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3.3.1. Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

Year	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
Number	17	21	18	19	17

S.N O	Title of paper	Name of the author/s	Department	Name of the Journal	Year of publication
2021-2022					
1	Comprehensive Study on Engineered Nanao Materials & its applications	Dr. J. Thirumagal	Bio Chemistry	Design Engineering.	2021
2	Bio Synthesis and Biological Applications of Cerium oxide Nano Particles	Dr. J. Thirumagal	Bio Chemistry	Annals of R.S.C.B.	2021
3	Review of Physiotherapy and Rehabilitation in DM Management	Dr. J. Thirumagal	Bio Chemistry	Turkish online Journal of qualitative Inquiry(TOJQI)	2021
4	Effect of vernonia cinerea mediated AgNPs on Caspase-3-induced apoptosis in PANCSCs	Dr.C.Venkatesan	Bio Chemistry	Indian Journal of Natural Science	2022
5	A study of employees motivation on organization effectiveness at it sector in tamil Nadu	V.Vinayagamoorthi	COMMERC E CA	JOURNAL OF THE ORIENTAL INSTITUTE	2022
6	Secure and energy - Aware Routing For The Reliable Data Transmission in Mobile Ad Hoc	P.Daniel Sundarraj	Department of Computer Science	ICTACT Journal on Communication Technology	2021

	Networks				
7	Embedded System For Automotive Bio Industry Labeled Compounds to Improve Performance	P.Daniel Sundarraj	Department of Computer Science	International Journal of Biology pharmacy and allied sciences	2021
8	Reduced Milk Waste for Dairy Plant using Automated Rule Mining Technique	P.Daniel Sundarraj	Department of Computer Science	Telematique	2021
9	Secured data transmission in mobile Ad-hoc networks	P.Daniel Sundarraj	Department of Computer Science	Journal Algebraic statistics	2022
10	Knowledge Management & Organizational competitive advantage	Dr. R. Manikandan	Business Administration	Journal of the Asiatic Society of Mumbai	Jul-05
11	Modern Technology support rural agripreneur to uplift economy of life	Dr. P. Shankar	Business Administration	Journal of the oriental institute	2022
12	Impact of Covid 19 on lifestyle and economic conditions with special reference to Vellore	Dr. P. Shankar	Business Administration	Journal of Emerging Technologies and Innovative Research (Online)	Jul-05
13	Impact of brand equity on Consumer Brand preference and Brand Purchase Intention	Dr.K.Gomathy	Commerce	Journal of the Asiatic Society of Mumbai	2022
14	A study of Customer's Preference towards purchase of Mobile Phone	Dr.D.Saravanan	Commerce	Journal of the Oriental Institute	2022
15	A study on job satisfaction of faculty members in self - financing colleges in Thirupattur District	Prof.I.M.Faheem Ahmed	Commerce	Journal of the Oriental Institute	2022
16	Biosorption of Heavy Metals from Tannery effluents by Using Green Unicellular	A.M.Rajalakshmi	Department of Microbiology	Applied Biological Research	2022

	Microalgae				
17	Small scale photo bioreactor Treatment of tannaery Waste water Heavy Metal biosorption and CO2 sequestration Using microalgae chlorella spp : a biodegradation appraoch	A.M.Rajalakshmi	Department of Microbiology	Applied Water Science	2021
2020-21					
1	A Comprehensive review on bionatchnology for the 21th century	Dr.J.Thirumagal	Biochemistr y	Journal of the Maharaja sayajirao University of Baroda	2021
2	Mass cultivation of algae chlorella Pyrenoidosa, scenned in Gudiyattam-Pakkam lake water and Antioxidant activity	Prof. S.Karthigai Devi	Biochemistr y	IJARESM	2021
3	Mass cultivation of algae chlorella Pyrenoidosa, scenned in Gudiyattam-Pakkamlake water and Antioxidant activity	Dr.J.Thirumagal	Biochemistr y	IJARESM	2021
4	Harnessing invitro antioxidant and anti inflammatory Potential of standardized selected Medicinal Herbs	Dr.R. Maheswari	Biochemistr y	AEGAUM Journal	2020
5	Evaluation of the Antimicrobialand Antioxidant Efficacy of Biogenic Chitosan synthesized from the prawn Exoskeleton	Prof.N.Sundaramoo rthy	Department of Microbiolog y	International Journal of current Microbiology and Applied Sciences	2021
6	Biomedical Applications of chitosan and its Derivatives	Prof.N.Sundaramoo rthy	Department of Microbiolog y	International Journal of current Microbiology and Applied	2021

				Sciences	
7	Transportation plays a vital role in the development of Indian Economy	Dr. P. Shankar	Business Administration	International Journal of Management (IJM)	2021
8	Simulation of SIR Deterministic Epidemic Model in Infectious Disease Prediction using R Programming (Scopus Indexed)	R.Saraswathi	Computer Science	Annals of R.S.C.B	2021
9	Displacement and autobiography: <i>the enigma of arrival</i>	Dr.M.C.Subhashini	English	Dogo Rangsang Research Journal UGC Care Group I	Jan-21
10	Identity, Race and Gender in The Bluest Eye of Toni Morrison	Dr.M.C.Subhashini	English	JuniKhyat Journal UGC care Group I	Apr-21
11	Vatara Navalkalin valrchiyum rajam krishnan Munnedutha Puthumaikalum	Prof.V.Valarmathi	Tamil	Journal of Modern tamizh Research	2021
12	Raj gowthamanin siluvairaj sarithiram kuripidum kalvi sulalum samuga neriyum	Prof.V.Ramesh	Tamil	Journal of Modern tamizh Research	2021
13	Kulanthai ilakiyathiruku kavimaniyin pangalippu	Dr.J.Jayakumar	Tamil	Journal of Modern tamizh Research	2021
14	Setril Manidhargal Navaqlil Vivasaya Thozhilargalin Poratta Vazhviyal	Prof.V.Valarmathi	Tamil	Journal of Modern tamizh Research	2021
15	Aanmega Valarchiyil Variyarin Medai Tamizsh Pangalippu	Dr.R.S.Balaji	Tamil	International Journal of Tamil Language and Literary studies	2021
16	Thilagavathiyin kathaikalili Puthumai sinthanikal	Prof.M.Radha	Tamil	Journal of Modern tamizh Research	2021
17	Tharkala tamil ilakiyavagaikalil medai pechu illakiyangalin nokum	Dr.R.S.Balaji	Tamil	Journal of Modern tamizh Research	2021

	pocukm				
18	Stage Tamizh Development and Dravidian Movement	Dr.R.S.Balaji	Tamil	International Journal of Tamil	2021
19	Investigation of Phytochemical composition and antioxidant activity of zingiber officinale	Prof. S.Karthigai Devi	Biochemistry	World Journal of Pharmaceutical Research	2021
20	Investigation of Phytochemical composition and antioxidant activity of zingiber officinale	Dr.J.Thirumagal	Biochemistry	World Journal of Pharmaceutical Research	2021
21	Biosynthesis and Biological applications of Cerium Ozide Nanoparticles	Dr.J.Thirumagal	Biochemistry	Annals of R.S.C.B	2021
2019-2020					
1	Digital Marketing a Business Perspective	Dr.K. Gomathy	Commerce	Eduindex Journals	2020
2	Influenzing of social media marketing on customer engament	Dr.K. Gomathy	Commerce	Eduindex Journals	2020
3	Challenges faced by working women on work life balance	Dr.K. Gomathy	Commerce	Eduindex Journals	2020
4	A study on green marketing impact and swot analysis	Dr.K. Gomathi	Commerce	Eduindex Journals	2020
5	Impact on online marketing on home applicances	Dr.K. Gomathy	Commerce	ARS Journal of Applied Research and Social Sciences	2020
6	Periyarin Medai pechukalili valviyal chinthanaikal	Dr.R.S.Balaji	Tamil	Shanlax International Journals	2020
7	U.V.S vin enn sarithiram chitharikum kalvi soolal	Dr.V.Ramesh	Tamil	Shanlax International Journals	2020
8	Kavimaniyin kavithikalili valvilil thathuvangal	Dr.J.Jayakumar	Tamil	Journal of Modern Tamizh Research	2019
9	Cloud management and architecture to	Prof.J.Srinivasan	Computer Science	Journal of ambient	2020

	improve the resource allocation in cloud IAAS platform			intelligence and Humanized computing	
10	Forward Node selection Using Particle swarm Optimization (PSO) for Broadcasting in Manet	Dr.R.Saraswathi	Computer Science	JARDCS(Journals of adv Researc in DynamicalControl Systems	2020
11	Efficient Text Mining Model with Comceptual Informative Relation Measure Using semantic Ontology	G.Shobarani	Computer Science	IJTEE	2019
12	Text Mining with topical and ianformative measures using semantic Ontology	G.Shobarani and K.Arunanandham	Computer Science	IJTEE	2019
13	Adaptive Broadcast routing Protocol using Fuzzy Logic system for MANET	R.Saraswathi	Computer Science	IJRTE	2019
14	Green Synthesis of magnesium Oxide Nano particles and their Antibacterial Activity	Dr.S.Dinesh Kumar	Microbiolog y	Indian Journal Of Geomarine sciences	2019
15	Fractured identity:A study of case and gender bigotry in modern India	DR. S. Sasikunmar	English	IJELLH	2019
16	Mapping the dalit women prediccament in Baby kambles the prisons we broke	Dr.S.Sasikumar	English	Studies in Indian Place name	2020
17	Effective detection of the dynamic attack pattern from logs analysis for virtual machines in cl;oud	Prof.P.Anjugam	BCA	IRJAET	2019
18	Wearable sendor using Human gait motion detection far and eer in android	Prof.P.Anjugam	BCA	IRJAET	2019
2018-2019					
1	Study of leatner dying process using citrus lemon peel	Dr.J.Thriumagal	Biochemistr y	World Journal of Pharmaceutaica	2018

	extract with commercial protease enzyme and its antimicrobial activity			I Research	
2	Bioethanol production from agricultural waste materials	Dr.J.Thriumagal	Biochemistr y	World Journal of Pharmaceutaica I Research	2018
3	Mangiferin a bioactive compound of mangifera indica on oxidative damage and antioxidant status in diethyl induced hepatocellular carcinoma in animal model	Dr. R. Maheswari	Biochemistr y	Journal of Pharmaceutical and Biological Sciences	2018
4	Potential Synergy of Mangiferin in Amonium Chloride induced Hyper Ammonemice Rats	Dr. R. Maheswari	Biochemistr y	Internal Journal of Emerging Technology and Advanced Engineering	2018
5	Effect of Caesalpinia Pulcherrima Seeds on Serum Glucose and other Metabolic Paramters of Normal and Alloxan Induced Diabetic Rats	Dr. P. Kavitha	Biochemistr y	Original Research Articles	2018
6	Lichen Parmelia Sulcata mediated synthesis of gold nanoparticles: an eco-friendly tool against Anopheles stephensi and Aedes aegypti	Dr. P. Kavitha	Biochemistr y	Environmental Science and Pollution Research	2019
7	Development and Quantification of Biodiesel Protection from Chicken Feather Neal as a Cost Effective Feedstock by using Green Technology	Dr. P. Kavitha	Biochemistr y	Biochemistry and Biophysical Reports	2018
8	Synthesis, Characterization and Evaluation of Antimicrobial Efficiacy and Brine Shrimp Lethality Assay of Alstonica	Dr. P. Kavitha	Biochemistr y	Biochemistry and Biophysical Reports	2018

	Scholaris Stem Bark Extract Mediated Zn on PS				
9	Studies on In vitro free radical scavenging activity and secondary metabolites of Tamarindus India Linn	Prof.S.Karthigai Devi	Biochemistry	International Journal of Emerging Technology and Advanced Engineering	2019
10	A Selective study of Decolorization of Textile Azo dyes using genetically modified brown Rot Fungi	Manikandan Dhashanamoorthy	Microbiology	International Journal of Pharmaceutical and Biological archives 2010	2018
11	Bioremediation of heavy metals using Microalgae: A Review Article	Prof.A.M.Rajalakshmi	Microbiology	International Journal of Research and analytical Reviews	2018
12	Synthesis of zeolite/activated carbon composite material using clustard apple shell for removal of the heavy metal-aqueous lead (II) and cadmium(II)	Prof.S.Chacko vijay sharma	Microbiology	International Journal of Green Pharmacy	2018
13	Immigration identity in unaccustomed earth	Dr.M.C.Subhashini	English	International Journal of research and analytical reviews	2018
14	Cultureal alienationl in Jhumpa lahiris interpreter of maladies	Dr.M.C.Subhashini	English	Journal of emmerging technology and innovative research	2018
15	Syntheisis and Properties of Bio nano composite- Nanochitosan Reinforced with Mircrocrystalline cellulose	Dr.M.S.Sivakami and P.N.Sudha	Chemistry	International Journal of Scientifica and engineering and Research	2018
16	Effect Bath temperature of CdSe Thin Film, Growing by Electrochemical Deposition	Dr.M.S.Sivakami and P.N.Sudha	Chemistry	International Journal of Scientifica and engineering and Research	2018

17	Saivathirupannikku sivaperumanidamiru nthu Thirunanansamband har pettra thirukodaikal	Prof.V.Sarala	Tamil	Journal of classical thamizh	2019
18	Valipattin Nilai	Prof.V.Sarala	Tamil	Shanlax international Journals	2018
19	Acoustic cryptanalysis with advance techniuges	Prof.S.Seema	Computer Science	IRJAET	2018
2017-2018					
1	Biodegradation of Poly Aromatic Hydrocarbons Using Nitrifying pseudomonas Bacteria and its Molecular Characterization	Dr.J.Thriumagal	Biochemistr y	World Journal of Pharmaceutical research	2018
2	Purification of Beta Galactosidase Enzyme from Dairy Effluent <i>BACILLUS SPECIES</i>	Dr.J.Thriumagal	Biochemistr y	World Journal of Pharmaceutical research	2018
3	A Study on silver Nano Particle Production from Aristolochia Bracteata and its antimicrobial activity	Dr.J.Thriumagal	Biochemistr y	International Journal of advance research and development	2018
4	Large scale Production of Micro Algae and Extraction of Biooil by Transesterification Method	Dr.J.Thriumagal	Biochemistr y	World Journal of Pharmaceutical research	2018
5	Anti- inflammatory and antioxidant activities of Psidium Guajava linn AqueousExtract	Dr.R.Maheswari	Biochemistr y	Journal of Biotechnology research	2018
6	Protective effect of morechurin on oxidity damage & anti accident status in diethyl nitrosamine induced hepatocellular carcinoma in animal	Dr.R.Maheswari	Biochemistr y	Journal of Pharmaceutical and Biological Sciences	2018

	model				
7	Anti diabetic potential on trianthea decandra extract studied in Alloxan induced Diabetic Mice	Dr.R.Maheswari	Biochemistr y	International Journal of Univerasal Pharmacy and Bio Sciences	2018
8	Hypoglycemic Antioxidant Potential of tetrahydroxy flavone in experimental animal model	Dr.R.Maheswari	Biochemistr y	International Journal of Univerasal Pharmacy and Bio Sciences	2018
9	Transnational belonging in the Namesake	Dr.M.C.Subhashini	English	Shanalz International Journal	2017
10	Green Marketing: aissues and challenges	Dr.C. Arunachalam	BBA	Eemperor International journal of finance and Management research	2017
11	Recent trends in marketing on line marketing issues and challenges	Dr.C. Arunachalam	BBA	Shanlax International Journal of Management	2017
12	Group dynamics	Dr.R.Manigandan	BBA	Shanlax International Journal of Management	2017
13	Women empowerment through self help groups (SHGS) A micro study in vellore district, Tamil nadu, India	Dr.C. Arunachalam	BBA	Shanlax International Journal of Management	2017
14	Synthesis, specsopic investigation and in vitro antioxidant activity of schiff base copper(II) complex	Dr.D.Shakila	Chemistry	WIPR	2017
15	Safe and secure DataTransfer in Mobile AD-HOC Networks using Multilevel Envryption Techniques	Prof.P.Daniel Sundarraaj	Computer Science	IJSRCS EIT	2017

16	A study on consumers buying preference towards selected cosmetics in FMCG at Vellore	Dr.K.Gomathi	Commerce	Shanlax International Journal of Commerce	2018
17	Green HRM Initiatives and Practices	Dr.K.Gomathi	Commercet	Shanlax International Journal of Management	2018

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A Comprehensive Study on Engineered Nanomaterials and its Applications

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Abstract

Technological improvements have been made possible by the NMs' tunable physical, chemical, and biological properties, which outperform bulk materials. Size, composition, shape, and provenance all play a role in determining the classification of natural materials (NMs). For each classification, predicting the unique qualities of NM improves its worth. Toxicological concerns are certain to arise as NM production and industrial use expand. Accordingly, the purpose of this study is to examine the nanoscale properties of both synthetic and naturally occurring NPs and NSMs and to identify specific knowledge gaps relevant to risk assessment of NPs and NSMs in the environment. NPs and NSMs, both naturally occurring and synthesised, and their harmful effects on mammalian cells and tissues are discussed in detail, as are their origins and categorization systems. Toxic reactions to NPs and NSMs are also explored, as well as the restrictions put in place by various countries to mitigate the associated hazards.

Keywords: Engineered nanomaterials, nanotoxicity; oxidative stress; nanoscience; nanotechnology.

Introduction

Nanoparticles (NPs) and nanostructured materials (NSMs) are an active area of study and a techno-economic industry that is expanding rapidly in a wide range of application domains.

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Biosynthesis and Biological Applications of Cerium Oxide Nanoparticles

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Abstract

Nanobiotechnology generates tools from nanotechnology which are used to study biological processes. Nowadays, nanoceria or cerium oxide nanoparticles have been employed in varied medicinal applications including antibacterial, antioxidant, antidiabetic, anticancer, drug delivery systems etc. They have unusual property to switch between trivalent and tetravalent oxidation states which consider them excellent candidates for other commercial applications also. The present investigation was focused on green synthesis of nanoceria or cerium oxide nanoparticles (CeO₂ NPs) from Pomegranate (*Punica granatum*) peel extract which were also characterized by UV Visible, FT-IR spectroscopy, SEM analysis, EDX and X-ray Diffraction Studies. The antioxidant and antibacterial potential of synthesized CeO₂ NPs were also evaluated. The results displayed that they expressed good antimicrobial activity against *E. coli* and also showed immense antioxidant activity.

Keywords: *Punica granatum*, Cerium oxide nanoparticles, Nanoceria, Antioxidant, Antibacterial activity.

1. Introduction

Nanotechnology is leading research discipline of the present era with multiple applications in the healthcare sector, industries, imaging etc. It utilizes nanoscale structures of size 1-100 nm. These structures due to their unique properties are of remarkable interest. Among different NPs such as AuNPs, Ag NPs, Cu NPs, Cerium oxide nanoparticles have gained importance due to their high stability, surface chemistry and biocompatibility. Actually, Cerium, a lanthanide series rare earth metal having atomic number 58. It exhibits attractive catalytic properties due to its electronic configuration, unique surface structures and redox activity^[1]. It is able to exist in both +3 and +4 stages which make it capable of forming nanoscale cerium oxide particles such as CeO₂NPs and Ce₂O₃NPs^[2,3]. These nanoparticles are gaining importance due to their biomedical applications these days. They exhibit antimicrobial, anticancer, anti-inflammatory and antidiabetic potential. They also display defensive role against harmful radiations, toxicants and also play protective role during various pathological conditions^[4].

Presently, CeO₂NPs are synthesized by physical, chemical and biological methods. Physical and chemical methods utilize toxic solvents which are hazardous to the biodiversity and ecosystem. Besides that, NPs

**Review Of Physiotherapy and Rehabilitation In Diabetes Mellitus
Management**Mary Fabiola¹, G. Sharmila², J. Thirumagal³, S. Vennila⁴ S.Arana⁵ and M.I. Niyas
Ahamed^{6*}¹Department of Zoology, Nirmala College for Women (Autonomous), Coimbatore, Tamilnadu.²Department of Zoology, Quaid-e-Millath Government College for Women ,Chennai, Tamilnadu.³Department of Biochemistry, K.M.G. College of Arts and Science, Gudiyattam, Tamilnadu.⁴Department of Biotechnology, Marudhar Kesari Jain College for Women, Vaniyambadi, Tamilnadu.⁵Department of Biochemistry, Erode Arts and Science College, Erode, Tamil Nadu.⁶Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu.

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Abstract

The goal of this review is to examine the impact of physical activity on diabetic-related issues such muscle strength, gait, balance, and overall well-being. Exercises have also been shown to have a positive impact on these aspects. Diabetes mellitus patients' quality of life (QOL) is increasing as a consequence of exercise therapies, but additional study is needed to further enhance both physical and mental QOL, as evidenced by the numerous studies presented in this publication. This publication includes a number of studies that claim that regular exercise can help reduce blood glucose levels. Exercises have also been shown to improve muscular strength, balance, gait, and fall-related difficulties, according to research.

KEYWORDS: Diabetes mellitus, Gait, Balance, Strength, Quality of life**Introduction:**

Patients with diabetes mellitus, hypertension, and other musculoskeletal problems are on the rise because of changes in socioeconomic development, daily routines, and sedentary life styles that have resulted in a considerable increase in the number of patients (Zimmet, et al; 2001, Li M.Z, et al; 2013, Sena, et al; 2010). In emerging and developed nations alike, diabetes mellitus has become a major health issue (Li M.Z, et al; 2013, Qibin& Frank; 2012). As a result of diabetes's consequences, mortality and morbidity have increased worldwide. In order to correctly manage scarce resources, it is becoming increasingly important to estimate the prevalence of diabetes.

Epidemiology

Countless pieces of information have been gathered throughout the world to get an accurate count of patients (Wild, et al 2004, Soriguer, et al; 2012). Japanese diabetes rates reveal that every 9th person in 1000 has the disease, which is fast rising due to an increase in obesity, decreased

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RESEARCH ARTICLE

Effect of *Vernonia cinerea* Mediated AgNPs on Caspase-3-Induced Apoptosis in PANCSCsM. Koteeswaran¹, S. Balasubramanian^{2*}, C. Venkatesan³, M. Muneeswaran⁴, R. Prabhakaran⁵, T. Rajkumar⁶, K. Hemalatha⁷ and K. Leelavinothini⁸¹Ph.D Research Scholar, Department of Biochemistry, Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India.²Professor, Department of Biochemistry, Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India.³Assistant Professor, Department of Biochemistry, KMG College of Arts and Science, Vellore, Tamil Nadu, India.⁴Ph.D Research Scholar, Department of Biochemistry, Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India.⁵Chief Executive Officer, Tamilnadu Test House, Chennai, Tamil Nadu, India.⁶DSK Postdoctoral Fellow, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India.⁷Pharmacy Department, K.K. College of Pharmacy, Chennai, Tamil Nadu, India.⁸BSMS, Sairam Siddha Medical College, Chennai, Tamil Nadu, India.

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ABSTRACT

Pancreatic cancer is one of the most fatal tumors, with no present control over its lethality, due to late diagnosis and the lack of reliable therapeutic methods. Despite the experts' best efforts, the search for cancer medicines continues to be a maze. To combat this malignancy, efforts such as identifying novel therapy options and repurposing existing medications are ongoing. The current study utilizes the herbal plant *Vernonia cinerea* aqueous extract to test the anticancer potential of produced silver nanoparticles (AgNPs) on pancreatic malignant stem cell line. *V. cinerea* is a contemplative plant that has been used to treat abortion, cancer, and gastrointestinal disorders. The plant's toxicity was tested on mice, but the results were insufficient to draw any conclusions. This study demonstrated a simple green synthesis method for preparing silver nanoparticles as well as the superior anticancer activity of the plant *V. cinerea*. The appearance, morphology, properties, and elemental composition of synthesized AgNPs were examined by SEM, XRD, UV-VIS Spectrophotometer, FTIR, and EDX. Flow cytometric analysis was also



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**A STUDY OF EMPLOYEES MOTIVATION ON ORGANIZATIONAL EFFECTIVENESS
AT IT SECTOR IN TAMIL NADU**

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Abstract

To days an organizational is a team of employees working together to attain the common goal. A superior play a middle role in teaming the employees and activities, create authority and responsibility. Organizational Effectiveness impacts to develop high level efficiency of business functions, Productivity and ability of a organization to face its target. Now a day's modern organizations are construct the employees' motivation with aligning the managerial strategy. Main objectives of the study analyze the impact of employees' motivation on organizational effectiveness, to study the impact of demographic factors on organizational effectiveness, and examine the relationship between employee's motivation and organizational effectiveness.

Keywords: Team process, Purpose and goals and Passion commitment.

I. INTRODUCTION

Every organization and business wants to be successful and have desire to get constant progress. The current eras highly competitive and organizations regardless of size, technology and market focus are facing employee retention challenges. To overcome these restraints a strong and positive relationship and bonding should be created and maintained between employees and their organizations. Human resource or employees of any organization are the most central part so they need to be influenced and persuaded towards tasks fulfillment.

For achieving prosperity, organizations design different strategies to compete with the competitors and for increasing the performance of the organizations. A very few organizations believe that the human personnel and employees of any organization are its main assets which can lead them to success or if not focused well, to decline. Unless and until, the employees of any organization are satisfied with it, are motivated for the tasks fulfillment and goals achievements and encouraged, none of the organization can progress or achieve success.

The focus of this study is to enlighten that how an organization through its employees can achieve success and effectiveness. The purpose of the study is to analyze the impact of employees' motivation on organizational effectiveness. The study has two sub-objectives; firstly the factors that increase motivation of employees are to be determined. Secondly the relationship of employee motivation and organizational effectiveness is to be examined.

II. LITERATURE REVIEW MOTIVATION

According to Webster's New Collegiate Dictionary, a motive is "something and desire that causes a person to act". "Motivate, in turn, means "to provide with a motive," and motivation is defined as "the act or process of motivating". Consequently, motivation is the performance or procedure of presenting an intention that origin a person to capture some accomplishment (Shanks. N. H.). According to Butkus & Green (1999), motivation is derived from the word "motivate", means to move, push or influence to proceed for fulfilling a want (Kalimullahetal 2010).

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CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

**A STUDY OF EMPLOYEES MOTIVATION ON ORGANIZATIONAL EFFECTIVENESS AT IT
SECTOR IN TAMIL NADU**

Authored By

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SECURE AND ENERGY-AWARE ROUTING FOR RELIABLE DATA TRANSMISSION IN MOBILE AD HOC NETWORKS

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Abstract

Mobile Ad-Hoc Network (MANET) is a generic technology utilized in various real-time applications. The MANET is a self-configuring and self-directed system that quickly deploys in a network. Data transfer is a big issue in MANET due to poor wireless medium and lack of data security and reliability. The prior system established a mobile ad hoc content distribution strategy. The ideal Cluster Head (CH) is chosen using the Teaching Learning Based Optimization (TLBO) approach. However, due to these features, it is more vulnerable to attacks. In addition, it impacts packet delivery and throughput. The proposed system designed a Secure and Energy Aware Routing (SEAR) mechanism to improve MANET data transmission reliability and security. Initially, nodes are clustered by distance. Then the Weight-based Artificial Fish Swarm Algorithm (WAFSA) is used to pick the optimum Cluster Head (CH). Mobility, remaining energy, and connectivity are considered objective functions for CH selection. Securing communication between these nodes will require proper cryptography. The security mechanism generates secret keys using Advanced Encryption Standard (AES) to encrypt or decode messages delivered between member nodes. This security approach enables secure communication between member nodes and CHs, uses the NS-2 analytical platform, and outperforms the existing system regarding average energy drop, network lifetime, and encryption time.

Keywords:

Cluster Head (CH), Advanced Encryption Standard (AES), Weight-based Artificial Fish Swarm Algorithm (WAFSA), Secret Keys

1. INTRODUCTION

Mobile Ad hoc Networks (MANETs) are short-term networks constructed for specific purposes and do not require pre-existing infrastructure [1]-[2]. A MANET most significant characteristics include autonomy and lack of infrastructure, changeable network topology, multihop routing, inadequate physical security, device heterogeneity, and variable capacity links with finite bandwidth [3]-[4].

Routing packets in these networks is a complicated issue due to the mobility of nodes and reliance on a small battery to stay active in the network. Therefore, multiple routing methods based on proactive, reactive, and hybrid protocols have been developed to manage one hop and multihops, self-organizing networks [5]-[7]. Even when there is no data to send, the proactive protocol stays active in the network and keeps route information available at all times. Moreover, in reactive protocols, power usage is low.

Clustering is one of the most effective ways to improve energy efficiency. CH selection is the process of selecting a node inside the cluster to serve as the cluster leader node. The CH is in charge of keeping track of information about its cluster. This information provides a list of cluster nodes as well as the path to each node [8]. The CH is responsible for communicating with all of the nodes in its cluster. However, CH must communicate with nodes

in other clusters, which can be done directly, through the appropriate CH, or via gateways. Communication occurs in three stages. First, CH retrieves data sent by its participants, then compresses it, and lastly transfers it to the base station or another CH. A suitable CH can reduce energy consumption while increasing network lifetime [9]. Because clustering in the MANET is a non-deterministic polynomial-time-hard problem, many optimization methods can provide answers. Optimization techniques include the Genetic Algorithm (GA), Simulated Annealing (SA), Particle Swarm Optimization (PSO), and Artificial Bee Colony (ABS) systems.

Recently, the demand for solid security and resilience in wireless networks has risen [10]. MANETs play a crucial role in providing high security in trustworthy networks due to features such as open network boundaries, scattered networks, and quick and easy installation. To prevent data from being exposed by hackers, it must be securely delivered via a MANET. The cryptography algorithm must meet many security requirements, including confidentiality, integrity, authenticity, and availability (CIAA). Better mechanisms are necessary for this conducted study to attain increased energy efficiency and data security.

This study describes an energy-efficient clustering methodology for enhancing delivery ratio, minimizing end-to-end delay, and implementing more secure transmission. The WAFSA was used to choose CH. An encryption algorithm, such as the Advanced Encryption Standard (AES) technology, was utilized to improve security during data transmission in the MANET. Encryption algorithms encrypt data, which can improve overall efficiency and confidentiality. An authorized individual can view the data in the MANET using this security approach. Furthermore, this routing technique can be utilized to improve reliability while decreasing energy consumption.

Section 2 covers the existing MANET-related articles. Section 3 describes WAFSA as well as a secure encryption algorithm for mobile networks. The results and discussion are described in Section 4. Finally, Section 5 discusses the conclusion.

2. LITERATURE REVIEW

Robinson et al. [11] offer a particle swarm optimization-based bandwidth and connection availability prediction system for mobile ad hoc network multipath routing. The available bandwidth, link quality, and mobility factors are employed in this prediction phase to choose the node based on their fuzzy logic. The selected node will broadcast information to all nodes, and all details will be validated before transmission. In addition, the routes are redirected and twisted to identify a good link as an intermediary node. The developed approach significantly improves packet delivery ratio, path optimality, and end-to-end delay.



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**EMBEDDED SYSTEMS FOR AUTOMOTIVE BIO INDUSTRY LABELED
COMPOUNDS TO IMPROVE PERFORMANCE**

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ABSTRACT

A data type, specifically automobile components controlled through channels of remote servers, describes real issues of experiments failures in decentralized integrated circuits which are called ECUs. Authors utilize visualizing research to identify relevant feedback from a variety of validation databases created from tests carried out as part of a systematic operational stage of the software assimilation. Throughout the end, researchers wish to measure the performance of real cause breakdowns and create a consistent communication channel in fault localization. At

Reduced Milk Waste for Dairy Plant using Automated Rule Mining Technique

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Abstract:

Current DSCs (Dairy Supply Chains) are experiencing the danger of rising dairy wastages resulting due to globally expansions of supply chains and rising customer constraints on quality and safety. The potential to incorporate wastes in the production cycle or perform recycle for using it again is a vital solution for conserving resources. Due to the challenges associated with the attribute of sustainability in the dairy circular supply chain, there has been interest shown towards consistent preparation and supervision of quality commitment policies adopted in the circular supply chain network. In this work, an IDSAM (Improved Decision Support system based on automated rule mining techniques) is proposed. The objective of proposed system is to help the managers in dairy plant to plan good logistics so that the quality is maintained and dairy wastes reduced. It is proven from the results of the experiments that the proposed model is quite efficient in terms of metrics including precision, recall, accuracy and f-measure.

