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ADICHUNCHANAGIRI
UNIVERSITY



Adichunchanagiri Institute for Molecular Medicine

Collaborators



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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**.

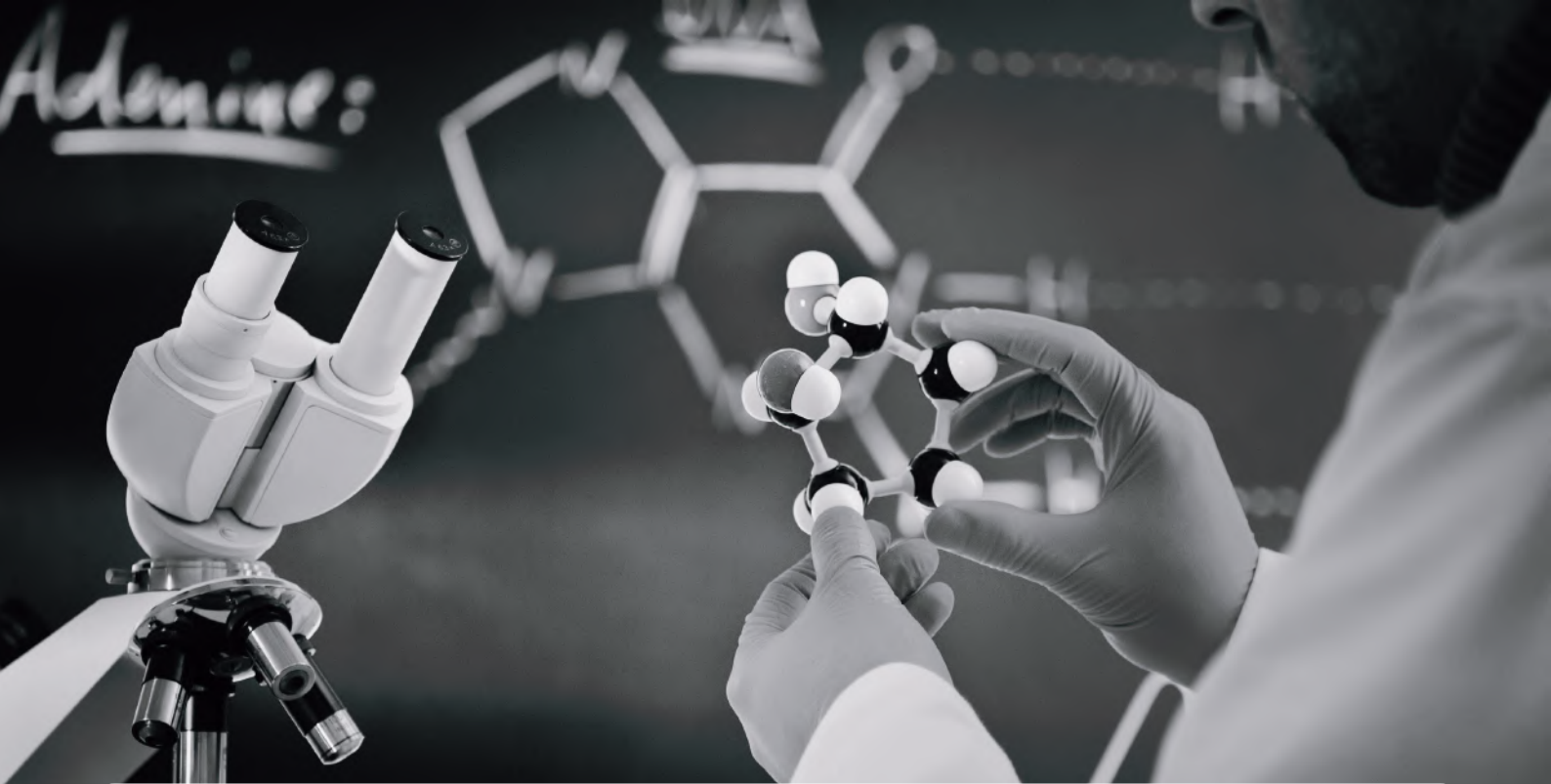
Industry-Ready Graduates

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





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Adichunchanagiri Institute for Molecular Medicine (AIMM) **Pioneering Research in Disease Mechanisms for a Healthier Future**

