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Sree Narayana College,Nattika

RESEARCH CONNECT



A Newsletter on Research and Scholarly Activities

Research is the cornerstone of academic excellence and innovation. At Sree Narayana College, Nattika, we strive to nurture a vibrant research ecosystem that encourages faculty members, research scholars, and students to engage in meaningful scholarly pursuits. This newsletter showcases our research achievements, publications, seminars, funded projects, and collabborations.



Research & Publication Committee

Dr. Renuka. V.V(Coordinator)

Dr.Laxmipriya S (Member)

Prof.Binitha V S(Member)

Dr.Namitha Asokan T(Member)

Dr.Sheeja P Parayil (Member)

Dr.Babitha B (Member)

Dr.Neethu C Subrahmanian(Member)





Message from Principal

This newsletter showcases the scholarly achievements of our faculty members, research scholars, and students during the academic year. It highlights research publications, funded projects, conference presentations, seminars, workshops,collaborations, and other significant research and innovation activities undertaken across various departments. These accomplishments are a testament to the dedication, perseverance, and academic commitment of our research community.I sincerely appreciate the relentless efforts of our faculty members and research scholars who continue to excel in research while effectively balancing their teaching, mentoring, and administrative responsibilities. Their commitment has strengthened the research ecosystem of our institution and enhanced its academic reputation.

I also congratulate the Research and Publication Committee, IQAC, and all those who have contributed to the preparation of this newsletter. I am confident that this publication will serve as a valuable platform for documenting and disseminating our research achievements while inspiring greater participation in scholarly activities.As we continue our journey towards academic excellence, the college remains committed to providing the necessary support, infrastructure, and opportunities to strengthen research, innovation, and interdisciplinary collaboration. Together, let us continue to create knowledge that benefits academia, industry, and society.

I invite all readers to explore this newsletter and celebrate the remarkable research contributions of the Sree Narayana College, Nattika community.

With warm regards and best wishes

Prof. C T Anitha



Message from IQAC

It is with great pride and joy for the edition of our research newsletter. The Internal Quality Assurance Cell (IQAC) remains deeply committed to fostering a vibrant culture of inquiry, innovation, and academic rigor across our campus.

Research is the heartbeat of any higher education institution. It shapes critical thinking and drives societal progress. Hoping that this newsletter captures the commendable strides made by our faculty and student researchers, including peerreviewed publications, funded projects, and collaborative seminars.

Our focus areas should be aligning institutional research goals with global standards and accreditation frameworks, promoting interdisciplinary studies and industry academia partnerships and encouraging young researchers to secure grants and publish in high-index journals.

I congratulate the editorial board for their meticulous work and extend my sincere gratitude to our Principal, Research and Publication Committee for their relentless dedication. Let us continue working together to transform our institution into a powerhouse of knowledge and meaningful innovation.

With best wishes

Prof. Sankaran K K
IQAC Coordinator
Sree Narayana College, Nattika



Message from R&D Convenor

It gives me immense pleasure to present this edition of the Research Newsletter of our College by the Research and Publication Committee in highlighting the vibrant research activities and initiatives undertaken during the period. The newsletter is a reflection of our continued commitment to fostering a culture of research, innovation, and academic excellence.

The Research and Development Cell (R&D Cell) has been actively encouraging and facilitating research activities of our Arts and Science departments, with significant contributions from research scholars of research departments of Botany, Chemistry, Zoology, and Commerce. The concerted efforts of our faculty and students have resulted in the conduct of various research programs, academic activities, and initiatives aimed at promoting research-oriented learning and collaboration.

I hope this newsletter will serve not only as a record of our research endeavors but also as a source of inspiration for further exploration, collaboration, and scholarly pursuits. I extend my sincere appreciation to all faculty members, researchers, students, and contributors whose dedicated efforts have strengthened the research culture of our institution.

With best wishes

Dr.Laxmipriya S
Convenor
R&D Cell

ABSTRACT OF ARTICLES





Vishnu P A

Assistant Professor in Malayalam Department. His area of interest includes Malayalam Literary Criticism, Gender Studies, Kerala Region and Culture, Modern Malayalam Prose, and Folklore.

ദേശഭൂപടങ്ങളിലെ ഉടവുകളും ഉടലുകളും : സമകാലിക മലയാള ചെറുകഥയിലെ പ്രാദേശിക സ്വത്വവിചാരം തിരുവനന്തപുരം യൂണിവേഴ്സിറ്റി കോളേജ് മലയാളവിഭാഗം പ്രസിദ്ധീകരിക്കുന്ന വൈജ്ഞാനിക മലയാളം ജേർണൽ

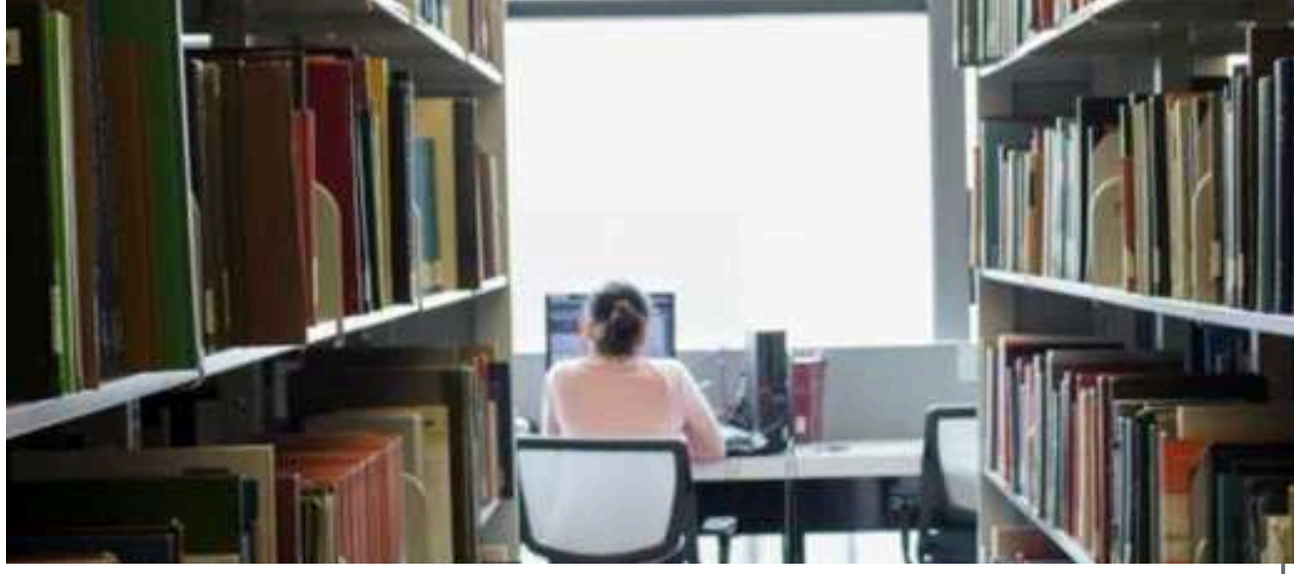
ആഗോളവൽക്കരണാനന്തര കാലഘട്ടത്തിൽ മലയാള ചെറുകഥ നേരിടുന്ന ഭാവുകത്വപരിണാമങ്ങളിൽ ഏറ്റവും പ്രധാനപ്പെട്ടത് പ്രാദേശികതയുടെ വീണ്ടെടുപ്പാണ്. ആഗോള വിപണി സംസ്കാരം നിർമ്മിച്ചെടുക്കുന്ന ഏകശിലാത്മക സ്വത്വബോധത്തെ പ്രതിരോധിക്കാൻ പ്രാദേശികത എന്ന രാഷ്ട്രീയ ആയുധത്തെ സമകാലിക എഴുത്തുകാർ പ്രയോജനപ്പെടുത്തുന്നു. വിനോയ് തോമസ്, ജി.ആർ. ഇന്ദുഗോപൻ, വി. ഷിനിലാൽ, അബിൻ ജോസഫ്, ഫ്രാൻസിസ് നൊറോണ, വി.എച്ച്. നിഷാദ് എന്നിവരുടെ ചെറുകഥകളെ മുൻനിർത്തി പ്രദേശം, മൊഴിഭേദം, ഉപസംസ്കാരം എന്നിവ എങ്ങനെ സർഗ്ഗാത്മകമായി ആവിഷ്കരിക്കപ്പെടുന്നു എന്ന് ഈ പ്രബന്ധം വിശകലനം ചെയ്യാൻ ശ്രമിക്കുന്നു.



മലയാള അപസർപ്പക ഭാവനയുടെ ജനിതകമാറ്റങ്ങൾ: 'ബൊഗെയ്ൻ വില്ല'യിലെ ദൃശ്യാഖ്യാനങ്ങളും സൈക്കോ-പൊളിറ്റിക്കൽ അപനിർമ്മാണവും കേരള സാഹിത്യ അക്കാദമിയുടെ പ്രസിദ്ധീകരണമായ സാഹിത്യലോകം

മലയാളത്തിലെ കുറ്റാന്വേഷണ സാഹിത്യം ഇന്ന് യുക്തിയുടെ കേവല സമസ്യകൾക്കപ്പുറം മനുഷ്യമനസ്സിന്റെയും സാമൂഹികാധികാരത്തിന്റെയും സങ്കീർണ്ണതകളെ വിശകലനം ചെയ്യുന്ന ഒരു വിജ്ഞാനശാഖയായി പരിണമിച്ചിരിക്കുന്നു. അമൽ നീരദ് സംവിധാനം ചെയ്ത 'ബൊഗെയ്ൻ വില്ല' (2024), ലാജോ ജോസിന്റെ 'റൂത്തിന്റെ ലോകം' (2021) എന്നീ കൃതികളെ ആധാരമാക്കി, മലയാളത്തിലെ പ്രമുഖ നിരൂപണ സിദ്ധാന്തങ്ങളുടെ പശ്ചാത്തലത്തിൽ കുറ്റാന്വേഷണ കലയിലെ ഭാവുകത്വ മാറ്റങ്ങളെ ഈ പ്രബന്ധം വിലയിരുത്തുന്നു. ഗാർഹിക നോയർ, അൺറിലയബിൾ നറേറ്റർ, ഗ്യാസ്‌ലൈറ്റിംഗ്, സൈക്കോ-ജിയോഗ്രഫി എന്നീ സംവർഗ്ഗങ്ങളിലൂടെ കുറ്റകൃത്യത്തെ ഒരു സാമൂഹിക-മാനസിക പ്രതിഭാസമായി ഈ പഠനം അടയാളപ്പെടുത്തുന്നു.

