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ADICHUNCHANAGIRI
UNIVERSITY



CENTER FOR RESEARCH AND INNOVATION (CRI)

Partnered With



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Adichunchanagiri University (ACU) is a multi-faculty private university committed to providing quality education and fostering a spirit of entrepreneurship among its students. The university boasts a sprawling 67-acre campus situated at BG Nagara, Nagamangala Taluk, Mandya District, equipped with state-of-the-art infrastructure, providing an ideal environment for academic and personal growth. ACU has a vibrant academic community with 4974+ students currently enrolled. The university prides itself on its 488+ teaching faculty members, supported by 64+ adjunct/visiting faculty, and an additional 1,123+ non-teaching staff. This diverse and dedicated team contributes to the holistic development of the students. Adichunchanagiri University (ACU) is committed to nurturing entrepreneurial ideas and innovation in its students. It hosts various centers for cutting-edge research and innovation, providing a holistic educational experience in line with the university's vision and mission.

ACU comprises various constituent units, each contributing to the overall educational and research landscape. These include:

- Sri Adichunchanagiri College of Pharmacy (SACCP, Estd. 1981)
- Adichunchanagiri College of Nursing (ACN, Estd. 1985)
- Adichunchanagiri Institute of Medical Sciences (AIMS, Estd. 1986)
- Adichunchanagiri Hospital and Research Centre (AH&RC, Estd. 1986)
- BGS Institute of Technology (BGSIT, Estd. 2005)
- BGS College of Education (BGSCE, Estd. 2007)
- Adichunchanagiri Institute for Molecular Medicine (Estd. 2016)
- BGS First Grade College (BGSFGC, Estd. 2016)
- Adichunchanagiri School of Allied Health Sciences (AHS, Estd. 2020)
- Adichunchanagiri School of Natural Sciences (ASNS, Estd. 2020)
- BGS MCH Hospital, Nagaruru, Bengaluru

Inclusive Excellence

We educate over **4974+ students**, **80% from country backgrounds** and **58% female**. We offer **scholarships exceeding ₹2 crore** annually to ensure accessibility

Cutting-Edge Research

Be a part of ground-breaking research at our dedicated centers like **ACU-Centre for Research and Innovation, Adichunchanagiri Institute for Molecular Medicine**, and more.

Enlightenment

Providing opportunities for **Spiritual Development** through **Yoga, Meditation, and Community Service Activities**

Unmatched Breadth & Depth

Explore **60+ programs, 1382 courses**, and a staggering **850 interdisciplinary options**. Gain valuable skills through **136+ Value Added Courses**.

Entrepreneurial Spirit

We **nurture future leaders**. The **Adichunchanagiri Centre for Entrepreneurs (ACE)** equips you with the **skills to thrive in the business world**.

Social Responsibility & Accountability

We believe in giving back. We've **adopted 11 government schools** to enhance academic excellence and empower communities.

Award-Winning Faculty

Learn from the best. Over **110+ faculty members** hold **National / International Awards**, and **54+ have authored Books / Book Chapters**.

Industry-Ready Graduates

92% of our students land jobs at the best organizations in their industries.





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CENTER FOR RESEARCH AND INNOVATION (CRI)

Fostering Excellence in Education and Discovery



The 21st century has witnessed a paradigm shift in the global higher education landscape. Universities are no longer solely measured by their ability to impart knowledge, but also by their commitment to fostering research, innovation, entrepreneurship, and ultimately, advancing scientific progress. Institutions equipped with robust Research and Innovation (R&I) systems are garnering international acclaim, attracting top-tier faculty and students seeking to push the boundaries of knowledge. This trend coincides with a burgeoning interest in postgraduate studies, with a rise in the number of applicants pursuing Ph.D. programs worldwide.

Recognizing this evolving educational ecosystem, Adichunchanagiri University (ACU) has embarked on a strategic initiative to fortify its research infrastructure. In response to this growing emphasis on R&I, ACU established a state-of-the-art research hub – the Centre for Research and Innovation (CRI) – on October 9, 2020. The CRI serves as a cornerstone of ACU's commitment to nurturing a vibrant research culture and propelling the university to the forefront of academic excellence.

In its quest to propel research excellence, the Centre for Research and Innovation (CRI) actively fosters collaborations with leading national and international institutions like **Wits University, The Centre for Cellular and Molecular Platforms (C-CAMP), CCAMP Inter Institutional Biomedical Innovation Programme (CIBIP), DST NIDHI (Dept. of Science & Technology - National Initiative for Developing and Harnessing Innovations (NIDHI)), Karnataka Science and Technology Promotion Society (KSTPS) and Karnataka Silk Board.**

These partnerships not only provide ACU researchers with access to world-class facilities and expertise, but also enhance the university's global visibility and reputation. By fostering a collaborative research environment, CRI is well-positioned to address complex challenges and make significant contributions to various fields of knowledge.



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Vision

Creating a global center of excellence enables stellar research encompassing Science, Technology, Engineering and Medicine to make novel discoveries useful to mankind.

Mission

- In order to innovate, create, uncover, and advance knowledge for the betterment of society, public health, and economic prosperity.
- Cultivating a vibrant, interdisciplinary approach to research and development solutions in Science, Technology, Engineering, and Medicine.
- Sharing research discoveries to inspire future generations of researchers in a stimulating and diverse environment.
- Actively advocating for and upholding values and ethics in education, healthcare, and research.
- Engaging in and facilitating high-quality, collaborative research endeavors with industries and academic institutions worldwide to enhance the key research areas at Adichunchanagiri University.

Key Focus Areas

Facilitating cutting-edge research: The center provides state-of-the-art facilities and resources to support research endeavors across diverse disciplines. This includes access to advanced equipment, laboratories, and computational resources.