The Adichunchanagiri Institute for Molecular Medicine (AIMM), formerly the Adichunchanagiri Biotechnology and Cancer Research Institute, is a prominent research institute dedicated to elucidating the molecular underpinnings of various diseases. It collaborates with the Central Research Laboratory (AIMS-CRL) of the Adichunchanagiri Institute of Medical Sciences. AIMM has a distinguished history of investigating the therapeutic potential of dietary antioxidants in combating oxidative stress, a cellular imbalance linked to numerous ailments. Renowned for its scientific rigor, AIMM significantly contributes to disease prevention, drug discovery, and medical education. This focus positions AIMM to further advance global health outcomes. The institute fosters impactful collaborations, as evidenced by its partnerships with St. Jude Children's Research Hospital, Liveon Biolabs Private Limited, and the Indian Institute of Chemical Technology (CSIR-IICT), among others.

In the contemporary landscape of medical research, institutions like AIMM play an indispensable role. They provide critical insights into disease pathogenesis, paving the way for novel therapeutic interventions and personalized medicine approaches. AIMM's unwavering commitment extends beyond scientific discovery; it also fosters the development of the next generation of scientific leaders. As AIMM continues to evolve and innovate, it is poised to become a pivotal force in tackling significant health challenges, ultimately contributing to a healthier and more equitable world.



Vision

Research for everyone with value systems encompassing Empathy, Enrichment, Equity, Excellence, Empowerment, and Enlightenment to benefit Society.

Mission

Research for self-reliance, socio-economic change to develop an inclusive society with shared opportunities and responsibilities.



Objectives

AIMM is committed to advancing scientific knowledge and innovation in the following key areas:

- **Cancer Research:** Developing preventive and therapeutic measures for various types of cancer.
- **Disease Prevention:** Investigating the role of dietary antioxidants in mitigating oxidative stress and related diseases.
- **Drug Discovery and Development:** Creating new chemical entities and drug-like small molecules for the treatment of cancer, leishmaniasis, diabetes, and cardiovascular diseases.
- **Education and Training:** Providing high-quality education and research opportunities to students and scholars in various scientific disciplines.

Key Focus Areas

- **Oxidative Stress and Disease Prevention:** AIMM's initial research established a strong foundation in understanding the link between oxidative stress and various diseases. This knowledge informs the development of antioxidant-based therapies or strategies to mitigate oxidative damage.
- **Cancer Drug Discovery:** AIMM is actively involved in the discovery and development of novel cancer therapeutics. Their research focuses on identifying small molecules that target specific proteins involved in cancer progression.
- **Leishmaniasis and Diabetes Drug Discovery:** AIMM expands its expertise beyond cancer by investigating potential drugs for leishmaniasis, a parasitic disease, and diabetes, a chronic metabolic disorder.
- **Cardiovascular and Diabetic Biomarkers:** While not the primary focus, AIMM recognizes the importance of identifying biomarkers for cardiovascular diseases and diabetes. These biomarkers can aid in early diagnosis and targeted treatment strategies.
- **Training the Next Generation:** AIMM faculty actively contribute to education by teaching Master's degree courses in various life science disciplines offered by the School of Natural Sciences. This includes guiding dissertation research and evaluating students.
- **Promoting Collaboration:** AIMM provides dissertation research opportunities for students from various prestigious universities, fostering collaboration and knowledge exchange.

Significant Achievements



Development of Turmeric Peptide

One of AIMM's most notable achievements is the development of a potent antioxidant derived from turmeric, named "Arishinin." Funded by the National Cancer Institute of the National Institutes of Health in 2004 with a grant of INR 1,589,659, this project aimed to develop turmeric peptide as a potential cancer-preventive biomolecule under the RAPID program. "Arishinin," with a molecular weight of 8 kDa, has been patented both in India and the United States (US Patent No. 8,389,677B2), and its commercialization process is ongoing.

