Publication in Scopus, Web of Science & UGC CARE Journals

2019-2020

Papers Published in 2019-2020 : 32

Sl.No	Name of the author/s	Title of paper	Department of the teacher	Name of journal	Year of publication	ISSN number
1	Dr.Vernum Cecilia P.A.A	Traces of Traumatic Experiences in the works of Mo Yan	English	Journal of Emerging Technologies and Innovative Research	2019	2349-5162
2	Dr S. Renuga Devi	The Impact Of Digital Technology On Brand Preference Of Mobile Phones A Study In Vellore District, Tamilnadu	Business Administration	Restaurant Business	2019	0097-8043
3	Dr S. Renuga Devi	A Study On Brand Preference Of Smart Phones Among Customers On Vellore District	Business Administration	IJRAR	2020	2348-1269
4	Dr. S. Renuga Devi	Consumer Behaviour Towards Durable And Non-Durable Goods, Vellore District	Business Administration	Think India	2019	0971-1260
5	Dr. S. Renuga Devi	A Study On The Role Of Media On Online Marketing	Business Administration	Suraj Punj Journal for Multi-Disciplinary Research	2019	2394-2886
6	Dr. Kavitha S	Empirical Study on Data Mining Techniques for Breast Cancer Diagnosis	Computer Science	Empirical Study on Data Mining Techniques for Breast Cancer Diagnosis - Journal of Emerging Technologies and Innovative Research	2019	2394-5162
7	Dr .Kavitha S	Bidirectional Recurrent Neural Network Language Model Cross Entropy Churn Metrics For Defect Prediction Modelling	Computer Science	Bidirectional Recurrent Neural Network Language Model Cross Entropy Churn Metrics For Defect Prediction Modelling - International Journal of Engineering & Advanced Technology	2019	2249-8958

8	Dr. Kavitha S	Automotive Software Process Improvement in Software Product Line using ASPLA Model	Computer Science	Automotive Software Process Improvement in Software Product Line using ASPLA Model - International Journal of Scientific & Technology Research	2019	2277-8616
9	Dr. Kavitha S	A Systematic Code Quality Improvement using Rational Rose and Python for Execution in Self Adaptive System Models	Computer Science	A Systematic Code Quality Improvement using Rational Rose and Python for Execution in Self Adaptive System Models - International Journal of Interdisciplinary Research and Innovation	2019	2348-1226
10	Dr. Kavitha S	Risk Prediction System using Data Mining Techniques in Gynaecological Ovarian Cancer	Computer Science	Risk Prediction System using Data Mining Techniques in Gynaecological Ovarian Cancer -ICTACT Journal on Soft Computing(IJSC)	2019	2229-6956
11	Dr. Kavitha S	An Assessment Model to Foster the Adoption of Agile Software Product Line in the Automotive Domain	Computer Science	An Assessment Model to Foster the Adoption of Agile Software Product Line in the Automotive Domain - An International Open Access Journal-Journal Emerging Technologies and Innovative Research	2019	2349-5162
12	Ms. Anita Madona M.	A Symmetric Key Encryption for Data Integrity Verification using Artificial Neural Network	Computer Science	International Journal of Scientific & Technology Research	2019	2277-8616
13	Dr. Sr. Sagaya Mary T	The Impact of emotional Intelligence on Work life balance among the faculty members	Commerce	International Journal of Services and Operations Management	2019	1744-2389

		performance in the private universities using multivariate analysis - an empirical study				
14	S. Anitha	A Study on impact of online reviews on consumer purchase behaviour in vellore city	Commerce	Our Heritage Journal	2019	0474-9030
15	Dr. S. Jhancy Mary	Thermal and electrical transport properties of o-substituted polyanilines encapsulated with CuO Nano particles	Chemistry	Asian Journal of Chemistry	2019	0970-7077
16	Dr. S. Jhancy Mary	Recent Advances in the applications of substituted Polyanilines and their blends and composites	Chemistry	Polymer Bulletin	2019	0170-0839
17	Dr. S. Jhancy Mary	Adsorption of Congo red dye using poly(2-chloroaniline-co-2-methoxyaniline)	Chemistry	Journal of Water Pollution and Purification Research	2019	2394-7306
18	Dr. S. Jhancy Mary	Magnetic, Thermal and electrical transport properties of o-substituted polyanilines encapsulated with Fe2O3 Nano particles	Chemistry	Asian Journal of Chemistry	2020	0975-427X
19	Dr. B. Scholastica Mary Vithiya	Antioxidant and Photocatalytic Activity of Aqueous Leaf Extract Mediated Green Synthesis of Silver Nanoparticles Using Passifloraedulis f. flavicarpa	Chemistry	Journal of Nanoscience and Nanotechnology	2019	1533-4899
20	Dr. V. Sugantha Kumari	Bio polymeric nanocomposite scaffolds for bone tissue engineering applications – A review	Chemistry	Journal of Drug Delivery Science and Technology	2020	2588-8943

21	Dr. V. Sugantha Kumari	Salt leaching synthesis characterization and In vitro cyto compatibility of chitosan /PVA/methylcellulose–ZnO nanocomposites scaffolds using L929 fibroblast cells	Chemistry	Journal of Nanoscience and Nanotechnology	2019	1533-4880
22	Dr. V. Sugantha Kumari	Development and characterization of alginate / chitosan Nano particulate system for hydrophobic drug encapsulation	Chemistry	Journal of Drug Delivery Science and Technology	2019	2588-8943
23	Dr. V. Sugantha Kumari	Nano emulsion as Oral Drug Delivery-A Review	Chemistry	Current Drug Research Reviews	2020	2589-9775
24	N. Nirmala Devi	A Study on virtualization in cloud computing	Computer Science	International Journal of Communication and Networking System	2019	2278-2427
25	Ms. A. Kirupa Dr. J. Jesintha Rosline	Balanced k-Partitioned Fuzzy Graph	Mathematics	International Journal of Innovative Technology and Exploring Engineering	2019	2278-3075
26	G. Gomathy, A. Sabarmathi, Pankaj Shukla	Creeping Flow of Non-Newtonian Fluid Past A Fluid Sphere With Non-Zero Spin Boundary Condition	Mathematics	Advances in Mathematics: Scientific Journal	2020	1857-8365
27	Ms. R. Deepa Ms. A. Vidhya	Characterization of Biopolymer Produced by Streptomyces sp. RDD	Microbiology	International Journal of Pharmacy and Biological Sciences	2019	2321-3272
28	Dr. (Sr.) Regina Mary R.	Prodigiosin iron oxide- carbon matrix for efficient antibiotic resistant bacterial disinfection of contaminated water.	Zoology	Sustainable Chemistry and Engineering.	2019	2168-0485

29	Dr. R. Preetha	Elakkathithil kuringi Nila Makkalin Ariviyal Chiththanaigal	Tamil	An International Research Journal on Tamil Literature - Tamil Aaivu Sangamam	2019	2320 – 3412
30	Dr. Beulah Suresh	An Empirical Study on Quality of Professional Life of Faculty Members Working in Arts & Science Colleges at Vellore	Master of business administration	Restaurant Business	2019	0097-8043
31	Dr .Beulah Suresh	A Study On The Impact Of Emotional Intelligence On Job Satisfaction Of College Faculty Members In Vellore	Business Administration	Think India (Quarterly Journal)	2018	0971-1260
32	Dr. M Balapriya	A Review On Service Quality Gaps And The Level Of Customer Satisfaction In The Indian Overseas Banks With Special Reference To Vellore City	Master of Business Administration	International Journal of Research and Analytical Reviews	2019	2348-1269

PRINCIPAL
AUXILIUM COLLEGE (Autonomous)
Gandhi Nagar, Vellore - 632 006.
Vellore District, Tamil Nadu.

CREEPING FLOW OF NON-NEWTONIAN FLUID PAST A FLUID SPHERE WITH NON-ZERO SPIN BOUNDARY CONDITION

G. GOMATHY[1], A. SABARMATHI, AND PANKAJ SHUKLA

ABSTRACT. The paper concerns the creeping flow of non-newtonian fluid past a fluid sphere, assuming uniform stream far away from the body along its axis of symmetry.   For outside and inside the fluid sphere we consider micropolar fluid. The stream function is determined by matching the solution of micropolar field equation for the flow outside the fluid sphere with that of the Stokes equation for the flow inside the fluid sphere. Two known boundary conditions are considered. No spin and spin boundary condition. The drag force experienced by the fluid sphere is determined. The variation of drag for different values of the permeability parameter (η), the coupling number N and the micropolar parameter (m) is studied. Some well-known result then deduced as a limiting case from present analysis.

1. INTRODUCTION

Micropolar fluids are fluids with micro structure. Micropolar fluids are also called as polar fluids. When micropolar fluids are suspended in a viscous medium they exhibit rigid, randomly oriented or spherical particles with their own spin and microrotation, where the deformation of a particle is ignored. Eringen [2] models of microfluid deals with a class of fluids which shows certain microscopic effects which raises from the local structure and micromotion of the fluid elements [4]. Some of the physical example of micropolar fluids are ferrofluids, blood flows, bubbly liquids, liquid crystals and so on, they all containing intrinsic polarities.

Balanced k-Partitioned Fuzzy Graph

Kirupa. A, Jesintha Roseline. J, Pathinathan.T

Abstract: In this paper, a balanced k-partitioned fuzzy graph is introduced from the definition of k-partitioned fuzzy graph. In recent days, partitioning graph has widely applied in the field of clustering, circuit design and in all networks. Extending the concept of k partitioned fuzzy graph, we have proposed a new partitioning of a fuzzy graph which is balanced using a density formula for k-partitioned fuzzy graph. Also studied how it differs from completely balanced k-partitioned fuzzy graph. Star density of k-partitioned fuzzy graph is defined and star balanced k-partitioned fuzzy graph is introduced using the definition. With an example, we explain the functioning of the concepts and related theorems are worked in this paper.

Keywords : Fuzzy graph, density, star density, Balanced k-partitioned fuzzy graph, Completely balanced k- partitioned fuzzy graph, Star balanced k-partitioned fuzzy graph.

I. INTRODUCTION

One of the best ways to express the degree of uncertainty from any source is Fuzziness. Representing fuzziness in different ways is possible through membership function. Though people are aware of uncertainty, Lotfi Aliasker Zadeh found a new methodology to measure the uncertainty using fuzzy tools like Fuzzy sets, Fuzzy logic and Fuzzy semantics. Zadeh was the first, to introduce fuzzy set theory in 1965[26]. Although Euler and other mathematician had given their tremendous contribution in graph theory, Azriel Rosenfeld developed the theory of fuzzy graph in 1975[21]. Various concepts in fuzzy graph was introduced by Yeh and Bang[25]. Pathinathan T and Roseline J.J [16] introduced double layered fuzzy graph and extended the concept to triple layered fuzzy graph[23]. They studied the relationship and structural core graph for double layered graph and constructed it by introducing an algorithm[22].

Graph partitioning method extensively studies problem solving, computations, clustering and detection of cliques. A. Nagoorgani and D. Rajalaxmi Subahashini [13] defined fuzzy bipartite graph by applying spanning fuzzy subgraph concepts in 2014. Using the concept of spanning Jahir Hussain. R and K.S. Kanzul Fathima have defined fuzzy bipartite graph, they also defined complete fuzzy bipartite graph in 2015[10].

Kirupa A, P.G and Research Department of Mathematics, Loyola College, Chennai-34, Tamilnadu, India. Email: mariakiruba@gmail.com

Jesintha Roseline J*, Assitant Professor, Auxilium College, Gandhi Nagar, Vellore 632 006, Tamilnadu, India. Email: jesi.simple@gmail.com

Pathinathan T, Associate Professor, P.G and Research Department of Mathematics, Loyola College, Chennai-34, Tamilnadu, India. Email: pathinathan@gmail.com

T.Al-Hawary was the first to introduce Balanced fuzzy graph while working on properties of fuzzy graph in 2011[3]. The notion of balanced intuitionistic fuzzy graph was introduced by a collaborative work of M.G. Karunambigai, M. Akram, S. Sivasankar, K.Palanivel in 2013 [11]. Pathinathan T, Peter.M[20] introduced balanced double layered fuzzy graph and investigated complete balanced double layered fuzzy graph. They also introduced hesitancy double layered fuzzy graph[18] and discussed about its degree, order and vertex. And the concept was extended to hesitancy triple layered fuzzy graph. Pathinathan. T, Peter. M and Roseline J.J[19] introduced balanced intuitionistic double layered fuzzy graph and completely balanced double layered fuzzy graph by modifying the conditions in the definition of double layered fuzzy graph. Pathinathan. T, Kirupa. A[27] have introduced a new graph namely k-partitioning fuzzy graph and its related properties and theorems are discussed in 2019.

In this paper we introduce a balanced k-partitioned fuzzy graph. Star density of partitioned fuzzy graph is defined and we also introduce star balanced k-partitioned fuzzy graph. Some properties and basic theorems are discussed by relating it to completely balanced k-partitioned fuzzy graph and all the concepts are verified with examples.

II. PRELIMINARIES

A. Definition: Fuzzy Graph [21]

Let V be a non-empty subset. A fuzzy graph G is a pair of functions $G(\sigma, \mu)$. G is a set with two functions, $\sigma : V \to [0,1]$ and $\mu : E \to [0,1]$ such that σ is a fuzzy subset of V and μ is a fuzzy relation on σ such that $\mu(u,v) \le \sigma(u) \wedge \sigma(v)$ for all u,v in V.

B. Definition: Density of Fuzzy Graph [3]

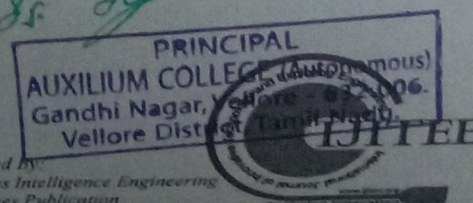The density of a fuzzy graph $G(\sigma, \mu)$ is

$$D(G) = 2\left(\frac{\sum\limits_{u,v \in \mu} \mu(u, v)}{\sum\limits_{u,v \in \sigma} \sigma(u) \wedge \sigma(v)} \right).$$

C. Definition: Balanced Fuzzy Graph [3]

Let $H(\sigma, \mu)$ be a non-empty subgraphs of a fuzzy graph $G(\sigma, \mu)$. A fuzzy graph $G(\sigma, \mu)$ is said to be balanced if $D(H) \le D(G)$ for all $H \subseteq G$.

