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### Fuzzy Memory Sampled-Data Controller Design for PMSG-Based WECS With Stochastic Packet Dropouts

Rupak Datta and Young Hoon Joo

Abstract-The fuzzy memory sampled-data (SD) control problem for permanent magnet synchronous generator (PMSG)-based wind energy conversion system (WECS) with stochastic packet dropouts is discussed in this article. To do this, the PMSG-based WECS dynamics are first modeled by a set of fuzzy IF-THEN rules of the Takagi-Sugeno fuzzy model because of high nonlinearity. And then, to minimize design conservatism, a suitable augmented looped-type Lyapunov functional along with a novel integral inequality is established by using the sampling mode information with signal transmission delay. Further, a fuzzy memory-based SD controller is designed to obtain the asymptotic stability condition under the circumstances of packet dropouts, and simultaneously, dis-turbance reduction is confirmed. Thereafter, the associated fuzzy controller gains can be computed by solving a number of linear matrix inequalities. Finally, the application of the suggested method to a real-world system is proved using PMSG-based WECS, and the mathematical Rossler's system demonstrates the effectiveness and superiority of the proposed technique over the existing method.

Index Terms—Integral inequality, linear matrix inequality (LMI), Lyapunov functional, permanent magnet synchronous generator (PMSG), sampled-data (SD) control, Takagi-Sugeno (T-S) fuzzy model.

### I. INTRODUCTION

T HE need for fossil fuels is the major economic challenge of our day, causing both developed and developing nations to experience economic turmoil [1]. Renewable energy sources including wind, solar, hydropower, and biomass can be used to replace existing energy sources while maintaining a balance between energy generation and consumption and protecting the

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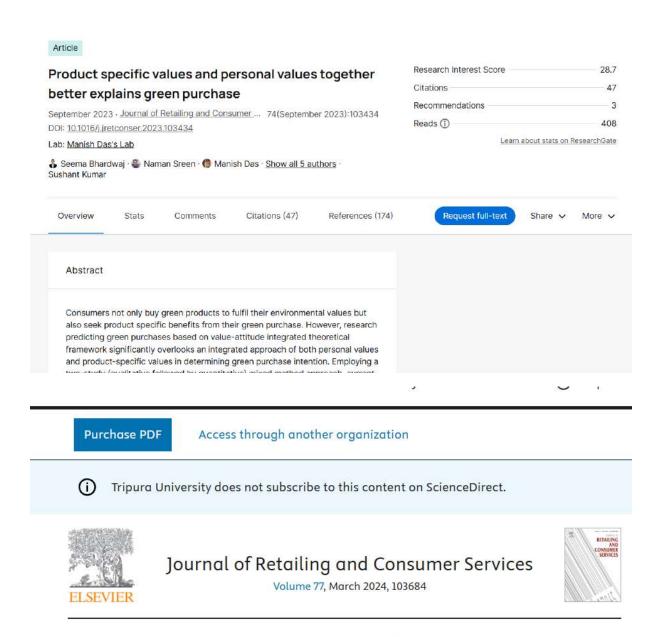
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environment [1], [2]. Because of its unlimited supply, low cost, and environmentally friendly nature, wind energy has quickly evolved and is now the most viable clean energy source. In this aspect, a lot of scientists are concentrating on enhancing the wind turbine system (WTS) by producing reliable efficiency and monitoring the maximum power point under unpredictable impacts of surroundings [2]. The most modern WTSs have high GigaWatt configurations, which contribute to acceptable energy conservation. Typically, WTSs are often classified into two categories: 1) fixed-speed WTSs and 2) variable-speed WTSs [3]. Among them, variable-speed WTS is the most efficient because it can increase system efficiency, minimize shearing forces brought on by wind oscillations, and maximize power point tracking of the controller to extract significant energy at varying wind speeds [4]. Despite the fact that a number of different wind energy conversion systems (WECSs) have been reported in literature, a WECS based on a permanent magnet synchronous generator (PMSG) is seen to be one of the high potential innovations in the wind power production systems [5]. The PMSG is more advantages compared to a doubly fed induction generator (DFIG) because of its self-excitation capacity, higher power factor, larger power density, and lack of gearbox. Also, it may work at a slow wind speed and require less maintenance. Therefore, PMSG-based WECS has emerged as an attractive research topic in the context of wind power production [6].

Numerous factors, including the high nonlinearity, strong interfacing of the generator, disruptions of the parts of the outer environment, and the effect of parameter changes, significantly influence the management of the variable-speed WECS [1]. [5]. Mathematical modeling of nonlinear systems can also help us better understand the physical properties of their states by applying stability and bifurcation analysis in relation to the design parameters [7]. As a result, they lead to variations in the nonlinearity of the available mathematical methods, which are often more difficult to analyze and investigate using nonlinear models. From this point of view, the Takagi-Sugeno (T-S) fuzzy model (TSFM) technique has been widely used as an effective tool to investigate the overall dynamics of such nonlinear systems [8]. By using the fuzzy membership-based IF-THEN rules, theTSFM can represent a nonlinear system into a set of linear subsystems [8], [9]. Another advantage of TSFM is that using the linear matrix inequalities (LMI) framework, stability, and control structures can be investigated through Lyapunov stability

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## Metaverse integration challenges: An indepth ISM and MICMAC analysis

Nadjim Mkedder <sup>a</sup> ⊠ , Manish Das <sup>b</sup> △ ⊠

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Issue 5, 2024 Previous Article Next Article



# Single-atomic ruthenium dispersion promoting photoelectrochemical water oxidation activity of ${\rm CeO}_{\chi}$ catalysts on doped ${\rm TiO}_2$ nanorod photoanodes



+



Author affiliations

### Abstract

Recently, various single-atom (SA) catalyst-coupled TiO<sub>2</sub> nanostructures have been designed for photocatalytic hydrogen evolution. However, TiO<sub>2</sub> is a well-established photoanode capable of solar-driven oxygen evolution reaction (OER). Selection and design of suitable oxygen evolution catalysts (OECs) boost the photoelectrochemical (PEC) water oxidation performance of TiO<sub>2</sub>. Various single-atom catalysts (SACs) are designed mainly for the electrochemical OER, while atomically dispersed SAs on TiO<sub>2</sub> photoanodes for the photoelectrochemical (PEC) OER are still to be explored. Here, we demonstrate a rational and effective design of stabilizing Ru SAs dispersed on the



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### Industrial Marketing Management

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## Can Masstige brands be introduced in the B2B markets? An exploratory study

Victor Saha <sup>a</sup> ⊠, Manish Das <sup>b</sup> ⊠, Justin Paul <sup>c d e</sup> 🌣 ⊠ Show more V + Add to Mendeley 🗬 Share 🗦 Cite https://doi.org/10.1016/j.indmarman.2023.07.009 7 Get rights and content 7

Highlights

### Sulfonium-Cross-Linked Hyaluronic Acid-Based Self-Healing Hydrogel: Stimuli-Responsive Drug Carrier with Inherent Antibacterial Activity to Counteract Antibiotic-Resistant Bacteria

Anjali Patel, Sanghamitra Goswami, Gunanka Hazarika, Senthilkumar Sivaprakasam, Surajit Bhattacharjee, and Debasis Manna\*

Augmentation of the activity of Food and Drug Administration-approved antibiotics by an adjuvant or antibiotic carrier is considered one of the promising strategies to fight against antibiotic-resistant bacteria. This study reports the development of sulfonium-cross-linked hyaluronic acid (HA)-based polymer (HA-SS-HA) as an inherent antimicrobial agent and antibiotic carrier. The HA-SS-HA polymer offers the potential for encapsulating various classes of antibiotics and accomplishing a stimuli-responsive release profile in the presence of hyaluronidase produced by bacterial cells within their extracellular environment. Systematic antibacterial studies reveal that the HA-SS-HA-encapsulated antibiotics (vancomycin, amoxicillin, and tetracycline) restore its activity against the antibiotic-resistant bacterial cells methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant Enterococci (VRE), and Pseudomonas aeruginosa. The HA-SS-HA gel shows robust efficacy in eradicating the mature biofilm of Staphylococcus aureus (S. aureus). The membrane-disrupting activity reveals that HA-SS-HA can also counteract the antibiotic resistance mechanism of the bacterial cells. The in vivo studies reveal excellent wound-healing activity of HA-SS-HA in albino laboratory-bred (BALB/c) mice. The outcome of additional antibacterial studies reveals that antibiotics-encapsulated HA-SS-HA hydrogel can effectively combat Gram-negative, Gram-positive, and antibiotic-resistant bacterial strains. Therefore, revitalizing the activity of commercial antibiotics by HA-SS-HA can be considered a valuable and economically effective strategy to fight against antibiotic-resistant bacteria.

### 1. Introduction

The development of antimicrobial resistance has restricted the treatment of various infectious diseases caused by different pathogenic bacterial strains. Antimicrobial resistance is one of the greatest threats, and without immediate action, we could face the alarming prospect of a world deprived of effective antibiotics. According to the World Health Organization (WHO), antibiotic-resistant bacterial infection is currently the biggest threat to food security, global health, and overall development. Tackling such bacterial infections becomes decisive for the outcome of different medical procedures and treatments, including organ transplants, cancer, wound manag ment, and others. According to the WHO, "Superbugs" such as ESKAPE (Enterococ cus faecium, Staphylococcus aureus, Klebsiella pneumonia, Acinetobacter baumannii, Pseu-domonas aeruginosa, and Enterobacter sp.) pathogens have been resistant to most of the clinically proven antibiotics.[1] Recently, various antibiotics, carriers, and adjuvants were developed to rejuvenate the activity of the existing antibiotics, but the lack of selectivity toward bacterial cells over the host

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### International Journal for Multidisciplinary Research (IJFMR)

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Impact of Online Education on The Pupils of Rural Areas Due to COVID-19 Pandemic Lockdown: An Analytical Study.

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#### ABSTRACT

The Coronavirus illness (COVID-19) is a highly contagious viral infection that appeared in Wuhan City, China and spread worldwide within a very short span of time. The covid-19 pandemic brought a nationwide lockdown due to which online classes and e-learning have come to limelight in India along with other countries. Under this tough situation: it has become quite inevitable for all educational institutions from elementary schools to colleges and colleges to universities to adopt a virtual teaching and learning model. It was a new challenge for students' fraternity and teachers to access online Education through the internet using smartphones, laptops, and other social media. But in the case of the background of poor family students, the picture was different and quite pathetic as compared to the students of urban areas because of the lack of knowledge of internet access and other electronic gadgets. However, administrations from a higher level to grassroots level tried their best to enhance technologies through online mode of teaching-learning for both teachers and the students' community. Although online teaching has offered teachers and students more time for preparing assignments, research works and other professional and developmental activities and still, there are some drawbacks clearly observed in it. Here, an attempt has been made to understand the impact of the corona crisis on the teachinglearning process through online mode during the Covid-19 pandemic lockdown, especially on the students of rural areas.

Keywords: Covid19-Pandemic, Lockdown, Administration, Technologies, Online classroom.

The covid-19 pandemic is a serious issue and a huge challenge to the whole world. In the Hubei Province, in China on 31st December 2019, the first COVID-19 patient was reported by the Wuhan Municipal Health Commission. Like a thunder sparkling, very soon it took 213 countries and territories

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### Development of lignocellulosic biomass derived Cu and Zn doped highly porous activated carbon and its utilization in the anti-microbial treatment



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### ARTICLE INFO

Keywords: Antimicrobial activity Lignocellulosic bioma Activated carbons North East India

#### ABSTRACT

A detailed study has been carried out to develop a process which can yield highly porous activated carbons from lig A detailed study has been carried out to develop a process which can yield highly porous activated carbons from lig-nocellulosic blomasses and check the antimicrobial properties by doping with metals such as Cu and Zn. According to the availability of the waste blomasses in the Indian subcontinent especially in the North-Eastern region which is con-sidered a biomass hotipd, activated carbon samples were prepared using rubber wood sawdust, ramie fibre and area husk as they are available in plenty. The activated carbons were prepared using a modified thermo-chemical treatment at different temperatures and activation time to increase the surface area of the activated carbon samples which was found to be in the range of 346–1998 m<sup>2</sup>/g. The activated carbon samples were found to have thereby exhibited good antimicrobial activity against £cali on the incorporation of suitable metals such as Cu and Zu into the highly po-rous carbon matrix. The activated carbon samples which were prepared at 700°C using rubber wood sawdust and areas fibres reported a better bactericidal effect ranging between 75 and 93.5% against the carbon dosages ranging between 10 and 20 g/L of water samples containing E. coli. The antimicrobial killings were confirmed through the min-imum inhibitory concentration (AMC) process by using UV Visible Spectroscopy. Various analytical methods such as DSC, FTIR, BET and FESEM-EDX etc. were applied to describe the properties of the samples. This study will give more information about the utilization of activated carbons for drinking water purification purposes.

#### 1. Introduction

In underdeveloped nations, the well-being of drinking water is a disturbing issue because of monetary hardship and immature foundation. The general population of those nations need to trade off with the nature of drinking water. Escherichia Coli (E.coli) is a standout among the most lethal microorganisms that cause waterborne illnesses like stomach issues, diarrhoea etc. According to a World Health Organization report, every year more than two million fatalities occur worldwide because of waterborne diarrheal diseases [1]. Water is a key resource for living and good well-being. Accessibility of adequate clean water to networks is an issue very far and wide, especially in the provincial regions of the nations where most of the people depend upon water from waterways, dams and streams for their day-to-day usage. As per contemplates, around 1.2 billion people or

practically one-fifth of the world's masses live in areas of physical water deficiency, and another 1.6 billion people or practically one-fourth of all peo-ple go up against the absence of clean water [2]. The noteworthy explanation behind the lack of clean water is mostly due to pollution caused by sewage and current waste discharge into streams. Present-day discharge is responsible for the closeness of significant metals and deadly manufactured mixtures. Prologue to these metals can make certified restorative issues to individuals and animals. Sewage discharge into streams and dams is the genuine purpose of waterborne diseases which occurs mainly due to pathogenic microorganisms. Among the various sorts of microorganisms found in untreated water, Escherichia coli is the most generally perceived bacterium that lives in human and animal assimilation tracts in extensive nbers. In the continuous events, continuous effort is being made to find techniques for getting rid of these minuscule creatures from water.

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## Organic/inorganic metal halide perovskites for solar-driven water splitting: properties, mechanism, and design

Dipanjan Maity  $^a \stackrel{\wedge}{\sim} \boxtimes$  , Gobinda Gopal Khan  $^b \stackrel{\wedge}{\sim} \boxtimes$ 

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#### REVIEW



### Significance of Chalcone Scaffolds in Medicinal Chemistry

Rishav Mazumder<sup>1</sup> · Ichudaule<sup>1</sup> · Ashmita Ghosh<sup>2</sup> · Subrata Deb<sup>3</sup> · Rajat Ghosh<sup>1</sup>

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### Abstract

Chalcone is a simple naturally occurring  $\alpha,\beta$ -unsaturated ketone with biological importance, which can also be easily synthesized in laboratories by reaction between two aromatic scaffolds. In plants, chalcones occur as polyphenolic compounds of different frameworks which are bioactive molecules that have been in traditional medicinal practice for many years. Chalcone-based lead molecules have been developed, possessing varied potentials such as antimicrobial, antiviral, anti-inflammatory, anticancer, anti-oxidant, antidiabetic, antihyperurecemic, and anti-ulcer effects. Chalcones contribute considerable fragments to give important heterocyclic molecules with therapeutic utilities targeting various diseases. These characteristic features have made chalcone a topic of interest among researchers and have attracted investigations into this widely applicable structure. This review highlights the extensive exploration carried out on the synthesis, biotransformations, chemical reactions, hybridization, and pharmacological potentials of chalcones, and aims to provide an extensive, thorough, and critical review of their importance, with emphasis on their properties, chemistry, and biomedical applications to boost future investigations into this potential scaffold in medicinal chemistry.



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### **Food Chemistry**

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## Enhancing tomato (Solanum lycopersicum) yield and nutrition quality through hydroponic cultivation with treated wastewater

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### International Journal for Multidisciplinary Research (IJFMR)

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### Entrepreneurial Finance through Swavalamban Scheme and the Participation of Socially **Excluded People in Tripura**

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> 1 Assistant Professor, CSSEIP, Tripura University <sup>2</sup>Research Scholar, CSSEIP, Tripura University

#### Abstract

Financing is important aspects for development of any entrepreneurial activities or creation of new enterprise .Government schemes for financial assistance play vital role in motivating the unemployed youths, women and even the existing enterprises .Literature on entrepreneurship development suggests that in comparison to male, females are the worst sufferers in case of availing bank finance under various schemes of the Government. There are so many initiatives under government sector, "Swavalamban Scheme" is one of most important scheme run by industry & Commerce Department, Government of Tripura though which entrepreneurs are benefited with loan ,subsidy .The present study took an attempt to outline the status of women in the state in regard to entrepreneurial finance under this Swabalamban Scheme and participation of the socially excluded group of people such as SC,ST,OBCs & Minorities .The study based on extensive literature review and analysis of departmental record of enlisted beneficiaries under this scheme. The study result showed that the participation of women is very much poor in comparison to their counterparts across the state which ultimately creating a gender gap in distribution of economic resources and somehow it indicates the Institutional drawbacks including the women workforce into entrepreneurial arena.

KEYWORDS: Women entrepreneurs, Swabalamban, Gender gap, Finance, Tripura

1. Introduction: 'Swavalamban Scheme'is an important financial assistance scheme of the state Government since 2001, which provides loan & subsidy to the unemployed youths for promoting self-employment and entrepreneurship in the state. The Industry & Commerce Department, govt. of Tripura administer the scheme through District Industries Centre (DICs) across the state and SHG component of the programme monitored by Rural Development department. "Swabalamban Society" also been formed to serve the purpose but it is in defang position. The maximum celling limit of loan support under the scheme is Rs. 1(one) crore, subsidy is subject to project cost i.e 30 percent for male and 35 percent for females and maximum upto Rs.1(one)lakh. Any individual, group, SHG, cooperatives and partnership projects are eligible to get benefit under the scheme. There is age bar of 18-50 years but no income bar for obtaining financial assistance under Swabalamban.

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#### Shyamal Das

Senior Professor, Department of English, Tripura University, Suryamaninagar, Tripura,

### Kokborok and language politics in Tripura

### Shyamal Das

Abstract
Under the surface of peaceful coexistence of the tribals and non-tribals in Tripura there exist resentment and conflict. Often the battle is sought to be fought out in the name of linguistic, ethnic and cultural differences suppressing the real issues. Demographic, economic, and educational imbalances are some of them. They errupt through passionate resurgence of ethnic linguistic identity by the tribals. The chaos is clandestinely orchestrated and utilized by the invisible stakeholders from both the sides to mobilize the mass for power. Election politics conceals their nefatious agenda. This article exposes some of these unseen forces showing that language-politics is actually the sophisticated guise for marginalization and exploitation of the populace by the vested group. The tug-of-war is therefore independent of any ethnic division; it is between the exploiters and exploited across the board. Ethnonationalism is just a deceiving device for continuation of mass exploitation and deprivation. Raising atavistic slogans for restoring the lost supremacy of the tribals by ignoring the ground reality of today cannot ensure peace and harmony between the tribals and non-tribals staying together for centuries despite occasional jerks. Knowledge is the saviour. despite occasional jerks. Knowledge is the saviour.

Keywords: Kokborok, language politics, ethno-nationalism, Manikya dynasty, migration, outsiders

The Boroks, predominantly speaking Kokborok live largely in Tripura' (India), in addition to the Chittagong Hill Tracts (Bangladesh) and Myanmar. They belong to Bodo-Garo group of Tibeto-Burman branch of Sino-Tibetan family. Nine<sup>u</sup> major communities constitute the Boroks viz. Debbarma, Tripura, Reang, Jamatla, Noatia, Murasing, Koloi, Rupini and Uchoi. The population of Tripura is 3673917 with Scheduled Tribes contributing 1,166,813 (30.95%) and the Bengalis 66% (approx.). Manipuris and others form the rest. Kokborok is spoken by 25,88% of the indigenous people (qua 2011 census). Apparently, the small state offers a peaceful life for its inhabitants

However, under the serene surface of peaceful coexistence of multilingual and multicultural However, under the serene surface of peaceful coexistence of multilingual and multicultural populace of Tripura there exists a vibrant flow of conflict and resentment. Though the battle is sought to be fought out in the name of language, the deep-rooted issues are multifarious. Demographic imbalance, economic lop-sidedness, academic and educational backwardness allegedly coterminous with the divide between tribal and non-tribals are some of them. These off and on express themselves in terms of passionate resurgence of ethnic identity especially among the minority i.e. the tribal community. Urge for preservation and promotion of indigenous language(s), culture and identity is often fore-grounded and highlighted by the invisible stakeholders to mobilize the ignorant and innocent common mass under their folds. Politics of election at various levels conceals the nefarious agenda of the vested groups. In the rest of this article, some of these unseen forces will get exposed, by implication though, by showing that language-politics is actually the sophisticated guise for marginalization and exploitation of 'the have-nots' by 'the haves', of the 'others' by the 'centre'. And the tug-of-war is therefore as much intra-community as inter-community contrary to its popular (mis)interpretation to the converse. Ethno-nationalism is just a deceiving device for continuation of mass exploitation and deprivation.

### 2. Ethnic divide in Tripura

In Tripura there exists an ethno-linguistic line of division between the Boroks and the Bengali. The former are a demographic minority compared to the latter: the ratio stands at 30.95% vs. 66%. Once upon a time, the indigenous tribes or Boroks were in majority.

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### Online Teaching: A Feasibility Study

#### Shyamal Das

Abstract

This article on online teaching and its feasibility. COVID-19 is a problem posing a serious threat to man's survival on the earth. But the fight is on. Many of us have left us for ever and many more may be on the way as we are let to know every day. But we have nearly discovered the vaccine world over. The battle will be over very shortly and we shall win again. But the issue is not merely of survival in body with a 'dead mind'. Mind and body combine makes us human. To ensure that, knowledge and learning must continue and be better every day.

Keywords: Online teaching, better every day, online teaching, feasibility, dead mind

### 1. Introduction

In a situation of lockdown due to the pandemic onslaught of COVID-19 worldwide, online the absence of conventional classroom interaction between the teacher and student is not new per se. It is the offshoot of novel pedagogical methods such as Correspondence Courses and Open and Distance Learning. Both are on offer in many universities — both single mode and dual mode in many countries. Distance Learning dates back to 1858: University of London was the first to offer distance learning degrees in 1858 through Esternal Programme.

The primordial motif behind distance learning was to make education democratic and

inclusive. Lack of opportunities, shortage of academic institutes, resource persons and materials, poverty forcing students to look for odd jobs dropping out from the academic system paved in the distance learning as a repair strategy in addition to conventional formal

learning. Learning should not cease and be a continued lifelong one.

Distance learning got a special boost with the advancement in science and technology especially in Information and Communications Technology (ICT). A huge quantum of information and study materials are now made available with the single press of a button in a computer, laptop, tablet, I-Phone, mobile phones etc. Thanks to the contribution of internet and World Wide Web (www) the erstwhile concept of distance learning has acquired the new nomenclature of Online Learning. It implies that learners can be online to learn, if and only if, there is a teacher/resource person on line simultaneously - real or virtual.

### 2. Online teaching is a big challenge but not impossible

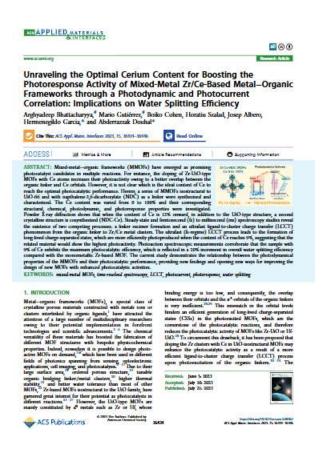
2. Online teaching is a big challenge but not impossible. Government of India has introduced, among others, e-PG Pathshala couple of years back to produce e-texts on various subjects with module writers selected from various universities, and institutes in India. These were reviewed by experts from India and abroad. I amthankful to the MHRD/UCC for giving an opportunity to write three modules on Advanced Phonology in Linguistics for the PG students. This experience has taught me as to how it is possible to make e-keaming or online teaching a fruitful and result-oriented endeavour. Let me share my experience with you.
The content of teachine is Syllable and Syllabification in CT (Module Linea DS 25). The

The content of teaching is Syllable and Syllabification in OT (Module: Lines-P5-25). The

- lesson is prepared in four parts:

  E-text of 10-15 pages in double space in Doulos SIL 12 font.
- PPTs for online teaching in front of camera recorded in studio (in Delhi). Evaluation through Self-assessment by students with a maximum of 10 objective type
- and MCQ questions. Answer is provided for each by the teacher.
- References and suggestions for further study.

Corresponding Author: Shyamid Das Professor, Department of English, Tripura University, Tripura, India



ACS Applied Materials & Interfaces > Vol 16/Issue 22 > Article



ENERGY, ENVIRONMENTAL, AND CATALYSIS APPLICATIONS | May 21, 2024

## Graphene Quantum Dots as Hole Extraction and Transfer Layer Empowering Solar Water Splitting of Catalyst-Coupled Zinc Ferrite Nanorods

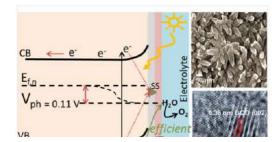
Soham Saha\*, Dipanjan Maity\*, Debasis De, Gobinda Gopal Khan\*, and Kalyan Mandal\*



Other Access Options

### Abstract

Despite the narrow band gap energy, the performance of zinc ferrite (ZnFe<sub>2</sub>O<sub>4</sub>) as a photoharvester for solar-driven water splitting is significantly hindered due to its sluggish charge transfer and severe charge recombination. This work reports the fabrication of a hybrid nanostructured hydrogenated ZnFe<sub>2</sub>O<sub>4</sub> (ZFO) photoanode with enhanced photoelectrochemical water-oxidation activity through coupling N-doped graphene quantum dots (GQDs) as a hole transfer layer and Co-Pi as a catalyst. The GQDs not only reduce the surface-mediated nonradiative electron-hole pair recombination but also induce a built-in interfacial electric field leading to a favorable band



### Great educator and educational reformer: Ishwar Chandra Vidyasagar

<sup>1</sup>Ramengzaua Kaipeng, <sup>2</sup>Jeenti Malakar, <sup>3</sup>Supradip Datta, <sup>4</sup>Sophia T. Darlong

<sup>1</sup>Assistant Professor, <sup>2,3</sup>Research Scholar, <sup>4</sup>Guest Faculty Department of Education Ramkrishna Mahavidyalaya Unakoti, Tripura

Abstract- One of the pillars of the Bengal Renaissance, Ishwar Chandra Vidvasagar (1820-1891) successfully implemented the social reforms initiated by King Rammohan Roy in the early 1800s. He spoke about the revolution in the apparatus of learning Bengali and improved the way Bengali was written and taught. Ishwar Chandra Vidyasagar made a significant contribution to education by promoting inclusive and accessible education. He opened a school, introduced the local language and emphasized the importance of female education. Vidyasagar's progressive ideas and initiatives continue to shape the education system and inspire today's teachers.

Keywords: Contribution towards education, Bengali Literature, women education, social reforms.

Ishwar Chandra Bandopadhyaya was born in a poor family on September 26, 1820 in Birsingha, Midnapore District, in Bengal. His father Thakurdas Bandyopadhyay and his mother Bhagavati Devi were pious people. Ishwar was forced to spend his childhood in the absence of basic resources as the economic condition of their family was not so good. Although Ishwar belongs to a poor Indian Brahmin family. He was eager to learn. He studied hard and excelled in academics. Ishwar Chandra was a good student and always brainini family. He was eager to learn. He sounce hard and exceited in a cancernics, Istiwar Chandra was a good souncent and arways wanted to learn. He found himself engossed in books while other children his age played most of the day. He is eager to learn. He studied his lessons carefully and performed them very well. He received scholarships and awards and continued his studies diligently. He received a scholarship that helped him pursue college in the future. In addition to studying textbooks, he also read a lot of other hooks to increase his knowledge. He Studied Vedanta, Vyakaran, Literature, Rhetoric, Smriti and Ethics at Sarskrit College. In 1841, at the age of twenty-one, Ishwar Chandra joined Fort William College as head pandit in the Sanskrit department. the believes in the power of knowledge and the proof of life and he thought that through knowledge society can be changed. He opened many schools especially to encourage women's education. He also worked hard to improve the status of widows in society. He fought hard to introduce the practice of widow remarriage. He has received many honors for his contribution to society. Many places in India, especially in Bengal, are named after him. Ishwar Chandra Vidyasagar was a Bengali polymath who is known to have introduced several reforms in society. He challenged many accepted norms of Indian society and fought to change them to provide a better life for its citizens,

### II. Objectives of the study

- To study about Ishwar Chandra Vidyasagar's contribution towards education.

  To study about Ishwar Chandra Vidyasagar's contribution towards Bengali literature.
- To study about Ishwar Chandra Vidyasagar's role for women education To study about Ishwar Chandra Vidyasagar as a social reformer.

- 11. Dr Anirban Bhattacharya (2019), "Ishwar Chandra Vidyasagar and the Evolution of Bengali Literature. Examines literary works such as novels, essays and poetry and analyzes their themes, styles and influence on the colonial literary landscape of Bangladesh. This review examines Vidyasagar's efforts to promote Bengali as a language literature and explores the influence of writers on the
- Into review examines varyangus a successful process of the process
- and the importance of modern education.

  3. Dr. Amrita Dasgupta (2018), "The Role of Vidyasagar in the Modernization of Bengali Literature". Literary reforms such as the simplification of Bengali grammar, the introduction of the vernacular in literature, and the development of an accessible writing style are examined. The review analyzes the impact of these reforms on the development of modern literary aesthetics and the
- democracy of Bengali literature.

  4. Dr. Madhumita Patra (2018), "Educational Ideas of Ishwarchandra Vidyasagar: A Critical Appraisal". This review critiques Vidyasagar's educational ideas and their relevance in the contemporary context. Explore ideas about inclusive education, curriculum development, teacher training, and the role of education in social change. The review assesses the strengths and limitations of Vidyasagar's philosophy of education and its implications for current educational practice.



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### International Journal of Hydrogen Energy

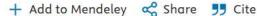


Volume 51, Part B, 2 January 2024, Pages 52-65

## Citrate modulation of CoAl(OH)<sub>x</sub> Catalyst/Sb-TiO<sub>2</sub> nanorods interface boosting photocarrier separation and injection for enhanced water oxidation

Debashish Pal a, Dipanjan Maity b, Debasis De c, Mukhesh K. Ganesha d, Ashutosh K. Singh d, Sachin Bhaladhare e, Gobinda Gopal Khan a 🔉 🖾

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https://doi.org/10.1016/j.ijhydene.2023.08.058 7

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### International Journal of Hydrogen Energy



Volume 51, Part B, 2 January 2024, Pages 52-65

## Citrate modulation of CoAl(OH)<sub>x</sub> Catalyst/Sb-TiO<sub>2</sub> nanorods interface boosting photocarrier separation and injection for enhanced water oxidation

Debashish Pal a, Dipanjan Maity b, Debasis De c, Mukhesh K. Ganesha d, Ashutosh K. Singh d, Sachin Bhaladhare e, Gobinda Gopal Khan a ≥ 🖾

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ISSN: 2320-2882



### INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT) An International Open Access, Peer-reviewed, Refereed Journal

### CONSTRUCTIVIST APPROACH IN TEACHER EDUCATION: A STEP TOWARDS SUSTAINABLE DEVELOPMENT IN **EDUCATION**

Jeenti Malakar, Research Scholar, Department of Education, Tripura University

Abstract: Teacher Education; the concept itself is vast than it seems; a programme which prepares teachers, who are capable of building characters in such a way so that they can contribute towards society. In this ever changing world where people are dealing with challenges in every step of their life, teacher education has also gone through numerous challenges. A holistic approach is always a necessary step to provide quality to the whole process. Looking at things from one perspective restricts the knowledge and hence cannot help in educational sustainability. The constructivist approach is one such approach which is a paradigm shift from the teacher centric mode of educating the learners. Learner here is allowed to construct ideas or knowledge on their own out of the existing one. They actively participate in the process of teaching-learning. Teacher Education; pre-service or in-service both focus on building up teachers who are updated with all the new knowledge, techniques, approaches, etc. to deal or cope up with dynamic nature of the society. To provide quality education to the learners, teachers need to understand that knowledge cannot be gathered in isolation which suggests that learners need to be guided to be the part of larger community in the process of constructing knowledge. Sustainable development in education encompasses the goals of equipping learners with the knowledge, skills and attitudes which is required to address global challenges, promote social justice and foster environmental sustainability. This approach thus is a step towards Educational sustainability which focusses on shaping a sustainable future of the prospective teachers. This gives a different outlook to deal with the challenges that people all over the globe are facing. This paper is descriptive in nature and focusses on the pivotal role played by constructivist approach in the field of teacher education.

Key Words: Constructivist Approach, Teacher Education, Sustainable Development

It is well said that no knowledge is final or something which is cumulative in nature; theories are made and challenged by some new theories. Constructivist theory or approach is also a theory which adds a different perspective to traditional mode of teaching learning. Constructivist approach focusses on active participation from learners side; encouraging learners to construct knowledge on their own. In the teacher education programme teachers are expected to become game changers or path breakers in this ever changing society. Constructivist approach gives a different perspective to the educators to indulge in such a process where there is flexibility; no set rules to reach the expected outcomes. Student-teachers will get the chance to develop their constructivist understanding towards teaching learning process. Teacher educators and student teachers will construct their understanding out of their own experiences which further provides different perspective to deal with numerous challenges. Teachers give their students a critical vision to solve problems, providing high quality education. And high quality education is necessary for sustainable development of Education which is possible only when quality education and proper training is provided to the teachers. Sustainable Development does not only mean meeting the needs of future generation in terms of resources. It also means bringing sustainable

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## Gender Disparities In Career Aspirations And Career Decision-Making: A Theoretical Study

Jeenti Malakar.

<sup>1</sup>Research Scholar,

<sup>1</sup>Department of Education,

<sup>1</sup>Tripura University

#### Abstrac

Career aspirations and choices are parts of a person's development journey influenced by factors, like societal expectations, education, culture, personality traits and work environments. This research delyes into the reasons behind individuals diverse career paths based on their gender. It aims to offer insights, into the obstacles faced by genders in pursuing their career goals. Additionally, the study looks into how stereotypes and biases can impact career decision making highlighting how gender norms may influence and limit one's options.

Keywords: Gender Disparities, Career Aspirations, Career Decision-Making

#### I. INTRODUCTION

The fundamental aspect of individual's growth and progress has been always dependent on one's aspirations and decision making. Individual's professional aspirations and his/her decision making is a prime aspect in the progress of the society in particular and of the nation in general. Career aspirations is one such thing which aspires young individual to climb up the ladder of profession. It is totally about one's personal interest, choice and the set goals which allow the individual to encompass the type of profession he or she aspires to achieve. Followed by this is career decision-making which is equally important as it involves all those stages which is based on informed choices based on individual's preferences, skills and values. However, the matter of concern in this regard is marked by the sharp differentials, particularly along the gender lines. As we navigate an era advocating for equality, understanding the multifaceted factors influencing career choices is paramount. In embarking on this theoretical exploration of gender disparities in career aspirations and decision-making, this paper brings forth a narrative rooted in personal experiences and a commitment to unravel the intricacies of this pervasive societal issue.