Promoting interdisciplinary collaboration: The CRI fosters collaboration between faculty members from different academic departments and disciplines. This cross-pollination of ideas can lead to the development of novel research questions and groundbreaking discoveries.

Encouraging innovation and entrepreneurship: The center actively nurtures a culture of innovation and entrepreneurship among students and researchers. This includes providing incubation spaces, mentorship programs, and access to funding opportunities to help translate research findings into viable products and services.

Attracting and retaining research talent: The CRI recognizes the importance of attracting and retaining top-tier researchers. To this end, the center offers competitive research grants, facilitates international collaborations, and provides opportunities for professional development.

Building a global research network: The CRI actively seeks to establish partnerships with leading research institutions and organizations around the world. This fosters knowledge exchange, facilitates joint research projects, and enhances the university's global reputation.





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Welcome to a Hub of Research & Innovation

Adichunchanagiri University's Centre for Research and Innovation

Embark on a voyage of discovery at the Centre for Research and Innovation (CRI) - the beating heart of groundbreaking research at Adichunchanagiri University. Here, we ignite curiosity and foster collaboration across disciplines to propel knowledge forward. Our state-of-the-art facilities, including a cutting-edge Materials Science Laboratory, a comprehensive Central Instrumentation Facility, and a sophisticated Cell Culture Laboratory, empower our researchers to tackle critical challenges, both local and global.

A vibrant community fuels our endeavors. With 15 dedicated PhD students, 2 project fellows, and a multitude of MSc students, the CRI is a hive of intellectual activity. Their tireless efforts have yielded over 85 publications in esteemed peer-reviewed journals, a true testament to our unwavering commitment to academic excellence and impactful research. Funded by prestigious organizations like the Central Silk Board, DST, Nidhi Prayaas, and the Vision Group on Science and Technology, Government of Karnataka, our four key projects epitomize our dedication to applied research. We go beyond expanding the frontiers of scientific knowledge; we strive to deliver tangible benefits for society.

At the CRI, our vision transcends fostering a culture of curiosity and interdisciplinary collaboration. We aspire to be a driving force for innovation. We empower our researchers with the resources and guidance they need to excel in their pursuit of knowledge and groundbreaking discoveries. Unveil the exciting research and opportunities that await you at the CRI. Whether you're a future student, a potential collaborator, or simply someone with a curious mind, we invite you to join us on this transformative journey of discovery and innovation.

We at the CRI, Adichunchanagiri University, are grateful for your interest. Together, let's shape a brighter and more innovative future.

Dr. Prashantha Kalappa

Professor – ACU Research and Innovation Centre
Dean, Research & Natural Sciences, Adichunchanagiri University





Functional Polymer Research Laboratory (FPRL)

The Functional Polymer Research Laboratory (FPRL) at Adichunchanagiri University's Centre for Research and Innovation is a comprehensive facility dedicated to advancing research and development in the field of polymer science and technology. Equipped with cutting-edge instrumentation, the FPRL fosters the creation of novel polymeric materials and products while empowering researchers to meticulously evaluate and validate existing materials. This advanced facility fosters collaboration between academic researchers and industry partners, creating a dynamic environment for scientific exploration and technological innovation.

Advanced Equipment for Polymer Characterization and Fabrication

The FPRL boasts a comprehensive equipment suite catering to diverse research and development needs. This equipment portfolio empowers researchers to undertake a variety of tasks, including:

- **Mechanical Testing:** The Universal Testing Machine facilitates the evaluation of a polymer's mechanical properties such as tensile strength, flexural strength, and elongation at break.
- **Impact Resistance Assessment:** The Impact Testing Unit enables the measurement of a polymer's resistance to impact forces, a crucial parameter for various applications.
- **Polymer Processing and Characterization:** The Compression Molding Machine equipped with standard testing molds allows for the fabrication of polymer samples in specific shapes for characterization purposes.
- **Photocatalytic Activity Analysis:** The Photocatalytic reactor provides a platform to investigate the light-activated properties of polymers, valuable for applications in areas like photodegradation and pollutant remediation.
- **Additive Manufacturing:** The Polymer 3D Printer facilitates the creation of complex three-dimensional polymer structures, opening doors for innovative material design and development.
- **Thermal Analysis:** The Vacuum Oven enables the study of a polymer's thermal behavior, including its glass transition temperature and thermal stability.
- **Rheological Characterization:** The Brookfield Viscometer/Rheometer measures a polymer's flow properties under various conditions, providing insights into its processing behavior.
- **Safe Handling of Chemicals:** The Fume Hood ensures a safe environment for working with potentially hazardous chemicals used in polymer synthesis and modification.

The FPRL provides a supportive environment for researchers at all levels through its comprehensive facilities. It has played a crucial role in supporting the research efforts of PhD students, postgraduates, and undergraduates involved in polymer-related projects. In the current academic year, the laboratory has significantly contributed to the publication of 25 high-impact research articles in prestigious scientific journals. Additionally, the advanced capabilities of the FPRL have generated revenue of ₹70,800.00/- through research collaborations and sponsored projects. This laboratory not only fosters collaboration among internal researchers but also welcomes external academic and research institutions to utilize its sophisticated instrumentation.





Central Sophisticated Instrumentation Laboratory (CSIL)

The Central Sophisticated Instrumentation Laboratory (CSIL) at Adichunchanagiri University (ACU) serves as a pivotal hub for scientific exploration. This state-of-the-art facility houses a comprehensive suite of analytical instruments designed to empower researchers across diverse disciplines. By providing access to advanced technologies, CSIL transcends the limitations of visual observation, enabling researchers to delve into the intricacies of material composition, structure, and properties at the micro level. This unparalleled capability fosters groundbreaking discoveries and fuels advancements across a wide spectrum of scientific fields.