ABSTRACT OF ARTICLES

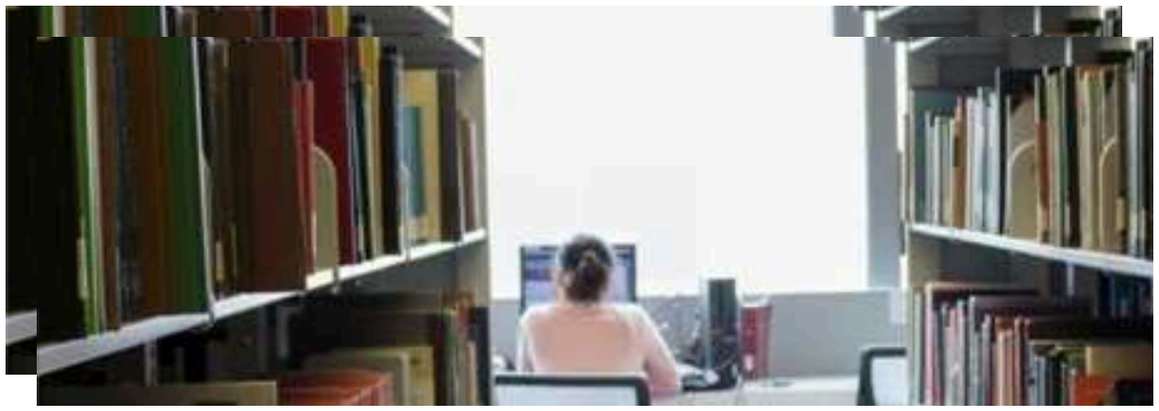




വനസ്ഥലിയും ഗോത്രജീവിതവും: ഇടുക്കിയിലെ ആദിമജനതയുടെ നരവംശശാസ്ത്രപരമായ സാംസ്കാരിക പൈതൃകവും സാമൂഹിക പരിണാമവും അപകടസാധ്യതയും അതിജീവനശേഷിയും: ഗോത്രവർഗ ആരോഗ്യത്തെക്കുറിച്ചുള്ള പരമ്പരാഗത വീക്ഷണം – എഡിറ്റഡ് ബുക്ക്

കേരളത്തിലെ ഗോത്രവർഗ്ഗ വൈവിധ്യത്തിന്റെ ഭൂപ്പടത്തിൽ ഇടുക്കി ജില്ലയ്ക്ക് സവിശേഷമായ സ്ഥാനമുണ്ട്. പശ്ചിമഘട്ടത്തിന്റെ ഭൂപ്രകൃതിയോട് ഇഴചേർന്നുനിൽക്കുന്ന മുതുവാൻ, മന്നാൻ, ഊരാളി, പള്ളിയൻ, മലയരയൻ എന്നീ ഗോത്രവിഭാഗങ്ങളുടെ ഭാഷാപരമായ സ്വത്വം, സാമൂഹിക ഘടന, ആരാധനാക്രമങ്ങൾ എന്നിവയെ ഈ പ്രബന്ധം ആഴത്തിൽ വിശകലനം ചെയ്യുന്നു. എഡ്ഗാർ തേഴ്സ്റ്റൻ, എ.എ.ഡി. ലൂയിസ് തുടങ്ങിയ നരവംശശാസ്ത്രജ്ഞരുടെ നിരീക്ഷണങ്ങളെയും സമകാലിക ഗവേഷണങ്ങളെയും മുൻനിർത്തി, 'അനിമിസം', 'അക്കൾച്ചറേഷൻ' എന്നീ സൈദ്ധാന്തിക ചട്ടക്കൂടുകൾ വഴി ഗോത്രസമൂഹങ്ങളുടെ സാംസ്കാരിക സ്വത്വവും ആധുനികതയുമായുള്ള അവരുടെ സംഘർഷങ്ങളും ഇതിൽ ചർച്ച ചെയ്യുന്നു. പ്രകൃതിയുമായുള്ള ജൈവബന്ധം നിലനിർത്തിക്കൊണ്ടുതന്നെ ഈ സമൂഹങ്ങൾ എങ്ങനെ തങ്ങളുടെ തനത് വിജ്ഞാനവ്യവസ്ഥ കാത്തുസൂക്ഷിക്കുന്നു എന്നത് പ്രബന്ധം അടിവരയിടുന്നു.

ABSTRACT OF ARTICLES





Dr. Sreela Krishnan

Is an Associate Professor in PG and Research Department of Commerce. Her area of interest includes Finance and Tourism.

Consumer Awareness Under the Consumer Protection Act, 2019: An Empirical Assessment of Consumer Rights, Dispute Redressal Mechanisms, And Penalties Among Respondents with Commerce Education In journal of International Journal of Social Science and Human Research

The present study examines the level of awareness regarding the Consumer Protection Act, 2019, consumer rights, consumer dispute redressal mechanisms, and penalties and offences among respondents who have studied or completed Commerce education. The study adopted a descriptive research design, and primary data were collected from 120 respondents using a structured questionnaire. Respondents were selected through convenience and snowball sampling techniques.The findings reveal that respondents possess a high level of awareness regarding the Consumer Protection Act, consumer rights, and penalties and offences, while demonstrating a satisfactory level of knowledge concerning consumer dispute redressal mechanisms. The one-sample t-test confirmed that the awareness levels were significantly higher than the neutral benchmark, whereas Welch's ANOVA indicated that age did not significantly influence respondents' awareness or knowledge. The study concludes that respondents with a Commerce background exhibit a favourable level of consumer awareness; however, greater emphasis on practical aspects such as grievance redressal procedures and digital complaint mechanisms is required. The findings provide useful insights for policymakers, educational institutions, and regulatory authorities in strengthening consumer education and promoting informed consumer behaviour.



ABSTRACT OF ARTICLES





Financial Literacy and its Influence on Digital Rupee (e₹) Awareness and Perception: Evidence from Postgraduate Students *in Journal of International Journal of Science and Research (IJSR)*



The Digital Rupee (e₹), introduced by the Reserve Bank of India as India's Central Bank Digital Currency (CBDC), represents a significant milestone in the country's digital financial ecosystem. The successful adoption of the Digital Rupee largely depends on users' financial literacy, awareness, and perception of this emerging payment instrument. This study examines the influence of financial literacy on the awareness and perception of the Digital Rupee among postgraduate students in Thrissur district, Kerala. A descriptive and analytical research design was adopted using primary data collected from 120 postgraduate students through a structured questionnaire selected using convenience sampling. The data were analysed using percentage analysis, descriptive statistics, one-sample t-test, and Welch's ANOVA. The findings reveal that respondents possess a high level of financial literacy, strong awareness of the Digital Rupee, and a favourable perception towards its adoption. The one-sample t-test indicates that financial literacy, awareness, and perception scores are significantly higher than the neutral level ($p < 0.001$). However, Welch's ANOVA reveals no significant gender-based differences in financial literacy, awareness, or perception. The study concludes that higher financial literacy is associated with greater awareness and a more positive perception of the Digital Rupee, highlighting the importance of financial education in promoting the successful adoption of India's CBDC. The findings provide valuable insights for policymakers, educational institutions, and the Reserve Bank of India in designing effective financial literacy and awareness initiatives.

ABSTRACT OF ARTICLES





A.S.Priyanka

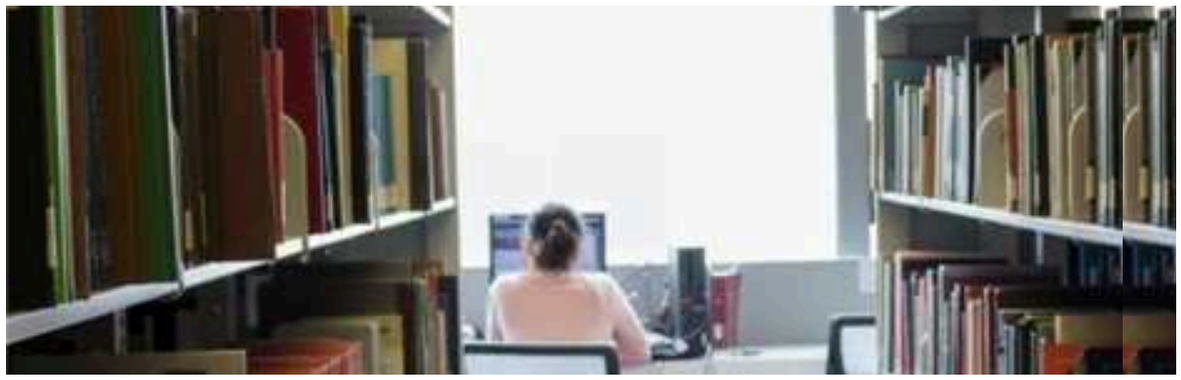
Is an Assistant professor in PG and Research Department of Commerce. Her area of interest includes Organisation Behaviour and Marketing.



Roadwork vs.real life:the human and economic impact of widening kerala's NH-66 ***In journal of_International Journal of Research in Commerce and Management Studies***

Expanding a major highway through a densely populated region does far more than alter traffic flows—it fundamentally reshapes everyday life and the local economy. This study examines the immediate and long-term impacts of widening National Highway 66 (NH-66) into a six-lane corridor in Kerala's Thrissur district. Drawing on primary survey data from 120 local residents and commuters, we evaluate the transition from chronic bottlenecks to an infrastructure-led commercial push.The findings highlight a clear contrast. On one hand, residents view long-term structural outcomes—such as steep property value appreciation and improved regional connectivity—very positively. On the other hand, active construction has created severe operational headaches, notably recurring localized flooding (61.7%) and heavy gridlock along service roads. We conclude with targeted urban design recommendations to minimize localized disruption while building high-capacity transit corridors.