D. Definition: Complete Fuzzy Graph [3]

A fuzzy graph is complete if $\mu(u,v) = \sigma(u) \wedge \sigma(v)$ for all $u,v \in V$.

Thermal and Electrical Transport Properties of O-Substituted Polyanilines Encapsulated with Sio2 Nanoparticles

S.Jhancy Mary[*1], **E.Seetha Rani**[2] **and R.Suganthi**[1]

[1, 2] Department of Chemistry, Auxilium College, Vellore, Tamil Nadu, India.

[1*]Associate Professor of Chemistry, Auxilium College, Vellore, Tamil Nadu, India.

Abstract

Poly (2-chloroaniline)/SiO2 and Poly(2-methylaniline)/SiO2 nanocomposites were synthesized by *in situ* chemical oxidative polymerization technique. The nano composites were characterized by FTIR, NMR and UV- visible spectroscopic techniques, XRD, TEM, TGA and DTA. The thermal stability was confirmed by the IPDT and OI calculations. The electrical conductivity and dielectric properties were investigated. The dielectric constant decreased with increase in frequency in the low frequency region due to electrical relaxation process. At high frequencies, dielectric constant was independent of frequency. At low frequency there was a strong frequency dispersion of permittivity and above 3 Hz, a frequency independent behavior in permittivity was observed.

Keywords

Nanocomposites, Oxidative polymerization, Electrical conductivity, Dielectric, Electrical relaxation.

*****

INTRODUCTION:

Conducting polymer nanocomposites possess the advantages of both low dimensional systems like nanostructure filler and organic conductors like conducting polymer. The reinforcement of polymers is done by fillers, which play a major role in strengthening the properties of the nanocomposites. Uniform dispersion of the nanosized filler particles produces ultra large interfacial area per volume between the filler and the host polymer [1]. Polymer-based composites were reported in the 1960s as a new paradigm in material science. In the past twenty years, three major inorganic materials acting as nanofillers have been used to prepare organic-inorganic nanocomposites (1) layered materials such as clay[2, 3],

(2) tubular materials such as carbon nanotubes (CNTs)[4], and (3) spherical materials such as SiO2 particles[5] as well as other synthetic materials[6]. Conducting Polymer inorganic nanocomposites attracted both fundamental and practical interest because of their different chemical, biological and physical properties and application in high density magnetic recording, catalysis, magnetic resonance imaging, energy conversion etc. [7-10]. Among all the conducting polymers, Polyaniline is one of the most promising conducting polymers due to its ease of preparation, good environmental stability, better electronic properties, low cost, low density and its applications in electrochromic display, electro

Recent advances in the applications of substituted polyanilines and their blends and composites

Julia Sebastian[1] · Jhancy Mary Samuel[1]

Abstract

Conducting polymers remain as a key invention to the researchers in the last 3 decades. Among them, polyaniline serves as a potential candidate with feasible strategies to solve the current problems. Polyaniline is known for its extraordinary features such as ease of synthesis, low cost, considerable electrical conductivity, rich chemistry and strengthened biocompatibility. The scientific world has now diverged to the area of substituted polyanilines in the recent past owing to the efficient solubility, processability and extended applications in different fields. This review highlights the application aspects of the derivatives of polyanilines and their blends and composites in recent years. The wide application potentials of substituted polyanilines and their blends and composites in diverse fields such as in sensors, electrochromic display devices, solar cells, supercapacitors, batteries, semiconductors and anticorrosion materials, and in a variety of biological applications, have been highlighted. This review would bring new insights into polymer researchers to unravel novel applications.

Keywords Polyaniline · Substituted polyanilines · Blends · Composites · Applications

Introduction

Polyaniline, the topic of interest has a historical background dating back to the 1830s. In 1834, it was F. Ferdinand Runge who discovered the oxidative polymerization of aniline for the first time [1], and in 1862, the electrochemical oxidation of aniline was demonstrated by Henry Lethe [2]. Several reactions with aniline were performed by scientists in the mid-eighteenth century, and polyaniline was known with different names such as krystalline, kyanol, aniline, benzidam and aniline black. [3]. Polyacetylene was found to be conducting in the mid–late 1970s by

✉ Jhancy Mary Samuel
   jhancy2011@gmail.com

[1] Department of Chemistry, Auxilium College, Vellore, Tamil Nadu 632006, India

🕿 Springer

PRINCIPAL
AUXILIUM COLLEGE (Autonomous)
Gandhi Nagar, Vellore - 632 006.
Vellore District, Tamil Nadu.

ADSORPTION OF CONGO RED DYE BY USING POLY(2-CHLOROANILINE- CO- 2-METHOXYANILINE)

P. Lakshmi[1], S. Jhancy Mary[1,]*

[1]Research Scholar, Auxilium College, Vellore, Tamil Nadu, India
[2]Associate Prof., Department of Chemistry, Auxilium College, Vellore, Tamil Nadu, India

Abstract

The removal of this dye from the industrial wastewater is environmentally significant. In the present work, the adsorbent poly(2-chloroaniline-co-2-methoxyaniline) was employed to remove Congo red dye from water. Batch experiments were conducted to study the effects of parameters such as concentration, contact time, amount of the adsorbent dose, and pH. The result showed that the dye was removed when pH = 7.5–8 and contact time is 60 minutes and the amount of adsorbent is 0.05g. The Langmuir, Freundlich, Tempkin and Dubinin-Raduskovich adsorption isotherm models were studied and the experimental results were analysed. Batch kinetic data were analysed using pseudo-first and pseudo-second order kinetic models. Pseudo-second-order kinetics was followed in the adsorption process.

Keywords: *Adsorption, adsorption isotherm, Congo red dye, copolymer, kinetic study*

*Author for Correspondence E-mail: jhancy2011@gmail.com

INTRODUCTION

The textile industry is the largest industry which uses a number of chemicals for dyeing and it is also one of the largest industries which are the main causes of water pollution. A large number of toxic chemicals due to dyeing pollute the water bodies. Huge amounts of dyes are used not only in the textile industries to colour and process the final products but also they are used in rubber, paper, leather, plastics, cosmetics and pharmaceutical industries [1]. The discharge of toxic dye waste into water even at very low concentration would affect the water bodies. The conventional methods of water treatments such as ion exchange, chemical precipitation, lime coagulation, and oxidation results in sludge that is toxic and these methods are ineffective at very low concentration of dyes. The adsorption process is a very convenient and efficient process to remove toxic chemicals from aqueous solutions. The decomposition of Congo red dye results in carcinogenic products. It is a skin, eye, and gastro intestinal irritant. It impresses blood factor such as clotting and induces drowsiness and respiratory problems [2, 3]. Hence, an attempt has been made to study the adsorption of Congo red dye by using the chemically synthesized copolymer as an adsorbent. This paper focuses on the kinetic studies of the adsorption of Congo red dye on the copolymer, poly(2-chloroaniline-co-2-methoxyaniline). Different types of isotherms have been dealt in detail. The kinetics of the reaction is studied.

Adsorption is the most widely used technique for the removal of toxic dyes. It has become common and popular because of its simplicity, low cost and the availability of wide range of adsorbents. It is a phenomenon where one or more constituents (adsorbates) are attracted and bonded to the surface of a solid (adsorbent) with which they are in interaction. A common mechanism is followed both in organic and inorganic pollutant removal. The species features relate to the exact type of bonding (ionic, covalent, or metallic). However, the adsorbed particles are normally categorized as revealing physisorption (characteristic of weak Van der Waals forces).

Magnetic, Thermal and Electrical Transport Properties of
o-Substituted Polyanilines Encapsulated with Fe$_2$O$_3$ Nanoparticles

R. Suganthi, S. Padmaja and S. Jhancy Mary[*][●]

Department of Chemistry, Auxilium College (Autonomous), Vellore-632006, India

*Corresponding author: Fax: +91 416 2247281; E-mail: jhancy2011@gmail.com

Conducting polymers are rapidly gaining attraction with improved processable materials having unique electrical, electrochemical and optical properties [1,2]. Polymeric nanocomposites (PNCs) containing nanosized metal oxides are under extensive research, since they exhibit exciting characteristics with unique applications such as quantum electronic devices, magnetic recording materials, sensors, capacitors, smart windows, toners in photocopying, conducting paints and rechargeable batteries [3-7]. However, due to poor mechanical properties, they cannot be processed easily [8-10]. By combining conducting polymers with metal oxide nanoparticles, one could produce polymeric nanocomposites, the properties of which can be fine-tuned depending on the composition of metal oxide in polymer matrix. Nanocomposites of polyaniline (PANI) have been widely studied [11-15] due to their unique electrical, dielectric, optical and optoelectrical properties.

Nanocomposites demonstrate significant improvements in mechanical strength, toughness, electrical and thermal conductivity [16]. The combination of organic and inorganic precursors makes it possible to enhance their thermal and chemical stabilities.

The synthesis of polymeric inorganic composite has received a great deal of attention because it provides new materials with special mechanical, chemical, electrochemical and optical as well as magnetic properties [17]. Various morphologies of polyaniline and its nanocomposites including nanowires [18], nanofibers [19], nanospheres [20] and nanosheets [21,22] have been widely explored.

In this work, we report the thermal, magnetic and electrical transport properties of the chemically synthesized and characterized poly(2-nitroaniline), poly(2-nitroaniline-Fe$_2$O$_3$ and poly(2-methylaniline-Fe$_2$O$_3$ nanocomposite. An attempt has been made to understand and compare the influence of Fe$_2$O$_3$ on the magnetic properties, dielectric properties, impedance and electrical conductivity of synthesized nanocomposite. The frequency dependence of dielectric constant, dielectric loss, imaginary modulus, real modulus and tan δ are discussed. Complex impedance spectroscopic study was made for understanding the charge transport mechanism [23,24]. The frequency dependent conductivity and dielectric permittivity provide information on the electronic transport mechanism. It reflects the presence of disorder in the molecular structure of the materials and the process of electrical transport [24].

Antioxidant and Photocatalytic Activity of Aqueous Leaf Extract Mediated Green Synthesis of Silver Nanoparticles Using *Passiflora edulis f. flavicarpa*

Bindu Thomas[1], B. Scholastica Mary Vithiya[2], T. Augustine Arul Prasad[1], S. B. Mohamed[3],
C. Maria Magdalane[4], K. Kaviyarasu[5,6], and M. Maaza[5,6]

[1] Department of Chemistry, D. G. Vaishnav College, Chennai 600106, India
[2] Department of Chemistry, Auxilium College (Autonomous), Vellore 632006, India
[3] Department of Materials Science, Central University of Tamil Nadu, Neelakudi, Thiruvarur 610005, Tamil Nadu, India
[4] Department of Chemistry, St. Xavier's College (Autonomous), Tirunelveli 627002, India
[5] UNESCO-UNISA Africa Chair in Nanosciences/Nanotechnology Laboratories, College of Graduate Studies,
University of South Africa (UNISA), Muckleneuk Ridge, P. O. Box 392, Pretoria 001, South Africa
[6] Nanosciences African Network (NANOAFNET), Materials Research Department (MRD), iThemba LABS-National
Research Foundation (NRF), 1 Old Faure Road, 7129, P. O. Box 722, Somerset West, Western Cape Province, South Africa

The purpose of this study is to minimize the negative impacts of synthetic procedures and to develop environmentally benign procedures for the synthesis of metallic nanoparticles. In the present study, *Passiflora edulis f. flavicarpa (P. edulis)* aqueous leaf extract mediated green synthesis of silver nanoparticles are described. The synthesized silver nanoparticles were characterized by UV-Vis Spectroscopy, Fluorescence Spectroscopy, Fourier Transform Infrared Spectroscopy (FTIR), X-ray diffraction (XRD), Scanning Electron Microscopy (SEM) Transmission Electron Microscopy (TEM) and Cyclic Voltammetry (CV). The silver nanoparticles (AgNPs) showed antibacterial activities against both gram positive (*staphylococcus*) and gram negative (*Escherichia coli*) bacteria. The efficacy of the synthesized silver nanoparticles (AgNPs) was demonstrated as catalyst in the photocatalytic degradation of Methyl Orange (MO) and Methylene Blue (MB) dyes which were measured spectrophotometrically. The study revealed that biosynthesized silver nanoparticles using *Passiflora. edulis f. flavicarpa*, plant extract was found to be very effective as antioxidant agent.

Keywords: Green Synthesis, Silver Nanoparticles, *Passiflora edulis f. flavicarpa*, Photocatalytic Activity, Antioxidant.

1. INTRODUCTION

Green chemistry is one of the most accepted natural remedy for the protection of our biodiversity. Nowadays it is needed to protect our environment with progressing advancement in science and technology. Green nanotechnology focusses on making existing products and processes safer and more sustainable by accepting eco-friendly ways to go the completion. Green synthesis of nanomaterials can certainly influence the design of nanomaterials by eliminating or minimizing the usage or production of chemicals. Reduction of any toxic chemical substances to zero level can be regarded as green synthesis. To achieve this outcome reagents and catalysts are used in such a way by minimizing the steps involved in the process[1] so, we can conclude that nanotechnology has creeped into all branches of science.[2] Evolving green chemistry methods for the synthesis of metal nanoparticles has become the thirst of the researchers which have led them to shift to eco-friendly technique to produce well characterized nanoparticles. Nature's secrets have led to the development and growth of advanced nanomaterials.[3] Therefore, plants have become the best method for large scale production of biosynthesis of nanoparticles.[4] Silver nanoparticles have gained much attention by green chemists due its wide range applications.[5] Nanoparticles are placed under two categories via. Organic and inorganic nanoparticles.[6] The metal nanoparticles are excessively used in medicine, agriculture and electronics due to

---

*Author to whom correspondence should be addressed

Biopolymeric nanocomposite scaffolds for bone tissue engineering applications – A review

P. Narmatha Christy[a], S. Khaleel Basha[b], V. Sugantha Kumari[a,**], A.K.H. Bashir[c,d], M. Maaza[c,d], K. Kaviyarasu[c,d,*], Mariadhas Valan Arasu[e,f], Naif Abdullah Al-Dhabi[e], Savarimuthu Ignacimuthu[f]

[a] Department of Chemistry, Auxilium College (Autonomous), Vellore, 632006, Tamil Nadu, India
[b] Department of Chemistry, C. Abdul Hakeem College, Melvisharam, 632509, Tamil Nadu, India
[c] UNESCO-UNISA Africa Chair in Nanoscience's/Nanotechnology Laboratories, College of Graduate Studies, University of South Africa (UNISA), Muckleneuk Ridge, P O Box 392, Pretoria, South Africa
[d] Nanosciences African Network (NANOAFNET), Materials Research Department (MRD), iThemba LABS-National Research Foundation (NRF), 1 Old Faure Road, 7129, P O Box 722, Somerset West, Western Cape Province, South Africa
[e] Department of Botany and Microbiology, College of Science, King Saud University, P.O. BOX 2455, Riyadh, 11451, Saudi Arabia
[f] Xavier Research Foundation, St.Xavier's College, Palayamkottai, Thirunelveli, Tamilandu, India

ARTICLE INFO

ABSTRACT

Tissue engineering is the immense area of research in recent years because of its vast potential in the repair or replacement of impaired tissues and organs. Bone is a nanomaterial composed of organic (*collagen*) and inorganic (*mainly nano-hydroxyapatite*) components, with a hierarchical structure ranging from nanoscale to macroscale. The bone disorder has been increasing and the goal is to restore and improve the function of bone tissue by scaffolds, providing a suitable environment for tissue regeneration and repair. In this review biopolymeric nanocomposites provide a closer structural support approximation to native bone architecture for the cells and regulate cell proliferation, differentiation, and migration, which results in bone regeneration. Furthermore, there are some new challenges about the future research on the application of biopolymeric nanocomposites as scaffolds in the bone regeneration.