Keywords: Dairy, wastage, Global Supply Chain, Quality, Consumer Demands and safety.

1. INTRODUCTION

Conservation of the earth's resources has emerged an important concern with the conventional linear "take, do and throw" model used till now has lost its impact now. In this regard, The potential to incorporate wastes in the production cycle or perform recycle of resources is a vital solution with respect to conserving resources. The principle of CEs (circular economies), in which recycling, reuse and reduction concepts are used, rely on improved resource productiveness and eco-efficiency. The circular supply chain is a kind of management facilitating the utilization of renewable, recyclable or biodegradable substances. Using CEs in supply chains reduces waste and minimizes the effect on the environment[1]. Moreover, CEs have huge significance in reducing losses in FSCs (food supply chains). The structure of DSCs are not strong since the food losses can occur at various phases of the chain. Owing to the biodegradability of the products, every step of the supply chain is important. The wastes can be saved for reducing losses when CE principles are adopted and resulting wastes can re-acquired in the chain. For instance, the waste of dairy products which can be utilized in the form of raw materials or biogas following CEs or sustainability models [2].

Supply chain managers face constant concerns regarding supply chain quality assurance in food production organizations. Most enterprises today have global sourcing in their

Secured Data Transmission in Mobile Ad-hoc Networks

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ABSTRACT

New techniques for user authentication are offered, including secure cryptography and undetectable digital watermarking. Secure cryptography enables the encoding of secure information in such a way that sight reading is required to decode it. Secure cryptography and watermarking provide secure authentication for user access for identity-based identification. To provide secure authentication, secure cryptography and watermarking methods are frequently used. These algorithms incorporate images of the iris, the finger, and the face. User verification and authentication methods are insufficient for frequent verification. Keystroke and mouse dynamics, which are common PC behavioral biometrics, are worthless for user authentication. Existing facial, iris, and fingerprint authentication methods are not practical for use in the real world due to their poor accuracy. The False Acceptance Rate (FAR) and False Rejection Rate (FRR) are two design techniques that the support vector machine (SVM), which has a high accuracy, utilizes, can be used to solve this issue (FRR). The security of currently utilized methods, such as finger print, iris image, and face recognition over Noisy Images, is improved by using an effective picture segmentation technique, such as Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT), and Discrete Fourier Transform (DFT). Accurate FAR Extraction Ratio of Coefficient (ROC) Curves are produced using the MASEK and Ma findings. The Binomial Distribution vector space is utilized for FAR and FRR. Distribution Reliability is calculated using Ma and MASEK in 128 bit blocks. For picture segmentation in the 128 bit block, DCT, DWT, and DFT algorithms are used. A robust watermarking technique and safe cryptography are used to provide security that can stop the image from being hacked as well as twisted since the input image's uniqueness causes distortion. According to the Mat Lab framework for Experimental results, the recommended watermarking technique has good security, watermarking life, user authentication delay, and perceptual invisibility. For various finger print, iris, and face performances, it can also successfully detect and localize the tampered zone. The experimental result reveals the minimum and maximum FAR and FRR rates for secure cryptography security management control.

Key Words: Data Encryption Standard (DES), Advanced Encryption Standard (AES), Secure Cryptography, Watermarking.

I. INTRODUCTION

Secure cryptography is suggested as a way to maintain the security of biometric data (raw images, i.e.) by degrading the new image into two images in a way that both images are accessible at the same time in the original image can be exposed; additionally, the discrete component images do not expose any information nearly the original image[2]. During the verification process, the trustworthy individual sends a demand to each Biometric, and it receives the corresponding sheets. Sheets are overlapped (i.e., superimposed) to recreate the security image in order to avoid any complicated decryption and decoding computations used in watermarking or cryptosystem approaches. [5]. When the matching score is used, the rebuilt picture is removed.

Watermarking focuses on watermarking techniques that do not incorporate watermarks directly into the source digital images. Instead, verification data is produced, which is then utilised to verify DCT, DFT, and DWT. On the watermarking technical, it generates the technical feature of coefficient pixel. It lowers the FAR and FRR mean square error.

Each Biometric is sent a request during the verification process, and it receives the relevant sheets in response. Sheets are layered or overlapped to recreate the security image, preventing any elaborate decryption or encoding operations used in watermarking or cryptosystem approaches. [5]. after applying the matching score, the rebuilt image is discarded.

Biometric traits are improved by incorporating extracted devices and unique features into the acceptance process to build a biometric pattern. Personal identity is necessary in a variety of applications, including time and attendance, passports, airport controls, mobile phones, health and social services, computer login control, secure electronic banking, bank ATMs, credit cards,[2][11], and so on. Biometric approach and biometric data are linked to a number of concerns. Biometric systems are vulnerable to hacking, which compromises their security. The captured patterns can also be utilized for unexpected objectives, such as gaining access to unauthorized user smart card transactions or fitness-related records. To safeguard the biometric data and template, biometric patterns should not be stored in plaintext. Watermarking and Secure cryptography are two techniques that can be used together. watermarking to safeguard the finger print, iris template, and facial recognition in order to create secure user identification in the system database.

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KNOWLEDGE MANAGEMENT AND ORGANISATIONAL COMPETITIVE ADVANTAGE

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ABSTRACT

The ability to manage knowledge is crucial in today's knowledge economy. The creation and diffusion of knowledge have become increasingly important factors in competitiveness. More and more, knowledge is being thought of as a valuable commodity that is embedded in products (especially high-technology products) and embedded in the tacit knowledge of highly mobile employees. While knowledge is increasingly being viewed as a commodity or intellectual asset, there are some paradoxical characteristics of knowledge that are radically different from other valuable commodities. This paper emphasizes the need of knowledge management in the organisation. In essence, to ensure organisation's success, the focus should be to connect people, processes, and technology for the purpose of leveraging knowledge. This paper also discusses the types of knowledge and stages of knowledge which ensure organisational to attain competitive advantages.

Key words: *Knowledge management, People, Processes, Technology and Organisational advantage*

INTRODUCTION

Knowledge management is the planning, organizing, motivating, and controlling of people, processes and systems in the organization to ensure that its knowledge-related assets are improved and effectively employed. Knowledge-related assets include knowledge in the form of printed documents such as patents and manuals, knowledge stored in electronic repositories such as a "best-practices" database, employees' knowledge about the best way to do their jobs, knowledge that is held by teams who have been working on focused problems and knowledge that is embedded in the organization's products, processes and relationships. The processes of KM involve knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization. The KM function in the organization operates these processes, develops methodologies and systems to support them, and motivates people to participate in them. The goals of KM are the leveraging and improvement of the organization's knowledge assets to effectuate better knowledge practices, improved organizational behaviours, better decisions and improved organizational performance. Although individuals certainly can personally perform each of the KM processes, KM is largely an organizational activity that focuses on what managers can do to enable KM's goals to be achieved, how they can motivate individuals to participate in achieving them and how they can create social processes that will facilitate KM success. Social processes include communities of practice – self-organizing groups of people who share a common interest – and expert networks – networks that are established to allow those with less expertise to contact those with greater expertise. Such social processes are necessary because while knowledge initially exists in the mind of an individual, for KM to be successful, knowledge must usually be transmitted through social groups, teams and networks. Therefore, KM processes are quite people-intensive, and less technology-intensive than most people might believe, although a modern knowledge-enabled enterprise must support KM with appropriate information and communications technology (King, 2008).

KNOWLEDGE MANAGEMENT

Knowledge has long been recognized as a crucial competitive tool for organizational survival and competition. In practice, many organizations that are adept in leveraging and capitalizing their knowledge resources experience business


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IMPACT OF COVID 19 ON LIFESTYLE AND ECONOMIC CONDITIONS WITH SPECIAL REFERENCE TO VELLORE

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ABSTRACT

The Covid-19 has impacted every segment and in each part of the universe especially life style and in commercial activities like education, economy, religion, transport, tourism, employment, entertainment, food security, sports etc. The wave is a major weaken threat to the global economy. Economist intelligence unit has forecast that markets will remain unstable until a clearer image emerges on the potential outcomes. The lockdown during Covid-19 in India had a sizeable impact on the economy mainly on consumption which is the biggest component of GDP.

INTRODUCTION

The virus that causes Covid-19 is mainly spread through droplets generated when an unhygienic person coughs, sneezes, or breathe out. These drops are too heavy to hang in the air and quickly fall on floors or surfaces. You can be affected by breathe in the virus if you are within close nearness of someone who has Covid-19 or by touching a unclean surface and then touches yours eyes, nose or mouth.

SECTOR WISE IMPACT OF COVID-19 PANDEMIC IN INDIA

1. Migratory Labour

International Labour Organization (ILO) in its report clearly stated that the corona virus pandemic as the worst global crisis since World War – II. In India 76.2% of the total workforce are at a threat of falling deeper into poverty due to terrible penalty of the virus. As half of the world is in lockdown it's going to be a loss of 195 million full time jobs seasonal migration of work force from rural to industries, urban markets and farms. The Covid-19 may also increase inequality, ban unfairness and global unemployment in the medium and long term.

2. GDP growth rate

GDP growth of India for the present economy is projected to decline to 4.8%. Economists including those at the Reserve Bank of India certified the recovery to built-up demand after a strict lockdown imposed

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IMPACT OF BRAND EQUITY ON CONSUMER BRAND PREFERENCE AND BRAND PURCHASE INTENTION

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ABSTRACT

Product differentiation has become a difficult task for marketers because of the increasing number of brands in the market. It is also noted that the product differentiation which gets its basis from the brand i.e. brand equity, turns out to be more effective than others. This is the reason why marketers are emphasizing more on strengthening the brand equity of a brand. A conceptual framework was constructed to measure the impact brand equity has from all the other components under brand equity. Furthermore, consumer brand preference and consumer's brand purchase intention were also studied along with the effects of brand equity on them. The sample size was chosen 385 and it was quite responsive; only 5% of them did not respond. The prior studies were used in developing the constructs by making sure their applicability and validity in recent times. Likert scale was used in the questionnaire to get the answers from respondents. The data was collected on basis of convenience sampling.

Keywords: *Brand Equity, Perceived Sales Promotion Intensity, Uniqueness, Brand Attitude.*

INTRODUCTION

Brand equity is among the most studied concepts in marketing literature (Datta Hans, 2017). Firms invest with lot of resources to understand and build strong brand equity (Builet al., 2013), which ultimately influences brand preference of the consumer and the purchase intention (Moradi&Zarei, 2011; Tolba& Hassan, 2009; Chang et al., 2008; Chen & Chang, 2008). Consumers favor strong brands as the decision reduces product related risk and failure, eliminates uncertainty about the product choice, and consumer enjoys emotional and social benefits from the chosen brand (Fischer, Vo"lckner, and Sattler 2010). Brands having strong brand equity hold certain edges like, evaluated positively by customers, receive selective attention, included in final consideration set, and it also increase the probability to be chosen at point of purchase i.e. final point of contact between customer and brand (Hoeffler and Keller 2003).

Intangible assets and liabilities sum up the brand equity (Aaker, 1991), the value is added from the assets whereas, and the brand is devalued from the liabilities. There are four major components Aaker's brand equity model i.e. Perceived quality, brand awareness, brand loyalty, and brand association. For study, we are taking brand equity model by Aaker.

Brand equity resides in the heart and mind of customers, and clearly impacts on a consumer brand preference and consumer's purchase intention (Vinh&Huy, 2016; Differentiation based on strong brand equity lasts longer than differentiation based on physical features. Hence, organizations for brand differentiation focused to create brand equity (Keller, 2009). The twofold goals of the study are I) measuring the impact of constituents of brand equity on the brand equity as a whole, II) measuring the impact of brand equity on consumer brand preference and consumer purchase intention.


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ion matrix is an identity matrix, which would indicate that able for structure detection. A small value (less than 0.05) of analysis may be useful with data.

Importance of Advertisement and Social Media that of Consumers towards Digital Devices

Relative %	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
19.327	2.824	23.535	23.535
10.405	2.736	22.798	46.333
19.072	1.529	12.739	59.072
16.185			
12.738			
18.641			
13.769			
18.140			
12.032			
15.322			
18.059			
10.000			

total variance explained is 59.072%. This is appropriate for explained by the 3 extracted components.

ements under role of advertising and social media on Online e of advertisement and social media that promotes purchase vices. People always prefer online shopping over offline e of more varieties. Though people go for online shopping, my transactions via online. Cyber security also is somewhat declined and money debited are not returned to the account threat to online users of digital devices. Therefore, the online shoppers and provide round the clock security to the

pping -An QFT Market Study", published by The Office of ting - Principles and Current Practices", published by New

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A STUDY OF CUSTOMER'S PREFERENCE TOWARDS PURCHASE OF MOBILE PHONE

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Abstract

The aim of the present study is to understand the customer's preference towards purchase of Mobile Phone, the present study is conducted in Gudiyattam town of Vellore District. This study helps to know the factors influencing and reasons responsible for the purchase of Mobile Phones. To test the hypothesis the tolls of chisquare test was used. The customer positively feels that many factors are responsible for their purchase of Mobile Phones. From this study I have gained lot of practical exposure about Customer purchasing behavior towards Mobile Phones.

Keywords: *Purchasing behavior, Satisfaction, Mobile Brands, Brand Preference.*

I. INTRODUCTION

One of the most significant developments in the field of information and communication technology in the 21st century is the growing demand for mobile phones. Mobile phone was considered as a luxury gadget in India till the late 1990's, however with the reduction in service charges and the cost of handsets, the numbers of mobile users in India have increased enormously. Nowadays mobile phones have become a need than a fashion accessory.

The mobile phone has become a significant device for doing the regular activities in the day to day life. Many people consider this as their companion rather than then a means of communication. It is commonly used by all types of customer irrespective of urban or rural area. The penetration of the mobile phones in the rural market is already high. Most of the respondents in rural area depends on mobile phone for many reasons.

A study based on the factors influencing at the time of purchase and reasons responsible for their purchase, would help the rural marketers to upgrade their existing sales and services. This will assist the marketers to drive new customer at a higher rate.

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A STUDY ON JOB SATISFACTION OF FACULTY MEMBERS IN SELF FINANCING COLLEGES IN THIRUPATHUR DISTRICT.

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Abstract

Satisfaction is the most important thing in our life. The person, who is satisfied with his /her life, is a successful person. Positive attitudes of employees towards the whole business environment as a result their experiences of work-environment are called job satisfaction. The study was carried out by an aim to study about the job satisfaction of Faculty members in self-financing colleges in Thirupathur District. In this study the researcher has used the multi sampling techniques to collect the relevant data and the sample size is 120 repondents. The study found that the working condition and job security are the two main factors of faculty members having job satisfaction in self-financing colleges and also the salary increment are the least influencing factors of Job satisfaction. The satisfied faculty members are showing good performance in college.

Keywords: Education, Job satisfaction of Faculty members, Working condition, etc.,

I. INTRODUCTION

Education is the key to open door or rapid growth and development of a country. It is responsible for better quality of life of the persons. Education is reflects the pace of development and advancement of the nation. Education is the productive process which drag a person out form darkness, poverty and depression and leads him to understanding, success and happiness to improve his individually in all aspects i.e., physical, mental, emotional and community. The country depends upon the quality of Lecturers, equipment's instructional material, up-to-date library, well developed curriculum etc. So there is need to recognize these factors which influence the Lecturer.

Job satisfaction is a combination of psychological, physiocological and environmental circumstances that cause a person to say that he/she is satisfied with his/her job. Job satisfaction is a general expression of worker's positive attitudes built up towards their Jobs. Workers maintain an attitude towards their jobs as a result of diverse features of their jobs and experiences in their job environment. Job satisfaction is a primary requisite for any successful teaching learning process. Job satisfaction is the favorable or unfavorable subjective feeling with which employees view their work.

II. REVIEW OF LITERATURE

Tahir, Sumbul and Sajid S.M (2014) have analyzed the job satisfaction levels of college teachers of a private management institution in Delhi. It is found out that the job satisfaction levels to be average with a significant difference between job satisfaction of male and female college teachers, through no such difference was found between institutions.

Nirav dave & Dhamesh Raval (2014) have analyzed the job satisfaction factors of faculty members in MBA colleges. The results indicated the factors affecting job satisfaction all the factors divided into two categories, viz., individual and institutional factors include satisfaction from classroom, Faculty Development Program, Performance Appraisal, Physical working condition, Salary and job



BIOSORPTION OF HEAVY METALS FROM TANNERY EFFLUENTS BY USING GREEN UNICELLULAR MICROALGA, *Tetradesmus obliquus* RDRL01

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ABSTRACT

In present study, ecofriendly biological treatment of tannery effluent was performed by using unicellular microalga *Tetradesmus obliquus* strain RDRL01, isolated from Sipcot, Vellore, Tamil Nadu (India). The microalga reduced heavy metals content viz., chromium, cobalt, nickel, cadmium, lead, zinc and copper by 99.1, 98.2, 97.4, 94.3, 98.3, 96.8 and 96.3%, respectively, after 15 days treatment of tannery effluent. Treated effluent had 3.51 g biomass L⁻¹ and treated effluent biomass contained 330.5 mg carbohydrate g⁻¹ and yielded 13.5 mL bioethanol g⁻¹. The functional groups identified by Fourier transform infrared analysis were carboxylic acids, alkyl, hydroxyl, and carbonyl. Purified bioethanol was confirmed by HPLC, and chromatogram peak showed the retention time of 5.35 min. Microalgae *T. obliquus* RDRL01 demonstrated good biosorption efficiency and removed various toxic heavy metal pollutants from tannery effluent.

Keywords: Bioethanol, biosorption, FTIR, heavy metals, HPLC, microalgae, tannery effluent

INTRODUCTION

Water and air are the universal necessities of life, a sacred gift of nature to the human and other living beings of this world. Water is of critical importance and directly related to human health. However, water pollution has become a persistent problem for earth's habitats, especially the terrestrial and marine ecosystems. The tannery, pharmaceutical, petrochemical, clothing, rubber and agrochemical industrial waste are the main pollutants that affect our ecosystem. Improperly treated effluents are directly discharged into the soil and aquatic systems. Amongst the major industrial effluent tannery effluent and tanning industries produce solid waste and effluents including hazardous chemicals and heavy metals (Selvan *et al.*, 2020). The untreated industrial effluents are directly discharged into the rivers (Saranya and Shanthakumar, 2019). The wastewater produced during tanning process is typically discharged without adequate treatment, creating significant environmental consequences in sewerage system as well as cause water contamination (Thamizhiniyan *et al.*, 2009). The toxic heavy metals are the leading cause for the deaths and illness (Shankar *et al.*, 2013). The processing of tannery industries produce skin with dehairing, ammonium salt, sulphate and chlorides during delimiting, and solvent vapours are released in huge quantities during the discharge of unprocessed effluents into water bodies (Aslam *et al.*, 2017).

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Small scale photo bioreactor treatment of tannery wastewater, heavy metal biosorption and CO₂ sequestration using microalga *Chlorella* sp.: a biodegradation approach

A. M. Rajalakshmi¹ · T. Silambarasan^{1,2} · R. Dhandapani¹

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Abstract

Recently, mass production of lipid along with heavy metal reduction is gaining momentum due to their cost-effective and greener approach towards waste water treatment. The purpose of this study is to investigate the small scale photo bioreactor treatment of tannery effluent using *Chlorella* sp. isolated from Yercaud lake, Tamil Nadu, India. The results showed a significant decrease in the heavy metals content in the tannery effluent after the treatment. Maximum reduction of the heavy metal Chromium (Cr) of 10.92 mg L⁻¹ was recorded, followed by Cobalt (Co)-7.37 mg L⁻¹, Nickel (Ni)-9.15 mg L⁻¹, Cadmium (Cd)-8.48 mg L⁻¹, Lead (Pb)-12.54 mg L⁻¹, Zinc (Zn)-11.56 mg L⁻¹ and Copper (Cu)-10.71 mg L⁻¹ at the end of the 20th day of treatment. The microalgae, *Chlorella* sp. was analyzed for their biosorption ability and the maximum biosorption capacity (q_{max}) rate against heavy metals was 81.36, 70.53, 82.15, 63.29, 58.92, 83.43, 64.83 μg L⁻¹ for Cr, Pb, Ni, Cd, Co, Zn, and Cu respectively. It matched with the Langmuir and Freundlich kinetics models. The maximum CO₂ utilization was found to be 60.50% and maximum concentration of lipid, carbohydrate and protein was found to be 0.95 g L⁻¹, 250 μg mL⁻¹ and 160 μg mL⁻¹, respectively. The presence of various groups such as hydroxyl, alkyl, carbonyl and carboxylic acids was confirmed using Fourier transform infrared analysis. Thus, the isolated microalgae showed good biosorption ability towards the various heavy metal pollutants from tannery waste water.

Keywords Microalgae · *Chlorella* sp. · Heavy metals · Biosorption kinetics · Tannery effluent · CO₂ sequestration

Introduction

Water is one of the most crucial natural resources. Owing to the increasing population, urbanization, industrialization and worldwide mobility, the quality of water is deteriorating, leading to an inadequate supply of uncontaminated water, especially in developing countries. Most of the wastewater generated from domestic, agricultural and industrial sources is contaminated with both organic and inorganic pollutants comprising of a variety of heavy metals, plastic based components and high concentration nitrates, sulfates,

phosphates, etc. Such pollutants can disturb the food chain and also endanger lives (Muñoz et al. 2009; Chowdhury et al. 2016; Sousa et al. 2018; Eerkes-Medrano et al. 2019). For this reason, immediate attention needs to be directed towards waste water treatment technologies in order to eliminate pollutants from the contaminated water. All these pollutants cannot be removed with the help of a single technology as the contaminants may vary based on their types, indigenous conditions and concentrations (Wollmann et al. 2019). Additionally, precipitation and coagulation procedures implemented during removal of metals lead to sludge formation imposing supplementary treatment for harmless clearance (Sharma et al. 2017). Several studies reported by various researchers have utilized different forms of microalgae for the treatment of wastewaters for the removal of heavy metals pollutants (Zhao et al. 2015; Yang et al. 2015), CO₂ sequestration (Eloka-Eboka et al. 2017; Khan et al. 2018; Fu et al. 2018), and biomass production (Zhao et al. 2015).

Findings from the earlier studies show that the utilization of microalgae for the treatment of wastewaters is effective.

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**A COMPREHENSIVE REVIEW ON BIONANOTECHNOLOGY FOR THE
21st CENTURY**



Authored by

Dr. J. Thirumagal

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A COMPREHENSIVE REVIEW ON BIONANOTECHNOLOGY FOR THE 21st CENTURY

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Abstract

Inorganic and or organic hybrid nanosystems have been increasingly developed for their versatility and efficacy at overcoming obstacles not readily surmounted by nonhybridized counterparts. Currently, hybrid nanosystems are implemented for gene therapy, drug delivery, and phototherapy in addition to tissue regeneration, vaccines, antibacterial, biomolecule detection, imaging



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Mass Cultivation of Algae *Chlorella Pyrenoidosa*, *Scenedesmus* in Gudiyattam-Pakkam Lake Water and Antioxidant Activity

Dr. J. Thirumagal¹, V. Prabavathy², Prof. S. Karthigai devi³

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INTRODUCTION

Algae are a diverse group of eukaryotic photosynthetic organisms that constitute over 40,000 species. They can be single-celled (unicellular) or multicellular such as seaweed. Microalgae has been described a s natures very own power cells and could provide alternatives to petroleum based fuels without competing with crops. Algae organisms are previously classified as a primitive subkingdom of the plant kingdom, the thallophytes (plants that lack true roots, stems, leaves, and flowers). Algae that thrive in polluted water, some of which are toxic, can over multiply, resulting in an algal bloom and seriously unbalancing their ecosystem (Lee, 2008).

MICROALGAE:

Micro algae are a sunlight-driven cell factories or a single species that convert carbon dioxide to potential biofuels, foods, feeds and high-value bioactives. In addition, these photosynthetic microorganisms are useful in bioremediation applications and as nitrogen fixing biofertilizers. Microalgae like *Chlorella pyrenoidosa* and *Scenedesmus* can generate diverse biofuels, which are mainly: bio methane produced by anaerobic digestion, biohydrogen by photobiological process, bioethanol by fermentation, liquid oil by thermal liquefaction and biodiesel. Even if industrial scale biofuels from microalgae remain at an early stage, they remain a sustainable solution as a transportation fuel (Khan et al., 2009) (Jacob-Lopes & Teixeira Franco, 2010).

Chlorella pyrenoidosa and *Scenedesmus*, other *Chlorella* species and *Chlorella* extracts have been reported to exert a variety of effects, including reducing cholesterol, 19 preventing stress-induced ulcers, 20 enhancing resistance to infection and antineoplastic activity.

Factors Necessary for Algal Growth:

The Conductivity test is the degree to which a water samples can carry an electric current. The magnitude of the conductivity of a sample is a function of the amount of ions present in the sample.

Total Dissolved Solids (TDS) refers to the amount of physical matter dissolved in water is a very important parameter in water analysis. Determination of the "solids" content is important for both aesthetic and practical reasons; Drinking water with high solids content can have an disagreeable palatability. Water with high mineral content and high BOD,COD Values can cause heavy deposition and be unsuitable for many industrial applications.

With concern over global warming of the world and environmental status, new methods for the thorough and efficient capture of CO₂ are being sought out. Untreated sewage can supply additional nutrients to the algal biomass, thus turning two pollutants into valuable commodities. Algae cultivation is under study for uranium/plutonium sequestration and purifying fertilizer runoff (Liang Wang et al., 2009).

Aim and Objectives

1. To collect the lake water from Gudiyattam-pakkam lake.
2. To collect the desired algal species.
3. To analyze the lake water for checking the suitability of growth of algae.
4. To cultivate algal species, *Chlorella pyrenoidosa* and *Scenedesmus* in gudiyattam-pakkam lake water for their mass production by varying their growth factors.

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Mass Cultivation of Algae *Chlorella Pyrenoidosa*, *Scenedesmus* in Gudiyattam-Pakkam Lake Water and Antioxidant Activity

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Harnessing *In Vitro* Antioxidant and Anti-Inflammatory Potential of Standardized Selected Medicinal Herbs

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Abstract

The cold 80% Ethanol Maceration method for 7 continuous days was employed on each 3 selected medicinal herbs, *Boerhavia erecta* L (BE-r) root part, (BE-s) stem part, rhizome, of *Alpinia galangal* (AG-r) and leaves of *Plumeria acuminata* R. Br (PA-l). The standardized methods were followed for various phytochemical analyses of compounds like carbohydrates, proteins, flavonoids, alkaloids, glycosides, phenols, tannins, saponins, triterpenoids, fixed oils and phytosterols. They are designated as follows; *Boerhavia erecta* L (BE-r) root part, (BE-s) stem part, *Alpinia galangal* (AG-r) rhizome part and *Plumeria acuminata* R.Br (PA-l) leaves. The objective of our study is to evaluate the antioxidant and anti-inflammatory activities of above three plants. In this context, the *in vitro* antioxidant activity was done by 2,2-diphenyl-1-picrylhydrazyl, hydroxyl radical and H₂O₂ radical scavenging, ferrous ion chelating, ferric reducing power, total antioxidant capacity and by the protection against peroxidation of β -carotene-linoleic acid in emulsion. The anti-inflammatory activity was evaluated by studying membrane of human red blood cells against different hypotonic concentrations of NaCl and against heat inhibiting the denaturation of albumin. *Boerhavia erecta* L (BE-r) root part, (BE-s) stem part, showed good *in vitro* anti-inflammatory activity by inhibiting the heat induced albumin denaturation and red blood cells membrane stabilization. Our results showed that *Boerhavia erecta* L (BE-r) root part, (BE-s) stem part, has good antioxidant activity and anti-inflammatory properties than the other plants. *Boerhavia erecta* L (BE-r) root part, (BE-s) stem part, can be used to prevent oxidative damage and inflammatory processes.

Keywords: *Boerhavia erecta* L, *Alpinia galangal*, *Plumeria acuminata* R.Br, Antioxidant, Anti-inflammatory activity.


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Original Research Article

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Evaluation of the Antimicrobial and Antioxidant Efficacy of Biogenic Chitosan synthesized from the Prawn Exoskeleton

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ABSTRACT

Keywords

Chitosan,
Antimicrobial,
Antioxidant, Prawn
shell, DPPH Assay

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Chitosan is a polysaccharide biopolymer that combines a unique set of versatile physicochemical and biological characteristics which allow for a wide range of applications. Exoskeleton of prawn was powdered and subjected for sequential treatment process including deproteinization, demineralization and decolorization to obtain chitin in a colorless white powder form. The obtained chitin was subjected for deacetylation to obtain chitosan. The resultant biogenic chitosan was subjected for antibacterial and antifungal activity. Chitosan exhibited significant activity against *Escherichia coli* and *Aspergillus niger*. Free radical scavenging activity of chitosan gradually increased with increase in the concentration of chitosan. Antioxidant activity of prawn shell chitosan was found to be maximized at the concentration of 500 µl/ml.

Introduction

Professor Henri Braconnot, Director of the Botanical Gardens at the Academy of Sciences in Nancy, France was the first to discover chitin in mushrooms in 1811. The English word "chitin" is derived from the French word "chitine," and the Latin word "chitōn," meaning mollusk. Chitin is the second most

abundant natural polymer after cellulose. Chitosan is produced from chitin, which is a natural polysaccharide found in crab, shrimp, lobster, coral, jellyfish, butterfly, ladybug, mushroom and fungi. However, marine crustacean shells are widely used as primary sources for the production of chitosan (Madhavan *et al.*, 1974; Shahidi *et al.*, 2005). The waste from crab and shrimp processing



Review Article

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Biomedical Applications of Chitosan and its Derivatives - A Review

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ABSTRACT

Chitosan is a deacetylated compound of chitin which is a polysaccharide extracted from the shells of crustaceans, molluscs, fungi and other organisms. Chitosan is made up of copolymers containing glucosamine and N acetylglucosamine. They are derived by three methods from chitin viz. deproteination, demineralization and deacetylation. It is a basic polysaccharide and has several advantages such as photoelectric behaviour, ability to form films, metal chelation, optical and structural characteristics. These abilities of chitosan made them a perfect candidate for various applications. Chitosan is used in various fields such as cosmetics, agriculture, food, paper industry and also in fabrics. Besides these, they are widely used in biomedical applications due to its flexibility to be moulded into any shapes and more importantly its non toxic nature. In the field of biomedicine, Chitosan are known for their best anti microbial, anti oxidant, anti cancer and wound healing abilities and it is also used as drug delivery systems for treating several diseases. The present review deals with the biomedical applications of chitosan.

Keywords

Antimicrobial activity, Chitin, Chitosan, Drug targeting, Wound healing

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Introduction

Chitin is the second most extensively spread natural polysaccharides on earth and it is made of β (1 \rightarrow 4) linked 2-acetamido-2-deoxy β -D-Glucose. Though chitin is not produced in

organisms containing cellulose, it is considered as a cellulose derivative since it resembles structure of cellulose with an exceptional acetamide groups at C2 positions (Dutta *et al.*, 2003). The N deacetylation of this chitin at varying extent results in the

TRANSPORTATION PLAYS A VITAL ROLE IN THE DEVELOPMENT OF INDIAN ECONOMY

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ABSTRACT

Transport is the association of humans, animals and goods from one place to another place. In olden days human travel from one place to another place by walk after the invention of wheel the transportation is easy to travel for the purpose of movement from one place to another place for survival, tour, and business. Though wheels are generally used for the purpose of transportation, they are also used to navigate, spin thread, and generate wind and hydroelectric power. In earliest wheels were used as potter's wheels invented in Mesopotamia about 5500 years ago. A single cart wheel was invented by the ancient Greeks. Transportation enables trade between groups which is essential for the development of civilizations¹.