ABSTRACT OF ARTICLES





Dr.Ranjini.R Varma

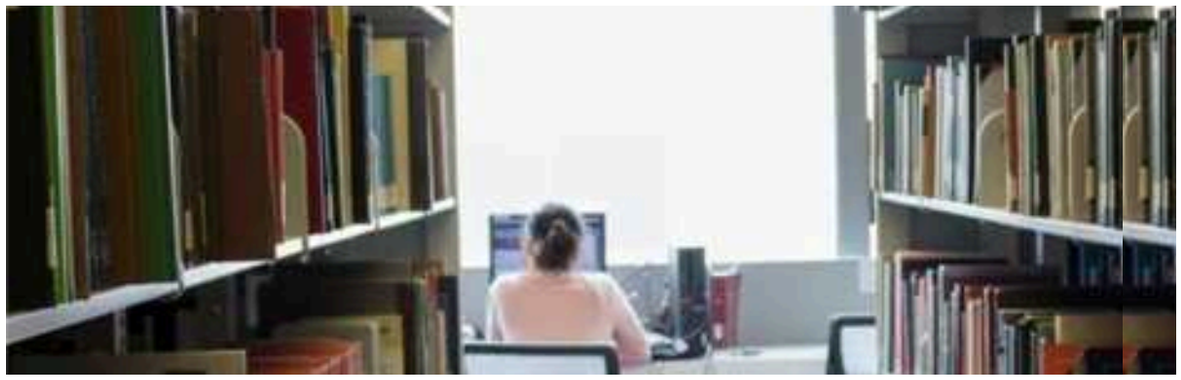
Is an Associate Professor in PG and Research Department of Commerce.Her area of interest includes Marketing and Tourism.



A Study on Stress Management of Ambulance Drivers ***in journal of International Journal of Recent Development in Engineering and Technology***

This study explores the physical, mental, emotional, and financial impacts of work-related stress on ambulance drivers, along with the coping strategies they commonly use to manage stress. A descriptive research design was employed, involving a sample of 150 ambulance drivers from government, private, and hospital ambulance services in the selected area. Data were collected through structured questionnaires and analyzed using percentage analysis, ranking methods, means, tables, and charts. Results reveal significant physical impacts of stress, including disturbed sleep, altered eating habits, and physical exhaustion, with eating habits being the most affected. Mental impacts such as anxiety during emergency situations and overthinking work-related incidents are moderately prevalent, though opinions on mental exhaustion and overall mental health effects were mixed. Emotionally, ambulance drivers reported moderate levels of emotional exhaustion, distress from witnessing serious cases, and feelings of sadness or depression, though emotional detachment from family was less common.

ABSTRACT OF ARTICLES





Dr. Nithin Venugopal

Is an Assistant Professor in PG and Research Department of Commerce. His area of interest includes Banking and Management.



Perceptions, Challenges and Quality of Work Life among Migrant Workers: Empirical Evidence from Thrissur District of Kerala. *In the Journal of Advances in Developmental Research*

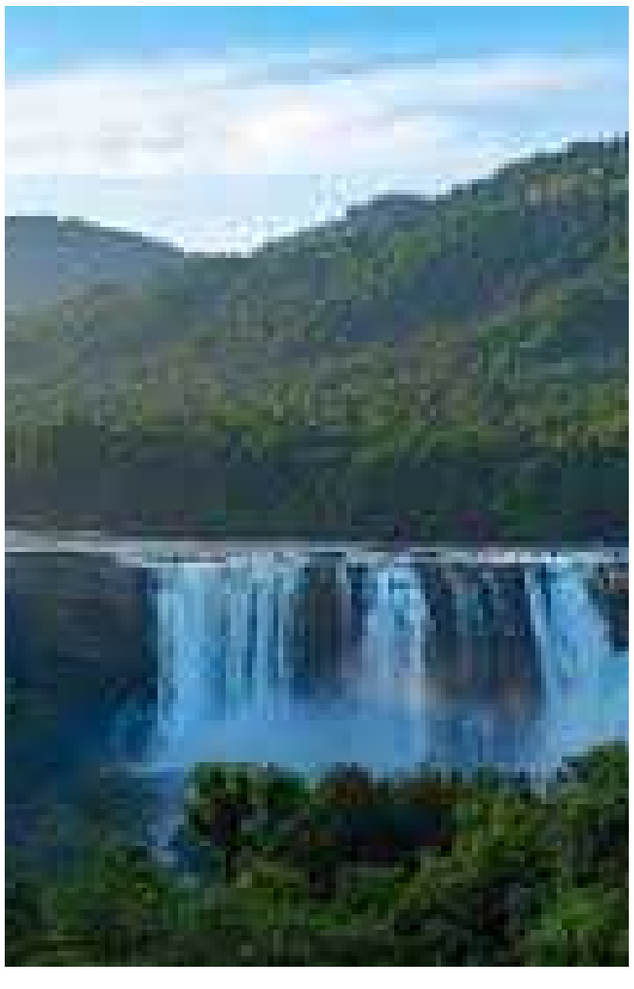
Migrant workers constitute a vital component of Kerala's workforce, particularly in labour-intensive sectors such as construction, manufacturing, hospitality, and personal services. Thrissur District has witnessed a steady influx of migrant labour from various Indian states to meet growing employment demands. Despite their economic contributions, migrant workers often face low wages, insecure employment, inadequate working conditions, and limited access to social and welfare benefits. Social challenges, including discrimination, language barriers, and cultural differences, further impact their integration and quality of work life. This study aims to examine the perceptions, challenges, and quality of work life of migrant workers in Thrissur District using empirical data collected from primary sources. Key areas of investigation include socio-economic conditions, working environment, saving behaviour, and differences in daily life before and after migration. The findings reveal low satisfaction levels in income, employment security, and workplace conditions, while discrimination and language barriers emerge as significant challenges. By highlighting these issues, the study provides insights for policymakers, employers, and social institutions to develop targeted interventions that enhance the well-being, working conditions, and socio-economic integration of migrant workers.

ABSTRACT OF ARTICLES





Dr. Bibin Prabhu
Is an Associate Professor in Department of Economics. Her area of interest includes Tourism and Micro Economics.



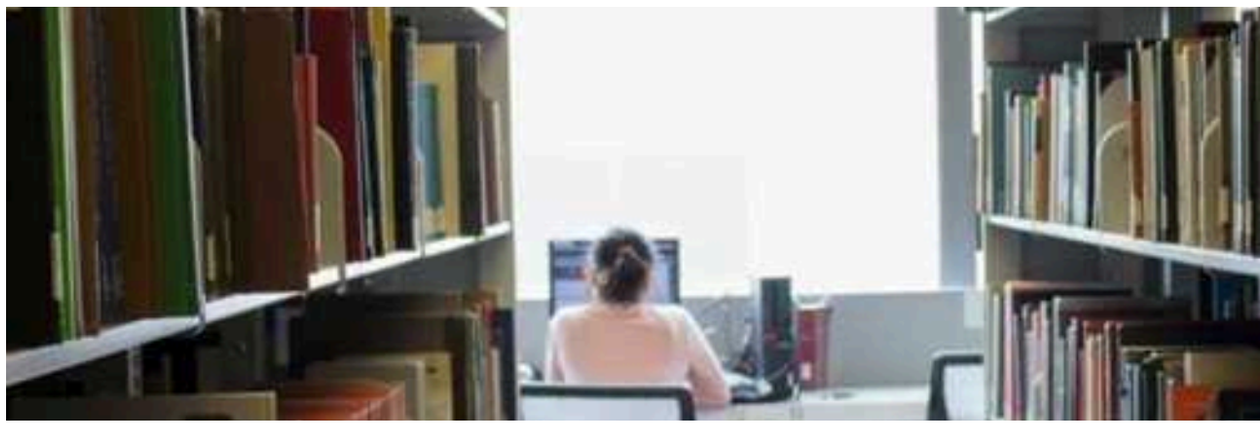
Eco tourism in kerala:A Study of Major Destinations *in journal of TIJER-International Research Journal*

Ecotourism is a unique form of tourism development and replaces traditional mass tourism. This type of tourism focuses on sustainability and fairness. It also encourages community-based activities. This paper assess the major eco-tourism destinations in Kerala and the role of eco-tourism in promoting sustainable tourism development in Kerala. Through analysing the major eco tourism destinations and its role in promoting tourism development in Kerala, the study also highlights the challenges and future prospects of ecotourism in Kerala. The findings reveal the eco-tourism can support sustainable development by protecting natural resources, improving the livelihoods of local people, and strengthening Kerala's reputation as a leading destination for sustainable tourism.

Backwater Tourism in Kerala: Assessing Its Significance and the Need for Safe Houseboat Operations *in journal of JAAFR International Research Journal*

Backwater tourism is one of the most distinctive and attractive forms of tourism in Kerala. The backwaters are a unique network of lagoons, lakes, canals, and rivers that run parallel to the Arabian Sea, creating a scenic and tranquil environment. Backwater tourism mainly revolves around houseboat cruises, which allow visitors to experience the peaceful landscape, traditional village life, and lush greenery of the region. This paper assess the significance of Kerala backwater tourism and the importance of safe houseboat operation as a prime tourism product. In this study, the researcher trying to identify the major issues facing the houseboat operations. Also recommend effective solutions for safe and secured houseboat operations. The findings reveal that ensuring safe houseboat operations through proper regulation, regular inspections, trained staff, and eco-friendly waste management practices is essential for sustainable and responsible development of backwater tourism in Kerala.