1. Introduction

Tissue engineering is a modern scientific discipline concerning chemical, biological and engineering principles that are attempted to utilize a variety of methods for the intention of tissue regeneration [1,2]. The term "*tissue engineering*" (TE) was first defined by Langer and Vacanti in the 1990's [3]. In 1988, at a National Science Foundation (NSF) workshop, the term "*tissue engineering*" was officially coined [4]. Tissue engineering is an interdisciplinary field that focuses on the recovery, maintenance or improvement of tissue functions that are defective or have been lost due to different pathological conditions [144,145]. It applies life sciences and engineering principles and its innovation for such damaged tissues either through the development of biological substitutes or through tissue reconstruction [146,147]. So as to revive, maintain or enhance the function of tissues, tissue engineering helps to understand the structure and function of normal and pathological mammalian tissues [1,2,5,6]. The goal of tissue engineering is to develop new functional tissues and to regenerate tissue either *in vitro* or *in vivo* to cure diseases when surgery is needed [7]. For many more disease states, tissue engineering remains a flourishing research area with potential new treatment [148]. It offers the potential for regeneration of almost every tissue and organ in the human body [6]. Tissue engineering's general strategies can be classified into 3 groups: (i) implantation into the organism of isolated cells or cell replacements, (ii) delivering tissue that induces substances such as growth factor. Traditionally, growth factor refers to proteins or polypeptides that can promote tissue growth, (iii) placing cells in or on various matrices [6]. Tissue engineering is majorly classified into two types: (a) soft tissue engineering that deals with skin, blood vessel, tendon/ligament, cardiac patch, nerve and skeletal muscle, (b) hard tissue engineering that deals with bone [8].

* Corresponding author. UNESCO-UNISA Africa Chair in Nanoscience's/Nanotechnology Laboratories, College of Graduate Studies, University of South Africa (UNISA), Muckleneuk Ridge, P O Box 392, Pretoria, South Africa.
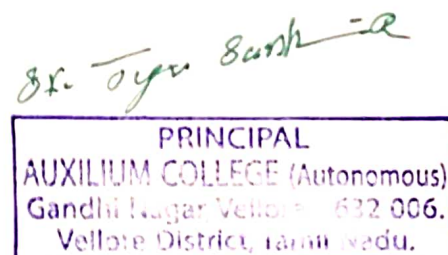** Corresponding author.
E-mail addresses: suganthaaux@gmail.com (V.S. Kumari), kaviyarasuloyolacollege@gmail.com (K. Kaviyarasu).

Salt Leaching Synthesis, Characterization and *In Vitro* Cytocompatibility of Chitosan/Poly(vinyl alcohol)/ Methylcellulose – ZnO Nanocomposites Scaffolds Using L929 Fibroblast Cells

K. Kanimozhi[1], S. Khaleel Basha[2], K. Kaviyarasu[3, 4, *], and V. SuganthaKumari[1]

[1] *Department of Chemistry, Auxilium College, Vellore 632006, India*
[2] *Department of Chemistry, C. Abdul Hakeem College, Melvisharam 632509, India*
[3] *UNESCO-UNISA Africa Chair in Nanoscience's/Nanotechnology Laboratories, College of Graduate Studies, University of South Africa (UNISA), Muckleneuk Ridge, Pretoria - 0001, South Africa*
[4] *Nanosciences African Network (NANOAFNET), Materials Research Group (MRG), iThemba LABS-National Research Foundation (NRF), 1 Old Faure Road, 7129, Somerset West, Western Cape Province, South Africa*

The present work reports low cost, green synthesis of Zinc oxide (ZnO) nanoparticles. The biosynthesized nanoparticles were characterized by transmission electron microscopy (TEM), X-ray diffraction (XRD) and Fourier transform infrared spectroscopy (ATR-FTIR). The synthesized ZnO nanoparticles were pure, predominantly spherical in shape with size ranging from 25 nm. The biosynthesized ZnO nanoparticles have been used for antibacterial and *in vitro* applications. The antibacterial activity of the prepared CS/PVA/MC3-ZnO1, CS/PVA/MC3-ZnO2, and CS/PVA/MC3-ZnO3 nanocomposites samples was tested against *Staphylococcus aureus* (*S. aureus*) and *Escherichia coli* (*E. coli*) due to disk diffusion method. When adding the ZnO nanoparticles both bacteria were very good inhibition zone was obtained. The transmission ZnO micrographs depicts spherical with uniform shape and good crystallinity and are composed of nanoparticles with a diameter less than 25 nm the average cube size was 100 nm. The AFM thickness of the CS/PVA/MC3-ZnO scaffold was, estimated from the AFM image, was about 10–20 nm and a roughness-like structure was observed. The FE-SEM film exhibits a scaffold exhibited porous structures. The excellent cell viability of the composite scaffolds was attributed to the good biocompatibility of the CS/PVA/MC3-ZnO3 as well as green fabrication process of the scaffolds. MTT analysis exposed that the samples did not have any toxicity. Since these positive points, these two kinds of scaffolds show appropriate properties for attachment, proliferation, and tendency to form group from L929 cells. In this work, we have prepared zinc oxide by high pressure homogenization process and the resultant zinc oxide was evaluated as fibers in CS/PVA/MC3 films.

Keywords: Zinc Oxide Nanoparticles, L929 Fibroblast Cell Line, Antibacterial, Salt Leaching, Tissue Engineering.

1. INTRODUCTION

Human body is a complex network of different organs and tissues with specific functions. As human body ages, it undergoes various changes leading to loss or damage of tissues or their functionalities. Tissues have limited self-repair capabilities and damaged to them is commonly treated by surgical intervention. Chitosan (CS),

Polyvinyl (alcohol) (PVA), Methylcellulose (MC) and Zinc oxide (ZnO) are widely known as potential due to their high performance in biomedical applications.[1] Over the last years, many attempts have been made to replace organ tissue components. Abundant naturally occurring polymers as starch, collagen, gelatin, alginate, cellulose and chitin.[2] The most challenging part of this approach is to obtain biopolymers-based materials with tissue engineering.[3]

*Author to whom correspondence should be addressed.

Development and characterization of alginate / chitosan nanoparticulate system for hydrophobic drug encapsulation

Check for updates

T. Nalini[a], S. Khaleel Basha[b], A. Majeeth Mohamed Sadiq[c], V. Sugantha Kumari[d,*], K. Kaviyarasu[e,f]

[a] Department of Biochemistry, D.K.M College (Autonomous), Vellore, India
[b] Department of Chemistry, C. Abdul Hakeem College, Melvisharam, India
[c] Department of Biochemistry, Adhiparasakthi College of Arts and Science, Kalavai, India
[d] Department of Chemistry, Auxilium College (Autonomous), Vellore, India
[e] UNESCO-UNISA Africa Chair in Nanoscience's/Nanotechnology Laboratories, College of Graduate Studies, University of South Africa (UNISA), Muckleneuk Ridge, P O Box 392, Pretoria, South Africa
[f] Nanosciences African Network (NANOAFNET), Materials Research Department (MRD), iThemba LABS-National Research Foundation (NRF), 1 Old Faure Road, 7129, P O Box 722, Somerset West, Western Cape Province, South Africa

ABSTRACT

The present study was emphasized to develop Alginate/Chitosan nanoparticles capable of working as carriers of the hydrophobic drug quercetin, a polyphenolic nutraceutical belonging to flavonoid category of natural compounds, with multifaceted therapeutic applications. Accordingly, quercetin loaded nanoparticles was prepared by an ionotropic gelation of chitosan with sodium tripolyphosphate, followed by alginate polyelectrolyte complexation. Synthesised unloaded and quercetin loaded Alginate/Chitosan nanoparticles were extensively characterised for their intermolecular interaction, morphology, percentage of encapsulation and loading capacity of the drug by various physiochemical characterization techniques such as ATR-FTIR, SEM, TEM, and XRD. The nanoparticles showed excellent architecture with an average particle size of 118–255 nm, showing 82.4% of quercetin encapsulation and 46.5% of quercetin loading capacity. Our results imply that the formulated Alginate/Chitosan nanoparticles could be a promising carrier for the encapsulation of the hydrophobic bioactive compound combining safety profile with no acute systemic toxicity in animal models and enhanced protective activity of quercetin.

1. Introduction

Quercetin is a major bioflavonoid found abundantly in edible plants, fruits and vegetables reported to exhibit remarkable scope of biological activity including antioxidant, anti-proliferative, anti-hypertensive, anti-inflammatory, anti-viral, anti-fibrotic, anti-bacterial, anti-coagulative, anti-aging, anti-atherogenic and anti-mutagenic capacities [1,2]. However, inspite of its wide spectrum of pharmacological properties quercetin suffer hindrances in clinical applications due to its low aqueous solubility, low bioavailability and instability in the physiological medium [3]. Several nanotechnology mediated strategies are currently attempted to circumvent these limitations using polymeric nanoparticles, liposomes, hydrogels, biodegradable microsphere and solid-lipid nanoparticles, where the bioactives can either be adsorbed, encapsulated or entrapped within the polymer matrices to increase its aqueous solubility and bioavailability [4–6]. With the expanding research on the beneficial physiochemical and biological properties including biocompatibility, biodegradability, non-toxicity and bio-adhesiveness, special attention is increasingly focussed on the use of biopolymers as nanoparticulated materials to encapsulate a variety of therapeutic compounds [41,42]. Infact, drugs encapsulated in polymeric nanoparticles can be delivered in a sustained release manner and protected from gastrointestinal and enzymatic degradation and provide advantages in virtue of improved bioavailability, dose reduction, increased stability and reduction of the side effects of the drug [43,44].

Among the natural biopolymers, chitosan is a linear heteropolymer composed of N-acetyl D-glucosamine and D-glucosamine residues derived from the partial deacetylation of chitin present in the shells of crustacean such as crabs and lobsters extensively investigated to be an interesting carrier of macromolecular compounds in drug delivery applications [8,9]. The cationic nature of chitosan has been exploited for the development of particulate drug delivery systems [45,46]. Chitosan

1

REVIEW ARTICLE

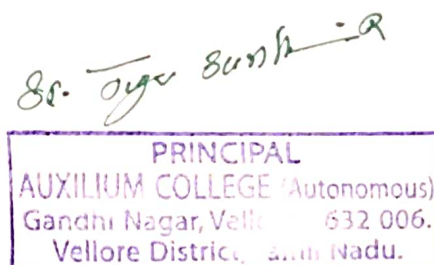# Nanoemulsion as Oral Drug Delivery - A Review

Khaleel Basha Sabjan[1],*, Syed Muzammil Munawar[1], Dhandayuthabani Rajendiran[1], Sugantha Kumari Vinoji[2] and Kaviyarasu Kasinathan[3,4]

[1]Department of Chemistry, C. Abdul Hakeem College, Melvisharam - 632509, Tamil Nadu, India; [2]Department of Chemistry, Auxilium College (Autonomous), Vellore - 632006, Tamil Nadu, India; [3]UNESCO-UNISA Africa Chair in Nanoscience's/Nanotechnology Laboratories, College of Graduate Studies, University of South Africa (UNISA), Muckleneuk Ridge, P O Box 392, Pretoria, South Africa; [4]Nanosciences African Network (NANOAFNET), Materials Research Department (MRD), iThemba LABS-National Research Foundation (NRF), 1 Old Faure Road, 7129, P O Box 722, Somerset West, Western Cape Province, South Africa

Abstract: *Background: Objective*: The stability and delivery of drugs remain one of the key hurdles in the present situation. The present study depends on the design of a novel nanoemulsion drug-delivery system that would encapsulate a drug and to improve drug stability. The charisma of nanotechnology is majorly due to the smallest particle size at the nanoscale.

Methods: Nanoemulsions attention is focused on emphasizing formulation aspect, method of preparation characterization techniques, evaluation parameters and various application of the nanoemulsions, several techniques to be used for the preparation of nanoemulsions like microfluidization, high-pressure homogenization, low energy emulsification and solvent evaporation method and their parameters to be characterized.

Results: The design of effective formulations for drugs is being applied to enhance the solubility and bioavailability of water-insoluble drugs. The nanosized droplets have led to considerable attraction for this formulation, for the delivery of hydrophilic as well as hydrophobic drugs as drug carriers because of their improved drug solubilization capacity, long shelf life, ease of preparation and improvement of bioavailability of drugs.

Conclusion: The application of these nanoformulation preparations, limitations, their advantages and disadvantages as nanoemulsions will solve the various problems that current therapeutic agents face and has opened a new scenario to formulate nanoemulsions with various therapeutic agents with heightened competence along with oral drug delivery to treat diseases in the near future.