Education and Training

AIMM plays a vital role in education through the School of Natural Sciences, offering Master's degrees in various disciplines, including: Biochemistry, Biotechnology, Chemistry, Microbiology, Molecular, Biology & Physics. The institute's faculty, including the Director and Ph.D. research scholars, are actively involved in teaching, conducting practical sessions, guiding dissertation studies, and evaluating final exams. Approximately 8-10 students from prestigious universities join AIMM annually to carry out their dissertation projects as part of their academic curriculum, paying a basic lab fee.



**ADICHUNCHANAGIRI
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***The Interdisciplinary Research Institute
A Global Leader in Collaborative Innovation***

*Adichunchanagiri Institute for Molecular Medicine
(AIMM)*

Adichunchanagiri Institute for Molecular Medicine (AIMM) as the Interdisciplinary Research Institute takes immense pride in its unwavering commitment to research excellence and groundbreaking discoveries. As director, I am honored to unveil the remarkable achievements and contributions of our esteemed institution. We foster a dynamic environment that thrives on the cross-pollination of ideas, collaborative research, and the relentless pursuit of scientific breakthroughs. Our institute has garnered international recognition for its pioneering work in cancer therapeutics, RNA-interference technology, and the development of novel drug candidates with enhanced efficacy.



The core of our mission is unwavering dedication to inclusivity and diversity. We believe this is the foundation of our success. Guided by the invaluable mentorship of His Holiness Sri Sri Sri Dr. Nirmalanandanatha Mahaswamiji, Chancellor of Adichunchanagiri University, we bring together a diverse range of scholars and researchers. This fosters a vibrant exchange of ideas, leading to innovative solutions for global challenges.

Our interdisciplinary approach is key. We strategically build teams with unique expertise and fresh perspectives. This collaborative environment tackles ambitious projects, pushing boundaries. The synergy creates pioneering research, patents, and groundbreaking solutions by our esteemed faculty and researchers.

The AIMM has a distinguished record. Our researchers have made significant contributions in cancer therapeutics, RNA-interference, and novel drug development. These advancements showcase our commitment to pushing the boundaries of knowledge and creating a healthier future. We believe in nurturing future leaders. Through rigorous research programs, innovative teaching, and dedicated mentorship, we empower our students to lead in their chosen fields.

Looking ahead, the AIMM is poised to continue its pioneering trajectory. Our collaborative spirit and commitment to research excellence will propel us forward as a global leader in interdisciplinary research and education. We invite you to join us in this transformative journey as we redefine knowledge creation and positive societal impact.

Dr. Shobith Rangappa

Director, Adichunchanagiri Institute for Molecular Medicine
Adichunchanagiri University



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Adichunchanagiri Institute for Molecular Medicine (AIMM) Fostering Innovation through Multidisciplinary Research

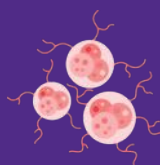
AIMM serves as a vibrant platform for collaborative research endeavors, bridging the boundaries between various disciplines

01. Micro and Molecular Biology



Our researchers screen a vast library of synthetic and natural molecules, identifying potent candidates to combat drug-resistant MRSA and other bacterial threats.

02. Molecular Oncology



We delve into the intricate world of gene regulation in cancer, investigating the role of microRNAs (miRNAs) and long non-coding RNAs (lncRNAs) in oncogenesis.

03. Synthetic Chemistry



Skilled chemists synthesize novel derivatives of phenoxazines and heterocyclic compounds (piperazines), potentially paving the way for groundbreaking discoveries.

04. Biochemistry



Our team unravels the intricate signaling pathways involved in the development of resistance to radio and chemotherapy across diverse cancer subtypes.

By fostering collaboration between these disciplines, AIMM aims to unlock the full potential of scientific inquiry, leading to advancements in healthcare, drug discovery, and our fundamental understanding of biological processes.





Adichunchanagiri Institute for Molecular Medicine (AIMM) A Hub of Cutting-Edge Research Facilities

AIMM boasts a state-of-the-art research infrastructure, equipped with specialized laboratories that cater to diverse scientific disciplines. This integrated network of facilities empowers researchers to delve deep into specific areas and seamlessly collaborate across fields.