Key words: transportation, transportation system, rail and road ways, air transport.

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1. INTRODUCTION

Transport is defines as a particular movement of an organism or thing from a point to point. The means of transport includes land (rail and road ways), air ways, water, cables, pipeline and space. In initial stage the road transportation involved animals such as horses, donkey and oxen from about 800 BC. The water ways initially were canons cut out from tree trunks and leads to most cities that grew up as trade zone on river beds and sea-shore².

2. ROLES OF TRANSPORTATION & ECONOMY PROSPECTIVE

Transportation plays a vital role in modern world to remove the hindrance of distance and to develop the economy by playing major role in promoting national and global integration. The Supply Chain and Logistic Management help in increasing productivity and enhances competitiveness of the economy.

Simulation of SIR Deterministic Epidemic Model in Infectious Disease Prediction using R Programming

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Abstract— Mathematical models and the statistical models are at present the fundamental elements in planning control and mitigation measures against any future epidemic of an infectious disease. These models allow us to decide from current information about the state and progress of an outbreak, to predict the future, and, most importantly, to quantify the uncertainty in these predictions. In this research paper, we consider a deterministic Susceptible-Infected-Recovered (SIR) epidemic model to disclose a simulation method, and a mathematical model was implemented in the R software environment that allows simulating the spread of infectious disease. Through the aid of the SIR model, data on a wide range of infectious diseases have been analyzed. SIR stands for Susceptible, Infected, and Recovered and indicates the three possible states of the members of the population affected by a contagious disease. SIR model is one of the most effective models which can predict the spreading rate of the virus. We have validated the SIR model with the current spreading rate. The findings of the SIR model can be used to forecast transmission and avoid the disease outbreak. The graphical interface shown in this paper is performed using the R software version 3.4.4.

Keywords— Epidemiology, R Programming, Deterministic SIR

INTRODUCTION

Epidemic infectious diseases may be considered as the effect of disasters of another type such as tropical cyclones, floods, earthquakes, and droughts [1]. Infectious diseases are caused by pathogenic microorganisms such as bacteria, viruses, parasites, or fungi [5]. The diseases can be spread directly or indirectly from one person to another. Microorganisms capable of causing disease or pathogens usually enter our human bodies through the eyes, mouth, nose, or urogenital openings or through wounds, bites that breach the skin barrier [7]. Therefore, the threat of emerging and re-emerging infectious diseases to global population health

DISPLACEMENT AND AUTOBIOGRAPHY: *THE ENIGMA OF ARRIVAL*

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ABSTRACT

V. S. Naipaul's *The Enigma of Arrival* has been read as a national allegory or English postcolonial literature. Supported the twin models, critics are susceptible to get trapped in identity politics, unable to interrupt far away from the postcolonial interpretive framework. During this essay, I revisit the problem of identity from a transnational perspective in hopes of capturing the complexity and significance that Naipaul invests in his representation of identity during this novel. Specifically, I argue that *Enigma* mobilizes identity not such a lot as a fixated category but as a radically revisionary act of knowing the self. The attitude oscillation between the narrating 'I' and therefore the experiencing 'I' enables readers' access into the narrator's emotional responses to his uneven development, whereby he involves a fruitful understanding of human identity. Moreover, Naipaul's deconstruction of uniqueness executes a review of his own structure and thereby illuminates the great implication of recognizing the self's foreignness to himself in enlightening cultural organization during a multicultural society.

Keywords *The Enigma of Arrival*, identity, difference, ethics, transnational fiction.

The Enigma of Arrival (1987), an autobiographical novel that Naipaul wrote in rural England after almost forty years following his migration in 1950 from Trinidad to the UK. During this novel, Naipaul seeks for a replacement conception of the self by tracing the protagonist's emotional responses to his transnational experience over the four decades. Within a bigger spatio-temporal horizon, Naipaul's critical reflection on his self-formation also because the English identity in crisis remains relevant to and may shed light on today's conflict-ridden human relationships across races and regions, of which the 7 July 2005 London bombings are but a symbol. Read in light of Paul Gilroy's pedagogical perspective within the epigraph—"teaching people the way to be uncomfortable with their identities" (9)—*Enigma* is a site of identity formation and deformation where readers are often taught to reevaluate the trope of difference as an often-neglected and yet socially valuable dimension of the self during a multicultural context.

Enigma—subtitled "a novel in five sections"—tells the story of an unnamed narrator's growth as a writer from Trinidad (then a British colony) in first-person retrospective point of view. It is further divided into two parts. Three sections—"Jack's Garden," "Ivy," and "Rooks"—concern the narrator's new life during a village cottage on Walden Shaw estate within the Wiltshire valley and his intimate encounters with the local inhabitants. Intersecting with the three segments, two remaining sections—"The Journey" and "The Ceremony of Farewell"—look back at the narrator's physical and literary journey, which together with his departure from Trinidad in 1950 and ends with his return to his hometown to attend his sister's funeral, tracing the method of self-formation as a writer and a person. While the primary part constitutes a fictional story set in pastoral England, the second bends toward autobiography that records the writer's career trajectory and global movement across South Asia, Central African Republic, America, and Europe.

Thematically speaking, the novel in a few colonial writers' inquiry into the enigma of human identity during the rapidly changing time of transcontinental migration. The central theme of identity has been well established by variety of *Enigma*'s readers, though different in their critical orientation.

The Enigma of Arrival may be a meditative narrative of the discoveries and changing perceptions of its author as he lives for ten years at a cottage in rural Wiltshire, in England. Learning to ascertain the countryside and its seasonal alterations, and discovering aspects of himself within the people he meets, the author finds himself feeling a harmony with place that contrasts sharply with the dislocation and estrangement that have marked most of his previous life, both as a toddler in Trinidad and as a student and eventually a successful writer in England. For the primary time, he's ready to accept the realities of change

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Assistant Professor Department of English KMG College of Arts & Science
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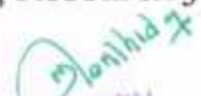
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Editor

வட்டார நாவல்களின் வளர்ச்சியும் ராஜம் கிருஷ்ணன் முன்னெடுத்த புதுமைகளும்

வெ. வளர்மதி

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இசைப்பியல் அலுவலர், வானியல்பாட.

ஆய்வுக்கருக்கம்

நாவல் இலக்கியங்களில் தனித்துவம் பெற்ற வட்டார நாவல் இலக்கிய முன்னோடிகளில் ஒருவர் ராஜம் கிருஷ்ணன். நாவல் இலக்கிய படைப்புகளை கலாசூயை அணுகுமுறையிலாடு அணுகி தமீழ்வாய் படைப்புகளைத் தந்தவர் ஆவியார். வெவ்வேறுபட்ட வட்டாரங்களில் வாழும் மனிதர்களை நேரடியாக கண்டு, அவர்களோடு தங்கி, அவர்கள் வாழ்வியலை இலக்கியமாக வடித்து புதுமை செய்த ராஜம் கிருஷ்ணனின் இலக்கியப் பணியை அறிமுகம் செய்கிற இவ்வகட்டுரை.

கலைச்சொற்கள்

- வளம் கிழங்குரை
- வட்டார நாவல்
- வட்டார
- பரதவர்
- வட்டாரத் தொழிலாளர்
- விவசாயத் தொழிலாளர்

முன்னுரை

நாவல் இலக்கிய வளர்ச்சியில் தனிச் சிறப்பும் புதுமையும் தரும்படியும் வேண்டிய வட்டார நாவல்கள் ஆன வட்டார நாவல்களின் தோற்றத்திற்கும் பிறகு பல இலக்குமிகளின் உருக்கலை முறையாக, வரலாறுகள், பண்பாடு, உருவியல் சிக்கலை இலக்கிய வடிவம் பெற்ற நாவல்கள் வட்டார நாவல்கள் பெரும்பாலும் அந்த வட்டாரத்தை நேர்நேர நாவல்களின் அல்லது அன்வட்டாரம் பற்றித் தங்கு அறிந்த ஆசிரியர் நாவல்களை இயற்றினர். ஒத்த வட்டார

நாவல்களின் ஒன்றுக்கும் மேற்பட்ட வட்டாரம் சார்ந்த நாவல்களை எழுதுவது என்பது அரித்திரம் ஆகிய அவர்களும் தாம் அறிந்த வட்டார வாழ்வியலை அடிப்படையாகக் கொண்டே கற்பனைப்பாசனக் கதைகளை நாவலாகப் படைத்தனர். ஆனால் இத்தகைய நாவல்களின் கதைகள் இருந்து முற்றிலும் வேறுபட்டவர் ராஜம் கிருஷ்ணன். வட்டார நாவல்களின் கதைகளில் கோடுகொடுக்க ஆன் படைப்பாளர்களுக்கு இடமாயாக, தம் படைப்புகளின் வழியே புதிய முயற்சிகளை முன்னெடுத்த ராஜம் கிருஷ்ணனின் இலக்கிய ஆளுமையை விளக்கி எழுதின இவ்வகட்டுரையில் கோடுகொடுக்க.

நாவல் இலக்கியம்

ஐரோப்பிய நாடுகளில் 14, 15-ம் நூற்றாண்டுகளில் உயர்நடை அளவியல் ஏற்பாட்டையாதக் கதைகள் பதிதாக்கத் தோற்றம் பெறத் தொடங்கிய அதனைத் தொடர்ந்து 16, 17-ம் நூற்றாண்டுகளில் திகழ்ந்த கதையல், கதை, தொடர்ந்து 18-ம் நூற்றாண்டில், அக்க இயற்றி ராஜம் கிருஷ்ணன் தமது நாவல் இலக்கிய வடிவமான நாவல் இலக்கியத்தில் தோற்றத்திற்கான தூண்டல் உண்டாக்கிய நாவல் என்ற சொல்லாட்சி NOVELLA என்ற இத்தாலிய சொல்லிலிருந்து தோன்றியது. நாவல் என்ற ஆசிரியர்களால் உருவம் பெற்றவையும் உருவாக தமீயில் தொடர்மையாக்கப்பட்டு பின்பு புதுமை என்றும் பெரும் உருவத்துடன் பதிதாக்க ஆற்றப்பட்டது.

தமிழ்தாய்மொழி பேசுபவர்களுக்கு வேண்டிய வடிவமாகப் பி.சி.சி. புனைந்த இலக்கிய வடிவம்

பதிதாக்கியுள்ளவை வெவ்வேறு நாள்களில் அச்சியுள்ளன. இவற்றின் பற்றி 01 0000 - 1999-2001-0001
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சுற்றுச்சூழல் தடுக்கி காவல்கள் வளரும் புதுமை எழுதும்படியும், இவ்வகட்டுரை எழுதும்படியும் 0000-0000
பதிதாக்கியுள்ளவை வெவ்வேறு நாள்களில் அச்சியுள்ளன. இவற்றின் பற்றி 01 0000 - 1999-2001-0001

தோற்றம் துவங்கிய 1876-ம் ஆண்டு பாயிரம் வேறுபாடாகப் பிள்ளை அங்கலாறு எழுதப்பட்ட பிரதம முறையார் சரித்திரம், சில ஆண்டுகள் கழித்து ராஜம் அய்யர் அவர்களால் எழுதப்பட்ட கவலையாள் சரித்திரம், அ மாதவையா அவர்கள் எழுதிய பதமாவதி சரித்திரம் ஆகியவை தமிழின் மூலம் மூன்று நாவல்களைத் திகழ்கின்றன. நாவல்கள் தோற்றம் பெற்ற காலத்தில் அவை கற்பனை கலந்த புனைந்தவையாக இருப்பே இருந்தன. வேறு எந்த வகையம் அவற்றில் காணப்படவில்லை. காவல் வெவ்வேறு நாவல் இலக்கியத்திலேயே துவங்கிய நாவல், கதை நாவல், வரலாற்று நாவல், மொழியியல் நாவல், நகுமல் நாவல், வட்டார நாவல் என்ற படைப்பைப் பரப்பி நிற்கும் ஆற்றல் உடையதாக வளர்ந்துள்ளது.

வட்டார நாவல்

தமிழ் நாவல் இலக்கிய வளர்ச்சியில் 1950-களிலும் பிறகு பெரும் தாக்கத்தை ஏற்படுத்தியவை வட்டார நாவல்கள். கதை அளவியல் அங்கலாறு ஏற்பட்ட பொருள்மறை, பண்பாட்டு மாற்றங்களும், சாதாரண மக்களின் வாழ்வியல் குறித்தான சிந்தனையும் வட்டார நாவல்களின் தோற்றத்திற்கு, விந்ந்தன.

“ஒரு நாடு அரசியல் முறையில் ஒன்றுபட்டதாக இருந்தாலும் பழக்க வழக்கங்கள், வாழ்க்கை முறைகள், நாட்டுப்புற போக்குகள் என்பவை பன்னாட்டுப்படைவை யாகவே இருக்கின்றன. இதனால் வட்டார இலக்கியங்கள் தோன்ற வழி பிடுக்கின்றது” என்ற வட்டார இலக்கியத்தில் தோற்றத்தைச் சுட்டுவார் சி. கணகப்பாதி.

கதை நாவலில் உட்பிளவல் வட்டார இலக்கியம் அது வட்டாரத்தை சார்ந்த மக்களின் பண்புகளையும் பழக்க வழக்கங்களையும், பிரச்சினைகளையும், அங்கலாறுகளை உரிய மொழிமையில் வழி உணர்ந்தவாறு வட்டார நாவல்களில் தனிச் சிறப்பு மையம்.

“நட்பு பவெல் பநி கையயம்” இ. அமலாதிபும் ஒவ்வொரு வட்டாரத்திற்கும் சில அடிப்படையான பொருள்மறைச் சுவைப் பிரச்சினைகளை ஏற்படுத்தி விடுகின்றன. இப்பிரச்சினைகள் அவர்களுக்குக் கொண்டு இயற்களை உருவாக்கி விடுகின்றன. அதனால் அவ்வட்டாரத்திற்கே உரிய குறிப்பிடத்தக்க பிரச்சினைகள் அவர்கள் வாழ்க்கையில் காடுகுவி அந்தந்த வட்டாரத்திற்கென்று சில பழக்க வழக்கங்களையும், போக்க வழக்குகளையும் உண்டாக்கி விடுகின்றன. இவ்வகையாக சிறப்பியல் புகளையும் பழக்க வழக்கங்களையும் கொண்டிருக்கும் புனையப் பெறுமையே வட்டார நாவல்கள்” என்ற இரா தன்மாவும் அவர்களின் கருத்தும்.

“ஒவ்வொரு கதைத்தினுள் மூலம் பல்வேறு இடைக் குறுக்கை அடங்கியுள்ளன. இந்த இடைக் குறுக்களில் மக்களும் மக்களின் அவ்வது தனிமனிதனின் பிரச்சினைகளை அவர்களின் மாறுபட்ட வாழ்க்கை முறைகளோடு அந்த கற்பனைகளின் நி யதார்த்தமாக அவர்கள் வாழும் பகுதிகளில் அழகுமையோடு வெளிப்படுத்தும் எழுத்து வட்டார இலக்கியம் ஆகும்” என்றும் விஜயலக்ஷி இராஜாராம் அவர்களின் கருத்தும் வட்டார நாவல் எது என்பதை வரையறை செய்வதாக அமைந்துள்ளது குறிப்பிட. இது இடைக்குறு அல்லது தனிமனிதனின் வாழ்வியல் பண்பாட்டு மாற்றங்களையே, பிரச்சினைகளையோ அவர்கள் வாழும் இடம் பிள்ளை சார்ந்து இயற்றப்படுவதே வட்டார இலக்கியம் என்பது இடைக் வழி ஆதாரம் பெறுகிறது.

தமிழில் வட்டார நாவல்களும் வகைமையாலும் தமிழ் நாவல்களின் தொடக்க காலமல்ல வட்டாரக் கருவியை இடம்பெறும் பொருள்மறைகளில் குறிப்பிடத்தக்கவாறு இராஜம் ஐயர், மாதவையா ஆசிரியாரால் இயற்றும் நாவல்களில் தாம்

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ராஜ் கௌதமனின் 'சிவ்வைராஜ் சரித்திரம்' குறிப்பிடும் கல்விச் சூழலும் சமூக நெறியும்

முனைவர் இரா. சிவகுமார்

நெறியாளர் & உதவிப் பேராசிரியர், முதலமைச்சர் தயாராய்வுத்துறை முத்தூரங்கம் அரசினர் கலைக் கல்லூரி (த), வேலூர், தமிழ்நாடு, இந்தியா.

வெ. இரமேஷ்

முனைவர் பட்ட ஆய்வாளர், (ப.தே), முதலமைச்சர் தயாராய்வுத்துறை முத்தூரங்கம் அரசினர் கலைக் கல்லூரி (த), வேலூர், தமிழ்நாடு, இந்தியா.

ராஜ் கௌதமன் பூங்கோட்டி மாவட்டத்தில் தமிழ் பேராசிரியராகப் பணியாற்றியவர். தனித்திய நோக்கில் ஆய்வு நூல்களைப் படைத்த பெருமான் குறியாவர். சங்க இலக்கியம் குறித்த இவரது 'நலித் நோக்கில் சங்க இலக்கியம்' அரும் அறிவாரம், சங்க இலக்கியம் : அறமும் ஆற்றலும் முதலான நூல்கள் தமிழ் ஆய்வுப் பரம்பரையில் குறிப்பிடத்தக்க வெளிச்சத்தைப் பரப்பியவை ஆகும். ராஜ் கௌதமன் தனித்தனியாக மிக்க படைப்பாளியாகவும் அறிப்பப்படுகிறார். தனது வாழ்வியல் அனுபவத்தைக் கொண்டு அவர் படைத்தனில்த தன்வரலாற்றுப் புதினங்கள், தமிழியல் ஆய்வு உலகில் கவனம் பெற்ற படைப்புகள் ஆகும். 'சிவ்வைராஜ் சரித்திரம்', காலக்கமை, வணக்கம் சிவ்வைராஜ் ஆசிரிய மூன்று புதினங்களும் கவையான தன்வரலாற்றுப் பதிவுகள் ஆகும். ராஜ் கௌதமன் வத்திராயிரப்ப பிற்காலவைச் சேர்ந்த புகழ்ப்பட்டியின் ரோமன் சுத்தோலிக்கத் தொருவில் பிறந்தவர். அவருடைய தொக்கக் கல்வி அவரது ஊரிலேயே கிழித்தவக் கன்னகாலத்திரிகள் நடத்திய பள்ளியைச் சார்ந்து அடையத்தது எழுத்தாளரின் இவையநூல் கல்வி குறித்த பதிவுகளைச் சமூக நோக்கில் பகுத்தாராய்விற்று இக்கட்டுரை.

கலைச்சொற்கள் :
பேனிக் ஸ்கூல் - தொடக்கப்பள்ளி, கிளாஸ் - வகுப்பு, டிசிப்பிளின் - ஒழுக்கம், ஜாலந்தி - அறிவும்,

ஸ்தாயி - சத்தம், சாயத்திரம் - மானம், பட்டம் - பரமோசன் - இரண்டுகூடப் பள்ளி அமைத்திருந்தது "அமலோற்பவமாதா கான்கென்ட்" என்ற பெயருடைய அப்பள்ளி, அப்பகுதி மக்களால், 'தாயார் மடம்' என்றே அழைக்கப்பட்டிருக்கிறது அருட்சகோதரிகளை, அம்மாம்கமார் என்று வழங்கும் வழக்கமும் அம்மக்கவிடம் இருந்தமையைய ராஜ் கௌதமன் தனது சிவ்வைராஜ் சரித்திரம் தன்வரலாற்றுப் புதினத்தில் பதிவு செய்கிறார்.

தாயார் மடம் என்னும் பள்ளி

ராஜ் கௌதமனின் சொந்த ஊரில் இருந்த ஜெனாலயத்திற்கு அருகிலேயே அருட்சகோதரிகள் நடத்தும் தொடக்கப்பள்ளி அமைத்திருந்தது "அமலோற்பவமாதா கான்கென்ட்" என்ற பெயருடைய அப்பள்ளி, அப்பகுதி மக்களால், 'தாயார் மடம்' என்றே அழைக்கப்பட்டிருக்கிறது அருட்சகோதரிகளை, அம்மாம்கமார் என்று வழங்கும் வழக்கமும் அம்மக்கவிடம் இருந்தமையைய ராஜ் கௌதமன் தனது சிவ்வைராஜ் சரித்திரம் தன்வரலாற்றுப் புதினத்தில் பதிவு செய்கிறார்.

பிறந்த தேதி பதிவு செய்யும் முறைமை

மருத்துவமனைப் பிறப்பு, பிறப்புச் சான்று, பெறப்பதிவுச் சான்று என எதுவும் வழக்கில் இல்லாத 1950களில் காலப்பகுதியில் பிறந்தவர் ராஜ் கௌதமன் அவர் பிறந்த வரும் அவருடைய அம்மைய்க்கும் உறுதியாகத் தெரியாத காரணத்தால், அவருடைய சான்றிதழில் பெயரைப் பதிவு செய்தவர்கள் குத்தூரங்கம் பதிவு செய்பவர்கள் என்பதும், தனது உண்மையான பிறந்த தள்ளையைப் பிற்காலத்திலேயே சிவ்வைராஜ் அறிந்து கொள்கிறான். அதிலும் சிவ்வை பிறந்த மட்டாம் தாளில் ஞானஸ்தானம் கொடுக்கப்பட்டதாகக்

குறிப்பிட்ட சாமிபர் பங்களை ஆவணத்திலிருந்து இச்சொழிவை அடை பெறுகிறார்.

பெண்கள் பள்ளியில் ஆண்கள் படிக்கும் வழமை

ஐந்தாம் வகுப்புவரை பெண்கள் மட்டுமே படிக்கும் அப்பள்ளியில் சிவ்வைராஜ் அனுமதிக்கப்பட்டதைப் புரினம் குறிப்பிடுகிறது சிவ்வையையப் போன்ற ஒன்றிரண்டு சிறுவர்கள் விதிவிலக்காகச் சேர்த்துக்கொள்ளப்பட்டனர் என்பது புலனாகிறது அருட்சகோதரிகளும் பெண்களும் படிக்கும் பள்ளி இருக்கும் பெண்கள் பள்ளியில் சிவ்வைராஜைப் போன்ற சிறுவர்கள் சேர்க்கப்படுவதற்கான வித்திரயான காரணத்தைப் புரினம் எடுத்துரைக்கிறது இக்காரணத்தைப் படி மொழியில் பின்வருமாறு சித்தரிக்கிறார் ராஜ் கௌதமன்.

'சிவ்வை தாயார் மடத்தில் சேர்ந்த போதே, அந்த ஊர்ப் பள்ளிச் சாமிபரின் தீர்வாகத்தில் 'திரிங்காவ சீனியர் பேனிக் ஸ்கூல்' இருக்கத்தான் செய்தது எட்டாம்வாலைவரை அதில் பையன்களும் பெண்களும் படித்து வந்தார்கள். இருந்தாலும் அவரைத் தாயார் மடத்தில்தான் சேர்க்க வேண்டும் என்று அவனுடைய தகப்பனார் ரொம்பப் பிடிவாதமாக இருந்தாராம். தாயார் மடத்தில்தான் 'டிசிப்பிளின்' ஜாலந்தி என்பது அவரது பிடிவாதத்திற்கு முக்கிய காரணம். படிப்பைவிட அந்த 'டிசிப்பிளின்' ரொம்ப முக்கியமாக, டிசிப்பிளின் என்றால் என்ன, அது எப்படியெல்லாம் முதுகுத்தோலை உரிக்கும் என்பது சிவ்வைக்குப் போகப் போகப் புரிந்தது தாயார் மடத்தில் பெண் குழந்தைகள் மட்டும் சேர்ந்து படிக்க வேண்டும் என்பது போதுவிரிதி. ஆனாலும், சிவ்வையையப் போல ஒன்றிரண்டு பையன்கள் டிசிப்பிளின்க்காக அங்கே விதிவிலக்காக அனுமதிக்கப்பட்டிருந்தார்கள்' (ராஜ் கௌதமன்;2018:02)

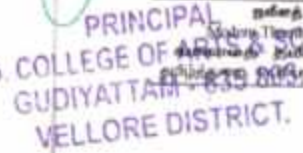
அக்காலகட்டத்தில் ஒருக்கவியல் என்பது கருமையான தண்டனைகளில் வழியாகப் பெறப்படுவது என்ற கருத்துருவம் பொதுநிலைச் சமூகத்தில் இடம்பெற்றிருந்தமையை ராஜ் கௌதமனின் எழுத்துக்கள் தெளிவாக எடுத்துக்காட்டுகின்றன.

மாணவர்களின் திறனுக்கு வாய்ப்பளித்தல்

கல்வி மட்டுமல்லாது ஏனைய திறனுடைய மாணவர்களை அடையாளம் கண்டு அவர்களுக்கு திறனுக்கு மதிப்பளிப்பதோடு, அவர்களை ஊக்கப்படுத்தும் உற்சாகப்படுத்தும் அடையடி அக்காலகட்டத்தில் பள்ளிகளில் இருந்தது எனப் புரினம் எடுத்துரைக்கிறது சிவ்வைப் பாடல்களைப் பாரும் திறனுடைய சிவ்வைராஜின் இரண்டாம் வகுப்பு ஆசிரியை அவளை உற்சாகப்படுத்திய விதத்தை புதின ஆசிரியர் பின்வருமாறு பதிவு செய்கிறார்.

'இரண்டாம் கிளாஸ் படிக்கும் போதே சிவ்வைக்குச் சிவ்வையாட்டெல்லாம் பாடவரும் இந்த விசயத்தில் செபத்தியாய் மாணதாம் அவனுக்குக் குரு அவர் ரொம்ப நல்லா பாடுவார். அவரிடம் அவன் தெரிந்துகொண்ட சிவ்வையப் பாட்டுகளில் ஒன்று அவனுக்கு மடத்தில் பேர் வாங்கிக் கொடுத்தது 'அந்தப் பாடப்படி சிவ்வை' என்று மச்சர் சொல்ல வேண்டியதுதான். உடனே உச்ச ஸ்தாயியில் கருத்து நாய்புகள் விட்டிப் புடைக்கமாறு சத்தம் போட்டுப் பாடுவான். பாடி முடிந்ததும் தன்முடைய பரூட்டுதக்கவைய மச்சர் முதலக்களாக அவனுடைய கன்னங்களில் தருவார். சிவ்வையங்களில் சாயத்திரம் ஸ்கூல்க்குப் போகும்போது அவனுக்கு மிட்டாய்க்கடத் தருவார்கள். ஒண்ணாங்கவிசைகிழிந்தே சிவ்வை ரொம்ப நல்லா படிப்பதாக மச்சர் அம்மையிடம் சொல்லுவார்களாம்.

(ராஜ் கௌதமன்;2018:05)
சிறுவர் சிறுமியர்களின் கலைத்திறமையும் பிற திறன்களையும் ஆசிரியர்கள் வகுப்பறைக்கு



பெரியார் பல்கலைக்கழக உறுப்புக கலை மற்றும் அறிவியல கலவையு

பாப்பிரெட்டிப்பட்டி - 636905. தருமபுரி மாவட்டம்.



தமிழ்த்துறை மற்றும் ராஜா பப்ளிகேசன்ஸ்

திருச்சிராப்பள்ளி (நவீனத் தமிழாய்வு UGC CARE LIST) இணைந்து நடத்தும்

ஒருநாள் இணையவழித் தேசியக் கருத்தாங்கம்

“சமகாலத் தமிழ் இலக்கியப் படைப்புகள்”

கேள்வித்தாள்



முனைவர் / திரு / திருமதி / செல்வி ஷா. கிரகமஜ், கண்ணவர் பட்ட, சுய்வானார், தமிழ்த்துறை,
இலக்கியம், அரசினர் கலைக் கல்வி (ரண்டி) கேள்வி

அவர்கள் 05.10.2020-ல் “சமகாலத் தமிழ் இலக்கியப் படைப்புகள்” என்னும் பொருண்மையில் நடைபெற்ற
ஒருநாள் தேசியக் கருத்தாங்கில் ராஜா பப்ளிகேசன்ஸ் (பி.ஆர்.ஆர்.சி.) சுய்வானார் கேள்வி
என்ற தலைப்பில் கட்டுரையாளராக / சிறப்புரையாளராக / பங்கேற்பாளராக கலந்து கொண்டு சிறப்பித்தார்
எனச் சான்றளிக்கப்படுகிறது.

செந்தில்குமார்

முனைவர் பொ. செந்தில்குமார்
ஒருங்கிணைப்பாளர்
மற்றும் தமிழ் துறைத்தலைவர்

செந்தில்குமார்

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செந்தில்குமார்
முனைவர் பங்கேற்குபேயன்
முதல்வர்

தனிமலையிய முத்தாரத்தை நீக்கினர். அப்பெண்டிரறு பலவகிய கவிய கருதலைக் கொண்டு திடுக்கிட்ட கவிஞரின் பாலனைகளை வளர்ச்சியில் பூட்டினால் கூடப் பிறக்கோடிய செங்குட்டுவன்.

"வால் இறை கறிந்த நறும் பல் பெண்டர் பல் கிரகம் கந்தல் முற்றியால் குஞ்சு ஒழுமை பூட்டி, வெத்திரம்" பதிற்று - 5ம் பத்து (15- 17)

முடிவுரை:

பெண்மையைப் போற்றிடும் பன்மைய மரபினை மாற்றிடும் சக்தி மன்னியில் இலக்கை காரணம் என வல்லும் பூமித்தாய் மனிதத்தைத் தாங்கிடும் விபத்தகு ஆற்றலை அறிபாதாப் பிரப்பதின்மை பிரப்பினைத் தந்திரம் சிரப்பினைக் கொண்டு மகனியைப் போற்றிடும் இலக்கியம் படைப்பு பரிந்துப்பத்தில் போற்றப்பட்ட மகனி சூழிப்பன் மட்டும் இலக்கினரை வரிப் படைத்தது.



குமுத்தை இலக்கியத்திற்கு கவிமணியின் பங்களிப்பு

பேரா. முனைவர் ஐா. ஜெயக்குமார்

உதவிப்பேராதிபர் & தலைவர்,

தமிழ்த்துறை, கே.எம்.ஜி. கலை மற்றும் அறிவியல் கல்லூரி, குடியத்தம்.

ஆய்வுக்கருக்கம்

புதுக்கவிதையின் தொற்றத்திற்கு பாரதிபார் தனது மேலான பங்களிப்பை நல்கியதைப் போல, குமுத்தை இலக்கிய வளர்ச்சிக்கு தன்னுடைய பங்களிப்பை நல்கியவர் கவிமணி குமுத்தைகள் பற்றி எழுபதே குமுத்தை இலக்கியமானது குமுத்தைகள் படிப்பதற்கு ஏற்ற படைப்பதே குமுத்தை இலக்கியமாகும். இவ்விலக்கியம் படைப்பதற்கு பொறுமை, பொறுப்பு, புலமை முதலானவை இன்றியமையாதது. இத்தகைய பண்புகளை ஒழுங்கே பெற்று குமுத்தை இலக்கியத்தை வளர்த்தெடுத்த கவிமணியின் பங்களிப்பை உட்குகாட்டுவதே இவ்வாய்வுக் கட்டுரை.

கலைச்சொற்கள்

- கவிமணி கவிதைகள்
- குமுத்தை இலக்கியம்
- கதைகள்
- நன்னெறி
- தலைப்பு

முன்னுரை

தமிழ் இலக்கியம் படிப்பு என்பது ஆம் போல் தலைநீறாவி பல விழுந்தலைப் பாட்டி கிற்கும் ஒரு பெருமறமாதும் மனைய இலக்கிய வடிவத்தைப் கொண்ட குமுத்தை இலக்கியமும் தமிழில் தமிழ்நாட்டு சிறப்பாகவும் இலக்கிய வடிவமாகவும் திரைப்படங்கள் சிந்தனைகளை மீறிகள், நாளும் வளியும் முன்னுடைய மனதில் விதைக்கும் தொடக்கம்; சி தொ. நான் மலிந்து, குமுத்தைகளை பிறர் நு நறையில் கிட்டிள்

மெல்லும் இக்காலத்தில் குமுத்தை இலக்கியத்தில் தேவை அறிமுகமாகி உள்ளது. ஒளவையார் தொடங்கி தற்காலத்தில் பலநூறு கவிஞர்கள் குமுத்தை இலக்கியம் பாடிபுள்ள போதிலும் 'குமுத்தை இலக்கியத்தின் முன்னோடி' என்று கருதப்படும் கவிமணி அவர்களின் குமுத்தை இலக்கியப் பணியை விவரிக்கின்றது இவ்வாய்வு கட்டுரை.