1. INTRODUCTION

Nanoemulsions are colloidal scattering frameworks that are thermodynamically steady, made out of two immiscible liquids mixed along with emulsifying agents (surfactants and co-surfactants) to form a single phase. Nanoemulsion contains oil, water and an emulsifier. Expansion of an emulsifier is a basis for nano sized beads as it diminishes the interfacial pressure *i.e.*, the surface energy per unit territory, among oil and water phases of emulsion condition. Emulsifier(s) assumes an essential role in balancing out nanoemulsions through repulsive electrostatic interaction and steric impediment. However, emulsifiers are generally used as surfactants in the preparation of nanoemulsions over the past decades. Light has been thrown on the research to focus on preparing nanoemulsions through various strategies and is extensively characterized into two essential classes, high-energy and low-energy techniques. High energy methods, for example, High-Pressure homogenization (HPH) and ultrasonication expend huge energy ($\sim 10^8$-10^{10}W/kg) to make little droplets. Be that as it may, low energy techniques misuse explicit framework properties to make tiny droplets without devouring noteworthy energy ($\sim 10^3$W/kg). Phase inversion temperature (PIT) and Emulsion Inversion Point (EIP) are two instances of low energy approaches for the development of nanoemulsions. As of late, a couple of novel advances, for example, bubble blasting at oil/water interface and evaporative aging have additionally been produced for making nanoemulsions. Herewith, we show different strategies to make nanoemulsions and confer about the approaches to control and anticipate droplet size dependent on the framework properties and procedure parameters. Nanoemulsions are kinetically steady, *i.e.*, given sufficient times, a nanoemulsion phase separates.

We address the basic material science behind destabilization instruments like flocculation, coalescence, Ostwald aging and creaming. We here focused on the literature on parameters, which impact nanoemulsion composition and temperature on destabilization rates of nanoemulsions. Nanoemulsion, with their range of utilization, traverses assorted fields like drug delivery, where oil-in-water (O/W)

*Address correspondence to this author at the Department of Chemistry, C. Abdul Hakeem College, Melvisharam - 632509, Tamil Nadu, India;
Tel: +91(0)9043338346; E-mail: khaleelnano@gmail.com

TRACES OF TRAUMATIC EXPERIENCES IN THE WORKS OF MOYAN

Kalpana Chatterjee

PhD Scholar

Auxilium College Autonomous

Vellore

Dr. Vernum Cecilia P.A.A

Associate Professor& Head

Research Guide & Supervisor

Auxilium College Autonomous

Vellore

Trauma is a psychological disorder, a response to disturbing situations and events in which the affected individual struggles to cope with the present scenario. The more traumatic the situation becomes, the more the feelings of helplessness occur in the hearts of the individual. Mo Yan's works are a splendid blend of black humour and folk tales. His works carry atrocities in Chinese history and cruel political policies. Reading in between the lines of his works can recreate the trauma experienced by the characters in the minds of the readers. This paper brings out the traumatic experiences of Mo Yan's characters are the trauma caused by war, political policies and reformation.

Trauma is not a one-time event. With every repetition of the disturbing events, the effects of trauma become stronger. The repetitive occurrence of these events in different forms and in different places triggers the traumatic experiences and psychological stress in the minds of the sufferers. In certain cases, the overwhelming trauma affords forgetfulness of the distressing events which aggravate the traumatic experiences and there occurs more emotional dislocation and emotional disconnection from this present world. The reasons for trauma and reactions to it differ from individual to individual. The shared traumatic experiences can turn the subjective traumatic memories to collective traumatic experiences. In the words of Cathy Caruth:

> In its most general definition, trauma describes an overwhelming experience of sudden or catastrophic events in which the response to the event occurs in the often delayed, uncontrolled repetitive appearance of hallucinations and other intrusive phenomena. The experience of the soldier faced with sudden and massive death around him, for example, who suffers this sight in a numbed state, only to relive it later on in repeated nightmares, is a central and recurring image of trauma in our century. (11)

2019 – 2020 Journals

இலக்கியத்தில் குறிஞ்சி நில மக்களின் அறிவியல் சிந்தனைகள்

முனைவர் இரா. பிரீத்தா,
உதவிப்பேராசிரியர், தமிழ்த்துறை,
அக்சிலியம் கல்லூரி,
வேலூர் - 632 006.

மனிதச் சமூகம் தோன்றிய காலக்கட்டத்திலிருந்து அவன் ... அனைத்தும் அவன் சிந்தனையிலிருந்து உதித்ததான். ... நிலத்தையும், சுழலையும், காலத்தையும் பொறுத்து அவை மாறுபடுகின்றன ... கண்டறியாதது இவ்வுலகில் எதுவும் இல்லை. திசைகள் அறந்து ... திசையையும் தன்மையையும் கண்டறிந்து அவற்றிற்குப் பெயரிட்டதில் தொடங்கி ... வானவியல், சோதிடம், மருத்துதம், விஞ்ஞானம், கட்டிடக்கலை, ஆடை, ... உணவுகள் என மனிதனுக்குத் தேவையான அனைத்தையும் ஆதியிலிருந்து இன்று வரை கண்டறிந்த அனைத்தும் அறிவியல் பூர்வமானவையைனை. உலகில் உள்ள அனைத்துப் பிரிவுகளிலும் மனிதனின் அறிவியல் பூர்வமான ... காணக்கிடக்கின்றன. இருப்பினும் தலைப்பையொட்டி குறிஞ்சி நில மக்கள் வாழ்வியலில், அவர்கள் கண்டறிந்த அறிவியல் சிந்தனைகளை பற்றி பின்வருமாறு அமையப்பட்டுள்ளது.

மலையும் மலை சார்ந்த இடமாக இருப்பதால் குறிஞ்சி நில மக்கள் அனைவரும் மலைகளில் குடிகொண்டுள்ளனர். அவர்கள் அங்குள்ள இடஙகளுக்கு தகுந்தவாறு தினை, கிழங்கு, மலைநெல் போன்றவற்றை விதைத்தும், கிடைக்கும் விலங்குகளை வேட்டையாடியும் வாழ்க்கை நடத்துபவர்கள்.

பரண் அமைத்தல்:

மலைகளில் வசிப்பவர்கள் பெரும்பாலும் பரண் அமைத்துவைத்திருந்து அவை மலைகளிலிருந்து எடுத்து வந்த மூங்கிலால் பின்னப்பட்டவை அல்லது மரப்பலகையைக் கொண்டும், மூங்கில் தடைபபலகைகளை கொண்டும் ... அடுப்பிற்குமேல் சிறு பரண் அமைத்துக்கொள்கின்றனர். அதன்மீது மரந்துண்டு தானியஙகள் போன்ற பொருட்கள் எல்லாவற்றையும் வைத்துக்கொள்கின்றனர். பத்து முதல் பதினைந்து அடிவரை பல கம்புகளை ஒரு சேர்த்துக்கட்டி பரண் அமைத்துள்ளனர். மலையாளிகளின் வீடுகள் பரண் இல்லையே என்று கூறும் அளவுக்கு இவர்களுடைய வாழ்வியலோடு ஒன்றி விடியலும் பார்க்க முடிகிறது. விவசாய நிலங்களிலும் உயரமான இடத்திலும் பரண் வைத்திருப்பர். அதன் மீது அமர்ந்துதான் தினையைப் பாதுகாப்பர். குறித்த பதிவுகளும் இலக்கியத்திலும் காணமுடிகின்றது. அவை

பிடியொடு மேயும் புன்செய் யானை
அடி ஒதுஙகு ஆசினிப் பணவை ஏறி
நெடுவரை ஆசினிப் பணவை ஏறி
கடுவிசைக் கவணையில் கல் கை விடுதலின் (குறிஞ்சிக்கலி: 41:7-10)

பெண் யானையுடன் வந்து புன்செய் நிலத்திலே புகுந்து பயிரைத் தின்னாமல் நிற்கும் அவற்றின் காலடிச் சத்தம் கேட்ட கானவன் உயர்ந்த மலையில் ஆசினிப் பலாவின் மேல் இட்ட பரணிலே ஏறினன். ஏறிக் கடிய வேகத்துடன் பாயும் கல்லை வைத்து எறிவதற்கு பரண் ஒரு முக்கியமானவையாக கவணையிற் மலைவாழ் மக்கள் கண்டுபிடித்த அறிவியல் சிந்தனைகளுள் பரண் உள்ளன. அமைத்தல் சிறப்பிடம் பிடிக்கின்றன.

கிளிகடி கருவிகள்:

இவர்கள் விதைக்கின்ற தினைப் பயிர்களை பறவைகள் உண்ணாதவாறு பாதுகாக்க கிளிகடி கருவிகளை பயன்படுத்தினர். இவை,

சிறு தினைப் படுகிளி கடியியர், பல்மாண்
குளிர் கொள் தட்டை மதன் இல புடயா (அகம்:32:5-6)

தினைக் கதிரின்கண் வந்து வீழும் கிளிகளை ஓட்டும் பொருட்டுக் குளிரும் தட்டையுமாகிய தன்னால் எடுக்கலாகும் நொய்மையுடைய கிளிகடி கருவிகளைப் பயன்படுத்துவர்.

கவண்கள்:

குறிஞ்சி நில மக்கள் பறவைகளை விரட்ட பயன்படுத்தும் கருவிகளில் ஒன்று அக்கல்லானது இருந்த இடத்திலிருந்து குறி வைத்து தாக்கக்கூடிய கருவி, இவற்றை குறிக்கும் இலக்கியங்களில் காணப்படுகின்றன. அவை

இரவின் மேயல் மருஉம் யானைக்
....
புலவின் படியத்துள் தங்கும் (அகம்.292:8-14)

மேற்கண்ட அடிகளால் அறியலாம். நள்ளிரவில் வேற்றுப்புலம் சென்று மேய்ந்துவிட்டு வருகின்ற யானையின் காலடி ஓசையைக் கேட்டு வலிய நடைகொண்ட அதன் வருகையை உற்று அறிந்த வலிமை பொருந்திய கையையுடையவன் கானவன். அவன் மலையில் பரண்மீது ஏறியிருந்து கடிய வேகங்கொண்ட கவணையிற் சிறிய கல்லை வைத்து எறியலானான். அக்கல்லானது சிறகமைந்த அம்புபோல விரைந்து சென்று பக்க மலையில் நின்றிருந்த வேங்கையின் ஒளி பொருந்திய பூக்களைச் சிதறச் செய்து, தேனினம் வைத்த அடையை உருவி அழித்துத் தேனை உகுத்து. பின் பக்கத்தில் உள்ள பலாவினது பழத்துள் சென்று புகுந்தது. மூர்த்தி சிறிதெனினும் அதன் கீர்த்தி பெரிதாக கூறும் அளவிற்கு, அத்தகைய வலிமை மிகுந்த ஒரு கருவியை இருந்த இடத்திலிருந்தே குறி பார்த்து அடித்து பறவைகளை ஓட்டுவதற்கு அக்காலத்திலே கண்டறிந்துள்ளனர். பறவையை விரட்ட இம்முறையைப் பயன்படுத்தியவர்கள் பறவைகளை வேட்டையாட பின்வருமுறையை நிகழ்காலத்தில் மலைவாழ் மக்கள் கையாள்கின்றனர்.

Cosmos

CIF : 3.458

IRJIF

IRJIF : 3.669

Indexed & Abstracted in

CiteFactor   DAIJ DOAJ   DRJI

JOURNAL INDEX   ESJI   IMPACT FACTOR   JilFactor   Universal Impact Factor   OAJI

Reg No TN18

இந்தியக் கல்விசார் ஆய்வாளர்கள் அமைப்பின் சார்பாகப் பல்வேறு சமூக அறிவி... துறைகளில் கல்விசார் ஆய்வு மற்றும் சமூகப் பணிகளைச் செய்துவருகிறோம் 2... ஜனவரி முதல் SELP JOURNAL OF SOCIAL SCIENCE (p-ISSN: 0975-9999, e-ISSN: 2349-1655 ... Approved Journal - 46622) என்ற தேசிய ஆய்விதழையும், 2012 முதல் RESEARCH EXPLO... (p-ISSN: 2250-1940 , e-ISSN: 2349-1647 , UGC Approved Journal - 63185) என்ற பன்னை... ஆய்விதழையும் வெற்றிகரமாக நடத்தி வருகிறோம்.

பேராசிரியர்களும், முனைவர் பட்ட ஆய்வு மாணவர்களும் ஆய்வுக்கட்டுரை... வெளியிடுவதை ஊக்குவிக்கவும், தமிழியல் ஆய்வுக்கென தனியாக ஒரு தர... ஆய்விதழ் தேவை என்ற கல்வியாளர்களின் கோரிக்கையினை ஏற்று 2014 ஜனவ... முதல் "தமிழாய்வுச் சங்கமம்" (p-ISSN: 2320-3412 , e-ISSN: 2349-1639 , UGC Approved Journal ... 64089) என்ற பன்னாட்டுத் தமிழியல் ஆய்விதழ் ஒன்றைத் தொடங்கி நட... வருகிறோம்.

பேராசிரியர்கள், ஆய்வாளர்கள், கல்வியாளர்கள், தமிழறிஞர்கள் மற்றும் த... ஆர்வலர்களை ஒன்றிணைத்து தமிழ்மொழி, இலக்கியம், பண்பாடு போன்ற துறைக... சாதனை புரிந்தவர்களுக்கு விருது வழங்கிப் பெருமைப்படுத்தவும், ஆய்வ... கருத்தரங்கம் நடத்த நிதியுதவி போன்றவைகளை வழங்கும் தமிழாய்வுச் சங்... எனும் கல்விசார் அமைப்பு ஒன்றைத் தொடங்கியுள்ளோம். இவ்வமையப... உறுப்பினராகச் சேர அழைப்பு விடுக்கின்றோம். இவ்வழைப்பை ஏற்று உறுப்பினர்க... இணையும் அனைவருக்கும் சான்றிதழ் வழங்கப்படும். மேலும் உறுப்பின... இருப்பவர்களின் ஆய்வுக்கட்டுரையைத் தமிழாய்வுச் சங்கம ஆய்விதழ்... வெளியிடுவதற்கும் முன்னுரிமை அளிக்கப்படும்.

வாழ்நாள் உறுப்பினர் : தமிழியல் பேராசிரியர்கள், ஆய்வாளர்கள், கல்வியாளர்க... தமிழறிஞர்கள் மற்றும் தமிழ் ஆர்வலர்கள் வாழ்நா... உறுப்பினராக சேரலாம். வாழ்நாள் உறுப்பினர் கட்டணம் 50...

மதிப்புறு உறுப்பினர் : 10 ஆண்டுகளுக்கு மேல் தமிழியல் துறையில் அனுப... உள்ள பேராசிரியர்கள், கல்வியாளர்கள், தமிழறிஞர்கள் மற்... தமிழ் ஆர்வலர்கள் மதிப்புறு உறுப்பினராக சேரலாம். மதிப்... உறுப்பினர் கட்டணம் 1500/-

உறுப்பினராகச் சேர விரும்பம் உள்ளவர்கள் தமிழாய்வுச் சங்கமத்தின் உறுப்பி... படிவத்தைப் பூர்த்தி செய்து அதற்கான கட்டணத்தை கீழ்க்கண்ட வங்கிக் கணக்கி... நேரடியாகவோ அல்லது இணைய வழியிலோ செலுத்தி விண்ணப்ப படிவத்துட... ரசீதையும் சேர்த்து tamilaivusangamam@gmail.com என்ற மின்னஞ்சலுக்கு அனுப...