- **Biochemistry Lab:** This lab provides the tools to dissect the intricate workings of cells, focusing on the biochemical pathways that underpin health and disease.
- **Microbiology Lab:** Dedicated to the exploration of the microbial world, this lab equips researchers to study bacteria, fungi, and other microorganisms, fostering advancements in areas like drug discovery and diagnostics.
- **Medicinal Chemistry Lab:** Here, researchers act as architects of novel molecules, synthesizing and manipulating compounds with therapeutic potential.
- **Cell Culture Lab:** This specialized facility allows researchers to cultivate and study cells under controlled conditions, providing a vital platform for understanding cellular processes and developing new treatments.
- **High-Throughput Screening Lab:** This high-powered facility accelerates the pace of discovery by enabling researchers to rapidly test large libraries of compounds against specific targets.

By housing these advanced facilities under one roof, AIMM fosters a dynamic environment where researchers can leverage the power of each lab to achieve groundbreaking discoveries.





AIMM Laboratory Instruments

AIMM's state-of-the-art facilities are equipped with a wide range of instruments that empower researchers across various disciplines

- **High Throughput Liquid Handler:** Automates liquid handling processes to increase efficiency and accuracy in high-throughput screening.
- **Bio Safety Cabinet:** Provides a sterile environment to safely handle biological samples and hazardous materials.
- **Carbon Dioxide Incubator:** Maintains optimal conditions for cell and tissue culture by controlling CO₂ levels, temperature, and humidity.
- **Immuno-Fluorescence Microscope:** Allows visualization of fluorescently labeled specimens to study the presence and location of specific molecules within cells.
- **Tecan Multimode Plate Reader:** Measures absorbance, fluorescence, and luminescence in microplate formats for various assays.
- **Chemidoc:** Captures and analyzes images of DNA, RNA, and protein samples in gels and membranes using chemiluminescence and fluorescence.
- **Refrigerated Centrifuge:** Separates samples at low temperatures to preserve the integrity of temperature-sensitive biological materials.
- **Speed Vac Concentrator:** Removes solvents from samples by evaporation under reduced pressure, used for concentrating and drying samples.
- **BOD Incubator:** Provides a controlled environment for biochemical oxygen demand (BOD) testing, crucial for wastewater and environmental studies.
- **Autoclave:** Sterilizes equipment and materials using high-pressure steam, ensuring contamination-free experiments.
- **Rotary Evaporator:** Removes solvents from samples by evaporation, commonly used in chemical and pharmaceutical research.
- **Fume Hoods:** Protects users from inhaling hazardous fumes and provides a safe environment for handling volatile substances.
- **Cell Counter:** Accurately counts cells in a sample, essential for cell culture and research.
- **Millipore System:** Purifies water to ultra-pure standards, ensuring high-quality water for experiments.
- **Vertical Laminar Air Flow Cabinet:** Provides a sterile working environment by blowing filtered air in a vertical laminar flow.
- **UV-Visible Spectrophotometer 1700:** Measures the absorbance of UV and visible light by a sample, used for quantitative analysis.
- **Ice Flaker:** Produces flaked ice for cooling samples and reagents during experiments.
- **-20°C Deep Freezer:** Stores biological samples at low temperatures to preserve their integrity over long periods.
- **Pharmaceutical Refrigerator:** Maintains the storage conditions required for pharmaceuticals, including vaccines and reagents.
- **Upright Refrigerator:** General storage for reagents and samples at controlled temperatures.
- **Gradient Thermal Cycler:** Amplifies DNA and RNA samples using PCR, with the capability to run temperature gradients for optimization.
- **MicroBalance:** Measures small mass samples with high precision, crucial for analytical experiments.
- **Western Blotting Semi Dry Transfer System:** Transfers proteins from gels to membranes quickly and efficiently for Western blot analysis.
- **Biosafety Cabinet Class II:** Provides a sterile and safe environment for handling pathogenic samples.
- **Liquid Storage Container:** Safely stores cryogenic liquids such as liquid nitrogen.
- **Tissue Lyser:** Homogenizes tissues for molecular analysis, ensuring efficient sample preparation.
- **Probe Sonicator:** Uses ultrasonic energy to disrupt cells and tissues or to mix solutions.
- **Refrigerated Centrifuge:** Separates samples while maintaining low temperatures to protect sensitive samples.
- **Inverted Microscope:** Used for observing live cells and organisms in culture dishes and flasks.
- **Automatic Cell Counter:** Provides quick and accurate cell counts, improving efficiency in cell culture workflows.