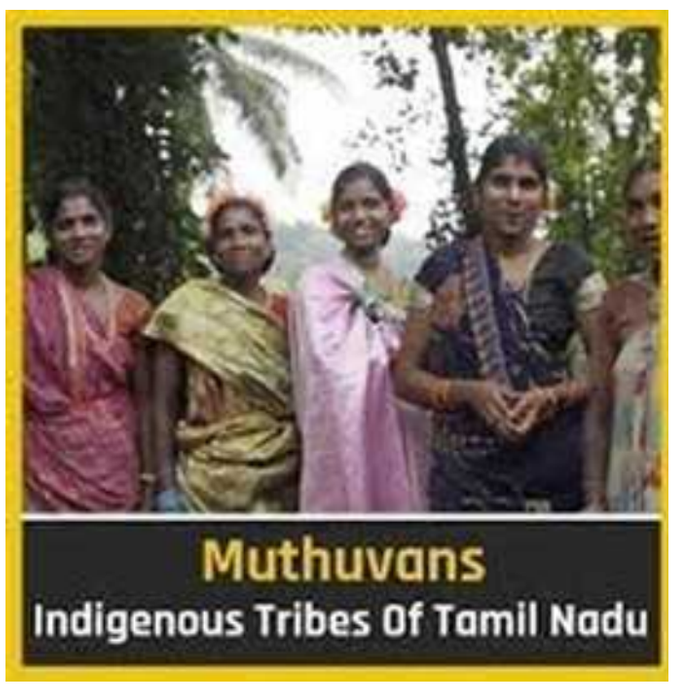
ABSTRACT OF ARTICLES





Dr.Babitha B

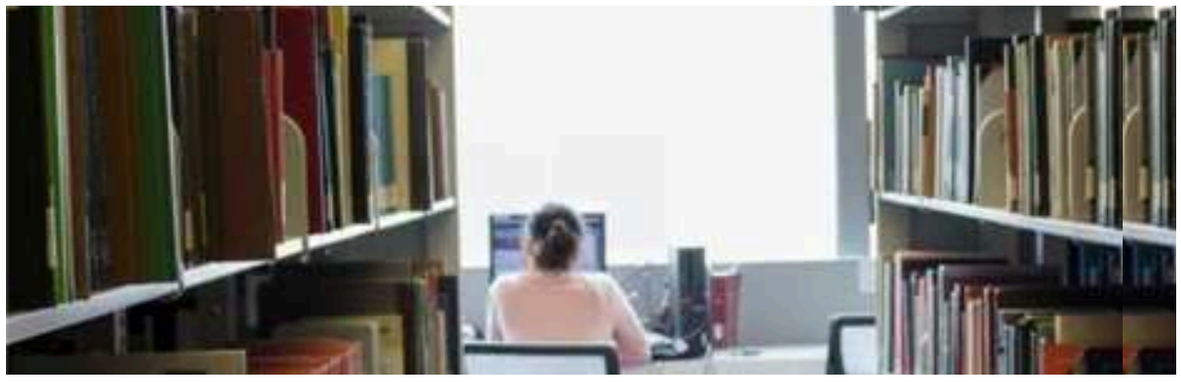
Is an Assistant Professor in English Literature. Her area of interest includes Cultural studies Translation studies and Comparative literature.



Nature, Life, and Culture of Muthuvan Tribe: A Study of the Select Poems of Ashokan Marayoor *in journal of SUŞAMÃ : Multidisciplinary Research Journal*

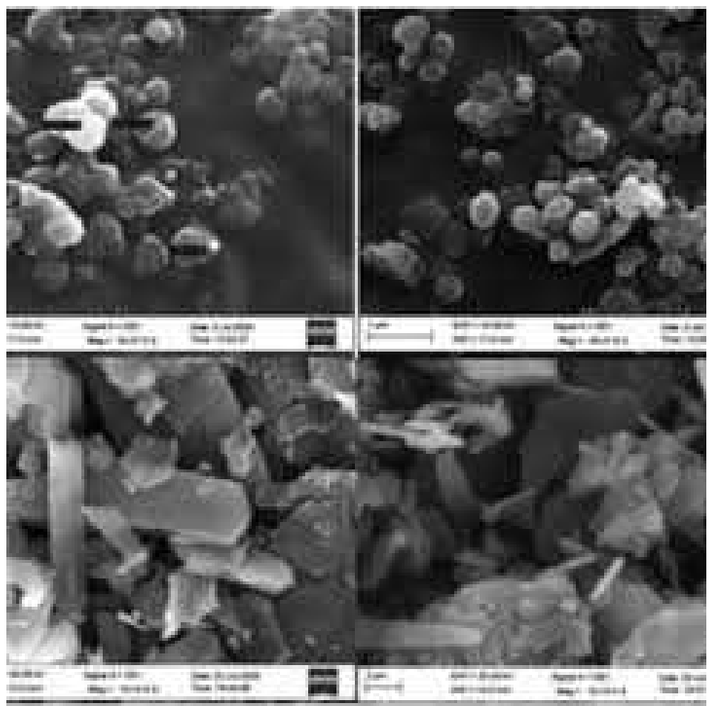
The present paper discusses the culture, customs, and rituals ofthe Muthu-van tribe by analysing the select poems ofAshokan Marayoor. The poems function as valu-able repositories of the historical memory of the Muthuvan community, documenting its cultural practices, traditions, beliefs, and collective experiences across generations. The use ofthe indigenous dialect acts as an important medium for preserving and articulating the community's cultural identity. The Muthuvan tribe does not have a recorded history,-their traditional knowledge is passed down orally over generations. Muthuvans are skilled in traditional medicinal practices and follow a traditional healthy food culture even in this modern period. The poems act as a historical record of the Muthuvan tribes. The study focuses on the need to preserve indigenous languages and knowledge systems for future generations.

ABSTRACT OF ARTICLES





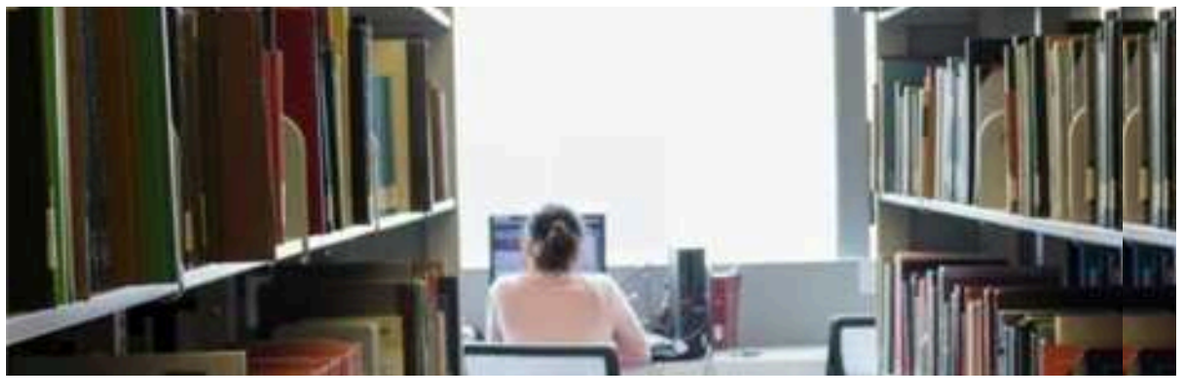
Dr.Jiju K R
Is an Assistant Professor in PG and Research Department of Chemistry. His area of interest includes, Nanochemistry and Drug Delivery System.



Schiff Base Functionalized ZIF-8-GO Hybrid as an Efficient Adsorbent for Methylene Blue: A Comparative UV–Vis and DPV Study *in journal of Chemistry Select*

Designing efficient adsorbent materials with high affinity toward synthetic dyes is essential for sustainable wastewater treatment. In this study, a Schiff base-functionalized zeolitic imidazolate framework-8/graphene oxide hybrid (En-Sal-ZIF-8@GO) was developed and evaluated for methylene blue (MB) adsorption. The composite was synthesized via sequential Schiff base grafting and graphene oxide (GO) incorporation, yielding a microporous framework with a Brunauer–Emmett–Teller (BET) surface area of 950 m2 g− 1 and pore volume of 0.38 cm3 g− 1 , while retaining the structural integrity of ZIF-8, as confirmed by powder x- ray diffraction (PXRD) and Fourier-transform infrared (FT-IR) analyses. Scanning electron microscopy (SEM) images revealed polyhedral ZIF-8 crystallites uniformly anchored on GO sheets, enhancing surface accessibility. Ultraviolet-visible (UV–vis) analysis showed extended visible absorption due to π–π* interactions. The composite achieved 89% MB removal within 60 min compared to 47% for ZIF-8, while differential pulse voltammetry (DPV) confirmed 86% removal at 90 min versus 52% for ZIF- 8. Enhanced adsorption is attributed to electrostatic interactions, π–πstacking, coordination via imine groups, and hydrogen bonding. The close agreement between UV–vis and DPV validates DPV as a reliable complementary technique for wastewater treatment applications.

ABSTRACT OF ARTICLES

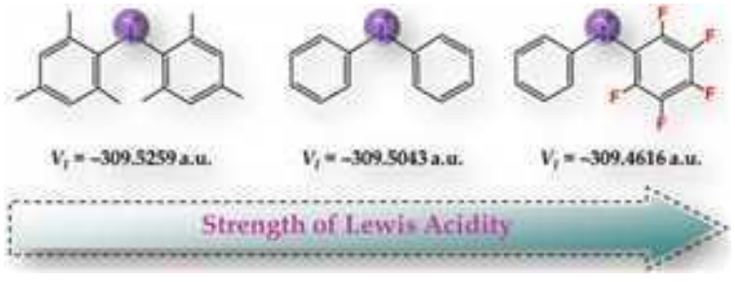




Remya L
Is an Assistant Professor in PG and Research Department of Chemistry. Her area of interest includes Theoretical and Computational chemistry

Electrostatic Potential at the Iodine Nucleus as a Predictive Descriptor for Lewis Acidity in Diaryliodonium Ions *in journal of inorganic Chemistry*

Diaryliodonium salts are versatile hypervalent iodine(III) compounds whose utility as Lewis acid catalysts relies on the tunable electrophilicity of the iodine center. To enable the rational design of these catalysts, a predictive and computationally accessible electronic descriptor is essential. This study introduces the electrostatic potential at the iodine nucleus (V_I) as a robust, quantitative metric to evaluate the Lewis acidity across diverse acyclic and cyclic diaryliodonium architectures. Computed V_I values of diaryliodonium ions correlate strongly with established experimental benchmarks, including Gutmann–Beckett ^{31}P NMR chemical shifts and a previously reported experimental acidity scale. Systematic analysis reveals that V_I sensitively captures electronic perturbations from the substituents and ring strain. A multiple linear regression model incorporating V_I and the C–I–C bond angle (Φ) successfully predicts Lewis acidity parameters for both acyclic and cyclic diaryliodonium ions on a single unified scale. This work establishes V_I as a fundamental and convenient parameter for assessing Lewis acidity, providing a clear electronic design principle for developing next-generation hypervalent iodine-based catalysts.

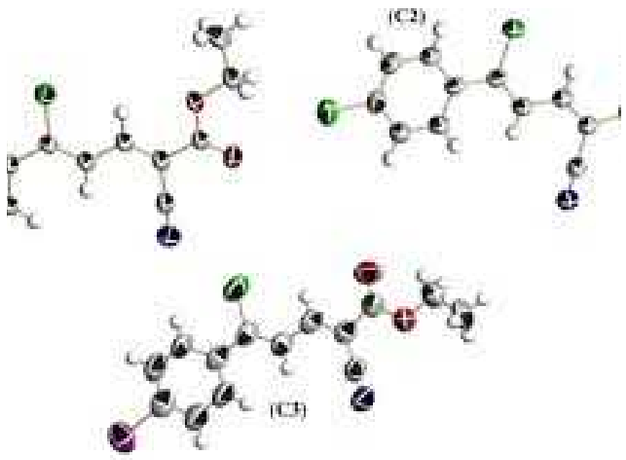


ABSTRACT OF ARTICLES





Dr. Anabha E R
Is an Associate Professor in PG & Research Department of Chemistry. Her area of interest includes Synthetic Organic Chemistry and Hetrocyclic Chemistry.