குமுத்தை இலக்கியம்

'குமுத்தைப் பாடல்கள் உலகமெங்கும் கிடுக்கின்றன. வேறு உயர்ந்த இலக்கியம் இல்லாத பெரிதானதும் எழுத்து வடிவமே கானாத பெரிதானதும் குமுத்தைப் பாடல்கள் உலகு' என்பது எனவே இலக்கிய இலக்கிய வளம் கிடுக்கித் தமிழ்மொழியில் 'குமுத்தை இலக்கியம்' என்ற தனித்தொரு வகையையே இருப்பது விடையன்று.

'மனித வாழ்க்கைக்குப் பயன்படும் அன்பிவார இலக்கியம் என்று குமுத்தை இலக்கியத்தைப் பாலிக்க வேண்டும்' என்ற திரு நன்னெறியின் கருத்து பல்வேறு இலக்கிய வகைக்கும் முற்பட்டதாக குமுத்தை இலக்கியம் தொடர்ந்திருக்க கட்டும் என்றும் சிந்தனையைத் தருகிறது. இதன்படி குமுத்தை இலக்கியத்தின் தொடக்கமைய அறிபாலும்.

'சிறுவர் பற்றிய - சிறுவர்க்குரிய கிரகங்கள் ஒன்றிவந்த மின்னலை இலக்கியம்' என்று குமுத்தை இலக்கியத்தை வளர்ப்பதை பெய்திரும்.

'ஒரு குமுத்தை தன் முதல் காதல் ஆண்டுகளில் தற்காலத்தைப் பிழ்க்கால் யாழ்வில் ஒருபோதும் கற்பது இல்லை.



தமிழ்நாட்டு மொழி அறிவியல் துறை அமைச்சுக்குட்பட்ட கவிமணி - முனைவர் சீமந்தன் (2021-22-23) Modern Tamil Research (A Quarterly International Multidisciplinary Journal) Volume 31, November 01, 2023 - Special Issue (ISSN - 2021-1560) கவிமணி குமுத்தை இலக்கியம் வளர்ச்சிக்கு தன்னுடைய பங்களிப்பை நல்கியவர் பற்றி எழுபதே குமுத்தை இலக்கியமானது குமுத்தைகள் படிப்பதற்கு ஏற்ற படைப்பதே குமுத்தை இலக்கியமாகும். இவ்விலக்கியம் படைப்பதற்கு பொறுமை, பொறுப்பு, புலமை முதலானவை இன்றியமையாதது. இத்தகைய பண்புகளை ஒழுங்கே பெற்று குமுத்தை இலக்கியத்தை வளர்த்தெடுத்த கவிமணியின் பங்களிப்பை உட்குகாட்டுவதே இவ்வாய்வுக் கட்டுரை.

தமிழ்நாட்டு மொழி அறிவியல் துறை அமைச்சுக்குட்பட்ட கவிமணி - முனைவர் சீமந்தன் (2021-22-23) Modern Tamil Research (A Quarterly International Multidisciplinary Journal) Volume 31, November 01, 2023 - Special Issue (ISSN - 2021-1560) கவிமணி குமுத்தை இலக்கியம் வளர்ச்சிக்கு தன்னுடைய பங்களிப்பை நல்கியவர் பற்றி எழுபதே குமுத்தை இலக்கியமானது குமுத்தைகள் படிப்பதற்கு ஏற்ற படைப்பதே குமுத்தை இலக்கியமாகும். இவ்விலக்கியம் படைப்பதற்கு பொறுமை, பொறுப்பு, புலமை முதலானவை இன்றியமையாதது. இத்தகைய பண்புகளை ஒழுங்கே பெற்று குமுத்தை இலக்கியத்தை வளர்த்தெடுத்த கவிமணியின் பங்களிப்பை உட்குகாட்டுவதே இவ்வாய்வுக் கட்டுரை.

சென்னை மாநகரம் நகராட்சியில் விவசாயத் தொழிலாளர்களின் பெரியப் வாழ்விடம்

பெருமை (பென்), நகராட்சியார், நகராட்சியாட்சியகம், சென்னை

ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...

மாநகர ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...

மாநகர ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...

மாநகர ஆய்வுக் கட்டுரை
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மாநகர ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...

மாநகர ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...

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மாநகர ஆய்வுக் கட்டுரை...

மாநகர ஆய்வுக் கட்டுரை
மாநகர ஆய்வுக் கட்டுரை...



ஆன்மீக வளர்ச்சியில் வாரியாரின் மேடைத்தமிழ் பங்களிப்பு
Variyar's Tamil Oratory Contribution to Spiritual Development

ரா.சேபாசாஜி, உதவிப் பேராசிரியர், தமிழ்த்துறை, கே.எம்.ஜி.கலை மற்றும் அறிவியல் கல்லூரி, குடியத்தம்
R.S. Balaji, Assistant Professor, Department of Tamil, K.M.U. College of Arts & Science, Gudiyattam
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DOI: 10.38007/ijlls.2021.spl.v03i03v2.050

Abstract

The Variyar Swamikal has contributed for the Saiva sect spiritual development. His preaching attracted huge audience and became a revival movement of the 20th century. As the devotional movement for spiritual revival, it appeared to revitalize the souls in darkness. From the age of thirteen he travelled all over Tamil Nadu to the masses to cultivate deity and devotion to God. This article describes the pioneering work of the Variyar Swamikal who guided the spiritual and human life through Stage oration.

Keywords: Kirubananda Variyar, Oration, Spiritual development, Devotional movement

முன்னுரை

பெரியார் உள்ளிட்ட திராவிட கழகத்தவரின் கடவுள் மறுப்பு கொள்கை மிகத் தீவிரமாக முன்னெடுக்கப்பட்டு வந்த கால கட்டத்தில் தமிழகத்தின் ஆங்கிலமொழிபெயர்த்தல் சென்று பக்திப் பயிர் செய்தவர் கிருபானந்தவாரி என்ற இயற்பெயர் கொண்ட திருமுருக கிருபானந்த வாரியார் ஆவார். பல்லவர் காலயான கி.பி. ஏழாம் நூற்றாண்டில் வரவும் தவறாத பக்தி இயக்கம் தோன்றியது போல, பத்தொன்பதாம் நூற்றாண்டில் தனியொரு மனிதனே இயக்கமாக நின்று முருக பக்தியை மக்களின் ஆழ்மனங்களில் தளநு மேலமம் பேச்சுகளின் வழியே வேர்விடச் செய்தவர் வாரியார் ஆவார். வாரியாரின் மேடைப் பேச்சைக் கேட்க மக்கள் கேளிக்கை நிகழ்வுகளைப் புறத்தள்ளி கூட்டம் கூட்டமாக வந்ததும், கூட்டத்திக்கு வந்து வாரியாரின் கருத்துக்குச் செவிமடுத்து தங்களின் மனத்திருத்தி காற்பெயர் மன இயல்பும் அவரது மேடைப்பேச்சின் வெற்றிக்குச் சான்றாய் காழ்கின்றன. மேடைப் பேச்சுகளின் வழி ஆன்மீக வளர்ச்சிக்கு வாரியார் ஆற்றிய பங்களிப்பை எடுத்தியம்புவதாக இக்கட்டுரை அமைகிறது.

வாரியாரின் முதல் சொற்பொழிவு

வாரியார் தம்முடைய தந்தையாரிய மல்லையாராசரிடம் ஆன்மீக கல்வியைப் பயின்றார். தமது தந்தையார் புராணப் பிரசங்கம் செய்ய செல்லும் இடங்களுக்கெல்லாம் உடன் செல்வார். பின்பாட்டுப் பாடுவார். வகையேடு வாசிப்பார். இவ்வாறு சென்ற கொண்டிருந்த நிலையில், அவரது தந்தையார் திருத்தனிக்கும் வீடுகளை நான்கு தொலைவிலுள்ள வளைகுடம் என்னும் ஊருக்கு அடிக்கடி விரிவுரை செய்ய செல்வார். ஒரு முறை ஏகாதசிக்கு அவரது தந்தையாரால் வளைகுடம் செல்ல முடிவடைந்தமை, அவருக்குப் பதிலாக முதன் முறையாகத் தந்தையார் இன்றி தனியே சொற்பொழிவு நிகழ்த்தல் சென்றது. இதனை,

ஓராண்டு அயர் வளைகுட ஏகாதசிக்குக் காஞ்சிபுரம் நேர்ந்தது
அனுப்பி வாரியார் வளைகுடம்

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திலகவதியின் கதைகளில் புதுமைச் சிந்தனைகள்

மு. ராதா

முனைவர் பட்ட ஆய்வாளர், இசுலாமியாக் கல்லூரி (தன்னாட்சி),
வாணியம்பாடி, திருப்பத்தூர் மாவட்டம், தமிழ்நாடு, இந்தியா

ஆய்வுச் சுருக்கம்

திலகவதியின் அறிமுகம் தொடக்கத்தில் அமைந்துள்ளது. தொடர்ந்து, தமது சிறுகதைகளில் பெண்களைப் படைத்துள்ள பாங்கு, பெண்களின் எத்தகைய சிக்கல்களை உள்ளடக்கமாகக் கொண்டுள்ளார்கள், பெண்கள் மரபு வழிப்பட்ட குடும்பச் சிக்கல்களிலிருந்து விடுபட நவீன கல்வி வாய்ப்பும், பொதுவாழ்வில் பங்கேற்கும் உரிமையும் எந்த அளவிற்குப் பெற்றுள்ளார்கள், சமுதாயத்தில் பெண்கள் எவ்வாறெல்லாம் இழிவுபடுத்தப்படுகின்றனர், அதிலிருந்து விடுபடப் பெண்கள் எவ்வாறெல்லாம் விழிப்புணர்வுள்ளவர்களாக இருக்க வேண்டும் எனச் சுட்டப்பட்ட காதலின் புதுமைச் சிந்தனைகளை இக்கட்டுரை எடுத்துக்காட்டுகிறது முன்னுரை

திலகவதி இன்று வாழ்ந்து கொண்டிருக்கும் நவீன இலக்கியப் படைப்பாளர்களுள் ஒருவர். இவர் தருமபுரியில் 17.02.1951 அன்று கோவிந்தசாமி, சரஸ்வதி தம்பதியருக்கு மகளாய்ப் பிறந்து வளர்ந்து முதுகலை பொருளாதரம் படித்து, காவல்துறையில் ஐ.பி.எஸ் அதிகாரியாகப் பணியாற்றி, பணி ஓய்வு பெற்றவர். 1980ஆம் கால கட்டத்தில் எழுத்துலகில் அறிமுகமானவர். பெண்ணியச் சிந்தனையாளர். பெண்கள், சமுதாயத்தின் கண்மூடித்தனமான பழக்க வழக்கங்களிலிருந்து வெளியேறி, பழைய மரபுகளையும், பாரம்பரியங்களையும் உதறித் தள்ளிவிட்டு பெண்கள் விடுதலைபெற வேண்டும். பெண்கள் சுய சிந்தனை உடையவர்களாகவும், தனித்து நின்று செயல்படுபவர்களாகவும், முற்போக்கு எண்ணம் உடையவர்களாகவும் திகழ வேண்டும் என்பது திலகவதியின் அடிப்படைத்

கருத்தாக்கமாக இருக்கிறது. இவ்வாறான நோக்கத்திற்காகத் தமது படைப்புகளை எழுதிவரும் திலகவதி அவர்கள் சிறந்த எழுத்தாளர் வரிசையில் வைத்து எண்ணத்தக்க தமிழகத்துப் படைப்பாளியாவார்.

திலகவதியின் சிறுகதை நோக்கங்கள்

இலக்கியக் கலைக்கு இன்பத்தையும் அறிவையும் ஒருங்கே தரக்கூடிய ஆற்றல் வாய்த்துள்ளது. திலகவதியின் சிறுகதைகளும் இன்பமளித்தல், அறிவுட்டுதல் ஆகிய இரண்டு பயன்களையும் ஒருங்கே தருவனவாக அமைந்துள்ளன. இதற்கு, இன்ன கருத்துகளைச் சொல்ல வேண்டும் என்றும் தெளிவு, இன்ன முறையில் சொல்ல வேண்டும் என்றும் திட்டமிடல், இயல்புகளை மிகைப்படுத்தாத எழுத்தாற்றல் ஆகியவை காரணங்களாகும். இலக்கியத்தின் முழுப் பயனையும் அளிக்கும் இவரது சிறுகதைகள், பல்வேறு கருப்பொருள்களைக் கொண்டவனாய் உள்ளன. இவற்றைத் தாம் தேர்வு செய்து கொண்டமைக்கான காரணங்களையும் தமது படைப்புகளின் நோக்கங்களையும் ஆசிரியர் விளக்கியுள்ளார்.

இவரது கதைகள் எந்த நிலையிலும் மனிதன் நம்பிக்கை இழக்கலாகாது என்பதை வலியுறுத்துகின்றன; குறிப்பாகப் பெண்கள் எத்தகைய துன்பங்களையும் கடந்து, நம்பிக்கையுடன் வாழ்க்கையை எதிர்கொள்ள வேண்டும் என்று வலியுறுத்துகின்றன. சந்தர்ப்ப சூழல்களுக்கேற்ப மனிதனது நடத்தைகள் மாறுவதை எடுத்துரைத்து அவர்களை நிலைப்படுத்த முற்படுகின்றன.

“மனிதனுக்குள் நம்பிக்கையை விதைப்பதும் அவனுக்கே அவனைப் புரிய வைப்பதுமான


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**தற்காலத் தமிழ் இலக்கிய வகைகளினால்
மேடைப்பேச்சு இலக்கியங்களின் தோக்கும் போக்கும்**

ரா.சே. பாலாஜி

தற்காலத் தமிழ் இலக்கிய வகைகளினால் மேடைப்பேச்சு இலக்கியங்களின் தோக்கும் போக்கும்

முன்னுரை

பன்னேடுகளிலும், இன்னும் உலகத்திலும் எல்லாம் தொடர்ந்த விவாதங்கள், பிரச்சனைகள், உயர்நிபந்தனைகள் போன்றவை போன்றவை போன்றவை அளவளவிக்கின்றன எனினும் மேடைப்பேச்சு என்னும் ஒரு வடிவம் பரிணாமம் குழந்தையின் கிருந்திரம் ஆகும் குழந்தையின் தொழில்நுட்பம் வளர்ச்சியை உடனடி.

பேச்சு என்பது யானை இவற்றிற்கும் தன் தன்மையையும் வாய்ப்பாகும் இப்பேச்சின் ஆற்றல் வாய்ந்தவர்கள் எடுத்துக்கொள்ளும் சாதிப்பதில் வல்லவர்களாக உள்ளனர். உலகம் திரும்பும் வரும் அரசியல், சமூக, உயர்வுகளில் பேச்சு என்பது மிகவும் பங்களிப்பு செய்த நூல்களாகியவர்கள் பேச்சின் உலகத்தில் தன் வருத்தம் ஆழமாகப் பதில் உலகத்தினர் கிரேக்க நாடு, மேடைப்பேச்சின் பிரபலமானது திரும்பிற்று மேடைப்பேச்சில் உயர்வு, குழந்தை இவற்றினைப் பற்றி உலகம் திரும்பும் உலகம் ஏதாவது ஒரு மேடைப்பேச்சு போன்றது. ஆங்கிலேயரின் ஆட்சியும் இறுதியில் பத்தொன்பதாம் நூற்றாண்டின் இறுதியில் மேடைப்பேச்சு தோன்றி வளம் காணாமல் அமைந்தது தமிழகத்தின் மேடைப்பேச்சு. பல நூற்றாண்டுகளாக மேடைப்பேச்சு மறக்கப்படும் வந்திருக்கிறது என்பதற்கும் தமிழ் இலக்கியங்களில் பல காரணங்கள் உள்ளன.

இந்தனை சிறப்பாக வாய்ந்த மேடைப்பேச்சு குறித்து இலக்கியங்களில் வளர்ச்சி என்பது தற்காலத் தமிழ் இலக்கிய வகைகளினால் வளர்ச்சி என்பது

தற்காலத் தமிழ் இலக்கிய வகைகளினால் மேடைப்பேச்சு இலக்கியங்களின் தோக்கும் போக்கும் முன்னுரை குழந்தையின் தொழில்நுட்பம் வளர்ச்சியை உடனடி

கலைச்சொற்கள்

- 1. பிரச்சனை : காலம் தொடர்ந்திருக்கிறது
- 2. உயர்நிபந்தனை : உயர்வு
- 3. பிரச்சனம் : தொடர்ந்திருக்கிறது
- 4. The Art of Public Speaking - மேடைப்பேச்சு அமைச்சு
- 5. Basic Public : மேடைப்பேச்சின் அடிப்படைகள்

மேடைப்பேச்சு என்பதும் இலக்கிய வகைகளால்

தமிழ் இலக்கிய வகைகளினால் மேடைப்பேச்சு இலக்கியங்களின் தோக்கும் போக்கும் முன்னுரை குழந்தையின் தொழில்நுட்பம் வளர்ச்சியை உடனடி



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“சமகாலத் தமிழ் இலக்கியப் படைப்புகள்”

ஆன்றிதழ்



முனைவர் / திரு / திருமதி / செல்வி ரா.கே. பாலாசி, முனைவர் பட்ட சும் உணர் ,

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முனைவர்



மேடைத்தமிழ் வளர்ச்சியும் திராவிட இயக்கமும்

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Stage Tamil Development and Dravidian Movement

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ABSTRACT

An art of public speaking is an essential part of modern human needs. Various movements have made their greatest contribution to the development of Public speaking. At the fore font of such movements of the Dravidian Movement which introduced many new methods to public speaking. This article high lights the contribution of the Dravidian Movement to the development of Public Speaking.

Keywords: Public Speaking, Dravidian Movement, Media Tamizh, Social Justice, Contribution

ஆசிரியர் குறிப்பு



ரா.சே. பாலாஜி தற்போது "மேடைப்பேச்சாளர்களின் ஆளுகையும் மொழித் திறனும்" என்னும் தலைப்பில் முனைவர் பட்ட ஆய்வினை மேற்கொண்டுள்ளார். இவரது ஆய்வியல் நிறைகுர் ஆய்வு "வாரியார் உணரத்தும் வாழ்வியல் சிந்தனைகள்" என்னும் தலைப்பில் மேற்கொள்ளப்பட்டது. இவர் இதுவரை பல்வேறு கருத்தரங்குகள் மற்றும் ஆய்வரங்குகளில் பங்கேற்று இருபதிற்கும் மேற்பட்ட ஆய்வுக் கட்டுரைகளைச் சமர்ப்பித்துள்ளார். மேலும் குடியாத்தம் கே.எம்.ஜி.கலை மற்றும் அறிவியல் கல்லூரியின் தமிழ்த்துறையில் உதவிப் பேராசிரியராக கடந்த எட்டாண்டுகளாக அங்கீகரித்து வருகிறார்.

முன்னுரை

பத்தொன்பது மற்றும் இருபதாம் நூற்றாண்டு நூடு நூற்றாண்டு அளவிலும் எழுச்சியும் வளர்ச்சியும் பெற்று வருவது மேடைப்பேச்சு. இந்திய விடுதலைப் போராட்டத்தில் மக்களின் உணர்வுகளைத் தட்டியெழுப்பி ஒருங்கிணைப்புச் செய்ததில் மேடைப்பேச்சின் பங்கு இன்றியமையாதது. ஆங்கிலேயர்களின் ஏதேச்சதிகாரம் முடிவுற்று, மக்களாட்சி மலர்ந்த

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**INVESTIGATION OF PHYTOCHEMICAL COMPOSITION AND ANTI
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Corresponding Author*Dr. J. Thirumagal**Ph. D., Head, Asst. Professor
in BiochemistryK.M.G.College of Arts and
Science, Gudiyattam.**INTRODUCTION****MEDICINAL PLANTS**

Therapeutic plants are nature's blessing to humankind. The plant has diverse uses: basketry, coloring, fuel, nourishment, put away grain protectant, field pesticide, as development advertiser, fertilizer, as medication for poultry, for domesticated animals and for human. Common items, for example, plants extricate, either as unadulterated mixes or as institutionalized concentrates, give boundless chances to new medication disclosures as a result of the unequalled accessibility of synthetic decent variety (Cos, et al., 2006).

1.1. PHYTOCHEMICALS

Phytochemicals are non-nutritive plant synthetic substances that have defensive or infection preventive properties. They are trivial supplements, implying that they are not required by the human body for continuing life. It is outstanding that plant produce these synthetics to secure themselves yet ongoing exploration show that they can likewise ensure people against illnesses. There are in excess of thousand known phytochemicals. A portion of the notable phytochemicals are lycopene in tomatoes, isoflavones in soy and flavanoids in organic products.

Phytochemical-rich nourishments incorporate cruciferous vegetables (e.g., broccoli, Brussels grows, cauliflower, cabbage), umbelliferous vegetables (e.g., carrots, celery, parsley, parsnips), allium vegetables (e.g., garlic, onions, leek), berries, citrus organic products, entire

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Biosynthesis and Biological Applications of Cerium Oxide Nanoparticles

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Abstract

Nanobiotechnology generates tools from nanotechnology which are used to study biological processes. Nowadays, nanoceria or cerium oxide nanoparticles have been employed in varied medicinal applications including antibacterial, antioxidant, antidiabetic, anticancer, drug delivery systems etc. They have unusual property to switch between trivalent and tetravalent oxidation states which consider them excellent candidates for other commercial applications also. The present investigation was focused on green synthesis of nanoceria or cerium oxide nanoparticles (CeO₂ NPs) from Pomegranate (*Punica granatum*) peel extract which were also characterized by UV Visible, FT-IR spectroscopy, SEM analysis, EDX and X-ray Diffraction Studies. The antioxidant and antibacterial potential of synthesized CeO₂ NPs were also evaluated. The results displayed that they expressed good antimicrobial activity against *E. coli* and also showed immense antioxidant activity.

Keywords: *Punica granatum*, Cerium oxide nanoparticles, Nanoceria, Antioxidant, Antibacterial activity.

1. Introduction

Nanotechnology is leading research discipline of the present era with multiple applications in the healthcare sector, industries, imaging etc. It utilizes nanoscale structures of size 1-100 nm. These structures due to their unique properties are of remarkable interest. Among different NPs such as AuNPs, Ag NPs, Cu NPs, Cerium oxide nanoparticles have gained importance due to their high stability, surface chemistry and biocompatibility. Actually, Cerium, a lanthanide series rare earth metal having atomic number 58. It exhibits attractive catalytic properties due to its electronic configuration, unique surface structures and redox activity^[1]. It is able to exist in both +3 and +4 stages which make it capable of forming nanoscale cerium oxide particles such as CeO₂ NPs and Ce₂O₃ NPs^[2]. These nanoparticles are gaining importance due to their biomedical applications these days. They exhibit antimicrobial, anticancer, anti-inflammatory and antidiabetic potential. They also display defensive role against harmful radiations, toxicants and also play protective role during various pathological conditions^[3].

Presently, CeO₂ NPs are synthesized by physical, chemical and biological methods. Physical and chemical methods utilize toxic solvents which are hazardous to the biodiversity and ecosystem. Besides that, NPs

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INFLUENCE OF SOCIAL MEDIA MARKETING ON CUSTOMER ENGAGEMENT

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ABSTRACT

The study examined the influence social media marketing has on customer engagement. The study was decided to be investigated as we can see that organizations spending on social media continue to soar, but measuring its impact remains a challenge for most businesses. All in all, social networking sites facilitate active communication between companies and users and spur interactions among users. Here the need arrived to find out the factors influencing customer engagement; to explore what content they enjoy most on a Facebook brand page which drives them to re-visit.

Hence, marketers need to be more cautious on what they post online as this is more likely to influence customers. The study also emphasizes the significance of self-disclosure as a major factor to intimate relationships among persons, as a strengthened brand-consumer relationship online will ultimately impact their purchase behavior in reality.

Keywords: Content post, Customer engagement, Facebook, Media post, Social Media Marketing.

BACKGROUND AND OBJECTIVES:

The rapid evolution from the web 1.0 environment to the interactive and connected web 2.0 environment has modified the ways in which firms present their online image, to a new model in which the content is in the hands of technology, with consequences of a far wider scope in which marketing managers influence the actual potential clients.

Social media are regarded as new marketing tools for promoting a brand's products / services, constituting an emerging communication channel through which to shape the relationship between a brand and its customer. Social media marketing is common in the business-to-consumer (B2C) area, and the concept of social media related especially to B2C has been exclusively studied. Marketers' role has changed from a broadcaster sending messages to a specific target segment to a company which collaborates with its customers and participates in virtual communities.

The utilization of social media is now spreading also to the business-to-business (B2B) sector. More specifically, a shift in power has occurred and the platform to co-create value with customers, thanks to the capabilities of internet: interactivity, broad scope, persistence, speed and flexibility. All of this leads to the formation of a platform to gain client commitment. The celebrities do interact with community members and thereby enhance the brand visibility to and the loyalty of these people.

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கின்றன. மலையாளத்தில் வாய்பாடுகளின் அடிப்படையில் பிரிக்கும் மரபு காணப்படவில்லை. தமிழில் காணலாகும் வீரசோழியம் வடமொழி இலக்கண மரபைப் பின்பற்றி துணுதம் துவாந்தப் பிரத்தியயங்களின் கீழ் விவையெச்சத்தை வகைப்படுத்துவதற்கு அத்தகைய மரபும் மலையாள இலக்கண நூல்களில் காணப்படவில்லை. இதைப் பார்த்தும் மொழி மலையாள இலக்கண நூல்கள் தனக்கென ஒரு மரபைப் பின்பற்றி மொழியியலாளிகள் கருத்துக்களையும் ஏற்றே விவையெச்சத்தை வகைப்படுத்தியுள்ளன என்பதை இதன்வழி அறிந்துகொள்ளலாம்.

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முன்னுரை

"கல்வித் திருந்த தமிழ்நாடு" என்று மகாகவி பாரதி தமிழகத்தின் கல்விப் புனைமையப் பாராட்டியுள்ளார். தொல்மலையாள இலக்கிய, இலக்கணத் தொகுதிகளைப் பெற்றுக் கிறந்த தமிழ்நாட்டில் கல்விச் சூழல் பல்வேறு கால மாற்றங்களால் அடைந்து வந்துள்ளது. முறை சார்ந்த கல்வி என்பதே ஐரோப்பியர்களின் காலத்துக்குப் பிறகுதான் தமிழ்நாட்டுக்கு அறிமுகமாகியுள்ளது. "பள்ளி" என்ற சொல் சமணத் துறவிகளின் உறையெச்சத்தைக் குறிப்பதாகும். அங்குதான் மருத்துவம் முதலானவை கற்கிக்கொண்டுள்ளனர். சமணத் துறவிகள் தாங்கள் தங்கித் தவமிருக்கும் குகைகளை மலையிடங்களாக நடி வரும் மாணவர்களுக்கு குகைகளை ஒட்டி அமைக்கப்பட்ட கூடங்களில் அமர்த்தி கல்வியளித்தனர். நாளடைவில் அவ்விடங்கள் பள்ளிக்கூடங்கள் என்றும் பெயரைப் பெற்றன. இன்றளவிலும் கல்வி கற்குபிடங்கள் பள்ளிக்கூடங்கள், பள்ளிச்சாலைகள் என்று வழங்கி வருதல் சமணர்கள் தமிழ்நாட்டில் வழங்கிய கல்விக்கொடைக்குச் சான்றாகும். பிற்காலத்தில் கற்றல் செயல்பாடு நிகழும் இடத்தைப் "பள்ளி" என்று குறிக்கும் வழக்கம் உருவாயிற்று.

இத்திய விடுதலைக்கு முன் கல்விச் செயல்பாடு பரவலாகத் தொடங்கியது. மரபார்ந்த கல்விமுறை நீடித்துவந்த அதே கால கட்டத்தில் ஆங்கிலேயரின் புதிய கல்விமுறையும் தமிழ்நாட்டில் செயல்பாட்டில் இருந்தது. இத்திய விடுதலைக்கு முந்தைய தமிழ்நாட்டில் கல்விச் சூழலை உ.வே. சாமிநாதையர் மிகவும் கவனம் எழுதியுள்ளார். அவரது என்சரித்திரத்தை அடிப்படையாகக் கொண்டு அக்காலகட்டத்துக் கல்விச்சூழலைத் தொகுத்துரைக்கிறது இக்கட்டுரை.

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Cloud management architecture to improve the resource allocation in cloud IAAS platform

- [J. Srinivasan](#)  &
- [C. Suresh Gnana Dhas](#) ²

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Abstract

Cloud computing (CC) is an attractive emerging technology due to offering services based on-demand by the process of virtualization. Since CC platform offers services based on-demand it has been widely used in the field of various emerging IT infrastructure. In cloud platform each application is run in individual virtual machine (VM) for execution of services within the host. Since cloud platform operates on on-demand service it need to cope with multiple application in single time hence it is necessary to adopt an effective approach for balancing memory utilization in cloud network. For effective utilization of available memory existing approaches uses probability distribution method for allocating resources in cloud platform but still there exists a lack of utilization of available memory in cloud platform. This paper aims to develop an effective approach for dynamic memory allocation in VM in cloud platform. For memory allocation among VM in cloud platform proposed approach uses cloud vertical elasticity manager (CVEM), memory reporter (MR), memory over subscription granter (MOG). The MOG uses a scheduler to allocate the memory in a dynamic way inside a host. Finally, we adopt host elasticity rule to balance the available memory to allocate dynamically the memory inside an available host in cloud.

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Forward Node Selection Using Particle Swarm Optimization (PSO) for Broadcasting in MANET

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Abstract— In Mobile Ad Hoc Network (MANET), while selecting the intermediate nodes for broadcasting, coverage and channel quality conditions need to be considered along with energy and distance parameters. In this paper, Forward Node Selection using PSO (FNS-PSO) algorithm for broadcasting in MANET, is proposed. In this procedure, PSO is used for choosing a group of applicant nodes which forward the packages with a definite forwarding probability (FP). In PSO, a suitability purpose is made regarding enduring energy, node connectivity and channel state. Replication fallouts demonstrate that the suggested FNS-PSO procedure lessens the dormancy, energy ingestion and forwarding proportion with greater package delivery proportion.

Keywords— MANET, Broadcasting, Forwarding, Particle Swarm Optimization, Routing.

I. Introduction

In MANET, a collection of wireless communication nodes achieves self-configuration in a vibrant manner for the creation of network. As it has no federal design, the packages are advanced via multi hop routers to the terminus. If the dispatcher and the recipient are not within the communication array, then multi hop forwarding will be made use of to transfer the data from dispatcher to recipient. Therefore, the nodes can perform both as end-systems or routers to send information [1]. As network topology is varying regularly, ways have to be recognised adaptively based on the nodes' location [2]. Normally, the mobile nodes in this network are accessible with least probable CPU management capability, minor retention possibility, and slight energy storage [3].

Dissemination via network, is the ultimate action of MANET where the routing messages are transferred from the base to the whole nodes of the network [4]. One of the extensively utilised dissemination methods, is blind flooding where a package is dispatched a solitary period only [5]. But it suffers transmission squall issue and high lay-off due to which the bandwidth and energy ingestion are fruitless [6]. In vibrant dissemination, determining the verge values and upholding routing data turn out to be multifaceted [7].

In majority of the dissemination methods, choosing the forwarding nodes is a decisive technique. While choosing the forwarding nodes, both amenity excellence and vibrant topology variations are to be taken into consideration [8].

