups. Moreover this significant enhancement were recorded in third and fourth of the experiment when compare with first and second week in all experimental groups. Overall, the results provided evidence that 30% Kappaphycus alvarezii (red algae) could be used as a natural immunostimulant for the fish Channa punctatus to improve an antioxidant property and its immune system.

Keywords: *Kappaphycus alvarezii, Channa punctatus, Antioxidant parameters, Lysozyme activity, Respiratory burst activity.*

46. Marine therapeutics: a panacea for a plethora of pathologies

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The oceans are a rich source of both biological and chemical diversity. These oceans cover more than 70% of the earth's surface and contain more than 300,000 described species of invertebrates and algae as also diversified plant and animal species such as sponges, tunicates, fishes, corals, molusks, echinoderms, seaweeds, and marine microorganisms. The marine habitat has remained largely unexplored for its bioactive potential for developing new drugs. The present situation warrants a demand to explore such potential molecules from marine living resources for the development of new drugs, which has an advantage of widespread occurrence in marine habitat. This can pave the way for large scale production in the near future. Although the drug industries are working on isolation and screening of novel molecules, which have pharmacological applications, they have their own limitations. In this scenario, our focus is on the exploration of novel molecular leads from marine origin for treating various kinds of diseases. Among them, RGS8 peptide from Octopus aegina exhibited activity against colon cancer; glycosaminoglycans from Katelysia opima (molusk) showed anti-coagulant and anti-atherosclerotic activity; fucoidan and polyphenolic compounds from brown algae revealed antioxidant, anti-proliferative, pro-apoptotic, anti-angiogenic, cell cycle arrest and anti-metastatic properties. In addition the glycolipids from brown algae found to possess anti-neurodegenerative potential, can possibly be developed as a therapeutic agent in near future. A continuous high-thorough evaluation of these molecules is very much necessary to counter-number of diseases, which is prevalent among humankind. In this venture a battery of molecular tools have been used for the evaluation of a drug and all these aspects are discussed in this scientific testimony.

47. Effective detection of counterfeit currency, black money and expiry of currency notes

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Counterfeiting money has become an enormous problem around the world. Traditional security features on currency notes are easy targets for counterfeiters, and they can easily imitate the original currency notes with fake ones. Conventional methods for validating currency require specialized devices for the authentication of currency notes. However, cost and lack of mobility of sophisticated currency note validation devices are big problems for general consumers. Modern digital solutions are attempting to complement the traditional security features through embedding NFC chips in the currency notes, by using this system automatically detect the original currency note or fake once. The NFC chip is embedded in the currency note and includes the value, serial number, and expired date that is used for validation. This system includes in three ways by using currency note, smart card and QR code. The possibility of using these devices to detect counterfeit money results in the extensive deployment of this technology among regular and non specialist end-users. It will encourage the general public to check for counterfeit money. Finally it indicates whether the currency is original or fake.. In second case,the people use smart cards, this system is to store the transaction details of the people. In third case the people use QR codes, this system also store the transaction details of the people by using server. This system is used to minimize and control the circulation of counterfeit currency notes. The proposed scheme allows standard and non specialist consumers to identify fake currency notes. By using this system individual consumers can report fake currency notes to the administration.

Keywords: *NFC Chip, QR Code*

48. Metalinguistic Competence in English Among Undergraduate Students of Madurai District

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That the linguistic components of English, viz., Phonology, Morphology, Morphophonemics, Morphosyntactics, Syntax, Semantics, Discourse, Pragmatics, (beyond syntax) are imperative to learn and use English in varying domains of English use, is a well established fact among the ELT practitioners. A learner of English – as a second language – should have mastery over the above aspects of English. These apart, it is observed by contemporary Linguists, that the learner of English ought to have knowledge over the Metalanguage; the language which is used for describing / explaining the Language. Especially, while learning English as second language, it is essential to know the grammatical lables, function and relation of linguistic entities of English language. So that that learners can learn and use grammatically correct and appropriate and socially acceptable elements of English. This paper, after discussing the relevance of metalinguistic competence for language learners and users, theoretically establishers the fact that metalinguistic competence is a must for English learners by studying the attitudes and performance of the Undergraduate Students of Madurai District, besides unearthing the troubles encountered by the cited students without having the metalinguistic competency, while learning and using English for spoken and written purposes. This paper adopts a descriptive analysis for qualitative and quantitative interpretation of the corpus elicited from 200 students who have been randomly chosen from different colleges of Madurai District. It however concludes that the matalinguistic competence enhances the communicative competence of the students under investigation, averting certain linguistic hurdles and enabling them to have grammatical subtitles to differentiate semantic nuances of the linguistic entities they produce and encounter. Thereby their communicative competence will be enhanced.

Keyterms: *Matalinguisitc competence, Grammatical lable, Grammatical function, Grammatical relation – Semantic nuances*

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49. The Impact of Reading Skill in English Language Teaching

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The aim of this paper is to create awareness in the minds of the students about 'Reading Skill'. Reading skill is the keystone of enriching word power, mastering Received Pronunciation, writing flawless sentences and discerning nuances of linguistics as well as literary sensibility. One can derive literary sensibility only through intensive reading. Extensive reading is rudimentary; intensive reading is a sine quo; non-marginal reading may result in mediocrity. The impact of reading in English Language Teaching has contemporary relevance. Reading is a passive skill, but it is the duty of any teacher to create awareness in the minds of the students about perfect reading skills. Students commit a lot of mistakes while writing English examination. They have no such familiarity with queer phrases or difficult words. John Milton became the great poet only through his constant reading practice. Reading skill is the stepping stone to writing skill. This paper has a contemporary relevance in such a context when most of the students fail miserably in the semester examinations. They do not have any exposure in reading skill. They come to college like an infant learner. They feel reluctant to read even simple stories. Cultivating reading habit is the need of the hour. This paper gives adequate warning to the students as well as teachers. English is a foreign language. So every skill is an active skill. There is no difference between active skill and passive skill as for as English language is concerned.

Keywords: *Intensive, extensive, marginal reading, active passive skill, linguistic, literary, intellectual impact; keystone; world-power; Received Pronunciation*

50. Therapeutic Footwear in Diabetes - The Good and the Bad

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Today almost 365 million of the people around the world are victims of Diabetes and Day by day faster growing population in the world with diabetes as per the survey of Medical council. So that in this review article contained, take care of Diabetic patients like continue of glucose monitoring, wear good footwear, care of feet, normal exercises and regular physical activities to improve their glucose level outcomes. This procedure will keep the prevention and make a good lifestyle of diabetes.

Keywords: *Foot Ulcer, Infection, Exercises*

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