Name	INDIAN ACADEMIC RESEARCHERS ASSOCIATION
Account Number	8605101008886 (Savings Account)
Bank	Canara Bank
Branch	K.K.Nagar, Tiruchirappalli, Tamil Nadu, INDIA – 620021
IFSC code	CNRB0008605
MICR	620015009

Empirical Study on Data Mining Techniques For Breast Cancer Diagnosis

Ms. Sindhuja C.

M. Phil Research Scholar,

Department of Computer Science

Auxilium College (Autonomous), Vellore-6.

Ms. Kavitha S.

Assistant Professor,

Department of Computer Science

Auxilium College (Autonomous), Vellore-6.

Abstract

Data mining is a process used by companies to turn raw data into useful information. It is the process of sorting through large data sets to identify patterns and establish relationships to solve problems through data analysis. Data mining tools allow enterprises to predict future trends. This paper studies various data mining techniques for breast cancer Diagnosis. This paper reviews about the parameters and techniques used to diagnosis breast cancer in begnin or malignant stage. Various data mining techniques were used in diagnosis like k-nearest, Bayes classifier, fuzzy-c-means, neural network, thresholding etc. has been explored in this paper.

Keywords: Breast cancer diagnosis, Data mining Techniques.

I. Introduction

Breast cancer is a cancer that forms in the cells of the breasts. After skin cancer, breast cancer is the most common cancer diagnosed in women in the United States. Breast cancer can occur in both men and women, but it's far more common in women. Substantial support for breast cancer awareness and research funding has helped created advances in the diagnosis and treatment of breast cancer. Breast cancer survival rates have increased, and the number of deaths associated with this disease is steadily declining, largely due to factors such as earlier detection, a new personalized approach to treatment and a better understanding of the disease. Breast cancers can start from different parts of the breast. Most breast cancers begin in the ducts that carry milk to the nipple (ductal cancers). Some start in the glands that make breast milk (lobular cancers). There are also other types of breast cancer that are less common.

A small number of cancers start in other tissues in the breast. These cancers are called sarcomas and lymphomas and are not really thought of as breast cancers. Although many types of breast cancer can cause a lump in the breast, not all do. Many breast cancers are found on screening mammograms which can detect cancers at an earlier stage, often before they can be felt, and before symptoms develop. There are other symptoms of breast cancer you should watch for and report to a health care provider. It's also important to understand that most breast lumps are benign and not cancer (malignant). Non-cancerous breast tumours are abnormal growths, but they do not spread outside of the breast and they are not life threatening. But some benign breast lumps can increase a woman's risk of getting breast cancer.

A tumor is a mass of abnormal tissue. There are two types of breast cancer tumors: those that are non-cancerous, or 'benign', and those that are cancerous, which are 'malignant'. When a tumor is diagnosed as benign, doctors will usually leave it alone rather than remove it. Even though these tumors are not generally aggressive toward surrounding tissue, occasionally they may continue to grow, pressing on organs and causing pain or other problems. In these situations, the tumor is removed, allowing pain or

Bidirectional Recurrent Neural Network Language Model: Cross Entropy Churn Metrics for Defect Prediction Modelling

Nivetha.R, Kavitha.S

Abstract- Software Defect Prediction (SDP) plays an active area in many research domain of Software Quality of Assurance (SQA). Many existing research studies are based on software traditional metric sets and defect prediction models are built in machine language to detect the bug for limited source code line. Inspired by the above existing system. In this paper, defect prediction is focused on predicting defects in source code. The aim of this dissertation is to enhance the quality of the software for precise prediction of defects. So, that it helps the developer to find the bug and fix the issue, to make better use of a resource which reduces the test effort, minimize the cost and improve the quality of software. A new approach is introduced to improve the prediction performance of Bidirectional RNNLM in Deep Neural Network. To build the defect prediction model a defect learner framework is proposed and first it need to build a Neural Language Model. Using this Language Model it helps to learn to deep semantic features in source code and it train & test the model. Based on language model it combined with software traditional metric sets to measure the code and find the defect. The probability of language model and metric set Cross-Entropy with Abstract Syntax Tree (CE-AST) metric is used to evaluate the defect proneness and set as a metric label. For classification the metric label K-NN classifier is used. BPTT algorithm for learning RNN will provide additional improvement, it improves the predictions performance to find the dynamic error.

Keywords- Software Defect Prediction Modeling, Bidirectional RNN Language Model, Deep Learning, Software Metrics.

I INDRODUCTION

When frequently existing of a software failure in system for many time it automatically indicates to a software defect/fault in a system. A software defect is an error it occurs with the poor software quality. When the program runs the compiler will show the error in the code that is syntax error and a static semantic error this kind of software defect/bugs can be found and fixed easily by the computer programmer. [1] But when the program compiles and runs the code the logical error and dynamic semantic error cannot be detected at the compile time and it produces wrong results when the program executed in the run time this software defect is called bug it will lack the software product that is the customer needs. So this software defects cant produces a good quality of software. [2] The Software Organization job is to develop and design the software projects, the main role of the computer programmers in IT is a developer has to build the software system and Tester has to find the bug and fix the issues and deliver a quality software product as per the customer requirement. Many Software Defect Prediction Model has been created it is the smart way of automating the process of training and learn from The enormous software information collection and application of this model to recognize new data bugs help feed the training module and test the software [3]. To attain this prediction model mainly influenced by the software metrics. And to build an effective defect prediction model Machine learning technology is used it formulates the predictive defect classification model from different code attributes using Machine learning algorithms [4]. Support vector Machines (SVM), Linear Regression (LR) Logistic Regression (LR), Naïve Bayes (NB), Ensemble learning (EL), Dictionary learning (DL), Transfer learning (TL) and Deep Neural Network (DNN) in this paper K-Nearest Neighbor classifier is used. So, that to develop model first thing is the model should be trained with the past datasets for this Machine learning is used to learn the syntactic and semantic information of the particular programming language [5].Software metric which is used to measure the features (or) characteristics those are measurable (or) countable. It is important for measuring the software performance, measuring the productivity and for much purpose [3]. It is a quantitative metric to predict the amount of defects in the software metrics component which is used to assess the progress the software source code to measure the line of code, complexity, cohesion and churn (number of modification in LOC) and collects the previous defects data sets as a statistical traditional metric sets to predict the defect in code [3][4]. Software metric is the parameters to measure the features in a software system. Many researches devote their effort to design new metrics (features) to measure and predict the entropic in code. To perform a defect prediction task many software metrics is commonly used to measure the natural language. There are some important software metrics used to predict task and they are considered as traditional metric sets [5]. Halstead Metrics based on operator & operand count.
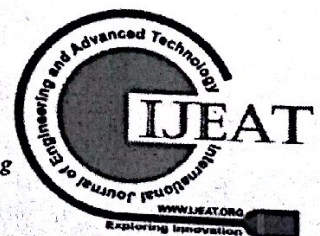
Automotive Software Process Improvement In Software Product Line Using Aspla Model

Surekha.V, Kavitha.S

Abstract: A Software Product Line is generally utilized in huge automotive associations for software advancement. Organizations in the making of programming regularly experience alterations that require adaptability. Agile programming standards and strategies are regularly associated with upgrading the adaptability of programming organizations. In any case, it has its preferences and imperatives to present light-footed practices. Dexterous selection rules are being recommended to give systems to executing deft practices so as to intensify preferences and all emirate troubles. One model is known as Agile Maturity Models (AMMs).A key reuse of programming is important to manage the developing unpredictability of the advancement and to save the nature of incalculable renditions of programming. In any case, the advancement technique requires to be balanced constantly to meet the developing necessities of the market. To create amazing programming, presenting agile programming development systems guarantees adaptability to react to client change demands and market prerequisites. Regardless of this need, joining light-footed programming advancement with product offerings is as yet testing. Regularly it is hard to decide the development of a light-footed execution. Surveying the present mix situation is an initial move towards effectively coordinating nimble techniques into product offerings for car software. Based on a meeting research with 16 respondents and a writing audit, make the alleged ASPLA Model that permits group self-evaluations to decide the current situation with spry programming advancement related to product offerings for programming. The model incorporates seven fields of progress and suggests that the present status be improved. The blend in the car area of dexterous programming advancement and programming product offerings is seen as a promising technique. With this methodology, it is conceivable to accomplish a shorter time to advertise and a snappier learning circle about the product development. It is hard to recognize the present status of nimble execution inside the product offering of programming. In this article, the components to be respected for an adjusted assessment model that surveys the current state of an association as to spry programming improvement and product offerings for programming ought to be analyzed. A few assessment models are utilized for the models CMMI and ASPICE, XP, ISO 26550.

Index Terms: Agile software development, software product lines, process maturity framework, software process improvement, Automotive domain, embedded software development, ASPLA Model.

◆

1. INTRODUCTION

In order to keep up with modifications in the company setting and retain a competitive advantage, flexibility is essential for any organisation, including software organizations. Flexibility in software engineering is often connected with agile software development principles and procedures. Agile Software Development is a set of software development methodologies, e.g. Extreme Programming (XP), Scrum and Crystal, focusing on tiny iterations of operating software products, adapting to modifications in requirements and working closely with clients. A strategic reuse, managing the creation and maintaining the quality of countless customized software versions can address the growing complexity of software. Software product lines are a software paradigm for the systematic reuse of software and are widely used in the growth of automotive software. It is essential to handle the large amount of distinct software versions in the automotive integrated growth that fulfill distinct demands across various industries while preserving the software quality at the same time. Current automotive software development is strongly organized through standardized procedures. Process evaluations are used to assess the organizational unit's procedures against a predefined model of process evaluation. CMMI and Automotive SPICE (ASPICE) are the most popular standards in the automotive domain. A precondition for a good mixture of agile methods and software product lines in the automotive domain is the assessment of the present development status. The recognized the need for an adapted evaluation model addressing the Automotive Domain (ASPLA Model) Agile Software Product Lines.

For agile processes, Maturity Model Integration (CMMI) or Software Process Improvement and Capacity Determination (SPICE) is not appropriate. AMMs claim to provide professionals with Agile-specific instructions to participate in Agile conversion while managing their hazards and difficulties. Usually AMMs follow evolutionary development with CMMI or SPICE-like concentrations. Typically AMMs map Agile practices and levels of maturity, showing certain methods to be implemented before the other. Three typical AMM examples. AMMs recommend that Agile practices should be added gradually and continually, as we can see from this. However, AMMs are not in contracts that should introduce Agile practices at which level of maturity. Leppanen also reports a comparable observation. With contradictory suggestions among the AMMs, it is not yet possible for professionals to determine which AMM or order of practice implementation would best fit them. Most importantly, there is presently no way for professionals to say whether a approach proposed by an AMM would lead to more effective application of Agile practice.

2 BACKGROUND

2.1 Software Productivity

Software productivity relies primarily on the general method of software, tools / technologies,
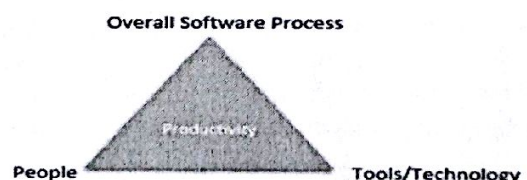
• *Author name   is currently pursuing masters degree program in electric power engineering in University, Country, PH-01123456789. E-mail: author_name@mail.com*
• *Co-Author name is currently pursuing masters degree program in electric power engineering in University, Country, PH-01123456789. E-mail: author_name@mail.com*
(This information is optional; change it according to your need.)

Fig. 1: *Software Productivity*

3800
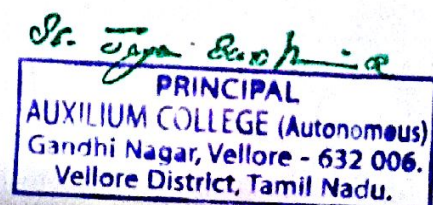
A Systematic Code Quality Improvement Using Rational Rose and Phyton for Execution in Self – Adaptive System Models

Priyanga Devi S[1], Kavitha S [2]

[1] M.Phil.Research Scholar, Department of Computer Science, Auxilium College, Vellore, TamilNadu, India

[2] Assistant Professor, Department of Computer Science, Auxilium College, Vellore, TamilNadu, India

Auxilium College, Vellore, Tamil Nadu, India

Abstract: Self-adaptive systems are capable of editing their run time behaviour if we want to gain system objectives. Unpredictable instances such as modifications inside the system's surroundings, device faults, new requirements, and changes inside the priority of requirements are a number of the reasons for triggering edition movements in a self-adaptive system. To deal with these uncertainties, a self-adaptive system continuously monitors itself to gather data and analyses them to decide whether adaption is required. The challenging aspect of designing and implementing a self-adaptive system is to system apply changes at runtime and also fulfil the system requirements up to a satisfying level. By bringing code content material into visual UML model allows programmers or Software Engineers to review an implementation, discover capability insects or deficiency and look for possible development. Relax COOL EDITOR plays an interface between Rational Rose and Phyton.

Keywords: Self adaptive system, visual UML model, Relax COOL Editor, Rational Rose.

I. INTRODUCTION

Self-adaptive systems are equipped for adjusting their runtime conduct so as to accomplish system targets. Erratic conditions, for example, changes in the framework's condition, framework flaws, new prerequisites, and changes in the need of necessities are a portion of the explanations behind triggering adaptation activities in self-adaptive systems. To manage these vulnerabilities, a self-adaptive system persistently screens itself, accumulates information, and investigates them to choose if adaption is required. The difficult part of structuring and executing self-adaptive systems is that not exclusively should the framework apply changes at runtime, yet in addition satisfy the framework prerequisites up to a wonderful level. Building such frameworks is regularly troublesome as the accessible learning at configuration time isn't satisfactory to envision all the runtime conditions. Along these lines, originators frequently like to manage this vulnerability at runtime, when more information is accessible.