Problem Identification and Objectives

Usually, the channel stages and coverage proportion of nodes are considered for the forwarding possibility [11][12]. Yet it entails the earlier antiquity data of dissemination which tends to enormous stowage overhead. While choosing the transitional nodes, the coverage and channel excellence circumstances ought to be deliberated along with energy and expanse [13].

Hence this paper proposes a forwarding node selection algorithm based on PSO for MANET. The paper is systematized as follows. Section 2 grants the linked works completely. Section 3 grants the suggested procedure. Section 4 grants the investigational outcomes and discussion. Section 5 offers the decision of the work.

II. Related Works

In [9], Location aided probabilistic broadcast algorithm (LAPB) has been proposed. It selects the effective nodes for path construction, based on the density of nodes. (ie) It categorizes the nodes into high or low density zones.

Efficient Text Mining Model with Conceptual Informative Relational Measure using Semantic Ontology

G Shobarani, K Arulanandham

Abstract: The problem of text mining has been well studied and numerous approaches are analyzed towards their performance in text mining. The existing methods suffer to achieve higher performance as they consider only content of document and the term features available. Also, they measure the similarity between documents on the term features to identify the class of any document. This affects the performance of text mining and produces poor accuracy and generates higher irrelevancy. To improve the performance, a Conceptual Informative Relational Model (CIRM) is presented in this paper. Unlike previous methods, the method considers both conceptual and informative relations in measuring the similarity between the documents. The method preprocesses the text documents by eliminating the stop words, stemming and identifies list of root words or nouns. The root words extracted has been used to measure the conceptual relation and informative relation according to the taxonomy of classes and semantic meanings. Based on the value of relational measures, the method identifies the class of the document and produces result set. The proposed method improves the performance of text mining and reduces the irrelevancy.

Index Terms: Text Mining, Semantic Ontology, CIRM, Relation, CRM, IRM, CISM.

I. INTRODUCTION

The growth of information technology has allowed the organization to maintain various information in different forms. The organization would maintain different information in form of documents. There would be number of documents available in any organization and they will be related to different concepts. As the number of documents increases, retrieving required document from the large pool of documents becomes more challenging task. So it is necessary to organize them in different classes. However, retrieving the related document becomes another issue, which is performed by several techniques.

Text mining is the process of extracting related documents from huge set of documents. The retrieval of documents is performed according to the similarity between the documents. The similarity between the documents is measured in several ways. The K-means algorithm measure the document similarity based on the distance between the points or terms. Similarly, the term frequency and inverse document frequency based algorithm measures the similarity based on TF-IDF.

Similarly, there are number of approaches available for the problem of text mining. All the methods consider the text features present in the document. According to the text features of the document, the methods measure the similarity between the query and document. So, the most methods consider only the textual features and they produce higher false ratio and irrelevant results.

Further, the category of the document would be classified into number of levels. For example, the category "Computer" can be classified into Computers, Computers / Programming Language, Computers / Programming Language / Java. Similarly, the categories of the document can be classified up to any number of levels. The text mining algorithm should consider the exact category and the sub classes of the data set. However, different features are used for text mining, considering the topical and informatics measures are more important.

By considering the text features in text mining, the methods only count the presence of terms in the document or class of documents. But they do not consider the concept need to be discussed and how well the topic is discussed. According to this there are algorithms which consider the conceptual measures and they also suffer to produce efficient results. However, the method does not consider the relationship between the documents in terms of concept and semantic meanings. In order to become a member of the class, the document has to discuss the concept at the maximum level and the terms of the class should be well discussed. According to this, the author has been motivated to design an efficient algorithm for text mining.

Semantic ontology is the taxonomy which has number of classes and features where there will be number of relations presented between the features and concepts. So by considering the relations between the conceptual terms the conceptual relation of the document can be measured. Similarly, the relation on informatics terms can be used to measure the semantic relation of any query and document. By considering both conceptual and semantic relations of the document, the document similarity can be measured. The detailed approach is discussed in the next section.

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Text Mining with Topical and Informative Measures using Semantic Ontology

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G Shobarani, K Arulanandham

Abstract: The text mining has been identified as dominant throughout the era in many scientific problems. Number of techniques have been identified and proposed earlier, each uses different features towards mining text information. However, they suffer to achieve higher performance in mining relevant text information or documents. To support the development of text mining tasks, an efficient topical and informative measures based algorithm is presented, which uses semantic ontology and the taxonomy as dictionary. The text features of the documents has been extracted to generate set of terms. For any document, the text features are used to remove the noisy features like stop words, stemming and tagging. With the noise removed pure terms, the method estimates the Topical Depth Similarity (TDS) and informative Depth Similarity (IDS) measures. The measures has been estimated towards each document to perform text mining. The input query has been estimated for the TDS measure to identify the category of the query. According to the category of query, the method estimates the TDS and IDS measures to mining the text. The proposed method improve the performance of text mining with reduces false classification ratio.

Keywords: Text Mining, Semantic Ontology, Taxonomy, TDS, IDS, Feature Extraction, Similarity Measures.

I. INTRODUCTION

The growth of information technology allows the users to maintain various data in the form of text, images and videos. However, it is contemporary that maintaining the combined data in any document. For example, the content related to data mining has been placed in a document which represents the concept in text and images. Similarly, any document would contain various form of information to support the purpose. So, the volume and size of documents in any data base gets increased. The increase in size and volume, challenges the organization in maintaining the document in a sophisticated and organized manner.

The organization of document in any storage is most important which reflect on the performance of data retrieval. Consider a medical organization which maintains various documents related to different diseased persons. But at a point, an medical practitioner would like to read the medical documents related to lung cancer, then he has to search throughout the documents which is hectic job and would take more time. If the documents are organized properly, it will take fraction of seconds to fetch the documents needed. This is where the clustering comes to play, and it is a process of grouping the documents of any dataset according to the number of groups based on the features. However, there exist number of features in the document, the text features are the most important and key one which decides the topic of the document. The image feature would speak about the concept but the automated system could not identify the category instantly.

This is why, text mining has been considered for the grouping and mining of documents.

The text mining has been approached with several techniques like K-means clustering which estimates the distance between the document text according to the text features. Similarly, the Term Frequency and Inverse Document Frequency measures has been used in extracting different documents in many methods. Similarly, there are methods which use only the text feature present in the document to perform text mining. It will not be efficient when the method consider only the text terms of the document, it is necessary to consider the semantic meanings also. The document would speak about the topic as well as it would represent some semantic meanings about the category.

Further, the category of the document would be classified into number of levels. For example, the category "Computer" can be classified into Computers, Computers / Programming Language, Computers/Programming Language / Java. Similarly, the categories of the document can be classified up to any number of levels. The text mining algorithm should consider the exact category and the sub classes of the data set. However, different features are used for text mining, considering the topical and informatics measures are more important.

This paper presents a text mining algorithm which considers the topical and informatics depth similarity measures. The topical measure represents the documents depth in covering the topical measures where the informatics similarity measure represents the depth of document in covering the most information related to the category. The next section discusses the proposed algorithm in detail.

II. PROCEDURE FOR PAPER SUBMISSION

There are number of algorithms has been discussed for the text mining problem and various approaches of text mining is discussed in this section.

In [1], the author presents various text mining techniques and applications in detail. The method present different discovery patterns to analyze documents from huge volume of data set. The text mining process has been discussed as patterns and features based algorithm in extracting related documents.

Using text mining to classify research papers [2], uses natural language processing tools towards the classification of research papers. The method has been adapted support vector machine and naïve bayes algorithms in classification.

In [3], the author presents a trend recognition algorithm for journal papers. The popular TF and IDF algorithms have been used. The TF measure fetches the topical strength of the document where IDF measure fetch the topical strength of other categories. The method has been adapted in quality control of Japanese documents.

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Adaptive Broadcast Routing Protocol using Fuzzy Logic System for MANET

R. Saraswathi, A.Subramani

Abstract : In Mobile Ad Hoc Network (MANET), forwarding probability should consider neighbour density, link quality and residual energy of the forwarding nodes. Also, redundant broadcasting by checking the inter-arrival times should be considered. In this paper, we propose to design a adaptive broadcast routing protocol using Fuzzy logic system. In this protocol, a set of forwarding nodes are selected based on the residual energy, coverage probability and channel condition. The rebroadcasting or forwarding probability is adaptively adjusted based on the 1-hop neighbour density and relative mobility of neighbours using the fuzzy logic system. Then the selected forwarding nodes forward the route request packets with the probability given by forwarding probability. Before forwarding the packets, the number of redundant packets exceeding a threshold value, are removed by checking successful status of delivered packets. By simulation results, we show that ABRP minimizes the delay and forwarding ratio by increasing the packet delivery ratio and average residual energy.

Keywords: MANET, self-organizing, Fuzzy, Routing, Adaptive, protocol

I. INTRODUCTION

Basically, MANET is a self-organizing network made up of numerous nodes which are capable of high mobility and are connected to one another in a wireless manner. In MANET, each mobile node is capable of functioning as a router. MANET is used for various types of applications, such as communication between moving vehicles, sensor networks, military communication, disaster recovery, emergency search and rescue operations, policing, firefighting and so on [1]. Due to the constant movement of the nodes, the MANET topology is dynamic in nature. The mobile nature of nodes, limited bandwidth, high error rates, limited battery power and continuously changing topology brings out new complexities while designing the routing protocols for this kind of network [2].

The resource constraint devices and dynamic topology are the unique characteristics in MANET that becomes major problem towards the efficient routing protocol design [3]. In MANET, network wide broadcasting is an elementary manoeuvre in which a source disseminates topology information throughout the network [3]. The simple model of broadcasting is blind flooding where each node forwards the packet exactly once. But it leads to the broadcast storm problem and increased message redundancy, thereby wasting the channel bandwidth and energy [6]. Numerous enhanced sorts of flooding have been established which are characterized into two major classes: static and adaptive broadcasting systems.

Static broadcasting systems are chiefly associated with certain onset principles or the network topology while in dynamic broadcasting, it is challenging to define these onset principles and to maintain network topology information [7].

The forwarding node selection has been an important process in many broadcasting algorithms. All these algorithms have considered the service quality as a factor for selecting the node. But these algorithms do not reflect the existing dynamism of a node as a factor. Choice of a node with little dynamism degree decreases the steadiness of the message route since that node may exhaust from the dynamism bringing about the collapse of the message network [8].

1.1 Problem Identification and Objectives

In [1], the rebroadcasting probability (Rb) is dynamically varied based on the node density and Signal to Interference plus Noise Ratio (SINR) of the nodes. But it did not consider the energy level of the forwarding nodes. Moreover it assumes that nodes are uniformly distributed over the network, which may not be true in all scenarios.

In [2][5], the forwarding probability is determined based on the neighbour density of 2-hop nodes. But it didn't consider the link quality and residual energy of those forwarding nodes.

In [6], the channel states and coverage ratio of nodes are taken into consideration for the forwarding probability. However it requires the previous history information of broadcasting which leads huge storage overhead.

The approach used in [7] avoids redundant broadcasting by checking the inter-arrival times. But it did not present any standard technique to perform rebroadcasting.

Though [8] uses the energy-distance product to select the intermediate nodes, it did not consider the coverage and channel quality conditions.

From the above identified problems, the objectives of the research work can be formulated as follows:

- o Adaptively adjust the rebroadcasting probability based on the local density of nodes
- o Select the forwarding nodes based on coverage, SINR and residual energy
- o Reduce the redundant broadcasting

The paper is organized as follows. Section 2 presents the related works done. Section 3 presents the proposed methodology of ABRP. Section 4 presents the experimental results and discussion. Section 5 presents the conclusion of the work.

II. RELATED WORKS

Marimuthu Murugesan et al [3], using curtailed onward node list procedure, have proposed a dependable and effective dissemination procedure that utilizes 2-hop vicinity data more efficiently in order to lessen unnecessary

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Green synthesis of magnesium oxide nanoparticles and their antibacterial activity

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Nanotechnology has prospects of opening new avenues to fight and prevent diseases using atomic-scale tailoring of materials. As the nano revolution emerges, it is imperative to develop "nano-naturo" links between nanotechnology and green domains of the nature. The present investigation describes the mangrove *Rhizophora lamarckii*'s property of synthesizing magnesium oxide nanoparticles. The newly synthesized magnesium oxide nanoparticle morphology is nanohexagonal and spherical. The particles range in dimensions between 20 and 50 nm and are crystalline in nature. The functional groups of the mangrove, amine, and alkane are found to act as reductants and stabilizers. The newly synthesized MgO nanoparticles are found to have potent antibacterial activity.

[Keywords: *Rhizophora lamarckii*; Magnesium oxide nanoparticles; Green synthesis; Nanohexagons]

Introduction

Nanostructured magnesium oxide has found numerous applications owing to its unique properties, such as large band gap, thermodynamic stability, low dielectric constant, and low refractive index^{1,2}. MgO is an important inorganic oxide and is regarded as safe material for human beings³. In the medical field, MgO is used to treat various ailments, for example, it is used as an antacid for heartburn and sore stomach. Hence from the medical viewpoint, it would be rewarding to synthesize biocompatible magnesium oxide nanoparticles (MgONPs) using a green chemistry approach. Biological synthesis of MgONPs has not been widely exploited⁴. The distinctive properties of nanomaterials have given rise to tremendous research activity directed towards nanoparticle fabrication, characterization, and application⁵.

Nanoparticle production through different physical and chemical routes has its own demerits as enormous environmental contaminations and hazardous by-products are produced during their synthesis. Thus, there is a need for "green chemistry" that ensures clean, nontoxic and environment-friendly methods to produce nanoparticles⁶. Biological synthesis of nanomaterials has received special attention as a tool to explore the little known avenues of medical sciences in several ways, such as imaging⁷, sensing⁸, drug delivery systems⁹, cancer therapy, and diagnosis^{10,11}, and gene delivery¹².

Increasing awareness of biological processes has led to the desire to develop an environment-friendly

approach for the synthesis of nontoxic nanoparticles. Unlike other processes in physical and chemical methods, which involve hazardous chemicals, biosynthesis of nanoparticles is a cost-effective and eco-friendly approach^{13,14}. Owing to their rich diversity, plants have the innate potential for the synthesis of nanoparticles and they could be regarded as potential biofactories for nanoparticles synthesis^{15,16}.

It is in this context the idea of synthesizing MgONPs using mangrove plants has been conceived. Mangrove plants have been in use in folk medicine for treatment of several diseases. The present investigation proposes a one-step, simple, and efficient protocol for the preparation of MgONPs.

Materials and Methods

Chemicals and plant material

Mangrove plant samples were collected from Pichavaram mangrove forest (Lat.11°27'N; Long. 79°47'E), Tamil Nadu, India. *Rhizophora lamarckii* leaves were washed with deionized water, shade-dried, and powdered using an electronic blender. The dried coarse powder of *R. lamarckii* was extracted using deionized water (Fig. 1). Magnesium nitrate ($Mg(NO_3)_2$) was obtained from Loba Chem.

Synthesis and characterization of magnesium oxide nanoparticles

The *R. lamarckii* leaf extract (5g) was mixed with 100 ml of distilled water and boiled for 30 min at 100 °C. The extract was filtered using Whatman filter

characterized by TEM. Figure 4 shows polydisperse and heterogeneously structured (hexagonal and spherical shapes) nanoparticles with sizes ranging between 20 and 50 nm.

FTIR was used to identify the possible biomolecules which are responsible for the reduction and capping of MgONPs. Figure 5 represents the FTIR spectra of MgONPs synthesized using the *R. lamarckii* leaf extract. The spectra show bands at 3405, 2925, 1626, 1402, 1260, 1035 cm^{-1} and peaks were shifted to 3395, 2921, 1644, 1450, 1232, 1077 cm^{-1} , respectively.

The spectrum absorption peak at 3405 cm^{-1} and shift to 3395 cm^{-1} and that at 1626 cm^{-1} and shift to 1644 cm^{-1} , denote stretching of the N-H amine group. The spectrum absorption peaks at 2925 cm^{-1} shifted

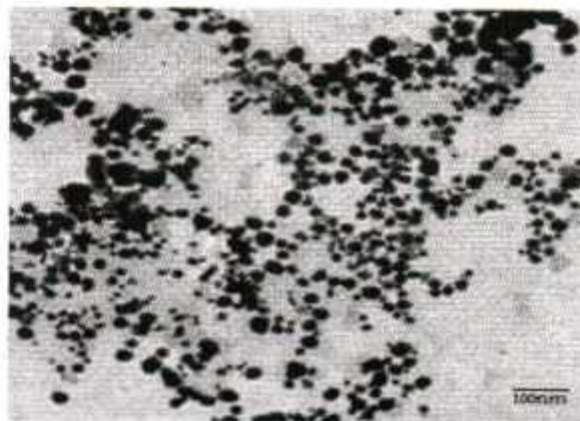


Fig. 4 — TEM image of magnesium oxide nanoparticles at the scale of 100 nm

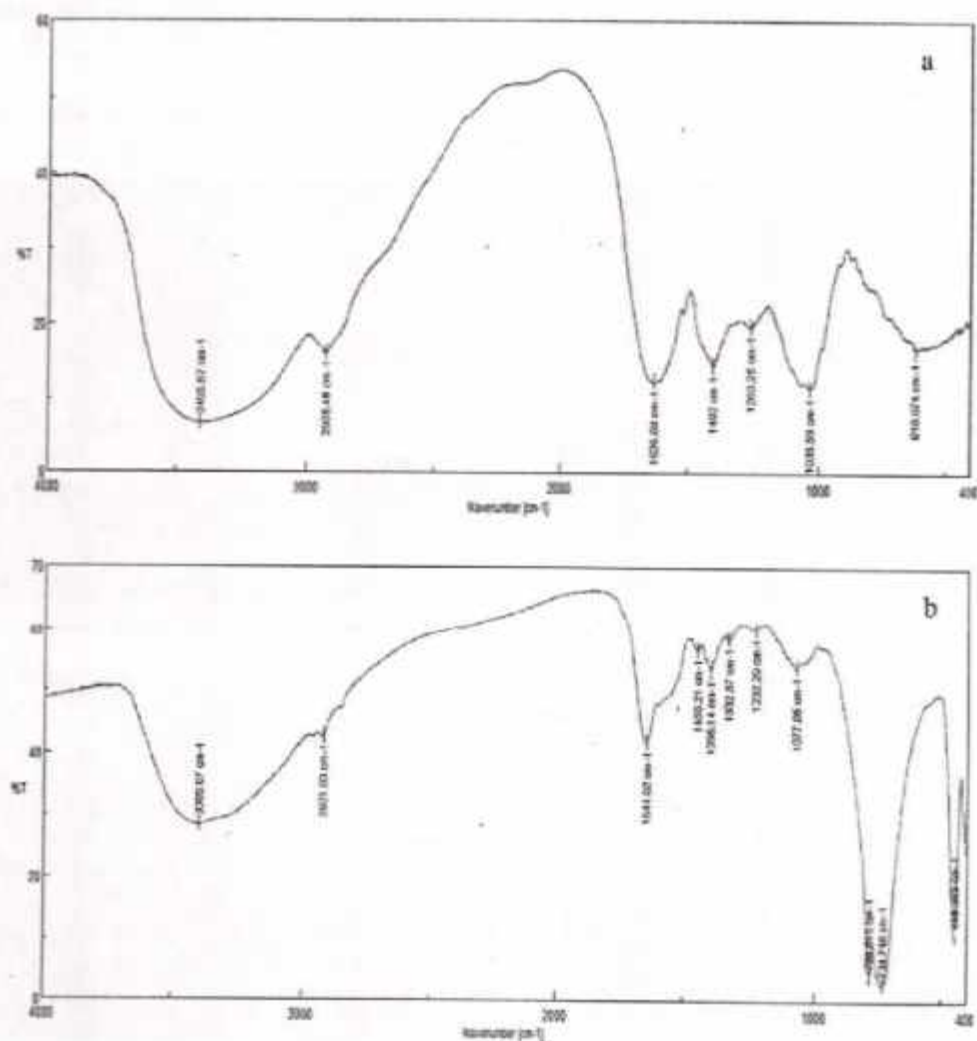


Fig. 5 — FTIR spectrum of (a) extract of *R. lamarckii* and (b) magnesium oxide nanoparticles synthesized using *R. lamarckii*

Table 1 — Zone of inhibition (mm) of *R. lamarckii*-synthesized MgO nanoparticles (μl) against bacteria

S.No.	Test organisms	Zone of inhibition (mm)				
		10 μl	20 μl	50 μl	100 μl	Control
1.	<i>Staphylococcus aureus</i>	9.1	18.6	20.1	26.5	30
2.	<i>Streptococcus pneumonia</i>	9.4	18.7	19.8	26.3	30.1
3.	<i>Salmonella typhi</i>	9.7	18.0	19.9	25.7	30
4.	<i>Escherichia coli</i>	9.6	18.1	20.0	26.1	29.5

concentrations 10 μl , 20 μl , 50 μl , and 100 μl , respectively), *S. typhi* (9.7 mm, 18.0 mm, 19.9 mm, and 25.7 mm for concentrations 10 μl , 20 μl , 50 μl , and 100 μl , respectively). These results show that the MgONPs have strong antibacterial activity against both Gram positive and Gram negative bacterial organisms (Table 1). As the antibacterial assay was fused with magnesium nitrate and with the aqueous extract of mangrove *R. lamarckii*, which were used to synthesize MgONPs, the results clearly demonstrate the activity at higher concentration. It has been reported by earlier studies that owing to the increase in the surface area of nanomaterials, the surface oxide ion concentration would be increased, which may lead to destruction of the cytoplasmic membrane of the bacteria^{18,20}.

Nanotechnology provides a novel way to enhance the activity of inorganic materials. It has been demonstrated that MgONPs have promising anticancer activity²¹ and antibacterial activity²². There are reports stating that MgONPs have more inhibitory activity on Gram positive bacteria than on Gram negative bacteria^{23,24}. In the present investigation, no such difference of inhibition has been noticed. It is worth mentioning here that the properties and physico-chemical nature of nanomaterials differ according to the mode of their synthesis²⁵.

Conclusion

This article highlights the potential of mangrove *R. lamarckii* in the phytosynthesis of MgONPs. The aqueous mangrove extract acted as a capping and reducing agent in forming MgONPs, which are mostly spherical or hexagonal in nature and with a size range of 20–50 nm. The zone of inhibition values reveal that biologically synthesized MgONPs have strong antibacterial activity against both Gram positive and Gram negative bacterial organisms at low concentration.

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Fractured Identity: A Study of Caste and Gender Bigotry in Modern India

Abstract

Women are viewed as mere objects of sexual gratification and second class citizens. Women's state of victimization leads to cognitive, emotional, and physical violence. Especially the suppression of Dalit women is exhaustive. Dalit women's survival is devastated and dominated by the patriarchal society, and they undergo physical and mental abuse throughout their life span. Thus, women are destined to live a dreadful life, irrespective of their age, status, class or community. Therefore, this research paper aims to do a threadbare analysis on caste and gender discrimination. It also emphasis on, how does gender, and caste discrimination act as a social malady.

Keynote: Caste, Gender, Women Discrimination

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Mapping the Dalit Women's Predicament in Baby Kamble's *The Prisons We Broke*

Dr. S. Sasikumar

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Autobiography is accepted to be the most authentic medium of projecting human life in its bare truths. An Autobiography is significantly loaded with self-evaluation, self-modification, and self-renovation. This view has also been endorsed by the great literary critics and freelance writers. Authors of western countries exuberantly took to write their 'self' by autobiographical genre. Thus, the westerners are the real pioneers of autobiography genre writing. Westerner's autobiographical genre of writing was greatly influenced by other parts of the world, particularly, the Indians. Indians derived the autobiographical genre of writing from the westerners to demonstrate their lives. This genre of literary accenture is divided into two types; at first, all autobiographical writing deliberates on the life and history of the writers. Through the description of their life they depicted how they got influenced by the society and their conscious attempts to avoid becoming social stereotypes. Second, it also describes the political, economic, social milieu of the society during the writers' period. An autobiographical novel can be treated as a historical text because it determines the society's past, present, and future through its intertextuality.

In India, the Dalit writings is becoming forceful in the recent times. The Dalit autobiographical writings bring out the socio-political and economic imbalance existing in the Indian society. It is also an endorsement of the Indian social hierarchy; and how does Indian society have been constructed on the base of social division named casteism. By describing the pathetic situation of their castetist society they demurred on the atrocities of the upper-caste's castetist nature.

Autobiography acts as a weapon to the writers to expose the long existing suffering, and the oppressive system in the form of caste. Many Indian writers including both male and female contributed to Dalit literature, particularly the autobiographical mode.

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EFFECTIVE DETECTION OF THE DYNAMIC ATTACK, PATTERN FROM LOGS ANALYSIS FOR VIRTUAL MACHINES IN CLOUD

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Abstract:

The continuously emerging, operationally and managerially independent, geographically distributed computer networks deployable in an evolutionarily manner have created greater challenges in securing them. Several research works and experiments have convinced the security expert that Network Intrusion Detection Systems (NIDS) or Network Intrusion Prevention Systems (NIPS) alone are not capable of securing the Computer Networks from internal and external threats completely. In this paper we present the design of Intrusion Collaborative System which is a combination of NIDS, NIPS, Honeypots, software tools like nmap, iptables etc. Our Design is tested against existing attacks based on Snort Rules and several customized DDOS, remote and guest attacks. Dynamic rules are generated during every unusual behavior that helps Intrusion Collaborative System to continuously learn about new attacks. Also a formal approach to deploy Live Intrusion Collaboration Systems based on System of Systems Concept is Proposed.

Keywords: Network Intrusion Detection, Network Intrusion Prevention, IPTABLES, Honeypot and NICS.

1. INTRODUCTION

A Comparative Study of Network Intrusion in Detection Systems in [1]. In 2008 Moses Garuba, Chunmei Liu, and Duane Frates have conducted an extensive study on the different Intrusion techniques [1] and they also demonstrated that NIDS alone cannot handle both internal and external threats to computers. They also proposed that Heuristic Based solutions are better than signature based solutions. Self Adaptivity and Dynamic analysis are the key features that have to be there in any NIDS as the responsiveness for any NIDS is determined by these properties. In [2] the importance of dynamic behavior of the NIDS is demonstrated by Zang Qing Hua, Fu Yu Zhen, Xu Bu-gong, Luis Carlos Caruso and others have submitted their proof of concept on huge computing power requirement for signature based NIDS called SPP-NIDS [3]. The limitations as mentioned in [4] and [5] after a certain communication link speed NIDS will fail to perform as the load increases and softwares like SNORT [4] require a huge computing capability to handle communication line greater than 100Mbps. Miyuki Hanaoka and others have discussed the importance of collaboration between the security mechanisms and They also demonstrated that redundant rules could be eliminated between the NIDS with a collaborative model. NIDS alone is not sufficient to handle entire range of threats and attacks on the computer networks. Network Intrusion Preventive mechanisms will also help significantly in reducing the effect of an attack over a computer network. Network Intrusion Preventive mechanisms like traditional firewall along with strong authenticating procedures in collaboration with NIDS will make a computer network more secured Firewall play a vital role in NIPS. Despite taking all these precautions attacks still happen and the computer security system still fails to secure the computer networks in case of new type of attacks. Hence a mechanism where it would be possible for the attackers to get trapped unknowingly so that the systems can secure the computer networks from getting infected is essential. HoneyPots [9] can be used to secure the computer network along with NIDS and NIPS. Honeyd is a small daemon that creates virtual hosts on a network.

WEARABLE SENSOR USING HUMAN GAIT MOTION^{*} DETECTION FAR AND EER IN ANDROID

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Abstract:

Biometric systems designed on wearable technology have substantial differences from traditional biometric systems. Due to their wearable nature, they generally capture noisier signals and can only be trained with signals belonging to the device user (biometric verification). In this article, we assess the feasibility of using low-cost wearable sensors—photoplethysmogram (PPG), electrocardiogram (ECG), accelerometer (ACC), and galvanic skin response (GSR)—for biometric verification. We present a prototype, built with low-cost wearable sensors, that was used to capture data from 25 subjects while seated (at resting state), walking, and seated (after a gentle stroll). We used this data to evaluate how the different combinations of signals affected the biometric verification process. Our results showed that the low-cost sensors currently being embedded in many fitness bands and smart-watches can be combined to enable biometric verification. We report and compare the results obtained by all tested configurations.

Keywords: biometrics; verification; low-cost sensors; wearables; electrocardiogram; photoplethysmogram; accelerometer.

1. INTRODUCTION

Authentication systems verify the identity of a machine or person to provide access to different services (banking, email, etc.). In general terms, an authentication system uses one or multiple factors, which can be categorised as “something you know” (i.e., passwords), “something you have” (i.e., security tokens), or “something you are” (i.e., biometrics). This is known as the authentication triad. Personal identification numbers (PINs) and passwords are routinely used to access computer systems, electronic locks, and all types of on-line accounts. Although they are probably the most widely used authentication factor, choosing good passwords is not a simple task. However, their main advantage is also their main weakness—they are physical objects that can be lost, with the attendant effect of disrupting access to services. Biometric systems rely on physiological or behavioural characteristics that can be measured by a sensor and used to identify an individual. In contrast to passwords and security tokens, a biometric trait like a fingerprint or iris scan does not need to be remembered, and always goes with the user. In the last few years, wearable devices have proliferated and found wide adoption among the general population. According to some estimates, wearable sales will rise to 100 million units by . Because they are equipped with relatively cheap sensors, they capture noisier signals. In addition, due to their wearable nature, they can only be trained with data from the device user. These two issues hinder data collection in such a way that to-date, most proposals in the wearable area that use health-related signals have been developed relying on datasets captured with medical-grade equipment.

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STUDY OF LEATHER DYING PROCESS USING CITRUS LIMON PEEL EXTRACT WITH COMMERCIAL PROTEASE ENZYME AND ITS ANTIMICROBIAL ACTIVITY

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ABSTRACT

Dyeing is an important process in the leather industry, which employs many synthetic colorants. The studies on process parameters of enzymatic treatment such as pH, temperature and duration on the exhaustion of the dye, levelness of dyeing, shade brightness, dye penetration and color intensity have been studied and the conditions are optimized. The change in shades due to enzymatic treatment has been quantified by reflectance measurements and compared with the visual assessment data. There is significant change in color due to enzymatic treatment as noticed by reflectance measurements and visual assessment data. The overall fastness of the leathers treated with

enzyme is comparable with those obtained by control leathers. The current activity in the area of leather processing is shifting towards the design and utilization of cleaner and softer technology like enzymatically enhanced processes. The enzymes are successfully employed for the better quality leather production with less pollution impact and also for the treatment of waste discharged from the industry. It is very essential need to today polluted world. This process is mainly designed to save our environment. Antimicrobial activity is also done with the citrus limon extract for the three bacterial stains namely *Bacillus subtilis* (MTCC 441), *Staphylococcus aureus* (MTCC 3940), *Salmonella typhi* (MTCC-734).

KEYWORDS: Dying, Protease, Citrus limon, *Bacillus subtilis*, *Staphylococcus aureus*, *Salmonella typhi*.

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BIOETHANOL PRODUCTION FROM AGRICULTURAL WASTE MATERIALS

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ABSTRACT

Bioethanol is the alcohol made by Fermentation which is extremely environmental friendly, cheap, pollution free that can be obtained by the use of microorganism using Sweet sorghum, Sweet potato and Grasses as substrates. The fermentation was carried out maintaining the substrate inoculated with the *Saccharomyces cerevisiae* in the specific medium at various pH and with/without salt content such as pH 5, 5.5, 6 and with and without NH_4Cl and $(\text{NH}_4)_2\text{SO}_4$. Sweet potato as substrate was inoculated with *Trichoderma* and *Saccharomyces cerevisiae* as the sources for the production of Bioethanol. The fermentation was maintained at 37°C which was found to be optimum for the effective production of Bioethanol. Distillation process was

done followed by the titration after the Fermentation. The Bioethanol produced was collected in a beaker in the form of vapors which was then titrated against the Sodium thiosulphate using starch as indicator. Finally, the Bioethanol produced using Sweet sorghum as substrate was found to be maximum at 22.5 ml as titre value at pH 5 and found to be minimum at pH 6. The bioethanol produced using Sweet potato as substrate was found to be maximum at 26.5 ml at pH 5 using *Trichoderma* as microorganism and 23 ml at pH 5.5 using *Saccharomyces cerevisiae* as microorganism.