Meet the Minds Behind AIMM's Research

Dr. Shobith Rangappa

Director, Adichunchanagiri Institute for Molecular Medicine
Adichunchanagiri University

Shobith Rangappa, an Associate Professor in the Department of Molecular Biology within the Faculty of Natural Sciences, is a distinguished researcher and academician with a remarkable career spanning multiple decades. Currently, he holds the position of Director at the Adichunchanagiri Institute for Molecular Medicine at Adichunchanagiri University, situated in B. G. Nagara, Mandya. Dr. Rangappa has made significant contributions to the field of Cancer Biology and has received numerous awards and honors in recognition of his work. His academic and research journey is characterized by a wealth of remarkable achievements.



Dr. Rangappa's research skills are evident in his significant scholarly impact, with over 3,130 citations, an impressive H-Index of 35, and an I10 Index of 62, which demonstrate the depth and breadth of his influence in the scientific community. Dr. Rangappa has published over 90 papers, indicating a prolific and consistent contribution to the field of molecular medicine. He has secured seven patents, demonstrating his innovative approach towards addressing pressing medical challenges.

He was honored with the prestigious JASSO fellowship award from Japan in 2022, furthering his research collaboration with Hokkaido University. Additionally, he was awarded the VGST KFIST-LI project grant of 15 Lakhs by the Government of Karnataka for his groundbreaking research project focusing on the sensitization of triple-negative breast cancer cells. Dr. Rangappa's contributions have been recognized on national and international platforms, evident from his appointment as an Executive Committee Member for the Indian Science Congress and his receipt of the Prof. R C Shah Memorial Lecture Award in 2018-19. His involvement in various committees and conferences, including chairing and co-chairing plenary sessions, underscores his leadership and expertise in the field. Dr. Rangappa earned his Ph.D. in Life Science from Hokkaido University in Japan, where he was mentored by Prof. Shin-Ichiro Nishimura. He has extensive experience in organizing workshops, delivering plenary lectures, and fostering collaborations with esteemed institutions and companies worldwide.

Dr. Rangappa is a prominent figure in his field and is currently supervising the research of five Ph.D. scholars in the field of cancer therapeutics. His contributions to the field have been widely recognized, and he continues to be a leading authority in the domain of life sciences. Moreover, he is serving as a Scientific Advisor at two CROs, LIVEON Biolabs Pvt. Ltd. in Tumkur, Karnataka, and Dhriti Bio Solutions in Mysore, Karnataka. His research interests span diverse areas, such as cancer therapeutics, structure-based drug discovery, glycomics, targeted drug delivery systems, and mi-RNA-based targeted gene expression studies. His notable publications, including groundbreaking studies on apoptosis in triple negative breast cancer cells and noncoding RNAs in gastrointestinal cancers, exemplify his commitment to advancing knowledge and addressing critical medical challenges.

Dr. Shobith Rangappa's career trajectory, marked by groundbreaking research, prestigious awards, and impactful collaborations, positions him as a leading authority in cancer biology, poised to continue making significant contributions to the field and society at large.



Dr. Sudhanva M. S.

Associate Professor, AIMM
Adichunchanagiri University

Pioneering Scientist in Molecular Biology and Medicinal Chemistry

Dr. Sudhanva M. S. is a distinguished scientist with expertise in Molecular Biology, Biochemistry, and Oncology. He earned his 5-year integrated M.Sc. in Molecular Biology from Yuvaraja's College, University of Mysore, and later worked at the CFTRI, Mysuru, under Dr. Nani Shankar, focusing on Carbohydrate Chemistry. In 2011, he pursued his doctoral studies at Chosun University, South Korea, specializing in microRNA regulations, and obtained his Ph.D. in 2016. Returning to India, he served as guest faculty at the University of Mysore before joining the Adichunchanagiri Institute for Molecular Medicine (AIMM) in 2017. At AIMM, he excels in Medicinal Chemistry, developing synthetic and natural small molecule inhibitors against cancer. Dr. Sudhanva has published 21 research articles, holds 3 patents, and has secured significant research grants. He has guided over 50 Master's students and currently mentors 2 Ph.D. candidates.