Structural, thermal, and antibacterial studies of phenyl pentadienoates based molecules *in journal of Molecular Structure*

A series of halogen-substituted phenyl pentadienoate derivatives was prepared via Vilsmeier-Haack formylation of acetophenones, followed by Knoevenagel condensation of haloaryl chloroacrylaldehydes with ethyl cyanoacetate. The compounds have been characterized and confirmed using FTIR, ^{1}H NMR, and ^{13}C NMR spectroscopy, and the crystal structure has been determined by single-crystal X-ray diffraction (SCXRD). Crystallographic analysis shows that compound C1 crystallizes in the orthorhombic crystal system with space group Pnma, whereas compounds C2 and C3 adopt a monoclinic lattice with space group P21/c. All structures exhibit weak intermolecular hydrogen-bonding interactions that contribute to crystal packing stabilization, while π-π stacking was observed only in C3. Thermal stability and phase transitions were investigated using TGA and DSC, indicating that all compounds remain thermally stable up to approximately 160°C, with a sharp endothermic peak in the heating curve, indicating high crystallinity and purity. The synthesised compounds were screened for their in vitro antibacterial activity against both Gram-negative and Gram-positive bacterial strains using the Agar well diffusion method. The results obtained from these studies show that the compound has selective activity against Gram-positive strains compared to Gram-negative ones. All three compounds show significant activity against S. aureus, while moderate activity against P. aeruginosa was observed only for C2. These findings demonstrate that the influence of halogen substitution and a pentadienoate skeleton affects molecular packing, thermal behaviour, and antibacterial potential.

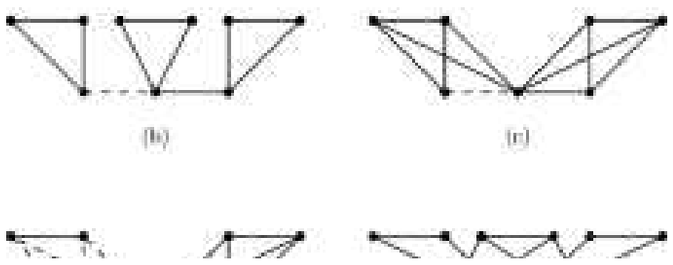
ABSTRACT OF ARTICLES





Arathy K D

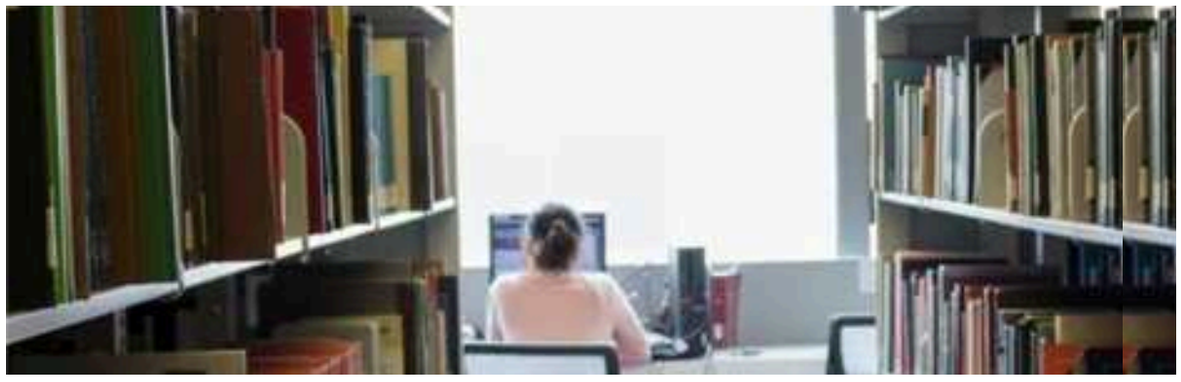
Is an Assistant Professor in Department of Mathematics. Her area of interest includes Graph Theory and Linear algebra.



On Reciprocal Distance Spectrum of Neighbourhood Corona of Graph *in book series of Springer Proceedings in Mathematics & Statistics*

The reciprocal distance spectrum of a connected graph G is the set of all eigenvalues of its reciprocal distance matrix. The neighbourhood corona G⊙ H of two graphs G and H is formed by taking one copy of G and |V(G)| copies of H and making all the vertices in the i th copy of H adjacent with all the neighbours of the i th vertex in G. In this paper we describe the reciprocal distance eigenvalues and corresponding eigenvectors of G⊙ H in terms of the adjacency eigenvalues of G and H when G is a regular triangle-free graph of diameter 2 and H is regular. As applications we construct infinitely many reciprocal distance non-cospectral pairs of reciprocal distance equienergetic graphs and non-isomorphic pairs of reciprocal distance cospectral graphs of the same order and size using line graphs, iterated line graphs, double graphs, strong double graphs, and complement graph

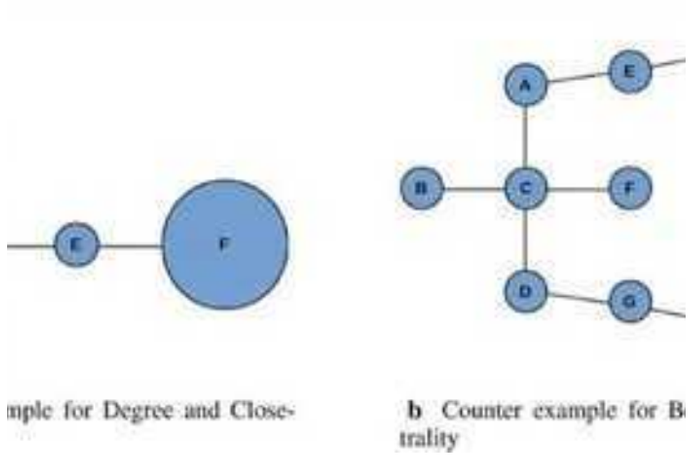
ABSTRACT OF ARTICLES





Dr.Sreena T D

Is an Assistant Professor in Department of Mathematics.Her area of interest includes Graph Theory and Applied Mathematics.



nple for Degree and Close-

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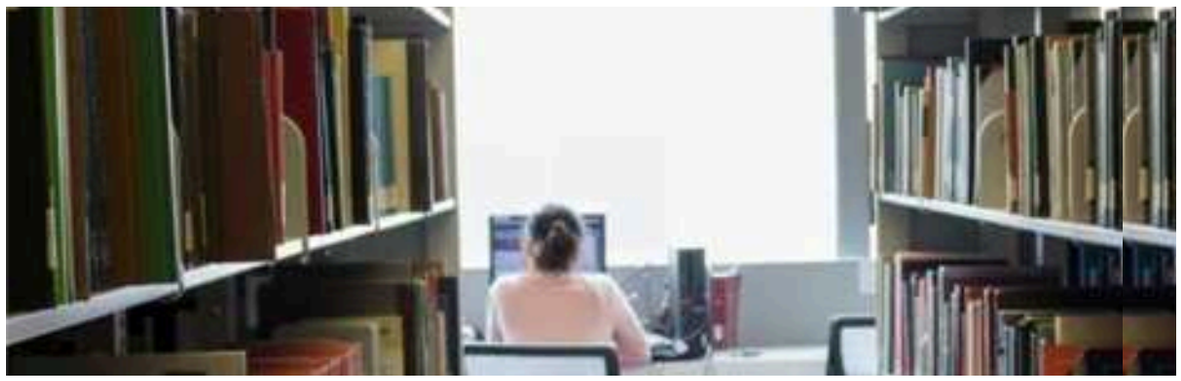
trality

A Distinct Weighted Centrality–RMS Graph Labeling for Cybersecurity Network Prioritization *in journal of Global Journal of Engineering and Technology*

Graph labeling is a useful way to study the structure of complex networks. In this study, Distinct Weighted Centrality–Root Mean Square Graph Labeling (DWCRMSGL), a method that combines betweenness, degree, and closeness centralities to give unique weighted labels to each vertex, is presented. Edge labels using the Root Mean Square (RMS) of the labels of their connected vertices are computed. Also describes an algorithm for this labeling and explains its theoretical properties. Later test the method on the Email-Eu-Core communication network, using the vertex and edge labels to find and rank key users and communication links. This approach allows us to bring together several centrality measures in graph labeling, making it easier to identify important parts of a network. In cybersecurity, this method can help with network monitoring, resource allocation, and assessing communication risks. The labeling is efficient and can be applied to other real-world communication and complex networks.