KEYWORDS: Bioethanol, Sweet sorghum, Sweet potato, Grasses, *Saccharomyces cerevisiae*, *Trichoderma viridae*.

1. INTRODUCTION

Biofuel produced from lignocellulosic materials, and second generation bioethanol shows energetic, economic and environmental advantages in comparison to bioethanol from starch

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Mangiferin a bioactive compound of mangifera indica l on oxidative damage and antioxidant status in n-diethylnitrosoamine induced hepatocellular carcinoma in animal model

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Abstract

Our study aims at elucidating the antioxidant efficiency of Mangiferin from (*Mangifera indica* L.) for its protective effect beside N-Nitrosodiethylamine induced Hepatocellular carcinoma (HCC) in rat liver carcinogenesis. Studies have shown that N-Nitrosodiethylamine induces lipid peroxidation and alters the antioxidant status in non-target organisms. An effort has been made to study the effect of N-Nitrosodiethylamine induced Hepatocellular carcinoma on biochemical parameters and ameliorating results of Mangiferin. Animals were segregated to six groups. Group A served as control, Group B induced with 0.01% DEN through water for 15 weeks to induce hepatocellular carcinoma. Group C received Mangiferin via intragastric intubation at a daily dose of 30 mg/kg body weight for 16 weeks every day. Groups D to F animals received 0.01% of DEN as in Group B along with Mangiferin via intragastric intubation at a daily dose of 10, 20 and 30 mg/kg body weight for throughout the experimental period for 4 months. The study highlights the effectiveness of Mangiferin as protective molecule against N-Nitrosodiethylamine induced carcinoma. Histological studies of liver tissue too correlated with the above biochemical findings. These results clearly suggest that Mangiferin treatment prevents liver damage, lipid peroxidation and protects the antioxidant defense system in DEN-induced liver carcinogenesis in rats.

Keywords: *Mangifera indica* L, Mangiferin, N-Nitrosodiethylamine, Antioxidants, Antioxidant enzymes.

Introduction

Carcinoma of hepatocytes is one of the most common malignant tumors in the world (El-Serag HB et al., 2001). Accumulating evidence has suggested that several mechanisms contribute to the carcinogenesis of HCC (Thorgeirsson SS et al., 1998; Lau SH et al., 2005). Recent efforts to control the incidence of HCC have focused on developing effective new chemoprevention strategies. HCC induced by diethylnitrosamine in Wistar rats that shows similarities to human HCC is an ideal model for investigating the effect of intervention by chemopreventive agent (Thirunavukkarasu C et al., 2001). DEN, a hepatocarcinogen, is known to induce perturbations in the nuclear enzymes involved in DNA repair/replication (Bansal AK et al., 2005). Investigations have provided evidence that DEN causes a wide range of tumors in all animal species, and these compounds are considered to be effective health hazards to man. Man is exposed to DEN through diet, in certain occupational settings, and through the use of tobacco products, cosmetics, pharmaceutical products, and agricultural chemicals (Bartsch H et al., 1984). It has been reported that DEN, after its metabolic biotransformation, produces the promutagenic adducts, O₆-ethyl deoxyguanosine and O₆- and O₄-ethyl deoxythymidine that can produce DNA chain damage, depurination or binding to DNA, and often generates a miscoding gene sequence, paving a way for the initiation of liver carcinogenesis (Verna L et al., 1996). It has also been reported to produce reactive oxygen species (ROS), a potentially dangerous by-product of cellular metabolism that may directly affect cellular development, growth, and

survival (Watanabe K et al., 2000). Oxidative stress caused by ROS has been reported in membrane lipid peroxidation, DNA damage, and mutation associated with the initiation of various stages of the tumor formation process (Parola M et al., 2001). Polyphenolic compounds have the most promising pharmaceutical properties and have received greater attention than any other class of natural products to counter the ill effects of oxygen radicals (Ramesh B et al., 2006).

The term oxidative stress is commonly used to describe an imbalance between the systemic manifestation of free radicals and the capability of cells to detoxify them and negate their damaging effects on proteins, lipids, and DNA (Chandra, K et al., 2015). The perceptual origin of "oxidative stress" is tracked back to the 1950s and the term began to be used frequently by scientists from 1970 as they started to unravel the effects of free radicals and ionizing radiation (Gerschman, R et al., 1954). The important relationship between oxidative stress and a wide variety of human diseases has placed this stress factor at the forefront of diseases research. Indeed, diseases such as Rheumatoid arthritis (RA), (Stamp, LK et al., 2012; Hassan, S.Z et al., 2011) Alzheimer's disease (AD), Parkinson's disease (PD), Amyotrophic lateral sclerosis (ALS) (Gandhi, S et al., 2012), Cardiovascular disease (CVD) (Rochette, L et al., 2013), allergies (Dozor, AJ 2010), immune system dysfunctions (Zhou, R et al., 2010), diabetes, and cancer are all related to oxidative stress. The important intracellular signaling molecules in RA are reactive oxygen species (ROS), which may damage matrix components and enhance the synovial inflammatory proliferative response in immune



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Potential Synergy of Mangiferin in Ammonium Chloride Induced Hyperammonemic Rats

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Abstract - Prominent ammonia leads to hyperammonemic condition which affects some important Central nervous system functions. Mangiferin is one of the naturally occurring flavonoids in *Mangifera indica L* plant it exhibits a wide variety of therapeutic benefits. Our study aims at to study the effect of Mangiferin on ammonium chloride (AC) induced hyperammonemic rats was designed to ascertain the anti-hyperammonemic potential to amend the alterations of hyperammonemia or hepatic encephalopathy (HE). Amelioration of hyperammonemia and its complications of ammonium chloride induced hyperammonemia by Mangiferin were measured by assessing the body mass, circulatory levels of antioxidant and brain glutamate, glutamine, ammonia, urea and lipid peroxidation products. Mangiferin significantly ($p < 0.05$, DMRT) normalized ammonia, urea, redox status, glutamine and glutamate in hyperammonemic rats this could be due to the antioxidant potential of Mangiferin a bioactive compound of enormous efficiency.

I. INTRODUCTION

Ammonia is the precursor molecule and essential substrate for biosynthesis of amino acids, proteins, and nucleic acids [1]. In mammals, at least 20 metabolic reactions generate ammonia [2]. Reduction in hepatocyte number or function in liver failure and inhibition or primary defect of urea cycle enzymes in inborn errors of metabolism (urea cycle defect) are the main causes of hyperammonemia [3]. Excessive ammonia accumulation due to liver failure and/or liver cirrhosis causes more deleterious effects on central nervous system (CNS) or hepatic encephalopathy (HE), [4]. The mechanism responsible for superoxide generation in liver and brain cells by NADH and NADPH cytochrome c reductase system [5]. Therefore, screening and development of drugs for anti-hyperammonemic activity are in progress. *Mangifera indica* leaves contain phenolic secondary metabolites, including gallic acid, quercetin 3-D glucoside, tocopherol, 3-methyl-gallate, propyl gallate, propyl benzoate (+) catechin, (-) epicatechin, benzoic acid and D-glucose [6,7]. Mangiferin, of the xanthone group, is a major constituent of the leaves and stem bark of *Mangifera indica L*. (Anacardiaceae) and has antioxidant, immunomodulatory and anti-inflammatory activities [8].

Antioxidants

Antioxidants are substances that neutralize free radicals or their actions. Nature has endowed each cell with adequate protective mechanisms against any harmful effects of free radicals, superoxide dismutase, (SOD), glutathione peroxidase glutathione reductase, thioredoxin, thiols and disulfide bonding are buffering systems in every cell. α -Tocopherol (Vitamin E) is an essential nutrient which functions as a chain breaking antioxidant which prevents the propagation of free radical reactions in all cell membranes in the human body. Ascorbic acid (Vitamin C) is also part of the normal protecting mechanism. Other non-enzymatic antioxidants include carotenoids, flavonoids and related polyphenols, lipoic acid, glutathione etc.

II. MATERIALS AND METHODS

Chemicals

Mangiferin was obtained as a gift from one of my senior friend from pharmaceutical industry, Bangalore. Butylated hydroxy toluene (BHT), 5,5'-dithiobis (2-nitrobenzoic acid) (DTNB), phosphate buffered saline and ethylene diamine tetra acetic acid (EDTA) were purchased from S.D. Fine Chemicals Ltd., Mumbai, India. Ammonium chloride (NH_4Cl), thiobarbituric acid (TBA), phenazine methosulphate (PMS), nitroblue tetrazolium (NBT), adenosine triphosphate (ATP) and nicotinamide adenine dinucleotide (NAD) were purchased from Sigma Chemical Company, St. Louis, USA. The rest of the chemicals used were of analytical grade.

Animal Model

Male albino rats of Wistar strain (180 \pm 20g grams) procured from Tamil Nadu University for Veterinary and Animal Sciences, (TANUVAS) Chennai, India were used for the study. Animals were fed with commercially available standard rat pelleted feed (M/s Pranav Agro Industries Ltd., India) under the trade name Amrut rat/mice feed and water was provided ad libitum. The rats were housed under conditions of controlled temperature (25 \pm 2°C) and acclimatized to 12-h light, 12-h dark cycle. Animal experiments were conducted according to the guidelines of institutional animal ethical committee.

Effect of *Caesalpinia pulcherrima* (L.) Sw. seeds on serum glucose and other metabolic parameters of normal and alloxan - induced diabetic rats



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ABSTRACTS

Oral administration of the ethanol extract of *Caesalpinia pulcherrima* seeds (CP - 250 and 500 mg/kg) caused significant fall in blood glucose levels even at 2½ h after a single dose of treatment in normal fasted and glucose loaded Wistar albino rats. At 250 mg/kg dose level, CP completely prevented the elevation of blood glucose caused by oral glucose feeding. In alloxan diabetic rats, CP was able to lower the blood glucose level to around 132 mg / 100 ml from 10th day and thereafter. The biochemical findings were supported by histopathological studies

of liver, kidney and pancreas of control and treated rats. CP was able to increase catalase levels of diabetic rats. Reduced levels of serum protein and elevated levels of Aspartate aminotransferase (AST), Alanine transaminase (ALT), alkaline phosphatase (ALP), cholesterol, triglycerides, creatinine and uric acid were almost normalised in CP treated diabetic rats. CP was also able to reduce *in vitro* lipid peroxidation in rat liver microsomes and inhibit 1- diphenyl - 2-picryl hydrazyl (DPPH) induced free radicals significantly.

Keywords: *Caesalpinia pulcherrima*, anti-diabetic, anti-oxidant, alloxan, lipid peroxidation, DPPH quenching.

INTRODUCTION

Medicinal plants are Nature's gift to mankind and they form part of the rich heritage of India. Plant drugs are considered to be less toxic and free from side effects than synthetic ones.¹ Many Indian medicinal plants have been found to be useful in successfully managing diabetes and from some of them, active principles have been isolated.² It is well known that herbal plants like Garlic (*Allium sativum*), Tulsi (*Ocimum sanctum*), Neem (*Azadirachta indica*) and Bitter gourd (*Momordica charantia*) not only possess hypoglycaemic activity but some of them are hypotensive, hepatoprotective and also blood purifiers.¹ *Caesalpinia pulcherrima* (L.) Sw. belonging to the family Caesalpinaceae is known as 'Peacock Flower' or 'Red Bird of Paradise' in English and 'Rajamalli' in Malayalam. It is an exotic, hardy shrub or small tree, growing up to 5 m in height and cultivated in gardens throughout India. The seeds of *C pulcherrima* is used in traditional medicine of Kerala to treat diabetes. The roots are used as a remedy for lung and skin diseases. They are prescribed as a decoction for intermittent fevers and in the powdered form for infantile convulsions. The dried and powdered leaves are used to treat in crsipelas. The bark is highly astringent and widely used as an emmenagogue. The flowers are a remedy for intestinal worms. The anti - diabetic effects of *C pulcherrima* have not scientifically validated yet. In

the present study, the effect of *Caesalpinia pulcherrima* seeds on metabolic parameters of normal and alloxan - induced diabetic rats is reported.

MATERIALS AND METHODS

Plant material and preparation of the extract

The seeds of *Caesalpinia pulcherrima* were collected from Palode, Thiruvananthapuram District, Kerala. They were authenticated by the plant taxonomist of the Institute and a voucher specimen (TBGT 57024 dated 17/ 04 / 07) was deposited at the Institute's Herbarium. The seeds were shade dried and powdered. The powder (100 gm) was successively extracted with 1000 ml of ethanol overnight, at room temperature with constant stirring. The extract was filtered and the filtrate concentrated under reduced pressure to yield 750 mg of the crude extract (0.75 % with respect to the dried plant material). This crude extract was referred to as CP. It was reconstituted in 0.25% Tween-80, to desired concentrations and used for the experiments.

Animals

Wistar albino rats, males (250 - 300g) and Swiss albino mice, males (25 - 30 g), were obtained from the Institute's Animal House. They were housed under standard laboratory conditions (temperature

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RESEARCH ARTICLE



Lichen *Parmelia sulcata* mediated synthesis of gold nanoparticles: an eco-friendly tool against *Anopheles stephensi* and *Aedes aegypti*

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Abstract

The gold nanoparticles (AuNPs) were synthesized using the lichen *Parmelia sulcata* extract (PSE) and characterized. The peaks of ultraviolet spectrophotometer and Fourier transmission infrared confirmed the formation of nanoparticles and the bioactive compounds of the lichen being responsible for reducing and capping of the particles. The face-centered cubic particles were determined by XRD peaks at 111, 200, 220, and 311. The elemental composition and spherical shape of AuNPs were confirmed by energy-dispersive spectroscopy and transmission electron microscopy. The average particle size is 54 nm, and the zeta potential - 18 was ascertained by dynamic light scattering. The potential effect of synthesized nanoparticles and lichen extracts was evaluated for antioxidant bioassays like DPPH and H₂O₂ and tested for mosquitocidal activity against *Anopheles stephensi*. Results showed that the lichen extract and AuNPs have the capability to scavenge the free radicals with the IC₅₀ values of DPPH being 1020 and 815 µg/ml and the IC₅₀ values of H₂O₂ being 694 and 510 µg/ml, respectively. The mosquitocidal experimental results in this study showed the inhibition of *A. stephensi* and *A. aegypti* against the larvae (I–IV instar), pupae, adult, and egg hatching. On comparison, *A. stephensi* showed effective inhibition than *A. aegypti* even at low concentration. Based on the obtained results, gold nanoparticles synthesized using PSE showed an excellent mosquitocidal effect against *Anopheles stephensi*.

Keywords Lichen · *Parmelia sulcata* · Gold nanoparticles · TEM · Antioxidant assay · Mosquitocidal activity

Introduction

Malaria is caused by infected *Anopheles stephensi* that transmits *Plasmodium* parasites (Murugan et al. 2016a). Based on the report of national malaria control programs from 91 countries, the World Health Organization (WHO) declared that 216

million cases were infected by malaria worldwide of which 80% of cases were from Sub-Saharan African countries except India (WHO 2016). Dengue fever is a major health problem in public which is transmitted by the *Aedes aegypti* mosquito. The dengue fever is of four serotypes in which dengue shock syndrome is very severe compared with the other three classic

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Development and quantification of biodiesel production from chicken feather meal as a cost-effective feedstock by using green technology

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FTIR

ABSTRACT

Increased urbanization and increase in population has led to an increased demand for fuels. The result is the prices of fuels are reaching new heights every day. Using low-cost feedstocks such as rendered animal fats in biodiesel production will reduce biodiesel expenditures. One of the low-cost feedstocks for biodiesel production from poultry feathers. This paper describes a new and environmentally friendly process for developing biodiesel production technology from feather waste produced in poultry industry. Transesterification is one of the well-known processes by which fats and oils are converted into biodiesel. The reaction often makes use of acid/base catalyst. If the material possesses high free fatty acid then acid catalyst gives better results. The data resulted from gas chromatography (GC) revealed these percentages for fatty acid compositions: myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid and arachidonic acid. The biodiesel function group was analyzed by using FTIR. This study concluded that the rooster feathers have superior potential to process them into biodiesel than broiler chicken feathers fat because of fatty acid composition values and it has important properties of biodiesel.

1. Introduction

Energy is the single most important resource capable of sustaining life on earth. Energy not only is the engine of economic growth but also the cause of important life threatening outcomes [4]. The strong interest in liquid biofuel is due to the fact that it can be used as a supplement, or alternative, to gasoline or diesel fuel derived from petroleum fossil fuel [1,7]. Over time with entrance of oil as new and cheap fuel, tendency to this fuel increased. Biodiesel, a replacement of petroleum diesel, derived from biological sources received increasing attention globally as it lessens the dependence on petroleum products, the energy crisis and environmental pollution [6]. Biodiesel is a non petroleum-based alternative diesel fuel that consists of alkyl esters derived from renewable feedstocks such as plant oils or animal fats. A successful biofuel industry will not be based on digestible starch from staple crops such as corn. The main problem the biodiesel industry frequently faces is the availability of cheap and abundant, high-quality feedstock. Thus, finding alternative, nonfood, feedstocks such as waste vegetable oil, grease, and animal fats (beef tallow) is considered a necessity for the

industry. Through continued research to produce biofuels from nonfood sources, it has been discovered that poultry feather offers another promising feedstock source for biodiesel production [4,5,11]. Feather fat is a low-cost feedstock for biodiesel production compared to high-grade vegetable oils [3,9]. Feathers are byproducts of poultry processing plant and produced in large amount. Worldwide 24 billion chickens are killed annually and around 8.5 billion tones of poultry feather are produced. Currently the poultry feathers are treated in some ways such as dumping, landfilling, composting and incinerating, which involve problems in storage, handling, emissions control and ash disposal [2,10]. Moreover feather meal is used as an animal feed, given its high protein content, and also as a fertilizer because of its high nitrogen content [11]. The utilization of feather fats for biodiesel production is a good alternative to recycle these wastes [8]. The transesterification method is commonly used for biodiesel production because of its higher yield and lower energy consumption. Transesterification is a chemical process of reacting triglycerides with alcohol in the presence of a catalyst. If the reaction is not completed, then there will be mono-, di- and tri-glycerides left in the reaction mixture. Alcohols such as methanol,

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Synthesis, characterization and evaluation of antimicrobial efficacy and brine shrimp lethality assay of *Alstonia scholaris* stem bark extract mediated ZnONPs



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ABSTRACT

Alstonia scholaris is one of the most important medicinal plants and herein, we present the synthesis of zinc oxide nanoparticles using the bark extract of *Alstonia scholaris*, and evaluation of their antimicrobial efficacy. Stable ZnO nanoparticles were formed by treating 90 mL of 1 mM zinc nitrate aqueous solution with 10 mL of 10% bark extract. The formation of *Alstonia scholaris* bark extract mediated zinc oxide nanoparticles was confirmed by UV-visible spectroscopic analysis and recorded the localized surface plasmon resonance (LSPR) at 430 nm. Fourier transform infrared spectroscopic (FT-IR) analysis revealed that primary and secondary amine groups in combination with the proteins present in the bark extract is responsible for the reduction and stabilization of the ZnONPs. The crystalline phase of the nanocrystals was determined by XRD analysis and morphology was studied using transmission electron microscopy (TEM). The hydrodynamic diameter (26.2 nm) and a positive zeta potential (43.0 mV) were measured using the dynamic light scattering technique. The antimicrobial activity of *Alstonia scholaris* ZnONPs was evaluated (*in-vitro*) using disc diffusion method against fungi, Gram-negative and Gram-positive bacteria which were isolated from the biofilm formed in drinking water PVC pipelines. The results obtained suggested that ZnO nanoparticles exhibit a good anti-fungal activity than bactericidal effect towards all pathogens tested in *in-vitro* disc diffusion method (170 ppm, 100 ppm and 50 ppm). Further, the toxicity of biosynthesized ZnONPs was tested against *Alstonia scholaris* to evaluate the cytotoxic effect that displayed IC_{50} value of 95% confidence intervals.

1. Introduction

Nanobiotechnology, a branch of nanoscience has been playing a decisive role in 21st century in deciphering diverse tribulations particularly in the fields of farming, medicine and electronics. Nanoscience poses a basic scientific challenge as it requires a control over the connections between atoms. All physicochemical methods of nanoparticles synthesis are having inherent limitations up to a certain extent which impose an important hurdle in the maturation of this science. The possibility of utilizing biological materials for nanoparticles synthesis has appeared as the most efficient and greener approach [1]. Nanomaterials exhibit unique and considerably changed physical, chemical, and biological properties compared to their bulk counterparts [2]. Although physical and chemical methods [3] are more popular for nanoparticle synthesis, the use of toxic compounds limits their

applications [4]. Indeed, over the past several years, plants, algae, fungi, bacteria, and viruses have been used for production of metallic nanoparticles [5]. Green synthesis of metallic nanoparticles from plants [6] is been an interesting aspect as the process is ecofriendly and non-toxic. Plant and plant materials have become potential sources for the synthesis of metallic nanoparticles recently. A number of researchers have reported on synthesis of metallic nanoparticles including silver [7], gold [8], titanium dioxide [9], tungsten oxide [10], and copper oxide [11] using different plant materials.

Due to the amenability to biological functionalization, the biological nanoparticles are finding important applications in the field of medicine. The antimicrobial potential of metal based nanoparticles has led to its incorporation in consumer, health-related and industrial products. Use of substances with antimicrobial properties is known to have been common practice for at least 2000 years. The discovery, development

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Studies on *In Vitro* Free Radical Scavenging Activity and Secondary Metabolites of *Tamarindus Indica L*

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Abstract - The purpose of the present study was to assess the phytochemical and *in vitro* free radical scavenging activity of *T.indicus L* phytochemical evaluation of *T.indicus L* was carried out with successive solvent extraction and *in vitro* free radical scavenging activities with ethanolic extract was done. Hence we found most of the secondary metabolites like flavonoids, polyphenols, carbohydrates, vitamins etc were found in the ethanolic as well as ethyl acetate extract of *T.indicus L* and compared with solvent extraction and has shows enhanced inhibition potential in various *in vitro* scavenging model with respect to standards. Consequently our study reveals that the *T.indicus L* might be used as herbal drug in near future for the various ailments for the humans, we observed effects need to be confirmed using different *in vivo* models and clinical trials for their effective utilization as therapeutic agents.

Keywords- *Tamarind indicus L*, Antioxidants, Polyphenols, Phytochemical analysis, *In vitro* Scavenging Activity.

1. INTRODUCTION

There is a growing trend in researches about medicinal plants due to their potential to cure many diseases, because of low costs and lower frequency of side effects when compared to synthetic drugs [12,3]. *Tamarindus indica L* is a plant that can be used traditionally in wound healing, snake bite, abdominal pain, colds, inflammations, diarrhea, diarrhea, anti-helminthic infections, and fever. It may also play a role in various diseases and ailments. When the generation of ROS overtakes the antioxidant defense of the cells, the free radicals start attacking cellular proteins, lipids and carbohydrates leading to the pathogenesis of many disorders [4]. The most commonly used antioxidants are Butylated hydroxyanisole (BHA), Butylated hydroxytoluene (BHT), propylgallate and tertbutylhydroquinone [5]. However, they have been suspected of being responsible for liver damage and carcinogenesis in laboratory animals [6]. These plants are very well known in traditional systems of Indian medicines and there are several reports on their biological and clinical potential including antioxidant and antimicrobial activity [7,8,9].

Oxidative Stress

The term oxidative stress is commonly used to describe an imbalance between the systemic manifestation of free radicals and the capability of cells to detoxify them and negate their damaging effects on proteins, lipids, and DNA [10]. The perceptual origin of "oxidative stress" is tracked back to the 1950s and the term began to be used frequently by scientists from 1970 as they started to unravel the effects of free radicals and ionizing radiation [11]. Indeed, diseases such as Rheumatoid arthritis (RA), [12,13], Alzheimer's disease (AD), Parkinson's disease (PD), Amyotrophic lateral sclerosis (ALS) [14], Cardiovascular disease (CVD) [15], allergies [16], immune system dysfunctions [17], diabetes, and cancer are all related to oxidative stress. The important intracellular signaling molecules in RA are reactive oxygen species (ROS), which may damage matrix components and enhance the synovial inflammatory proliferative response in immune system cells [18]. Oxidative stress conditions may also make T-cells resistant to growth or death stimulators [19]. These proteins, including PINK1 (PTEN-induced putative kinase 1), DJ-1 (Parkinson disease protein 7, also known as Protein deglycase DJ-1), LRRK-2 (Leucine-rich repeat kinase 2), parkin and synuclein (SNCA), are associated with mitochondria or are mitochondrial proteins [20]. Additionally, the increase of cellular ROS is strongly linked to LDL (low-density lipoprotein) oxidation, endothelial dysfunction and other pathological conditions in cardiovascular diseases [21,22]. Various studies have discussed the role of oxidative stress and increased levels of hydrogen peroxide [23,24,25] and nitric oxide [26] in allergic diseases such as asthma. Insulin resistance and enzymatic dysfunctions are oxidative stress effects in diabetes resulting in glucose oxidation and increased lipid peroxidation [27]. Among the complex diseases, cancer initiation and progression is mediated by many different predisposing factors including the activation of different proto-oncogenes [28] and alteration of micro RNAs [29,30,31]. The role of ROS and oxidative stress has been investigated extensively in cancer.



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RESEARCH ARTICLE

A Selective Study on Decolorization of Textile Azo Dye using Genetically Modified Brown-Rot Fungi

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Received: 30 April 2019; Revised: 30 May 2019; Accepted: 15 June 2019

ABSTRACT

Aim: Bioremediation of textile effluents using microorganisms can transfer toxic dyestuffs into non-toxic. Moreover, the discovery of the value of brown-rot fungi in bioremediation has brought a great success in this field. Molecular biology related to brown-rot fungi, especially related to the extraction of genetic material (RNA and DNA), gene cloning, and the construction of genetically engineered microorganisms is especially attractive and thus investigated in recent years. Steam-assisted dry gel conversion of tetraethyl orthosilicate and sodium aluminate to ZSM-5 and ZSM-5 activated carbon composite. **Result:** The resulting material exhibited hierarchical pore structure with high surface area and porosity as characterized by X-ray diffraction and nitrogen adsorption. The addition of activated carbon enhanced the surface area and adsorption percentage of aqueous lead (Pb^{2+}) and cadmium (Cd^{2+}) from aqueous solution and further from industrial effluents. **Conclusion:** The co-ordination of the alumina incorporated was analyzed using Al magic-angle spinning nuclear magnetic resonance. ZSM-5/activated carbon composite with high crystallinity was obtained which exhibited high adsorption rates when compared to ZSM-5, activated carbon individually, and their mechanical mixtures.

Keywords: Brown-rot fungi, decolorization of textile dye, genetically modified

INTRODUCTION

The designation "brown-rot fungi" refers to the members of the basidiomycetes, a class of fungi that degrade lignin more rapidly than carbohydrates during the decay of wood under aerobic conditions. As the colored lignin pigments are degraded, the decaying wood acquires a white appearance. During early development, the filamentous organisms consist of undifferentiated, non-pigmented generative hyphae that grow through cell enlargement and tip extension before developing into specialized hyphae. An ecological advantage of fungi over bacteria pertains to their ability to secrete enzymes into the environment from the growing tips of their filamentous

hyphae. Various basidiomycetous species have been investigated for their capacity to produce ligninolytic enzymes within industrial processes or for the treatment of contaminated effluents, soil, or aquifers.^[1] *Phanerochaete chrysosporium*, *Trametes versicolor*, and *Bjerkander* species frequently surpass other fungi through the effectiveness of the enzymes that they produce. Consequently, they are among the well studied of the organisms that produce ligninolytic enzymes. However, various strains of these species produce diverse types and quantities of ligninolytic enzymes depending on the culture medium and environmental conditions. The influential factors for enzyme production are nutrient availability, oxygen concentration, temperature, pH, agitation, and culture medium.^[2] Brown-rot fungi break down the lignin in wood, leaving the lighter-colored cellulose behind. Some of them break down both lignin and cellulose. Because brown-rot fungi are

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Bioremediation of heavy metals using Microalgae: A Review article

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Abstract

Many industrial areas in the world, show increases in generating of wastewater now a days. Industrialization is considered as the key factor for the development of countries in economic terms. The recognition that environmental pollution is a worldwide threat to public health has given rise to new initiatives for environmental restoration for both economic and ecological reasons. Heavy metal contamination due to natural and anthropogenic sources is a global environmental concern. Release of heavy metal without proper treatment poses a significant threat to public health because of its persistence, biomagnifications and accumulation in food chain. Non- biodegradability and sludge production are the two major constraints of metal treatment. Microbial metal bioremediation is an efficient strategy due to its low cost, high efficiency and ecofriendly nature. Bioremediation is considered as one of the safer, cleaner, cost effective and environmental friendly technology for decontaminating sites which are contaminated with wide range of pollutants. The term bioremediation has been introduced to describe the process of using biological agent to remove toxic waste from environment. Microbes are very helpful to remediate the contaminated environment. Algae are important bioremediation agents, and are already being used in wastewater treatment. The potential for algae in wastewater remediation is however much wider in scope than its current role. Despite the algal diversity and relatively inexpensive algal biomass, there has been little commercial exploitation of these plants for treatment of wastewater. Bioremediation is a cheap and efficient method of decontamination that has become increasingly popular now a days to reduce environmental pollution. In urban and semi urban colonies sewage disposal has become an ecological problem. The effluent discharge from residences and industries constitute a major source of water pollution. A number of methods has been developed for removal of such polluted substances like precipitation, evaporation, ion-exchange etc. Algae are important bioremediation agents, and are already being used in wastewater treatment. The potential for algae in wastewater remediation is however much wider in scope than its current role. This paper identifies the area where research gives to the world an "Algal Based Bioremediation" for cleaning the water bodies. In this review paper we observed the effectiveness of algae for bioremediation of wastewater.

Keywords: *Microalgae, Bioremediation, Heavy Metals.*

Introduction

The control of water pollution has become of increasing importance in recent years. The degradation of the environment due to the discharge of polluting wastewater from industrial sources is a real problem in several countries. There has been a dramatic increasing concern about environmental protection. Today, many industries in the world produce huge amount of wastewater from their processes such as; food industry, iron and steel industry, nuclear industry, olive oil mill industry, leather industry and textile industry. This situation is even worse in developing countries like India, where little or no treatment is carried out before the discharge. However, discharge of a huge amount of contamination is produced from industrial processes (1). The release of these contaminants in the environment from wastewater effluents have the potential health effects on humans and may also affect aquatic organisms in an unpredictable way (2,3). Heavy metals have been considered as one of the most hazardous environmental pollutants (4,5). Discharge of effluents containing heavy metals may

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SYNTHESIS OF ZEOLITE ACTIVATED CARBON COMPOSITE MATERIAL USING CUSTARD APPLE SHELL FOR REMOVAL OF HEAVY METAL - AQUEOUS LEAD (II) AND CADMIUM (II)

Dr. P. S. Suresh

ABSTRACT

Aim: A composite material was prepared containing zeolite (ZEO) and activated carbon (AC) that was prepared from custard apple shell powder. Materials and Methods: The process involved the following steps: Preparation of AC and subsequent cross-linked by gel cross reaction of various concentrations and volume amounts to ZEO and ZEO-AC composite. Results: The resulting material exhibited a hierarchical pore structure with high surface area and porosity as characterized by DSC, diffraction and nitrogen adsorption. The addition of AC enhanced the surface area and adsorption percentage of lead (Pb²⁺) and cadmium (Cd²⁺) from aqueous solution and further from real world effluent. The contribution of the various components was analyzed using a single step optimization technique. Maximum ZEO-AC composite with high availability was observed which exhibited high adsorption capacity compared to ZEO, AC, individual and their maximum mixture. Conclusion: A simple and effective approach for remedial activities with the composite material was found out as an efficient method to reduce the exposure of the elements in the removal of Pb²⁺ and Cd²⁺ in the order of the approximately 50% of the total adsorption capacity observed in all the adsorption trials.