### II. SIGNIFICANCE OF THE STUDY

This theoretical paper stands out in its exploration of gender disparities in career aspirations and decision making by pioneering an innovative approach. By incorporating a comprehensive theoretical framework that embraces interdisciplinary perspectives, this paper strives to provide a holistic understanding of the complex factors influencing career trajectories. This research aims to bridge the gap between theoretical insights and practical applications, offering insights that can inform policy interventions, educational reforms and strategies to overcome gender disparities by providing equitable landscape around the gender lines. This distinctive approach

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### Political Culture And Electoral Manifesto Commitments Towards The Youth In Recent Times In India

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Abstract: This research paper explores the youth political culture and the promises meant for the them in the electoral manifestos of two major parties in India. Political parties manifestos represent crucial policy requirements for the nation and its population, while political culture shapes subjective elements in a country's politics. Youth involvement plays a vital role in highlighting issues, addressing youth concerns, and improving overall quality of life. With India's youth demography, understanding the influence of political culture and its impact on manifesto formulation is extremely essential. The research is done considering the recent two Lok Sabha elections of 2014 and 2019 which witnessed the highest youth participation in terms of voter turnout. The study follows a descriptive and explorative approach, examining the distribution of political attitudes, values, feelings, knowledge, and abilities among the youth. Through an analysis of manifestos of two major political parties namely Indian National Congress (INC) and Bharatiya Janata Party (BJP) for the 2014 and 2019 Lok Sabha elections, the paper highlights the significance of youth engagement and its impact on democratic representation and policy formulation.

Key Words: Electoral Manifesto, Youth, Political Culture, Election, Democracy.

1. Introduction: Effective involvement, voting rights for all, enlightened understanding, exercising final say over the agenda, and adult inclusion are all possible within a democratic system (Dahl, 2020). Democracy has a wide range of connotations. The endeavour of giving a perfect definition of democracy is challenging. It may be the idea that is currently being discussed, interpreted, and contested the most. There are other viewpoints that define democracy as a way of life. When we talk about democracy, we typically mean it as a type of government. Therefore, it is challenging to describe democracy without comprehending these contentious concepts. However, democracy is frequently praised as the best type of political system to exist today. The current most popular type of government is indirect democracy, which is used all across the world. Indirect democracy is presently the predominant type of government in the majority of the world's nations, with those that previously practised other systems switching to it. This type of democracy sometimes referred to as representative democracy, is one in which citizens elect representatives to act and make decisions on their behalf rather than participating directly in the governance process. Representatives of the people are occasionally elected, and this is how indirect democracy functions (Gauba, 2019). The institutions of government and the voice of the electorate must always be in conflict for democracy to function successfully. The election commission is straddled between the tasks of protecting democracy and being a member of the institutional establishment because it was created to prevent the electoral process from being tainted by interests that aimed to undermine democracy (Gauba, 2019). Elections are

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### **Tourism Management Perspectives**



Volume 46, March 2023, 101092

## The effect of customers' brand experience on brand evangelism: The case of luxury hotels

Sonal Purohit PhD  $^a \boxtimes$  , Linda D. Hollebeek PhD  $^b \boxtimes$  , Manish Das PhD  $^c \overset{\circ}{\sim} \boxtimes$  , Valdimar Sigurdsson PhD d ☒

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### Construction and Building Materials

Volume 445, 27 September 2024, 137876



Review

## Geopolymer bricks: The next generation of construction materials for sustainable environment

Dipankar Das a b 1  $\stackrel{\circ}{\sim}$   $\stackrel{\circ}{\boxtimes}$ , Anna Gołgbiewska b 2, Prasanta Kumar Rout a 3

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https://doi.org/10.1016/j.conbuildmat.2024.137876 7

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Journal of Medicinal Chemistry > Vol 66/Issue 16 > Article



ARTICLE | July 19, 2023

### Quinoline Thiourea-Based Zinc Ionophores with Antibacterial Activity

Subhasis Dey, Anjali Patel, Nandan Haloi, Sournya Srimayee, Suman Paul, Ganesh Kumar Barik, Nasim Akhtar, Dipanjan Shaw, Gunanka Hazarika, Biswa Mohan Prusty, Mohit Kumar, Manas Kumar Santra, Emad Tajkhorshid\*, Surajit Bhattacharjee\*, and Debasis Manna\*

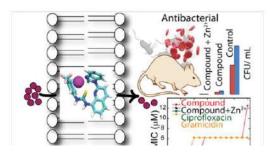


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### Abstract

The increasing resistance of bacteria to commercially available antibiotics threatens patient safety in healthcare settings. Perturbation of ion homeostasis has emerged as a potential therapeutic strategy to fight against antibacterial resistance and other channelopathies. This study reports the development of 8-aminoquinoline (QN) derivatives and their transmembrane Zn2+ transport activities. Our findings showed that a potent QN-based Zn2+ transporter exhibits promising antibacterial properties against Gram-positive bacteria with reduced hemolytic activity and cytotoxicity to mammalian cells. Furthermore, this combination showed excellent in vivo efficacy against



### International Journal of Science and Research (IJSR) ISSN: 2319-7064 SJIF (2022): 7.942

### Leveraging Traditional Knowledge and Digital Transformation for Youth Empowerment

Sentienla1, Dr. Nanigopal Debnath2

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<sup>2</sup>Assistant Professor, Centre for Study of Social Exclusion and Inclusive Policy, Tripura University, Suryamaninagar, Agartala, Tripura, India

Abstract: Tripura, a north - eastern state of India, is a reservoir of traditional knowledge, primarily influenced by its indigenous communities and diverse cultures. In today's digital age, there's a growing urgency to merge these traditions with modern online tools. This research delves into how Tripura's traditional handloom products are marketed through digital platforms. Using case studies, we gain insights from local entrepreneurs in handloom sector. Initial findings indicate a strong inclination, particularly among the youth, to utilize digital platforms like Facebook and Instagram for expanding their businesses. However, for this fusion of tradition with technology to succeed, there's a clear need for better digital literacy and infrastructure support. This research highlights the pressing need to provide adequate digital literacy and infrastructural support to these entrepreneurs. The harmonization of Tripura's rich traditions with the boundless potential of digital tools can usher in an era of sustainable growth and global recognition for the state. As the world shrinks into a global village, there's an unparalleled opportunity for Tripura to showcase its heritage on the world stage, provided the steps taken are strategic, supportive, and sensitive to its core values.

Keywords: digital transformation, traditional knowledge, handloom, online business, youth empowerment

### 1. Introduction

Tripura, a northeastern state of India, is a reservoir of traditional knowledge, primarily influenced by its indigenous communities and diverse cultures. It is known for its pristine landscapes, tribal dance forms, intricate bamboo handicrafts, vibrant handlooms unique to each communities and centuries – old traditions, the state has always been a repository of knowledge and creativity.

In today's digital world, Tripura has a unique chance to blend its age - old traditions with new online tools and ideas. The growing digital footprint stands as a testament to the potential convergence of tradition and modernity. With the global market evolving through technological advancements, there's a budding opportunity for the state to integrate its indigenous offerings into this expansive digital realm.

The surge in online business platforms in recent years has redefined the entrepreneurial landscape. Facilitated by technological evolution, these platforms offer a myriad of opportunities for marketing and selling goods on a global scale. The capacity of the internet to economically store vast amounts of data empowers even small to medium - sized enterprises, enabling them to harness customer insights and refine their offerings [1].

The democratization of the online business ecosystem has witnessed individuals, irrespective of their backgrounds, evolve into global entities. Many run their ventures either individually or with small, close - knit teams, thus reducing hierarchical barriers. However, success in this space hinges on various factors ranging from product quality, market demand, to effective customer interaction. The dawn of the digital era has notably extended work flexibility, breaking traditional boundaries. Entrepreneurs, often multi - tasking across roles, find this newfound flexibility beneficial,

adapting to longer, more fluid workdays and the possibility of remote work [2].

With the rapid digital transformation, global markets and industries are undergoing restructuring, challenging conventional economic theories [3]. This shift, while making certain traditional practices redundant, also unveils unprecedented opportunities. The initial days of the internet, during the late 1990s, saw only a select few recognizing its revolutionary potential [4]. Today, the rise of terms like 'Web 2.0' and the proliferation of social media platforms emphasize the significant shifts in both business operations and marketing strategies.

The challenges posed by the pandemic further expedited digital adoption, sparking an entrepreneurial spirit within many. Numerous individuals in Tripura channeled their passions into viable online ventures, especially harnessing the power of platforms like Facebook and Instagram. This research delves into the symbiotic relationship between Tripura's traditional knowledge and the ongoing digital transformation. It aims to elucidate how these two seemingly disparate realms can collaboratively work towards youth empowerment in the region, offering insights into both the promising opportunities and the challenges encountered by young pioneers

### 2. Literature Review

Warlina et al. (2019) in their study titled "Designing websites for online business in the agricultural sector" discuss the transformative role of the internet and e-commerce in reshaping the supply and demand dynamics for agricultural goods in developing nations. Key players, particularly from industrial and agricultural sectors in countries such as India, Brazil, Indonesia, and South Africa, have increasingly adopted the internet and digital platforms.

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### Journal for Research Scholars and Professionals of English Language Ceaching



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#### Challenges in English Language Learning Faced By Kokborok Students in the Context of Tripura State

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Abstract: In this modern, globalised society, English is the most influential languages in the world. Needless to say that, a person who has proficiency in this language has a greater advantage to grab the opportunities in different field than those who lack the proficiency of the language. Hence, necessity of learning English as a second language has been fell by the students in this competitive world. One would not deep the fact that learning a non-native language is not an easy task. The learner has to face many challenges in the process of learning a second language. This paper deals with the analysis of challenges face by Kokborok students in learning English as a second language from the phonological perspective.

Keywords: ESL, Globalised Society, Kokborok, Phonology and Phonetics, Tripura State

Received: 13 Nov -2023; Accepted: 25 Nov- 2023; Published/Available Online: 30 Nov- 2023

#### Introduction

Tripura is one of the north-eastern states of India, inhabited by multi-cultural and multi-lingual group of populations. Linguistically, Kokborok has second majority speakers, after Bengali .The Kokborok speakers in Tripura are- Debbarma, Jamatia, Reang (Bru), Murasing, Tripura, Koloi, Uchoi and Rupini. A State, being resided by different linguistics group of populations, knowing more than one language is beneficial for communicational exchange among the populations. Hence, learning a Second language (L2) is prevailing in the present communicative world. English being the most dominant language of the world is preferred by most students to chose English as a Second language. But it is often found that students are not able to come up with excellent results, especially in the phonological systems of a target language.

A person who speaks multiple languages has greater opportunities than someone who does not in this highly competitive era. But there is no short cut way to learn anything; same is the case in learning another language. To learn a Second language is not an easy task. To come out with successful result of the task, one has to face multiple challenges in the process of learning. Second Language (L2) is any language learnt after the first language or mother tongue (L1). It is common knowledge that not all languages spoken on Earth use the same sound systems. These can cause ESL students a great deal of difficulty when they are learning to phonetically navigate their new language. If English includes a sound that was not spoken in their native language it can be very challenging for the students to learn how to produce the sound physically.

The objectives of the study are to find out the challenges which Kokborok students face in the process of learning English. This research aims to examine the difficulties that Kokborok students encounter when learning English due to the phonological discrepancies between the two languages and emphasize various phonological problems/errors which they faces while learning English as a second language and wherever necessary, point out the cause of the difficulties and then suggest some of the remedial measures to make the learning easier.

Challenges in English Language Learning Faced By Kokborok Students in the Context of Tripura State Mery Rupini and Dr. Khawlsonkim Suantak https://doi.org/10.54850/jrspelt.7.40.002

### RESEARCH ARTICLE



### Being unconventional: The impact of unconventional packaging messages on impulsive purchases

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#### Abstract

The visual and textual elements of packaging significantly impact consumer product evaluations. This study examines how unconventional packaging messages-a textual packaging element-influence impulsive product purchases. We also investigate the mediating role of curiosity and the moderating role of emoji (i.e., a visual packaging element). We conduct five studies to test the proposed hypotheses. The findings reveal that unconventional packaging messages are more effective for impulsive products than for planned purchases. Furthermore, unconventional packaging messages increase both healthy and nonhealthy impulsive product purchases. We find that consumer curiosity explains the enhanced impulsive product purchasing when unconventional packaging messages are used. When unconventional packaging messages are employed for impulsive products, the use of emojis increases customer curiosity. The results extend an understanding of unconventional elements in consumer evaluations of products and inform packaging and marketing strategies regarding how to promote impulsive product purchases in competitive markets.

curiosity, emoji, impulsive products, packaging, packaging messages, unco

### 1 | INTRODUCTION

Packaging plays a crucial role in consumer decision making (Van Rompay & Veltkamp, 2014). Because brands have, on average, 7 s to make a favorable impression before consumers move on to the next option (Shukla et al., 2022), product packaging is key in shaping customers' product perceptions. In fact, an estimated 82% of product purchases in retail stores are made at the point of sale, which visual and textual elements of product packaging drive (Newman et al., 2016). This is why product packaging is often referred to as the "silent salesman" (Roper & Parker, 2013, p. 2263). Research shows that various packaging elements—such as claims, short brand stories, and orientation-influence positive consumer emotions, brand recall, and evaluations, perceptions of product quality, and purchase decisions (Hubert et al., 2013; Schlosser et al., 2016; Solja et al., 2018). A recent trend in product packaging involves brands

using unconventional packaging messages-which comprise a textual and verbal element-in their packaging designs. For example, Zee Zees (n.d.) occasionally uses unconventional packaging mess such as "Chili Lime Cruncherz Roasted Chickpeas." to promote its snacks. Though previous research suggests that using unconventional elements in marketing can positively influence brand recall, associa tion, and preference (Klink & Athaide, 2012; Wagner & Charinsam, 2021), doing so may backfire, as consumers might perceive such efforts as persuasion tactics (Costello et al., 2023). Given that an unconventional packaging message can be a doubleedged sword, this study aims to enhance understanding of how and when such messages affect consumer decision making. Such an understanding would be valuable for marketers to leverage its potential benefits.

In the present study, we examine the role of unconventional packaging messages on consumer purchase decisions. Specifically, we

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### Microbiological Research



Volume 286, September 2024, 127818

## Physiological and genomic insights into a psychrotrophic drought-tolerant bacterial consortium for crop improvement in cold, semiarid regions

Shruti Sinai Borker ab, Pallavi Sharma Aman Thakur b, Aman Kumar <sup>a b</sup>, Anil Kumar <sup>a b</sup>, Rakshak Kumar <sup>a b c</sup> 💍 🖾







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### European Journal of Medicinal Chemistry

Volume 258, 5 October 2023, 115629



Review article

## An overview of anti-SARS-CoV-2 and antiinflammatory potential of baicalein and its metabolite baicalin: Insights into molecular mechanisms

Biswanath Dinda <sup>a</sup>  $\stackrel{>}{\sim}$   $\stackrel{\boxtimes}{\bowtie}$  , Manikarna Dinda <sup>b</sup>, Subhajit Dinda <sup>c</sup>, Utpal Chandra De <sup>a</sup>

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https://doi.org/10.1016/j.ejmech.2023.115629 7

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### RESEARCH ARTICLE



## Temporal variability, meteorological influences, and long-range transport of atmospheric aerosols over two contrasting environments Agartala and Patiala in India

Parminder Kaur<sup>1</sup> - Pranab Dhar<sup>1</sup> - Onam Bansal<sup>2</sup> - Darshan Singh<sup>3</sup> - Anirban Guha<sup>1</sup>

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#### Abstract

The present study focused on the temporal variability, meteorological influences, potential sources, and long-range transport of atmospheric aerosols over two contrasting environments during 2011–2013. We have chosen Agartala (AGR) city in North-cast India as one of our sites representing the rural-continental environment and Patiala (PTA) as an urban site in Northwest India. The seasonal averaged equivalent black carbon (eBC) concentration in AGR ranges from 1.55 to 38.11  $\mu g/m^3$  with an average value of  $9.87\pm8.17~\mu g/m^3$ , whereas, at an urban location, PTA value ranges from 1.30 to  $15.57~\mu g/m^3$  with an average value of  $7.83\pm3.51~\mu g/m^3$ . The annual average eBC concentration over AGR was observed to be -3 times higher than PTA. Two diurnal peaks (morning and evening) in eBC have been observed at both sites but were observed to be more prominent at AGR than at PTA. Spectral aerosol optical depth (AOD) has been observed to be in the range from  $0.33\pm0.09$  (post-monsoon) to  $0.85\pm0.22$  (winter) at AGR and  $0.47\pm0.04$  (pre-monsoon) to  $0.74\pm0.09$  (post-monsoon) at PTA. The concentration of eBC and its diurnal and seasonal variation indicates the primary sources of eBC as local sources, synoptic meteorology, planetary boundary layer (PBL) dynamics, and distant transportation of aerosols. The wintertime higher values of eBC at AGR than at PTA are linked with the transportation of eBC from the Indo-Gangetic Plain (IGP). Furthermore, it is evident that eBC aerosols are transported from local and regional sources, which is supported by concentration-weighted trajectory (CWT) analysis results.

Keywords Equivalent black carbon · Meteorology · Boundary layer height · CWT · Long-range transport · Aerosol optical depth

### Introduction

Atmospheric aerosols are an important component of the atmosphere due to their effects on the atmosphere's radiation budget, air quality, human health, and rainfall patterns (Poschl 2005). Aerosols are released both naturally (such as dust and sea salt) and anthropogenically (vehicular emissions, factory emissions, biomass burning, and fossil fuel

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burning) in the atmosphere. Especially, the most effective absorbing type of aerosol is equivalent black carbon (eBC) (Petzold et al. 2013), which is considered the second-most contributor to global warming after CO<sub>2</sub> (Ramanathan and Carmichael 2008; Bond et al. 2013). The eBC strongly absorbs incoming and outgoing solar radiation and alters the Earth's radiation budget (Bond et al. 2013; Kant et al. 2020). Industrial emissions, vehicle exhausts, brick kiln emissions, biomass burning, agricultural residue burning, waste material burning, and wildfires are some of the major sources of eBC (Kirillova et al. 2014; Diapouli et al. 2017; Meena et al. 2021). The sources of eBC vary from region to region, and eBC can stay for a few hours to several weeks in the atmosphere.

The variation in aerosol characteristics is highly influenced by the regional climatic and meteorological conditions, topography, and type of region, such as urban, rural, or continental. The long-range transport of atmospheric aerosol, which is a transboundary problem, can also significantly





# NOLEGEIN Journal of Entrepreneurship Planning, Development and Management



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Case Stud

NIEPOM

### Entrepreneurship Development Initiative in Tripura: Special Reference to Finance Under "Swavalamban Scheme" in Unakoti District

Rajesh Chatterjee<sup>1,\*</sup>, Abdur Rahman Choudhury<sup>2</sup>, Abhranil Bhattacharjee<sup>3</sup>

#### Abstract

Entrepreneurship Development is an essential pathway to create employment opportunities and accelerate economic development. The involvement of women in entrepreneurial activities is also important as like as the male entrepreneurs. Literature suggests that there are inconsistencies in distribution of financial benefits among the women in comparison to their male counter parts. The present study has taken an attempt to discover the representation of females in the entrepreneurial & self-employment schemes of the govt. Furthermore, the study stressed on role of banks and the Industry department in maintaining equality in case of finance for entrepreneurship development and it is based on secondary data of Industry & Commerce Department that shows gender biased attitude of Bankers and also the sponsoring agencies involved in the implementation process of the Swavalamban Scheme in Unakoti district of Tripura.

Keywords: Loan & subsidy, Govt. Scheme, Banks, Women Entrepreneurs, Socially Excluded

#### INTRODUCTION

Funding is one of crucial aspect in promoting entrepreneurship. Without financial support or inadequate quantum of finance may invite negative environment for entrepreneurship development. The role of the Government Agencies, their unbiased attitude in selecting candidates as a beneficiary under Govt. supported financial scheme, forwarding of proposals to the respective banks also matters in regard to entrepreneurial atmosphere where male & female entrepreneurs can share equal benefit from the govt. Not only the forwarding or sponsoring of loan applications to banks ensures non-discriminative practices to be adopted by various banks but also require close monitoring and strong

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<sup>2</sup>Assistant Professor at Tripura University (A Central University), Tripura India, Management department, Tripura University, Agartala, India

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Citation: Abdur Rahman Choudhury, Abhranil Bhattacharjee, Rajesh Chatterjee. Entrepreneurship Development Initiative in Tripura: Special Reference to Finance Under "Swavalamban Scheme" in Unakoti District. NOLEGEIN Journal of Entrepreneurship Planning, Development and Management. 2023; 6(1): 81–92p. support of Govt. agencies in creating awareness among the unemployed youths, protecting their rights etc. in the path of entrepreneurship development. The distribution process of loan as well as difficulties in the way of sanctioning and release of finance needs to be closely monitored from time to time in order to encourage the women and other socially excluded groups in gaining confidence on the pellucidity of the system. Gender biased attitude in any field of development would deny the rights and interest of women community and specially in case of small business in rural or semi-urban areas. Moreover, gender discrimination may dilute the interest level of the women to choose entrepreneurship as a reliable occupation to lead a dignified life.

### Understanding Adversarial Atmospheric Features Interpretation, Analysis, and Standardization for Tackling the Computer Vision Problems in Videos

Souray Dev Roy<sup>®</sup>, Member, IEEE, and Mrinal Kanti Bhowmik<sup>®</sup>, Senior Member, IEEE

Abstract—In real-world situations, the performance of vision-based systems in indoor environments has been observed to provide noticeable results. However, in the case of the outdoor environment, the proper functioning of vision-based systems is often disrupted due to the occurrence of atmospheric/weather effects. To ensure the functional operation of all vision-based devices in any weather condition, a reliable classification/recognition system is needed to identify the weather pertinent to the scenes for effective removal. Consequently, a trustworthy classification/recognition system is required to recognize the weather pertinent to the outdoor scenes for its effective removal to guarantee the efficient functioning of all vision-based systems in any weather situation. For this, this work investigated and analyzed the performance of conventional handcrafted features extracted from outdoor scenes to solve the problem of atmospheric/weather classification tasks in real-world outdoor scenes. Recently, convolutional neural network (CNN)-based architectures have been used by research communities for solving many vision-based problems. Motivated by the enormous success of CNNs, in the present scope of this article, the perception capability of deep CNN features is also investigated for effective analysis and discrimination of atmospheric/weather-degraded scenes. To achieve the precise necessities of the objectives, several experiments were conducted. The analysis and experiments were carried out using the created Extended Tripura University Video Dataset (E-TUVD), which consists of a diverse set of atmospheric/weather-degraded outdoor scenes. The experiment results reveal that effectively selecting the discriminative features, thereby describing the weather properties, can improve classification using machine learning classifiers.

Index Terms—Asymmetric analysis, atmospheric/weather conditions, classification, deep features, Extended Tripura University Video Dataset (E-TUVD), feature extraction, feature selection, performance evaluation.

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under Grant No.: SIR/20/2/00/387, Dated: 12/DS/20/22. The Associate Enditor coordinating the review process was Dr. Dong Wang. (Corresponding author: Mrinad Kanti Bhowmik.)
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ipurauniv.ac.in). Digital Object Identifier 10.1109/TIM.2023.3346496

#### I. INTRODUCTION

CURRENT vision systems on outdoor scenes have achieved a significant evolution in industry 4.0. However, most vision-based systems are affected by different static and dynamic atmospheric/weather conditions, including fog, haze, dust, snow, rain, and low light/poor illumination [1]. Therefore, to boost the performance of high-level computer vision tasks (such as object detection and recognition), it is important to assess the atmospheric/weather properties of a scene from visual content. In this article, the effectiveness of image properties, i.e., in terms of atmospheric/weather features that affect the visual appearance of images and are well observed by human beings, is investigated.

The various atmospheric/weather conditions responsible for affecting the performance of real-time computer vision tasks are as follows.

- Border Security and Surveillance: In essence, the northeastern states of India, such as other states of India, share boundaries with other international countries. Governments install commercial cameras in border regions for ongoing surveillance, yet these cameras seem flimsy in different atmospheric/weather deterioration circumstances. Due to the substantial contrast loss of the scenes, there is a chance for mistrusted intruders to enter foreign countries and engage in unlawful actions that might not be noticed by an unaided vision system.
- 2) Automatic Driving Systems: Many research and development industries are making efforts to address difficulties brought on by lighting and weather degradation situations, but such conditions will still damage installed cameras' vision capabilities and produce perplexing reflections that can cause issues for self-driving cars.
- 3) Travel and Tourist Applications: When compared to geographical data, atmospheric/weather conditions change over time, even at the same location; thus, it is believed that weather fluctuations over time provide richer data and have an influence on a broader range of tourist sectors. Considering an example, more tourists travel and thus capture photographs on weekends if the weather is sunny; similarly, some places are attractive when the temperature of these places is below 5°C.

Therefore, there is no doubt that comprehending weather aspects is essential for their accurate classification and removal

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### A meta-analytic integration of the theory of planned behavior and the value-belief-norm model to predict green consumption

Theory of planned behavior

1141

Received 20 June 2021 Revised 22 June 2022 18 March 2023 12 July 2023 2 October 2023 Accepted 19 November 2023

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#### Abstract

Purpose – This study aims to integrate the theory of planned behavior (TPB) and the value-belief-norm (VBN) theory into a meta-analytic framework to synthesize green consumption literature.

Design/methodology/approach — By integrating the findings from 173 studies, a meta-analysis was performed adopting several analytical methods: bivariate analysis, moderation analysis and path analysis.

Findings — VBN- and TPB-based psychological factors (adverse consequences, ascribed responsibility, personal norms, subjective norms, attitude and perceived behavioral control) mediate the effects of altruistic, biospheric and egoistic values on green purchase intention. Further, inconsistencies in the proposed relationships are due to cultural factors (i.e. individualism-collectivism, power distance, uncertainty avoidance, muscularity—femininity, short-vs long-term orientation and indulgence-restraint) and countries' human development status.

Research limitations/implications — The authors selected papers published in English; hence, other relevant papers in this domain published in other languages might have been missed.

Practical implications — The findings are useful to marketers of green offerings in designing strategies, i.e. specific messages, targeting different customers based on countries' cultural score and human development index, to harvest positive customer responses.



European Journal of Macketing Vol. 58 No. 4, 2028 pp. 1141-9174 © Errandel Pathology Landon (2000)

### Targeted inhibition of colorectal cancer proliferation: The dual-modulatory role of 2,4-DTBP on antiapoptotic Bcl-2 and Survivin proteins

Partha Saha <sup>1</sup>, Mangala Hegde <sup>2</sup>, Kanak Chakraborty <sup>1</sup>, Achinta Singha <sup>1</sup>, Nobendu Mukerjee <sup>3</sup> <sup>4</sup>, Deepshikha Ghosh <sup>5</sup>, Ajaikumar B Kunnumakkara <sup>2</sup>, Mohd Shahnawaz Khan <sup>6</sup>, Md Irshad Ahmad <sup>7</sup>, Arabinda Ghosh <sup>8</sup>, Ajoy Kumer <sup>9</sup>, Samir Kumar Sil <sup>1</sup>

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PMID: 38494866 PMCID: PMC10945088 DOI: 10.1111/jcmm.18150

### Abstract

The anti-apoptotic proteins, Bcl-2 and Survivin, are consistently overexpressed in numerous human malignancies, notably in colorectal cancer. 2,4-Di-tert-butylphenol (2,4-DTBP) is a naturally occurring phenolic compound known for its diverse biological activities, including anti-cancer properties. The mechanism behind 2,4-DTBP-induced inhibition of cell proliferation and apoptosis in human colorectal cancer cells, specifically regarding Bcl-2 and Survivin, remains to be elucidated. In this study, we employed both in silico and in vitro methodologies to underpin this interaction at the

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ARTICLE | September 28, 2023

## Excited-State Energy Transfer-Associated Dual Emission of Light-Emitting Polymers Containing Sulfonated Graphene Oxide for Sensing of pH, Co(II), and Bi(III)

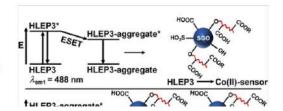
Chandan Roy, MD Hussain Sanfui, Shrestha Roy, Nadira Hassan, Mousumi Deb, Kamal Das, Suvadip Masanta, Mostafizur Rahaman, Subhadip Mondal, Swapan Majumdar, Pijush Kanti Chattopadhyay, and Nayan Ranjan Singha\*



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### Abstract

The design, synthesis, optimization, and development of an excited-state energy transfer (ESET)-assisted dual-light emission hybrid polymeric sensor are very much challenging, particularly when the polymer is purely aliphatic and bears nonconventional heteroatomic subfluorophores. In this work, aliphatic light-emitting polymers (LEPs) are synthesized from dimethylaminoethyl methacrylate and maleic acid monomers having  $-C(=0)OCH_2-$ ,  $-N(CH_3)_2$ , and -C(=0)OH/-



ARTICLE | November 8, 2023

## Solar-Driven Water Splitting by a Nanostructured NiFe(OH)<sub>x</sub> Catalyst Incorporated BiVO<sub>4</sub> Photoanode

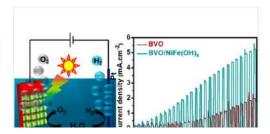
Soham Saha, Dipanjan Maity\*, Debashish Pal, Debasish Sarkar, Debasis De, Gobinda Gopal Khan\*, and Kalyan Mandal



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### Abstract

The integration of cost-effective and highly efficient oxygen evolution catalysts (OECs) profoundly impacts the performance of semiconductor photoharvesters in solar-driven water splitting. Drawing inspiration from the advantages of various transition metal oxides and hydroxide-based OECs, we demonstrate that the remarkable activity of nanostructured NiFe(OH)<sub>x</sub> catalysts can significantly enhance the oxygen evolution efficiency of BiVO<sub>4</sub> photoanodes. The optimized BiVO<sub>4</sub>/NiFe(OH)<sub>x</sub> photoanode exhibits an above 300% increase in the photocurrent density over BiVO<sub>4</sub>, reaching a high value of 4.02 mA cm<sup>-</sup>



> J Cell Mol Med. 2024 Apr;28(7):e18150. doi: 10.1111/jcmm.18150.

## Targeted inhibition of colorectal cancer proliferation: The dual-modulatory role of 2,4-DTBP on antiapoptotic Bcl-2 and Survivin proteins

Partha Saha <sup>1</sup>, Mangala Hegde <sup>2</sup>, Kanak Chakraborty <sup>1</sup>, Achinta Singha <sup>1</sup>, Nobendu Mukerjee <sup>3</sup> <sup>4</sup>, Deepshikha Ghosh <sup>5</sup>, Ajaikumar B Kunnumakkara <sup>2</sup>, Mohd Shahnawaz Khan <sup>6</sup>, Md Irshad Ahmad <sup>7</sup>, Arabinda Ghosh <sup>8</sup>, Ajoy Kumer <sup>9</sup>, Samir Kumar Sil <sup>1</sup>

Affiliations + expand

PMID: 38494866 PMCID: PMC10945088 DOI: 10.1111/jcmm.18150

### Abstract

The anti-apoptotic proteins, Bcl-2 and Survivin, are consistently overexpressed in numerous human malignancies, notably in colorectal cancer. 2,4-Di-tert-butylphenol (2,4-DTBP) is a naturally occurring phenolic compound known for its diverse biological activities, including anti-cancer properties. The mechanism behind 2,4-DTBP-induced inhibition of cell proliferation and apoptosis in human colorectal cancer cells, specifically regarding Bcl-2 and Survivin, remains to be elucidated. In this study, we employed both in silico and in vitro methodologies to underpin this interaction at the molecular level. Molecular docking demonstrated a substantial binding affinity of 2,4-DTBP towards Bcl-2 ( $\Delta G = -9.8$  kcal/mol) and Survivin ( $\Delta G = -5.6$  kcal/mol), suggesting a potential inhibitory effect. Further, molecular dynamic simulations complemented by MM-GBSA calculations confirmed the significant binding of 2,4-DTBP with Bcl-2 (dGbind = -54.85  $\pm$  6.79 kcal/mol) and Survivin (dGbind =

Review > Life Sci. 2024 Sep 1:352:122896. doi: 10.1016/j.lfs.2024.122896. Epub 2024 Jul 6.

### A detailed insight into macrophages' role in shaping lung carcinogenesis

Tamanna Aktar <sup>1</sup>, Snehashish Modak <sup>1</sup>, Debabrata Majumder <sup>2</sup>, Debasish Maiti <sup>3</sup>

Affiliations + expand

PMID: 38972632 DOI: 10.1016/j.lfs.2024.122896

### Abstract

Despite significant advancements in cancer treatment in recent decades, the high mortality rate associated with lung cancer remains a significant concern. The development and proper execution of new targeted therapies needs more deep knowledge regarding the lung cancer associated tumour microenvironment. One of the key component of that tumour microenvironment is the lung resident macrophages. Although in normal physiological condition the lung resident macrophages are



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### Colloids and Surfaces A: Physicochemical and **Engineering Aspects**



Volume 702, Part 2, 5 December 2024, 135056

Facile preparation and study of supramolecular architecture of an efficient nanocomposite LB film AHSM/SA based on azo-functionalized hockey stick-shaped mesogen at air-water and air-solid interface

Sutapa Deb <sup>a</sup>, Shazidul Hussain <sup>b</sup>, Banti Baishya <sup>c</sup>, Arghyadeep Bhattacharyya <sup>a</sup>, Syed Arshad Hussain <sup>b</sup>, Ranendu Kumar Nath <sup>a</sup> ≥ ⋈, Manoj Kumar Paul <sup>c</sup> ≥ ⋈

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### Cervical cytology abnormalities and associated genotype patterns of High-Risk HPV Infection in Women of Tripura, North-East India: A Hospital-**Based Study**

Amrapali Bhattacharya, Kanak Chakraborty, Partha Saha, Susmita Saha, Parichita Roychaudhuri, Jahar Lal Baidya, Arabinda Ghosh, Debaprasad Chakraborty, Sharmila Sengupta ⋈, Samir Kumar Sil ⋈ Author Notes

American Journal of Epidemiology, kwae364, https://doi.org/10.1093/aje/kwae364

Published: 17 September 2024 Article history ▼









### **Abstract**

The current study explored HPV prevalence and age variation in cervical samples of different cytological categories and HPV types from women seeking gynecological care in Tripura, northeast India. Pap smears, cervical tissues, and HPV/DNA specimens were collected from gynecological outpatient departments (OPD) or in-house patients and were screened for HPV16, HPV18, and other HPV types by PCR. Finally, logistic regression was performed to find the association

> Curr Med Chem. 2024;31(5):573-594. doi: 10.2174/0929867330666230303120942.

## The Efficient Activity of Glabridin and its Derivatives Against EGFRmediated Inhibition of Breast Cancer

Arabinda Ghosh <sup>1</sup>, Debanjana Ghosh <sup>2</sup>, Nobendu Mukerjee <sup>3</sup> <sup>4</sup>, Swastika Maitra <sup>5</sup>, Padmashree Das <sup>6</sup>, Abhijit Dey <sup>7</sup>, Souty M Z Sharkawi <sup>8</sup> <sup>9</sup>, Georgios D Zouganelis <sup>10</sup>, Athanasios Alexiou <sup>11</sup> <sup>12</sup>, Somdatta Yashwant Chaudhari <sup>13</sup>, Ritika Sharma <sup>14</sup>, Sonali Arun Waghmare <sup>15</sup>, Marios Papadakis <sup>16</sup>, Gaber El-Saber Batiha <sup>17</sup>

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PMID: 36872353 DOI: 10.2174/0929867330666230303120942

#### Abstract

**Background:** Breast cancer (BC) is one of the most typical causes of cancer death in women worldwide. Activated epidermal growth factor receptor (EGFR) signaling has been increasingly associated with BC development and resistance to cytotoxic drugs. Due to its significant association with tumour metastasis and poor prognosis, EGFR-mediated signaling has emerged as an attractive therapeutic target in BC. Mainly in all BC cases, mutant cells over-expresses EGFR. Certain synthetic drugs are already used to inhibit the EGFR-mediated pathway to cease metastasis, with several phytocompounds also revealing great chemopreventive activities.

**Methods:** This study used chemo-informatics to predict an effective drug from some selected phytocompounds. The synthetic drugs and the organic compounds were individually screened for their binding affinities, with EGFR being the target protein using molecular docking techniques.