A. Self-adaptive system

The assessment approaches for self-adaptive systems proposed so far in the logical writing might be investigated from different perspectives. Accepting any self-adaptive systems is made out of an oversaw systems (which executes the system functionality) and an overseeing systems (the controller, which actualizes the self-adaptive functionality, for example, Fig.1 shows, we classify the assessment approaches for self-adaptive systems in the accompanying two primary gatherings dependent on their extension:

RISK PREDICTION SYSTEM USING DATA MINING TECHNIQUES IN GYNECOLOGICAL OVARIAN CANCER

Vidyaa Thulasiraman[1] and S. Kavitha[2]

[1]Department of Computer Science, Government Arts and Science College for Women, Bargur, India
[2]Department of Computer Science, Auxilium College, India

Abstract

Cancer is one of the leading causes of death worldwide. Early detection and prevention of cancer plays a very important role in reducing deaths caused by cancer. Ovarian Cancer (OC) is a type of cancer that affects ovaries in women, and is difficult to detect at initial stage due to which it remains as one of the leading causes of cancer death. Identification of genetic and environmental factors is very important in developing novel methods to detect and prevent cancer. This research uses data mining technology such as classification, clustering and prediction to identify potential cancer patients. Therefore a cancer risk prediction system is here proposed which is easy, cost effective and time saving.

Keywords:

Ovarian Cancer, Multi-Layer Perceptron Classifier, Detection

1. INTRODUCTION

Ovarian cancer is the leading cause of death from Gynecological malignancies with an estimated 65,697 new cases and 41,448 deaths each year in Europe [1]. Approximately 15% of women present with disease localized to the ovaries and in this group with full staging surgery the 5-year survival is >90%. However, the majority of women present with advanced disease (International Federation of Gynecological Oncology (FIGO) stage III-IV) and their survival at 5 years is poor, currently <30%. Early diagnosis is fundamental to achieving a high cure rate, but this is difficult due to the paucity of clearly defined symptoms. At present, there is no evidence for screening asymptomatic women although trials are in progress. Advanced ovarian cancer is most commonly diagnosed following presentation with symptoms and some of these may be present in early-stage disease.

Most women with early ovarian cancer are cured by surgery. Ovarian cancer is contained epithelial ovarian, essential peritoneal and fallopian tube carcinoma [1] [2]. After initial treatment, most patients with ovarian cancer have undetectable diseases and are thought to be in clinical abatement. Cancer is a potentially fatal disease caused mainly by environmental factors that mutate genes encoding critical cell-regulatory proteins. The resultant aberrant cell behavior leads to expansive masses of abnormal cells that destroy surrounding normal tissue and can spread to vital organs resulting in disseminated disease, commonly a harbinger of imminent patient death.

More significantly, globalization of unhealthy lifestyles, particularly cigarette smoking and the adoption of many features of the modern Western diet (high fat, low fiber content) will increase cancer incidence. [3] Detecting cancer is still challenging for the doctors in the field of medicine. Even now the actual reason and complete cure of cancer is not invented. Various tests are available for predicting cancer, but detecting cancer in earlier stage is difficult, but earlier detection of cancer is curable. We have proposed the cancer prediction system based on data mining. Cancer prediction system estimates the risk of the gynecologic cancer especially in ovary.

Ovarian cancer is cancer that begins in the ovaries. Ovaries are reproductive glands establish only in women. The ovaries produce eggs (ova) for reproduction. The egg's journey during the Fallopian tubes into the uterus where the fertilized egg embeds and establishes into a fetus. The ovaries are also the major cause of the female hormones estrogen and progesterone. One ovary is situated on each side of the uterus in the pelvis. Many types of tumors can generate rising in the ovaries.

The majority of these are benign (noncancerous) and never multiply outside the ovary. Benign tumors can be treated effectively by removing either the ovary or the part of the ovary that contains the tumor. Ovarian tumors that are not benign or malignant (cancerous) and can increase (metastasize) to other parts of the body. Ovarian tumors are named according to the kind of cells the tumor in progress from and whether the tumor is benign or cancerous. There are 3 main types of ovarian tumors: Epithelial tumors establish from the cells that wrap the outer surface of the ovary. Most ovarian tumors are epithelial cell tumors. Germ cell tumors begin from the cells that generate the eggs (ova). Stromal tumors begin from structural tissue cells that grip the ovary collectively and make the female hormones estrogen and progesterone.

A widely recognized formal definition of data mining can be defined as "Data mining is the non-trivial extraction of implicit previously unknown and potentially useful information about data". Data mining has some fields to analysis of data such as classification, clustering, correlations, association rule etc. [4] and has been used intensively and extensively by many organizations.

Data mining technique involves the use of sophisticated data analysis tools to discover previously unknown, valid patterns and relationships in large data set. These tools can include statistical models, mathematical algorithm and machine learning methods in early detection of cancer. In classification learning, the learning scheme is presented with a set of classified examples from which it is expected to learn a way of classifying unseen examples.

In association learning, any association among features is sought, not just ones that predict a particular class value. In clustering, groups of examples that belong together are sought [5]. In numeric prediction, the outcome to be predicted is not a discrete class but a numeric quantity. Data Mining techniques are implemented together to create a novel method to diagnose the existence of cancer for a particular patient. When beginning to work on a data mining problem, it is first necessary to bring all the data together into a set of instances. Integrating data from different sources usually presents many challenges.

AN ASSESSMENT MODEL TO FOSTER THE ADOPTION OF AGILE SOFTWARE PRODUCT LINE IN THE AUTOMOTIVE DOMAIN

Surekha.V[1], Kavitha.S[2]

Research Scholar M.Phil. (CS)., Assistant Professor,(CS)
Department of Computer Science
Auxilium College, Vellore, India.

Abstract : A Software Product Line is commonly used for the Software Development in Large Automotive Organizations. Software development organizations frequently face changes that require them to be flexible. The principles and practices of Agile software are often associated with improving software organizations' flexibility. However, Introducing agile practices have its benefits and limitations. To amplify benefits and all evirate challenges, Agile adoption guidelines are being proposed to provide strategies for introducing Agile practices. One instance of such guidelines is known as Agile Maturity Models (AMMs). A strategic reuse of software is needed to handle the increasing complexity of the development and to maintain the quality of numerous software variants. However, the development process needs to be continuously adapted at a fast pace to satisfy the changing market demands.

Introducing agile software development methods promise the flexibility to react on customers' change requests and market demands to deliver high quality software. Despite this need, it is still challenging to combine agile software development and product lines. The maturity of an agile adoption is often hard to determine. Assessing the current situation regarding the combination is a first step towards a successful inclusion of agile methods into automotive software product lines. Based on an interview study with 16 participants and a literature review, build the so-called ASPLA Model allowing self-assessments within the team to determine the current state of agile software development in combination with software product lines. The model comprises seven areas of improvements and recommends a possibility to improve the current status.

The combination of agile software development and software product lines in the automotive domain is seen as a promising approach. With this approach, a shorter time to market and a faster learning loop about the maturity of the software could be achieved. The current status of the agile adoption within software product line is hard to define. In this paper, to examine the aspects that needs to be considered for an adjusted assessment model that assess an organization's current situation regarding agile software development and software product lines. Several assessment models for CMMI and ASPICE, XP, ISO 26550 models are used.

IndexTerms – Agile software development, software product lines,process maturity framework, software process improvement,automotive domain,embedded software development, ASPLA Model.

I INTRODUCTION

Flexibility is important for any organization, including software organizations to keep up with changes in the business environment and maintain a competitive advantage. In software engineering, flexibility is often associated with the principles and practices of agile software development. Agile software development is a group of software development methodologies, e.g., Extreme Programming (XP), Scrum, and Crystal that focus on delivering working software products in small iterations, being adaptive towards requirement changes, and collaborating closely with customers.

The increasing complexity of software can be addressed by a strategic reuse, to manage the development and to maintain the quality of numerous customized software variants. Software product lines are a software paradigm for systematic software reuse and commonly used in the automotive software development. In the automotive embedded development it is necessary to manage the high number of different software variants that meet different requirements across multiple markets, while simultaneously maintaining the quality of the software.

Current software development in the automotive domain is heavily structured by standardized processes. Process assessments are used to evaluate the processes of the organizational unit against a predefined process assessment model. The most popular standards in the automotive domain are CMMI and Automotive SPICE (ASPICE). Assessing the current status of the development is a prerequisite for a successful combination of agile methods and software product lines in the automotive domain. The identified the need for an adjusted assessment model, addressing Agile Software Product Lines in the Automotive Domain (ASPLA Model).

Maturity Model Integration (CMMI) or Software Process Improvement and Capability Determination (SPICE) is not suitable for Agile processes. AMMs claim to provide Agile-specific guidelines for practitioners to engage in Agile transformation while managing its risks and challenges. AMMs usually follow an evolutionary progression with levels similar to CMMI or SPICE. Typically AMMs map Agile practices and maturity levels, indicating some practices are to be introduced before the other. Three examples of typical AMMs. As we can see from, AMMs suggest that Agile practices should be gradually and continuously added. However, AMMs are not in agreements which Agile practices should be introduced at which maturity level. A similar observation is also reported by Leppanen. With contradictory suggestions among the AMMs, practitioners do not yet have the means to determine which AMM or which order of practice introduction would suit them best. Most importantly, currently there is no way for practitioners to tell if one strategy suggested by one AMM would lead to a more successful Agile practice implementation.

CONSUMER BEHAVIOUR TOWARDS DURABLE AND NON-DURABLE GOODS, VELLORE DISTRICT

[1]V.NIVETHITHA, [2]Dr.S.RENUGA DEVI

[1]Research Scholar, [2]Assistant Professor

[1,2]Department of Business Administration,

[1,2]Auxilium College (Autonomous),Vellore,India.

Abstract

The purchasing is done by keeping all these factors in mind. Today, price is not the only consideration as it was a few years back when prices played a major role in purchasing. The automobile industry in general and two wheeler industries in particular have shown a tremendous growth over the recent years. Tomorrow's consumer will focus more on technology and credit purchase. To become a successful producer of milk products, they should think about price, quality and health consciousness of those products. Offers, gifts, price discount etc, can be given to attract more customers. This article paper highlights the consumer behaviour on durable and non-durable goods.

Key words: Consumer behaviour, Durable goods, Non-durable goods, Automobile industry, Two Wheeler.

INTRODUCTION

The India consumers today are highly aware about the product, price, quality and the options available with them. The purchasing is done by keeping all these factors in mind. Today, price is not the only consideration as it was a few years back when prices played a major role in purchasing. The automobile industry in general and two wheeler industries in particular have shown a tremendous growth over the recent years. Tomorrow's consumer will focus more on technology and credit purchase. Number of nuclear families will increase. Health care will become very important in the coming years. Talking of the two wheeler industry, the names that effortlessly come to us is Bajaj Auto, Hero Honda, TVS motor, Yamaha Motor, kinetic and others. The two wheeler segment has played an important role in giving a push to the automobile industry in India. In fact, the production, sales and export of the Two Wheeler is a fair indication of the growing importance that it enjoys in this country's manufacturing economy. The total sale of Two Wheeler in India has touched the figure of 7.86 million units by March 2007 up 11.42% from the previous fiscal figures of 7.05 million. Production during the period reached 8.63 million units.

The production of Two Wheeler in India is expected to reach a staggering 17.85 million units by 2010- 11, double than the current production level. The two-wheeler production capacity is to reach 22.31 million units in 2011-12, compared with 10.78 million in 2006-07.

CONSUMER BEHAVIOUR

Consumers' behaviour is a composition of four aspects viz., consumer preference, information search purchase decision and post purchase behaviour or satisfaction. These aspects are explained in detail in the following pages. Define consumer behaviour as "those acts of individuals directly involved in obtaining, using, and disposing of economic goods and services, including the decision processes that precede and determine acts".

A STUDY ON THE ROLE OF MEDIA ON ONLINE MARKETING

[1]V.NIVETHITHA, [2]Dr.S.RENUGA DEVI

[1]Research Scholar, [2]Assistant Professor

[1,2]Department of Business Administration,

[1,2]Auxilium College (Autonomous), Vellore, India.

Abstract

Social media has changed business in many ways. The fact is that we are in the digital era and internet marketing and social media have a significant impact on the way consumer behave. Due to the fast evolution of the technology, the continuous increase in demand and supply have been increased. The only solution to face the major changes is the automation of all the processes. Even though the new era of communication is here, specialist suggest the companies should not ignore traditional methods and also, they are advised to use social media as much as possible in order to achieve their goals. This study deals with the impact of social media towards digital marketing. This research was performed to explore different types of social media and how they influence in the growth of digital marketing, with the help of questionnaire and interview conducted among the respondents who use digital marketing. The responses were collected from 100 respondents. The collected data were tabulated, coded and evaluated using SPSS tools.

Key words: Online marketing, Social media, Consumer behaviour, Marketing, Strategy.

INTRODUCTION

"Brands that ignore social media...will die. It's that simple"- Jeff Ragovin

Social media has gained popularity among humans. We cannot think of promoting a brand without taking help of social media. The growth of social media marketing platforms has become a major part of building social signals. Different social media channels offer internet marketers a wider market opportunity in building brand visibility over the web. There are different social media marketing trends that will definitely affect the way digital marketers will undertake their search engine optimization campaign to boost their lead generation process and website conversations. Social media is a platform which not only connects people worldwide but also serves best for digital marketing.

- Social networking is used by 76% of businesses in order to achieve their marketing objectives.
- The revenue of business retailers has been increased up to 133% by marketing their business in social media.
- The majority of popular brand have their own social media page into order to develop their business and making their brand more accessible among the social media users.

Social media has become a requirement for digital marketing because research shows that most consumers have a habit of spending a minimum of one hour per day in various social media sites.

OBJECTIVES

1. To analyze the growth of digital marketing with the influence of social media among the consumers.
2. To examine the contribution of different social media towards digital marketing.
3. To portray the current scenario of the role of social media in the genesis of digital marketing.

THE IMPACT OF DIGITAL TECHNOLOGY ON BRAND PREFERENCE OF MOBILE PHONES A STUDY IN VELLORE DISTRICT, TAMIL NADU

V. Nivethitha
Ph.D Research Scholar,
Department of Business Administration, Auxilium College, Vellore-6

Dr. S. Renuga Devi
Assistant Professor
Department of Business Administration, Auxilium College, Vellore-6

Abstract

With the growth and competition of the smartphone industry, developing a better understanding of what drives consumer's loyalty to smartphone brands has become an important issue for academics and practitioners. Mass media is a technology that is projected to reach a mass audience. It is the primary means of communication used to reach the majority of the general public. The most common used mass media are newspapers, magazines, radio, television and the Internet. This study deals with impact of mass media on brand preference of smart phones and attempts to find consumer's preference about different mobile feature which influence their buying behavior. The responses were collected from 100 respondents from different class of customers at Katpadi, Vellore District, Tamil Nadu. The respondents were government employees, private sector employee, students, business men and homemakers. The respondents were requested to rate their views for the list of statement focusing on brand currently used, features available, attracted channels, mass media influence, benefits acquired etc., The collected data were tabulated, coded and evaluated using SPSS tools like chi square test, one-way ANOVA and frequency tabulation.