Unveiling the Microscopic World: A Compendium of Analytical Tools

The CSIL boasts a meticulously curated collection of sophisticated instruments, each meticulously chosen to cater to a specific analytical need. Here's a closer look at some of the key instruments:

- **Fourier-Transform Infrared Spectroscopy (FTIR):** This versatile technique facilitates the identification of organic and inorganic functional groups within a sample, providing valuable insights into its chemical composition.
- **X-ray Diffraction (XRD):** XRD unveils the crystallographic structure of a material, offering crucial information about its atomic arrangement and phase composition.
- **UV-Visible Spectrophotometer:** This workhorse instrument quantifies the absorption or emission of ultraviolet and visible light by a sample, aiding in the determination of its concentration, composition, and electronic properties.
- **Freeze Dryer or Lyophilizer:** This instrument removes water from a sample through sublimation, enabling its long-term preservation without compromising its integrity.
- **High-Performance Liquid Chromatography (HPLC):** HPLC separates and analyzes the components of a mixture, offering invaluable insights into the sample's composition and purity.
- **3D Bioprinter:** This cutting-edge technology enables the creation of complex 3D structures from biocompatible materials, paving the way for advancements in tissue engineering and drug discovery.
- **Vacuum Glove Box:** This specialized chamber allows for the manipulation of materials in an oxygen-free or inert environment, preventing contamination and facilitating research on air-sensitive materials.
- **Liquid Nitrogen Generator:** This instrument provides a readily available source of liquid nitrogen, a crucial cryogen vital for various research applications, such as sample preservation and low-temperature experiments.
- **Contact Angle Measurement:** This technique quantifies the contact angle between a liquid droplet and a solid surface, providing valuable information about surface wettability and adhesion properties.
- **Refrigerated Centrifuge:** This instrument separates components within a mixture based on their size and density under high centrifugal forces. Refrigerated centrifuges are particularly useful for biological samples that are temperature-sensitive.

The CSIL serves as a cornerstone of Adichunchanagiri University's research excellence. This world-class facility empowers students at all levels – PhD scholars, postgraduate students, and undergraduates – to conduct groundbreaking research. The advanced instrumentation facilitates their endeavors, leading to publications in high-impact scientific journals. Furthermore, the CSIL has generated significant revenue (₹50,100.00) in the current academic year, highlighting its potential for not only fundamental research but also for industry-relevant applications. The CSIL's impact extends beyond its internal user base. The advanced instrumentation attracts researchers from within the university and from external institutions, fostering a vibrant collaborative research environment. This cross-pollination of ideas and expertise further propels scientific progress.





Materials Processing Laboratory (MPL)

The Materials Processing Laboratory (MPL) at Adichunchanagiri University (ACU) stands as a cornerstone for advanced materials research within the Centre for Research and Innovation (CRI). This state-of-the-art facility boasts a comprehensive suite of sophisticated equipment and expertise, empowering researchers across various disciplines to explore novel materials, develop innovative applications, and contribute significantly to scientific advancements.

Advanced Equipment for Comprehensive Research

The MPL is outfitted with a spectrum of advanced equipment catering to diverse materials processing needs. This equipment portfolio empowers researchers to conduct a wide range of experiments with precision and control. Some key instruments facilitating these endeavors include:

- **Muffle Furnace:** Enables high-temperature processing of materials in a controlled environment for applications such as sintering, annealing, and thermal decomposition.
- **Hot Air Oven:** Provides a uniform and regulated hot air environment for drying, curing, and other temperature-dependent processes.
- **Probe Sonicator:** Generates high-intensity sound waves to disperse materials at the nanoscale, facilitating the creation of stable and homogenous nanoparticle suspensions.
- **Rotary Evaporator:** Enables efficient and controlled solvent removal from solutions, a vital step in material purification and sample preparation.
- **Centrifuge:** Separates mixtures based on the varying densities of their components, aiding in the isolation and purification of desired materials.
- **Fume Hood:** Ensures researcher safety by containing and venting hazardous fumes generated during experimentation.
- **Soxhlet Apparatus:** Facilitates the extraction of desired components from a solid matrix using a solvent, a valuable technique for material analysis and purification.

Beyond this impressive array of equipment, the MPL offers a comprehensive range of services encompassing:

- **Nanoparticle Synthesis:** The laboratory possesses the expertise and tools to synthesize nanoparticles with tailored properties for diverse applications in electronics, catalysis, and biomedicine.
- **Material Characterization:** The MPL facilitates a thorough understanding of material properties through various techniques, enabling researchers to optimize material performance for specific applications.
- **Research and Development (R&D) Initiatives:** The MPL fosters a collaborative environment, supporting researchers in their endeavors to develop novel materials and innovative applications.

The MPL plays a crucial role in supporting ACU's research community, offering vital assistance to researchers across different levels. Its advanced facilities and expert guidance have significantly influenced the academic accomplishments of Ph.D., postgraduate, and undergraduate students. Through the MPL, these individuals have been able to conduct top-quality research, resulting in notable publications in prestigious academic journals. The laboratory's cutting-edge resources have created a vibrant research environment, attracting scholars from both ACU and external organizations. This collaborative setting encourages knowledge sharing and enhances scientific advancement. Moreover, the MPL's impact extends beyond academia, as its expertise has led to revenue generation through research projects, earning a commendable ₹59,000.00/- in the current academic year. This underscores the MPL's potential for conducting translational research with practical real-world applications.