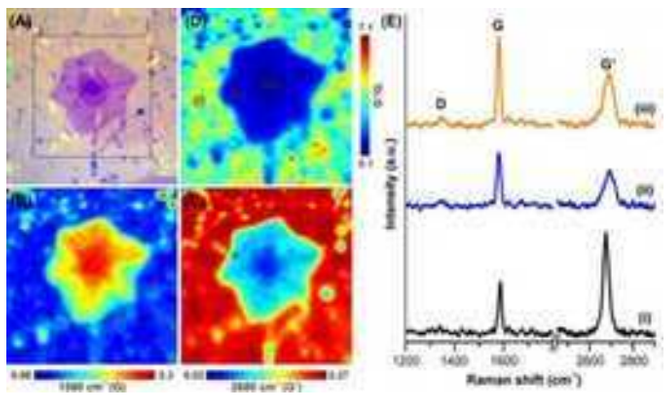
ABSTRACT OF ARTICLES





Dr.Binitha V S

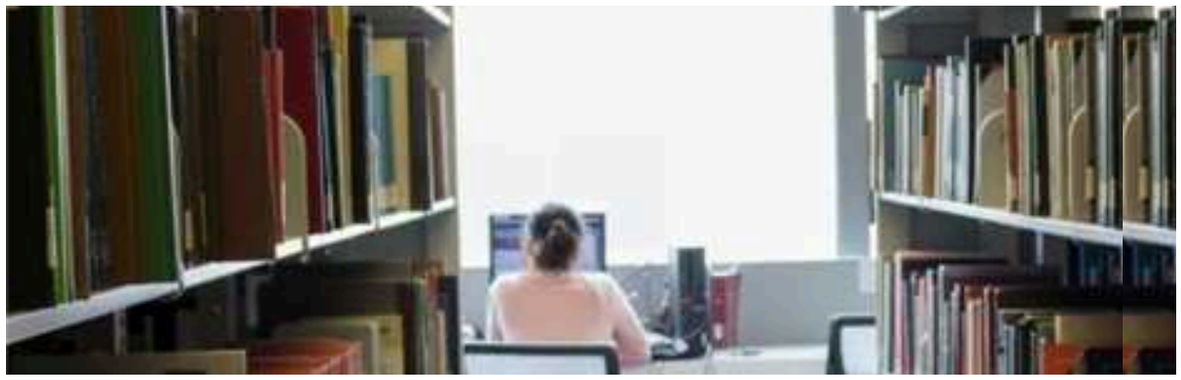
Is a Professor in PG and Research Department of Zoology. Her area of interest includes Toxicology,Insect Biochemistry and Physiology



Multiomics and Confocal Raman mapping of Stegodyphus sarasinorum venom gland biomolecules with antioxidant and cytotoxic activities *in journal of ScientifIic Reports*

This investigation undertakes a comprehensive characterisation of the venom gland of the colonial spider, Stegodyphus sarasinorum, integrating transcriptomics, proteomics, metabolomics and Confocal Raman spectroscopy. Transcriptomic analysis identified 31 annotated protein components, comprising both venom-associated and non-venom proteins, while proteomic analysis identified 32 proteins. Ultra-High-Performance Liquid Chromatography–Mass Spectrometry (UHPLC–MS) identified 81 metabolites, including amino acids, biogenic amines, nucleotides, nucleosides, quaternary amines, organic acids, and other low-molecular-weight compounds. Two-dimensional and three-dimensional Confocal Raman mapping revealed the spatial distribution of constituent biomolecules within the venom gland. The venom gland exhibited dose-dependent cytotoxicity against Dalton's lymphoma ascites (DLA) cells and showed radical scavenging activity in DPPH, ABTS, hydrogen peroxide, hydroxyl radical and ferric reducing anti-oxidant power assays, indicating potential source as antioxidants. This integrated multi-omics analysis provides the first comprehensive molecular and functional profile of the S. sarasinorum venom gland, highlighting its promise for future biotechnological and pharmaceutical applications.

ABSTRACT OF ARTICLES





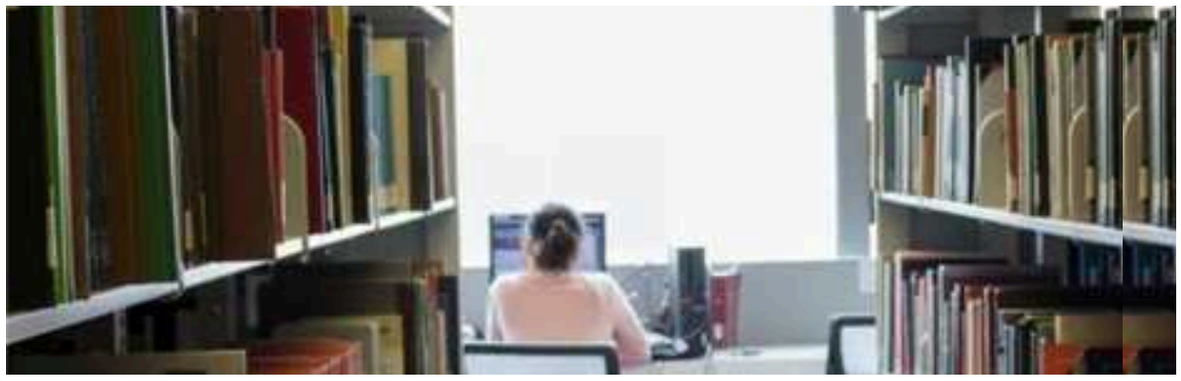
Dr, Arya Viswanath is an Assistant Professor in Malayalam Department. Her areas of interest include local history and Literature.



അപസർപ്പണത്തിന്റെ ഫോറൻസിക് സാധ്യതകൾ
സാഹിത്യലോകം – പിയർ റിവ്യൂഡ് ദ്വൈവാർഷിക ജേണൽ

2015 നു ശേഷം മലയാളത്തിൽ ഏറ്റവും കൂടുതൽ പ്രസിദ്ധീകരിക്കപ്പെട്ടിട്ടുള്ളതും ചർച്ച ചെയ്യപ്പെട്ടിട്ടുള്ളതും കുറ്റാന്വേഷണ നോവലുകളാണ്.കോട്ടയം പുഷ്പനാഥ്,ബാറ്റൺ ബോസ് മുതലായ പഴയ തലമുറ എഴുത്തുകാരിൽ നിന്നും ഭിന്നമായി ഭാവനയും ഉദ്വേഗം ഉണ്ടാക്കുന്ന സംഭവങ്ങളും മാത്രം കോർത്തിണക്കി എഴുതുന്നവരല്ല പുതിയ തലമുറയിലെ കുറ്റാന്വേഷണസാഹിത്യത്തെ മുന്നോട്ടുകൊണ്ടുപോകുന്നവർ.ശാസ്ത്രബോധവും യുക്തിചിന്തയും സാങ്കേതികവിദ്യയുടെ കൃത്യമായുള്ള ഉപയോഗവും നവമാധ്യമങ്ങളുടെ ശൈലീ സ്വാധീനവും അവർ തങ്ങളുടെ നോവലുകളിൽകൃത്യമായി കോർത്തിണക്കുന്നു.കുറ്റാന്വേഷണത്തിൽ ഒഴിച്ചുകൂടാനാവാത്ത ഒരു ശാഖയാണ് ഫോറൻസിക് സയൻസ്. പുതിയകാല സിനിമകളും ക്രൈം ഫിക്ഷനുകളും ഏറ്റവും അധികം ഉപയോഗപ്പെടുത്തുന്ന ഒരു ശാസ്ത്ര ശാഖയാണിത്.ഫോറൻസിക് സയൻസും അതിൻറെ നൈതികതയും ആധുനിക നോവലുകളിൽ എപ്രകാരം ആവിഷ്കരിക്കപ്പെടുന്നു എന്നുള്ളതാണ് ഈ പ്രബന്ധത്തിന്റെ സംഗ്രഹം.രജത്. ആർ എഴുതിയ 'സസ്പെൻസ് ജീൻ' എന്ന നോവലാണ് പഠനവിധേയമാക്കിയിരിക്കുന്നത്.

ABSTRACT OF ARTICLES





Sarika S Nair
Is a research student from Department of Botany. Her area of interest includes Phytochemistry and Pharmacognosy.



Dr.Sheeja T Tharakan,
Professor Department of Botany ,Vimala college and Research Guide in Department of Botany in our college. Her area of interest includes Phytochemistry and pharmacognos.

Exploring Non-anthraquinone Metabolites of the Morinda Genus: Distribution and Biological Activities *in Journal of Applied Pharmaceutical Science*

The Morinda genus, part of the Rubiaceae family, is a valuable source of diverse bioactive compounds beyond the well-known anthraquinones. This review focuses on the secondary metabolites from Morinda species that do not contain anthraquinone structures, highlighting their chemical variety and biological importance. Important groups such as iridoids, phenolic compounds, coumarins, and polysaccharides are covered in terms of their distribution and effects. Numerous biological activities have been demonstrated by these compounds, notably antioxidant, anti-inflammatory, antimicrobial, antimalarial, neuroprotective, anticancer, antiviral, and immune-enhancing properties contributing to the therapeutic potential of Morinda. By reviewing recent advances in phytochemical research and pharmacological evaluation, this article identifies promising non-anthraquinone molecules for further development in medicine and biotechnology. This work aims to stimulate further exploration of Morinda's unique natural products for their effective use in modern and traditional healthcare, including preliminary structure–activity relationship (SAR) insights.

RESEARCH INITIATIVES

SESSION ON RESEARCH PAPER WRITING AND PUBLICATION STRATEGIES





Dr. Meera Prathapan, Assistant Professor, School of Management Studies, Cochin University of Science and Technology (CUSAT), served as the resource person. The Research and Publication Committee of Sree Narayana College Nattika, in collaboration with the DBT STAR Scheme, IQAC, Ethics Committee, PG and Research Department of Commerce, R&D Cell and PG Forum, organised the session.The programme focused on the importance of systematic research paper writing and effective publication strategies. The resource person provided valuable academic insights into developing research work into a well-structured and publishable research paper.

RESEARCH INITIATIVES

SESSION ON RESEARCH AND ACADEMIC ETHICS



The session was led by Dr. Sileesh M. S., Assistant Professor, Department of Zoology, Sree Narayana College, Nattika. He delivered an informative and engaging session on Research and Academic Ethics, with particular emphasis on the ethical challenges and issues encountered in the field of research. The session adopted a case-based and example-oriented approach, enabling the participants to relate ethical principles to practical research situations. The session was organized by Ethics Committee in collaboration with DBT- STAR Scheme, IQAC, Research and Publication Committee and Research and Development cell of Sree Narayana College, Nattika, Thrissur.

RESEARCH INITIATIVES

WORKSHOP ON AI TOOLS FOR RESEARCH AND EDUCATION IN SSCIENCE



The resource person for the workshop was Dr. Ramesh A R, Professor in Chemistry, Government Victoria College, Palakkad. With his academic and research background in Chemistry, Dr. Ramesh provided participants with valuable insights into the practical applications of AI in scientific and academic contexts. His session focused on how researchers and students can make use of modern AI-based tools to improve the efficiency of different stages of the research process while maintaining academic quality, originality and ethical standards. The Post Graduate and Research Department of Chemistry, Sree Narayana College, Nattika, Thrissur, in collaboration with the R & D Cell, Research and Publication, Ethics Committee and PG Forum, organized the workshop.