Key words: Brand preference, Mass media, Smart Phone, Consumer,

INTRODUCTION

Mass media plays a vital role in brand preference of the products. Many businesses consider

PRINCIPAL
AUXILIUM COLLEGE (Autonomous)
Gandhi Nagar, Vellore - 632 006.
Vellore District, Tamil Nadu.

A study on Brand preference of Smart Phones among Customers at Vellore District

[1]S. Renuga Devi (Dr) & [2]V. Nivethitha

[1]Assistant Professor, Department of Business Administration, Auxilium College (Autonomous), Vellore (India)
[2]Ph. D Research Scholar, Department of Business Administration, Auxilium College (Autonomous), Vellore (India)

ARTICLE DETAILS

ABSTRACT

India is the second largest consumer market in the World. The Indian consumer profile has been developed and changed in terms of education, income, occupation, and reference group and media habits. There is a shift in consumer brand preference for durables products for the past decade with the invasion of modern technology. Branding has always been an important aspect of marketing. Brand is a powerful differentiator in a highly competitive market place. India since liberalization has been the favorite destination for the telecom service providers and its related companies. This study deals with perception of the consumers towards the emerging and existing mobile brands and attempts to find consumer's preferences about different mobile features which influences their buying behavior. The research was performed to explore with regards to the brand preference of the customers residing at Vellore District, Tamil Nadu. The responses were collected from 100 respondents from different class of customers. The respondents were governments employees, private sector employees, students, business men and homemakers. The respondents were requested to rate their views for the list of statements focusing on the brands currently used, price, features available, brand requirements, satisfaction level, benefits acquired etc., The collected data were tabulated, coded and evaluated using SPSS tools like chi square test, one-way ANOVA, correlation and frequency tabulation.

1. Introduction

India is the world's fastest growing industry in the world in terms of number of wireless connections. According to the world telecommunications industry, it is estimated that India will be having 3.600 billion mobile users by 2019. The projections made by several leading global consultancies indicate that the total number of cellular users in India will be exceeding by the total subscriber count in the China by 2019. Cell phones evolved over five different generations, the latest of which is still being rolled out and adopted by users. By the time most of us will have switched to 4G. In the recent times, we have seen that the Indian telecommunications sector has undergone a major process of changes because of significant Government policies reforms. India is familiar for the use of both the GSM (global system for mobile communications) and CDMA (code-division multiple access) technologies in the mobile sector.

Branding has always been an important aspect of marketing. Brand is a powerful differentiator in a highly competitive market place. According to the recent statistics it is known that the markets in the developed countries like US, UK etc. have already been exhausted and have been exploited to their full capacity. Thus, it is very clear that the developing countries like India with large populations will play a major role in the expansion of the cellular industry if products are priced and marketed in accordance with the customer requirements. They are the basis of consumer relationship and bring consumers and marketers closer by developing a bond of faith and trust between them. The promise of brand is consistent with reliable quality, service and overall psychological satisfaction.

2. Objectives

1. To identify the profiles of customers of specific brand by gender, age, locality and education level
2. To determine the preference of mobile phone brands.
3. To assess the customer's perception on brand preference.
4. To determine what people, expect from various mobile phone brands.

3. Review of literature

Nushrat Nahida Afroz, (2011)

This study aims to explore the brand preference towards smartphones among students. In recent times smartphones plays a significant role among the users to meet up their numerous objectives by operating their desired smart phone. 200 copies of questionnaire were given to the respondents for evaluation and analysis. The findings of the study indicated positive correlation among the variable i.e. battery backup, camera resolution, durability and price have significant impact on the overall preferences of the consumers. The result derived from cross tabulation and likelihood ratio entails that these above factors are influenced the customer brand preference and there exist a strong relationship between these factors and brand preference.

Deepa Guleria (2015)

The related study conducted in Himachal Pradesh with a sample size 80 smartphone users to highlight the change in the usage and applicability of the technology from the traditional handsets to the new emerging smartphones across multiple brands, applications and prices. The study identifies factor which are responsible for building consumer preference for smartphone and various usability features. This study will

International Conference On Advancements In Technology Business And Management – Icatbm19

An Empirical Study on the Quality of Professional Life of Faculty Members in Arts and Science Colleges, Vellore

P. Rajeswari [a], Dr. Beulah Suresh [b],

[a] Ph.D Full Time Scholar, Department of Business Administration, Auxilium College (Autonomous), Vellore 632 006, India

[b] Assistant Professor & Head, Department of Business Administration Auxilium College (Autonomous), Vellore 632 006, India

Abstract

Education sector plays a prominent role in the upliftment of society. Quality of professional life indicates the set of factors to fulfil the requirements of the related profession. This study attempts to identify the factors that affect the quality of professional life of faculty members working in Arts and Science Colleges in Vellore. Descriptive research design was adopted and simple random sampling method was used to collect data through a structured questionnaire. The factor analysis identified seven factors that affect the quality of professional life of faculty members. The outcome of the regression analysis is that out of seven factors, three factors namely Time management, Relationship management and Special approaches that enhance the quality of professional life that influence the dependent variable i.e faculty members professional life is role model to students, colleagues and college management. The study concluded that to bring quality professional life among faculty members, synergy effort needs to be adopted i.e management and faculty members are responsible for societal development.

Keywords: Quality; Professional life; Faculty members; Time management; Relationship management

I. Introduction

Quality of human resource is the primary source for the development of a nation. Systematic and Quality education brings excellent human resource to the society. In the present scenario, India is highly focused on digitalization, modernization, and economic growth. Indian higher education system has various constructive factors to its improvement. In the higher education sector, India is in third largest position. The flaw of the higher education system is the diversity of policies and approaches between central and state government. UGC stated that inspite of the growth of colleges and admission of students, which is not enough to provide to the increasing young population of their educational requirements.

The education system in India has undergone radical changes to face the challenges for the development of society. The challenges faced by higher education system are due to lack of quality research work by faculty members and students, low citation on a research papers, lack of employability skills of students, shortage of faculty, less collaboration of higher education/institutes with industries. Among various factors, faculty members

A REVIEW ON SERVICE QUALITY GAPS AND THE LEVEL OF CUSTOMER SATISFACTION IN THE INDIAN OVERSEAS BANKS WITH SPECIAL REFERENCE TO VELLORE CITY

[1]M.BALAPRIYA, [2]DR.P.N.RAGHUNATHAN

[1]Research Scholar, [2]Head of the Department

[1]Department of Business Administration,

[1]Government Arts College (Autonomous), Coimbatore, India.

Abstract

Competition among banks has intensified with increasing government de-regulation. Banks are required to establish their uniqueness to differentiate with superior quality. In the current trend, customer satisfaction plays a major role in all parts of the services. The basic requirement for conducting this study was to examine the services offered by the banks customer feedback and their knowledge about various banking services provided by the Indian Overseas Bank. Thus, it is really important to learn more about the customers' perceptions of the banking services quality and the attributes that determines their success in their sector. The study evaluates the service quality gaps and the level of customer satisfaction. 160 samples were collected from the customers of Indian Overseas Bank using structured questionnaire and the key result were explored.

Key words: Intensified competition, Quality gaps, satisfaction level, quality attributes.

Introduction

After liberalization, privatization and globalization (LPG) policy enactment, Indian banking industry has undergone tremendous qualitative changes. Financial services are the backbone of service sector. This is important not only for the banking sector but for the Indian economy as a whole. This is so because banking is a catalyst and life of modern trade and commerce. It is an integral part of all the businesses and social activities. This rapid transformation of services in the banking system has led to the evolution of a highly competitive and complex market where there is a continuous refinement of services. To-day, we cannot think about the success of a banking system without information technology and communication. It has enlarged the role of banking sector in the economy. The financial transactions and payment can now be processed quickly and easily. The banks with the latest technology and techniques are more successful in the competitive financial market. They have been able to generate more and more business resulting in their greater profitability. Various empirical and theoretical studies have been undertaken at the national and international level to analyze the impact of banking and information and communication technology (ICT) on banking sector, customers, and service quality and payment system. The studies mainly focus upon banking impact on productivity and profitability primarily due to core banking system, electronic fund transfer, real time gross settlement system and electronic clearing.

A Study On The Impact Of Emotional Intelligence On Job Satisfaction Of College Faculty Members In Vellore

P. Rajeswari, Ph.D Full Time Scholar, Department of Business Administration, Auxilium College (Autonomous), Vellore

rajisenthil29@gmail.com

Dr. Beulah Suresh, Assistant Professor & Head, Department of Business Administration, Auxilium College (Autonomous), Vellore.

Abstract

Teaching is the set of activities involved in assisting or educating to enhance the knowledge and skills of the learners. The multiple roles played by faculty members and sometimes hinder them to succeed in their career. Teaching is professional job, they have to find ways to play their roles effectively and efficiently. The term Emotional Intelligence can be defined as the ability to identify and manage one's own emotions as well as the emotions of others. The study aims to find the impact of emotional intelligence on job satisfaction of college faculty members, Vellore. Descriptive research design and simple random sampling method were used. The sample size for the study was 119 and questionnaire method was adopted to collect the data. The multiple regression results revealed that three variables of emotional intelligence skills affect the job satisfaction of faculty members working in Arts and Science College, Vellore.

Keywords: Teaching, Faculty members, Emotional Intelligence, and Multiple regression.

I Introduction

The efficiency of any organization is been evaluated on how management effectively is utilizing the resources. Among all resources, human resource should be managed to the optimum for the success of any organization. In this modern and fast scenario, the nature of the job for an employee is undefined at quite an extent. To fulfill the requirement of the employer, the employees have to face the challenges of work.

The teaching profession is one of the noble profession where the teacher enlightens the students knowledge and life. Every teacher expects the growth and success of the students,

PRINCIPAL
AUXILIUM COLLEGE (Autonomous)
Gandhi Nagar, Vellore - 632 006.
Vellore District, Tamil Nadu.

PHYTOSPECTRUM

(A Bi-Annual Magazine)

PHYTOSPECTRUM

The Roadmap for Infinite Knowledge in Science

HISTOCHEMICAL LOCALIZATION OF LIGNIN AND TANNIN

G. Abi Beaulah

Department of Biochemistry, Auxilium College (Autonomous), Vellore – 632 006.

Introduction

Plants have been a primary source of medicine in the traditional healthcare systems around the world. The application of plants in the treatment of diseases is evidence of man's ingenuity[1]. The contribution of these plants to the therapeutic action to fight against the diseases dates back several centuries, and has, to a certain extent, been documented by the ancient Chinese, Indian and North African civilizations[2]. The inappropriate use of traditional medicines or practices can have negative or dangerous effects on the human health. So, the need for further research prevails to ascertain the efficacy and safety of the practices and medicinal plants used by traditional medicine systems[3]. The approach to isolation and characterization of active ingredients from plants started in the late 19th century and continues till date[4]. Medicinal plants are the great natural resources, but due to lack of knowledge, arbitrary use and lack of conservation measures, many important medicinal plant species are becoming threatened, endangered and extinct.

Histochemistry is devoted to study the identification and distribution of chemical compounds within and between biological cells, using stains, indicators and light and electron microscopy[5]. Histochemical methods are employed in the identification, density of accumulation and distribution of chemical compounds within biological cells and tissues in different organs under microscopes using the color-stain reaction technique and photographic recording. These include the preparation of fixed variably stained specimens and then the examination under the microscopic devices. The methods are found to be efficient tools for analyzing, localization and distribution of molecules like proteins, carbohydrates, lipids and secondary metabolites in cells and tissues[6]. The technique is also employed to study time course of deposition and distribution of major secondary metabolites[7].

Material and Methods
About the plant

Botanical Name | : *Croton sparsiflorus Morong.*
Synonym | : *Croton bonplandianum Baill.*
Family | : Euphorbiaceae
Common Name | : Naipoondu (T), Ban Tulasi (E)
Habitat | : Throughout India and tropical Asia
Distribution | : Grows wild along roadsides and abandoned places

Croton sparciflorus

Wollastonite/forsterite composite scaffolds offer better surface for hydroxyapatite formation

R LAKSHMI[1], RAJAN CHOUDHARY[2], DEEPALEKSHMI PONNAMMA[3],
KISHOR KUMAR SADASIVUNI[4] and SASIKUMAR SWAMIAPPAN[5],*

[1] Department of Chemistry, Auxilium College, Vellore, Tamil Nadu 632006, India
[2] Division of Chemistry, Department of Science and Humanities, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, Tamil Nadu 602105, India
[3] Center for Advanced Materials, Qatar University, P.O. Box 2713, Doha, Qatar
[4] Department of Mechanical and Industrial Engineering, Qatar University, P.O. Box 2713, Doha, Qatar
[5] Department of Chemistry, School of Advanced Sciences, Vellore Institute of Technology, Vellore, Tamil Nadu 632014, India
*Author for correspondence (ssasikumar@vit.ac.in)

Abstract. The present work deals with a comparative study of ceramic/ceramic composites for the development of scaffolds for biomedical applications. Wollastonite and forsterite were synthesized by a sol–gel combustion method. The influence of constituents and composition on apatite deposition was studied by fabricating wollastonite/forsterite composites. The X-ray diffraction pattern explains the bone like-apatite deposition within early stages of immersion. The atomic force microscopy micrographs revealed that with an increase in wollastonite content in the composites the roughness was enhanced. Dissolution studies further confirmed the rapid consumption of Ca and P ions from the simulated body fluid. Hence, apatite formation was observed to be more on the surface of a composite containing a higher amount of wollastonite. The results suggest that composites have more influence on the biomineralization activity when compared with pure bioceramics.