Dr. Thammanna Gowda

Assistant Professor, AIMM
Adichunchanagiri University

Expert in Biochemistry and Molecular Medicine

Dr. Thammanna Gowda is a distinguished biochemist with a robust academic and research background. He completed his M.Sc. in Chemistry from Shimoga University in 2013 and earned his Ph.D. in Biochemistry from the University of Mysore in 2016. Dr. Gowda has over two decades of experience, starting as a Research Lab Technician and later as a Junior Scientific Officer at the Adichunchanagiri Biotechnology & Cancer Research Institute (1996–2019). Since 2019, he has been an Assistant Professor at the Adichunchanagiri Institute for Molecular Medicine, Adichunchanagiri University.

His research specializes in the isolation and purification of natural compounds from plant sources and their biological activities, including antioxidant, anti-inflammatory, anticancer, and antimicrobial properties. Dr. Gowda has published 25 papers in prestigious journals, such as Molecular and Cellular Biochemistry and the Journal of Membrane Biology, with an H-index of 2 and 70 citations. He has received a Rs.1.3 lakh intramural grant for his project on antimicrobial activities of novel piperazine compounds. With 18 years of teaching experience, he was honored with the Best Teacher Award by Adichunchanagiri University in 2023 and has guided over 50 M.Sc. students in their research projects.



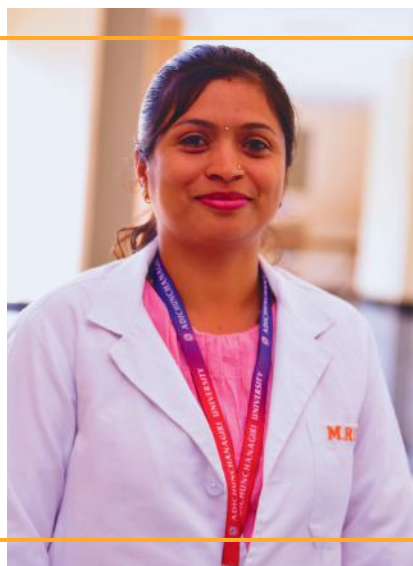
Ms. Parimala B. Hanumesh

Assistant Professor, AIMM
Adichunchanagiri University

Expert in Chemistry and Biotechnology Research

Parimala Hanumesh, with an M.S. in Chemistry from Western Illinois University and an M.Sc. in Biotechnology from Bangalore University, has a robust background in research and development. She served as a Senior Research Technologist at St. Jude Children's Research Hospital, contributing to significant projects in Chemical Biology and Therapeutics. Later, as an Assistant Manager at ALKEM Laboratories, she played a pivotal role in research management.

Currently, Parimala is a Scientific Officer and tutor at the Adichunchanagiri Institute for Molecular Medicine, where she is also pursuing her Ph.D. under Dr. Shobith Rangappa. Her research focuses on synthesizing small molecule Akt kinase inhibitors and process R&D for chemical APIs, supported by a grant from Adichunchanagiri University. She has published seven papers in esteemed journals like ACS Medicinal Chemistry, with an H-index of 4 and 65 citations. Her work extends to synthesizing anticancer/antibacterial drugs and isolating phytochemicals from plant sources.



Mrs. Manjula R. V.