RESEARCH INITIATIVES

BEOYOND THE QUESTION UNDERSTANDING RESEARCH METHODOLOGY : FROM CURIOSITY TO DISCOVERY



The resource person for the programme was Dr. Anoop Das K. S, Head and Assistant Professor of Zoology at MES Asmabi College, Kodungallur, and Research Supervisor at the Research Centre for Conservation Ecology, Department of Zoology. He is also associated with several research and academic institutions and has experience in conservation ecology and zoological research. A DBT-supported programme titled “Beyond the Question: Understanding Research Methodology – From Curiosity to Discovery” was organised by the PG Forum in association with the Research and Publication Committee and R&D Cell, PG & Research Department of Zoology, Sree Narayana College, Nattika.The session was highly interactive and engaging. Rather than beginning directly with technical aspects of research methodology, the resource person first developed curiosity among the participants through a number of interesting questions and everyday examples

RESEARCH INITIATIVES

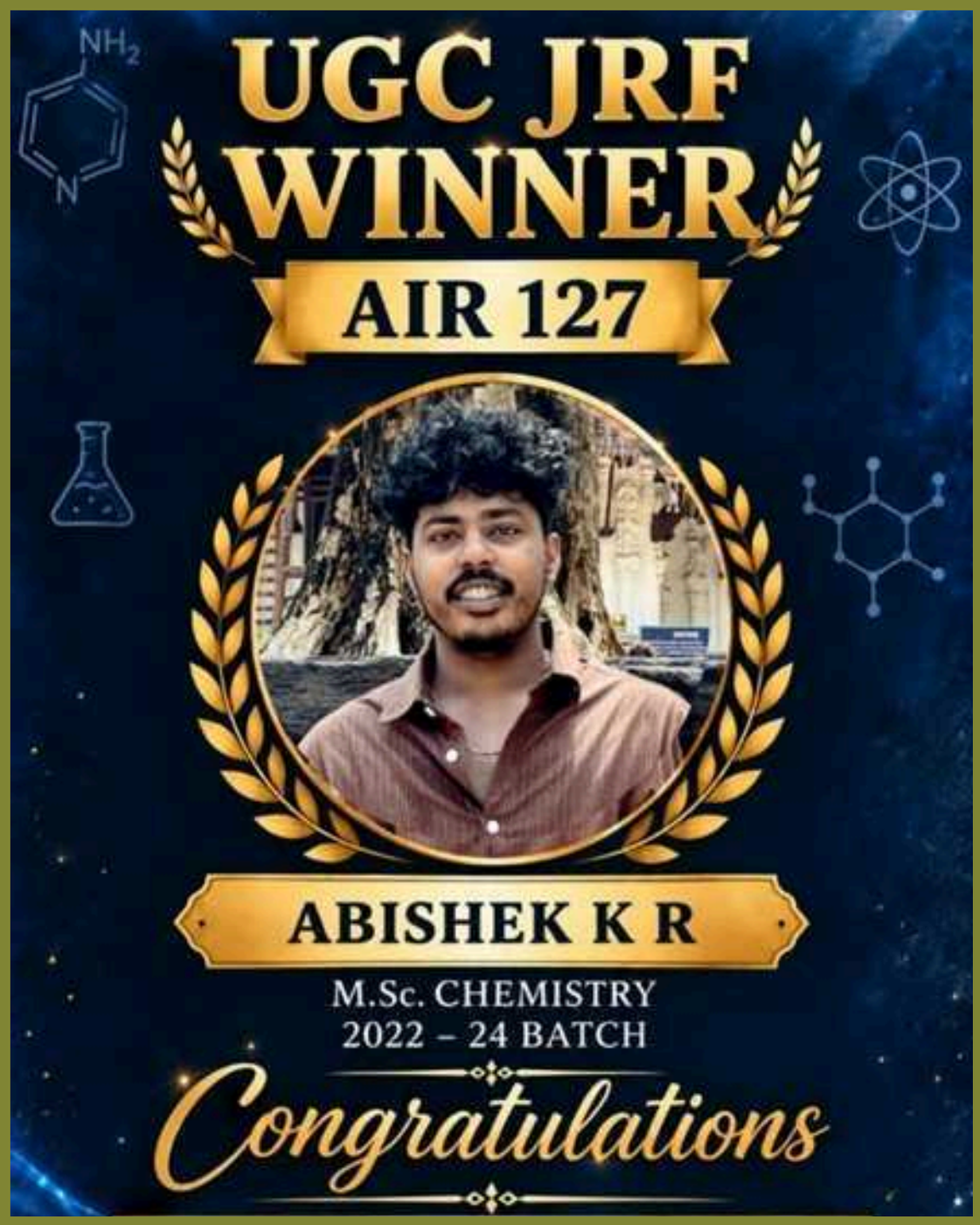
HANDS-ON TRAINING PROGRAMME ON GEOMETRIC MORPHOMETRIC ANALYSIS USING MORPHOJ



A two-day Hands-on Training Programme entitled “Geometric Morphometric Analysis Using MorphoJ” was jointly organized by the Department of Zoology, Skill Centre, R&D Cell, and PG Forum of Sree Narayana College, Nattika, on 15th and 16th September 2026. programme was conducted at the Language Lab, Sree Narayana College, Nattika, from 10:00 a.m. onwards on both days. Supported by the DBT STAR Scheme, the programme aimed to provide participants with practical knowledge and hands-on experience in geometric morphometric analysis using MorphoJ, focusing on exploring biological shapes, analysing data, and interpreting patterns. Dr. Aneesh Kumar K V, Assistant Professor, Sacred Heart College, Thevara, served as the resource person. The session also increased our confidence in using these methods for academic projects and future research activities. Overall, the training was informative, practical, and highly beneficial, providing us with useful skills that can be applied to our future studies and research work.