## Geophysical Research Letters\*

Research Letter 🙃 Open Access 💿 📵 🥞

# The Role of Global Thunderstorm Activity in Modulating Global Cirrus Clouds

J. Saha, C. Price, A. Guha 

First published: 26 June 2023 | https://doi.org/10.1029/2022GL102667 | Citations: 2

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#### **Abstract**

Cirrus clouds provide a significant radiative forcing on the Earth's climate system. This paper looks at the connection in space and time between monthly mean lightning activity observed from the Lightning Imaging Sensor on board the International Space Station, and the global monthly mean cirrus cloud cover obtained from the MERRA-2 reanalysis product. The correlation coefficient between the global monthly mean cloud optical thickness of the cirrus clouds (clouds at altitudes above the 400 hPa pressure levels) with the monthly mean lightning flash counts is 0.84, implying that monthly mean lightning can explain 70% of monthly variability of the global high cloud optical thickness. In addition, lightning amount explains nearly 60% of the monthly mean global area coverage of cirrus clouds. Given these statistically significant connections between

Home > Journal of Materials Science > Article

# Tuning of polydiacetylene phase behavior mixed with cholesterol derivative and its application toward the detection of pathogenic bacteria

Materials for life sciences | Published: 28 October 2023 Volume 58, pages 15762–15779, (2023) Cite this article

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Shazidul Hussain, Sangita Majumder, Akshit Malhotra, Ashwini Chauhan, Debajyoti Bhattacharjee & Syed Arshad Hussain

#### **Abstract**

The unique and intriguing colorimetric transition of polydiacetylene (PDA) from blue to red color when exposed to different external stimuli makes it a perfect candidate for various bio-sensing applications. In this study, in an effort to tune the PDA phase behavior.



#### Atmospheric Research

Volume 294, October 2023, 106988



## Are thunderstorms linked to the rapid Sea ice loss in the Arctic?

J. Saha a, C. Price b, T. Plotnik c, A. Guha A 🔉 🖾

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#### Highlights

- · Summer Arctic Sea Ice is declining at an accelerating rate.
- · Interannual changes in Sea Ice are well correlated with upper tropospheric water vapor.

ACS Applied Electronic Materials > Vol 5/Issue 7 > Article

ARTICLE | July 13, 2023



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#### Carrier Type Exchange with the Sweep Direction in a WORM Memory Citation and abstract

Shyam Kumar Bhattacharjee, Syed Arshad Hussain, Pabitra Kumar Paul, and Debajyoti Bhattacharjee\*

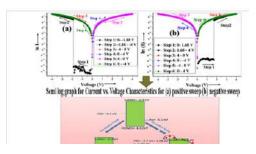


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#### Abstract

In the present study, we have investigated the charge transport mechanism of the resistive switching phenomenon of a write-onceread-many-times (WORM)-type memory device. Phenol red sodium salt (PRSS), a xanthene dye, has been used as the active layer. Gold (Au) and ITO have been used as top and bottom electrodes, respectively. The electron transport and hole transport mechanisms predominate in positive and negative sweep voltages, respectively. This has been confirmed from density functional theory calculations of HOMO and LUMO levels and also from theoretically calculated values. The device



Article

# Exploring the privacy concerns of smartphone appusers: a qualitative approach

August 2023 · Marketing Intelligence & Planning 41(6)

DOI: 10.1108/MIP-11-2022-0515

Lab: Manish Das's Lab

W Haroon Iqbal Maseeh · Shamsun Nahar · ■ Charles Jebarajakirthy · Show all 8 authors · Hafiz Ahmad Ashraf

Research Interest Score
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Abstract

Purpose The purpose of this study is to explore and identify the privacy concerns of smartphone app users pertinent to app usage. Design/methodology/approach Adopting a qualitative phenomenological approach, the authors conducted semi-structured interviews with app users to explore the app users' privacy concerns. Findings Credibility concerns, unauthorised secondary use and vulnerability





Article

# Parkia javanica Edible Pods Reveal Potential as an Anti-Diabetic Agent: UHPLC-QTOF-MS/MS-Based Chemical Profiling, In Silico, In Vitro, In Vivo, and Oxidative Stress Studies

Alekhya Sarkar <sup>1</sup>, Arjita Chakrabarti <sup>2</sup>, Samhita Bhaumik <sup>3</sup>, Bimal Debnath <sup>1</sup>, Shiv Shankar Singh <sup>2</sup>, Rajat Ghosh <sup>4</sup>, Magdi E. A. Zaki <sup>5,\*</sup>, Sami A. Al-Hussain <sup>5</sup> and Sudhan Debnath <sup>6,\*</sup>

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- \* Correspondence: mezaki@imamu.edu.sa (M.E.A.Z.); bcsdebnath@gmail.com (S.D.)

Abstract: According to the World Health Organization, over 422 million people worldwide have diabetes, with the majority residing in low- and middle-income countries. Diabetes causes 1.5 million fatalities a year. The number of diabetes cases and its prevalence have progressively increased over the last few decades. This study aims to determine the phytochemicals in the edible part of *Perkia javanica*, predict their  $\alpha$ -glucosidase inhibitory potential, one of the promising targets for diabetes, and then carry out in vitro and in vivo studies. The phytochemicals present in the n-butanol fraction of the methanol extract of *P. javanica* pods were analyzed using UHPLC-QTOF-MS/MS (Ultra-High-Performance Liquid Chromatography-Quadrupole Time-of-Flight Mass Spectrometry). The UHPLC-QTOF analysis revealed the presence of 79 different compounds in the n-butanol fraction. Among these, six compounds demonstrated excellent binding affinities with  $\alpha$ -glucosidase, surpassing the performance of two standard inhibitors, Miglitol and Voglibose. In vitro  $\alpha$ -glucosidase inhibitory activities were assessed by the n-butanol fraction, followed by in vivo studies. According to the in vitro study, the inhibitory efficiency against  $\alpha$ -glucosidase was determined to have an IC50 value of 261.9  $\mu$ g/mL. The in vivo findings revealed a significant reduction in blood glucose levels in

updates

Citation: Sarkar, A.; Chakrabarti, A.; Bhaumik, S.; Debnath, B.; Singh, S.S.; Ghosh, R.; Zaki, M.E.A.; Al-Hussain, S.A.; Debnath, S. *Parkia javanica* Edible Pods Reveal Potential as an Anti-Diabetic Agent: UHPLC-QTOF-MS/ MS-Based Chemical Profiling, In Silico, In Vitro, In Vivo, and Oxidative Stress Studies. *Pharmaceuticals* 2024,



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#### Dyes and Pigments Volume 218, October 2023, 111524



## Selective ion sensing in aqueous media with ESIPT active fluorescent probes - A particular case for hypochlorite detection

Christian Julio Murga Cotrina a, Arghyadeep Bhattacharyya a 1, Shenming Wang a, Baptiste Amouroux <sup>b</sup>, Nicolas Casaretto <sup>c</sup>, Sophie Bourcier <sup>c</sup>, Isabelle Leray <sup>b</sup>, Gaël Zucchi <sup>a</sup>

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## Journal of Photochemistry and Photobiology A: Chemistry



Volume 453, 1 August 2024, 115657

Achieving solvent specific charge transfer damped excited state proton transfer by controlling chain length and charge donor torsion: Implications in nanomolar Fe<sup>3+</sup> sensing

Akash Das  $^{a}$ , Arghyadeep Bhattacharyya  $^{b} \stackrel{>}{\sim} \boxtimes$ , Nikhil Guchhait  $^{a} \stackrel{>}{\sim} \boxtimes$ 

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#### Materials Science in Semiconductor Processing

MOTERALS SUB-RES IN SOMEON DUCTOR PROSESSING

Volume 179, 15 August 2024, 108477

Confirmation of the presence of edge dislocations in the prepared FCC ZnTe nanocrystals from the study of structural analysis through the MWH method with added Fourier analysis (W-A method) of diffraction peaks

Sanghita Basak, Ratan Das 🖰 🖾

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# Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy



Volume 319, 15 October 2024, 124512

## Sensing of Gunshot Residue components from real sample using Fluorescence Resonance Energy Transfer

Dibyendu Dey <sup>a</sup>, Aayush Dhaka <sup>b</sup>, H.K. Pratihari <sup>b</sup>, S.A. Hussain <sup>c</sup>, Arpan Datta Roy <sup>b</sup> △ ⊠

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► Am J Transl Res. 2023 Aug 15;15(8):4984-5006.

# Unlocking therapeutic potential: integration of drug repurposing and immunotherapy for various disease targeting

<u>Vishakha Anand Pawar</u> <sup>1,\*</sup>, <u>Anuradha Tyagi</u> <sup>2,\*</sup>, <u>Chaitenya Verma</u> <sup>3,\*</sup>, <u>Kanti Prakash Sharma</u> <sup>4</sup>, <u>Sekhu Ansari</u> <sup>5</sup>, <u>Indra Mani</u> <sup>6</sup>, <u>Shailesh Kumar Srivastva</u> <sup>7</sup>, <u>Pradeep Kumar Shukla</u> <sup>8</sup>, <u>Antresh Kumar</u> <sup>9</sup>, <u>Vinay Kumar</u> <sup>10</sup>

► Author information ► Article notes ► Copyright and License information PMCID: PMC10492070 PMID: 37692967

#### Abstract

Drug repurposing, also known as drug repositioning, entails the application of pre-approved or formerly assessed drugs having potentially functional therapeutic amalgams for curing various disorders or disease conditions distinctive from their original remedial indication. It has surfaced as a substitute for the development of drugs for treating cancer, cardiovascular



# Effect of long chain fatty acids on the memory switching behavior of tetraindolyl derivatives†



( Author affiliations

#### Abstract

Non-volatile memory devices using organic materials have attracted much attention due to their excellent scalability, fast switching speed, low power consumption, low cost *etc.* Here, we report both volatile as well as non-volatile resistive switching behavior of *p*-di[3,3'-bis(2-methylindolyl)methane]benzene (Indole2) and its mixture with stearic acid (SA). Previously, we have reported the bipolar resistive switching (BRS) behavior using 1,4-bis(di(1*H*-indol-3-yl)methyl)benzene (Indole1) molecules under ambient conditions [Langmuir 37 (2021) 4449–4459] and complementary resistive switching (CRS) behavior when the device was exposed to 353 K or higher temperature [Langmuir 38 (2022) 9229–9238]. However, the present study revealed that when the H of –NH group of Indole1 is replaced by –CH<sub>3</sub>, the resultant Indole2 molecule-based device showed volatile threshold switching behaviour. On the other hand, when Indole2 is mixed with SA at a particular mole fraction, dynamic evolution of an Au/Indole2-SA/ITO



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## Journal of Food Composition and Analysis



Volume 136, December 2024, 106833

## Unveiling the microbiome and metabolites of traditional dairy and alcoholic products from North-western Himalayan region

Neha Baliyan a b 1, Anil Kumar a b 1, Ritesh Sharma b c, Srijana Mukhia a e, Sanjeev Kumar Sharma <sup>a b</sup>, Vijai K. Agnihotri <sup>b c</sup>, Rakshak Kumar <sup>a b d</sup> △ ⊠

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### Highlights

· Culturable and Unculturable diversity of traditional food products wara auntarad



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## Journal of Food Composition and Analysis

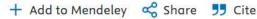


Volume 134, October 2024, 106508

Comparative analysis of substrate components, nutritive value, ergosterol distribution, and vitamin D<sub>2</sub> enrichment in shiitake mushrooms cultivated on wood substrates

Aman Thakur <sup>a b</sup>, Krishna Kanta Pandey <sup>a</sup>, Kishan Kharka <sup>a</sup>, Shruti Sinai Borker <sup>a</sup>, Bunesh Kumar <sup>a</sup>, Abhishek Bhatt a, Rakshak Kumar a b c △ 🖾

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#### Journal of Molecular Structure

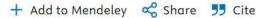


Volume 1288, 15 September 2023, 135808

## Stereoselective synthesis of dispiropyrrolidinyl oxindole derivatives and evaluation of their antibacterial efficacy

Bishwa Narayan Kondoli <sup>a</sup>, Divya Vemula <sup>b</sup>, Umarani Brahma <sup>b</sup>, Vasundhra Bhandari <sup>b</sup>, Pratap Chandra Acharya a △ 🖾

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#### Journal of Molecular Structure

Volume 1293, 5 December 2023, 136273



Analysis of dominant and intense XRD peak of (111) plane of ZnS nanocrystals for microstructural study through single line Voigt method: Calculated low dislocation density value emphasizes larger stacking of (111) plane

Sanghita Basak, Debojyoti Nath, Ratan Das 🖰 🖾

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# Effect of long chain fatty acids on the memory switching behavior of tetraindolyl derivatives †



Surajit Sarkar, <sup>a</sup> Hritinava Banik, <sup>a</sup> Farhana Yasmin Rahman, <sup>a</sup> Swapan Majumdar, <sup>b</sup> Debajyoti Bhattacharjee <sup>a</sup> and Syed Arshad Hussain <sup>b</sup> \*

(+) Author affiliations

#### Abstract

Non-volatile memory devices using organic materials have attracted much attention due to their excellent scalability, fast switching speed, low power consumption, low cost *etc.* Here, we report both volatile as well as non-volatile resistive switching behavior of *p*-di[3,3'-bis(2-methylindolyl)methane]benzene (Indole2) and its mixture with stearic acid (SA). Previously, we have reported the bipolar resistive switching (BRS) behavior using 1,4-bis(di(1*H*-indol-3-yl)methyl)benzene (Indole1) molecules under ambient conditions [Langmuir 37 (2021) 4449–4459] and Journals & Magazines > IEEE Access > Volume: 11

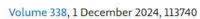
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#### Scientia Horticulturae





Research Paper

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# Growth, essential oil yield and biological activities of *Curcuma caesia* in response to sowing time and planting geometry in the non-traditional area of western Himalayas

Ramesh Chauhan <sup>a d</sup>  $\stackrel{\triangle}{\sim}$   $\stackrel{\boxtimes}{\sim}$  , Sakshi Vishvamitera <sup>a</sup>, Diksha Dhiman <sup>a d</sup>, Sanjeev Kumar Sharma <sup>b d</sup>, Rakshak Kumar <sup>b d e</sup>, Dinesh Kumar <sup>c d</sup>, Sanatsujat Singh <sup>a d</sup>

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Physiological and Genomic Elucidation of Cold-Resilient Rhizobacteria Reveals Plant Growth Promotion by Siderophore Optimization and Enhanced Biocontrol Potential Against Fungal Pathogens

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#### European Polymer Journal

Volume 206, 21 February 2024, 112754



Light emissions of ratiometric aliphatic redox polymer from canonical, anion, and anion-aggregate: Reduction-associated naked eye detections of Hg(II), Fe(III), and Cu(II)

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- 1

> Sci Rep. 2023 Sep 8;13(1):14808. doi: 10.1038/s41598-023-41668-3.