Assistant Professor, AIMM
Adichunchanagiri University

Expertise in Biotechnology and Oncotherapeutics

Manjula R V, an accomplished biotechnology professional, earned her M.Sc. from Tumkur University in 2015. She began her career as a lab technician at Adichunchanagiri Hospital and Research Centre B G Nagara. After three years, she transitioned to the role of personal assistant to the Dean of Research at Adichunchanagiri University. Since April 2020, Manjula has been a Research Assistant at the Adichunchanagiri Institute for Molecular Medicine and a tutor since 2021. Concurrently, she is pursuing her Ph.D. under Dr. Prashantha K, focusing on Oncotherapeutics. Her research includes screening small molecules for anticancer properties, antimicrobial studies, and isolating phytochemical constituents from plants. Manjula has published four papers in reputed journals, demonstrating her significant contributions to the field.



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Mr. Madhu Kumar H. K.
FDA, AIMM



Mrs. Parvathamma
Attendant, AIMM



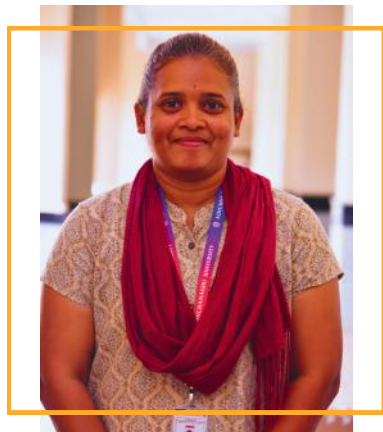
Mr. Manjachari G.
Peon, AIMM



Inverted fluorescence microscope imaging facility



Doctoral Scholars of AIMM



Ms. Parimala B. Hanumesh
M. S. Chemistry & M. Sc. Biotechnology

- Research Guide: Dr. Shobith Rangappa
- Date of Enrolment: 01st June 2021
- Mode of Study: Part-Time
- Field of Study: Biochemistry
- Research Experience: 15 years
- Thesis Title: "Isolation and Extraction of Bioactive Component(s) from Cinnamomum zeylanicum Blume"
- Areas of Expertise: Medicinal Chemistry & Phytochemistry
- Key Skills: Small Molecule Synthesis, Solvent Extraction and Purification, Thin Layer Chromatography (TLC), Liquid Chromatography-Mass Spectrometry (LCMS), Ultra-Performance Liquid Chromatography (UPLC), Nuclear Magnetic Resonance (NMR) and Biological Characterization
- Email: parimalahanumesh@acu.ac.in



Mr. Anil Kumar B. M.
M.Sc. in Molecular Biology

- Guide: Dr. Shobith Rangappa
- Date of Enrollment: 01st June 2021
- Mode: Full-Time
- Subject: Molecular Biology
- Research Experience: 6 years
- Thesis Title: "Identification of Potent Lead-Like Natural Compounds Against Rhabdomyosarcoma Cells and Enumerating Their Potential Target Pathways"
- Keywords: Rhabdomyosarcoma, Natural Small Molecules, Cell Culture, Apoptosis, Autophagy, Caspase, Western Blot and Protein Expression
- Email: anilkumarbm@bgsaims.edu.in



Ms. Priyadarshini A. N.
M.Sc. in Microbiology

- Guide: Dr. Sudhanva M. S.
- Enrollment Date: 13th December 2021
- Mode: Full-Time
- Subject: Molecular Biology
- Thesis Title: "Enumerating Eupafolin's Anticancer Potential Against the Most Admited RAS Mutant Pancreatic Cancer and Elucidating Its Target Pathways"
- Keywords: Pancreatic Cancer, Natural Small Molecules, Cell Culture, Apoptosis, Autophagy, Caspase, Western Blot and Protein Expression
- Email: priyadarshinian@acu.ac.in



Mr. Byresh Gowda B. K.
M.Sc. in Biochemistry

- Guide: Dr. Shobith Rangappa
- Date of Enrollment: 21st May 2023
- Mode: Full-time
- Subject: Biochemistry
- Thesis Title: "Exploring Nature's Potent Anticancer Small Molecules and Unraveling Their Target Pathway(s)"
- Keywords: Colorectal, Natural Small Molecules, Cell Culture, Apoptosis, Caspase, Western Blot, Protein Expression
- Email: byreshgowdabk@acu.ac.in