Molecular and Cellular Biochemistry Laboratory (MCBL)

The Molecular and Cellular Biochemistry Laboratory (MCBL) at Adichunchanagiri University serves as a pivotal hub for innovative research endeavors in the realms of diabetes and neurodegenerative diseases. Equipped with cutting-edge instrumentation and staffed by a team of dedicated researchers, the MCBL fosters a dynamic environment that propels scientific discovery toward groundbreaking advancements.

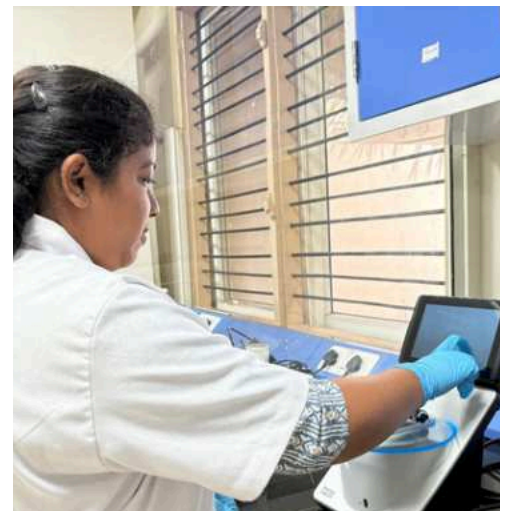
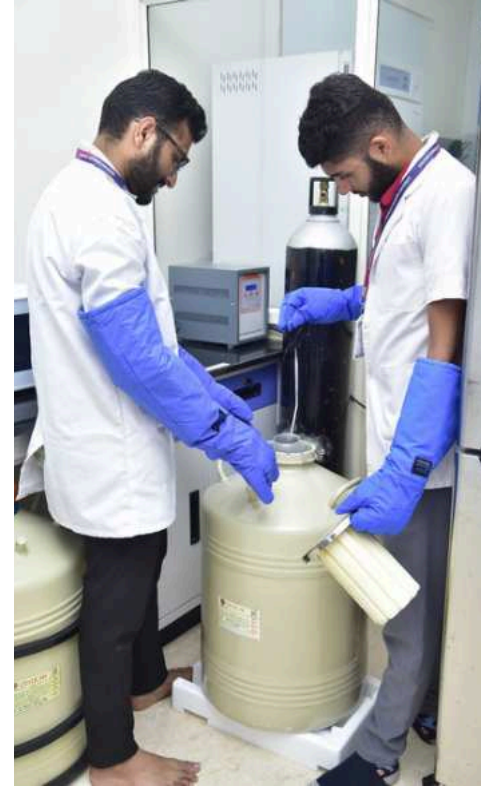
State-of-the-Art Instrumentation for Unparalleled Research

The MCBL boasts an array of advanced instruments meticulously chosen to meet the stringent requirements of contemporary research endeavors. These instruments empower researchers to conduct sophisticated analyses, leading to the acquisition of unparalleled data.

- **Real-time PCR System:** This instrument facilitates real-time monitoring of amplification reactions, enabling researchers to quantify gene expression with exceptional accuracy.
- **Nanodrop:** This multifaceted instrument enables rapid and precise quantification of minute quantities of biomolecules such as DNA, RNA, and proteins.
- **Multimode Microplate Reader:** This versatile tool facilitates the quantification of a wide range of biomolecules in microplate formats, streamlining high-throughput assays.
- **-80°C Upright Ultra-Low Deep Freezer:** This ultra-low temperature freezer guarantees the long-term viability of enzymes, tissues, and other biological samples.
- **CO₂ Incubator:** This incubator provides a precisely controlled environment of carbon dioxide and temperature, fostering optimal growth conditions for cell cultures.
- **Class II Biological Safety Cabinet:** This cabinet prioritizes safety by ensuring a sterile work environment for handling hazardous biological materials.
- **Refrigerated Centrifuge:** This centrifuge facilitates the efficient separation of biomolecules of varying densities at low temperatures.
- **Mini Vertical Electrophoresis System:** This system enables the separation of biomolecules based on size, a fundamental technique in molecular biology.
- **Inverted Microscope with Camera:** This microscope allows for the visualization and capture of high-resolution images of cells and tissues.
- **Gel Documentation Unit:** This unit facilitates the clear visualization and digital documentation of gels used for protein and nucleic acid analysis.
- **SDS-PAGE Unit:** This technique separates proteins based on their size and electrical charge, providing valuable insights into protein composition.

The MCBL has emerged as a cornerstone for nurturing groundbreaking research endeavors. Its advanced instrumentation and dedicated support system have significantly benefited a diverse cohort of researchers, including PhD scholars, postgraduate students, and undergraduates. This exceptional facility has played a pivotal role in the publication of numerous high-impact research articles in esteemed scientific journals, contributing significantly to the advancement of knowledge in diabetes and neurodegenerative diseases.

Furthermore, the MCBL's state-of-the-art capabilities have garnered substantial recognition within the academic and research communities. The facility's groundbreaking research has not only benefited the ACU research community but has also fostered productive collaborations with renowned institutions, generating substantial research revenue of ₹1,35,700.00 during the current academic year. The MCBL's commitment to excellence positions it as a leading research hub, poised to make significant contributions to our understanding of diabetes and neurodegenerative diseases while nurturing the next generation of scientific leaders.



Tissue Engineering and Electrochemical Laboratory (TEEL)

The field of regenerative medicine holds immense promise for treating a wide range of diseases and injuries by promoting the body's natural healing abilities. Adichunchanagiri University's Centre for Research and Innovation recognizes the importance of this field and has established the Tissue Engineering and Electrochemical Laboratory (TEEL) to support cutting-edge research endeavors. TEEL provides a well-equipped environment for researchers to cultivate and manipulate cells and tissues, while also offering sophisticated instrumentation for electrochemical studies.