## Geo-environmental factors and the effectiveness of mulberry leaf extract in managing malaria

```
Sayantan Pradhan # 1 2, Samrat Hore # 3, Stabak Roy 4, Simi Manna 5, Paulami Dam 1,
Rittick Mondal <sup>1</sup>, Amit Ghati <sup>6</sup>, Trishanjan Biswas <sup>1</sup>, Subhajit Shaw <sup>1</sup>, Supriya Sharma <sup>7</sup>,
Waikhom Somraj Singh <sup>8</sup>, Suman Kumar Maji <sup>9</sup>, Sankarsan Roy <sup>10</sup>, Aparajita Basu <sup>11</sup>,
Kailash C Pandey 7, Soumadri Samanta 12, Kapil Vashisht 7, Tuphan Kanti Dolai 2,
Pratip Kumar Kundu <sup>13</sup>, Saptarshi Mitra <sup>4</sup>, Debasish Biswas <sup>14</sup>, Abdul Sadat <sup>1</sup>,
Masuma Shokriyan 15, Amit Bikram Maity 16, Amit Kumar Mandal 17, 18, İkbal Agah İnce 19
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PMID: 37684270 PMCID: PMC10491663 DOI: 10.1038/s41598-023-41668-3

#### Abstract

Malaria prevalence has become medically important and a socioeconomic impediment for the endemic regions, including Purulia, West Bengal. Geo-environmental variables, humidity, altitude, and land use patterns are responsible for malaria. For surveillance of the endemic nature of Purulia's blocks, statistical and spatiotemporal factors analysis have been done here. Also, a novel approach for the Pf malaria treatment using methanolic leaf extract of Morus alba S1 has significantly reduced the parasite load. The EC<sub>50</sub> value (1.852) of the methanolic extract of M. alba S1 with P. falciparum 3D7 strain is close to the EC<sub>50</sub> value (0.998) of the standard drug chloroquine with the same chloroquinesensitive strain. Further studies with an in-silico model have shown successful interaction between

## **JGR** Atmospheres

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### Revisiting the Link Between Thunderstorms and Upper **Tropospheric Water Vapor**

Colin Price , Tair Plotnik, Joydeb Saha, Anirban Guha

First published: 21 December 2023 | https://doi.org/10.1029/2023JD039306

**SECTIONS** 









#### **Abstract**

As the Earth's temperatures continue to rise due to increasing greenhouse gases in the atmosphere, a large portion of the warming is due to positive feedbacks from increasing atmospheric water vapor or specific humidity (SH). Some of this water vapor in the boundary layer is transported via deep convection to the upper troposphere (as droplets and ice crystals), moistening the upper troposphere. These small changes in SH in the upper troposphere have a significant impact on the Earth's radiation balance. We compared global daily lightning from the WWLLN data set, and SH data from the ERA5 reanalysis product for 2019, at a spatial resolution of 5°. Our findings show high spatial and temporal correlations between the lightning activity and the SH concentrations in the upper troposphere. The best correlations ( $r^2 = 0.72$ ,  $p \ll 0.001$ ) are between lightning activity and UTWV at the 200 mb level (~12 km altitude), although the correlations with SH at 300 and 400 mb were only slightly lower. Lightning and SH migrate with the seasons north and south of the equator with both parameters showing maxima in the

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Volume 36, August 2023, 106541

# pH-responsive, stable, and biocompatible functional nanogels based on chitosan (CS)/poly methacrylic acid (PMAA) polymers: Synthesis and characterization

 $\frac{\text{Sulagna Bhattacharjee}^{\,a}, \text{Sanghamitra Goswami}^{\,b}, \text{Supriyo Das}^{\,a}, \text{Surajit Bhattacharjee}^{\,b}, \text{Sachin Bhaladhare}^{\,a} \overset{\circ}{\bowtie} \boxtimes$ 

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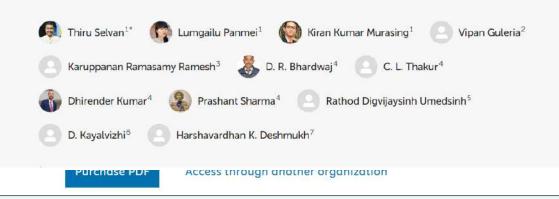
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#### **REVIEW article**

Front. Sustain. Food Syst., 24 July 2023 Sec. Agroecology and Ecosystem Services Volume 7 - 2023 | https://doi.org/10.3389/fsufs.2023.1170380 This article is part of the Research Topic Integrated Organic Farming Systems: Approach for Efficient Food Production and Environmental Sustainability

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Circular economy in agriculture: unleashing the potential of integrated organic farming for food security and sustainable development



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Volume 36, August 2023, 106541

pH-responsive, stable, and biocompatible functional nanogels based on chitosan (CS)/poly methacrylic acid (PMAA) polymers: Synthesis and characterization

Sulagna Bhattacharjee <sup>a</sup>, Sanghamitra Goswami <sup>b</sup>, Supriyo Das <sup>a</sup>, Surajit Bhattacharjee <sup>b</sup>, Sachin Bhaladhare <sup>a</sup> ≳ ⊠

 Issue 46, 2023 Previous Article Next Article



Interrogating the nature of aggregates formed in a model azine based ESIPT coupled AIE active probe: stark differences in photodynamics in the solid state and aggregates in water†



Arghyadeep Bhattacharyya,‡a Akash Das‡a and Nikhil Guchhait b \*a

Author affiliations

#### Abstract

A novel Schiff base 4-bromo-2-((*E*)-((*E*)-(1-(naphthalen-2-yl)ethylidene)hydrazono)methyl)phenol (**BNHMP**) was synthesized and characterized by NMR, ESI-MS, FTIR and single crystal X-ray diffraction studies. In the solution phase, **BNHMP** shows prominent emission from the keto-form, a consequence of excited state intramolecular proton transfer (ESIPT). The quantum yield and excited state lifetime decrease in polar solvent THF compared to relatively non-polar

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Review Open access Published: 15 February 2024

Investigation on storage level data integrity strategies in cloud computing: classification, security obstructions, challenges and vulnerability

Paromita Goswami, Neetu Faujdar 💆, Somen Debnath, Ajoy Kumar Khan & Ghanshyam Singh

Journal of Cloud Computing 13, Article number: 45 (2024) | Cite this article

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Abstract



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<u>Srikanta Das, Nitish Sinha, Arka Roy Bin, Jayanta Kumar Rakshit, Subhradeep Pal</u> & <u>Bishanka Brata</u> <u>Bhowmik</u> <u></u>

#### Abstract



Open Access Article

#### Application of Multivariable Statistical and Geo-Spatial Techniques for Evaluation of Water Quality of Rudrasagar Wetland, the Ramsar Site of India

by Pradip Debnath ¹ ⊠ 🗓 , Stabak Roy ¹,2 ⊠, Satarupa Bharadwaj ¹ ⊠, Samrat Hore ³ ⊠, Harjeet Nath ⁴ ⊠ 🗓 , Saptarshi Mitra 1,\* 

and Ana-Maria Ciobotaru 5,\* 

to 100

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Water 2023, 15(23), 4109; https://doi.org/10.3390/w15234109

Submission received: 21 September 2023 / Revised: 17 November 2023 / Accepted: 21 November 2023 / Published: 27 November 2023

(This article belongs to the Special Issue The Impact of Climate Change and Land Use on Water Resources)

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#### Carbohydrate Research

Volume 538, April 2024, 109075



## Prebiotic levan type fructan from *Bacillus* subtilis PR-C18 as a potent antibiofilm agent: Structural elucidation and in silico analysis

Juanit Thomas <sup>a</sup>, Payel Roy <sup>a</sup>, Arabinda Ghosh <sup>b</sup>, Megha Mete <sup>a</sup>, Samir Kumar Sil <sup>c</sup>, Deeplina Das a ≥ 🖾

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#### Physica Scripta

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#### **PAPER**

## Surfactant micellar induced aggregation control of an anionic fluorescent dye in Langmuir-Blodgett film

Nilima Biswas, Shyam Kumar Bhattacharjee, Chandan Debnath, Syed Arshad Hussain and Debajyoti Bhattacharjee

Published 28 July 2023 • © 2023 IOP Publishing Ltd

Physica Scripta, Volume 98, Number 8

Citation Nilima Biswas et al 2023 Phys. Scr. 98 085015

DOI 10.1088/1402-4896/ace858

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#### Abstract

This work reports the formation of stable Langmuir monolayer of an anionic water soluble fluorescent dve 5(6)-carboxyfluorescein (abbreviated as CFS) by electrostatic interaction with a cationic monolaver

ACS Omega > Vol 9/Issue 1 > Article

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ARTICLE | December 18, 2023



#### Noncytotoxic WORM Memory Using Lysozyme with Ultrahigh Stability for Transient and Sustainable Electronics Applications

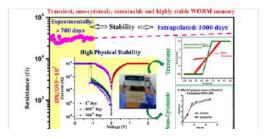
Hritinava Banik, Surajit Sarkar, Debajyoti Bhattacharjee, Akshit Malhotra, Ashwini Chauhan, and Syed Arshad Hussain\*





#### Abstract

Biocompatibility and transient nature of electronic devices have been the matter of attention in recent times due to their immense potential for sustainable solutions toward hazardous e-wastes. In order to fulfill the requirement of high-density data-storage devices due to explosive growth in digital data, a resistive switching (RS)-based memory device could be the promising alternative to the present Si-based electronics. In this research work, we employed a biocompatible enzymatic protein lysozyme (Lyso) as the active layer to design a RS memory device having a device structure Au/Lyso/ITO. Interestingly the device showed





#### Application of Multivariable Statistical and Geo-Spatial Techniques for Evaluation of Water Quality of Rudrasagar Wetland, the Ramsar Site of India

by Pradip Debnath <sup>1</sup> ⊠ [e], Stabak Roy <sup>1,2</sup> ⊠, Satarupa Bharadwaj <sup>1</sup> ⊠, Samrat Hore <sup>3</sup> ⊠, Harjeet Nath <sup>4</sup> ⊠ [e], Saptarshi Mitra <sup>1,\*</sup> <sup>™</sup> and Ana-Maria Ciobotaru <sup>5,\*</sup> <sup>™</sup> <sup>™</sup>

- <sup>1</sup> Department of Geography and Disaster Management, Tripura University, Suryamaninagar 799022, India
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- <sup>3</sup> Department of Statistics, Tripura University, Suryamaninagar 799022, India
- $^{4} \ \ \text{Department of Chemical and Polymer Engineering, Tripura University, Suryamaninagar 799022, India}$
- <sup>5</sup> Gheorghe Balş' Technical College, 107 Republicii Street, 625100 Adjud, Romania
- \* Authors to whom correspondence should be addressed.

Water 2023, 15(23), 4109; https://doi.org/10.3390/w15234109

Submission received: 21 September 2023 / Revised: 17 November 2023 / Accepted: 21 November 2023 / Published: 27 November 2023

(This article belongs to the Special Issue The Impact of Climate Change and Land Use on Water Resources)

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#### Saudi Pharmaceutical Journal

Volume 32, Issue 6, June 2024, 102095



Original article

## α-Glucosidase inhibitory potential of Oroxylum indicum using molecular docking, molecular dynamics, and in vitro evaluation

Samhita Bhaumik a, Alekhya Sarkar b, Sudhan Debnath a, Bimal Debnath a, Bimal Debnath a, Rajat Ghosh a, Magdi E.A. Zaki a Sami A. Al-Hussain a



Article Full-text available

# Study on physico-chemical properties and macrophyte diversity of Haora River, West Tripura district, India

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**Abstract** 

The primary resource that all living things on planet earth require in order to survive and develop is water. River water is the primary source of water for irrigation and drinking, hence monitoring it is quite necessary. The goal of the current study was to evaluate the aquatic macrophyte diversity and physico-chemical characteristics of the Haora River. The physico-chemical parameters and macrophytes were recorded from seven sites along the river during winter season. Belt transect technique has been adopted for quantitative evaluation of macrophytes. A total of 43 macrophyte plant species from 20 families and 36 genera were identified throughout the study period. The macrophyte species

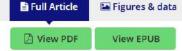


Research Article

# Influencing Factors and Stimulus-Sensitivity of Chitosan/Polymethacrylic Acid (CS/PMAA) Nanogels as

#### **Nanocarriers**

Sulagna Bhattacharjee, Achinta Singha, Satyajeet Biswal, Ankan Das, Pratap Chandra Acharya, Samir Kumar Sil & ...showall Pages 222-237 | Published online: 23 Aug 2024



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Nanogel, nanosized hydrogel, can contribute to biomedical and pharmaceutical, especially in drug delivery, due to its enthralling properties. Small size, large surface area, hydrophilicity, and stimulus responsiveness of nanogel ameliorate tissue penetration, drug loading capacity, and targeted drug

References



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> J Microencapsul. 2024 Aug;41(5):390-401. doi: 10.1080/02652048.2024.2362188. Epub 2024 Jun 30.

## Green synthesis of chitosan gum acacia based biodegradable polymeric nanoparticles to enhance curcumin's antioxidant property: an *in vivo* zebrafish (*Danio rerio*) study

Achinta Singha <sup>1</sup>, Krithika Kalladka <sup>2</sup>, Mave Harshitha <sup>3</sup>, Partha Saha <sup>1</sup>, Gunimala Chakraborty <sup>2</sup>, Biswajit Maiti <sup>3</sup>, Akshath Uchangi Satyaprasad <sup>3</sup>, Anirban Chakraborty <sup>2</sup>, Samir Kumar Sil <sup>1</sup>

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PMID: 38945157 DOI: 10.1080/02652048.2024.2362188

#### **Abstract**

Green-synthesis of biodegradable polymeric curcumin-nanoparticles using affordable biodegradable polymers to enhance curcumin's solubility and anti-oxidative potential. The curcumin-nanoparticle was prepared based on the ionic-interaction method without using any chemical surfactants, and the particle-size, zeta-potential, surface-morphology, entrapmentefficiency, and in-vitro drug release study were used to optimise the formulation. The antioxidant activity was investigated using



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> Arch Microbiol. 2021 Dec 23;204(1):59. doi: 10.1007/s00203-021-02642-7.

## Piperine exhibits promising antibiofilm activity against Staphylococcus aureus by accumulating reactive oxygen species (ROS)

Sharmistha Das <sup>1</sup>, Payel Paul <sup>1</sup>, Sudipta Chatterjee <sup>1</sup>, Poulomi Chakraborty <sup>1</sup>, Ranojit K Sarker <sup>1</sup>, Amlan Das <sup>2</sup>, Debasish Maiti <sup>3</sup>, Prosun Tribedi <sup>4</sup>

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PMID: 34940904 DOI: 10.1007/s00203-021-02642-7

#### Abstract

Staphylococcus aureus causes numerous community-acquired and nosocomial infections in humans by exploiting biofilm. In this context, this study aims to impede the formation of Staphylococcus aureus biofilm by exposing the cells to a plant-based alkaloid, piperine. Our study revealed that

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An ensemble-based transfer learning model for predicting the imbalance heart sound signal using spectrogram images

Published: 06 October 2023

Volume 83, pages 39923-39942, (2024) Cite this article

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Sinam Ajitkumar Singh, Ningthoujam Dinita Devi, Khuraijam Nelson Singh, Khelchandra Thongam, Balakrishna Reddy D & Swanirbhar Majumder



#### Saudi Pharmaceutical Journal

Volume 32, Issue 6, June 2024, 102095



Original article

## α-Glucosidase inhibitory potential of Oroxylum indicum using molecular docking, molecular dynamics, and in vitro evaluation



#### Abstract

#### Background

According to the International Diabetes Federation, there will be 578 million individuals



Home > Silicon > Article

## H-Bond Driven Solvent-Free Rapid Access of β-enamino Esters/Ketones using 230-400 Mesh Silica Gel as a Catalyst

Brief Report | Published: 10 October 2023

Volume 16, pages 967-977, (2024) Cite this article

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Kamal Das, Barnali Das, Bhaswati Paul, Ramalingam Natarajan & Swapan Majumdar 🖂

#### Abstract

#### Purpose

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# Confirmation of charge carriers' types based on HOMO-LUMO positions in the active layer of a WORM memory device

Published: 14 January 2024

Volume 35, article number 143, (2024) Cite this article

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Shyam Kumar Bhattacharjee, Chandan Debnath, Syed Arshad Hussain, Pabitra Kumar Paul & Debajyoti
Bhattachrjee ✓

# **Abstract**





# South African Journal of Botany

Volume 167, April 2024, Pages 391-398



# Cryptovivipary: A rare phenomenon in monoecious species of Ficus L. (Moraceae)

Smita Debbarma a 💍 🖾 , Biplab Banik a, Marami Mili a, Dixit Bora a, Sani Das a, Badal Kumar Datta <sup>a</sup>, Himansu Baijnath <sup>b</sup>

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https://doi.org/10.1016/j.sajb.2024.02.038 7

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# Highlights

· Cryptovivipary is a condition in which the zygote develops inside fruit without protruding for dispersal.



# Inorganica Chimica Acta



Volume 559, 1 January 2024, 121770

# X-ray structures, density functional theory study, DNA binding ability and micellization behaviour of decavanadates anions containing cationic organic moieties

Susanta Das Baishnab <sup>a</sup>, R.N. Dutta Purkayastha <sup>a</sup> △ ☒, Waldemar Maniukiewicz <sup>b</sup>, Rosa M. Gomila <sup>c</sup>, Antonio Frontera <sup>c</sup>

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https://doi.org/10.1016/j.ica.2023.121770 ↗ Get rights and content ↗

Highlights

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# Inorganica Chimica Acta





# Synthesis, structural characterization, DNA binding ability and luminescent sensing of nitroaromatics by a mononuclear zinc(II) carboxylate complex

Smriti Rekha Boruah <sup>a</sup>, R.N. Dutta Purkayastha <sup>a</sup> △ ☒ , Shubhamoy Chowdhury <sup>b</sup>, Purak Das <sup>c</sup>, Rosa M. Gomila <sup>d</sup>, Antonio Frontera <sup>d</sup>

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The Journal of Physical Chemistry A > Vol 128/Issue 18 > Article



A: STRUCTURE, SPECTROSCOPY, AND REACTIVITY OF MOLECULES AND CLUSTERS | April 30, 2024

### Investigating the Photophysical Aspects of a Naphthalene-Based Excited-State Proton Transfer Dye 1-(1*H*-Benzo[*d*|imidazol-2-yl)naphthalen-2-ol: pH-Dependent Modulation of Photodynamics

Arghyadeep Bhattacharyya, Akash Das. and Nikhil Guchhait\*



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### Abstract

The steady state and time-resolved photophysical behavior of a proton transfer dye 1-(1H-benzo[d]imidazol-2-yl)naphthalen-2-ol (H-BINO) was investigated. The excited state intramolecular proton transfer (ESIPT) reaction in H-BINO is predominant in nonpolar solutions (toluene and DCM) with a lifetime of ~1.0 ns. However, in polar media (DMF and MeOH), the excited state photodynamics is characterized by a complex equilibrium of emission from the locally excited state (0.1-2.3 ns), the phototautomer (0.5-1.2 ns), and the anionic emission



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> J Biomol Struct Dyn. 2024 Mar;42(5):2464-2481. doi: 10.1080/07391102.2023.2223661. Epub 2023 Jun 22.

# Identification of potential edible spices as EGFR and EGFR mutant T790M/L858R inhibitors by structurebased virtual screening and molecular dynamics

Igrar Ahmad Ansari 1 2, Bimal Debnath 3, Saikat Kar 4, Harun M Patel 2, Sudhan Debnath 5, Magdi E A Zaki <sup>6</sup>, Pinaki Pal <sup>7</sup>

Affiliations + expand

PMID: 37349948 DOI: 10.1080/07391102.2023.2223661

### Abstract

Epidermal growth factor receptor (EGFR) tyrosine kinases are overexpressed in several human cancers and could serve as a promising anti-cancer drug target. With this in view, the main aim of the present study was to identify spices having the potential to inhibit EGFR tyrosine kinase. The structure-based virtual screening of spice database consisting of 1439 compounds with EGFR tyrosine kinase (PDB ID: 3W32) was carried out using Glide. Top scored 18 hits (XP Glide Score ≥ -10.0 kcal/mol) was further docked with three EGFR tyrosine kinases and three EGFR T790M/L858R mutants using AutodockVina,

Aveepsa Sengupta, Kunwali Das, Nidhi Jha, Yusuf Akhter 🖂 & Ashutosh Kumar 🖂

# **Abstract**

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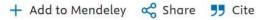
# Gene Volume 916, 20 July 2024, 148439



Cold-adapted Exiguobacterium sibiricum K1 as a potential bioinoculant in cold regions: Physiological and genomic elucidation of biocontrol and plant growth promotion

Sareeka Kumari <sup>a b 1</sup>, Anil Kumar <sup>a b 1</sup>, Ayush Lepcha <sup>a b</sup>, Rakshak Kumar <sup>a b c</sup> △ ⊠

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https://doi.org/10.1016/j.gene.2024.148439 >

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# Computational Condensed Matter

Volume 38, March 2024, e00881



# First principal calculations for understanding physical properties and possible applications of vacancy ordered double perovskite Cs<sub>2</sub>ZrI<sub>6</sub> (CZI)

Subhendu Das <sup>a b</sup>, Manish Debbarma <sup>a</sup>, Surya Chattopadhyaya <sup>a</sup> △ ☒

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► PLoS One. 2023 Jul 21;18(7):e0289117. doi: 10.1371/journal.pone.0289117 🗷

# Investigation of anti-proliferative and anti-angiogenic properties of Parkia javanica bark and fruit extracts in zebrafish

Rasik Dhakal <sup>1</sup>, Krithika Kalladka <sup>1</sup>, Achinta Singha <sup>2</sup>, Dechamma Pandyanda Nanjappa <sup>1</sup>, Jeshma Ravindra <sup>1</sup>, Rajeshwari Vittal <sup>1</sup>, Samir Kumar Sil <sup>2</sup>, Anirban Chakraborty <sup>1</sup>, Gunimala Chakraborty <sup>1</sup>,



# A comprehensive approach of evolving electric vehicles (EVs) to attribute "green self-generation" – a review

Debalina De, Uttara Das and Champa Nandi ✓
From the journal Energy Harvesting and Systems
https://doi.org/10.1515/ehs-2023-0023

Cite this Share this Citations 4

## Abstract

The population growing faster than before, and availability of transportation options is increasing. Automobiles require combustion engines, which require fuel obtained from underground storage. This underground fuel storage is limited and depleting day-by-day. Many nations have set deadlines up to 2040 to stop producing automobiles that run on underground fuels. Researchers have concentrated on alternative modes of fuel for transportation. The world's largest Sedan marketplaces will transition to all-electric vehicles by 2035, providing a glimpse of greener future other than a significant financial prospect. Not only Sedan, the entire world is focusing on only green electric vehicles to maintain sustainability. However, electric vehicle charging stations are operated by using many conventional resources. Therefore,

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Influence of nano-clay platelet concentration on achieving a transition from write once read many (WORM) to complementary resistive switching (CRS) behaviour in organo-clay hybrid thin films for memory applications

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June 2024 - Journal of Materials Science: Materi... 35(18)

DOI: 10.1007/s10854-024-13040-2

♣ Shyam Kumar Bhattacharjee · 
ੵ Chandan Debnath · 
♠ Syed Arshad Hussain ·
Show all 5 authors · Debajyoti Bhattachrjee

Overview Stats Comments Citations (2) References (70)

### Abstract and figures

Resistive memory devices are a promising technology, but they face challenges like sneak paths in crossbar arrays. Complementary resistive switching (CRS) devices offer a significant advantage by minimising this issue. There are few



# Polyhedron

Volume 247, 1 January 2024, 116747



Cd(II) and Zn(II) complexes with 2mercaptopyridine: Synthesis, crystal structure, Hirshfeld surface analysis, luminescent properties, aggregation behaviours, current-voltage characteristic and antibacterial assay

Arijit Das  $^a \overset{\land}{\sim} \boxtimes$ , Syed Arshad Hussain  $^b$ , Hritinava Banik  $^b$ , Debasish Maiti  $^c$ , Tamanna Aktar  $^c$ , Bijaya Paul  $^d$ , Pratima Debnath  $^e$ , Lesław Sieroń  $^f$ , Abhijit Bhattacharya  $^a$ , Kartick Lal Bhowmik  $^a$ , Waldemar Maniukiewicz  $^f \overset{\land}{\sim} \boxtimes$ , Paresh Debnath  $^a \overset{\land}{\circ} \overset{\land}{\sim} \boxtimes$ 

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# Polyhedron

Volume 247, 1 January 2024, 116747



Cd(II) and Zn(II) complexes with 2mercaptopyridine: Synthesis, crystal structure, Hirshfeld surface analysis, luminescent properties, aggregation behaviours, current-voltage characteristic and antibacterial assay

Arijit Das  $^a \overset{\land}{\sim} \boxtimes$ , Syed Arshad Hussain  $^b$ , Hritinava Banik  $^b$ , Debasish Maiti  $^c$ , Tamanna Aktar  $^c$ , Bijaya Paul  $^d$ , Pratima Debnath  $^e$ , Lesław Sieroń  $^f$ , Abhijit Bhattacharya  $^a$ , Kartick Lal Bhowmik  $^a$ , Waldemar Maniukiewicz  $^f \overset{\land}{\sim} \boxtimes$ , Paresh Debnath  $^a \overset{\land}{\circ} \overset{\land}{\sim} \boxtimes$ 

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Foliar phenols and flavonoids level in pteridophytes: an insight to culturable fungal endophyte colonisation

Original Paper | Published: 15 March 2024

Volume 206, article number 170, (2024) Cite this article

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# **Abstract**

There are many available reports of secondary metabolites as bioactive molecules from

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# Combating Staphylococcus aureus biofilm formation: the inhibitory potential of tormentic acid and 23-hydroxycorosolic acid

Original Paper | Published: 18 December 2023

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> Int Microbiol. 2024 May 18. doi: 10.1007/s10123-024-00530-w. Online ahead of print.

# Insight into physico-chemical properties and microbial community structure of biogas slurry from household biogas plants of sub-Himalaya for its implications in improved biogas production

Aman Kumar <sup>1 2</sup>, Sonia Sharma <sup>1</sup>, Kiran Dindhoria <sup>1 2</sup>, Aman Thakur <sup>1 2</sup>, Rakshak Kumar <sup>3 4 5</sup>

Affiliations + expand

PMID: 38760649 DOI: 10.1007/s10123-024-00530-w

### Abstract

Numerous metagenomics studies, conducted in both full-scale anaerobic digesters and household biogas plants, have shed light on the composition and activity of microbial flora essential for optimizing the performance of biogas reactors, underscoring the significance of microbial community composition in biogas plant efficiency. Although the efficiency of household biogas plants in the sub-Himalayan region has been reported, there is no literature evidence on the microbial community structure of such household biogas plants in the sub-Himalayan region. The current study evaluated the physico-chemical properties and bacterial community structure from the slurry samples of



### **Abstract**

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Styrax benzoin fumes have a spiritual aspect from ancient times, magical essence like a pleasant perfume, and are employed in religious ceremonies in India. This study aims to identify the volatile compounds in *S. benzoin* extract, their binding affinity to the bacterial target proteins, and study the antibacterial activity of the potential extract. The compounds obtained from GC-MS analysis of *S*.



ontions for eco-friendly biological treatment. This study reports the characterization of two rapid

India and its Bi



Nilima Biswas, Shyam Kumar Bhattacharjee, Syed Arshad Hussain, Pabitra Kumar Paul & Debajyoti Bhattacharjee

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# Clouds on Martian Terminator: A Study Through the Images Captured by the Mars Colour Camera (MCC) During MY32 to 34

Research Article | Published: 28 May 2024

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Jyotirmoy Kalita 🦳, Manoj K. Mishra, Prakash Chauhan & Anirban Guha

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# Abstract

# ChemistrySelect





# Unsymmetrical Bis-Coumarin Based on o-Hydroxy Aldehydes and 4-Hydroxy Coumarin: Expedient Synthesis, Single Crystal X-rays and DFT Studies

Barnali Das, Dr. Abhijit Rudra Paul, Prof. Utpal C. De, Bhaswati Paul, Dr. Ramalingam Natarajan, Sourav Chakraborty, Prof. Swapan Majumdar X

First published: 15 December 2023 | https://doi.org/10.1002/slct.202303239

**SECTIONS** 







# **Graphical Abstract**

Here, we report a simple and efficient protocol for the synthesis of unsymmetrical bis-coumarins from 4-hydroxy coumarin and 2-hydroxy araldehydes in the presence of Amberlyst 15 through the condensation-addition-cyclodehydration process

## **Abstract**

Bis-coumarins are distinguished derivatives of coumarin which bear numerous pharmaceutical and other applications. In continuation of our ongoing research towards the development of benign protocols for various heterocyclic systems, herein we report

# ChemistrySelect







# Synthesis and Antineoplastic Efficacy of Anthraquinone and **Saturated Fatty Acid Conjugates**

Bijayashree Mishra, Dr. Pratap Chandra Acharya, Prof. Utpal Chandra De 🔀

First published: 04 July 2023 | https://doi.org/10.1002/slct.202301502

**≡** SECTIONS









# **Graphical Abstract**

This work describes the synthesis and anticancer properties of a series of phenolic esters of 2hydroxyanthraquinone and saturated fatty acids. The conjugates 10 a and 10 b produced excellent anticancer activity with  $GI_{50}$  values of 1.0 nM and 0.2 nM against breast cancer cell line MCF-7 and

colon concer cell line Cale 205 respectively. These devicatives were non-toxis to nermal cells

Article Full-text available

# Semantic technology for cultural heritage: a bibliometric-based review

August 2023 · Global Knowledge Memory and Co...

DOI: 10.1108/GKMC-04-2023-0125

Lab: Raj Kishore Patra's Lab

Sudarsan Desul  $\cdot$  Rabindra Kumar Mahapatra  $\cdot$  Raj Kishore Patra  $\cdot$  Show all 5 authors  $\cdot$ 

Neha Pandey

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Abstract and figures

Purpose The purpose of this study is to review the application of semantic technologies in cultural heritage (STCH) to achieve interoperability and enable advanced applications like 3D modeling and augmented reality by enhancing the understanding and appreciation of CH. The study aims to identify the trends and patterns in using STCH and provide insights for scholars and policymakers on future research directions. Design/methodology/approach This research paper

### Article

# Reading habits of undergraduate students in the digital environment: a gender perspective

Cita

Res

Rec

Rea

March 2024 · Global Knowledge Memory and Co...

DOI: 10.1108/GKMC-10-2023-0391

Rajesh Kumar Mog · 
Mithu Anjali Gayan

Citations (4) References (51) Overview Stats Comments

### Abstract

Purpose The purpose of this study is to understand the role and impact of gender on reading habits. It is an attempt to explore the probable reason why or why not gender differences take place concerning reading time, reading purpose, reading resources and digital devices among undergraduate students in the digital environment. Design/methodology/approach For this study, the researcher used a survey-based approach. To accomplish the study's goals, a meticulously designed questionnaire has been disseminated among undergraduate students in selected colleges located in the western district of Tripura, a northeastern state





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### Solid State Communications





# Structural and optoelectronic properties of Zn<sub>1-x-y</sub>Be<sub>x</sub>Mg<sub>y</sub>Te/InP quaternary alloys: A theoretical study

Debankita Ghosh a, Manish Debbarma a, Ravindra Pandey b, Surya Chattopadhyaya a 🖰 🖾 Show more V + Add to Mendeley 🗬 Share 🗦 Cite https://doi.org/10.1016/j.ssc.2024.115615 7 Get rights and content 7 Journal indexing and metrics Journal Homepage Free access Research article First published online August 6, 2023 Effects of Corporate Governance on Creative Accounting Practices: Evidence from NSE-listed Companies in India Volume 16, Issue 1 https://doi.org/10.1177/09746862231170422 = Contents Metrics and citation

### Abstract

This paper investigates the effects of corporate governance on creative accounting practice in Indian NSElisted public companies. To get insights and analysis of how mitigating effects of governance issues can impact creative accounting practices, a specific set of factors is identified and the multistage technique design is employed to collect samples of 51 companies with 255 firm-year observations for the years 2017-2021. The value of discretionary accrual as estimated using the modified Jones model. The panel data are used for analysis and testing the hypothesis with the help of Stata 15 version statistical software. The results

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# Circuit development approach to geotourism and geoparks in Northeast India

Published: 11 October 2023

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Consequences of magnesium incorporation on structural and optoelectronic properties of wurtzite cadmium sulphide: a first-principle-based theoretical study for UV optoelectronic applications

Published: 17 January 2024

Volume 47, article number 19, (2024) Cite this article

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Utpal Sarkar, Manish Debbarma, Debankita Ghosh & Surya Chattopadhyaya 🖂

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Elucidating karyotype structure and affinity through application of karyomorphological parameters and multivariate analysis, as discerned from the study of four important legumes

Original Article | Published: 24 January 2023

Volume 66, pages 39—46, (2023) Cite this article

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Find a journal Publish with us Track your research Q Search Home > Wireless Personal Communications > Article A Review on Dielectric Resonator Antennas: **Past and Present** Published: 09 April 2024 Volume 134, pages 1367-1388, (2024) Cite this article Download PDF 坐 Access provided by Tripura University TU Piyali Chakraborty, Anirban Karmakar 🔽 & Anuradha Saha 6 479 Accesses 1 Citation Explore all metrics → Abstract **SPRINGER NATURE** Link Find a journal Publish with us Track your research Q Search Home > Advances in Traditional Medicine > Article Bromelain mediates apoptosis in HeLa cells via ROS-independent pathway Research Article | Published: 26 March 2022 Volume 23, pages 605-616, (2023) Cite this article Download PDF & Access provided by Tripura University TU Ayantika Pal 🛛 & Samir Kumar Sil 🖸 



Sanghita Baidya, Debasmita Chakroborty, Abhijit Saha & Champa Nandi 🖂



# A reconfigurable wideband MIMO antenna combines RF energy harvesting

Puja Das X, Anirban Karmakar

First published: 10 December 2023 | https://doi.org/10.1002/dac.5683

**SECTIONS** 





# Summary

This article introduces a novel and groundbreaking approach combining multiple-inputmultiple-output (MIMO) technology with radio frequency (RF) energy harvesting. The proposed antenna consists of two semi-circular monopole antenna components, ontimized with dimensions of 89 x 51 02 x 1.6 mm<sup>3</sup> that share a common ground plane

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Conference Proceeding | Published: 08 October 2024 Volume 245, article number 316, (2024) Cite this article

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Md. Jashim Uddin 🦳, Prasenjit Patari, Surochita Basu, Samir Kumar Sil & Samir Kumar Nag

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In silico identification of dual HDAC8 and MMP9 inhibitors by pharmacophore modeling, molecular docking, and molecular dynamics simulation studies for development of antitumour agent

Conference Proceeding | Published: 29 August 2024 Volume 245, article number 254, (2024) Cite this article

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Kakali Sarkar, Maria Debbarma, Sudhan Debnath, Rajat Ghosh & Samir Kumar Sil 🖂

# **Materials and Corrosion**

Werkstoffe und Korrosion

Effects of isothermal and interrupted aging on mechanical properties and corrosion behavior of an Al-Cu-Mg alloy

Soumyajeet Majumder, R. Govinda Rao, Prasanta Kumar Rout X

First published: 14 June 2023 | https://doi.org/10.1002/maco.202213660 | Citations: 1

**:**■ SECTIONS









### Abstract

Al-Cu-Mg alloys are extensively used in the area of the aerospace industry for the construction of aviation parts due to their extremely good mechanical properties. Al-Cu-Mg alloys achieve high strength through various heat treatments. However, aluminum

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# Firm-level productivity and its determinants in the Indian pharmaceutical industry

Research Article | Published: 06 January 2024

Volume 50, pages 439-459, (2023) Cite this article

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# **Abstract**

# Cancer Reports





ORIGINAL ARTICLE 🙃 Open Access 💿 🛈



# **Epidermal growth factor receptor inhibition potentiates** chemotherapeutics-mediated sensitization of metastatic breast cancer stem cells

Trisha Kar, Prachi Dugam, Surbhi Shivhare, Swathi R. Shetty, Subholakshmi Choudhury, Debanjan Sen, Barnali Deb, Swapan Majumdar, Sudhan Debnath, Amitava Das 🔀

First published: 24 March 2024 | https://doi.org/10.1002/cnr2.2049

Trisha Kar and Prachi Dugam contributed equally to this work.

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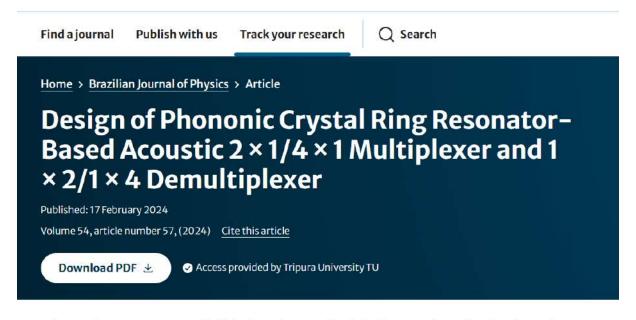




**Abstract** 

# Background

Metastasis has been a cause of the poor prognosis and cancer relapse of triple-negative breast cancer (TNBC) patients. The metastatic nature of TNBC is contributed by the



Arka Roy Bin, Jayanta Kumar Rakshit , Manjur Hossain, Bishanka Brata Bhowmik & Jitendra Nath
Roy

# **Abstract**



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Resource distribution and reproductive efficacy of dimorphic stamens of Senna occidentalis (L.) Link: a case study on the division-of-labour hypothesis

Reproductive Biology - Original Article | Published: 20 July 2024 Volume 47, pages 1115–1128, (2024) Cite this article

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Suman Paul M, Bornali Gogoi, Badal Kumar Datta & Bhushan B. Dholakia M

**Abstract** 



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# Infectious Diseases-Related Uncertainty and the Predictability of Foreign Exchange and Bitcoin Futures Realised Volatility

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### Registered:

Rangan Gupta

## **Abstract**

This paper examines the forecasting power of daily infectious disease-related uncertainty in predicting the realised volatility of nine foreign exchange futures and the Bitcoin futures series using the heterogeneous autoregressive

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# Habitat characterizations and suitability analysis for conservation implications of Gymnosphaera gigantea (Wall. ex Hook.) S.Y.Dong: a threatened tree fern

Research Inte

Citations

Recommenda

Reads (i)

June 2023 · Arabian Journal of Geosciences 16:1-23

DOI: 10.1007/s12517-023-11522-x

Lab: Regional Planning and Urban & Rural Development Lab (RPURDL)

🦱 Biplab Banik · 🐉 Stabak Roy · 🄋 Suman Paul · <u>Show all 11 authors</u> · 働 B K Datta

Overview Stats Comments Citations References (148)

#### Abstract and figures

Elucidating the relative importance of landscape composition including habitat structure, landscape features, and environmental factors can help prioritize management action for developing effective conservation measures. The present study aims to investigate the habitat characteristics, relative influence of key habitat environmental factors on the abundance of Gymnosphaera gigantea and







# Begonia tripurensis (Begoniaceae, sect. Platycentrum), a new species from Tripura, Northeast India

March 2024 · Phytotaxa 640(2):177-182

DOI: 10.11646/phytotaxa.640.2.6

Lab: Bk Datta's Lab

🚳 Dixit Bora · 🚳 Dipankar Borah · Mark Hughes · <u>Show all 7 authors</u> · 📵 B K Datta

Overview Stats Comments Citations (1) References (26)

#### Abstract

A new species of Begonia sect. Platycentrum is described here from the moist deciduous forest of Tirthamukh near Dumboor Lake, Tripura, India. It is similar to B. scintillans, B. chindwinensis and B. thomsonii but differs in plant size, hair characters, petiole length, flowers, stamens and fruits. A description with coloured photographs and information on the phenology and habitat are provided.



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### Acta Ecologica Sinica





# Soil microbial biomass carbon stock and its relation with climatic and other environmental factors in forest ecosystems: A review



26 March 2024

# Generation of an optical 8-amplitude phase shift keying modulator using silicon microrings in add-drop configuration

Suman Debnath, Srikanta Das, Nitish Sinha, Satyabrata Singha, Bishanka Brata Bhowmik

Author Affiliations +

Optical Engineering, Vol. 63, Issue 3, 035110 (March 2024). https://doi.org/10.1117/1.OE.63.3.035110

ARTICLE

FIGURES & TABLES

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#### **Abstract**

In this work, an optical 8-amplitude phase shift keying (8APSK) modulator has been designed and successfully simulated using three silicon microring modulators (MRMs). The first two MRMs jointly generate a QPSK signal, while the third MRM is connected in an add-drop configuration to synthesize the final 8APSK signal. The MRMs have a junction volume of  $4.5 \times 10^{-12} {\rm cm}^{-3}$  with carrier recombination lifetime of  $100 \times 10^{-12}$  seconds. We have obtained the simulated constellation plots at various signal-to-noise ratios and achieved a bit error rate of  $10^{-3}$  at around 10.7 dB optical signal to noise ratio.

Article

Full-text available

## Relative uniform convergence of double sequence of positive linear functions defined by Orlicz function

December 2022 · Boletim da Sociedade Paranaense d... 41:1-10

DOI: 10.5269/bspm.62715

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Kshetrimayum Renubebeta · 
Binod Chandra Tripathy

Overview

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#### Abstract

In this article, we introduce the notion of relative uniform convergence of double sequence of positive linear functions defined by using Orlicz function. We also introduce different classes of relative uniform convergence sequence of functions and discuss their algebraic and topological properties.

IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 28, Issue 9, Series 5 (September, 2023) 41-44 e-ISSN: 2279-0837, p-ISSN: 2279-0845.

www.iosrjournals.org