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IMMIGRATION IDENTITY IN UNACCUSTOMED EARTH

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ABSTRACT

Jhumpa Lahiri's *Unaccustomed Earth* revealed in 2008 is a couple of advanced and superimposed vision of inter-connectedness. Lahiri includes details from her Bengali community and private expertise in her works. *Unaccustomed earth* neither focuses on tradition nor on the method of acculturation. It's a narrative that exposes the conflicts inherent to a hybrid identity, resulted from the negotiation between completely different cultures. The primary wave of settlers has arrived for long; some have switched to the new culture sharply while some stick with the recent far flung land. Their levels of assimilation, the sense of alienation are passed to their offspring as if genetically. However, the youngsters became naturalized voters of the adopted land consumption its customs and a lot of. Not solely they feel happy with it; they realize the Indian culture incongruent.

Keywords: identity, alienation and assimilation.

Jhumpa Lahiri was born in London and raised in Rhode Island. Her debut, internationally-bestselling assortment, *Interpreter of Maladies*, won the publisher Prize for fiction, the PEN/Hemingway Award and also the American Debut of the Year award; associate degree Yankee Academy of Arts and Letters Addison Metcalf Award and a nomination for the Los Angeles Times Book Prize. It absolutely was translated into twenty-nine languages. Her first novel, *The Namesake*,

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CULTURAL ALIENATION IN JHUMPA LAHIRI'S INTERPRETER OF MALADIES

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ABSTRACT

Indian writing in English has acquired a good significance in recent years, not solely in India however everywhere the planet. This Story is clearly the foremost common literary type. The story writers in English return from completely different elements of the country and that they have numerous social, cultural and family backgrounds. However, what unites them is that the use of English as their mode of expression. The story genre is very favoured by women writers of the South Asian diaspora. Jhumpa Lahiri, through her short stories addresses sensitive dilemmas within the lives of Indians or Indian immigrants with themes like marital status difficulties, miscarriages and also the disconnection among the immigrants. Interpreter of Maladies could be assortment of nine short stories. It's regarding the experiences of Indians who board an alien country and the way they're deeply crushed beneath the burden of alienation and rootlessness. The gathering attempts to be at the same time each an compendium of outstanding short stories and nearly a case book on association between the sexes.

KEYWORDS: alienation, cultural hybridity and displacement.

Lahiri's debut story assortment, Interpreter of Maladies was free in 1999. Interpreter of Maladies received the 2000 publisher Prize for fiction. Lahiri has won several awards for this assortment. These awards and honours embody The Transatlantic Review award from the Henfield Foundation, the Pelican State Review Award for brief fiction, The O' Henry Award for Best Yank Short Stories, The PEN writer Award, The American Debut of the year Award and therefore the Yank Academy of Arts and Letters Award. The stories address sensitive difficulties and therefore the disconnection between first and second generation US immigrants.

Interpreter of Maladies may be assortment of nine short stories. It is concerning the experiences of Indians World Health Organization board associate alien country and the way they are deeply crushed underneath the burden of alienation and rootlessness. The stories gift Lahiri's inter-continental journey throughout that she gets herself acquainted with each cultures by her long keep abroad and regular visits to Asian nation throughout each summer. It looks that for Lahiri, the civilization forms a section of her

M. Jeyanthi

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Synthesis and Properties of Bionanocomposite - Nanochitosan Reinforced with Microcrystalline Cellulose

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Abstract: Bio-nanocomposites in different ratio were successfully developed using microcrystalline cellulose extracted from sisal fibers as the reinforcement and nanochitosan as the polymeric matrix. MCC was extracted by adopting steam explosion technique and nanochitosan was prepared using ionotropic gelation method. The effect of reinforcement on the structure, morphology and properties of the bio-nanocomposites were characterized by SEM, FTIR, XRD, TGA, DSC and swelling analysis. The results indicated that the bio-nanocomposites can be used as efficient materials for heavy metal removal in water treatment.

Keywords: Nanochitosan, MCC, Bio-nanocomposite, Structure, Properties

1. Introduction

71% of the total surface of earth is water. Most of the water bodies have become polluted due to population expansion, haphazard rapid urbanization, industrial and technological expansion, energy utilization and waste generation from domestic and industrial sources [1]. The removal of toxic heavy metal ions discharged in water bodies has received prime importance by many researchers. Over the past few years, several research studies have been conducted globally on natural polymers and various methods have been developed to enhance their metal binding [2] properties.

Since biosorption process is recognized as a scientific method for the removal of toxic heavy metal ions from water, numerous adsorbents such as Chitin, Chitosan and Cellulose which are eco friendly, cost effective but are also effective in the remediation of common effluents present in waste water [3] are well known. Chitin and chitosan are versatile and promising bio-polymers for its special features such as biocompatibility, biodegradability, hydrophilicity, nontoxicity, non- antigenicity, antimicrobial activity as well as bioadherence.

In spite of the unique properties of chitosan, it needs modification to improve the physical and mechanical properties of chitosan. Much research has been done in synthesizing composites using chitosan as the polymeric matrix. Wan Ngah et al., 's (2011) [4] review highlights the application of chitosan composites in the removal of dyes and heavy metals and the future for commercial application. Cellulose fibers in micro and nanoscale are attractive reinforcement to develop "Green" composites.

Adsorption with nanomaterials has emerged as one of the potential technologies in treatment of waste water due to their high adsorption capacity and selectivity [5]. From the vast literature available, the excellent properties of Chitosan and Cellulose as efficient adsorbents of heavy metals for water treatment, our work focused on the preparation and characterization of Nanochitosan using ionotropic gelation and extraction of micro-crystalline

cellulose from Sisal fibers (Agave sisalana plant) by adopting steam explosion technique.

Bio-nanocomposites using Nanochitosan as the polymeric matrix and extracted micro-crystalline cellulose as the reinforcement in varying ratios were prepared by casting and hope to use for bio-sorption studies of heavy metals in waste water. Synthesis and characterization of chitosan nanoparticles by ionic gelation of chitosan and TPP and its sorption capacity for Cr (VI) was studied and first reported on sorption property of chitosan nanorod in the conversion of Cr (VI) to Cr (III) [1].

2. Materials and Methods

2.1. Chemicals and reagent

Chitosan (deacetylation 92% and MW 12, 000) was procured from India Sea Foods, Cochin, Kerala, India. Sodium tripolyphosphate and acetic acid of AR grade were used without any further purification.

Sisal fibers used were supplied by Vibrant Nature, Chennai, Tamil Nadu, India. The chemicals used for the extraction of microcellulose from sisal fibers, NaOH (Commercial grade), acetic acid (Commercial grade), sodium hypochlorite (Commercial grade) and oxalic acid (Commercial grade).

2.2. Preparation of chitosan nanoparticles

The method adopted is as reported by Tang et al., (2007) [6]. 20mg chitosan was dissolved in 40ml of 2.0% (V/V) acetic acid. 20ml of 0.75mg/ml sodium tripolyphosphate was dropped slowly with stirring. Chitosan nano particles as a suspension were collected and stored in deionised water. Supernatant was discarded and chitosan nanoparticles were air dried for further use and analysis.

Effect Bath Temperature of CdSe Thin Films Growing by Electrochemical Deposition

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Abstract: Thin film CdSe compound semiconductors have been deposited by electrochemical deposition on indium doped tin oxide (ITO) coated glass substrates under controlled temperature ranging from room temperature to 70°C. For the as-deposited thin films, the GAXRD analysis revealed a uniform cubic phase of CdSe thin films with preferred orientation along the (200) plane and the calculated crystallite size was found to be 80 to 175nm using by Scherer method. The SEM micrographs showed that the film surface was composed of spherically shaped grains. Optical studies revealed that the as-deposited CdSe thin films have direct band transition whose value decreased from 1.68 to 1.77 eV bath temperature decreases. All different bath temperature obtained CdSe thin films have shown n-type conductivity. The effects of bath temperature on structural, morphological, optical and electrical properties of CdSe thin films were studied.

Keywords: ECD, semiconductor, optical and electrical properties

1. Introduction

The binary II-VI (CdSe, CdS, CdTe, ZnO, ZnSe, ZnS and ZnTe) semiconductor's groups were of requisite candidates in various research areas, such as photovoltaic, energy storage and generation and so on. Additionally, these classes of materials also offer remarkable property in photocatalytic of water splitting and pollutant management. Among all, cadmium selenide (CdSe) NPs are known for their ingenious properties of photocatalytic and photo-luminescence, which adopt three different structures such as wurtzite (hexagonal), sphalerite, (cubic), rock salt (cubic) in nature. Further, CdSe NPs have a direct bandgap with 1.74 eV at ambient temperature and possesses n-type semiconductor nature, solar cells and degradation using photoreactor [1-8].

Recently, electrochemical deposition (ECD) has emerged as an economical technique for growing semiconductor films for the fabrication of optoelectronic devices. Particularly large area films of compound semiconductors for use in solar cells and display devices have been grown by ECD. The attractive features of this technique are its convenience in producing large area devices inexpensively and low temperature growth which yields sharper junctions. As ECD is an isothermal process controlled by electrical parameters, which are readily adjusted, there is good control over film thickness, morphology and composition [9-20].

In this work, we demonstrate the growth CdSe thin films on ITO coated glass substrate by ECD technique with different bath temperature. The bath temperature conditions and their effects on the morphology, optical and electrical properties of as-deposited CdSe thin films were investigated.

2. Experimental

Linear sweep voltammetry (LSV) experiments were conducted in potentiostat/galvanostat CH Instruments USA,

model 604E. Electrochemical deposition (ECD) was performed in a conventional three electrode cell with ITO coated glass substrate as working electrode. The counter electrode was a Pt wire and saturated calomel electrode (Ag⁺/AgCl/KCl) was the reference electrode. Prior to the ECD, the ITO coated glass substrates were sonicated in acetone followed by absolute ethanol for 30 min each and further rinsed with ultra pure water and finally dried at 80°C in air. As received analytical grade CdSO₄·7H₂O and SeO₂ reagents were used for the preparation of experimental solutions. We did several different conditions done, after that we could the following optimum experiment used. An electrolyte solution of optimal composition 0.3 moldm⁻³ of CdSO₄ and 0.003 moldm⁻³ of SeO₂ was prepared using triply distilled water. ECD was performed with different bath temperature room temperature, 40, 50, 60 and 70°C, respectively. The pH of the solution was maintained at 2 by using sulfuric acid. The electrolytic deposition potential and deposition time were maintained at -700 mV and 10 min, respectively. Furthermore, the as-deposited CdSe thin films present a reddish color when observed with the naked eye. After thin film formation, the CdSe thin films were rinsed with distilled water, dried and stored in desiccators for further studies.

3. Result and Discussion

3.1 Growth mechanism

Cadmium selenide films have been formed according to the following over-all reaction 6.



In this mechanism, the first step is the reduction of H₂SeO₃ to selenium on the surface of the substrate according to the reaction

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வே.சரளா

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முனைவர் மா. இரவி

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மிகுசைவத்துறைவிளங்கப்
பூதபரம் பரைபொலியப் புனிதவாய்
மலர்ந்தமுது
சீதவள வயற்புகலித் திருஞான சம்பந்தர்
பாதமலர் தலைக்கொண்டு திருத்தொண்டு
பரவுவாம்” -சேக்கிழார்.

தமிழ் இலக்கிய உலகில் காலத்தோறும் சிறந்த கவிதைகளைப் பாடிய கவிஞர் பலர் உள்ளனர்.கவிதையில் பாடுபொருள், வடிவம் பாடும் உத்தி என்பவையற்றில் மிகச்சிறந்த கவிதைகளைப் படைத்தவர்கள் பலர் உள்ளனர். அவர்களுள் தமிழர் வாழ்வியலுக்கும் இந்திய இலக்கிய மரபிற்கும், வைதிகச் சமய மரபிற்கும் பெருங் கொடையாகக் கவிதைகளைப் படைத்ததுடன் புதிய செல்நெறிகளை உருவாக்கிய தனிப்பெரும் கவிஞராகத் திருஞானசம்பந்தர் விளங்குகிறார். அவர் பாடிய பாடல்கள் தேவாரம் என்று வழங்கப்படுகின்றன.இப்பாடல்கள் மூலம் சைவ சமயத்தையும் தமிழ் மரபுகளையும் அவர் வெளிப்படுத்தினார். இப்பாடல்களை நான்தோறும் ஊர்ஊராகச் சென்று ஆங்காங்குள்ள சிவன் கோயில்களில் இறைவன்முன் பாடினார். இப்பாடல்களை அவரோடு சேர்ந்து ஊர்மக்களும் பாடினார். மக்களுடைய நோய், பஞ்சம், பசி துன்பங்களைக் கண்டு அவைகளைப் போக்க, இறைவன் அருள் வேண்டி பாடினார். சம்பந்தரின் மனித நேயத்தையும், சமுதாயத் தொண்டையும்

ஒருங்கே கண்டார் இறைவன். இறைவனின் அருளினால் இச்செயல்கள் நிகழ்ந்தன என்று அவர் மீண்டும் மீண்டும் பாடுகிறார். எனவே தம்மைக் கவியாகக் கொண்டு இறைவன் இப்பணிகளைச் செய் விரித்தான் என்பதாலே “எனதுரை தனதுரையாக” என்று அழுத்தமாக நம்புகிறார். “ஞாலம் நின் புகழே மிக வேண்டும்” என்று பாடுகின்ற ஞானசம்பந்தருக்கு இறைவனை அவரது சைவப்பணிக்கு திருக்கொடைகள் வழங்கிய திறம் குறித்து இக்கட்டுரை விளம்ப இருக்கிறது.

இறைவியால் ஞானப்பால் அளிக்கப்பட்டு ஞானசம்பந்தர் உண்டது:

ஒருநாள் சிவபாத இருதயர், வேத முறைப்படி நீராடி நியமங்கள் செய்து வருவதற்குப் புறப்பட்டார். குழந்தை தானும் வருவதாகப் பிடிவாதம் செய்ததுதந்தையார் உடன் அழைத்துச் சென்று சீக்காழி தோளியப்பர் கோயிலிலுள்ள திருக்குளத்தின் கரையில் குழந்தையை அமர் வைத்தார்.

சிவபாத இருதயர் நீராடி நீரில் மூழ்கி நின்று அகமருட மந்திரம் ஒதினார். இந்நிலையில், குளக்கரையில் இருந்த குழந்தை தன் தந்தையைக் காணாது அழுதது கைகளைப் பிரிந்து உதடுகள் துடிக்கப் பொருமி அழுதது. தந்தையார் வெளிவரவில்லை. திருத்தோளியப்பர் கோயில் சிகரத்தைப் பார்த்து “அம்மே அப்பா” என்று குழந்தை அழுதது. இந்நிலையில் இறைவன் உமையம்மையோடு விடைமீது எழுந்தருளினார்.

வழிபாட்டின் நிலை

வே.சுரனா

(பகுதிநேரமுனைவர் பட்ட ஆய்வாளர்), முத்துரங்கம் அரசு கலைக்கல்லூரி, ஒட்டன்டி,
வேலூர்
உதவிப்பேராசிரியர், தமிழ்த்துறை, கே.எம்.ஜி.கலை (ம) அறிவியல் கல்லூரி, குடியாத்தம்

முன்னுரை

இறைவனின் திருவருளைப்பெற வழிபாட்டினை நெஞ்சார்ச் செய்தல் வேண்டுமென்பது பொதுவானதொரு விதியாகும். இவ்வழிபாடு ஆன்ம நல ஈடேற்றத்துக்காகத் தெய்வத்தை நினைத்துப் பக்தியுடன் புரிந்திடும் வணக்கம் எனலாம். அழுக்குத் துணிகளைச் சலவையால் வெள்ளை ஆக்குவதைப் போல, ஆணவம் முதலிய அழுக்குகள் படிந்த மனதைக் கடவுள் வழிபாடு நாய்மையாக்குகிறது. மக்கள் தெய்வத்தைத் தூய மனதுடன் நினைத்து வழிபடுவதானிய வாழ்வு, தெய்வத்தின் நலன்களில் தோய்ந்து, தெய்வத்துடன் கூடி இன்புறுதலாகுகே.

அன்பு, நாய்மை, தூய்மை, தியாகம், தொண்டு, முதலிய நற்பண்புகளின் வளர்ச்சியினூடே மிகவுயர்ந்த வழிபாட்டை அமையும் என்பதை உணர்ந்திருந்தனர். மனம், மொழி, மெய் ஆகிய மூன்றிலும் தூய்மையுடன் கூடிய வழிபாடு அமைவதற்கு, மக்கள் வழிபாட்டு வரையறையை உணர வேண்டுமென்று அடிப்படைத் தேவையாகும். அந்நிலையில் தான் தெய்வத்தின் பேராற்றலையும், பேரருளையும் உணர்ந்து சிந்திக்கவும் அருளலுபவம் பெறவும் வாய்ப்பு ஏற்படும். அறியாமையில் இருந்து, மேலான ஞான எல்லைக்கு அழைத்துச் செல்வது வழிபாடு.

பயணம் செய்பவர்கள் பாசத்தைப் பாதையில் ஊன்றிச் சேர வேண்டிய எல்லையை நோக்கி முன்னேற வேண்டும். கடந்தத் தூரம் பெருகிக் கடக்க வேண்டிய தூரம் குறுகிக் கடைசியில் எல்லையினை அடைதல் களிப்புட்டும், அதுபோல அறியாமை தேய்ந்து அல்லல் நீங்கி அழியா இன்பம் பெருக நம்முடைய பேரின்ப வைப்பாக இருக்கிற இறைவனின் இணையடிகளைச் சார்ந்து இன்புறுவதும் வழிபடுவதும் உன்னதமான நிலைக்கு வழிவகுக்கும். இறைவனிடம் முழுமையானதொரு அடைக்கலமாகும் வகையில் வழிபாடு அமைதல் வேண்டும் என்பதை இராமகிருட்டிண பரமஅம்சர் தம் சீடர்களுக்கு,

"தாயே, ஆனந்தமயீ! உன் சொருபத்தை எனக்குக் காட்டி அருள்வாயாக. நீ காட்சிகள் கொடுத்தேயாகவேண்டும். தீனதயா பரியே! அகிலாண்ட நாயகியே, நான் உன் படைப்புக்குப் புறம்பானவன் அல்லன்; நெறியான வாழ்வை நான் அறிந்திலேன்; என்னிடத்துப் பக்தியில்லை, எனக்கு நீ காட்சியளித் தருள்வாயாக" என்று கூறி வேண்டினார். இறைவனைச் சிந்தனையில் கொண்டு, காதலாகி, கண்ணீர் சிந்திக் கடைத்தேறக் கசிந்துருக வேண்டுமென்பது இதனால் புலனாகிறது. இத்தகைய வழிபாட்டுப் பழக்கத்தை மக்கள் மேற்கொள்வதற்குக் காரணம், அவர்கள் இறையிடத்தே கொண்ட நம்பிக்கை, இறைவனை அன்புடன் வணங்கி வழிபட்டால் இறைவனது ஆதரவுகள் கிட்டும், விருப்பத்தை விண்ணப்பித்தால் அவர் அதனை முடித்து வைப்பார், தம் எண்ணம் ஈடேற அவரருள் துணைகள் செய்யும் என மக்கள் முழுமையாக நம்பிக்கைகள் கொண்டிருந்தார்கள்.

மலர்: 3

சிறப்பிதழ்: 2

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ஸ்ரீ விஜய் வித்யாலயா கலை மற்றும் அறிவியல் கல்லூரி



(பல்கலைக்கல்லை மாணியல் குழுவால் (UCC) 2 (i) & 12(a) 1958 விதிப்படி அங்கீகாரம் பெற்றது)

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நல்லம்பள்ளி, தருமபுரி - 636 807.

தமிழ்நாய்வுத்துறை மற்றும் சான்லாக்ஸ் பன்னாட்டுத் தமிழியல் ஆய்விதழ்
கிணைந்து நடத்திய

பன்னாட்டுக் கருத்தரங்கம்

தமிழ் இலக்கியங்களில் பத்துறைப் பதிவுகள்

நாள் : 11.03.2019, 12.03.2019

ஸ்ரீ விஜய் வித்யாலயா கலை மற்றும் அறிவியல் கல்லூரியின் தமிழ்நாய்வுத்துறையில்

தமிழிலக்கியங்களில் பத்துறைப் பதிவுகள் என்னும் பொருண்மையில் நடைபெற்ற இரண்டு நாள்

பன்னாட்டுக் கருத்தரங்கில் திரு/திருமதி/முனைவர்/பேராசிரியர்**பி.உ. சரணா**.....

அவர்கள் கலந்துகொண்டு கட்டுரையாளராக / பங்கேற்பாளராக**உழிபாடிமுன்... நல்ல**.....

.....என்ற தலைப்பில் ஆய்வுக்கட்டுரை வழங்கினார் என்று சான்றளிக்கப்படுகிறது.


முனைவர் இரா. விஜய்நீதி
கருத்தரங்க ஒருங்கிணைப்பாளர்
தமிழ்நாய்வுத்துறைத் தலைவர்

S. Hameeda Bano
முனைவர் எஸ். ஹமீதா பாநு
முதல்வர்
ஸ்ரீ விஜய் வித்யாலயா கலை
மற்றும் அறிவியல் கல்லூரி தருமபுரி


திரு D.N.C.மணிவண்ணா
தலைவர்
ஸ்ரீ விஜய் வித்யாலயா கல்விக் குழுமம்

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Acoustic Cryptanalysis With advance techniques

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Abstract

Many computers emit a high-pitched noise during operation, due to vibration in some of their electronic components. These acoustic emanations are more than a nuisance: They can convey information about the software running on the computer and, in particular, leak sensitive information about security-related computations. In a preliminary presentation (Eurocrypt'04 rump session), we have shown that different RSA keys induce different sound patterns, but it was not clear how to extract individual key bits. The main problem was the very low bandwidth of the acoustic side channel and several orders of magnitude below the GHz-scale clock rates of the attacked computers. In this paper, we describe a new acoustic cryptanalysis key extraction attack, applicable to GnuPG's implementation of RSA. The attack can extract full 4096-bit RSA decryption keys from laptop computers (of various models), within an hour, using the sound generated by the computer during the decryption of some chosen cipher texts. We experimentally demonstrate such attacks, using a plain mobile phone placed next to the computer, or a more sensitive microphone placed 10 meters away.

1. Introduction

One of the methods for extracting information from supposedly secure systems is side channel attacks: cryptanalytic techniques that rely on information unintentionally leaked by computing devices. Most side-channel attack research has focused on electromagnetic emanations (TEMPEST), power consumption and, recently, diffused visible light from CRT displays. The oldest eavesdropping channel, namely acoustic emanations, has received little attention. Our preliminary analysis of acoustic emanations from personal computers shows them to be a surprisingly rich source of information on CPU activity



Acoustic cryptanalysis is a side channel attack which exploits sounds, audible or not, produced during a computation or input-output operation by computer workstations, impact printers, or electromechanical cipher machines

BIODEGRADATION OF POLY AROMATIC HYDROCARBONS
USING NITRIFYING PSEUDOMONAS BACTERIA AND ITS
MOLECULAR CHARACTERIZATION

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ABSTRACT

Biotechnology has applications in four major industrial areas, including health care (medical), crop production and agriculture, non-food (industrial) uses of crops and other products (e.g. biodegradable plastics, Vegetable oil, biofuels) and environmental uses. To attain the task microorganisms were isolated from the delimiting water and air. The efficiency was assured by estimating the level of nitrogen content. It was found that all organisms were capable of performing the denitrifying reaction. The obtained isolates were inoculated in synthetic wastewater and their growth characteristics were studied by varying the pH between 4 to 10. The growth of organisms was

maximum in between pH 7 to 9. The isolates were inoculated in delimiting water (real life wastewater). Two efficient isolates were selected DN3 and DN5. The isolate DN5 was screened for the utilization of PAHs. The molecular identification of the isolate DN5 was identified based on 16S rDNA sequencing and the sequenced DNA was read in the Genbank databases (BLAST), compared with the other sequences bacterial class and confirmed as *Pseudomonas* sp. The strain DN5 showed considerable growth with on 1 mM concentration Naphthalene, Phenanthrene, Anthracene, Fluorene, as the sole carbon. *Pseudomonas* sp. DN5 showed greater degradation capability nearly around 100% against the PAHs tested.

KEYWORDS: Pseudomonas, Denitrification, PAHs, BLAST.

INTRODUCTION

Biodegradable matter is generally organic material such as plant and animal matter and other substances originating from living organisms, or artificial materials that are similar enough to



PURIFICATION OF BETA GALACTOSIDASE ENZYME FROM
DAIRY EFFLUENT *BACILLUS SPECIES*.

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ABSTRACT

Beta-galactosidases are the highly demanded enzymes in the dairy industries for the hydrolysis of lactose into its constituent monosaccharides. Thermostable beta-galactosidases producing *Bacillus* sp D4 can be used as a probiotic food for lactose intolerant people. In the present study, the *Bacillus* sp was isolated from the dairy industry effluent in Chennai and screened with X-Gal media. The *Bacillus* sp. strain D4 was characterized by biochemical test and identified based on 16S rDNA sequencing and their phylogenetic analysis was carried out. The strain D4 was assessed for its probiotic

nature using antibiotic markers. The characterization of the enzyme and optimization of the production medium were very important in determining the maximum production and activity of beta-galactosidase. Maximum production of enzyme was obtained when the medium was incubated for 48 hours at 37°C and maintained at pH 7. The addition of various carbon, nitrogen, aminoacid sources, metal ions and natural substrates to the medium were studied at concentration 1% m/v. Xylose, Yeast extract, L-phenylalanine, Mg²⁺ ion, Mn²⁺ ion and wheat bran increased the production of beta galactosidase. The enzyme was partially purified by acetone and ammonium sulphate precipitation and characterized based on the temperature, pH. The enzyme showed highest activity at 55°C (0.350 U/ml) and at pH 7 (0.294 U/ml). The enzyme retained 100% of its activity at 45°C and retained 90% of its activity at pH 7.

KEYWORDS: *Bacillus* sp, probiotic, X-Gal, ONPG, beta-galactosidase.

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A Study on Silver Nano-Particle Production from *Aristolochia Bracteata* and Its Antimicrobial Activity

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ABSTRACT

Nanotechnology is the study of extremely small structures. The prefix "nano" is a Greek word which means "dwarf". The word "nano" means very small or miniature size. Nanotechnology encompasses the production and application of physical, chemical, and biological systems at scales ranging from individual atoms or molecules to submicron dimensions. Nanotechnology applications that could impact the global market in agricultural, pharmaceutical and other non-fuel commodities are being developed currently, nanotechnology is described as a revolutionary discipline in terms of its possible impact on industrial applications. Even today various disease like cancer, cardiovascular diseases, diabetes, Parkinson's disease, multiple sclerosis and Alzheimer's disease, as well as complex illnesses pose a major problem for mankind. Nanotechnology can deliver medicine or drugs into specific parts of the human body, thereby making them more effective and less harmful to other parts of the body. Once the Nano shells enter into tumor cells and radiation treatment is applied, they absorb the energy and heat up enough to kill the cancer cells. To synthesize silver nanoparticles using medicinal plants in and around Vellore district, Tamilnadu. The screening on the leaf extract of the selected medicinal plant to evaluate the optimal synthesis of silver nanoparticles revealed that leaves extract of the plant *Aristolochia bracteata* was found to be an effective reducing agents of Ag ions to produce silver nanoparticles of nanosized. The aqueous leaf extracts were employed as reducing agents for the development of silver nanoparticles from silver nitrate solution. The aim of the present study was to evaluate the antibacterial activity of synthesized silver nanoparticles from *Aristolochia bracteata* leaf extract. Three Bacterial pathogens *Bacillus subtilis*, *Staphylococcus aureus*, *Salmonella typhi* were used for experimental study. It was found that the minimum inhibitory concentration (MIC) of silver nanoparticles from *Aristolochia bracteata* aqueous extract was 25µg in the six bacterial strains.

Keywords: Silver Nanoparticles, *Aristolochia Bracteata* *Bacillus Subtilis* *Staphylococcus Aureus* *Salmonella Typhi*.

1. INTRODUCTION

Nanotechnology is the study of extremely small structures. The prefix "nano" is a Greek word which means "dwarf". The word "nano" means very small or miniature size. Nanotechnology is the treatment of individual atoms, molecules, or compounds into structures to produce special properties. Science and technology research in nanotechnology promises breakthroughs in areas such as materials and manufacturing, medicine and healthcare. It is widely felt that nanotechnology will be the next Industrial research revolution. For examples include biological synthesis, spontaneous self-assembly of molecular clusters (molecular self-assembly) from simple reagents in solution and biological molecules (e.g., DNA) used as building blocks for the production of three-dimensional nanostructures.

Nanoparticles

Nanoparticles have a long list of applicability in improving human life and its environment. It has been found that a 5000 years old Indian system of medicine Ayurveda had some knowledge of Nano scale fabrication. Nanoparticles of noble metals, such as silver, gold, and platinum are widely applied in products that directly come in contact with the human body.

Classification of Nanoparticles

Nanoparticles can be divided into two types such as organic and inorganic nanoparticles. Organic nanoparticles are carbon nanoparticles while some of the inorganics may include magnetic nanoparticles, noble nanoparticles like silver and gold and

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LARGE SCALE PRODUCTION OF MICRO ALGAE AND
EXTRACTION OF BIOOIL BY TRANS ESTERIFICATION METHOD.¹G. Rajkumar and ²Dr. J. Thirumagal¹M. Phil., Research Scholar., K.M.G. College of Arts and Science, Gudiyattam.²Asst. Prof In Biochemistry., K.M.G. College of Arts and Science, Gudiyattam.Article Received on
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ABSTRACT

Algae are a diverse group of eukaryotic photosynthetic organisms that constitute over 40,000 species. They can be single - celled (unicellular) or multicellular such as seaweed. Microalgae has been described a s natures very own power cells and could provide alternatives to petroleum based fuels without competing with crops. In this study, the algae species selected were *Chlorella pyrenoidosa* and *Scenedesmus*. It was initially expanded in its selective medium (Fog's medium) and then expanded to a larger scale after putting various trials at various concentrations. It was found that chlorella well adapted to the waste water as there was increase in the absorbance and doubling

time. Carbon dioxide seemed to enhance the growth of algae even more than aerators used. The algae were expanded in the Bubble tops of 25 litres capacity to get the mass production of algae for the Biodiesel production. Collected biomass The Flocculating agent used was the Aluminum Chloride that showed good separation. Decreasing the pH to 4 showed a better result and faster flocculation thus it was performed by decreasing pH to 4. Then the collected biomass was used for the Biodiesel production by mixing the catalyst mixture consisting of Sodium Hydroxide and the solvent methanol and the Trans esterification process was carried out and allowed to settle for 16 hrs. In this study, the oil was produced from the algae efficiently by Trans esterification which was environmental friendly. The amount of oil extracted was found to be 28.8 ml. By this way, *Chlorella pyrenoidosa* can be used as renewable energy source.

KEYWORDS: Microalgae, *Chlorella pyrenoidosa*, *Scenedesmus*, Biooil, Trans esterification.