Advanced Equipment for Groundbreaking Research

TEEL boasts a meticulously curated selection of advanced instruments that empower researchers to conduct rigorous experimentation. Here's a closer look at some of the key equipment:

- **3D Bioprinter:** This revolutionary tool allows for the precise three-dimensional printing of living cells and biomaterials, paving the way for the development of novel tissue constructs for regenerative medicine applications.
- **CO₂ Incubator:** This specialized incubator provides a precisely controlled environment, mimicking physiological conditions for optimal cell growth and maintenance.
- **Biosafety Cabinet Class II:** This cabinet ensures a sterile environment for cell manipulation and culture, safeguarding both researchers and biological samples.
- **Electrochemical Workstation:** This workstation facilitates the investigation of complex electrochemical processes, crucial for research in areas like battery technology and fuel cells.
- **Battery Testing Unit:** This unit enables researchers to meticulously evaluate the performance and characteristics of batteries, aiding in the development of next-generation energy storage solutions.
- **Autoclave:** This workhorse sterilizes equipment and consumables by utilizing high-pressure steam, ensuring a contamination-free environment for critical research endeavors.
- **Ultrasonic Cleaner:** This instrument harnesses the power of sound waves to meticulously clean delicate labware and components, maintaining their functionality and integrity.
- **Ice Maker:** A seemingly simple yet crucial tool, the ice maker provides a readily available source of chilled temperatures, essential for preserving the viability of cells, tissues, and biological materials during research procedures.

TEEL is a vibrant center for innovative research, drawing in motivated Ph.D., postgraduate, and undergraduate students from various academic disciplines. The lab's outstanding resources and dedicated support have produced remarkable outcomes: Researchers at TEEL have successfully published their discoveries in prestigious scientific journals, significantly enhancing knowledge in their fields. The lab's research efforts have resulted in revenue generation of ₹35,400.00 for the academic year, underscoring the concrete impact of their work. With advanced technology and expertise, TEEL has cultivated a collaborative atmosphere that attracts respected scholars and researchers from diverse academic and research establishments. This collaborative ethos nurtures creativity and expedites scientific advancements.





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Leading the Future

Research Expert Team

at Center for Research and Innovation



Dr. Prashantha Kalappa

Professor – Research and Innovation Centre
Dean, Research & Natural Sciences, Adichunchanagiri University

Dr. Prashantha Kalappa is a distinguished scholar recognized for his profound contributions to the field of Material Science and Polymer Engineering. With over 3000 citations and an impressive h-index of 31, Dr. Prashantha stands among the top 2% of scientists globally, as acknowledged by Elsevier BV in both 2021 and 2022.

Dr. Prashantha's academic journey commenced with a Master's degree in Industrial Chemistry from Kuvempu University, Shimoga, India, followed by a Doctorate in the same discipline in 2002. His pursuit of knowledge led him to obtain a prestigious DSc. Habilitation à Diriger des Recherches from Université Lille 1 Sciences and Technology, France, in 2014, solidifying his expertise in Material Science. At the core of Dr. Prashantha's research interests lies an unwavering commitment to exploring Advanced Smart polymers processing, 3D printing, rheology, and the intricate interplay between morphology and structure-property relationships in Polymer Materials. His extensive experience encompasses the preparation and characterization of diverse polymeric materials, employing advanced techniques such as TGA/DSC, DMA, Rheometer, SEM, TEM, AFM, and Raman spectroscopy.

Throughout his illustrious career, Dr. Prashantha has held esteemed academic appointments, including roles as a Professor and Dean at Adichunchanagiri University, Mandya District, India, and various positions at Mines Douai and IMT Lille-Douai in France. He has actively contributed to fostering international scientific cooperation, serving as Dean of International Scientific Affairs and spearheading academic council initiatives. Recognized for his scholarly achievements, Dr. Prashantha has received numerous awards and honors, including the prestigious KOSEF postdoctoral fellowship from South Korea and his involvement as an executive member of the European Polysaccharide Network of Excellence (EPNOE) and Member of Royal Society of Chemistry and Member of Asian Polymer Association.

In addition to his remarkable research endeavors, Dr. Prashantha is deeply committed to nurturing the next generation of scientists. He has mentored a multitude of Ph.D. students and postdoctoral researchers, guiding them in their exploration of cutting-edge topics ranging from 3D printing for biomedical applications to the development of bio-nanocomposites for biomedical purposes. Dr. Prashantha's prolific scholarly output is evidenced by his extensive publication record, comprising 108 publications with an impressive h-index of 31. His seminal contributions have significantly advanced the understanding and application of polymer materials, leaving an indelible mark on the scientific community.

Dr. Prashantha Kalappa epitomizes excellence in academia, embodying a steadfast dedication to advancing the frontiers of Material Science and Polymer Engineering through groundbreaking research, mentorship, and academic leadership. His unwavering commitment to innovation and scholarly pursuit continues to inspire and shape the future of the field.



Dr. Teluguakula Narasaraju

Professor, Department of Microbiology
Adichunchanagiri School of Natural Sciences
Adichunchanagiri University

A Leader in Respiratory and Infectious Diseases Research

Dr. Narasaraju is a renowned researcher in respiratory and infectious diseases. He obtained his PhD in Microbiology from Osmania University and pursued postdoctoral research at prestigious institutions in the USA and Singapore. Currently, he is a professor of microbiology at Adichunchanagiri School of Natural Sciences, actively involved in teaching and research on influenza and SARS-CoV-2. His research focuses on understanding the mechanisms behind fatal influenza and SARS-CoV-2 infections. His work has shed light on the role of neutrophils and neutrophil extracellular traps (NETs) in causing hyperinflammation, tissue damage, and organ failure in these diseases. He has received significant funding (over US\$ 2 million) from esteemed organizations like NIH and published over 50 impactful research articles with a high citation count (h-index of 29). He actively contributes to the scientific community by serving as a guest editor for reputed journals and a reviewer for over 20 prestigious publications. Dr. Narasaraju's dedication to research has led to a better understanding of severe respiratory infections, paving the way for potential therapeutic interventions.