# An Insight OnSocial Inclusion And Its Evolution In The Indian Perspective

#### Bina Rani Tripura<sup>1</sup>& Dr. Nanigopal Debnath<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Political Science, Ramthakur College (Affiliated to Tripura University-A Central University), Tripura.

#### Abstract

The notion of social inclusion emerged in Europe in1970s with rapid spread across the nation-states and global regions. Since its inception, the Indian Constitution has enshrined various principles for the inclusion of socially excluded groups. India, which is one of the oldest civilizations of world, its ancient scriptures like Mahabharata, Upanishad, Arthashastras etc., and history reveals about social equity and social inclusion with accepting existing social stratification, and custom. The rationalefor establishing social equity has also been emphasized by many social reformers. With the invasion of emperors and the advent of various caste-creeds and religions, throughout the ages, vast geographical diversity and as its inevitable consequence, these multi-dimensional causes enlarged the nature and circumference of social exclusion and inclusion in India. The Constitution of India keeping thesecomplexities in consideration has incorporated policy discourses for the "socially excluded" group of people based the principle of 'equality' in its constitutional structure towards mainstreaming. Being these constitutional measures and various policies adopted and implemented by the government, problems related to the marginalized or excluded section are still not addressed properly thus it needs to be re-examined. Keywords:Social exclusion, social inclusion, privileged, equality, discrimination, responsibility.

Date of Submission: 06-09-2023 Date of Acceptance: 16-09-2023

#### I. Introduction:

Since ancient times, India has established itself as a welfare state. Its ancient scriptures and epics depicts about the concept of "Yogekshema". Modern welfare states have incorporated special provisions/policy discourses for the "socially excluded" group of people in their constitutional structure towards mainstreaming

International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems | Vol. 31, No. 02, pp. 191-207 (2023)

No Acce

# On Statistically Pre-Cauchy Sequences of Complex Uncertain Variables Defined by Orlicz Functions

Jagannath Nath, Birojit Das, Baby Bhattacharya 🖂 and Binod Chandra Tripathy

https://doi.org/10.1142/S0218488523500113 | Cited by: 3 (Source: Crossref)

Next





#### **Abstract**

In this treatise, we define statistically pre-Cauchy sequences of complex uncertain variable for five cases of uncertainty viz., in mean, in measure in distribution, in almost surely and in uniformly almost surely and we confine our study to statistically pre-Cauchy sequence in mean, in measure and in distribution only. Furthermore, we establish the relationship between statistically pre-Cauchy and statistically convergent sequence by using complex uncertain variables. Finally, we initiate the study of statistically pre-Cauchy sequences of complex uncertain

THE RESERVE

<sup>&</sup>lt;sup>2</sup>Assistant Professor, Faculty of Economics, Centre for Study in Social Exclusion and Inclusive Policy, Tripura University, Suryamaninagar, Tripura.



## Transition metal complexes with N, S donor ligands as synthetic antioxidants: Synthesis, characterization and antioxidant activity



Related

#### Abstract

Transition metal complexes containing bidentate N, S donor ligands i.e., carvone thiosemicarbazone

> Indian J Cancer. 2024 Jan 1;61(1):105-113. doi: 10.4103/ijc.ijc\_389\_21. Epub 2024 May 2.

## Predictors of quality of life of cancer patients: A psycho-oncological study conducted at Tripura, North-East India

Anjana Bhattacharjee 1, Tatini Ghosh

Affiliations + expand

PMID: 36861721 DOI: 10.4103/ijc.ijc 389 21

Free article

#### Abstract

Background: Cancer is, no doubt, a life-threatening illness, and it has a long-term effect on the physical and mental health of the patients, particularly on their quality of life (QOL). The present and the second of the second of 9.00

Article Full-text available

# Endophytic fungal diversity in Terminalia arjuna (Roxb.) Wight & Arn. of Tripura, Northeast India at different sampling sites and plant organs

Res

Cita

Rea

June 2024 · Plant Science Today

DOI: <u>10.14719/pst.3045</u> License · <u>CC BY 4.0</u>

Lab: Mycology & Plant pathology lab, Department of Botany.

Samrat Tripura · Prasenjit Debbarma · Suman Paul · Show all 5 authors ·

\delta Ajay Krishna Saha

Overview Stats Comments Citations References (47)

#### Abstract and figures

Endophytic fungi are ubiquitous in plant kingdom and play a vital role in balancing the microenvironments within the host plants. Fungal endophytes isolated from ethno-botanically important plants were the source of several secondary

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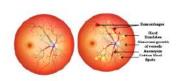
# A Comparative Study on Methods used in Life Cycle Assessment of Coal-Fired Power Plant

ENVIRONMENT PROTECTION | Published: 27 July 2024 Volume 71, pages 617–630, (2024) <u>Cite this article</u>

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# A Comprehensive Analysis of Diabetic Retinopathy Detection in Retinal Fundus Images Using Different Convolutional Neural Network



PDF

Published: Nov 25, 2023

DOI:

#### Smita Das

Tripura University, India

#### Madhusudhan Mishra

NERIST (Deemed to be University), India

#### Swanirbhar Majumder

Tripura University, India

#### **Abstract**

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> Indian J Community Med. 2024 Jan-Feb;49(1):189-194. doi: 10.4103/ijcm.ijcm\_1088\_21. Epub 2024 Jan 12.

## Spatial Patterns of Heaping in Age Data among Literates, Illiterates, and Numeracy-Literacy **Correlates: A Cross-Sectional Analysis of Census** 2011, of India

Jayanta Datta <sup>1</sup>, Prasenjit Sinha <sup>1</sup>

Affiliations + expand

PMID: 38425979 PMCID: PMC10900472 DOI: 10.4103/ijcm.ijcm\_1088\_21

#### Abstract

Background: Accurate information on age is an essential prerequisite for demographic and epidemiological studies. This study analyzed the age data quality among the literate and illiterate (combined, rural, urban) population and examined the association between data quality and literacy.

Material and method: Secondary data on age statistics and literacy were obtained from census 2011. We measured age data quality for literates and illiterates (combined, rural, urban) by transforming

Home > Proceedings of the National Academy of Sciences, India Section A: Physical Sciences > Articl A Novel Approach in the Light of Fuzzy Multiset Topology Scientific Research Paper | Published: 16 June 2023 Volume 93, pages 675-683, (2023) Cite this article

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Md Mirazul Hoque, Baby Bhattacharya 🔀 & Binod Chandra Tripathy

#### **Abstract**

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# Semi-I-Open Sets in Ideal Tritopological Spaces

Scientific Research Paper | Published: 08 March 2023 Volume 93, pages 315–320, (2023) Cite this article

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Carlos Granados, Binod Chandra Tripathy & Suman Das

#### **Abstract**





Filomat 2024 Volume 38, Issue 3, Pages: 769-777 https://doi.org/10.2298/FIL2403769C Full text ( 216 KB)

Cited by

#### Further results on I-deferred statistical convergence

**Choudhury Chiranjib** (Department of Mathematics, Tripura University (A Central University), Suryamaninagar, Agartala, India), chiranjibchoudhury123@gmail.com; chiranjib.mathati

**Debnath Shyamal** (Department of Mathematics, Tripura University (A Central University), Suryamaninagar, Agartala, India), shyamalnitamath@gmail.com; debnathshyamal@tripurau

**Esi Ayhan** (Department of Basic Eng. Sci.(Math.Sect), Malatya Turgut Ozal University, Malatya, Turkey), ayhan.esi@ozal.edu.tr; aesi23@hotmail.com

For a non-empty set X, an ideal I represents a family of subsets of X that is closed under taking finite unions and subsets of its elements. Considering X = N, in the present study, we set forth with the new notion of I-deferred statistical limit point, I-deferred statistical cluster point and study various properties of the newly introduced notion. For a real valued sequence X = (XN), we prove that every I-deferred statistical limit point is an I-deferred statistical cluster point. Moreover, the collection of all I-deferred statistical cluster points of X is a closed subset of X. We also introduce the notion of X-deferred statistical limit superior and inferior for real valued sequences and prove several interesting properties. In the end, we establish a necessary and sufficient condition under which a I-deferred statistically bounded real valued sequence is I-deferred statistically convergent.

Keywords: Deferred statistical convergence, Ideal, I—convergence, I—statistical convergence, I—deferred statistical convergence

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Home > Journal of the Indian Society for Probability and Statistics > Article

# Reliability of Age Statistics: A Probabilistic Approach

Research Article | Published: 27 August 2023 Volume 24, pages 469–484, (2023) <u>Cite this article</u>

Jayanta Datta 🖸 & Prasenjit Sinha

**Abstract** 

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# Tauberian conditions under which convergence follows from Cesáro summability of triple integrals over $\mathbb{R}^3_+$

Original Research Paper | Published: 04 January 2023 Volume 31, pages 1951–1985, (2023) <u>Cite this article</u>

Carlos Granados 🔯 & Ajoy Kanti Das

#### **Abstract**

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Identification of 2,4-Di-tert-butylphenol (2,4-DTBP) as the Major Contributor of Anticolon cancer Activity of Active Chromatographic Fraction of *Parkia javanica* (Lamk.) Merr. Bark Extract



Partha Saha<sup>1</sup>, Dipshikha Sharma<sup>2</sup>, Suvakanta Dash<sup>3</sup>, Kumar Saurav Dey<sup>4</sup>, and Samir Kumar Sil<sup>1\*</sup>

<sup>1</sup>Cancer Biology and Cell Physiology Lab., Department of Human Physiology, Tripura University, Suryamaninagar-799022, Tripura, India.

<sup>2</sup>Assam Science and Technology University, Guwahati-781013, Assam, India.

<sup>3</sup>Regional Institute of Pharmaceutical Science and Technology, Agartala-799005, Tripura, India.

<sup>4</sup>Guwahati Biotech Park, Guwahati-781039, Assam, India.

Corresponding Author E-mail: sks\_ps\_21@yahoo.com

DOI: https://dx.doi.org/10.13005/bpj/2609

#### Abstract

Parkia javanica (Lamk.) Merr. is an ethnomedicinal leguminous plant species from northeastern India with a long history of medicinal use among various tribes of this region to treat cholera, dysentery, stomach aches, diarrhea and food poisoning, having antibacterial, wound-healing, anticancer and anti-inflammatory properties. Therefore, in this current study, the methanolic bark extract was carried out and fractionated by using flash chromatography, examined the cytotoxicity of the respective fractions on colon cancer cell lines, and evaluated the major



### Journal of Asia-Pacific Biodiversity

Volume 17, Issue 4, 1 December 2024, Pages 644-652



Original Article

# Foraging behavior and pollination efficiency of generalist floral visitors of *Leucas aspera* (Willd.) link (Lamiaceae)

Suman Paul <sup>a</sup> A M, Riya Roy <sup>a</sup>, Tanushree Singha <sup>a</sup>, Prasenjit Debbarma <sup>a</sup> b, Badal Kumar Datta <sup>a</sup>

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#### Abstract

#### Review Article

## A Comprehensive Survey on Harmonic Elimination in Multilevel Inverters Using Optimization Techniques for Power Quality Improvement

In Press, (this is not the final "Version of Record"). Available online 05 January, 2024

Author(s): Tanmoy Karmakar, Sangita Das Biswas\*, Somudeep Bhattacharjee, Champa Nandi and

Bikram Das

Published on: 05 January, 2024

DOI: 10.2174/0123520965283680240102080153

Price: \$95



Article Full-text available

### Program Wise Information Literacy Skills of Students

April 2024 · DESIDOC Journal of Library & Infor... 44(2):105-113

DOI: <u>10.14429/djlit.44.2.19483</u> License · <u>CC BY-NC-ND 2.5</u>

Raihanath Kadiri · 🚳 Mithu Anjali Gayan · Maryam Emami

Research Ir

Citations

Recommen

Reads (i)

Abstract and figures

The current study furthers the understanding of the Information Literacy (IL) competency skill levels between the health science and non-health science students in the United Arab Emirates. IL-HUMASS survey on information literacy questionnaire was partially adopted (17 categories) for surveying the IL competency skill levels between the Health and Non-Health students at College A. The questionnaire comprised four information competency categories: "Information Searching, "Information Evaluation, Information



Articles

# Strongly almost convergence in sequences of complex uncertain variables

Processing/Application, and Information Dissemination and Communication". The



**Abstract** 

Formulae display: Math Jax ?

The aim of this treatise is to introduce the concent of strongly almost convergence in complex

### On statistical convergence of order $\alpha$ of sequences in gradual normed linear spaces

Chiranjib Choudhury 💿 🖂, Bijoy Das 📵 and Shyamal Debnath 📵

From the journal Journal of Applied Analysis https://doi.org/10.1515/jaa-2023-0105

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#### Abatraat

Home > Vol 51, No 1 (2024) > Halder

#### On Lacunary I-Convergence Almost Surely of Complex Uncertain Sequences

Amit Halder, Shyamal Debnath

Abstract

In this paper, as a part of uncertainty theory, we explore the concepts of lacunary I and I\*-convergence almost surely in complex uncertain sequences and study some of their properties and identify the relationships between them. Also, we introduced the notions of lacunary I and lacunary I\*-Cauchy sequence almost surely of complex uncertain sequences and analyze a few of their characteristics and try to determine how they relate to one another.

Full Text:

PDF

References

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- C. Choudhury, S. Debnath, On lacunary statistical convergence of sequences in gradual normed linear spaces, Ann. Univ. Craiova Math. Comput. Sci. Ser. 49 (2022), no. 1, 110-119.
- B. Das, B.C. Tripathy, P. Debnath, Some results on statistically convergent triple sequences in an uncertainty space, Ann. Univ. Craiova Math. Comput. Sci. Ser. 49 (2022), no. 1, 120-134.
- S. Debnath, B. Das, On Rough Statistical Convergence of Complex Uncertain Sequences, New Math. Nat. Comput. 19 (2023), no. 1, 1-17.
- S. Debnath, B. Das, Statistical convergence of order a for complex uncertain sequences, J. Uncertain Syst. 14 (2021), no. 2, Article number 2150012.

# Studies On Some Sequence Spaces In Gradual Normed Linear Space\*

Hamari Debbarma<sup>†</sup>, Chiranjib Choudhury<sup>‡</sup>, Shyamal Debnath<sup>§</sup>

Received 20 January 2023

#### Abstract

In this paper, we introduce and investigate some new class of sequences in a gradual normed linear space  $(X, \|\cdot\|_G)$  and discuss some properties of these spaces like completeness, solidness, symmetricity, convergence free, sequence algebra, etc. and prove some inclusion relations.

#### 1 Introduction

The idea of fuzzy sets was first introduced by Zadeh [21] in the year 1965 which was an extension of the classical set-theoretical concept. Nowadays it has wide applicability in different branches of science and engineering. The "fuzzy number" plays a crucial role in the study of fuzzy set theory. Fuzzy numbers were the generalization of intervals, not numbers. Even fuzzy numbers do not obey a few algebraic properties of the classical numbers. So the "fuzzy number" is debatable to many authors due to its different behavior. The "fuzzy intervals" is often used by many authors instead of fuzzy number. To overcome the confusion among the researchers, in 2008, Fortin et al. [13] introduced the notion of gradual real numbers as elements of fuzzy intervals. Gradual real numbers are mainly known by their respective assignment function which is defined in the interval [0,1]. So in some sense, every real number can be viewed as a gradual number with a constant assignment function. The gradual real numbers also obey all the algebraic properties of the classical real numbers and have been used in computation and optimization problems.

In 2011, Sadeqi and Azari [17] first introduced the concept of gradual normed linear space (GNLS). They studied various properties of the space from both the algebraic and topological points of view. Further progress in this direction has occurred due to Ettefagh et al. [11, 12]. Choudhurv and Debnath [5, 6, 7, 8, 11.



Research Article

# Externalization of Indian federalism: Understanding the role of West Bengal and Tripura on India's policy toward Bangladesh



ABSTRACT

In a federal political system like India, the role of the federal units bordering the neighboring



Asian-European Journal of Mathematics | Vol. 16, No. 05, 2350083 (2023) | Research Article

#### On $\lambda^2$ -statistical convergence of complex uncertain sequences

Birojit Das and Binod Chandra Tripathy

https://doi.org/10.1142/S1793557123500833 | Cited by: 5 (Source: Crossref)

< Previous



Asian-European Journal of Mathematics | Vol. 16, No. 04, 2350065 (2023) | Research Article

Study on matrix transformation of complex uncertain sequences via uncertain measure

Birojit Das, Binod Chandra Tripathy, and Carlos Granados

https://doi.org/10.1142/S1793557123500651 | Cited by: 0 (Source: Crossref)

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#### **Abstract**

In this paper, we initiate the concept of matrix transformation through uncertain measure of a complex uncertain sequence. We establish a necessary and sufficient condition under which an infinite matrix transforms a convergent sequence into another. As an application of this notion, we prove the well-known Silverman—Toeplitz theorem and Kojima—Schur theorem in an uncertainty space.

RESEARCH ARTICLE | SEPTEMBER 20 2024

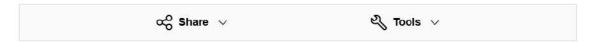
# Harmonic mitigation in multilevel inverters for power quality improvement in power system *⊘*

Tanmoy Karmakar; Sangita Das Biswas ≥; Somudeep Bhattacharjee; Champa Nandi; Bikram Das

+ Author & Article Information

AIP Conf. Proc. 3242, 050002 (2024)

https://doi.org/10.1063/5.0234391



Multilevel inverters have gained popularity over conventional two-level inverters in various power applications due to their ability to generate high-quality output with low total harmonic distortion and high efficiency. The widespread use of heavy electrical machinery and equipment in industries has increased the demand for nonlinear loads, leading to the presence of harmonics and a decline in power quality. To improve power quality, it is essential to eliminate these undesirable harmonics from the system. In this study, the pulse width modulation (PWM) technique was employed to eliminate

# A comprehensive review of optimization techniques for power quality improvement using multilevel inverters ≒

Sangita Das Biswas; Bikram Das ≥; Champa Nandi

+ Author & Article Information

AIP Conf. Proc. 3242, 050004 (2024)

https://doi.org/10.1063/5.0234302

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Poor power quality is a major concern in power system, which can lead to equipment damage, power interruptions, and safety hazards. In modern days, due to non-linear loads like UPS, inverters, converters, etc., the supply current takes on a non-sinusoidal shape. Multilevel inverters are widely used in power systems to improve power quality in higher voltage levels with fewer switches and by reducing harmonic distortion which improves the overall efficiency of the system. Several optimization techniques can be used to design and control multilevel inverters for improved power quality performance. The important object of this review paper is to identify various optimization

# A generalized statistical convergence in neutrosophic normed space



Shyamal Debnath

Department of Mathematics, Tripura University (A Central University), India Santonu Debnath

Department of Mathematics, Tripura University (A Central University), India

#### Abstract

In this paper, we introduce one of the generalized concept of statistical convergence namely  $\rho$ -statistical convergence and its boundedness in neutrosophic normed space (NNS). We investigate some fundamental properties of the newly introduced notion. Lastly, we introduce  $\rho$ -statistical convergence of order  $\alpha$  in neutrosophic normed space and establish the relationship of the above convergence methods with some already known convergence methods in NNS.

How to Cite

Debnath, S., & Debnath, S. (2024). A generalized statistical convergence in neutrosophic normed space. *Acta Mathematica Universitetis Comenianae*, *93*(2), 79-93. Retrieved from http://www.iam.fmph.uniba.sk/amuc/ojs/index.php/amuc/article/view/19 69/1017

# ON $\mathcal{I}\text{-}$ CONVERGENCE ALMOST SURELY OF COMPLEX UNCERTAIN SEQUENCES

S.  $DEBNATH^{1*}$ , A.  $HALDER^1$ , §

ABSTRACT. In this paper, we explore the concepts of  $\mathcal{I}$ -convergence almost surely and  $\mathcal{I}^*$ -convergence almost surely in complex uncertain theory and study some of their properties and identify the relationships between them. Also, we introduced the notions of  $\mathcal{I}$  and  $\mathcal{I}^*$ -Cauchy sequence almost surely of complex uncertain sequences and investigate their relationships.

Keywords: Uncertainty theory, complex uncertain variable,  $\mathcal{I}$ -convergence,  $\mathcal{I}^*$ - convergence.

AMS Subject Classification (2020): 60B10, 40A35, 40G15.

#### 1. Introduction

Characteristics of different types of convergences of a sequence are making a huge impact on mathematical analysis. The concept of statistical convergence, which is an extension of the usual idea of convergence, was introduced by Fast[9] and Steinhaus[27], individually in the year 1951. But the research on this concept got flourish soon after the works of  $\check{S}$ alát[23] and Fridy[10] came into literature. As an extension of statistical

Advances in Mathematical Sciences and Applications Vol. 32, No. 2 (2023), pp. 237–251



# ON QUASI STATISTICAL CONVERGENCE OF ORDER $\alpha$ IN NEUTROSOPHIC NORMED SPACES

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Article

## Phytochemical analysis of Solanum nigrum fruit juice and its potential therapeutic effects on cervical cancer cells

Resear

Citation

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Reads

January 2023 · Indian Journal of Agricultural Bioche... 36(2):189-194

DOI: 10.5958/0974-4479.2023.00030.8

Shailesh kumar Srivastava · Pragya Yadav · Chaitenya Verma · PK Tandon

Overview Stats Comments Citations References (16)

Abstract

Indian Journal of Agricultural Biochemistry Year: 2024, Volume: 37, Issue: 1 First page: (10) Last page: (17) Print ISSN: 0970-6399. Online ISSN: 0974-4479. Article DOI: 10.5958/0974-4479.2024.00002.1

Allium come and the Thermoneutic Llea

#### Allium cepa and Its Therapeutic Uses in Human Health-A Review

Srivastava Shailesh Kumar¹.-, Yadav Pragya², Balasubramanian Natesan³, Tandon PK⁴¹Department of Zoology, Tripura University (A Central University), Suryamaninagar, Agartala, Tripura (W) 799022

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<sup>4</sup>Department of Botany, University of Lucknow, Lucknow - 226007

\*Author for correspondence: Email: <a href="mailto:shaileshsrivastava@tripurauniv.ac.in">shaileshsrivastava@tripurauniv.ac.in</a>

Online Published on 18 June, 2024

#### Abstract

This paper reviews the Phytochemical importance of Allium cepa and its therapeutic uses in human health. Allium cepa is one of the most significant herbs cultivated and consumed worldwide. It was for its many pharmacological and medicinal properties. Experimental and clinical investigations also suggested that the plant and its constituents had preventive benefits on lung problems brought on exposure to toxic chemicals, as well as on lung cancer, infections, inflammation and allergic disorders. Increased consumption of A. cepa lowers the incidence of allergic and inflammatory condition. It is review could be helpful for strengthening of an alternative system utilizing Allium cepa to treat allergic, inflammatory and other conditions.

	Keywords
Allium cepa, Anti-inflammatory, Anti-allergic, Quercetin.	
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Indian Journal of Agricultural Biochemistry

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#### Allium cepa and Its Therapeutic Uses in Human Health-A Review

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Online Published on 18 June, 2024.

#### **Abstract**

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#### Keywords

Allium cepa, Anti-inflammatory, Anti-allergic, Quercetin.



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## Croton hirtus L'Hér.: an addition to the flora of Northeast India

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# Study of orchids (Orchidaceae) distribution and richness for conservation implications in Tripura, North East India

Research Articles | Published: 17 January 2024

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Biswajit Baishnab , Koushik Majumdar, Biplab Banik, Suman Paul, Muktadhar Reang & Badal Kumar Datta

Biplab Biswas, Palas Kumar Saha Page No. 23 - 29

#### **SHODH SAMAGAM**

ISSN: 2581-6918 (Online), 2582-1792 (PRINT)



### Traking the Historical Journey of a Region's Evolution from Gauda Janapada to Malda

**Biplab Biswas**, Research Scholar, **Palas Kumar Saha**, Ph.D., Department of History RKDF University, Ranchi, Jharkhand, INDIA

#### ORIGINAL ARTICLE





Authors
Biplab Biswas, Research Scholar
Palas Kumar Saha, Ph.D.

shodhsamagam1@gmail.com

#### **ABSTRACT**

Malda District is a district of the Indian state of West Bengal. The curent Malda district was earlier known as Gauda Janapada. Places like Gauda, Pandua, Lakhnouti, Eklakhi etc. in the present Malda district were the vvvcapital of Bengal during the same period of Mughal rule from the time of the Pala Kings. But when the capital of Bengal was moved from Gauda in 1595 AD, the fame of Gauda began to decline. However, before the fall of Gauda Township (Janapad), the name of the region gradually came to be known as Malda from the Sultanate period. Inscriptions found in Malda district and descriptions of native and foreign tourists identify Malda district. In 1666, foreign tourists Alexander Hamilton counted Malda as a large town. I have tried to point out the origin of Gauda Janapada as the original form of Malda district and the spread of fame of this Tananada in Rengal and hovend Rengal, and above

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# Impact of Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) on Sustainable Rural Livelihood Development in Tripura

Chapter | First Online: 12 May 2024 pp 395–422 | Cite this chapter

#### Debarshi Mukherjee, Rajesh Chatterjee & Sudakhina Mitra 🖂

MUDRA: Journal of Finance and Accounting

Vol 11, Issue 1, January - June 2024 | Pages: 146-168 | Research Paper

Investigation of the Herding Behaviour in the Indian Stock Market during the Russia and Ukraine Crisis: Evidence from the Nifty-50 Index

Pukhram Rajiv Singh, Prallad Debnath https://doi.org/10.17492/jpi.mudra.v11i1.1112408

Published Online: June 15, 2024





The purpose of the study is to investigate the herding behaviour in the Indian stock market during the Russia-Ukraine crisis. The secondary data has been gathered from Prowess I.Q. The study used the CSAD model and employed Quantile regression analysis for the study. The empirical results revealed a lack of herding behaviour during three sample periods, indicating that the investor's behaviour is rational. The study also showed that herding existed during the down-market trend of the Whole period while there is no evidence that herding behaviour existed during the up-market trend. In addition, herding behaviour exists in the medium and low market liquidity and has not existed in the high liquidity market during the whole period. However, the tension period exhibited that herding exists in low market liquidity and also herding behaviour has been shown in high and low market liquidity for the crisis period.



# Audit Characteristics and Firm Performance: Evidence from NSE-Listed Public Companies in India

JUHENDRA DEBBARMA AND CHINMOY ROY

DOI: https://doi.org/10.62206/sajm.30.4.2023.30-55

PUBLISHED: 26 FEB 2024

#### **Abstract**

Over the last two decades, the regulators' attention on governance apparatus, precisely audit characteristics, has become a significant agenda that makes any business better prepared to deal with different challenges and respond effectively. With insights from a wide range of research in this area, this study used a multistage technique approach to collect data and explore the influence of audit characteristics on firm performance of high-profile 40 units with 200 firm-year observations for the period from 2018 to 2022 in NSE-listed public companies in India. The empirical findings revealed that though the audit committee has a positive influence on firm performance when measured with an accounting-based dimension, it failed to show any positive effect when measured with a market-based measurement of Tobin's Q. Audit independence has no statistically significant relationship with firm performance in the accounting-based or market-based dimension. The paper further provides that fit size, leverage, and firm age negatively affect firm performance in the accounting-based or market-based measure. Firm growth has a positive significant relationship with market-based measure firm performance, and research and development has a negative sign with market-based measure firm performance. The findings also highlighted that many firms that adhered to the sound standard of governance drivers are less risky and have higher financial growth with increased firm value. Thus, the above findings are robust and imply that firms must prepare the groundwork and adhere to strong corporate governance policies to achieve world-class market and financial performance.

#### **Key Words**

Audit characteristics, Firm performance, Tobin's Q, Return on asset, Return on capital employed





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#### ESG Score and Firm Performance: Evidence from Indian-Listed Firms

RAJAT DEB, ANITA BEHRA AND KARKARIA DUSMANTA

DOI: https://doi.org/10.62206/sajm.30.4.2023.56-80

PUBLISHED : 26 FEB 2024

#### Abstract

Focusing on Environmental, Social, and Governance (ESG) issues has emerged as a move towards long-term sustainability by companies aspiring to bring about positive societal change along with profit-making. There is a tendency among firms now a days to adopt ESG-oriented policies to show their commitment to sustainable development. The general finding of the extant literature on this is that ESG improves Firm Performance (FP), although there are a few studies that report mixed and inconclusive results varying with FP-oriena, the country where the research is carried out, and the periods of observation. The present study aims to investigate the relationship between ESG scores and the FP of Indian-listed firms. Adopting a longitudinal research design and accessing secondary data for thirteen years from 2009-10 to 2021-22, we chose 585 firms listed in the Nifty100 Index. Applying panel data regression, this study has observed a significant negative impact of ESG on FP measured by Return on Assets (ROA) and Return on Equity (ROE), which supports the Trade-off theory; however, when the performance measure was changed to Tobin's Q (the ratio of the firm's market value to its book value), the relationship was positive and significant which supports the Stakeholder theory. The paper concludes with the acknowledgement of limitations, discussions on policy implications, and suggestions for future research.

Do IFRS convergence affects firm performance? Picturing Indian-listed manufacturing firms

Mukesh Nepal, Rajat Deb 💌

Rajagiri Management Journal

ISSN: 0972-9968

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Abstract

International Journal of Banking, Risk and Insurance 12 (1) 2024, 69-79 http://publishingindia.com/ijbri/doi: https://doi.org/10.21863/ijbri/2024.12.1.008

Submitted: 07 July, 2023 Revision: 20 July, 2023 Accepted: 24 July, 2023

## Validating the Financial Literacy Construct-Impressions and Reflections

Rajat Deb\*, Devi Baruah\*\*, Haripada Datta\*\*

#### **Abstract**

Financial literacy (FL) literature has gained momentum in the last one and half decades in the Indian context with the government's active role. FL encompasses knowledge of financial instruments and practices in its scope. The current study aims to measure FL by collecting primary data from the students, salaried class, traders and businessmen of two towns of Tripura, a North Eastern Indian state. For executing the study, it prefers a cross-sectional research design. Data from 160 respondents were collected using a self-administered interview-schedule applying disproportionate stratified random sampling technique. A pre-test with randomly chosen 30 respondents affirms its wording, content validity and ordering. The tool's reliability and validity further support applying inferential statistics. Significant cross tabulation results affirm impacts of demographics on the levels of FL. For assessing the perceptional differences in FL basics between the two groups of respondents, that is, students-salaried class and traders-businessmen, it applies WPG analysis indicating significant perceptional differences about basic FL and FL awareness levels.

#### Introduction

The term 'Financial Literacy' (hereafter FL) refers to the ability of a person to make informed judgments, effective money management decisions, and the capability to balance a cash book and choose investment avenues (Hung et al., 2012). FL encompasses knowledge of financial instruments and practices in its scope. As literature is unlikely to explicitly define the term FL, and at least eight studies define FL differently (Huston, 2010), raising conflicts. Accordingly, for the current study, the scope of FL is confined to financial knowledge and financial skill. Financial knowledge, identified as the confidence level of an individual in applying the same and is unlikely to define the factual knowledge exclusively, relates to FL. The knowledge and understanding of personal finance, that is, the cognitive portion of FL, are studied in the literature (Förster et al., 2017). The significant associations between financial knowledge and behaviour are documented, as subjective knowledge is likely to treat as a strong predictor of financial behaviour compared to objective knowledge. Literature concurs

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### Skill Development Trainings and Its impact on Employment and Livelihood Status: A Study on Tribal Youths in Tripura

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#### Abstract

The study attempts to evaluate the socio-economic status of tribal youths in Tripura and to assess the impact of various skill development trainings on their employment and livelihood status. For the purpose, a sample of 410 tribal beneficiaries from 15 blocks across six districts in Tripura, who underwent different skill trainings, has been selected using a three-stage purposive random sampling technique. This study finds that various skill development initiatives undertaken by the state government have been somewhat successful in







Available access Research article First published online February 6, 2024

Technical Efficiency of Handloom-based Micro-enterprises in Assam, India: A Stochastic Frontier Analysis

Manuj Baruah and Paramita Saha View all authors and affiliations

https://doi.org/10.1177/09730052231225586 Volume 20, Issue 1\_suppl

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#### Abstract

Improving technical efficiency is one of the most effective ways to boost output in any manufacturing process. The efficiency level of enterprises can be improved by identifying their sources of inefficiency. The present article examines the technical efficiency and tries to identify the factors causing technical inefficiency in handloom-based micro-enterprises in Assam. The article used primary data and collected from 312 micro-level handloom enterprises spread across four districts of Assam. The stochastic frontier production with an inefficiency effects model is used for the purpose of analysis. Labour, capital and material inputs are found to be significant and labour is the most effective factor for increasing of output



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#### Article

#### An Analysis of Total Factor Productivity of Manufacturing Sector among the Major States of India

The role of the manufacturing sector in the growth of an economy is indispensable. Total factor productivity is generally regarded as one of the important indicators for measuring productivity the competitiveness of the manufacturing sector. India is a federation of states and the role of the manufacturing sector differs substantially among the states. This is mainly because of total factor productivity. This paper examines the manufacturing sector's performance with respect to the total factor productivity of the manufacturing sector among the major states of India using Malmquist Productive Index-based data envelopment analysis. The paper uses the data from the Annual Survey of Industries (ASI) for the period from 1998 to 2017-18 and uses gross value added as an output whereas fixed capital and number of the person engaged are taken as input. It has been detected that on average TFP has grown by 6.1 percent during the period under consideration. The result of the Malmquist indices and its components shows that the productivity of the Indian manufacturing sector fluctuated over the years from 1998 to 2017 and the TFP growth ranged from -2.7 percent to 17.6 percent during the same period. The highest total factor productivity was noticed in the year 1999 and the change in total factor productivity due to technological change is 12.7 percent whereas 4.3 percent is due to efficiency. Similarly, the lowest TFP change (-7.9) was recorded in the year 2015 followed by (-2.7) in the year 2016. In both years, technological change (-7.6 percent in 2015 and 6.8 percent in 2016) was observed as the major factor for poor performance. The study also observed that higher the R&D



### Marketing Practices and Challenges of Handloom Based Micro-Enterprises in Assam

Manuj Baruah, Paramita Saha And, Mashud Ahmed ...

Handloom micro-entrepreneurial activity in the informal sector plays an important role in local economic development. Assam, a state of NER, has the highest number of handloom workers (12.84 lakh) among all the states of India. Wide varieties of products, such as Mekhela-Chadar, Gamosa, Riha, and other traditional attires, have been produced by weavers using different types of yarn and designs. In the current liberalised and competitive environment, the appropriate combination of marketing mix strategies is vital for the development of the sector. The present paper intends to analyse the marketing practises and problems of handloom enterprises in Assam. The study is based on primary data collected from 312 micro-level handloom enterprises in Assam through a multi-stage sampling technique. The 4Ps of marketing mix strategies, such as product, price, place, and promotion, are used for conceptualization. Promotional variables, lack of customer awareness, challenges from competitors, supply- side bottlenecks, demand fluctuation, intervention by intermediaries, and a lack of product diversity are identified as major marketing challenges for handloom enterprise in Assam.

#### **Files**



#### Price Variation Analysis of Vegetables in Agartala, Tripura

The study analyses the price variation of vegetables in the Agartala market in Tripura. For the analysis of the growth trend in area, production and productivity, regions of Karnataka, Maharashtra and the whole country were selected. The primary data has been used to study the price variation of vegetables. The analysis indicated that vegetables such as ginger, garlic, lady's finger, ridge gourd, and cucumber exhibit the most significant price variation from retailers to consumers. The study also shows that the producer's share in the consumer price decreases as the number of intermediaries increases. Notably, producers receive higher absolute net returns in tomato, followed by cauliflower, cabbage, brinjal and local beans in all channels. It is worth mentioning that producers receive a higher net price by selling produce directly to consumers.

#### PINTU MAJHI1, SEEMARANI MEHER2, WAQAR AHMED3 and ASHUTOSH KUMAR TIWARI4

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Research Article | Published online: 13-Nov-2023

Greenhouse technology is one of the prominent solutions for agricultural cultivation where harsh climatic conditions occur. Extreme summer/winter temperature is a major setback for crop production in greenhouse environment throughout year. Selection of shape and material of greenhouse is a critical parameter for the optimal growth. Agricultural products dried in greenhouse have been proven to be of higher quality than those dried in open sun because they are shielded from dust, rain, insects, birds, and animals. An exhaustive literature review reveals that even-span roof and Quonset shape greenhouses are widely used for growing and drying of the crop. To make self-sustaining greenhouse system, photovoltaic (PV) modules are added onto the roof of the greenhouse which can provide electrical energy as well as crop production with higher efficiency. A detailed review of the construction materials of PV cell has been carried out. In this paper, an attempt has been made to critically review of various shapes and sizes of greenhouse structure to select optimal one for a specific extreme condition.

## Agricultural Marketing System in Odisha: A Case Study of Bargarh and Balangir Districts

By pintu majhi

The paper discusses on the factor responsible for the mode of disposal of agricultural produce and problem and prospects of agricultural farmers. The present paper is based on the analysis undertaken in Bargarh and Balangir district of Odisha, India. This paper also discusses the existing agricultural marketing system in rural areas of Odisha and the role of intermound. ... Read more



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## Hill Women in the Time of Tribal Wars: A Reading of Folk Tales from Northeast India

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Chaitali Gorai

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#### **Abstract**

What we know about women in traditional tribal societies in Northeast India is based on what oral traditions tell us about them. Although they were more resourceful and respected than the women of the plains societies, their disadvantages in a world teeming with tribal feuds were considerable. Ruthless enemies destroyed villages and killed everyone, but sometimes they spared the lives of women. When two hostile villages agreed to a truce, the women enjoyed freedom of movement, but only within the village. Kidnappings were frequent,

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## ENACTING THE GODS: THE PERFORMANCE OF HAOBA NURABI EPISODE IN THE LAI HARAOBA OF MANIPUR

January 2024 · ShodhKosh Journal of Visual and Pe... 5(1)

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Kshetrimayum Premchandra

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#### Abstract and figures