1. Introduction

The major requirements for a typical biomaterial are biodegradability, enough strength and excellent efficiency to interact with the surrounding tissues and bones in the body. These criteria can be achieved by developing bioactive porous ceramic–ceramic scaffolds which can trigger the regeneration of new bone tissues and the biomechanical load tolerance during bone formation [1–4]. Forsterite (Mg_2SiO_4) is a bioceramic having mechanical properties superior to hydroxyapatite (HAp) and bioglass [5]. The role of divalent cations like Mg^{2+} in bone remodelling, skeletal development, human metabolism and cellular processes is well established. The *in-vitro* studies of forsterite reveal poor apatite deposition ability and an extremely slow degradation rate [6]. Moreover, the apatite formation on the surface of forsterite can be induced by fabricating its composites [7]. It is reported that nanocrystalline forsterite can enhance the fracture toughness of the bioactive glass matrix without deteriorating its biomineralization properties [8]. The HAp–forsterite–bioactive glass nanocomposite on a 316 litres stainless steel shows an increase in the HAp formation with an increase in the forsterite amount in the composite [9]. Recently, a calcium silicate/HAp nanocomposite has shown improved mechanical properties

and bioactivity for HAp with the increase in calcium silicate concentration [10].

There are several reports claiming the enhancement of mechanical properties with the incorporation of forsterite but very few studies have been published to enhance the apatite deposition ability of forsterite bioceramic. Thus, the present work is an attempt to improve the reactivity of forsterite by fabricating its composites with bioactive wollastonite. Wollastonite and forsterite powders were synthesized by the sol–gel combustion method and mixed in different ratios. The properties of composites were compared based on their compositions. The fabricated composites were characterized using different characterization techniques, and the influence of the compositional ratio on the apatite formation ability was evaluated.

2. Materials and method

Sodium chloride (99.9%, AR, SDFCL), sodium bicarbonate, Extrapure (99.5%, AR, SRL), potassium chloride (99.5%, AR, SDFCL), di-potassium hydrogen orthophosphate (99.0%, AR, SDFCL), magnesium chloride (99.0%, AR, SDFCL), hydrochloric acid (35–38%, LR SDFCL), calcium chloride

1

A Symmetric Key Encryption For Data Integrity Varification Using Artificial Neural Network

Monika P, Anita Madona

Abstract: An automatic programmed encryption framework dependent on neural networks beginning from the vital symmetric key model, the neural networks to make the conversation of the legal party more effective given less training steps, and to select the suitable hyper-parameters to enhance the statistical randomness to withstand distinguishing attack. In the current neural system, information trustworthiness isn't ensured, and Unique and arbitrary encryption keys are additionally fundamental for data honesty: an open key can't be acquired from an random key generator since it enables mediators to promptly assault the system and access delicate information. In this manner, so as to verify both data and keys, a plan ought to be utilized to deliver particular, mixed and arbitrary middle of the road encryption and decryption keys. Using the Automatic Artificial Neural Network (ANN) to introduce ideas such as authenticated encryption. ANN are the standards of finding the choice consequently by computing the proper parameters (loads) to cause the similarity of the framework and this to can be imperative to have the keys that used in stream figure cryptography to make the general framework goes to high security. The feature learned in Neural Network continues uncertain and we eliminate the chance of being a one-time pad encryption system through the test. With the exception of a few models wherever the assailants are too powerful, most models will be taught to stabilize at the training point. The newly suggested Elliptic Curve Diffie-Hellman (ECDH) based ANN important exchanges Automatic encryption systems are very powerful and flexible in resisting countless attacks. Further optimize the ANN to create the communication of the legal party much more effective given less training measures and how to select the suitable hyper-parameters to increase the statistical randomness to withstand distinguishing attack. This experiment carried out in MATLAB, together with an ANN, it used ECDH keys. The ANN replicates nature's randomness, where by a natural selection mechanism and natural system behavior a population of people adapts to their environments. The ANN produces a populace with high wellness esteem and the intervening cipher text utilized in encryption is this populace. The ANN will at that point utilize this intervening cipher to encode the underlying message. The ANN utilizes the calculation of mistake back propagation, which as its loads and biases utilizes its own key. Implementing concepts such as authenticated encryption by using the advanced ECDH with ANN would be intriguing to achieve high effectiveness in information integrity, time consuming, performance and precision.

Index Terms: ANN, Elliptic Curve Diffie-Hellman, Neural Network, Encryption ,Decryption

————————————————————— ◆ —————————————————————

1 INTRODUCTION

1.1 Background
In cryptography is the hiding data exercise and research. For secure communication, it is an important element. In addition to protecting data from theft or alternation, cryptography can also be used to authenticate users. Cryptography can also be described as converting information into a scrambled code that can be deciphered and transmitted through a government or private network. Cryptography utilizes two major data encryption styles or types; symmetrical and asymmetrical. For encryption, symmetric encryption, or algorithms, uses the same key as for decryption. Other names are secret-key, shared-key, and private-key for this form of encryption. For encryption and decryption, asymmetric cryptography utilizes distinct encryption keys. In this case, a public or private end user on a network has a pair of keys; one for encryption and one for decryption. These keys are marked or referred to as a private and a public key. There are certain particular safety conditions in the context of any application-to-application interaction, including:
- **Authentication:** The identification proof process.
- **Privacy / Privacy:** Ensure that no one, except the expected recipient, can read the message.
- **Integrity:** Assure the recipient that the message obtained was not changed from the original in any manner.
Non-repudiation: a mechanism for proving that this message

- *Ms.P.Monika is currently pursuing M.Phil (Computer Science) Research Scholar in Auxilium College (Autonomous), Vellore, Tamil Nadu, and India.Ph-88256 43506. E-mail: monikaparthiban@gmail.com*
- *Mrs. Anita Madona, Assistant Professor, Department of computer science, Auxilium College (Autonomous), Vellore, Tamil Nadu, India, E-mail: madonaani2012@gmail.com*

was actually sent by the sender.

1.2 Research Aim and Objective
Security solutions are commonly implemented through various kinds of networks in our daily digital communication. In the wireless network, complicated security protocols such as SSL / TLS, HTTPS and WPA have already been strongly used to safeguard our data transmission. However, owing to the safety faults being found, the safety patches are continually being introduced to these safety alternatives. This study is very essential for implementing the safe system in digital communication and internet or any system dealing with information transportation and rejecting the attacker in an uncomplicated and cheap hardware system.

1.3 Problem Faced During Data Transmission
While using Cryptography for data transmission, we are facing some issue they are:

1.3.1 Cryptographic Attacks
The methods used by an opponent to break secured system are known as cryptographic attacks. It is possible to classify these assaults into two main classifications.
- Passive attacks
- Active Attacks

1.3.1.1 Passive attacks
In Passive Attacks, an attacker attempts to listen to the network link to obtain some data and attempts to break the scheme based on the shared packets between sender and receiver. Finding known plain texts is one instance of a passive attack where an opponent monitors unencrypted traffic and searches for sensitive data such as usernames or passwords shared between communicating parties. Passive attacks are intended specifically to harm the sender and receiver while the system stays intact, which is the only reason

2132

The role of pH in enhancing the capacity of CuO nanoparticles for antibacterial activity

D. Magimai Antoni Raj [a], Amal George [a], A. Dhayal Raj [a,*], A. Albert Irudayaraj [a], X. Venci [a,b], A. Arumugam [a], S. John Sundaram [a], H. Joy Prabu [c]

Department of Physics, Sacred Heart College, Tirupattur, Vellore District, Tamil Nadu 635 601, India
Department of Physics, Auxilium College, Vellore, Vellore District, Tamil Nadu 635 601, India
Department of Physics, St. Joseph's College, Tiruchirapalli, Tamil Nadu 620 002, India

ABSTRACT

Well structured nano-sized Copper oxide has been prepared by simple reflex method for different pH concentrations. The Prepared samples are subjected to various characterization studies such as XRD, SEM, UV–Vis spectroscopy and FTIR spectroscopy inorder to investigate their crystallite structure, morphology, optical properties and functional vibrations. The structural analysis of prepared CuO samples revealed a monoclinic crystalline structure. The morphology of CuO samples reveals spindle shaped with size distribution ranging from 70 nm to 90 nm. The sample prepared at pH 5 seemed to possess the expected qualities to apply for antibacterial activity. The prepared samples consisting of various amounts of CuO nanoparticles are developed to study the antibacterial activity for different strains of bacteria. The results showed that at the optimized pH concentration, CuO samples calcinated at 400 °C exhibited improved antibacterial activity for E. coli bacteria.

© 2020 Elsevier Ltd. All rights reserved. Selection and peer-review under responsibility of the scientific committee of the NANOSMATAFRICA-2018.

1. Introduction

Fabrication of transition metal oxides at nanoregime has received a greater attention among material science researchers due to its exceptional properties [1–7]. Among the existing transitional metal oxide copper oxide attracted considerable research in recent days. Copper oxide has two forms with respect to its valences such as, cuprous oxide (Cu₂O) and cupric oxide (CuO) [8]. Because of their unique properties such as their environmental friendliness, natural abundance and high optical absorption coefficients, the two oxides have emphasized in various applications like pseudocapacitor electrode, magnetic phase transition, battery application, biocidal activity, antibacterial inhibition analysis, waste water treatment and purification etc. [9–12]. Even though copper complexes exhibit insignificant sensitivity on human tissue, they show good inhibition against bacterial growth [13,14]. Recent research picturises that nanoparticles such as silver, copper, gold, zinc and their oxides maximizes the therapeutic effects [14–17]. Moreover, Copper oxide nanoparticles has drawn a great attention due to its efficient bactericidal activity, adhesion performance. Also copper oxide complexes at nanorange can be a good candidate because of its consumable price.

Further more ionic metal oxides usual molecular configurations, morphology, high surface area and reactive oxygen species promotes oxidative damages to bactericidal cell assembly [16,17]. However much attention has been drawn to tailored to prepare copper oxide nanoparticles with large pore size, surface are and by employing various synthetic methods. In addition different techniques like disk diffusion, broth dilution and microtiter plate based method to determine the zone of inhibition against pathogens [18,19]. Among which agar dilution method is used as an efficient method in determination of antibacterial activity [20,21]. Nabila and Kannabiran, [22], used the extract from actinomycetes to synthesize copper oxide nanoparticles for antibacterial activity against fish and human bacterial pathogens and Sivaraj et al., [23], studied the antimicrobial and anticancer activity of Acalypha indica mediated copper oxide nanoparticles, while Nwanya et. al., have synthesized copper oxide nanoparticles from Fresh Zea maize L. Husks [24].

This research work articulates the preparation of copper oxide by reflux method at varying alkaline and acidic condition and the prepared nanoparticles are incorporated for high surface to volume ratio and reduce size. Further more, the synthesized nanoparticles

* Corresponding author.
E-mail address: dhayalraj03@gmail.com (A. Dhayal Raj).

A study on Impact of Online Reviews on Consumer Purchase Behaviour

S. ANITHA
Assistant Professor
Department of Commerce
Auxilium College (Autonomous)
Vellore - 632006.

INTRODUCTION

The Internet has played a significant role in our daily life. People can talk through the internet to one who is actually on the other side of the Earth, can send email around the world, can search information, can play game with others, and even can buy things online. Meanwhile, Internet shopping has been widely accepted as a way of purchasing products and services. It has become a more popular means in the Internet world. On the other hand, some consumers still feel uncomfortable to buy online. Lack of trust, for instance, seems to be the major reason that impedes consumers to buy online. Also, consumers may have a need to exam and feel the products and to meet friends and get some more comments about the products before purchasing. Such factors may have negative influence on consumer decision to shop online. Buyer behaviour of consumers plays one of the key roles for fulfilment of the main goals of a company. It is influenced by many external and internal factors but the company can also influence the final process of buyer decision-making process significantly by its activities.

Online Retail Websites E-Shops and other forms of online retail sites are mainly focused on sales of goods and services but often offer customers the possibility to write comments or product reviews helping other customers to decide about buying the product. Amazon.com is the one of the first online businesses that initiated this practice but this approach is adopted by more online retailers. The content of reviews on retail websites can be in the form of aggregated, numerical star ratings and open-ended customer-authored comments about the product in the format of a written text.

A product review function includes a scoring system which allows to vote on review helpfulness and places the most voted conspicuously. Profile of review authors can be visible, showing statistics like number of authors are visible and show links to other videos posted by the user, statistical information like number of subscribers and sometimes a personal description. In general, literature about diverse online consumer platforms reveals that online reviews in general affect consumer product choice. However, online reviews influence consumer purchasing decisions only when consumers' reliance on online reviews is sufficiently high when they make purchase decisions.

With nearly 95% of shoppers reading online reviews before making a purchase, reviews have transformed the way consumers make purchase decisions. But reviews are more than just a way for shoppers to gather information. Reviews are a powerful form of consumer engagement

The impact of emotional intelligence on work life balance among the faculty members' performance in the private universities using multivariate analysis, Tamil Nadu, India – an empirical study

A. Vasumathi*

VIT Business School,
VIT University
Vellore-632 014, Tamil Nadu, India
Email: avasumathi@vit.ac.in
Email: vasumathi.a@gmail.com
*Corresponding author

Mary T. Sagaya

Auxilium College,
Gandhi Nagar, Vellore, Tamil Nadu 632006, India
Email: sagaya24maryt@gmail.com

Kameswara Rao Poranki

College of Business and Economics,
Dire Dawa University,
Dire Dawa City, Ethiopia
Email: kamesh_p2001@yahoo.com

Abstract: In today's competitive scenario of the educational institutions, the ability to work with emotion is a vital part of any individual's skill set. The excellence in the performance of the work is achieved at the cost of the personal life. Any human being expects an excellent living, it requires a balance between work life and family life becomes inevitable. Emotional intelligence is an essential factor responsible for better performance in work and family life and it facilitate to minimise the stress. In this regard, the researchers have selected three private universities for the study to find out the impact of emotional intelligence on work life balance among the faculty members' performance in Tamil Nadu, India. The discriminant analysis proved that there is a significant association between the universities and the determinants of EI and WLB. The conjoint analysis revealed the important attributes of EI and WLB and the best and least possible combinations for the impact of EI on WLB. The study found that the faculty members with high EI would plan their work properly which would helpful in avoiding long working hours and conducting meeting after office hours.

Keywords: emotional intelligence; work life balance; life work balance; work life stress and performance.

PRINCIPAL
AUXILIUM COLLEGE (Autonomous)
Gandhi Nagar, Vellore - 632 006,
Vellore District, Tamil Nadu.

ACS Sustainable Chemistry & Engineering

Get e-Alerts

Prodigiosin–Iron-Oxide–Carbon Matrix for Efficient Antibiotic-Resistant Bacterial Disinfection of Contaminated Water

K. V. Arivizhivendhan, M. Mahesh, R. Murali, R. Regina Mary*, P. Thanikaivelan*, and G. Sekaran*