Dr. Anil Kumar C.

Associate Professor
Center for Research and Innovation
Adichunchanagiri University

Leading Visionary in Neuro-Retinal Research

Dr. Anil Kumar earned his Ph.D. in Biotechnology from the University of Mysore in 2007, underscoring his dedication to scientific inquiry. He furthered his expertise as a postdoctoral researcher in 2008, eventually obtaining a prestigious research fellowship at the National Eye Institute / National Institute of Health (NEI/NIH) in 2012. Here, Dr. Kumar explored neuro-retinal degenerative diseases and advanced therapeutic strategies. By 2016, Dr. Kumar had elevated to the role of Distinguished Professor at the State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University, China. His research on neurodegenerative diseases established him as a luminary in the field, contributing significantly to conditions like Retinopathy of Prematurity, Age-related Macular Degeneration, and Diabetic Retinopathy. With over 30 publications in leading journals and an h-index of 21, Dr. Kumar's work has been widely recognized and cited. He has been instrumental in mentoring future scientists, supervising Ph.D. and postdoctoral research. Currently, as an Associate Professor at Adichunchanagiri University, his research focuses on the molecular mechanisms of neurodegenerative ocular diseases and nutraceutical-based therapies. Dr. Kumar's career is a testament to his profound impact on advancing ocular disease understanding and treatment.



Dr. M.D. Pandareesh

Associate Professor
Center for Research and Innovation
Adichunchanagiri University

Expert in Neuroprotective Biochemistry

Dr. M.D. Pandareesh obtained his Ph.D. in Biochemistry from the Defence Food Research Laboratory (DFRL), Mysore. He pursued post-doctoral research at the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, and later at the New York State Institute for Basic Research in Developmental Disabilities. His research focuses on the cognitive-enhancing and neuroprotective roles of bioactive molecules against oxidative and nitrosative stress. Dr. Pandareesh's work encompasses the characterization of bio-conjugated pro-drugs derived from natural compounds to treat Alzheimer's and Parkinson's diseases, studying synaptic plasticity, and investigating mitochondrial and epigenetic modifications in neuronal disorders. He has published 24 research articles, holds an h-index of 16, and has received multiple research grants. Dr. Pandareesh has trained over 20 trainees in advanced biochemistry techniques and has significant expertise in Drosophila culturing and handling transgenic models.



Dr. Vivek H. K.

Associate Professor
Center for Research and Innovation
Adichunchanagiri University

Renowned Expert in Biochemistry and Biotechnology

Dr. Vivek H.K. began his academic journey with a Master's in Biochemistry from the University of Mysore, leading him to the Central Food Technological Research Institute in Mysuru, where he isolated and sequenced taste peptides. This project paved the way for his Ph.D. in Biotechnology at Visvesvaraya Technological University. His dedication earned him the CSIR-Senior Research Fellowship and TEQIP Student Assistantship. In 2016, Dr. Vivek joined Syngene International as a Senior Research Associate, working on high-profile projects for national and international clients. An expert in Venom Biology, Analytical Biochemistry, Medical Chemistry, Enzyme Technology, and Computational Biology, Dr. Vivek has published 72 research papers with an h-index of 20, guided over 30 Master's students, and collaborated with numerous nutraceutical companies. He also serves as a reviewer for prestigious journals, highlighting his significant contributions to the scientific community.



Dr. Girish Y.R.

Assistant Professor
Center for Research and Innovation
Adichunchanagiri University

Expert in 2D-Nanomaterials Synthesis and Organic Chemistry

Dr. Girish Y.R. is an accomplished researcher and educator specializing in synthesizing 2D-Nanomaterials, synthetic organic chemistry, medical chemistry, photocatalysis, and antimicrobial technology. He earned his Ph.D. in Chemistry from the University of Mysore, focusing on Nanomaterial synthesis for organic transformations. With a career spanning academia and research institutes like the Indian Institute of Science and Adichunchanagiri University, Dr. Girish has authored 36 research articles, including chapters in high-impact ACS publications. He has presented extensively at national and international conferences, garnering over 1168 citations and an h-index of 20. A dedicated mentor, he has supervised numerous Master's and undergraduate students and currently guides doctoral research. Dr. Girish contributes to peer-reviewed journals and serves as a reviewer for esteemed publications, including the Royal Society of Chemistry and Elsevier. His contributions underscore his commitment to advancing chemical sciences through innovative research and academic leadership.



Dr. S. M. Anush

Assistant Professor
Center for Research and Innovation
Adichunchanagiri University

Expert in Polysaccharide-Based Polymers and Nanotechnology

Dr. S M Anush is an Assistant Professor at Adichunchanagiri School of Natural Sciences, Adichunchanagiri University, Karnataka. He completed his Ph.D. in Chemistry from Mangalore University, specializing in chemically modified Chitosan. With expertise in diverse fields such as 3D Bio-Printing, nanoparticle functionalization, and polymer processing techniques, Dr. Anush has made significant contributions to wastewater purification and polymer technology. His academic journey includes 14 research articles, 4 conference presentations, and supervision of numerous student research projects. Notably, he has garnered over 320 citations and holds an h-index of 7, reflecting his impactful research contributions. Dr. Anush continues to excel in guiding doctoral candidates and enhancing scientific knowledge in his areas of expertise.



Dr. Naveen Y. P.