This paper examines the performance of the Haoba Nurabi episode in the Meitei Lai Haraoba of Manipur. It attempts to delve into the intricate rituals of Lai Haraoba, a celebration that combines elements such as dance, music, sports, and sacred ceremonies to honour the presiding deities. The paper also provides insights into the performance space known as the laipung, shedding light on the staging and realisation of this traditional performance style. Throughout this

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#### WE ALL BECOME THE OFFERING: RATAN THIYAM'S CHAKRAVYUHA AND CONTEMPORARY MANIPUR

#### Kshetrimayum Premchandra

Assistant Professor, Department of English, Tripura University, India

DOI: https://doi.org/10.29121/shodhkosh.v5.i4.2024.2266

Keywords: Ratan Thiyam, Theatre, Violence, Politics, Manipur

#### Abstract [English]

This paper delves into the subtext of the chakravyuha episode in the Mahabharata and examines how Ratan Thiyam transforms it into a play that mirrors the socio-political landscape of Manipur across time. Thiyam's Chakravyuha undeniably offers a political commentary on Manipur, metaphorically portraying the struggles faced by Manipuri youths, akin to the fate of the helpless Abhimanyu. He illustrates how these young individuals are ensnared by powerful forces, forced into violence not as conquerors or victims, ShodhKosh: Journal of Visual and Performing Arts

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#### MOTIVES OF LAJJA GAURI IN INDIAN ART: A STUDY

By Shodh Kosh and Dr. Subrata Dey

2024, Granthaalayah Publications and Printers

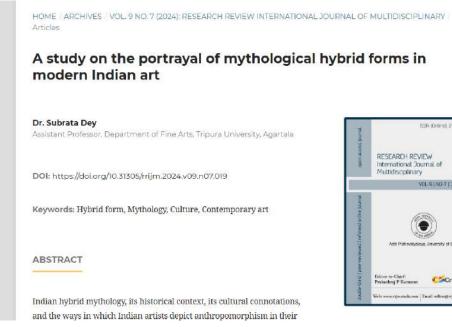
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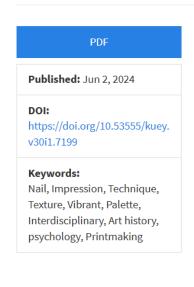
Art is the expression of thoughts and feelings, which inspires by the events around oneself, it takes support of various mediums to express ones feelings and emotions. The matriarchal nature of the society in ancient times gives stability to our thinking. The reason must have been that men would have been responsible for collecting the resources for living in the society ... Read more







# Exploring Shekhar Joshi's "Enigmatic Voyage" Via The Lens Of Nail Impression Technique: An Investigation Of The Work's Dynamic Texture And Vibrant Palette



#### Dr. Subrata Dey

#### Abstract

This research article focuses on analysing the nail impression painting by artist Shekhar Joshi, where he skilfully employs the nail impression technique to create a mesmerizing visual experience. Through an interdisciplinary approach incorporating art history, psychology, and dynamic texture and technique, this study aims to delve into the artistic process, aesthetic choices, and the impact of Joshi's distinctive technique. The article also examines the cultural and socio-political context, as well as the reception and critical acclaim of his artworks. With ten citations from renowned experts in the field, this article provides a comprehensive analysis of Joshi's work.





## Exploring the correlates of Facebook addiction and its impact on academic performance among youths of Tripura



#### Abstract

Growing incidences of Facebook addiction or problematic Facebook use are fast becoming a matter of concern in the Western countries. The popularity of social networking sites is increasing in India as

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People also



#### International Journal of Law www.lawjournals.org ISSN: 2455-2194

Received: 28-02-2024, Accepted: 15-03-2024, Published: 28-03-2024

Volume 10, Issue 2, 2024, Page No. 76-80

# A critical study of the Juvenile Justice (Care and Protection of Children) Act, 2000 and the status of Juvenile delinquency in State of Tripura

#### Brij Mohan Pandey<sup>1</sup>, Swapan Debbarma<sup>2</sup>

Associate Professor, Department of Law, Tripura University, Tripura, India
 Assistant Professor of Tripura Govt. Law College and Research Scholar, Department of Law, Tripura University, Tripura, India

#### Abstract

Children are vulnerable and we have an absolute obligation to protect and provide them a safe environment to live in. The future of the country depends on its children. The Indian legal system of child-centric legislation dates back to Aprentices Act, 1850 to various other legal instruments, aiming to protect them from abuse and exploitation. The Juvenile Justice (Care and Protection of Children) Act 2000 was the first legislation which defined "Juvenile" or "child" and recognised children as "rights bearing entities", However, the brutal gang rape incident which took place in Delhi on 16th December 2012 proved to be the landmark case which changed the present law of Juvenile Justice System. Accordingly this law was amended in 2015, which empowered the Juvenile Justice Board to decided whether Children between the ages of 16 to 18 years to be tried as adults for committing henious offence. This study look into the provision of Juvenile Justice Law in UK, USA and UK and make a comparative study of the Juvenile law respectively. The study also include data analysis of crime committed by juvenile of Tripura as per National Crime Record Bureau report.

Keywords: Juvenile, child in conflict with law, rehabilitation, reformation, national crime records bureau

#### Introduction

Children are precious treasures of the future and they are most valuable asset of a nation and society. They are innocent and helpless and it is the duty of the state to look after them with a view to ensure complete development of their personalities. Since society expects them to grow as responsible citizens of the future, they need special care, protection, affection and facilities for their all round development. The International Convention on the rights of children and has stated that the children must be treated with decency and dignity. It has also held that if a child breaks the law he should be provided

has not completed eighteen years of age. According to International Law, a 'Child' means every human being below the age of 18 years. Today it is a universally accepted definition of a child which comes from the United Nations Convention on the Rights of Child (UNCRC). Under the Indian Law, Section 2 (k) of the Juvenile Justice (Care and Protection of Children) Act, 2000 defines "Juvenile" or "Child" as a person who has not completed eighteenth year of age.

#### Causes of juvenile delinquency

Iuvenile delinouency is a behavioural aspect. Each and

# The morphosyntax of verb stem alternation\*

# George Bedell†

Payap University

# Kee Shein Mang

Independent Scholar

# Roland Siang Nawl

Independent Scholar

# Khawlsonkim Suantak

Tripura University

### 1 Introduction

Verb stem alternation refers to morphological variation of verb forms under complex morphosyntactic and pragmatic conditions which is characteristic of Tibeto-Burman languages of the Kuki-Chin (or South Central) subgroup (though not all of them have it). It presents difficulties partly because it affects large numbers of verbs and many aspects of morphosyntactic structure, but also because it involves differences in vowel length and tone, which few orthographies or dictionaries consistently distinguish. This paper will look in detail at verb stem alternation in Lai, which has been most extensively investigated, and also in K'Cho and Vaiphei, in an attempt to see what similarities and differences there may be.<sup>1</sup>

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# Syndetic Coordination in Meeteilon

By Dr. Sagolsem Indrakumar Singh

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This paper examines syndetic coordination in Meeteilon, a Tibeto-Burman language spoken in Manipur, India, wherein both lexical items and suffixes function as coordinators. Meeteilon stands apart from other Tibeto-Burman languages due to its predominant and unique use of suffixes as coordinators. These suffixes can replace lexical coordinators without a ... Read more



# Coordination in the Munda Languages: An Areal View

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Munda languages exhibit the following patterns in coordination: asyndetic coordination, mono-syndetic coordination, typically of the pattern A co-B, and serial verb construction (Anderson 2008). While asyndetic coordination reflects a universal tendency, serial verb constructions amounting to coordination is typically attested in the South Asian languages (Haspelmal ... Read more



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The Way To Happiness: Buddhist Perspective
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(Received:12January2024/Revised:25January2024/Accepted:5Feburary2024/Published:13Feburary2024)

# Abstract

By Niranjan Uppoor

Buddhism is a religion and philosophy which comes from the philosophies of the Buddha. Buddhism is one of the oldest religions of the world. What does 'Happiness' mean in Buddhism? According to Buddhism, to live a person happy life one must follow numbers of things. The main purpose of Buddhism is to be free from suffering. Accordingly, one must attempt to help others in eliminating from their lives. We cannot live a happy life unless we are free from suffering. This can be possible through good deeds. Example- as giving to those who are in need of help and also through abstaining from bad deeds. For example- stealing, lying, cheating and adultery. Moreover, compassionate is one of the key virtues of good life in Buddhism. 'Sila' is also very important part of Buddhist teaching which means a Buddhist should not destroy and harm others life. Because, According to Buddhism nothing is permanent in this world. Everything is ever changing. It simply changes form, that means everything consist of same material only. Accordingly, if we destroy others, it means it destroy ourself.

ISSN(O): 2456-6683 [Impact Factor: 7.148] March - 2024



DOIs:10.2017/IJRCS/202403008

Research Paper / Article / Review

# Moral Virtues & the Good Life as reflected in the Borok folktales

<sup>1</sup>Dr. Bhupesh Debbarma, <sup>2</sup> Shantaraj Debbarma

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Abstract: Moral virtues are the behavior which is deemed to be morally good; doing what is good and avoiding what is wrong. It is the soul of both individual and social development. In addition, human development is impossible without moral behavior. It is believed that moral virtues are the means to achieve a good life, i.e. happy life. Morality can differ from one society to another depending on the philosophical ideals, worldview, cultural habits and religious beliefs of that society or community. However there are some universally accepted virtues: these are goodness, courage, temperance, peace, freedom, love, sympathy, truthfulness, non-violence, social wellbeing, equal rights, self-discipline, obeying elders, respect, caring for other living things and environment. The development of virtues depends upon the social environment and education. Geo-physical surrounding too influences greatly to one's development of virtue. The end of life is realization of the world and through moral virtues we can realize the self as well as the world. And we can achieve a good life or realize the self and world by possessing moral virtues or qualities. That is why it is said moral virtues are the means of a good life.

Key Words: Virtue, Morality, Borok, Folktale, Good life etc.

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ABSTRACT In common parlance, education stands for self-culture or self-improvement that goes on till the end of one's life. It is a universal process from the cradle to the grave, from the birth to maturity. Ancient Indian education system emphasizes primary importance on character training and moral education. R. N. Tagore (1861 - 1941) as a poet, novelist, philosopher, educationist, and a humanist, was one of the spokesmen of the soul of India. In literature, education and culture Tagore possess a unique personality. Historically, Santiniketan was the centre of his experimentation on new educational ideas and practices. He adhered to the implementation of an ancient idea based on a long tradition for the common good. The highest education is that which does not merely give us information but makes our life in harmony with all existence. He adhered to the idea of ancient Gurukula system of education in ashramas in the bosom of nature. The ancient Gurus (teachers) used to teach their learners in healthy environment where full and complete education was possible. Nature serves as a great treasure and source of knowledge whereby a child ought to learn not only from gurus and books but also from nature. Education is the fullest development of an individual's body, mind and soul. Indeed, his philosophy was the philosophy of an artist and of a poetic genius.

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# Exploring Patanjali's Yoga Sutras for the Essence of Happiness: A Holistic Approach

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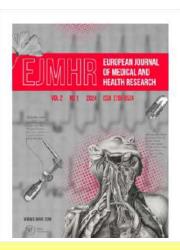
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# EFFECTIVENESS OF AUTOGENIC TRAINING ON REDUCING ANXIETY DISORDERS: A COMPREHENSIVE REVIEW AND META-ANALYSIS

Ahsan Huda Yumkhaibam, Sm Farooque, Sanjib Kumar Bhowmii

### Abstract

Background: Autogenic training (AT) is a relaxation technique that has genered attention for its potential to reduce anxiety and improve psychological well-being. Objectives: This study arise to synthesize the findings from a diverse range of studies investigating the relationship between autogenic training and anxiety disorder across different populations and settings. Methods: A comprehensive review of 162 studies, including randomised controlled traits (R-CTs), son-rendomized controlled traits (R-CTs), son-tendomized controll

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Dynamics of Mood Swings during Menstr ual Cycles between Physically active and I nactive Adolescents: A Tripura-based Stu



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# **Abstract**

The menstrual cycle is an important biological process in women th



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AN EMPIRICAL STUDY ON ANXIETY OUTCOMES DURING CRITICAL COMPETITIVE SITUATION OF TRIBAL AND NON-TRIBAL SOCCER PLAYERS

Abstract

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# Examining the Quality of Life among Working Women in Agartala During the Menopausal Transition: An In-Depth Analysis

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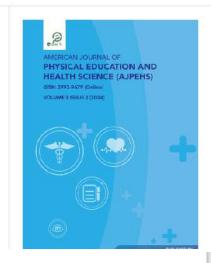
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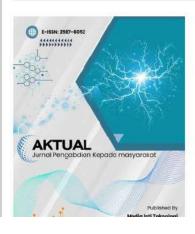


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# TPACK-Based Learning Management Training for Batch 2 Pekerti University of Bengkulu



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# Abstract

This activity aims to train lecturers in managing TPACK-based learning through the PEKERTI (Basic Instruction Technique Skills Improvement) Batch 2 2023 program. The activity was carried out in March 2023 at Bengkulu University, with a total of 39 participants in the training who were I

# Assessing the Somatotype Profile of Gorkha Soccer Players

# Tanmoy Adhikari

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### Sudip Das

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DOI: https://doi.org/10.54536/ajpehs.v2i1.2559

Keywords: Anthropometric, Endomorph, Mesomorph, Ectomorph, Gorkha

### Abstract

Many factors influence the Somatotype of the human body. In addition to genetics, there are also environmental factors and cultural differences. This





# Journal Sport Area

http://journal.uir.ac.id/index.php/JSP Vol. 9. No. 1. April, (2024)



# Enhancing cardiorespiratory and muscular endurance in football players: The impact of a six-week interval training program

Laishram Santosh Singh<sup>1ade</sup>, Sm Farooque<sup>2abcde</sup>, \* <sup>10</sup>, Waribam James Singh<sup>3abc</sup>, & Milan Zelenovic<sup>4ade</sup>

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University of East Sarajevo, Bosnia and Herzegovina<sup>4</sup>

Received 15 November 2023; Accepted 31 January 2024; Published 06 March 2024 Ed 2024; 9(1): 88-97

### ABSTRACT

**Background Problem**: The integration of interval training programs has emerged as a focal point for enhancing the cardiorespiratory endurance and muscular endurance of players. **Research Objectives**: The main purpose of the present study is to investigate the effect of interval training program on cardiorespiratory endurance and muscular endurance of football payers. **Methods**: A total of thirty male football players (age 18-24 year) were selected from Imphal West District, Imphal, Manipur (India) who participated in the national level competition. The subjects were randomly assigned into two equal groups, experimental group (n = 15) and control group (n = 15) and

# Regional Dynamics on Anxiety Levels among Female Elite Soccer Players in Manipur and Tripura

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**Keywords:** Cognitive Anxiety, Somatic Anxiety, Self Confidence, Competition



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Development of Android-Based Augmented Reality Learning Media to Improve Learning Independence (Study on the Electric Motor Installation Subject for Class XI Students of Rejang Lebong Regency Vocational School)

Prismar<sup>1\*</sup>, Prismar<sup>1\*</sup>, Riyanto<sup>2</sup>, Eko Risdianto<sup>3</sup>, Muhammad Fiqih Rizqi Chandra<sup>4</sup>, Uli Simon Macariola<sup>5</sup>, Sm Farooque<sup>6</sup>

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http://journal.uir.ac.id/index.php/JSP Vol. 8. No. 3. December, 2023



# Enhancing goalkeeper reaction speed in football: The impact of ball launcher training in physical training methods

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Received: 04 November 2023; Accepted 28 November 2023; Published 18 December 2023 Ed 2023; 8(3): 447-456

### ABSTRACT

The football goalkeeper position arguably represents a unique role in team sports. This research aimed to increase the reaction speed of football goalkeepers using a ball launcher. The research method was experimental using a one-group pretest-posttest design. The research was conducted by applying reaction speed training using a ball launcher to measure and found out the results of the data obtained by researchers using the Statistical Package for the Social Sciences (SPSS) software. The research sample consisted of 20 students of the Department of Sports Coaching Education at Universitas Negeri Medan who specialised as football goalkeepers. The instrument used

# Journal Sport Arga

http://journal.uir.ac.id/index.php/JSP Vol. 8. No. 3. December, (2023)



# Effect of 12-week endurance training on biochemical parameters in elite football players: A comprehensive analysis

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Received 24 July 2023; Accepted 26 September 2023; Published 19 October 2023 Ed 2023; 8(2): 388-395

## ABSTRACT

Endurance training plays a pivotal role in football performance, shaping players' cardiovascular fitness and metabolic adjustments. The purpose of this study is to investigate the different changes in biochemical parameters after exposure to 12 weeks of circuit training based on endurance in football. A total of fifteen elite football players, with an average age of  $16.87 \pm 1.13$  years, an average weight of  $61.87 \pm 5.94$  kg, and an average height of  $172.82 \pm 5.18$  cm, participated in the study. On average, they had been training for  $5.0 \pm 1.0$  years and had intermediate experience in national-level competitions for  $4.0 \pm 1.0$  years. Following the initial data collection, the participants engaged in a twelve-week endurance training programme, involving one hour of daily training for four days a week. Pre-experimental designs were used in the data collection process. Further, for the analysis and extraction of data, descriptive statistics and t-tests were employed. The significance level was set at



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### EFFECTIVENESS OF AUTOGENIC TRAINING ON REDUCING ANXIETY DISORDERS: A COMPREHENSIVE REVIEW AND META-ANALYSIS

Ahsan Huda Yumkhaibam, Sm Farooque, Sanjib Kumar Bhowmi

Background: Autogenic training (AT) is a relaxation technique that has gamered attention for its potential to reduce anxiety and improve psychological well-being. Objectives: This study aims to synthesize the findings from a diverse range of studies investigating the relationship between autogenic training and anxiety disorder across different populations and settings. Hethodsi A comprehensive review of 16.2 studies, including randomised controlled trains (RCIS), non-randomized controlled trains (RCIS), son-randomized controlled trains and son-randomized to the objectives of the studies. Participants in the studies had conditions such as cancer patients, bullmin nervosa, stroke survivors, coronary angioplasty, nursing students, healthy volunteers, articles, and so on. Anxiety levels were measured before and after the AT intervention using a variety of anxiety assessment scales, including the State Trait Anxiety Inventory (STAT) and the Hospital Anxiety and Depression Scale (N4BS). The formats, duration, and delivery of the interventions studies utilising guided sessions by professionals and other self-administer practices. Results and the self-administered practices. Results the combined findings of the sest studies revealed consistent trains in the beneficial effects of autogenic training on anxiety reduction. AT was found to be effective in reducting anxiety symptoms across a wide range of populations and settings. Following AT interventions, participant preported reduced anxiety, improved mode states, and improved cooping mechanisms. AT was found to be superior to not treatment or a comprehending participa

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# Physical Education Theory and Methodology

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# Effect of Speed Agility Quickness and Circuit Training on Lipid Profile of Soccer Players: An Observational Study

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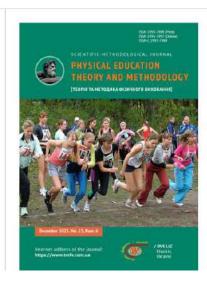
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DOI: https://doi.org/10.17309/tmfv.2023.6.12

Keywords: HDL, LDL, VLDL, SAQ, Cholesterol, Circuit





# A Comparison of Vertical Jump Performance between Mesomorphic and Ectomorphic Dominant Somatotypes





+ More Info

DOI: https://doi.org/10.34256/ijk2411

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### Keywords

Anthropometry, Sedentary, Anaerobic Power, Power-to-body mass ratio

### **How to Cite**

Phakon, A. J., & Dhar, K. (2024). A Comparison of Vertical Jump Performance between Mosomorphic and Ectomorphic Dominunt Somutotypes. International Journal of Kinantimopometry, 4(1), 1–8. https://doi.org/10.34256/iji2411

# **Abstract**

Introduction: Vertical jump performance is an important measure of leg power and explosiveness in sports. Somatotype, referring to body shape and composition, it may relate to vertical jump capacity. This study aimed to compare vertical jump, peak anaerobic power, and relative anaerobic capabilities between ectomorphic-mesomorph and mesomorphic-ectomorph somatotypes among sedentary male students. Methods: A total number of 26 students participated in this study. Participants underwent anthropometric assessments to determine Heath-Carter somatotype ratings. Additionally, countermovement jumps were performed to evaluate vertical jump height, estimate peak anaerobic power via the Sayers equation, and calculate a power-to-body mass ratio. Results: No statistically significant differences were found between ectomorphic-mesomorphs (n=15) and mesomorphic-ectomorphs (n=11) for vertical jump (54.47 ± 8.33 cm vs 57.09 ± 6.28 cm, p = 0.25), peak anaerobic power (3576 ± 542.01 W vs 3473.47 ± 538.71 W, p = 0.64), or power-to-body mass ratio (69.97 ± 10.51 W/kg vs 65.10 ± 7.46 W/kg, p = 0.18). Conclusion: While this initial study suggested no substantial performance differences based on somatotype, further research with increased statistical power through larger sample sizes is necessary to conclusively determine relationships between physique and anaerobic capacities in the general population. Matching and tracking athletes over sports training may also darify advantages conferred by morphology alone.

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# Variations in horizontal velocity during three consecutive take-off phases of triple jump





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# **Abstract**

It was observed that athletes gradually lose horizontal velocity during the three consecutive jump phases (hop, step and jump) in triple jump. Though loss is inevitable, this horizontal velocity needed to be carried out during the three-jump sequence(1). Maximum number of literatures has only accounted the loss while foot contact with the ground. There were few studies which has been accounted the loss in the air. Thus, this study focused on the horizontal velocity across three consecutive take-off phases including the two flight phases in between. Six national Indian male triple jumpers (age: 25-28 years) purposively selected for

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# Bodo Movement: A Long-Standing Ethnic Issue in Assam

July 2023 - Dogo Rangsang Research Journal X(XX):410-419

Gautam Chakma · ) Birbai Basumatary · Mr Devid Brahma

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### Abstract

North-East still remains the zone of ethnic problem in India. When crisis occurs in a society people rose to movement in order to maintain its stability and dominance. The emergence of ethnic-unrest in India's North East is a legacy of colonial rule. Ethnic movements are mainly based on the history and due to the presence of political rights. Bodos one of the aboriginals in Assam is striving to establish its distinctiveness and self-rule with maximum autonomy but the movement remains in an unreached solution. The arrangements one after the other given to them could not quench their thirst. Hence, the urge of greater

Home / Indian Journal of Positive Psychology / Volume 15, 2024 / Issue 1, Mar 2024 / Compassion across Gender, Ecology, and Type of Families among College and University Students in Manipur



Compassion across Gender, Ecology, and Type of Families among College and University Students in Manipur

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Sophia Akoijam and Nutankumar S. Thingujam (Department of Psychology, Tripura University, Suryamaninagar, Agartala, Tripura)

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# Big Five Personality Traits across Late Adolescents and Elderly

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Cita

Rec

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Rea

Lab: Nutankumar Thingujam's Lab

🛮 Shalinta Rai · 🈂 Nutankumar Thingujam

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# Abstract

Overview

The present study examines personality traits among late adolescents and elderly from Hindu and Christian religious groups using NEO-FFI (3). The study included three hundred and twenty participants, 160 Hindus and 160 Christians. Results from the study reported a significant difference between the two age groups, with the elderly scoring high on agreeableness and extraversion and late adolescents reporting high scores in openness to experience, neuroticism, and

© Journal of the Indian Academy of Applied Psychology Jan 2024, Vol. 50, No. 1, 196-210

# Webbed in Digital World: A Systematic Review on Factors of Internet Addiction among Youths

### Anjana Bhattacharjee, Aurondhuti Roy and Tatini Ghosh Tripura University

In this technological era, internet usage became a part and parcel of our everyday life. Excessive use of internet is very common among young generations particularly among the youths. Now days, it is common for a child to have access to computer, laptop, and smart phones with proper internet connection since they are toddlers. As the time continues, the use of internet is also increasing among the people starting from child to adult, especially since Covid-19 pandemic, the youths are prone to internet addiction. Particularly among the youths, internet has created an obsessive and uncontrollable urge to stay online for long hours on different social media platforms for entertainment, playing online games or online shopping. Continuous indulges in these online activities ultimately affect their education, academic performances, mental and physical health and also relationships with family and friends. The current study tries to make an in-depth analysis of internet addiction among the youths from various sources like, PsycInfo, Google Scholar, CrossRef, PubMed, ResearchGate, Springer, and many other research journals. The present study intends to examine the various predictors of internet addiction among youths. Further, the paper also suggested some preventive measures for limiting the use of internet, consequently reducing internet addiction.

Keywords: Internet Addiction, COVID-19, youths, mental health issues

which a person becomes dependent on use of the internet or other online devices, as a maladaptive way of coping with stresses of life (Cash, et al., 2012). It has devastating effects on individuals, families, and particularly growing children and teens. An individual is addicted

Internet addiction is a behavioral addiction in study (Reid Chassiakos, et al., 2016). Secondly, some of the withdrawal symptoms of internet include anger, depression and sadness when the individual is unable to use internet. These symptoms may be recognized as moodiness, nervousness, and boredom when the individual can't access to internet (Musetti, et al, 2016).



# Abstract

# Background:

A society's perception of rape is largely determined by Rape Myth, an important psychological construct, whose endorsement promotes rape supportive attitudes among people. Again, the extent of people perceiving the various forms of sexual interactions are also largely affected by different personality dispositions.

Aim:

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Research Paper

# Management of Toko-Phobia (Fear of Childbirth) with Brief Behaviour Technology

Dr. Rajesh Ganesan<sup>1\*</sup>

# **ABSTRACT**

Tokophobia is the fear of pregnancy and childbirth. Women, who have this phobia have a pathological fear of giving birth, and will often avoid becoming pregnant or giving birth altogether. They may even avoid marriage and when married avoid sex. The sample for this study consisted of 97 pregnant women aged from 25 to 30 years, attending the Gynecology Department of a Private Hospital, who had Primary Tomophobia over a period of three months prior to the expected date of delivery. The therapeutic module consisted of: 1. Brief Behaviour Technology for Pain-Free-Delivery (Ganesan, 1980) 2. Self-Defense-Training (Ganesan, 1976). The results revealed total relief from Tokophobia and Pain-Free delivery for all the cases.

Keywords: Tokophobia - Fear of Child Birth

Tokophobia is the fear of pregnancy and childbirth. Women, who have this phobia have a pathological fear of giving birth, and will often avoid becoming pregnant or giving birth altogether (Bhatia and Jhanjee,2012). This fear may lead women to avoid becoming pregnant, even though they want to have children or to opt for a Caesarean section in order to avoid vaginal birth. Tokophobia may occur in women, who have never given birth to a child, but it may also affect women, who have had prior traumatic birth experiences.

Behaviour Technology for Effective Management of 'Sex-Stories-Addiction' with Development of 'Alternate-Emotional-Response'

You are here: The International Journal of Indian Psychology > Articles > Volume 11, Issue 4, October-December, 2023 > Behaviour Technology for Effective Management of Sex: Stories-Addiction with Development of Alternate-

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Behaviour Technology for Effective Management of 'Sex-Stories-Addiction' with Development of 'Alternate-Emotional-Response'

# ABSTRACT

Management of 'Addiction for Reading-Sex-Stories' poses a challenge to Psychologists. This Addiction results in the development of several Psycho-Social problems for the affected person and the Society. This paper presents the details of the Application of an Innovative Cognitive Behaviour Technology for the Effective Management of



- Analysis Research | Published: September 29, 2023

Management of Fear of Injections or Hypodermic Needles (Trypano-Phobia) with Brief Behaviour Technology

### Dr. Rajesh Ganesan



### **ABSTRACT**

Trypanophobia is an extreme fear of medical procedures involving injections or hypodermic needles. This can become sometimes life-threatening, when untreated. A Brief Behaviour Technology applied for treating a married female client aged 36, a mother, who had borne three children through normal delivery, is described in this paper. She had refused to have her blood sugar level checked by a prick on one of her fingers. She never had had been exposed to a prick by the hypodermic needle. The Brief Behaviour Technology was used in a single session within a period of 45 minutes, which included: 1, Invitation of the Threatening Stimulus. 2. Long Breathing. 3. Continuous Food

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# PARTITION EXPERIENCES AMONG CHAKMAS: WITH SPECIAL FOCUS ON ARUNACHAL PRADESH

Parama Chakma Assistant Professor Department of Sociology Tripura University

Abstract: Partition as an idea is used to solve diverse kinds of conflicts such as ethnic, national, religious etc. In the context of India, partition has led to formation of postcolonial states of India and Pakistan. It is a historical event that we study in our textbooks but often within the nationalist framework of Hindu and Muslim majority thereby overlooking the accounts of diverse marginalized groups, communities. Chakmas are one such community whose lived experiences due to partition have been overlooked and must be taken into account. This paper shall discuss the historical trajectory that led to migration and statelessness among Chakmas in Arunachal Pradesh and attempt to understand how various categorizations and labels such as 'refugees', foreigners', 'iflegal migrants, 'statelessness' etc have altered and shaped the lives of Chakmas in Arunachal Pradesh over the time.

Keywords: forced migration, Chakma, CHT, partition, marginalization.

INTRODUCTION

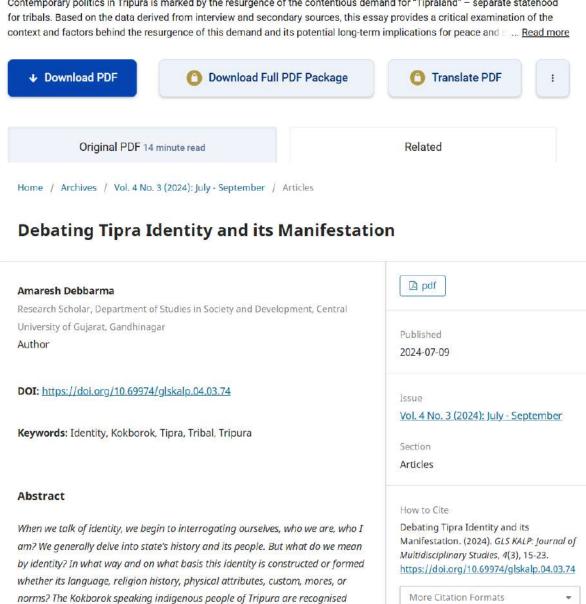
# THE RESURGENT DEMAND FOR "TIPRALAND" IN TRIPURA: CONTEXTS AND IMPLICATIONS

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By Amaresh Debbarma

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Contemporary politics in Tripura is marked by the resurgence of the contentious demand for "Tipraland" - separate statehood for tribals. Based on the data derived from interview and secondary sources, this essay provides a critical examination of the



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# APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHER EDUCATION PROGRAM

Supradip Datta

Research Scholar, Department of Education, Tripura University (A Central University), Suryamaninagar, Tripura

### Abstract

Learning means the permanent changes in behavior, with this concept we always focused in outcome based learning and for proper outcomes there should be an effective Teaching-Learning process. So along with learners teachers are very crucial in the Teaching-Learning process. So there is a need of well trained teachers which are technically literate. In this period of globalization in every sector technology is an integral part, so there is a very significant use of Information and Communication Technology (ICT) in educational field. As with the help of ICT Teacher Education Program also can be enriched. Even along with different educational policies NEP 2020 also highlighted on the use of technology in education and especially in Teacher Education program. ICT is applicable in many areas of Teacher Education program such as effective teaching, materials preparation, use of smart class, ppt, video etc. so the use of ICT is undoubtedly significant in Teacher

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# Exploring the Benefits and Challenges of Multilingual Education: A Theoretical Analysis





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Author(s)	JEENTI MALAKAR, SUPRADIP DATTA
Country	Indla
Abstract	Multilingualism has always been a controversial topic while discussed in the context of medium of instruction. This particular concept has gained immense support worldwide due to its benefits in terms students' cognitive, linguistic and socio-cultural development. Alongside the immense popularity it has been a topic of argument because of the challenges it draws. This paper is a theoretical analysis drawing upon theoretical frameworks and seeks to explore the benefits and challenges associated with multilingual education. Based on the point of views gathered from existing literature this study explore the benefits of multilingual education such as enhanced cognitive ability, improved linguistic proficiency and its role in delivering positive outcomes. Additionally it focuses on the challenges faced by both educators and students. This paper will help in contributing to a deeper understanding of the complex nature of multilingual education and thus will inform ways to sustain multilingual education programs to the stakeholders of this field.
Keywords	Multilingualism, Multilingual Education
Published In	Volume 5, Issue 4, July-August 2023
Published On	2023-07-31





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## RESEARCH ARTICLE

# Endophytic fungal diversity in *Terminalia arjuna* (Roxb.) Wight & Arn. of Tripura, Northeast India at different sampling sites and plant organs

Samrat Tripura<sup>1</sup>, Prasenjit Debbarma<sup>1, 2</sup>, Suman Paul<sup>3</sup>, Rahul Saha<sup>1</sup>, Ajay Krishna Saha<sup>1</sup>

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### ARTICLE HISTORY

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### Additional information

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### Abstract

Endophytic fungi are ubiquitous in plant kingdom and play a vital role in balancing the microenvironments within the host plants. Fungal endophytes isolated from ethno-botanically important plants were the source of several secondary metabolites with potential biological activities. The present study has documented the variability of culturable endophytic fungi from *Terminalia arjuna* (Roxb.) Wight & Arn. (Combretaceae), a widely used medicinal plant of Tripura, North-east, India. A total of 613 fungal strains were isolated from 720 tissue segments viz. leaves, bark and root of *T. arjuna*. The highest numbers of endophytic fungal isolates were found to be colonizing in leaves (257) followed by barks (182) and the least number of

Asian Journal of Pharmacy and Pharmacology 2024; 10(1): 1-12

### \_ 1

## Research Article

Seasonal variation and diversity of endophytic fungi in *Chromolaena odorata* (L.) King and Robinson, an invasive alien weed of Tripura, Northeast, India

Prasenjit Debbarma<sup>1, 2'</sup>, Samrat Tripura<sup>1</sup>, Suman Paul<sup>3</sup>, Rahul Saha<sup>1</sup>, Badal Kumar Datta<sup>3</sup>, Ajay Krishna Saha<sup>1</sup>

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Received: 11 January 2024 Revised: 18 February 2024 Accepted: 27 February 2024

## Abstract

The endophytic fungal diversity of *Chromolaena odorata*, an invasive alien weed of Tripura, Northeastern India is scientifically documented in the present study. A total of, 177 endophytic fungal isolates were isolated from 480 tissue segments of *C. odorata* from eight different geographic locations. The isolates were identified into 14 genera and they belonged to the phylum Ascomycota, grouped into 3 classes, 9 orders, and 11 families. The most dominant orders were Glomerellales (22.60%), Hypocreales (22.03%), and Pleosporales (20.34%). *Colletotrichum, Fusarium, Corynespora, and Nigrospora* were the dominant genera in the present study. The colonization rate, isolation rate varied significantly among tissue type and sampling location. The colonization frequency (CF) and relative frequency (RF) of endophytic fungal strains showed variation considering tissue types, locations, and seasons. The total number of isolates recovered from leaf, stem, and root explants were 61, 67, and 49, respectively. There were considerable diversity in the number and population distribution of endophytic fungi in different seasons and plant parts of *C. odorata*. The highest biodiversity of endophytic fungi was observed in summer compared to winter. Among the different plant tissues, the *Shamnon (H'), Simpson (1-D)* & Fisher alpha (α) diversity of the endophytic fungi was highest in the stem, followed by root and leaves. These findings suggest that the host plant tissue and sampling season are major factors of distribution of



# Asian Journal of Mycology (7): 1–19 (2024) www.asianjournalofmycology.org

# Article Doi 10.5943/ajom/7/1/1

# Seasonal dynamics of phyllosphere fungi of *Camellia sinensis* (L.) O. Kuntze from the plantations of Tripura, Northeast India

Sharma D1, Singha R1, Saha AK2 and Das P1\*

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Sharma D, Singha R, Saha AK, Das P – Seasonal dynamics of phyllosphere fungi of *Camellia sinensis* (L.) O. Kuntze from the plantations of Tripura, Northeast India. Asian Journal of Mycology 7(1), 1-19, Doi 10.5943/ajom/7/1/1

# **Abstract**

The objective of this study is to investigate the seasonal composition of phylloplane and endophytic fungi in *Camellia sinensis*, as well as their seasonal flux. The results indicated that the peak isolation rate for both groups of fungi occurred prior to winter. For endophytic fungi, the lowest isolation rate was observed during the winter season, and for phylloplane fungi, during the monsoon season. Genera *Alternaria*, *Colletotrichum* and *Phyllosticta* exhibited the highest colonization frequency of fungal endophytes across all four seasons. *Penicillium*, followed by *Aspergillus* and *Mucor* reveals the highest proportion of phylloplane fungi across all four seasons. In the winter, phyllosphere fungi had the highest diversity. The similarity index of endophytic and phylloplane fungal genera isolated from *C. sinensis* for distinct seasons revealed the highest similarity during the pre-monsoon season and the lowest similarity during the monsoon season. The occurrences of both categories of fungi are discussed in terms of seasonal and environmental variation.



# An annonated checklist for orchids of Tripura in North-east India

### Biswajit Baishnabi, Koushik Majumdar and Badal Kumar Datta

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[Received 18.04.2024; Revised 23.042024; Accepted 24.04.2024; Published 31.04.2024]