RESEARCH ACHIEVEMENTS

UGC JRF WINNER –POST AND RESEARCH DEPARTMENT OF CHEMISTRY



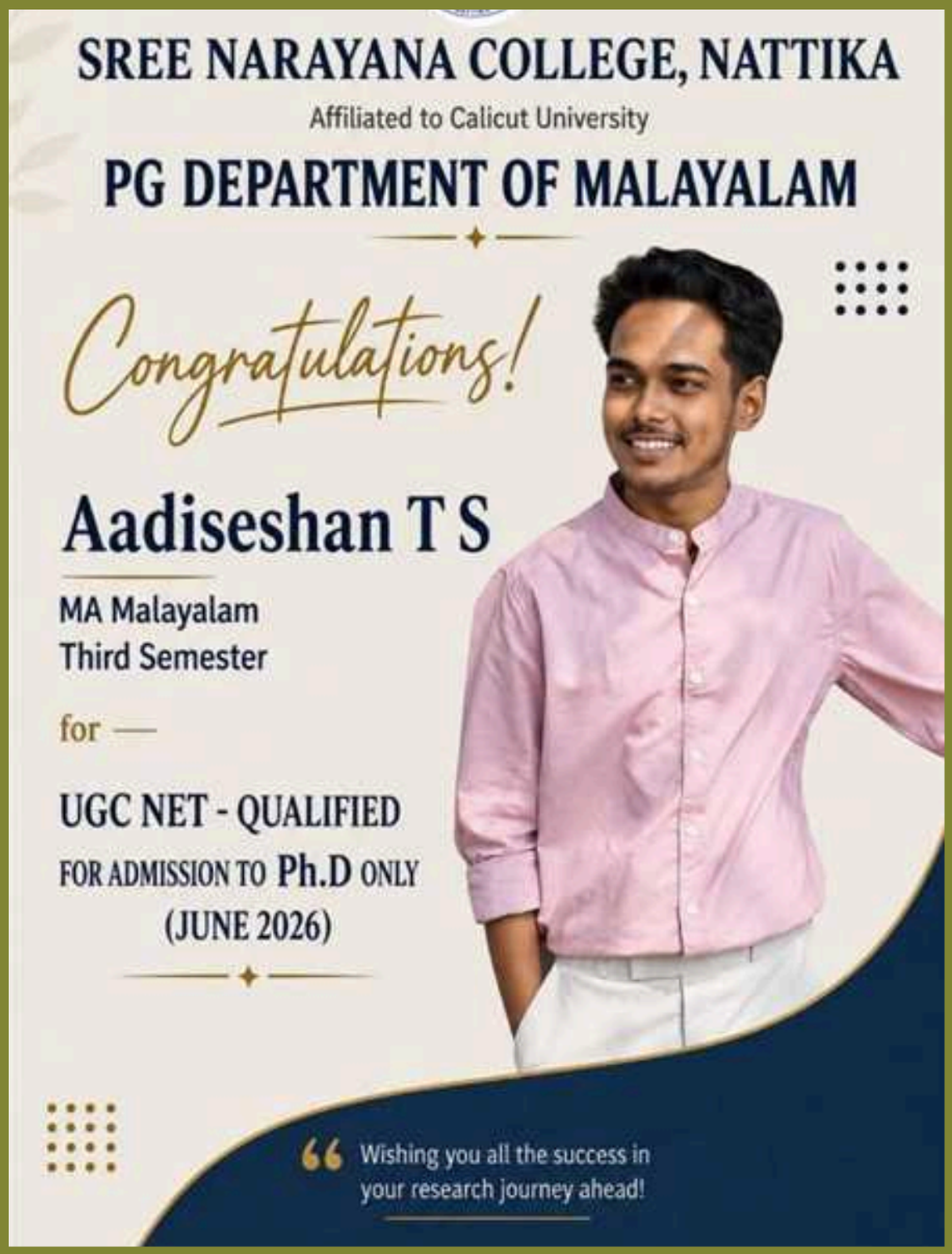
RESEARCH ACHIEVEMENTS

QUALIFIED FOR ADMISSION TO PH.D-PG AND RESEARCH DEPARTMENT OF COMMERCE



RESEARCH ACHIEVEMENTS

QUALIFIED FOR ADMISSION TO PH.D-PG DEPARTMENT OF MALAYALAM



RESEARCH ACHIEVEMENTS

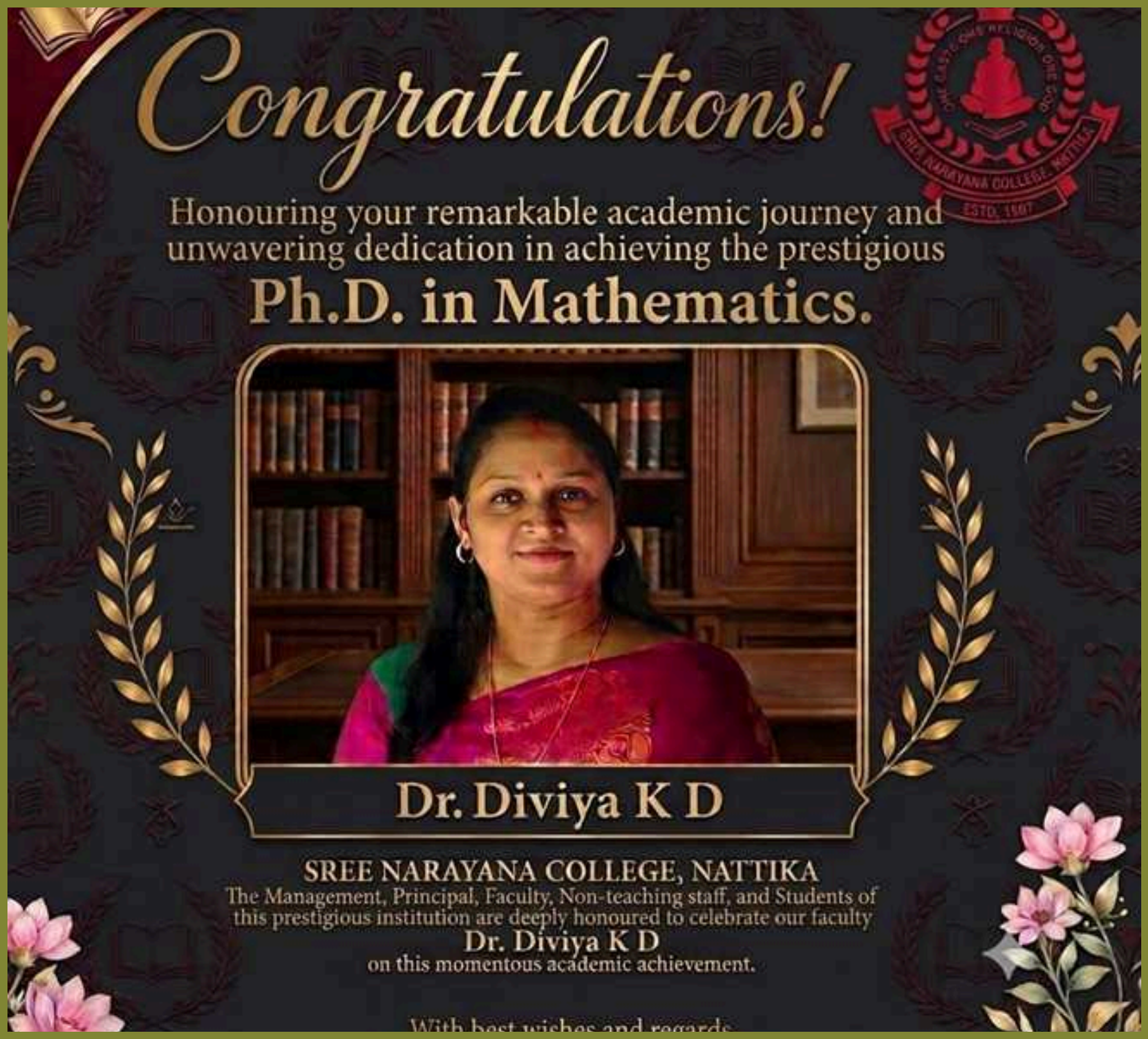
QUALIFIED FOR NET-PG AND RESEARCH DEPARTMENT OF BOTANY





RESEARCH ACHIEVEMENTS

HONOURED WITH PH.D-DEPARTMENT OF MATHEMATICS



RESEARCH ACHIEVEMENTS

BEST RESEARCH PAPER AWARD – CHANGAMPUZHA MEMORIAL RESEARCH PAPER COMPETITION, JULY 2026



RESEARCH ACHIEVEMENTS

NATIONAL LEVEL PATENT FOR PUBLICATION

Title of the invention : AI-Integrated Gesture-Controlled Silent Reporting and Communication System for Media Professionals



Vishnu P A Assistant Professor Department of Malayalam

AI-Integrated Volatile Organic Compound Sensor System for Early Plant Pathogen Detection AI-Integrated Gesture-Controlled Silent Reporting and Communication System for Media Professionals This invention describes an an AI-integrated gesture-controlled silent reporting system designed to facilitate seamless, non-verbal communication for journalists and media professionals operating in high-risk, high-noise, or operationally sensitive environments. The system captures live hand gesture input through a high-resolution vision sensor, processes the captured visual data through a dedicated embedded artificial intelligence processor, and interprets the gestures using a trained machine learning classification model. Upon recognition, the system translates each identified gesture into a predefined output command, which may manifest as a textual notification, an audio signal, or a direct control instruction transmitted to connected equipment such as broadcast cameras, teleprompters, editing terminals, or centralized newsroom management dashboards. The invention constitutes a hardware-integrated, AI-empowered apparatus distinct from purely software-based solutions, thereby satisfying the requirements of industrial applicability and patentability. The system eliminates dependency on verbal communication in sensitive operational settings, reducing human error, improving coordination speed, and enhancing the safety of media personnel

RESEARCH ACHIEVEMENTS

NATIONAL LEVEL PATENT FOR PUBLICATION



VISHNU P A ASSISTANT PROFESSOR DEPARTMENT OF MALAYALAM

Title of the invention : AI-Integrated Volatile Organic Compound Sensor System for Early Plant Pathogen Detection

AI-Integrated Volatile Organic Compound Sensor System for Early Plant Pathogen Detection This invention describes a non-invasive plant disease detection system utilizing volatile organic compound (VOC) sensing technology integrated with intelligent data analysis for early identification of pathogen infections in plants. The system continuously monitors gaseous compounds emitted by plants through a VOC sensor array positioned near plant surfaces. Captured sensor signals are digitized and processed using embedded or cloud-based artificial intelligence and machine learning algorithms to identify pathogen-specific VOC signatures. The processed data is compared with a pre-trained database containing disease-associated volatile emission profiles for accurate diagnosis before visible symptoms appear. Upon detecting abnormal VOC patterns, the system generates alerts and may recommend corrective actions through connected interfaces. The invention enables realtime, automated, and scalable monitoring suitable for precision agriculture, greenhouse environments, and large-scale crop management. The system minimizes crop loss, reduces excessive pesticide usage, enhances agricultural sustainability, and improves disease management efficiency through early intervention capabilities.

RESEARCH ACHIEVEMENTS

UNITARY WORLD ORDER ORGANIZATION (UWO)NATIONAL AWARD FOR BEST RESEARCH PAPER IN MALAYALAM –JUNE 2026



Vishnu P A
Assistant Professor
Department of Malayalam

പരമാധികാരത്തിന്റെ പുനർജനിയും ആഗോളക്രമത്തിന്റെ അപനിർമ്മിതിയും: ഇരുപത്തിയൊന്നാം നൂറ്റാണ്ടിലെ 'ലോകസർക്കാർ' സങ്കൽപ്പത്തിന്റെ സാംസ്കാരികരാഷ്ട്രീയ പ്രതിസന്ധികൾ

ഇരുപത്തിയൊന്നാം നൂറ്റാണ്ടിലെ ആഗോള രാഷ്ട്രീയ സാഹചര്യം സാങ്കേതികമായ ഏകീകരണത്തിനും രാഷ്ട്രീയമായ വിഭജനത്തിനും ഒരേസമയം സാക്ഷ്യം വഹിച്ചുകൊണ്ടിരിക്കുകയാണ്. അതിരുകളില്ലാത്ത വിപണിയും സാങ്കേതികവിദ്യയും വിഭാവനം ചെയ്ത 'ലോകസർക്കാർ' എന്ന യൂട്ടോപ്യൻ സങ്കൽപ്പം, സമകാലിക ലോകത്ത് നവദേശീയതയുടെയും സ്വത്വരാഷ്ട്രീയത്തിന്റെയും കടുത്ത വെല്ലുവിളികളെ നേരിടുന്നു. ഈ ഗവേഷണ പ്രബന്ധം നിയോലിബറൽ ഇൻസ്റ്റിറ്റ്യൂഷണലിസം എന്ന സൈദ്ധാന്തിക ചട്ടക്കൂടിലൂടെ ആഗോള ഗവേണൻസ് നേരിടുന്ന പ്രതിസന്ധികളെ വിശകലനം ചെയ്യുന്നു.

1648ലെ വെസ്റ്റ്ഫാലിയൻ ഉടമ്പടി മുതൽ രൂപപ്പെട്ട പരമാധികാര സങ്കല്പവും, രണ്ടാം ലോകമഹായുദ്ധാനന്തരം വികസിച്ച ലിബറൽ അന്താരാഷ്ട്ര ക്രമവും തമ്മിലുള്ള സംഘർഷമാണ് ഇതിലെ പ്രധാന ചർച്ചാവിഷയം. ആഗോളവൽക്കരണം സൃഷ്ടിച്ച സാമ്പത്തിക അസമത്വങ്ങളും സാംസ്കാരിക അധിനിവേശ ഭീതിയും എങ്ങനെയാണ് രാജ്യങ്ങളെ വീണ്ടും ദേശീയതയുടെ അതിരുകൾക്കുള്ളിലേക്ക് നയിക്കുന്നത് എന്ന് ഈ പഠനം പരിശോധിക്കുന്നു. അന്താരാഷ്ട്ര സിദ്ധാന്തങ്ങളെ മഹാകവി വള്ളത്തോൾ, എം. എൻ. വിജയൻ, പ്രഭാത് പട്നായിക് തുടങ്ങിയ കേരളീയ ചിന്തകരുടെ ദർശനങ്ങളുമായി സമന്വയിപ്പിച്ചുകൊണ്ട് ഒരു പുതിയ 'സഹകരണാത്മക വിശ്വമാനവികത' ഈ പ്രബന്ധം മുന്നോട്ട് വെക്കുന്നു. കാലാവസ്ഥാ വ്യതിയാനം, ആർട്ടിഫിഷ്യൽ ഇന്റലിജൻസ്, മഹാമാരികൾ തുടങ്ങിയ ആഗോള വെല്ലുവിളികളെ നേരിടാൻ ഒരു കേന്ദ്രീകൃത ഭരണകൂടത്തേക്കാൾ പ്രായോഗികം വികേന്ദ്രീകൃതവും ജനാധിപത്യപരവുമായ ഒരു ആഗോള ഭരണക്രമമാണെന്ന് ഈ പഠനം നിഗമനത്തിലെത്തുന്നു.



NATTIKA P O,
THRISSUR - 680566,
KERALA, INDIA
INFO@SNCOLLEGENATTIKA.AC.IN
0487 - 2391246