Assistant Professor
Center for Research and Innovation
Adichunchanagiri University

Expert in Biochemistry, Biotechnology, and Diabetes Research

Dr. Naveen Y P is an esteemed academic and Assistant Professor at Adichunchanagiri University, India, renowned for his expertise in Biochemistry and Biotechnology. Holding a Ph.D. from the University of Mysore, his research focuses on diabetes, particularly in natural insulin potentiators and bioinks for tissue engineering. With a robust academic career spanning over a decade, Dr. Naveen has supervised numerous M.Sc. research projects and conducted impactful workshops and seminars. His industry experience includes pivotal roles at esteemed companies, enhancing his ability to merge academia with practical applications. Dr. Naveen's 15 publications and prestigious awards, including the Early Career Research Award by VGST, highlight his significant contributions to biochemistry and diabetes management. Committed to innovative research, he continues to pioneer advancements in diabetes treatment strategies, ensuring a profound impact on both academic and industrial realms.



Dr. Upendra N.

Assistant Professor
Center for Research and Innovation
Adichunchanagiri University

Expert in Molecular Dynamics and Bioinformatics

Dr. Upendra N. is an accomplished researcher specializing in Molecular Dynamics and Bioinformatics. He completed his M.Sc. and Ph.D. at the University of Mysore, excelling in competitive exams like CSIR-NET, GATE, and K-SET. With a robust academic background, he served as a Junior Teaching Fellow and Assistant Professor at prestigious institutions in Mysuru before joining Adichunchanagiri University in 2024. Dr. Upendra's research focuses on computational studies of bio-molecules and next-generation materials, yielding significant insights published in renowned journals. His work on RbgA and EngA GTPases has unveiled crucial allosteric connections, paving the way for potential therapeutic applications. Driven by a passion for understanding molecular mechanisms, he mentors doctoral students and contributes as a reviewer for leading scientific journals.



Advancing Research and Innovation at Adichunchanagiri University: A Glimpse into Current Projects

The Adichunchanagiri University (ACU) Research and Innovation Centre continues to spearhead cutting-edge projects that promise significant advancements across various scientific domains. These initiatives, supported by prestigious funding agencies, underline ACU's commitment to pioneering research and its impact on societal challenges.

Reactive Rotational Molding of Bio-Based Polymers

Under the auspices of the Vision Group on Science and Technology, the Government of Karnataka, Dr. Prashantha Kalappa and Dr. Hemaraju lead this project with a grant of ₹15,00,000. Launched in 2021, the project aims to revolutionize polymer manufacturing through innovative molding techniques. As an ongoing endeavor, it holds promise for sustainable industrial applications.

Immuno-modulatory and Adjuvant Effects of Chitosan Nanoparticles from Bombyx Mori

Funded by the Central Silk Board, Ministry of Textiles, Government of India, this project is helmed by Dr. K. Byrappa, Dr. Narasaraju T.A., and Dr. Pandareesh M.D. With a substantial grant of ₹29,50,000, the research (2022-24) explores the potential of chitosan nanoparticles in immunotherapy and adjuvant applications. Its ongoing status signifies robust scientific exploration in biotechnological advancements.

Value Addition of Cellulose and Chitin Isolated from Sericulture Waste for Advanced Packing Applications

Also supported by the Central Silk Board, this project led by Dr. K. Byrappa and Dr. Prashantha Kalappa secures ₹25,54,000 for the period 2022-24. By harnessing cellulose and chitin from sericulture waste, the research aims to enhance sustainable packaging solutions. Its ongoing efforts promise transformative outcomes in material sciences.

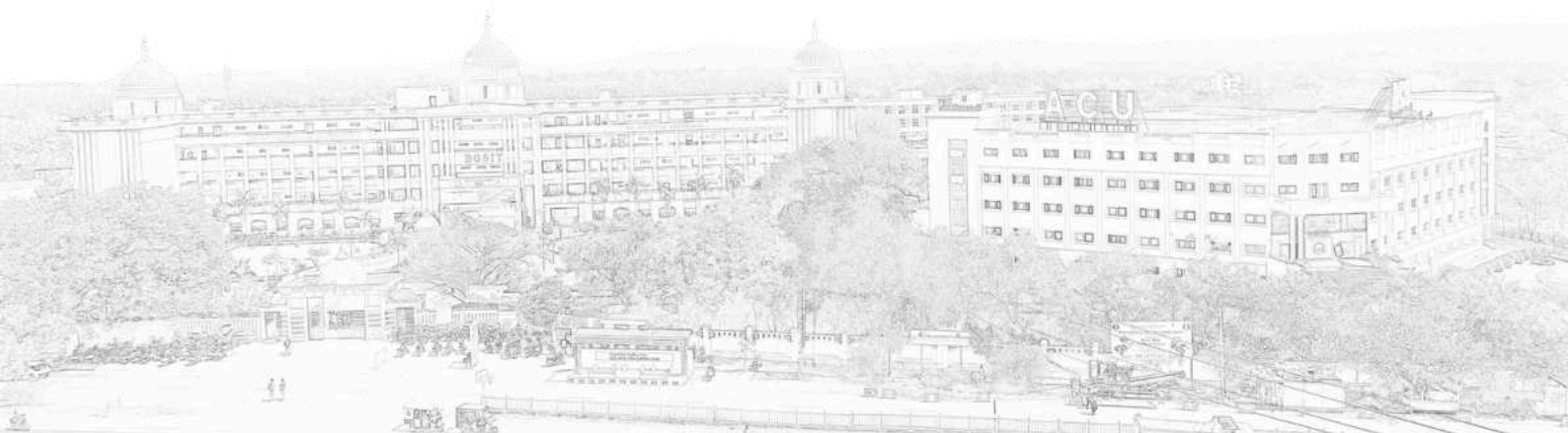
Development of Antidiabetic Adjuvant Using Bioactives Isolated from the Seeds of Swietenia Mahagoni; A Preclinical Evaluation

Dr. Naveen Y.P. drives this project under the Vision Group on Science and Technology, Government of Karnataka, with a grant of ₹10,00,000 (2023-24). Focused on diabetes management, the ongoing research explores the therapeutic potential of bioactive compounds from Swietenia mahagoni seeds, offering hope for future therapeutic interventions.