### Abstract

In the present paper, an updated checklist ofoOrchids reported so far from the state of Tripura in Northeast India, based on collection in herbaria and research publications on the flora of the state. Additional informations on habit, phenology, occurrence, herbarium collections, etc. have been included. A total of 83 species of orchids from 40 genera have been identified and enumerated. Of these, 63 are epiphytes and remaining 20 species are terrestrial in habit. The most richest orchid genus in Tripura is Dendrobium with 16 species, which is followed by Coologne with 8 species. Orchids like Acampe praemorsa, Aericks valoratum, Cymbridium alaifolium, Dendrobium aphyllum, Micropera pailida, Papilionanthe teres, and Rhynchostylis retusa are very common and are distributed throughout the state.

Key words: Orchid checklist, Orchidaceae, Tripura, Conservation

### INTRODUCTION

Orchids are the most important floristic component of tropical and subtropical forest regions (Pridgeon et al. 2014). Orchidaceae is one of the most diverse plant families on earth consisting of about 28,000 accepted species of which 75 % are epiphytes and others are terrestrial in habit (Zotz et al. 2021) and are distributed throughout the world, except Antarctica and hot deserts. Out of every ten flowering plants, one is estimated as an orchid (Gentry & Dodson 1987). The most highly evolved and diversified family among the monocots is Orchidaceae in terms of floral specialization and species composition. Though orchids are the largest diversified group of plants, only a small proportion of orchids have been studied so far (Tandon & Bhardhwaj 2012). With an estimated 28,000 species and nearly around two lakh hybrid varieties, orchids have captured the attention and fascination of botanists, horticulturists, and enthusiasts worldwide. This family is mostly composed of herbaceous plants with distinct floral morphology, various pollination mechanisms, symbiotic association with fungi and very minute non-endospermic seeds (Kumar et al. 2007). But orchid biodiversity extends beyond their flowers. Orchids also exhibit a wide range of growth habits, including epiphytic, terrestrial, and mycotrophic forms, each with their unique adaptations for survival. These adaptations often include specialized root structures, such as aerial roots and pseudobulbs, as well as symbiotic relationships with mycorrhizal funci Furthermore archide play a crucial role in various ecceusteme. As pollinators are attracted Journal of Applied Horticulture, 26(1): 63-67, 2024

Journal of Applied Horticulture

https://doi.org/10.37855/jah.2024.v26i01.12

# Arbuscular mycorrhiza influences the growth and biochemical parameters of *Cassia fistula* L. seedlings, contrasting with the naturally occurring established trees

# Atithi Debnath<sup>1</sup>, Aparajita Roy Das<sup>2</sup>, Kripamoy Chakraborty<sup>1</sup>, Ajay Krishna Saha<sup>2</sup> and Panna Das<sup>1\*</sup>

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### **Abstract**

The efficacy of rhizospheric native arbuscular mycorrhizal fungi from naturally growing Cassia fistula L. trees was evaluated by utilizing seeds from the same trees to assess growth and biochemical properties. This study aimed to investigate whether biochemical content could be augmented in naturally growing trees, contrasting them with greenhouse-grown seedlings. The findings revealed that arbuscular mycorrhizal-inoculated seedlings exhibited significantly higher shoot and root length, leaf area, and shoot dry weight compared to non-mycorrhizal plants under greenhouse conditions. Furthermore, there was a noteworthy increase in biochemicals such as protein, carbohydrates, and phenols in mycorrhizal-inoculated plants and naturally growing trees when compared to non-mycorrhizal plants. Interestingly, carbohydrates and phenols were significantly more abundant in naturally growing trees than in greenhouse experiment plants. Additionally, the methanolic leaf extract of non-mycorrhizal plants exhibited the lowest inhibition percentage (%) on 2,2-diphenyl-1-picrylhydrazyl (DPPH) radicals in comparison to mycorrhizal plants and naturally growing trees. Moreover, the effective concentration at 50% inhibition of DPPH radicals by mycorrhizal plants and naturally growing trees was lower than that observed in non-mycorrhizal plants. The biochemical estimates obtained from mycorrhizal plants substantiate the results observed in naturally growing trees, thereby supporting the assumption that native arbuscular mycorrhizal fungi may enhance the levels of biochemicals in naturally growing C. fistula trees.

Key words: AM fungi, Cassia fistula, growth features, biochemicals, antioxidant activity

# Introduction

The accordation of plante with orbiccular mucorrhizal ( A M) funci

(Muthukumar and Udaiyan, 2000), as well as C. grandis, C. siamea, and C. spectabilis (Wang and Qiu, 2006). Studies on

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# Assessment of antibacterial activities of mycelium and exopolysaccharide extract of two different *Lentinus* species collected from Tripura

Research Articles | Published: 02 October 2023

Volume 37, pages 2372-2379, (2024) Cite this article

Atrayee Dutta , Anuradha Mahananda, Supriya Adhikari & Ajay Krishna Saha

**Abstract** 

# Comparative contemplation on the growth, productivity and biological efficiency of *Pleurotus florida cultivated on agro-industrial waste*

# RAHUL SAHA¹, KRISHNA KANTA PANDEY¹, SANJIT DEBNATH¹, KRIPAMOY CHAKRABORTY², PANNA DAS², AND AJAY KRISHNA SAHA¹°

<sup>1</sup>Mycology and Plant Pathology Laboratory, Department of Botany, Tripura University, Suryamaninagar, Tripura - 799022

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Received: 25.12.2022 Accepted: 28.01.2023 Published: 27.03.2023

Mushroom cultivation on a cost-effective and easily accessible substrate is one of the key areas of research of mycologists. In this present investigation, agro-industrial wastes have been used as a substratum to produce protein-enriched mushrooms having different medicinal potentiality with respect to growth, productivity, and biological efficiency. Mycelium running rate, development of fruiting bodies and productivity of *Pleurotus florida* was evaluated. The total running of mycelium in days, maximum primordial formation in three flushes, and total numbers of fruit bodies in three flushes were noted. In the grass substratum, fruiting body size was bigger as well as exhibited higher productivity (18.42 %) and biological efficiency (97.58%) in all three flushes and the least productivity and biological efficiency observed in sugarcane bagasse. The current study reveals that the various types of substrates affect mushroom growth, productivity, and biological efficiency.

Key words: Basidiomycetes, *Pleurotus florida*, agro-industrial waste, sugarcane bagasse, primordia

### INTRODUCTION

Mushrooms are achlorophyllous, spore-bearing fruiting bodies of basidiomycete that grow above or under the ground on soil or other food sources.

and Janardhanan, 2000; Manpreet et al. 2004). Hence, mushrooms have gained a lot of attention as a functional food supplement and can be used as a preventive measure for the disease (Khan et al. 2009). Among the robust number of edible

# Endophytic Fungal Diversity and Seasonal Variation in Parthenium hysterophorus L.: an invasive plant species of Tripura, Northeast India

# PRASENJIT DEBBARMA¹², SAMRAT TRIPURA¹, SUMAN PAUL³, RAHUL SAHA¹, BADAL KUMAR DATTA³ AND AJAY KRISHNA SAHA¹°

<sup>1</sup>Mycology and Plant Pathology Laboratory, Department of Botany, Tripura University, Suryamaninagar-799022, Tripura

Endophytic fungi are microbes that colonize or infect different living tissues of host plants without developing any disease symptoms. The diversity and seasonal variations of endophytic fungal colonization across different tissues of *Parthenium hysterophorus*, an invasive herbaceous weed of Asteraceae, were analyzed in this study. A total of 256 fungal isolates were recovered from different tissues of this weed collected from eight different geographical locations of Tripura. The total number of isolates recovered from leaf, stem, and root tissue segments were 108, 77, and 71, respectively. Based on the morphological and molecular identification, the isolated endophytic fungi were grouped into 13 genera representing 11 families of the phylum Ascomycota along with two non-sporulating forms. The colonization rate of endophytic fungi was highest in leaves (95%) followed by stem (88.12%) and root tissue (65%), respectively, while the isolation rate was highest in root tissues (0.75) followed by leaf tissues (0.72) and the least was observed in stem tissues (0.56). Tissue-specific and season-specific fungal strains were observed. The diversity of fungal endophyte composition varied significantly across sampling locations, tissue types, and seasons. This study is the first attempt to study endophytic fungal diversity and seasonal variation from the invasive herbaceous weed species *P. hysterophorus* of Tripura, Northeastern India.

Keywords: Ascomycota, Asteraceae, diversity, endophytic fungi

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# TU-IR Apple Image Dataset: Benchmarking, Challenges, and Asymmetric Characterization for Bruise Detection in Application of Automatic Harvesting



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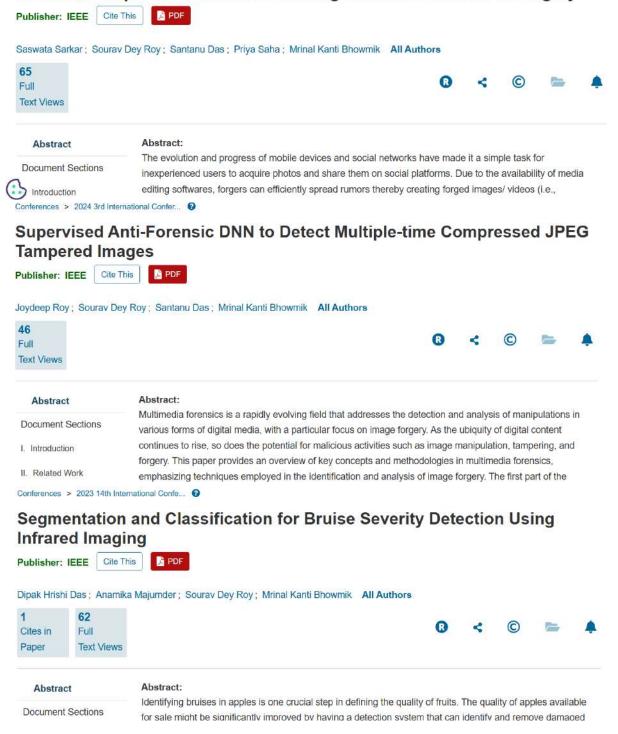
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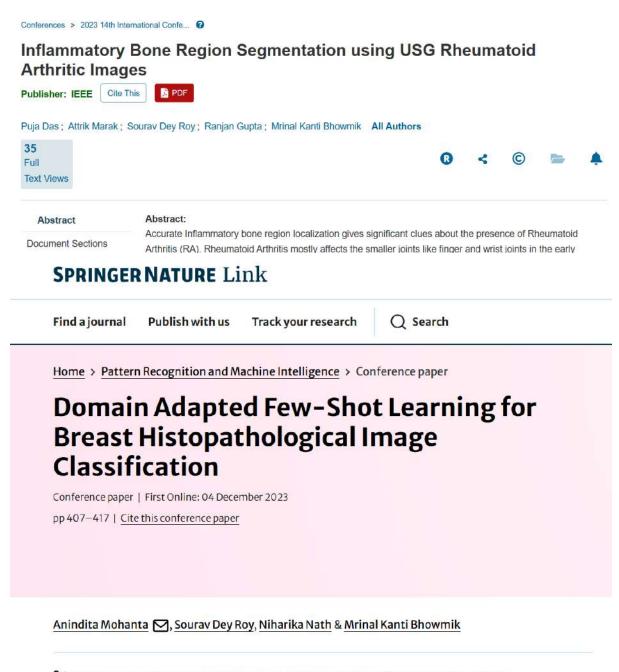
With the blooming interest in computer vision-based technologies for future automation of food producers, there is a need for incorporating an automatic bruise detection module in robotic apple harvesting because of decreasing accessibility and growing labor costs. Although numerous studies have been published for automatic quality inspection of fruit and other agricultural products, there is a lack of publicly available image-based datasets for quality inspection/automatic detection of bruises. Toward the aim of developing a bruise detection system for apple harvesting, especially at night time, this article describes the designing issues (i.e., protocol) and creation of a new infrared imaging-based dataset titled "TU-IR Apple Image Dataset," which

<sup>&</sup>lt;sup>2</sup>Department of Botany, Netaji Subhash Mahavidyala, Dhwajanagar-799120,Udaipur, Tripura <sup>3</sup>Plant Taxonomy and Biodiversity Laboratory, Department of Botany, Tripura University, Suryamaninagar-799022, Tripura



# Applicability of Heavily Compressed JPEG Tampered Images in Social Media and Supervised Machine Learning towards Detection of Forgery





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Chapter

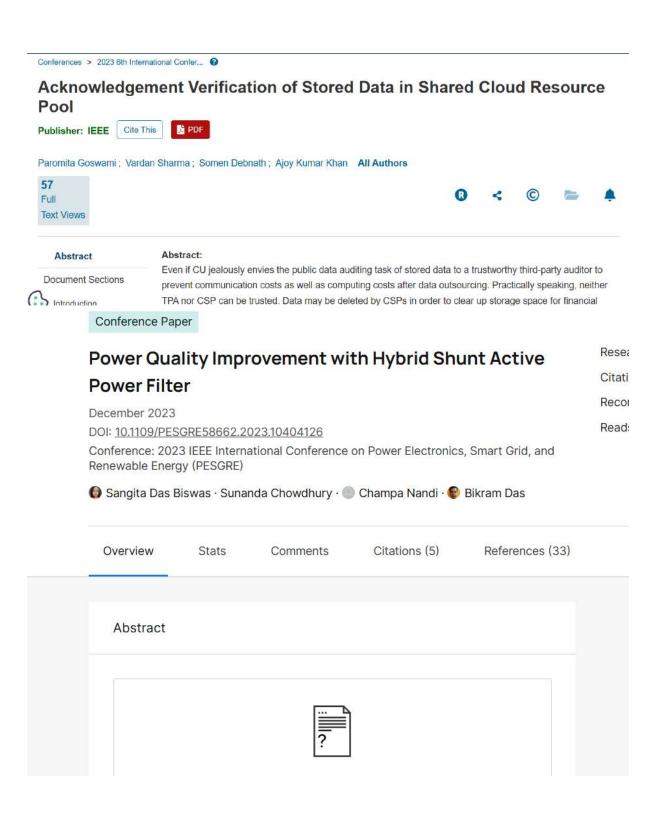
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# Identification of phytoconstituents from Dicliptera paniculata and study of antibacterial activity guided by molecular docking

Original Research | Published: 22 March 2024

Volume 12, article number 18, (2024) Cite this article

Alekhya Sarkar, Sudhan Debnath, Bipul Das Chowdhury, Rajat Ghosh & Bimal Debnath

1432

Environment and Ecology 41 (3): 1432—1437, July—September 2023 Article DOI: https://doi.org/10.60151/envec/PYEV5546 ISSN 0070-0420

Assessment of a Hydrocarbon Exploration Site in North Eastern State of Tripura

Huidrom Babina Devi, Prasenjit Patari, Maria Deb Barma, Sabyasachi Dasgupta

Received 6 February 2023, Accepted 19 May 2023, Published on 24 July 2023

### ABSTRACT

Recently abandoned hydrocarbon exploration sites generally support a smaller number of plants since there are few spaces for plants to grow and survive in the exploration site with all the concrete structure around and very few areas of soil to support vegetation. Metals are required by plants for their growth while a higher level can cause the plants to die. The study has been conducted to explore the concentration of metals in an abandoned hydrocarbon exploration site and their adjacent site of Tripura to determine the species diversity in the area with the metal concentration. The highest concentration of iron, chromium, and sulfur in the site were recorded in *Chromolaena odorata*, *Urena lobata* and *Crotalaria* 

their roots. This study will be beneficial as the plants which have highest level of a particular metal can be used in future research to remediate the area of that metal. In this way, the cost of searching for plants to be used for phytoremediation experiment will also be reduced. The growth of plants in the abandoned hydrocarbon exploration sites will also help in reducing the contaminants of that sites.

**Keywords** Abandoned, Metals, Species diversity, Phytoremediation, Contaminants.

# INTRODUCTION

Natural as well as anthropogenic activities has led to contamination of the environment both soil and Environment and Ecology 41(3): 1400—1407, July—September 2023 Article DOI: https://doi.org/10.60151/envec/KFAF7093 ISSN 0970-0420

# Large Scale *Hevea brasiliensis* Plantation Impact on Non-Human Primate and Floral Diversity in Khowai District of Tripura

Prasenjit Patari, Maria Deb Barma, Huidrom Babina Devi, Sabyasachi Dasgupta

Received 6 February 2023, Accepted 18 May 2023, Published on 24 July 2023

# ABSTRACT

Over the past three decades, a large proportion of forest area in Khowai district of Tripura has been converted into a rubber plantation (*Hevea brasiliensis*) area. There is less information about the deleterious effect of such changes on non-human primate populations and plant diversity. To address this deficit, line transect and quadrat sampling programs were carried out in Khowai district of Tripura with the purpose of comparing non-human primate species diversity, number of individual primate species diversity, number of individual primate species observed and also plant species diversity observed in the rubber plantation area and nearby forest area. Less number of non-human primate was observed in

individual numbers of tree, shrub and herb species were found to be maximum in the nearby forest area than in rubber plantation area. In shrub layer Shannon and Simpson diversity index were higher in the forest area, whereas in herb layer, Shannon index was lower and Simpson index was higher in rubber plantation area. From this study it was divulge that, rubber plantation have harmful impact on non-human primate and plant species.

**Keywords** Non-human primate, Plant diversity, Line transect, Quadrat sampling, Diversity index.

# International Journal of Ecology and Environmental Sciences Environmental Sciences HOME AROUT LOG IN SEARCH CURRENT ARCHIVES ANNOUNCEMENTS Home > Vol 49, No 6 (2023) > Chakma Assessment of seasonal variation of water quality of Agartala City, Tripura through PCA, PcoA approach

& Water Quality Index

Atoshi Chakma, Y V Krishnaiah, Kausik Panja, Manika Mallick, Deepa Rai, Debasis Das, Moumita Hati

### Abstract

Water quality deterioration has newedays become a serious issue all over the world. Urbin areas are depended on various natural environmental resources for its infrastructural level. Water is an essential commondity and therefore more vulnerable as a resource in regularly changing and growing under packet. Appetable style is an important urban area is the North-eastern region of India. This study aims to analyse the physical and chemical changes of water samples collected from groundwater and surface water in the study aims. The samples were collected in pre-monsoon and post-monsoon seasons during 2020-022 for analysis of physicochemical parameters. Pearson's Correlation, Principal Component Analysis (PCA) was used for the purpose of analysis. Further, the Water Quality Index has been prepared with the Weighled Arithmetic method.

### Keywords

Agartala City, Principal Component Analysis, Tripura, Water Quality Index, Water Quality.

### References

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# Impact of Rubber Plantation Growth on LULC Changes in Eastern-Himalayan Region of West Tripura District Using Geospatial Approach

Kausik Panja, Y.V. Krishnaiah, Atoshi Chakma, Manika Mallick, Deepa Rai, Moumita Hati, Debasis Das

### Abstract

Land use and land cover changes depict trends and patterns of an area's land dynamics. The current study revealed the land use characteristics of West Tripura district which is part of the Eastern Himalayan region and shares an international boundary with the neighboring country of Bangladesh. Thus, West Tripura district is a geopolitically highly sensitive area. The capital of Tripura state i.e., Agartala city located in West Tripura district, it gives immense pressure on land use for various developmental activities since Population growth and rapid urbanisation forced. Farmers rely on cash crops rather than subsistence agriculture which impacts the district's land use pattern and modifies the land dynamics. The traditional farmers of West Tripura district very quickly geared to adopt cultivation of rubber plantation from Jhum cultivation and tea plantation. All these factors influenced to work out on LULC hanges in West Tripura district for the decadal (2000-01 & 2010-20), and for twenty years (2000-20) using Landsat-4 & 5 TM, Landsat-8 OLI and Survey of India topographic maps with help of ArcGIS software for the applications of supervised classification (MLC), Kappa accuracy for Landsat data, conversion matrix, NDVI, NDVI and NDBI. The results revealed that rubber plantations and settlements overlapped on natural vegetation, shrubland, tea plantation, and water bodies in the last 20 years. The water bodies are sinking due to extension of agricultural land. The current study would help to understand the land use characteristics to plan the proper utilization of resources for sustainable development.

### Keywords

Eastern-Himalayan Region, Geospatial Approach, LULC Changes, Rubber Plantation, West Tripura.

## References

# International Journal of Science and Research (IJSR)

ISSN: 2319-7064 SJIF (2022): 7.942

# Evaluating Land Suitability for Rice Cultivation in West Tripura Using Multicriteria Decision Analysis and Geospatial Techniques

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Abstract: Sustainable and smart agricultural development requires adjustment between land potentiality and ideal crop yield. If these two conditions are matched adequately then crop production increasing significantly. The study assesses the suitability of land for rice cultivation in West Tripura, India using Multi-Criteria Decision Analysis (MCDA) and Geospatial Techniques. It examines various factors like topography, drainage, soil texture, climate, and land use to determine the most suitable areas for rice farming. Rice is the primary staple crop of the West Tripura district. It is cultivated in both seasons that kharif and rabi. The rice production is high in plain land when compared to hilly areas. During 2019-20, the farmers cultivated rice 26931 hectares and production was 88396 metric tons. At that time, the average rice yield was 3282 kg/ha. The findings indicate that 35.18% of the land is effectively suitable for rice cultivation, and the remaining land with minimum effort can be suitable for rice cultivation in marginal land.

Keywords: Geospatial techniques, Land suitability, Multicriterial Decision analysis, Rice cultivation, West Tripura

### 1. Introduction

The worlds growing population exerts immense pressure on agricultural land to mitigate the demands of food. The unplanned cultivation of fertile land deteriorates the quality and its impact on productivity of crops. It may lead to food deficit and raise food security problems. Thus, sustainable agricultural land management is urgently required to maintain stable productivity [1]. Implementation of sustainable agriculture practices through smart land use planning solves food problems and enhances developmental processes in the region [2]. In India agriculture contributes

slash-and-burn cultivation in hilly areas also known as shifting cultivation. Recently, remote sensing data has been very significant for determining optimal land utilization [14]. Only fusion is needed between remotely sensed data and observed field data through GIS [15],[16]. Thus, GIS has been frequently utilized to assess the suitability of land, capability of land and productivity of agricultural land [17],[18]. In the study area, the population growth rate was higher (12.5%) compared decade wise population data. The urban population increased from 15% to 42% from 1981 and 2011 since the state capital city of Agartala situated in the West Tripura district. The amount of potential land steadily

# International Journal of Science and Research (IJSR)

ISSN: 2319-7064 SHF (2022): 7.942

# Spatio-Temporal Detection of Land Use Land Cover Changes in Jalpaiguri District; Geospatial Analysis

Mallick Manika<sup>1</sup>, Krishnaiah, Y.V.<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Geography and Disaster Management, Tripura University (A Central University), Suryamaninagar-799022, Tripura, India

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Abstract: The incessant rise in population density has led to an escalating reliance on finite land resources, resulting in a transformation of land use and land cover patterns over the periods. For the sustainable development and management of land resources, continuous monitoring of land use and land cover has become a crucial aspect of research. Therefore, the objective of this study is to monitor changes in surface cover attributes in the sub-Himalayan district of Jalpaiguri from 2000 to 2020 using Remote Sensing and GIS. The analysis of LULC changes has used multi-spectral satellite data, including Landsat TM, Landsat ETM+, and Landsat OLI imagery for the years 2000, 2010, and 2020, to identify surface cover dynamics over the past two decades. Supervised and unsupervised classification of Landsat images was performed on 10-year time interval using maximum likelihood and K-Means method in the GIS platform. The generated classified layer demonstrates that between 2000 to 2020, a significant increasing trend has been observed in the classes of built-up area (140.39%) and tea plantation land (93.53%), while a sharp decline trend has been detected in water bodies (52.88%), sand deposition (53.46%), fallow land (32.76%) and agricultural land (18.57%) within the district. To validate the classified images, ground data and kappa coefficient analysis were employed, and the results showed overall accuracies of 0.85, 0.88, and 0.89 for the years 2000, 2010, and 2020, respectively. Finally, the satellite-based monitoring of land use and land cover changes with ground truth data, holds a significant importance for land use planning in this region to ensure sustainable land management in future.

Keywords: Geospatial analysis, Land use land cover, Jalpaiguri district, Spatio-temporal

### 1. Introduction

Land use land cover (LULC) change is one of the major concerns in the current world [1,2]. The word LULC consist with two distinct concepts, which are frequently used interchangeably [3,4]. The term "land cover" refers to the natural or physical condition of the Earth's surface, which helps to identify the interaction of biodiversity with surrounding environment. It reflects the biophysical

environmental change [9,10,11]. The escalation of anthropogenic activities has resulted in the conversion of forest cover areas into alternative land use land cover types in the Himalayan region of India [12]. Historical data indicates that during the colonial period, the forest cover areas in the Himalayan foothill region of West Bengal decreased at a rate of 29.9 km² per year, while the tea plantation area increased by 8.5 km² per year, respectively [13]. Thus, accurate identification of Land Use Land Cover

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## Research paper

# Urban Problems of Kohima, Dimapur, and Mokokchung Towns of Nagaland, India

Tinurenla Jongkor<sup>1</sup>, Krishnaiah, Y. V.<sup>2\*</sup>, and Lanusashi Longkumer<sup>3</sup>

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2D. Maria M. Director M. Direc

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Received: 12/03/2023 Revised: 18/03/2023 Accepted: 24/03/2023

Abstract: Urbanization brings along several impacts by touching the realms of every aspect of human settlement. It affects both the rural and urban livelihood by creating an interrelationship. The development of a particular town or a city cannot be accomplished without economy, education, science and technology, communication, transportation etc. These are the basic necessities for the growth of any particular urban area. Hence, while

primary data was collected by setting up questionnaire using google forms. Likert scale was applied for the scores and for analysis Cronbach's alpha was applied for the reliability test using SPSS. The Cronbach's alpha of reliability analysis of internal consistency for the Perception on Air Pollution (PAP)of all the three towns revealed that the questionnaire for Mokokchung town reached the highest acceptable reliability of.  $\alpha = 0.823$  as

## RESEARCH REVIEW INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY

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ABSTRACTING AND INDEXING

# Assessment of the air and water quality in popular tourist hotspots and ecotourism zones in the hilly state of Sikkim

### Deepa Rai

ABOUT

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DOI: https://doi.org/10.31305/rrijm.2024.v09.n05.012

Keywords: Air quality, Tourist destinations, Sikkim, Water quality



PAST-ISSUES



CURRENT ISSUE





# Geosystems and Geoenvironment

Volume 3, Issue 2, May 2024, 100250



# Flood hazard zonation using GIS-based multi-parametric Analytical Hierarchy Process

<u>Istak Ahmed <sup>a</sup> A ⊠</u>, <u>Nibedita Das (Pan) <sup>a</sup>, Jatan Debnath <sup>b</sup>, Moujuri Bhowmik <sup>c</sup>, Shaswati Bhattacharjee <sup>a</sup></u>



# Highlights

Flood hazard map using Analytical Hierarchy Process (AHP).

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### Causality and Impact of Urban Flooding with Possible Strategic Solution: An Evidence from Agartala City, India

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December 2023

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Stabak Roy • Souritra Bajpayee • Anil Kumar Roy • Show all 5 authors • Saptarshi Mitra

Overview Stats Comments Citations References (34)

#### Abstract and figures

Urbanisation in Northeast India has numerous challenges and enigmatic opportunities like complex urban metamorphosis, urban road congestion, urban water crisis, urban flooding, complex solid waste management, cross-border migration and issues of multi-ethnicity. Urban flooding is one of the critical issues in many urban centres of Northeast India especially in Agartala, the capital city of

### Effect of Social Determinants and Occupational Susceptibility on the Employment and Livelihood Conditions of the Auto Rickshaw Service Providers of Agartala City, Tripura

#### Debasish Debbarma and Saptarshi Mitra

Abstract: The issue of unemployment has become a serious and complicated problem that presents enormous obstacles for people as well as the country's economy. India's difficulty creating jobs and providing work opportunities has wide-ranging effects due to its large and diverse population. In such conditions, informal service in the field of transportation plays a crucial role in not only creating job opportunities but also providing commutation services to daily passengers. This Para-transit mode of transport is identified as the auto rickshaw transport service. Despite their role, they face different occupational susceptibilities. The present research work aims to analyse the social composition of the auto rickshaw service providers and find out the economic condition under which they earn sustainable wages and run their daily livelihood. For this purpose, field enquiries were conducted on the random sample survey. The study highlighted various other factors that influence the physical and emotional well-being of auto rickshaw drivers, showing that the work environment and stress directly affect their livelihood, occupation, and health.

Key words: Occupational health, Livelihood, Service Provider, Occupational hazard

#### Introduction

Unemployment is a key issue and a grave crisis that in some countries, may explode and undermine the social fabric very badly. The International Labour Organisation estimates that more than 280 million people worldwide are either unemployed or working at a job that does not pay even a subsistence wage. Many eminent economists opine that the problem of unemployment cannot be solved only by creating job opportunities. At the present level of economic crisis, it cannot be ignored that there is no other alternative way than self-employment. Due to the declining trend of employment, the ray of hope of providing jobs to hundreds and thousands is, therefore, seen with only self-dependent jobs. Under these circumstances, to arrest the rate of increasing unemployment, Auto Rickshaw driving became one of the self-employment plans aiming at providing jobs to plenty of unemployed individuals.

<sup>1</sup> Guest Faculty, Ph.D., Department of Geography, Netaji Subhas Mahavidyalaya, Tripura

 $<sup>2\</sup>quad \textit{Assistant Professor, Ph.D., Department of Geography and Disaster Management, Tripura\ University}$ 

Turizam

2023, vol. 27, br. 3, str. 148-170



# Assessment of geo-environmental and ethnocultural tourism of Jampui Hill, Tripura (India) through perceptual approach

(naslov ne postoji na srpskom)

Mitra Saptarshi, Hrangkhawl Jony, Stabak Roy

Tripura University, Department of Geography and Disaster Management, West Tripura, India

e-adresa: saptarshigeotu2000@gmail.com

Projekat: This topic resulted (in part) from the research project supported by the Indian Council of Social Science Research (ICSSR), New Delhi. The project entitled "Tribal Culture and Problems, Prospects and Strategies for Development of Tourism Economy in Tripura: A Geographical Appraisal" (File No.\_o2/90/2019-20/MJ/RP Dated 13.12.2019).

Ključne reči: Kuppuswamy scale; satisfaction Index; geospatial technique; SCOT; socio-culture; infrastructure

#### Sažetak

(ne postoji na srpskom)

Infrastructure is an integral part of tourism. The worldwide tourism economy experienced a massive hike post-COVID period with special reference to Geo-tourism. India is rich in culture and natural resources, and the Northeastern part of India is so enriched that it potentially carries diversified tourism in all eight states of this region. But tourism infrastructure is facing a serious issue in this country, especially in Tripura. The present study illustrates the Geo-tourism infrastructure and assesses the tourists' perceptions at Jampui

Article Full-text available

# Evolution of Railway Transport System in Tripura: A Chronological Approach

July 2023

Labs: <u>Regional Planning and Urban & Rural Development Lab (RPURDL)</u> · <u>Regional Synthesis Lab (RSL)</u>

🐉 Stabak Roy · 🌹 Saptarshi Mitra

Overview Stats Comments Citations References (42)

#### **Abstract**

Indian Railways is the fourth largest railway network in the world. The journey of railway transportation in India was started in 1853 as an inalienable tool of imperialism. Later on, many Indian states, especially provincial states, were getting connected with the railway services. Pre-independence period, the railway becomes the prime mode of transportation, mainly for long-distance in India. Some states were connected with railways immediately after the

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Research article

#### Incorporating Climate Change Resilience in India's Railway Infrastructure: Challenges and Potential

Mechatronics and Intelligent Transportation Systems | Volume 2, Issue 2, 2023 | Pages 102-116 https://doi.org/10.56578/mits020205

Received: 05-11-2023, Revised: 06-16-2023, Accepted: 06-22-2023, Available online: 06-28-2023



#### Abstract:

This study delves into the crucial task of embedding climate change resilience within the sphere of railway infrastructure planning and design in India. As climate change continues to threaten global transportation systems, the creation of robust, sustainable infrastructure becomes indispensable for minimizing its impacts. Initial investigation entails assessing both existing and anticipated climate change scenarios in India, encompassing elements like temperature fluctuations, changes in precipitation, and severe weather phenomena. Following this, the study proceeds to pinpoint the specific risks and vulnerabilities that the Indian railway system stands to confront due to these climatic shifts. A thorough exploration of current adaptation policies and strategies provides a framework to merge these into railway infrastructure planning and design, using a mix of literary review, best practices, and international case studies as resources. The Indian railway network undergoes a meticulous analysis to evaluate its vulnerability, leading to the identification of key adaptation measures like

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<sup>&</sup>lt;sup>2</sup> Institute of Socio-Economic Geography and Spatial Management, University of Gdansk, 80-309 Gdansk, Poland

<sup>3</sup> Institute of Transportation CIP, 11000 Belgrade, Serbia

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# HOW 'GOOD' IS 'GOOD' NEOLIBERAL RAILWAY POLICY OF INDIA?

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June 2024 · Geographical review of India 86(1):17-38

R€

Labs: Regional Planning and Urban & Rural Development Lab (RPURDL)  $\cdot$  Regional Synthesis Lab (RSL)

Stabak Roy • Saptarshi Mitra

Overview Stats Comments Citations References (84)

#### Abstract

This paper investigates the impact of neoliberal railway policies (National Rail Plan 2030) on the sustainable transport development of India. By examining the historical context, policy implementation, and economic outcomes this paper seeks to understand the extent to which these policies have contributed to the development of the country's railway infrastructure and overall sustainable transport development. The paper argues that India's adoption of neoliberal

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# Spatial Data Analysis for Robust Classification of Network Topology Through Synthetic Combinatorics

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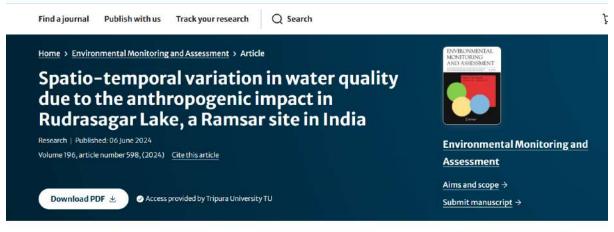
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#### Indian Journal of LANGUAGE AND LINGUISTICS



The Minority Languages of Tripura with Special Reference to Kokborok Language: A Study on the Language Demography of Tripura, India

Sudeshna Debbarma a,\*, Mousami Debbarma a

- <sup>a</sup> Department of Geography and Disaster Management, Tripura University, Suryamaninagar-799022, Tripura, India.
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DOI: https://doi.org/10.54392/ijll2425

Received: 22-03-2024; Revised: 16-06-2024; Accepted: 21-06-2024; Published: 27-06-2024





Abstract: Linguistically, Tripura is a case of one dominant language and several minority languages. This study aims to identify the minority languages endemic to Tripura, with the objective of preserving and protecting the identified languages. The present study is based on the secondary data collected from the Census of India, 2011 and Ethnologue, 2024. The descriptive research method has been used to analyse the data. The study reveals that eight minority languages are enlisted by the Directorate of Kokborok and Other Minority Languages in Tripura. The eight



#### Asian Journal of Geographical Research

Volume 7, Issue 1, Page 161-175, 2024; Article no.AJGR.113126 ISSN: 2582-2985

### Spatio-temporal Analysis of Land Surface Temperature in West Tripura District, India

Jimmi Debbarma a\* and Richa Chakma a

<sup>a</sup> Department of Geography and Disaster Management, Tripura University, Suryamani Nagar, Tripura-West, Pin-799022, India.

#### AUC GEOGRAPHICA, Vol 59 No 1 (2024), 93-107

# Agricultural land suitability analysis in Manipur, India using GIS and AHP

Letminthang Baite, Niranjan Bhattacharjee, Jimmi Debbarma, Anup Saikia

DOI: https://doi.org/10.14712/23361980.2024.6

zveřejněno: 22. 05. 2024

#### ABSTRACT

This article aims to identify potential sites for agricultural use in the state of Manipur of north east India by employing the analytic hierarchy process in a geographic information system environment in conjunction with the use of remote sensing and soil data. Within the analytic hierarchy process, each terrain variable underwent a pairwise comparison and criteria weights were assigned according to their relative importance. Eight variables were selected and used in land suitability analysis for agriculture. It was found that Manipur had 57% (12,660 km2) of its total geographical area suitable for agriculture. However, 8126 km2 (37%) and 1374 km2 (6%) of the total geographical area was currently and permanently unsuitable land respectively. The distribution of suitable land varied greatly, with highly, moderately and marginally suitable land covering only 8%, 16% and 33% respectively of the total geographical area. The highly suitable agricultural land is predominantly concentrated in the Imphal valley (70%), though 90% of moderately suitable and 96% of marginally suitable land also exist in the hills. The hilly areas constitute 96% and 97% respectively of currently unsuitable and

Home / Archives / Vol. 52 No. 1 (2024) / Articles

# Grain size characteristics of unconsolidated soil in the humid tropical region of Tripura

#### J. Debbarma

Department of Geography and Disaster Management, Tripura University, Suryamani Nagar, Tripura-West, India.

Author

Keywords: Grain size, Physiographic units, Soil texture, Soil gradation

**Abstract** 

Grain size characteristics form an important aspect of study in hydrological and soil sciences. Grain size refers to the single grain dimension of

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Published 2024-12-09

Issue

Vol. 52 No. 1 (2024)

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# STATUS OF AVAILABILITY AND ACCESSIBILITY OF SAFE GROUNDWATER SOURCES IN TRIPURA

June 2023

Jimmi Debbarma · Nibedita Das

Research

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#### Abstract

The availability of clean and dependable water supplies is a necessary condition for long-term growth and development. Safe groundwater is water that is fit for consumption and other domestic purposes without having any significant risk to health in its long-term exposure. Safe water availability and accessibility are inextricably linked and vary spatially. The rationale behind this study lies in exploring the status of availability and accessibility of safe and reliable groundwater sources in the households of Tripura. The study area comprises hills and piedmonts, intermontane synclinal troughs, flood plains, terraces and tillas.

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Flood susceptibility assessment of the Agartala Urban Watershed, India, using Machine Learning Algorithm

Research | Published: 04 January 2024

Volume 196, article number 110, (2024) Cite this article

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Jatan Debnath , Jimmi Debbarma, Amal Debnath, Gowhar Meraj, Kesar Chand, Suraj Kumar Singh, Shruti Kanga, Pankaj Kumar, Dhrubajyoti Sahariah & Anup Saikia

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# Impact of Road Geometric Elements and Traffic Characteristics on Vehicular Emissions in Kolkata

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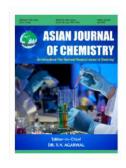
October 2024

🧊 Sajal Ghosh · 🌑 Eshita Boral · 🦚 Bulti Das · 🛢 Tuhin Kanti Ray

Overview Stats Comments Citations References (60)

Abstract and figures

Road transport plays a very important role in movement of both passenger and freight. In Kolkata, for example, exponential vehicular growth and insufficient road infrastructure are major causes of slow traffic movement which creates traffic congestion. Air pollution is another important problem in the city because of vehicular emission being a dominant source of the pollution. Vehicular emission is correlated with traffic speed and traffic speed is primarily controlled by road geometric elements and the growth of vehicles. The major objective of the present study is to determine the impact of road geometric elements and traffic



#### Issue

Vol. 36 No. 6 (2024): Vol 36 Issue 6, 2024

issue Published : May 31,

Multifunctional Transition Metal Complexes: Design, Synthesis, Luminescent Features, Electrical Behaviour, Nanostructure Morphology and Bioactive Properties with 1,1-Dicyanoethylene-2,2-dithiolate and p-Phenylenediamine Ligands

https://doi.org/10.14.233/ajchem.2024.31336

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Author(s): Arijit Kumar Ghosh, Aanchal Verma O, Debabrata Majumder O, Debasish Maiti, Tathagata Choudhuri, Antara Banerjee and Samiran Saha\* Volume 20, Issue 7, 2024 Published on: 17 January, 2024 PDF Article ID: e170124225746 DOI: 10.2174/0115734072277726240102062944

Price: \$65

## EVALUATION OF ACUTE AND SUB-ACUTE TOXICITY OF METHANOLIC LEAF EXTRACT OF BAMBUSA VULGARIS ON MALE WISTAR RATS

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DOI: https://doi.org/10.22159/ajpcr.2024.v17i5.50325

Keywords: Bambusa vulgaris, Methanolic extract, Acute toxicity, Sub-acute toxicity, LD50 dose

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SARKAR, S... P. ROY CHOWDHURY, and D. CHOUDHURI. "EVALUATION OF ACUTE AND SUB-ACUTE TOXICITY OF METHANOLIC LEAF EXTRACT OF BAMBUSA VULCARIS ON MALE WISTAR RATS". Asian Journal of Pharmaceutical

#### IN-VIVO TOXICITY PROFILE OF METHANOLIC EXTRACT OF TERMINALIA ARJUNA (ROXB, EXDC) BARK IN MALE ALBINO WISTAR RATS

#### Abstract

The bio-active compounds present in *Terminalia arjuna* (Roxb. ExDC) have anti-oxidant, anti-proliferative, anti-obesity, anti-hyperglycemic, and lipid-lowering activity. In addition, it has cardioprotective, hepatoprotective, and renoprotective properties. The study evaluated *in-vivo* toxicity profile of the methanolic extract of *Terminalia arjuna* (META) bark on male albino Wistar rats before undertaking further investigation on the use of this extract as a potential therapeutic agent against such conditions. Animals were administered with 300 and 2000 mg/Kg b.w./day of META bark for 14 days; and 250, 500, and 1000 mg/Kg b.w./day of META bark for 28 days for acute and sub-acute toxicity respectively. The outcome of the acute toxicity study revealed no signs of mortality or general behavioral alteration in treatment groups in comparison to the control group. The sub-acute toxicity study revealed, there is no significant influence (p<0.05) of META bark in food consumption and percentage weight gain in the animals. No significant changes (p<0.05) in hematological parameters as well as in biochemical parameters were observed. Histopathological examination showed normal cellular architecture of vital organs in treatment groups as compared to the control group. These results indicated the short-term and long-term administration of META bark did not cause any toxicity in male albino Wistar rats.