Anti-Inflammatory and Antioxidant Activities of *Psidium Guajava Linn* Aqueous Extract

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Abstract

Based on the local availability we have chosen the plant *Psidium guajava Linn* for our study, which are rich in polyphenols (bioactive compounds/molecules). The objective of our study is to evaluate the antioxidant and anti-inflammatory activities of aqueous extract of *P.guajava Linn* leaves. In this context, the *in vitro* antioxidant activity was done by 2,2-diphenyl-1-picrylhydrazyl, hydroxyl radical and H₂O₂ radical scavenging, ferric ion chelating, ferric reducing power, total antioxidant capacity and by the protection against peroxidation of β -carotene-linoleic acid in emulsion. The anti-inflammatory activity was evaluated by studying membrane of human red blood cells against different hypotonic concentrations of NaCl and against heat inhibiting the denaturation of albumin. *P.guajava Linn* showed *in vitro* anti-inflammatory activity by inhibiting the heat induced albumin denaturation and red blood cells membrane stabilization. Our results showed that aqueous leaf extract of *P.guajava Linn* has good antioxidant activity and anti-inflammatory properties. *P.guajava Linn* aqueous extract can be used to prevent oxidative damage and inflammatory processes.

Keywords: *Psidium guajava Linn*, Antioxidant and anti-inflammatory activity.

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1. Introduction

1.1. Antioxidants

Antioxidants are thought to protect the body against the destructive effects of free radicals. Antioxidants neutralize free radicals by donating one of their own electrons, ending the electron-gain reaction. Body produces several enzymes, including superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GSHPX), that neutralize many types of free radicals. Supplements of these enzymes are available for oral administration. However, their absorption is probably minimal at best. Supplementing with the "building blocks" the body requires to make SOD, catalase, and glutathione peroxidase may be more effective. These building block nutrients include the minerals manganese, zinc, and copper for SOD and selenium for GSHPX. In addition to enzymes, many vitamins, minerals and hormones act as antioxidants in their own right, such as vitamin C, vitamin E, β -carotene, lutein, lycopene, vitamin B₂, coenzyme Q₁₀, and cysteine (an amino acid). Herbs, such as bilberry, turmeric (curcumin), grape seed or pine bark extracts, and ginkgo can also provide powerful antioxidant protection for the body. Melatonin is a hormone secreted by pineal gland and proved to be powerful antioxidant and free radical scavenger.

2. Materials and Methods

2.1. Chemicals

Psidium guajava Linn (Guava) leaves were collected from in and around our college campus. All other chemicals were purchased from Sigma-Aldrich, Chemicals Pvt. Ltd, India. All other chemicals used were of good quality and analytical grade.

2.2. Preparation of Extract

Psidium guajava Linn leaves were collected in and around from the college campus, washed well cleaned with distilled water, and air dried at room temperature for 12/12 light and dark conditions. The air dried plant material was ground in an electric grinder and sieved by 0.22 mm mesh size. 20 grams of *Psidium guajava Linn* leaves powder were dissolved in 200 ml of double distilled water. After 24 hours of maceration at room temperature the filtrate was lyophilized.

2.3. Phytochemical Screening

The phytochemical investigation of the different extracts of *Psidium guajava Linn* was carried out in standard protocol. The phytochemical tests were carried out with Chloroform, Methanol, Ethanol & Water. The results are presented in Table 1.

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Protective Effect of α -Momorcharin on Oxidative Damage and Antioxidant Status in Diethylnitrosamine Induced Hepatocellular Carcinoma in Animal Model

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IMPACT FACTOR - 2.5

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Abstract

The present investigation is part of continuing programme related to the biochemical screening of local plants used in Ancient Indian Medicine, Ayurveda, Siddha and Yunani. Our study aims at elucidating the antioxidant efficiency of α -momorcharin from (*Momordica charantia* L.) for its protective effect (antioxidant) against N-Nitrosodiethylamine (DEN) induced Hepatocellular carcinoma (HCC) in rat liver carcinogenesis. Studies have shown that N-Nitrosodiethylamine (DEN) induces lipid peroxidation and alters the antioxidant status in nontarget organisms. In our present study, an attempt has been made to study the effect of N-Nitrosodiethylamine (DEN) induced Hepatocellular carcinoma (HCC) on biochemical parameters and ameliorating effect of α -momorcharin. Adult male wistar rats were divided into six different groups. Rats in group I received standard pellet diet and served as control, group II rats were induced with hepatocellular carcinoma by providing 0.01% DEN through water for 15 weeks. Group III rats received α -momorcharin via intragastric intubation at a daily dose of 30 mg/kg body weight for 16 weeks every day. Groups IV to VI rats received 0.01% of DEN as in group II along with α -momorcharin via intragastric intubation at a daily dose of 10, 20 and 30 mg/kg body weight for throughout the experimental period of 16 weeks. N-Nitrosodiethylamine (DEN) induction leads to reduction in the levels of Enzymic and Non-Enzymic antioxidants levels. However, on treatment with α -momorcharin normalized the levels of all the biochemical parameters. These findings highlight the efficacy of α -momorcharin as protective (antioxidant) effects against N-Nitrosodiethylamine (DEN) induced oxidative stress. Histological observations of liver tissue too correlated with the above biochemical findings. These results clearly suggest that α -momorcharin treatment prevents liver damage, lipid peroxidation and protects the antioxidant defense system in DEN-induced liver carcinogenesis in rats.

Keywords: α -Momorcharin, N-Nitrosodiethylamine, Antioxidants, SOD, CAT, LPO, GPx.**Introduction**

Primary hepatocellular carcinoma (HCC) is one of the most common malignant tumors in the world.⁽¹⁾ Accumulating evidence has suggested that several mechanisms contribute to the carcinogenesis of HCC.^(2,3) Recent efforts to control the incidence of HCC have focused on developing effective new chemoprevention strategies. HCC induced by diethylnitrosamine (DEN) in Wistar rats that shows similarities to human HCC is an ideal model for investigating the effect of intervention by chemopreventive agent.⁽⁴⁾ DEN, a hepatocarcinogen, is known to induce perturbations in the nuclear enzymes involved in DNA repair/replication.⁽⁵⁾ Investigations have provided evidence that DEN causes a wide range of tumors in all animal species, and these compounds are considered to be effective health hazards to man. Man is exposed to DEN through diet, in certain occupational settings, and through the use of tobacco products, cosmetics, pharmaceutical products, and agricultural chemicals.⁽⁶⁾ It has been reported that DEN, after its metabolic biotransformation, produces the promutagenic adducts, O₆-ethyl deoxyguanosine and O₆-ethyl deoxythymidine that can produce DNA chain damage, depurination or binding to DNA, and often generates a miscoding gene sequence, paving a way for the initiation of liver carcinogenesis.⁽⁷⁾ It has also been reported to produce reactive oxygen species

(ROS), a potentially dangerous by-product of cellular metabolism that may directly affect cellular development, growth, and survival.⁽⁸⁾ Oxidative stress caused by ROS has been reported in membrane lipid peroxidation, DNA damage, and mutation associated with the initiation of various stages of the tumor formation process.⁽⁹⁾ Polyphenolic compounds have the most promising pharmaceutical properties and have received greater attention than any other class of natural products to counter the ill effects of oxygen radicals.⁽¹⁰⁾

Free Radicals

Reactive oxygen species (ROS) Free radicals can be defined as molecules or molecular fragments containing one or more unpaired electrons in atomic or molecular orbitals.⁽¹¹⁾ The addition of an electron to dioxygen forms the superoxide anion radical (O₂⁻).⁽¹²⁾ The addition of an electron to dioxygen forms the superoxide anion radical (O₂⁻).⁽¹²⁾ Superoxide anion, arising either through metabolic processes or following oxygen "activation" by physical irradiation, is considered the "primary" ROS, and can further interact with other molecules to generate "secondary" ROS, either directly/prevalently through enzyme- or metal-catalysed processes.⁽¹³⁾ The production of superoxide occurs mostly within the mitochondria of a cell.⁽¹⁴⁾ The mitochondrial electron transport chain is the main source of ATP in the mammalian cell and thus is

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RESEARCH ARTICLE!!!

ANTI-DIABETIC POTENTIAL OF *TRIANTHEMA DECANDRA* EXTRACT STUDIED IN ALLOXAN INDUCED DIABETIC MICE

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KEYWORDS:

Trianthema decandra,
SGOT, SGPT, Bilirubin,
Alloxan.

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ABSTRACT

Diabetes mellitus is one of the most common endocrine disorders accompanied with many metabolic syndromes. Use of herbal medicines has always been an option to treat a great number of diseases such as diabetes and its complications. The aim of the present study is to investigate the liver protective effects of *Trianthema decandra linn* extract in alloxan induced diabetic Swiss albino mice. Nine Swiss albino mice (weighing 28-32g) were randomly divided into control, alloxan treated and *Trianthema decandra linn* treated mice group. Diabetes was induced in mice by injecting intraperitoneally alloxan monohydrate at dose of 150 mg/kg body weight. Aqueous extracts of *Trianthema decandra linn* at dose of 250 mg/kg body weight were given orally in diabetic mice daily for three weeks after established LD₅₀ value. In diabetic mice, the SGOT, SGPT, Bilirubin and serum glucose levels were significantly increased in comparison with the control groups. Statistical analysis (p<0.05) of the data indicated that aqueous extract of *Trianthema decandra linn* were significantly decrease serum contents of liver enzymes (SGOT, SGPT and Bilirubin) as well as serum glucose in treated groups. The results suggested that aqueous extracts of *Trianthema decandra linn* possesses liver protective effect against alloxan induced diabetic mice.

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Pharmaceutical Sciences

RESEARCH ARTICLE!!!

HYPOGLYCEMIC ANTIOXIDANT POTENTIAL OF TETRAHYDROXY FLAVONE (FISETIN) IN EXPERIMENTAL ANIMAL MODEL

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ABSTRACT

Fisetin (3, 3', 4', 7'- tetrahydroxyflavone) was evaluated for its protective effect against Streptozotocin induced diabetes in experimental rats. Fisetin is one of the naturally occurring flavonoids, it exhibits a wide variety of therapeutic benefits. Fisetin is a dietary flavonoid (widely distributed in strawberries, apples, persimmons, grapes, onions and cucumbers) which displays a variety of pharmacological properties including antioxidant. Our present study was carried out to evaluate the antidiabetic effect of Fisetin in Normal and Streptozotocin-induced diabetic rats. The oral feeding of Fisetin suspended in 0.5% DMSO and water administered orally to diabetic rats for 28 days at a dosage of 50mg/kg body weight exhibited a significant ($p < 0.001$) reduction in FBG level and a remarkable increase in serum insulin level. There was a significant reduction ($p < 0.001$) in serum parameters viz., AST, ALT, lipids, TG, TC, urea, TBARS, and albumin in diabetic rats treated with Fisetin. Vitamin-C & E, ceruloplasmin, reduced glutathione and LPO levels were estimated in plasma of control and experimental groups of rats. The levels of lipid peroxides, reduced glutathione and activities of SOD, CAT and glutathione peroxidase were assayed in pancreatic tissue of control and experimental groups of rats. A significant increase in the levels of vit-E, ceruloplasmin, lipid peroxides and a concomitant decrease in levels of vit-C, reduced glutathione were observed in diabetic rats. The activities of pancreatic antioxidant enzymes were altered in diabetic rats. The body weight of diabetic rats was restored to normalcy state when treated with the Fisetin. Morphometric analysis of Fisetin treated rats islets of pancreas showed a significant ($p < 0.001$) increase in the number and area of islets cells when compared with normal and diabetic control rats. Histopathology studies in liver and kidney of

KEYWORDS:

Antioxidant, Fisetin,
Streptozotocin, Diabetes,
Oxidative Stress.

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TRANSNATIONAL BELONGING TO "THE NAMESAKE"

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Article Particulars

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Abstract

The Namesake depicts the life and struggles of Ashoke and Ashima Ganguli, two first-generation immigrants from West Bengal (Kolkata), India to the United States, and their American-born children Gogol and Sonia. Ashoke and Ashima Ganguli, immigrants in America, welcome their first baby boy into the world. They require giving their son an official name to be on the birth certificate and to release from their hospital in Cambridge, Massachusetts. So they must break with Bengali custom, and Ashoke has got this one covered. He names their son Gogol, after the Russian novelist. Apparently, Gogol saved Ashoke's life when he was injured in a train crash in India, back in 1961. Gogol for him means books of the author and not the man himself. Gangulis eventually move to Cambridge, Massachusetts, where they raise Gogol and, a few years later, their daughter Sonia. Growing up, Gogol gradually realizes that his name is quite unusual, and he doesn't like that. Annoyed by the Bengali customs of his parents, Gogol embraces American popular culture. Gogol Ganguli knows that he suffers the burden of his heritage as well as his odd, antic name. Lahiri brings great empathy to Gogol as he stumbles along the first-generation path, scattered with conflicting loyalties, comic detours, and wrenching love affairs. She reveals the defining power of the names and expectations bestowed upon us by our parents and the means by which we slowly, sometimes painfully, come to define ourselves. The summer before he leaves to attend college at Yale, he officially changes his name to Nikhil. Gogol is no more.

Keywords: immigration, assimilation, family relations, travelling.

In the past five decades, numerous literary works by Indian-born writers have placed issues connected to immigration at the centre of their narratives. Internationally acclaimed authors like Anita Desai, Bharati Mukherjee, Arundhati Roy, Amitav Ghosh or Salman Rushdie,

To mention only a few, have drawn attention to the experience of migration and the traumas often associated with leaving one's homeland and coming in contact with another culture. However, Sanjukta Dasgupta has pointed out that male migrant writers



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GREEN MARKETING: ISSUES AND CHALLENGES

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Abstract

Environmental pollutions is an inevitable phenomenon in a global perspective in this era of industrialization, given the unbelievable scientific and technological advances made over the last two centuries. Every year, tens of millions of various types of chemical products are manufactured for commercial, industrial, agricultural, military, household and personal use. It is estimated that around hundred million different types of toxic and hazardous products are used by U.S industries every year. It is these chemicals and their by products that contaminate our air, soil, streams, oceans and underground water supplied. It also damaged our food and health. In today's business world, environmental issues pay an important role in marketing. Resources are limited and human wants are unlimited. Hence, it is very important for the marketer to utilize the resources efficiently and at the same time, achieve the organizations objective. Green marketing talks about sustainable and socially responsible products and services.

Green products don't work well and consumer won't pay a premium for them is old saying. But most companies today believe that investing in environmentally preferable products and technologies can be a source of innovation and competitive advantage. This paper deals with the

evolution and importance of the concept of green marketing in today's business world, issues and challenges of green marketing.

I. INTRODUCTION

Marketing is more than any other business function that deals with customers. The most basic concept underlying marketing is that of human wants are Plentiful and complex. Human needs are states of felt deprivation. They include basic physiological needs for food, clothing, safety and social needs. As a society evolves the wants expand and diversifies but these unlimited wants needs to satisfy by the limited resources. People will choose those products that will produce the most satisfaction for their money. Many sellers make the mistake of paying more attention to the specific products they offer than to the benefits and experiences produced by these products. These sellers suffer from marketing myopia. They are so taken with their products that they focus only on existing wants and lose sight of underlying customer, societal and environmental needs. They forget that a product is only a tool to solve a consumer problem. Green marketing is a phenomenon which has developed particular importance in the modern market. Green marketing came into prominence in the late 1980s and early 1990s. it was first discussed much earlier by Honin et al 1976. Marketing as a

RECENT TRENDS IN MARKETING 'ON-LINE MARKETING'
ISSUES AND CHALLENGES



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Introduction

In the rapidly changing social economical, political, environmental and technological situations, the world-over companies are under tremendous pressure to respond to the changes. The changes are more accelerated with the onset of Liberalization, Privatization & Globalization. Today is not like yesterday and tomorrow will be different from today. Traditional nature of Trade, Commerce & Industry is going to replace by new one and information technology (IT) is playing a predominant role in it. Competitive economies produce more wealth than highly regulated and planned economies. So, many countries are privatizing state owned companies for the benefit of competition. A whole world people became the customer of business. The no hold barred competition had given rise to marketing challenges before business. The market with choice and ready availability as its crucial feature forced the companies of India to resort to the best marketing practices as adopted in the highly advanced countries. If we want economic development in freedom and responsibility, we have to build it on the foundation of marketing. Without marketing, production & development of any business is not possible. Marketing is backbone of business.

Due to changes in information technology, use of Internet has become common feature of economy. The new competitive situation has changed the situation leading to new global life style. Computer based information, use of internet and intranet services, web wisdom, ERP; thus widening the increasing nature & scope of e-marketing. The market place is not what it used to be. Marketing is typically seen as the task of creating, promoting & delivering goods & services to consumer and businesses. This marketing is now done electronically. E-commerce is now doing the exchange of products, services, information & payments through the medium of computers or electronic networks.

The term Electronic Commerce describes a wide variety of electronic platform such as sending of purchase orders to supplier through Electronic Data Interchange (EDI), the use of FAX and e-mail to conduct transaction, the use of ATM, EFTPOS (Electronic Funds Transfer at Point Of Sale). Smart Cards to facilitate payment & obtains digital cash & use of Internet & online services. Firms know, how to market over the Internet & new multimedia with a tremendous potential to achieve competitive edge. On-line marketing is now playing important role in this competition. E-commerce, Retail Management, Wholesaling, Brand loyalty, changing buyers behaviors' are some of the recent trends in marketing. But in this paper only 'On-line Marketing' is taken into consideration.

GROUP DYNAMICS

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Introduction

Within an organization we find number of groups. Individuals joining group(s) is a reality which may be formal or informal groups. People work in groups quite frequently and in many different areas of their life. Ex., work, school/colleges/sport, hobbies. The manager need to understand group dynamics that can enable them to adopt the right approach of interacting with them.

Group Dynamics

By group dynamics we refer to the process of interaction within or between the groups that lead to certain attitudes or opinions being formed. A psychological bond gets created between people in the groups. This bonding generates a sense of belongingness with the group and group identity. Group dynamics include all the psychological processes that unfold as a consequence of people coming together and working in a integrated manner. Each member in the group depends upon other members of the group other members of the group. Such interdependency gives rise to some pattern in group behavior and thought process that is strongly believed by the group as a whole. Through the study of group dynamics of any group in the organization, the manager is able to support desirable behavior and curb undesirable behavior.

Reasons for group formation in organizations

An organization organize its human and other resources for goal accomplishments. Common goals are better achieved when people work in groups with a common strategy and approach towards shared goal. It is desirable to constitute work groups for many reasons. While working in integrated groups, people are able to attain much more than the sum of individual outcomes. Such a group synergy is the basic reason why groups get formed in organizations. Members of groups also enjoy the privilege of affiliation to the group that confers them a higher status, enhanced pride, social security and satisfaction from social security and satisfaction from social interaction. At the times groups also offer economic security to the members. Other than these motives, employees in organizations may constitute groups based on their social interests.

Cohesiveness

Group think only occurs in cohesive groups have many advantages over groups that lack unity. People enjoy their membership much more in cohesive groups they less likely to abandon the group, and they work harder in pursuit of the group goals. But extreme cohesiveness can be dangerous. When cohesiveness intensifies, members become more likely to accept the goals, decisions and norms of the group without reservation. Conformity pressures also rise as members become reluctant to say or do anything that goes against the grain of the group, and the number of internal disagreements. So necessary for good decision decreases

Isolation: Group think groups work in secret. They isolate themselves from outsiders and refuse to modify their beliefs to bring them into line with society's beliefs. They avoid leaks by maintaining strict confidentiality and working only with people who are members of their group.

Biased leadership: A biased leader who exerts too much authority over the group members can increase conformity pressures and railroad decisions. In groupthink groups the leader determines the agenda for each meeting, sets limits on discussion and can even decide who will be heard.

Decisional stress

Groupthink becomes more likely when the group is stressed particularly by time pressures. When groups are stressed they minimize the possibility of negative outcomes, concentrating on minor details and overlooking larger issues.

Overestimation of the group: Groups that have fallen into the trap of groupthink are actually fiascoes and making is working all the wrong choices. Yet the members usually assume that everything is working perfectly. They are happy and confident.

Biased perceptions

During groupthink members respond to people who oppose their plan with suspicion. They often adopt ideas that are completely inconsistent with reality, and yet they rationalize their beliefs.

WOMEN EMPOWERMENT THROUGH SELF-HELP GROUPS (SHGs) A MICRO STUDY IN VELLORE DISTRICT, TAMILNADU, INDIA

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Abstract

Women empowerment is a process in which women challenge the existing norms and culture, to effectively promote their well being. The participation of women in Self Help Groups (SHGs) made a significant impact on their empowerment both in social and economical aspects this study addresses women empowerment through self help groups in Vellore district of Tamilnadu. The information required for the study has been collected from both the primary and secondary sources. A multistage random sampling method has been followed. Average and percentage analysis was carried out to draw meaningful interpretation of the results. Garet ranking technique was used to find the reasons for joining the Self help group. The results of the study revealed that the SHGs have had greater impact on both economic and social aspects of the beneficiaries.

Key words: Woman empowerment, SHG, Vellore District, Tamilnadu

Introduction

Empowerment of women is a holistic concept. It is a multidimensional in its approach and involves a basic realization and awareness of women powers, potentialities, capabilities and competences, rights and opportunities of all round development in all spheres of life. Women empowerment therefore, is a process which enables women to have access and control over various factors necessary for their economic independence, political participation and social development.

Women empowerment is a global issue, which has gained momentum in recent decades. In India, besides satisfaction of international conventions, there are provisions in the constitution and several legislative Acts have been based to ensure women empowerment. It however, appears that on this front the situation on ground is far from satisfactory. Single woman cannot come out of the house due to social reasons and to be entrepreneurs. Women are in need of skill development, managerial empowerment, financial empowerment and leadership qualities. So, a social movement in the form of women self-help groups (Here after referred to as WSHGs) were sponsored and promoted by the Government at the grass-root level. Ranks have been directed by the Government to provide financial assistance to WSHGs and Government departments have been directed to give technical and skill development assistance to WSHGs. The WSHGs and bank Linkages Programme has emerged as the major micro-finance programme in our country in recent years.

As the maximum number of women in a single WSHG should not exceed 20 and any number of WSHGs can be formed in a Village/ Town, all women are given opportunities to join WSHGs in their choice in a group but not in more than one WSHG. Irrespective of the caste, creed, religion, colour, region, educational status, economic status, Social status, political affiliation and other discrimination, a woman can join a self-help group. Nearly half of Indian population is women and hence there are possibilities for lakhs and lakhs of WSHGs. The role of these WSHGs in developing women will certainly develop India. Hence, it will be quite interesting to undertake. Separate study to assess and examine the role of WSHGs empowering women managerially, Financially and socially. WSHGs. are a novel and innovative organizational set Up in India for the women upliftment and welfare. All women in India are given chance to join any one of the WSHGs for training and development, so as to be prospective entrepreneurs and skilled workers. The WSHGs are promoted by the Government as if women in India may not be resourceful enough to be entrepreneurs. When the WSHGs arrange training facilities to carry out certain kind of work which are suitable for women in India, banks must arrange financial assistance to carry out manufacturing and trading activities, arranging marketing facilities while the Government will procure the products of WSHGs, arrange for enhancing the capacity of women in terms of leadership quality and arranging for the management of WSHGs by themselves so as to have administrative capability. As a social movement with Government support. WSHGs become more or less a part and parcel of the society. The number of women in a single WSHG is small. All members may not be educated and may not have sufficient background to carry on tiny industries and trade. Under these circumstances, it is believed that WSHGs will enhance women empowerment managerially, financially and socially. As the WSHGs are of recent origin and there is mushroom growth of WSHGs all over India, all the state Governments and Government of India are interested in organizing WSHGs with the objective that WSHGs will empower women. Therefore a need arises to reexamine empirically whether the Government sponsored and public financial institutions financial assistance supported

SYNTHESIS, SPECTROSCOPIC INVESTIGATION AND *IN-VITRO* ANTIOXIDANT ACTIVITY OF SCHIFF BASE COPPER(II) COMPLEX

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ABSTRACT

A Schiff base ligand was synthesized from 2-furan carboxaldehyde and o-aminophenol by stirring method. Metal complex of the Schiff base was prepared from the metal salt of Cu(II) in ethanol. The synthesized ligand and its complex were characterized by NMR, UV-Visible, FT-IR, Electron spin resonance spectroscopy and Molar Conductivity studies. The electrochemical behaviour of copper(II) complex was studied by cyclic voltammetry. The synthesized complex has been screened for *in-vitro* antioxidant activity.

KEYWORDS: Schiff base copper(II) complex, NMR, IR, ESR, redox property, antioxidant activity.

INTRODUCTION

Schiff bases and their complexes have caused wide interest due to diverse spectra of biological and pharmaceutical potential, such as antitumor, antifungal, antibacterial, antimicrobial and antihelminthic uses.^[1] Schiff base complexes play an important role in designing metal complexes related to synthetic and natural oxygen carrier.^[2-4]

The compounds of this type can be greatly modified by introducing different substituents providing very useful model compounds for investigation of different chemical processes and its effects. It is important to emphasize the structural similarity between Schiff bases

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Safe and Secure Data Transfer in Mobile AD-HOC Networks using Multilevel Encryption Techniques

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ABSTRACT

At the time of sending any secret information from a source node to a destination node over a wireless network, it is very critical to transmit it in a safe and secure manner. A set of wireless nodes constructs an Ad Hoc network and this network does not have any central control or centralized administration. In self-mode, wireless Ad-hoc networks are organized and configured. All nodes in this network are set up by using a wireless transmitter and a wireless receiver. The wireless Ad Hoc network transmits data with other nodes within its communication range only. Using a common physical media, the data are transmitted between one node and another node in this network. Every node sends and receives signals using the same frequency band and it follows the same hopping method during data transmission. If the destination node is not inside the transmission range, the source node will use the other nodes to transmit the messages hop by hop. In order to send a message from one node to another node that is out of its frequency range, it needs the help of other nodes in the network for the data transfer. This technique is technically known as multi-hop communication. In this network, each and every node acts both as a host and as a router at the same time. Wireless Mobile Ad Hoc networks are usually attacked the sources such as intruders, hackers and other physical attacks. Constructing and configuring the safest and secure wireless ad-hoc network is very difficult for the reasons such as: the poor quality of communication paths and communication nodes, low quality infrastructure, frequently updating topologies and technologies. Due to these main factors, the wireless communication path or channel can be easily accessed by all the network users and the attackers and it makes the network operations very insecure and unsafe. Any user can easily break the network system and its operations by not following any specific protocol. Hence, a safe and secure protocol or an algorithm is to be developed for the safest data transfer. Also, there is another issue and it is the complexity of finding the routing mechanism to transfer our data from one node to another node in a safe way. In this paper, we are suggesting a multi-level encryption technique which can send the data over a wireless network in a safe and secure way.

Keywords: Ad-hoc Network, Encryption, Decryption, Routing, Multi Hopping, Cryptography, Cipher Text

1. INTRODUCTION

A. Ad Hoc Network: Characteristics

3. It is a Multi-hopping Network.
4. Scalability: It may have thousands of nodes.

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A STUDY ON CONSUMER BUYING PREFERENCE TOWARDS SELECTED COSMETICS IN FMCG AT VELLORE



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Abstract

Cosmetics are the substances used to enhance the beauty of the Human body. Cosmetics include skin-care creams, powders, lotions, perfumes waves, hair colours, deodorants, baby products, bath oils and many other types' products. Their uses widespread especially among women in western

countries as well as India. The objective of the study is to examine the Consumer buying decision behaviour towards FMCG of Cosmetics at Vellore. The study was conducted to through primary data and secondary data.

Keywords: Cosmetics, skin allergy, consumer satisfactions.

Introduction

Cosmetics are substances used to enhance protect the beauty of the human body. Cosmetics products are include perfumes, fingernail polishes, eye and facial makeup, haircolours, deodorant, powders, baby products, lipsticks, bath oils, permanent waves, and many other types of products. Their use is widespread, especially among women in western countries. A subset of cosmetics is called "make-up", which refers primarily to colour product intended to alter the user's appearance. Nowadays most of the MNCs concentrate on to manufacture more cosmetic products. Because India is the huge consumer market. Multinational Corporation that origin noted in the early 20th century, but the distribution and sale of cosmetic is spread among a wide range of different businesses.

Fast Moving Consumer Goods (FMCG) Industry in India

The FMCG industry in India is now growing rapidly because of the youngster rapid preference towards the cosmetics, glassware, batteries, bulbs, pharmaceuticals, packaged food products, white goods, house care products, plastic goods, toiletries, consumer on-durables. The FMCG market is highly concentrated in the urban areas as the rise in the income of the middle income group is one of the major factors for the growth of the Indian FMCG market. For this reason the researcher wishes to study the buying behavior of respondent towards cosmetics products.

Objective of the Study

- To determine the impact of consumer buying preference in cosmetic.
- To identify the factors that influences the purchase of cosmetic.
- To know the consumer Satisfaction towards quality and price.
- To bring out the suggestions and conclusions.

Methodology

The Study is based on the both primary and secondary data. The primary data were collected from 150 respondents through questionnaire. The research was conducted through random sample

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GREEN HRM: INITIATIVES AND PRACTICES

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Abstract

Green HRM is an emerging field of research in the organisational studies after 1990s. Organizations across the world are incorporating and working toward implementing GHRM practices to gain competitive advantages among the corporate world. Green HR emphasizes the importance of the decisions, processes and choices organizations make about managing people and shows how workforce management directly affects strategic organizational outcomes. Green HRM is a strategy that used to reduce the carbon foot prints of every employees by way of electronic filing, job-sharing, teleconferencing and virtual interviews, recycling, telecommunicating, online trading etc. It helps to create environment friendly HR initiatives resulting in greater efficiencies, lower cost and better employee engagement and increase employee retention. Due to that, this paper has its focus on exploring green HRM practices from the light of existing theoretical and empirical research works done by the scholars in this field. The contribution of this paper lies in extending the scope and depth of green HRM in materializing sustainable environmental performance of organisations.

Keywords: Green HRM, Sustainability, Green recruitment, Green performance management, Green Compensation.

Introduction

Green human resources refer to using every employee interface to promote sustainable practices and increase employee awareness and commitments on the issues of sustainability. It involves undertaking environment-friendly HR initiatives resulting in: 1) greater efficiencies, and 2) lower costs and better employee engagement and retention. Green management initiatives become an important factor in forward thinking business houses around the world. There is a growing need for strategic Green HRM – the integration of environmental management into HRM. HR professionals indicated that encouraging employees to be more environmentally friendly in the workplace was the top practice for their organizations. Nowadays companies are implementing EMS (Environmental Management System) a strategic tool, to gain competitive advantage. This system provides better control of firm's environmental impacts. It includes commitment, policy, planning, implementation, measurement and evaluation, review and improvement of HR systems that fit with organization's culture and long-term goals.

Review of Literature

The following section presents summaries of the existing and certain new green HRM practices under each function of green HRM. In general, job descriptions can be used to specify a number of environmental protection related task, duties and responsibilities (Wehrmeyer, 1996; Renwick et al, 2008 and 2013). These days, some companies have incorporated environmental and social tasks, duties and responsibilities as far as possible in each job in order to protect the environment. In some companies, each job description includes at least one duty related to environmental protection and also specifically includes environmental responsibilities whenever and wherever applicable. In addition, some companies use teamwork and cross-functional teams as job design techniques to successfully manage the environmental issues of the company (May and Flannery, 1995; Florida, 1996; Clement, 1997; Palmer and Andrews, 1997; Beard and Roes, 2000; Griffiths and Patrick, 2001; Daily and Huang, 2001; Govindarajulu and Daily, 2004; Jabbour, Santos, and Nagano, 2010). It is because of the reason that environmental protection task of a company requires or demands multi-disciplinary team works. The Chartered Institute of Personnel and Development (CIPD) believe in that becoming a green employer may improve employer branding, company image and is a useful way to attract potential employees who have environmental orientation (CIPD, 2007). Attracting environmentally aware talent might be facilitated by pro-active branding of the organization as a high-quality "green employer of choice" (Renwick et al, 2008; Jackson et al, 2011). Increasingly, firms are beginning to recognize that gaining a reputation as a green employer is an effective way to attract new talent (Phillips, 2007; Stringer, 2009). Really, environmentally responsible employers can attract talent that they needed to implement corporate environmental management initiatives and ultimately it contributes to achieve organization's environmental goals

Need for Green Human Resource Management

Last two decades of this century have witnessed a unanimous consensus for the need of a realistic environmental management drive all over the world. This effort was undertaken since the damaging effects of different pollutants among