Ag-ZnO Nanogel: A Novel Promising Approach for Photocatalytic Antimicrobial Therapy

Supported by DST-NIDHI PRAYAS, Dr. Pandareesh M.D. leads this project with a grant of ₹9,50,000 (2023-24). This innovative research investigates the efficacy of Ag-ZnO nanogels in combating antimicrobial resistance through photocatalytic processes. Its ongoing development marks a significant stride towards addressing global health challenges.

These projects underscore ACU's role as a hub for innovative research, driving scientific inquiry and technological innovation towards addressing pressing societal needs. With ongoing efforts and collaborative endeavors, ACU continues to pave the way for transformative discoveries in the realms of biotechnology, material sciences, and healthcare.





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Ms. Rakshitha M.R.

Scientific Officer
Center for Research and Innovation
Adichunchanagiri University

Ms. Rakshitha M.R. is a scientific officer with advanced expertise in operating all instruments at the Centre for Research and Innovations. She earned her master's degree in Chemistry from Adichunchanagiri University in 2023 and is keen on utilizing her technical skills and knowledge in a dynamic and challenging role.

CRI: A Year of Groundbreaking Achievements

The past year has witnessed CRI's remarkable ascension as a premier global research hub. We are proud to share our journey of growth and impact.

Forging Strategic Alliances: CRI has spearheaded the establishment of crucial partnerships through Memorandums of Understanding (MOUs) with esteemed institutions. These collaborations foster knowledge exchange and pave the way for groundbreaking research endeavors.

Igniting the Spark of Innovation: Our captivating Research Conclave and scientific meetings have served as vibrant platforms for intellectual discourse. Faculty members, Ph.D. scholars, and researchers have presented their cutting-edge work, igniting a passion for discovery and collaboration. Weekly seminars further fuel this momentum, fostering a dynamic environment for exploration.

Synergy for Success: CRI actively engages in collaborative dissertations and projects, both within Adichunchanagiri University and with prestigious external institutions. This collaborative spirit has significantly enriched our research endeavors and generated a substantial revenue stream of ₹3,51,000. These funds directly support our initiatives and demonstrate our robust financial sustainability.

Securing Research Prominence: Our faculty's exceptional research prowess is evident in their ability to secure over ₹80 lakhs in funding from prestigious bodies like VGST, CSRTI, DST-NIDHI PRAYAS, and ECRA-VGST. Their dedication positions ACU-CRI at the forefront of groundbreaking research.

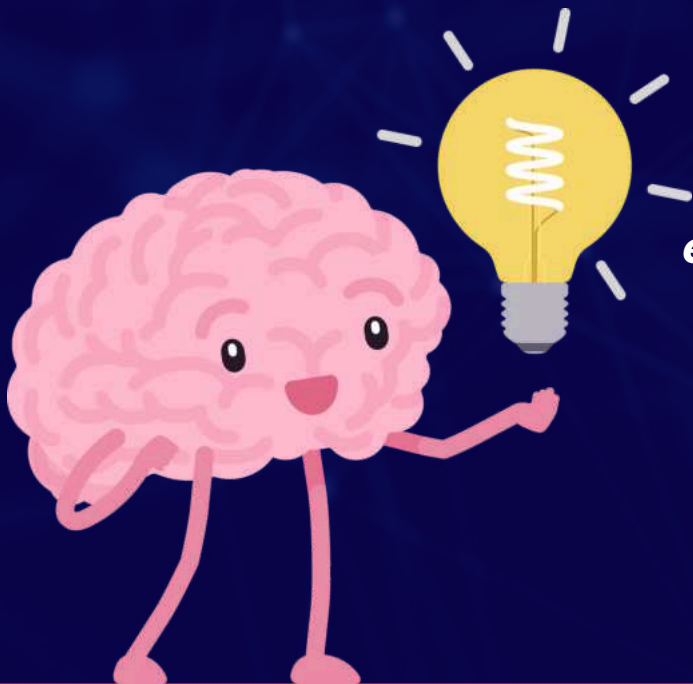
A Hub of Knowledge Creation: The unwavering commitment of our faculty and Ph.D. students has resulted in the publication of a remarkable 85 research papers in esteemed journals. These impactful contributions significantly advance knowledge across diverse scientific fields, solidifying CRI's reputation as a powerhouse of research excellence.

Research Centers & Facilities

- Centre for Research & Innovation (CRI)
- Adichunchanagiri Institute of Molecular Medicine (AIMM)
- Central Sophisticated Instrumentation Laboratory
- New Age Innovation Network (NAIN) Centre
- Centre for Molecular Pharmaceuticals and Therapeutics (CMPAT)
- Centre for Research Management and Industrial Linkage (CORMIL)
- Clinical Trial Centre
- Central Animal House
- BGS Centre for Advanced Materials
- Center of Excellence – Internet of Things (IoT)
- Medicinal Plant Garden
- Skill & Simulation Centre
- Business Games Laboratory
- AICTE-BGSIT Idea Lab
- ProQuest database
- Micromedex Drug Information Database
- Plagiarism Check Software
- Toxicological Garden
- E-Resource Centre



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“Innovation is seeing what everybody has seen and thinking what nobody has thought.”

–Dr. Albert, Szent. – Györgyi