#### **Article Information**

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Received: 15 May 2023 Revised: 17 August 2023

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Soma Choudhuri, Susmita Sarkar, Panisree R. Chowdhury, Dipayan Choudhuri & Sandeep Das 🗹

#### Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE 09, 2023

#### Correlates of metabolic syndrome in Young adults: A concise review

Nabamita Nath\* | DipayanChoudhuri\*\*

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"Corresponding author.

#### Abstract:

Introduction: Metabolic syndrome (MetS), a major health issue of present century, is due to clustering of some metabolic disturbances, including central obesity, hyperglycaemia, dyslipidaemia and hypertension that affects all sections of population including young adults. There are uniform cut-off points across for all these risk factors across different population. Recent findings suggest that apart from these traditional risk factor, the condition is also associated with pulmonary dysfunction, changes in haematological and cardio-respiratory parameters, an increased risk for psychiatric co-morbidity and impaired health related quality of life (HRQL). The present review aims to extract recent knowledge on the underlying mechanisms behind the association of these correlates in pathogenesis of metabolic syndrome with special emphasis on young adults.

**Methods:** For the purpose, a systematic literature search was conducted at PubMed, Scopus and Google scholar data bases using keywords like MetS, lung function, haematological parameters, cardio-respiratory fitness separately. All papers under different subheadings where clustered separately. The duplicate ideas

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# COMBINED EFFECT OF OCCUPATIONAL DUST EXPOSURES AND CIGARETTE SMOKING ON PULMONARY FUNCTION OF ADULTS OF TRIPURA-A NORTH EASTERN STATE OF INDIA. Choudhuri Dipayan

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June 2023 · <u>International Journal of Scientific Re</u>... 12(06):1-4 DOI: 10.36106/jjsr/7445470

🚇 Balaram Sutradhar · 🌑 Dipayan Choudhuri

Overview Stats Comments Citations References (24)

Abstract

Background: Occupational related lung diseases are most likely due to the deposition in the lung and are in uenced by the type of dusts, exposure duration, concentration and the size of the dust in the breathing zone. In India,

Home / Archives / Vol. 76 No. 01 (2024): INDIAN JOURNAL OF PHYSIOLOGY AND ALLIED SCIENCES / Research Article

#### Dose-dependent alteration in hepatic and cerebral glucose metabolism following exposure to polystyrene microplastic in Wistar rats

#### Sudipta Pal

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#### Susmita Chakraborty

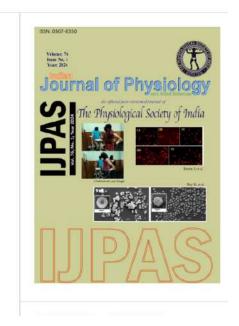
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Nutritional Biochemistry and Toxicology Laboratory, Department of Human Physiology, Tripura University.

DOI: https://doi.org/10.55184/ijpas.v76i01.213

**Keywords:** Polystyrene microplastics; energy metabolism; glycolysis; gluconeogenesis; TCA cycle; transaminase function



#### Microplastic pollution: A potent threat for metabolic disruption in mammals

#### Sudipta Pal

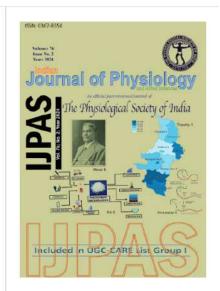
Department of Human Physiology, Tripura University, Suryamaninagar, West Tripura, India

DOI: https://doi.org/10.55184/ijpas.v76io2.226

**Keywords:** polystyrene microplastics; glycolysis; TCA cycle; transamination; gluconeogenesis; in vivo studies

#### Abstract

Polystyrene (PS) is one of the major primary microplastics that are factory-made and widely used as consumer goods, insulation materials, and equipment used in information technology. Animals are exposed to PS via freshwater, marine water, drinking water, food, and atmosphere, as well as via agroecosystems due to their low density, strong durability, and small size characteristics. Several health problems are caused by polystyrene, such as neurotoxicity, digestive disorders, reproductive dysfunction, immunotoxicity, genotoxicity, and oxidative





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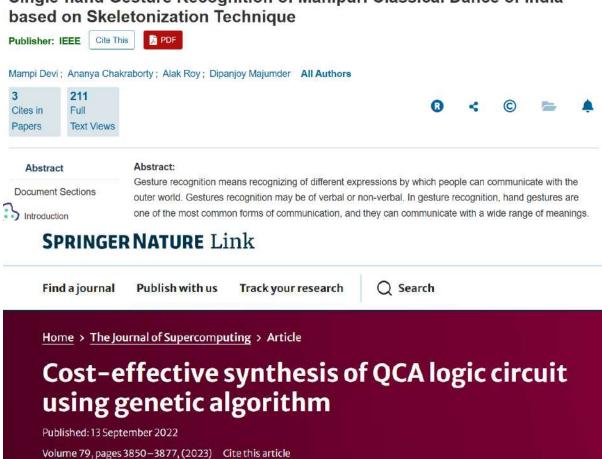
Conference paper | First Online: 29 October 2024 pp 268–279 | Cite this conference paper

Anurag Roy, Alak Roy & Payal Karamakar

Part of the book series: Proceedings in Adaptation, Learning and Optimization ((PALO, volume 19))

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# Single-hand Gesture Recognition of Manipuri Classical Dance of India



Amit Kumar Pramanik, Mahabub Hasan Mahalat, Jayanta Pal, Seyed-Sajad Ahmadpour 🔀 & Bibhash Sen

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# JCA 17.1-2, p. 25-45

#### JCA Home • Issue Contents

# Fault Tolerant QCA Logic Circuit Using Genetic Algorithm Under Regular Clocking Scheme

Amit Kumar Pramanik, Jayanta Pal, Sunidhi Priyadarshini and Bibhash Sen

Quantum-dot Cellular Automata (QCA) is one of the approaches to synthesizing circuits with high density and low power dissipation to conquer pitfalls of CMOS. In QCA, the performance relies on the primitive gate count, which can be optimized by minimizing the gate count. On the other hand, proper cell layout, scalability, and reliability of the circuit can be ensured with the utilization of a regular clocking scheme. The impact of Genetic Algorithm (GA) in gate count optimization on regular clock based QCA circuits is analyzed in this research. Few multi-output boolean functions are realized using an elitism-based method considering USE and RES clocking schemes. A performance study with respect to energy consumption, QCA cost, and fault tolerance are analyzed in this work. Circuits are realized in QCADesigner. QCAPro and QCADesignerE are used for energy dissipation analysis, whereas HDLQ is used for fault tolerance analysis. The result witnessed an oscillating observation in the performance of the USE and RES clocking schemes.

*Keywords*: QCA, genetic algorithm, regular clocking, power analysis, fault tolerance, QCAPro, QCADesignerE, HDLQ



### Usages Of Open Access Resources By The Students And Scholars Of Information Technology And Computer Science Of Tripura University: A Study

#### Sarmistha Podder<sup>1</sup>, Rabindra Kumar Mahapatra<sup>2</sup>

<sup>1</sup>IGNOU, Department of Library and Information Science, Agartala, Tripura 1<sup>st</sup> author, India, PH-8787822538 Sarmisthapodder58@gmail.com

<sup>2</sup> Department of Library and Information Science, Tripura University, Agartala, Tripura 2<sup>nd</sup> author, India, PH-001 657 567 5676 dr.rkmahapatra@gmail.com

Abstract: In this study, the findings of a survey that evaluated students and researchers; familiarity with using open access resources at Tripura University are presented. 38 respondents filled the questionnaires used for the survey. Survey method, structured questionnaire and statistical tool were administered to find the results. The study found majority of respondents were aware with open access sources, such as institutional repositories, self-archived content on the internet, and open access publications. Although respondent's opinions on open access were mixed, the majority of them thought that the resources were of good quality and that having access to them would be to their advantage.

Keywords: Electronic Resources, e-Resources, Digital Resources, Open Access.

#### 1 Introduction

In 21st century information society becomes paperless. But how the knowledge can access the information for development & growth of professional is the most significant question. A reader can freely use the documents as per their requirements when they use a open access system without any guidance of library authorities, but in the other hand they required help from authorities when they use a closed access system. In this open access system articles are freely available in the World Wide Web.

#### 2. Literature Survey

Open access system is the immediate, full text, permanent, free, and online accessible for users and articles published in

materials, consumption of these resources falls short of its maximum potential, the impact of open access is not uniform. That's why this project named "Usages of Open Access Resources by the Students and Scholars of Information Technology and Computer Science of Tripura University: A Study "has been started.

#### 4. Objective of the Study

- To find out the awareness of open access by the students and scholars of Information Technology and computer science of Tripura University.
- To identify the purpose of the use and frequency of open access resources by the computer science and Information Technology students and scholars of

#### University of Nebraska - Lincoln

#### DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

Summer 8-23-2023

#### Preserving Indigenous Irrigation Wisdom

Augustine Zimik augustinezimik@tripurauniv.ac.in

Rabindra Kumar Mahapatra
Tripura University, rkmahapatra@tripurauniv.ac.in

DOI: 10.5269/bspm.51915 · Corpus ID: 255650405

# Asymptotically lacunary $\mu$ -statistical equivalence of generalized difference sequences in probabilistic normed spaces

R. Haloi, M. Sen, B. Tripathy • Published in Boletim da Sociedade... 23 December 2022 • Mathematics

The current article introduces the notion of asymptotically lacunary  $(\Delta \$  current article introduces the notion of asymptotically lacunary  $(\Delta \$  current article presents the equivalent sequence in the settings of a probabilistic norm  $\$ N\$. Furthermore, the article presents the concepts of asymptotically  $(\Delta \$  concepts of asymptotically  $(\Delta$ 



15 References

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#### Some fixed point theorems in generalized M-fuzzy metric space

#### **Binod Chandra Tripathy**

Tripura University

#### Sudipta Paul

Gauhati University

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Gauhati University

DOI: https://doi.org/10.5269/bspm.51771

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#### Relative uniform convergence of double sequence of positive linear functions defined by Orlicz function

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#### **Binod Chandra Tripathy**

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DOI: https://doi.org/10.5269/bspm.62715

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Published 2022-12-28

Issue

Vol 41 (2023)

#### Lacunary Convergence of Double Sequences of Complex Uncertain Variables

Pranab Jyoti Dowari and Binod Chandra Tripathy

https://doi.org/10.1142/S1752890921500173 | Cited by: 4 (Source: Crossref)

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#### **Abstract**

In this paper, we introduce the notion of lacunary convergence for double sequences of complex uncertain variables. We have established the relation between lacunary convergence and strong Cesàro convergence. Also, we have established the relation between different concepts of lacunary convergence of double sequences of complex uncertain variables.

Advances in Mathematical Sciences and Applications Vol. 33, No. 1 (2024), pp. 97–108



# ON STATISTICAL LIMIT SUPERIOR AND LIMIT INFERIOR IN NEUTROSOPHIC NORMED SPACES

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and

SANTONU DEBNATH †

Department of Mathematics Tripura University (A Central University)

(E-mail: santonu.mathematics@tripurauniv.ac.in, santonudebnath16@gmail.com)

**Abstract.** In this paper, we introduce the notion of statistical limit superior and statistical limit superior and statistical limit superior.

# Dynamical Analysis of modified Reissner Nordström metric in lyra's geometry

Swarnabha Debnath 2; Dr. Biswajit Paul 2; Dr. Subrata Bhowmik 2

Abstract: We have applied the principles of Lyra's geometry in modifying the Reissner Nordström metric to develop the metric for charged black holes and derived the first two components of the metric from the modified Einstein's field equation. In this paper we analysed the complex dynamical system for the trajectories of the charged particles in the context of lyra's geometry based on Sen and Dunn's modification of the coupled Einstein-maxwell equation. The analysis begins by formulating the modified geodesic equations of motion for the RN metric in Lyra's geometry. As a result some interesting properties of the interaction of charged particles with the Reissner blackhole are studied.

**Keywords:** Dynamical analysis, Modified Reissner Nordström metric, Lyra's geometry, Scalar field, Phase space analysis, Stability analysis, Bifurcations, Scalar potential, Coupling constants.

Title: Dynamical Analysis of modified Reissner Nordström metric in lyra's geometry

Author: Swarnabha Debnath, Dr. Biswajit Paul, Dr. Subrata Bhowmik

International Journal of Mathematics and Physical Sciences Research

ISSN 2348-5736 (Online)

Vol. 11. Issue 1. April 2023 - September 2023

Article Full-text available

#### A STUDY ON NON T1 SPACES

January 2023

Bhowmik Subrata

Research

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#### Abstract

In this paper we are interested to study non T1 topological spaces with the neighbourhood stucture. In this paper we will consider the reverse of the specialization order ([4], [5]) in T0 spaces and study some properties with this order. Lastly we will study a generalized metric defined with the reverse of the specialization order and study the relationship of the T0 and T1 separation axioms between the two topological structures on a same set.



# PREFERENCE INTUITIONISTIC FUZZY ROUGH RELATION AND ITS THEORETICAL APPROACH

Res

Cita

Rec

Rea

July 2023 · Journal of the Indian Mathematical ... 90(3-4):199-212

DOI: 10.18311/jims/2023/27812

\blacktriangleright Ajoy Kanti Das · 🌯 Carlos Granados

Overview Stats Comments Citations References (13)

#### Abstract

Relations on intuitionistic fuzzy sets (IFSs) and rough sets (RSs) have recently received a lot of attention for uncertainty. IFSs can effectively represent and simulate the uncertainty and diversity of judgment information offered by decision-makers. In comparison to fuzzy sets (FSs), IFSs are highly beneficial for expressing vagueness and uncertainty more accurately. In this paper, we introduce a novel concept of preference intuitionistic fuzzy rough relation (PIFRR) as an extension of intuitionistic fuzzy rough relation (IFRR) and partially included

Article Full-text available

# Weighted hesitant bipolar-valued fuzzy soft set in decision-making

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January 2024 · Songklanakarin Journal of Science ... 45(6):681-690

Lab: Ajoy Kanti Das's Lab

🛦 Ajoy Kanti Das · Nandini Gupta · 🌯 Carlos Granados

Overview Stats Comments Citations References

#### Abstract and figures

In this research work, we have introduced a new notion of weighted hesitant bipolar-valued fuzzy soft set (WHBFSS) as a generalization of hesitant bipolar-valued fuzzy soft set (HBFSS), and we examine some of its fundamental properties in detail. We've also defined some novel notions of the root mean square difference operator (RMSDO), root mean square difference score matrix (RMSDSM), and weighted score, and using these novel notations, we have

# New Tauberian Theorems for Cesáro Summable Triple Sequences of Fuzzy Numbers

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Authors: C. GRANADOS, A. K. DAS AND S. DAS

DOI: 10.46793/KgJMat2405.787G

#### Abstract:

The purpose of this paper is to establish new results on Tauberian theorem for Cesàro summability of triple sequences of fuzzy numbers. Besides, we extend and unify several results in the available literature. Furthermore, a huge number of special cases, theorems and their implications are proved. We show some illustrative examples in support of the results obtained in this paper.

#### Keywords:

Triple Cesàro summability, slow oscillation, Tauberian condition, sequence of fuzzy numbers.





Yugoslav Journal of Operations Research 2023 Volume 33, Issue 2, Pages: 293-308 https://doi.org/10.2298/YJOR220915034G

Full text ( 353 KB)

Cited by

#### Weighted neutrosophic soft multiset and its application to decision making

**Granados Carlos** (Universidad Nacional Abierta y a Distancia, Barranquilla, Colombia), carlosgranadosortiz@outlook.es **Das Ajoy K.** (Department of Mathematics, Bir Bikram Memorial College, Agartala, India), ajoykantidas@gmail.com **Osu Bright O.** (Department of Mathematics, Abia State University, Uturu, Nigeria), osu.bright@abiastateuniversity.edu.ng

In this paper, we procure the idea of weighted neutrosophic soft multiset (WNSMS) as a generalization of neutrosophic soft multiset (NSMS) and its basic properties are to be showed. Besides, we present a new adjustable approach to WNSMS based on decision-making, for solving decision-making in an indeterminacy situation.

Keywords: Decision-making, soft set, neutrosophic set, neutrosophic soft multiset, weighted neutrosophic soft multiset, weighted neutrosophic soft multiset part

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#### IFAC-PapersOnLine

Volume 56, Issue 2, 2023, Pages 2196-2201



# Extended Dissipativity Analysis for Delayed Fuzzy Systems using Polynomial Based Integral Inequality

Rupak Datta \* 🖾 , Rajeeb Dey \*\* 🖾 , R. Saravanakumar \*\*\* 🖾 , Kevin Guelton \*\*\*\* 🖾

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https://doi.org/10.1016/j.ifacol.2023.10.1127 
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#### Abstract

This study addresses the problem of extended dissipativity analysis for nonlinear timedelay systems represented by Takagi–Sugeno fuzzy model. Different from the existing schemes in the literature, this paper aims to solve the dissipativity problem by

ACS Applied Nano Materials > Vol 7/Issue 4 > Article



REVIEW | February 8, 2024

# Synergizing Proteolysis-Targeting Chimeras and Nanoscale Exosome-Based Delivery Mechanisms for HIV and Antiviral Therapeutics

Nobendu Mukerjee, Swastika Maitra, Arabinda Ghosh\*, Tapti Sengupta, Athanasios Alexiou\*, Vetriselvan Subramaniyan, and Krishnan Anand\*

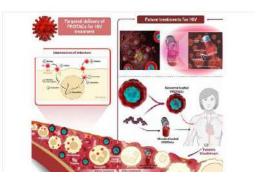


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#### Abstract

The global fight against Human Immunodeficiency Virus (HIV) and related viral infections stands at a pivotal juncture, demanding groundbreaking therapeutic strategies. Facing the challenges of existing antiviral treatments, such as viral resistance and nonspecific actions, this paper unveils a transformative approach. We introduce an innovative synergy between proteolysis-targeting chimeras (PROTACs) and exosome-based delivery mechanisms, heralding an innovative era in combating HIV and similar viral diseases. PROTACs emerge as a trailblazing solution, strategically targeting and decomposing crucial viral proteins, and thus, obstructing viral replication and diminishing pathogenesis. Complementing this, the use of exosome-based delivery systems—nature's own pagescale couriers—ensures the precise and





# Effect of artificial formaldehyde treatment on textural quality of fish muscles and methods employed for formaldehyde reduction from fish muscles



### Stereoselective Synthesis of Dispiropyrrolidinyl Oxindole Derivatives and Evaluation of Their Antibacterial Efficacy

27 Pages • Posted: 16 Mar 2023

#### Bishwa Narayan Kondoli

Tripura University

#### Divya Vemula

Government of India - National Institute of Pharmaceutical Education and Research (NIPER)

#### Umarani Brahma

National Institute of Pharmaceutical Education and Research (NIPER)

#### Vasundhra Bhandari

National Institute of Pharmaceutical Education and Research (NIPER)

#### Pratap Chandra Acharya

Tripura University

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Research Article

### Synthesis and Antineoplastic Efficacy of Anthraquinone and **Saturated Fatty Acid Conjugates**

Bijayashree Mishra, Dr. Pratap Chandra Acharya, Prof. Utpal Chandra De 🔀

First published: 04 July 2023 | https://doi.org/10.1002/slct.202301502

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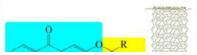


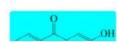




### **Graphical Abstract**

This work describes the synthesis and anticancer properties of a series of phenolic esters of 2hydroxyanthraquinone and saturated fatty acids. The conjugates 10 a and 10 b produced excellent anticancer activity with GI<sub>50</sub> values of 1.0 nM and 0.2 nM against breast cancer cell line MCF-7 and colon cancer cell line Colo-205, respectively. These derivatives were non-toxic to normal cells.







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# Identification of phytoconstituents from Dicliptera paniculata and study of antibacterial activity guided by molecular docking

Original Research | Published: 22 March 2024 Volume 12, article number 18, (2024) Cite this article

Alekhya Sarkar, Sudhan Debnath, Bipul Das Chowdhury, Rajat Ghosh & Bimal Debnath 🖂

Research Article

Stability Indicating Method Development and Validation for the Estimation of Bempedoic Acid by RP-HPLC

Author(s): Mansi V. Chaudhari, Ujwal Chaudhari, Jagdish K. Sahu\* and Shashikant B. Bagade

Volume 17, Issue 1, 2024

Published on: 16 April, 2024

Page: [23 - 33] Pages: 11

DOI: 10.2174/0118723128278080240404052506

Price: \$65

ORIGINAL ARTICLE

### Formulation and evaluation of new herbal nutraceutical tablet for the treatment of diabetes mellitus

Debnath, Bikash<sup>1,2</sup>; Manna, Kuntal<sup>1</sup>; Singh, Waikhom Somraj<sup>1,3</sup>; Goswami, Sanchari<sup>1</sup>

Author Information ⊗

Journal of Drug Research in Ayurvedic Sciences 9(1):p 29-39, January-February 2024. | DOI: 10.4103/jdras.jdras\_48\_23

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#### **Abstract**

#### **BACKGROUND:**

Herbal nutraceutical dosage forms a dietary supplement that improves various chronic diseases. This study aimed to formulate and evaluate new herbal nutraceutical tablets and assess antihyperglycemic and antihyperlipidemia effects in ob/ob mice.

#### Mini-Review Article

#### Metabolites Study of Experimental Plant Derived Alkaloids: A Review

Author(s): Kuntal Manna , Waikhom Somraj Singh , Sanchari Goswami, Abu Md Ashif Ikbal , Amlanjyoti Rajkhowa and Bikash Debnath\*

Pages: 15

Volume 13, Issue 7, 2023

Article ID: e300123213242

Published on: 09 March, 2023

DOI: 10.2174/2210315513666230130093453

Price: \$65

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# ZnO Nanoparticle-Induced Performance Enhancement of a Coumarin-Based Nonvolatile Memory Device

Rahul Deb, Farhana Yasmin Rahman, Surajit Sarkar, Hritinava Banik, Pabitra Kumar Paul, Debajyoti Bhattacharjee, Khuloud A. Alibrahim, Abdullah N. Alodhayb, and Syed Arshad Hussain\*

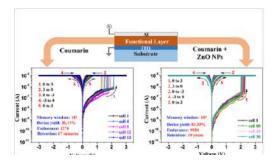


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Supporting Information (1)

#### **Abstract**

Resistive switching memory devices based on organic as well as organic–inorganic hybrid materials are emerging as viable candidates for post-Moore nonvolatile memory applications. In this article, we report a nonvolatile write-once-read-many (WORM) resistive switching memory device (Al/7HNO3C/ITO) based on a coumarin derivative 7-hydroxy-N-octadecyl coumarin-3-carboxamide (7HNO3C). The device yield, retention time, read endurance, and memory window of the designed memory device were found to be 36.11%,  $4\times10^3\,\mathrm{s}$ , 1270 cycles, and  $\sim10^2$ , respectively. ZnO nanoparticles were synthesized and incorporated into the active layer of the coumarin-based device in order to enhance the memory performance of the device. The ZnO-



Research Article

# Optimal allocation with known covariates into two treatments under generalized linear model through Hybrid VNS algorithm



#### **Abstract**

The problem of optimal allocation of experimental units with known covariates into several treatment groups under linear ANCOVA model has already been discussed by the same authors and the optimal allocation design has been derived through an efficient algorithm named as hybrid wariable paighborhood search (VNS) algorithm. In this work, we have addressed the same issue with

Article | Open access | Published: 08 September 2023

### Geo-environmental factors and the effectiveness of mulberry leaf extract in managing malaria

Sayantan Pradhan, Samrat Hore, Stabak Roy, Simi Manna, Paulami Dam, Rittick Mondal, Amit Ghati, Trishanjan Biswas, Subhajit Shaw, Supriya Sharma, Waikhom Somraj Singh, Suman Kumar Maji, Sankarsan Roy, Aparajita Basu, Kailash C. Pandey, Soumadri Samanta, Kapil Vashisht, Tuphan Kanti Dolai, Pratip Kumar Kundu, Saptarshi Mitra, Debasish Biswas, Abdul Sadat, Masuma Shokriyan, Amit Bikram Maity 🗹, ... <u>İkbal Agah İnce</u> + Show authors

Scientific Reports 13, Article number: 14808 (2023) Cite this article

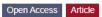
2358 Accesses | 1 Citations | 102 Altmetric | Metrics

#### Abstract

Malaria prevalence has become medically important and a socioeconomic impediment for the endemic regions, including Purulia, West Bengal. Geo-environmental variables, humidity, altitude, and land use patterns are responsible for malaria. For surveillance of the endemic

K





#### Application of Multivariable Statistical and Geo-Spatial Techniques for Evaluation of Water Quality of Rudrasagar Wetland, the Ramsar Site of India

by Pradip Debnath <sup>1</sup> ⊠ , Stabak Roy <sup>1,2</sup> ⊠, Satarupa Bharadwaj <sup>1</sup> ⊠, Samrat Hore <sup>3</sup> ⊠, Harjeet Nath <sup>4</sup> ⊠ . Saptarshi Mitra <sup>1,\*</sup> <sup>™</sup> and Ana-Maria Ciobotaru <sup>5,\*</sup> <sup>™</sup> <sup>™</sup>

- Department of Geography and Disaster Management, Tripura University, Suryamaninagar 799022, India
- <sup>2</sup> Institute of Socio-Economic Geography and Spatial Management, University of Gdansk, 80-309 Gdańsk, Poland
- Department of Statistics, Tripura University, Suryamaninagar 799022, India
- 4 Department of Chemical and Polymer Engineering, Tripura University, Suryamaninagar 799022, India
- <sup>5</sup> Gheorghe Balş' Technical College, 107 Republicii Street, 625100 Adjud, Romania
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Water 2023, 15(23), 4109; https://doi.org/10.3390/w15234109

Submission received: 21 September 2023 / Revised: 17 November 2023 / Accepted: 21 November 2023 / Published: 27 November 2023

(This article belongs to the Special Issue The Impact of Climate Change and Land Use on Water Resources)

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### Population Distribution of Agartala City and its Significance on Urban Planning and Development

February 2024 · Population geography: a journal of t... 45(2):47-64

Labs: <u>Regional Planning and Urban & Rural Development Lab (RPURDL)</u> · <u>Regional Synthesis Lab (RSL)</u>

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🌹 Saptarshi Mitra · 🐉 Stabak Roy · 🥊 Samrat Hore

Overview Stats Comments Citations References (34)

#### Abstract

Population distribution in an urban area is a critical decision-making factor for urban governance. Agartala, the capital city of Tripura, is the second-largest populated and fastest-growing city in Northeast India. This city is uniquely located in the extreme western part of the State of Tripura, extending between 23°45′N to 23°55′N latitudes and 91°15′E to 91°20′E longitudes, covering an area of 76.150 km2 sharing an international boundary with Bangladesh. This paper

Home > National Academy Science Letters > Article

# **Mapping of Optimum Freight Route by** Using Hybrid VNS Algorithm to Sustain the **Economic Viability of a Landslide Prone** Area: A Case Study of Tripura

NEWS/VIEWS AND COMMENTS | Published: 20 May 2023 Volume 47, pages 103-109, (2024) Cite this article

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Pradip Debnath, Stabak Roy, Samrat Hore & Saptarshi Mitra

252 Accesses 1 Citation Explore all metrics →

#### **Abstract**

Tripura is one of the bordering states of Northeast India with huge strategic and trade potentiality. Unique physiographic structure and diversified socio-political features of the

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Samrat Hore, Stabak Roy , Malabika Boruah & Saptarshi Mitra

# MELATONIN PROTECTS AGAINST OXIDATIVE DAMAGE IN SPLEEN AND DETERIORATION OF IMMUNE FUNCTION IN FORCED SWIMSTRESSED LABORATORY MICE

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**Keywords:** Forced swimming stress, melatonin, spleen, oxidative stress, MT1 & MT2 receptors

Abstract





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Citation: Maitri Bhattacharjee, Rekha Boruah Smriti, R. N. Dutta Purkayastha, Waldemar Maniukiewicz, Shubhamoy Chowdhu characterization, bio-activity, and density functional theory calculation on Cu(II) complexes with hydrazone-based Schiff base ;2024, 40(7): 1409-1422. doi: 10.11862/CJIC.20240007

# Synthesis, structural characterization, bio-activity, and density functional theory calculation on Cu(II) complexes with hydrazone-based Schiff base ligands

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#### SOME ASPECTS OF DERIVATION IN KOKBOROK

#### Samir Debbarma

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#### Abstract

Kokborok is one of the Bodo-Garo languages spoken mainly in Tripura. The Kokborok speakers call themselves Tiprasa. The aim of this paper is to describe the process of derivation in Kokborok language. Kokborok employs two types of affixation: prefixation and suffixation. The derivational prefixes are  $\{kV-\}$ ,  $\{a-$ , nV-  $bV-\}$ ,  $\{phV-$ , mV-,  $sV-\}$ , while derivational suffixes are  $\{-ma\}$ ,  $\{-maig\}$ ,  $\{-maig\}$ ,  $\{-naig\}$ ,  $\{-haig\}$ 

Keywords: Bodo-Garo, Kokborok, Derivational, Suffix

#### 1. Introduction

Kokborok is a Tibeto-Burman language of the Bodo-Garo sub-group mainly spoken in Tripura and other northeastern states of India. Kokborok has close affinities with other languages of Bodo-Garo i.e., Dimasa, Bodo,

Anandam ABILAC, Vol. XIII ISSN: 2394-9023 UGC - CARE LIST-I: 26

#### Syllable Structure of Tripura

#### Timothy Tripura Khawlsonkim Suantak

#### ABSTRACT

The present paper attempts to provide the description of the possible syllable and word structure of Tripura, a variety of Kokborokwhich belong to the Bodo-Garo branch of a Tibeto-Burman language family. In the state of Tripura, the dialect is spoken in Sabroom and Belonia sub-divisions of South Tripura, Amarpur, Udaipur, North Tripura, Dhalai district, Longtrai valley, and around Gandacherra and Agartala. Tripura speakers are also scattered in Hailakandi, Karimganj and Cachar districts of Assam state, and Mamit District of Mizoram. It is also spoken in present-day eastern Bangladesh where maximum Tripura speakers lives in the Khagrachari district and a few number of speakers in Rangamati Hill District, and Bandarban Districtof CHT (Chittagong Hill Tracts), Bangladesh This paper is the first attempt of linguistic work undertaken in Tripura dialect. The main goal of the present study is to describe the internal syllable structure of Tripura and types of syllable found in this dialect. It will also look into the light and heavy syllables and syllable clusters.

syllable clusters.

Keywords: Tripura, syllable, word, Tibeto-Burman, Bodo-Garo group, syllable clusters.

#### 1. INTRODUCTION

Kokborok (ISO 639-3, Ethnologue), the language of the Borok (people) of the Northeast Indian state of Tripura, Assam, Mizoram and the neighbouring country Bangladesh, belongs to the large Tibeto-Burmese groupof languages, and more precisely to the Bodo-Garo subgroup (Jacquesson, 2008). Kokborok and its sisters' language such as Bodo, Garo, Dimasa, Rabha, Mech, Hojai, Lalung, Chutia belongs to the Bodo-Garo Subgroup. Burling (2023) states that Kokborok is a member of the Bodo-Koch branch within

## REDUPLICATION DUE TO GRAMMATICALIZED MORPHEMES: A STUDY OF VERBAL REDUPLICATION IN MANIPURI

S. INDRAKUMAR SINGH

#### Abstract

Reduplication performs a significant function in human communication. It becomes a morphological device which is widely used in human languages. Reiteration of the whole or part of a word fulfills the grammatical requirements to create new lexical items in the lexicon of Manipuri language. The present paper investigates in detail the compulsory reduplication due to grammaticalized morphemes in Manipuri, a Tibeto-Burman language spoken mainly in Manipur, a northeastern state of India. Speakers of this language are also found in Assam and Tripura and in countries like Bangladesh and Myanmar. Whenever the grammaticalized morpheme gets prefixed to any verbal root, the reduplication of the very verbal root is compulsory. Two such grammaticalized morphemes, koi- and khəŋ- and their prefixation to the



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#### Abstract

Improving technical efficiency is one of the most effective ways to boost output in any manufacturing process. The efficiency level of enterprises can be improved by identifying their sources of inefficiency. The present article examines the technical efficiency and tries to identify the factors causing technical inefficiency in handloom-based micro-enterprises in Assam. The article used primary data and collected from 312 micro-level handloom enterprises spread across four districts of Assam. The stochastic frontier



ISSN: 0019-5553

## PADDY PRODUCTION FORECASTING WITH REFERNCE TO ODISHA: AN ECONOMETRICS ANALYSIS

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#### Abstract:

The present study focuses on identifying the factors influencing the paddy production in Odish state of India. The study includes three variables such as production, irrigation area and fertilizer used in paddy production. Here, the researchers have used 45 years of time series data from 1976 to 2020. The econometrics tools Autoregressive Integrated Moving Average (ARIMA) model and Vector Autoregressive Model (VAR) are used to forecast paddy production. To compare performance in forecasting for VAR and ARIMA model three indices are considered, namely RMSE, MAE, MAPE and Theil's U statistics. The forecasting result indicates that ARIMA performs better than VAR model.

Keywords: ARIMA, MAPE, MEA, RMSE, Production of Paddy

#### 1. Introduction:

Paddy is the most prominent food crops of India. This crop is considered as the backbone of the rural livelihood and it is essential to the nation's food security. India is the country with the largest area under rice cultivation (43.2 million hectares) and it has occupied second position in the production of paddy in the world. Agriculture is the mainstay of the Odisha economy. More than 70% of the state's population and ampleyment opportunities through it and also more than 80% of the population

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#### The Gaines and the Sarangi: Traditions, digital media and the emerging cultural changes

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 Rochelle Ann Lepcha
 Shalinta Rai

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 Ph.D. Research Scholar
 Ph. D Research Scholar

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 Department of Psychology,

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 Tripura University.

#### ABSTRACT

The study explores the emerging cultural changes brought by the 'Digital Technologies' on the ethnic music of the Gaines. The study explores the emerging changes digital technologies has brought into the everyday life of the Gaine. The study is ethnographic and descriptive. For the purpose of the study, in depth interviews of five Gaines (Sarangi musicians) were conducted. The interviews were conducted in Kathmandu, Nepal. Non-participant observation and diary-keeping methods are also applied. The study considers the Gaine as a subject of ethnomusicology. The Gaines and their traditional occupation represent the vanishing traditions. However, with the intervention of digital technologies and the coming of mass media the Gaines have gained the redemption of physical reality.

Keywords: Digital media, Gaine, sarangi, self-representation, tradition

#### INTRODUCTION

This study undertakes to explore the Gaines, the ethnic folk musicians of Nepal, known to travel to places in India like Darjeeling, Kalimpong, Sikkim and parts of Assam. The ethnic music of the Gaines traditionally served as a means of disseminating news, information and entertainment often leading to them being termed as the "singing newspapers". It is essential to understand the ethnomusicology of the Gaines with the intervention of digital technology and the proliferation of media, the traditional profession of the Gaines has become obsolete. These challenges find a suitable place in understanding the changing parasitives and their



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ARTICLE | April 9, 2024

ZnO Nanoparticle-Induced Performance Enhancement of a Coumarin-Based Nonvolatile Memory Device & Click to copy article link

Rahul Deb, Farhana Yasmin Rahman, Surajit Sarkar, Hritinava Banik, Pabitra Kumar Paul, Debajyoti Bhattacharjee, Khuloud A. Alibrahim, Abdullah N. Alodhayb, and Syed Arshad Hussain\*



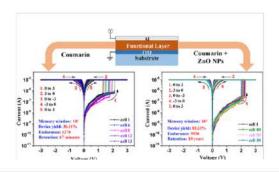
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#### **Abstract**

Resistive switching memory devices based on organic as well as organic–inorganic hybrid materials are emerging as viable candidates for post-Moore nonvolatile memory applications. In this article, we report a nonvolatile write-once-read-many (WORM) resistive switching memory device (AI/7HN03C/ITO) based on a coumarin derivative 7-hydroxy-N-octadecyl coumarin-3-carboxamide (7HN03C). The device yield, retention time, read endurance, and memory window of the designed memory device were found to be 36.11%,  $4 \times 10^3$  s, 1270 cycles, and  $\sim 10^2$ , respectively. ZnO nanoparticles were synthesized and incorporated into the active layer of the coumarin-based device in order to enhance the memory performance of the device. The ZnO-



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## Confirmation of charge carriers' types based on HOMO-LUMO positions in the active layer of a WORM memory device

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January 2024 · Journal of Materials Science: Materi... 35(2)

DOI: 10.1007/s10854-023-11840-6

Lab: Debajyoti Bhattachrjee's Lab

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Abstract and figures

In this communication, we have tried to explain the experimental observation of the flow of opposite charge carriers (electrons and holes) in a Write Once Read Many times (WORM) type memory device's resistive switching phenomena. A

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ACS Applied Electronic Materials > Vol 5/Issue 7 > Article









ARTICLE | July 14, 2023

#### Resistive Switching Behavior Employing the Ipomoea carnea Plant for Biodegradable Rewritable Read-Only Memory Applications

Farhana Yasmin Rahman, Rahul Deb, Surajit Sarkar, Hritinava Banik, Md. Jashim Uddin, Santanu Chakraborty, Debajyoti Bhattacharjee, and Syed Arshad Hussain\*



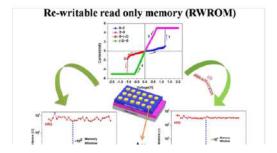
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#### Abstract

Development of biocompatible and biodegradable information storage could be one of the major strides toward the advancement of the nextgeneration eco-friendly electronics. Locally available leaves of Ipomoea carnea (IC) are employed to design a nonvolatile resistive memory device having the configuration Au/IC/ITO. The IC-based memory device is found to have back-to-back Schottky behavior. The memory device exhibits a very good ON/OFF ratio ( $\sim$ 10<sup>2</sup>), device yield (78%), reproducibility (≈32 cycles), and good physical stability (>360 days). Upon UV irradiation, the device performance improves in terms of a higher device yield (82%) and a larger memory window (10<sup>4</sup>).



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## An Account of Natural Material-Based **Nonvolatile Memory Device**

REVIEW ARTICLE | Published: 15 June 2023

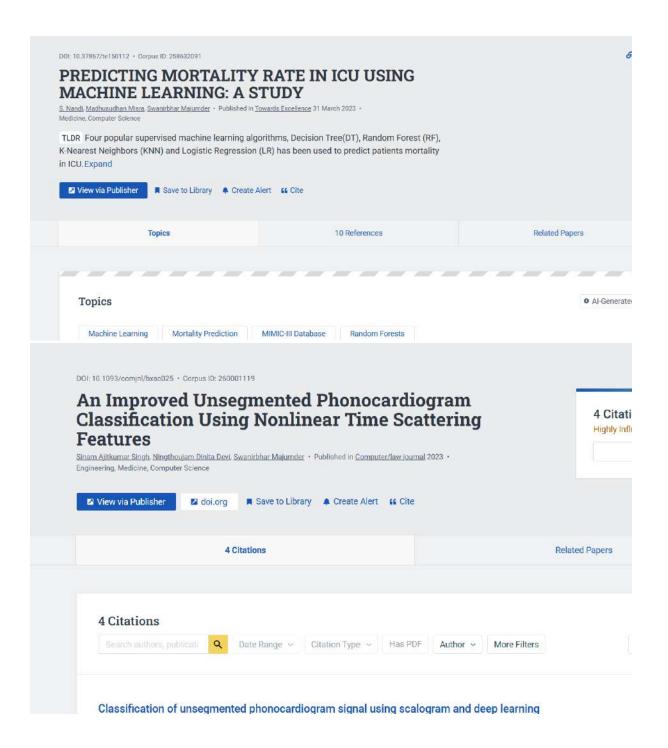
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## Identification of Glaucoma from Retinal Fundus Images Using Deep Learning Model, MobileNet

July 2024 · ECTI Transactions on Computer an... 18(3):371-380

DOI: 10.37936/ecti-cit.2024183.256182

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🦚 Smita Das 🛾 💡 Madhusudhan Mishra 🗣 🛢 Swanirbhar Majumder

Overview Stats Comments Citations (3) References (29)

Glaucoma is one of the leading causes of permanent vision impairment and blindness everywhere in the world due to high intraocular stress inside the eyes. So, early and accurate detection is crucial for preventing irreversible vision loss. Manual recognition of Glaucoma is a difficult task that requires proficiency and a highly experienced person. Computer Aided Detection (CAD) techniques assist ophthalmologists in the detection of such ophthalmologic diseases by analyzing

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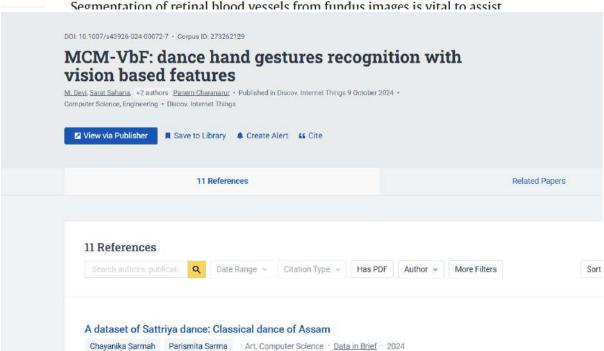
## Assessment of retinal blood vessel segmentation using U-Net model: A deep learning approach

Smita Das <sup>a</sup>  $\stackrel{>}{\sim}$   $\stackrel{\boxtimes}{\bowtie}$  , Suvadip Chakraborty <sup>b</sup>, Madhusudhan Mishra <sup>c</sup>, Swanirbhar Majumder <sup>d</sup>



#### **Abstract**

Segmentation of retinal blood vessels from fundus images is vital to assist





## Control of Hybrid PV System with Battery Storage

Publisher: IEEE Cite This PDF

Chiranjit Biswas; Vinay Gurram; Bikram Das; Prabir Ranjan Kasari; Abanishwar Chakraborti; Swanirbhar Majumder All Authors

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#### Abstract

#### Abstract:

**Document Sections** 

A control scheme for a hybrid solar inverter is proposed which can operate the inverter in both 'on grid' and 'off grid' modes and have a seamless transfer between the two methods. The input for this inverter is obtained from multiple strings of PV arrays. An individual maximum power point tracking (MPPT) for each string is implemented to optimize the power extraction from the PV module. A battery bank controlled by a charge-

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### Acoustic Analysis of Vowels in Kokborok for Male and Female Native Speakers of Tripura

Publisher: IEEE | Cite This | PDF

. Introduction





Suman Debbarma; Swanirbhar Majumder All Authors

29 Full **Text Views** 











#### Abstract

#### Abstract:

**Document Sections** 

I. INTRODUCTION

II. PURPOSE OF THE

This paper generally focuses on the acoustic analysis of vowels of the language called Kokborok spoken by the Borok or Tripuris belonging to the Sino-Tibetan linguistic group and racial Mongoloids. The Kokborok language is a low resource language which consists of 9 (nine) sub-dialect such as Noatia, Debbarma, Jamatia, Reang, Koloi, Murasing, Rupini, Tripura and Uchoi speaking the common language called Kokborok. A close study on the Kokborok language has 6 vowel letters (a, e, i, o, u, w) and 21 consonant this 6-vowel





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## **Industrial Marketing Management**



Volume 114, October 2023, Pages 32-46

## Can Masstige brands be introduced in the B2B markets? An exploratory study



Highlights