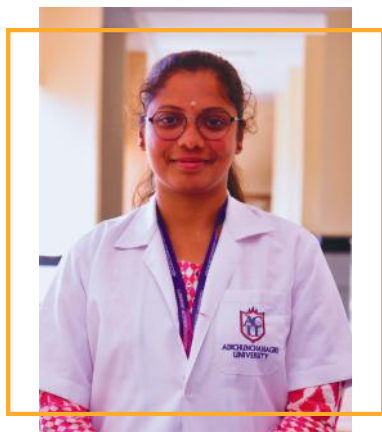
Mr. Malleshappa C. O.
M.Sc. in Bioinformatics

- Guide: Dr. Sudhanva M. S
- Enrolment Date: May 4, 2023
- Mode: Part-Time
- Subject: Molecular Biology
- Research Experience: 15 years
- Thesis Title: "Isolating a Potent Anti-Obesity Small Molecule and Revealing its Remarkable Biological Activity."
- Keywords: Natural small molecules, Obesity, Cell Culture, Western Blot and Protein Expression
- Email: malleshco@gmail.com



Mr. Ranganath M.
M.Sc. in Zoology

- Guide: Dr. Sudhanva M. S
- Enrolment Date: 24th April 2023
- Mode: Part-Time
- Subject: Molecular Biology
- Research Experience: 17 years
- Thesis Title: "Harnessing Nature's Underwater Treasure: Exploring Bioactive Peptides from Jellyfish and Evaluating their Biological Potency."
- Keywords: Natural small molecules, Obesity, Cell Culture, Western Blot and Protein Expression
- Email: rangu.m@gmail.com



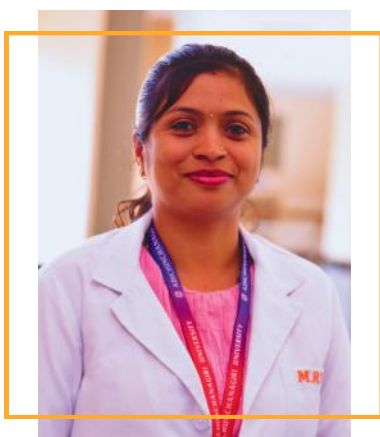
Ms. Shreya G.
M.Sc. in Chemistry

- Guide: Dr. Sudhanva M. S.
- Date of Enrollment: 21st December 2023
- Mode: Full Time
- Subject: Biochemistry
- Thesis Title: "Targeting Acetylcholinesterase with Natural Polyphenol Gingerenone A to Combat Alzheimer's Disease"
- Keywords: Alzheimer's Disease, Natural Small Molecules, Cell Culture, Apoptosis, Autophagy, Caspase, Western Blot and Protein Expression
- Email: shreyag12014@gmail.com



Mrs. Asharani B. G.
M.Sc. in Botany

- Guide: Dr. Shobith Rangappa
- Date of Enrollment: January 2, 2024
- Mode: Full-time
- Subject: Molecular Biology
- Thesis Title: "Synthesis and Characterization of Chitosan-Based Nanoparticles and Evaluation of Their Biological Activity"
- Keywords: Chitosan, Nanoparticles, Cell Culture and Apoptosis
- Email: ashagrao190120000@gmail.com



Mrs. Manjula R. V.
M.Sc. in Biotechnology

- Guide: Prof. Prashantha Kalappa
- Date of Enrollment: 03rd January 2024
- Mode: Part-Time
- Subject: Biotechnology
- Research Experience: 8 years
- Thesis Title: "Evaluation of Potential Toxicity of Microplastics on Human-Derived Cell Lines"
- Keywords: Gastrointestinal, Epithelial, Microplastic and Cell Culture
- Email: manjula@acu.ac.in



Ms. Likhitha S.
M.Sc. in Molecular Biology

- Guide: Dr. Shobith Rangappa
- Enrollment Date: April 1, 2024
- Mode: Full-Time
- Subject: Molecular Biology
- Thesis Title: "Deciphering Resilient Pathways in Pediatric Tumors Targeted by Natural Small Molecules"
- Keywords: Pediatric, Natural Small Molecules, Cell Culture, Apoptosis, Caspase, Western Blot and Protein Expression
- Email: likhithas1511@gmail.com

Adichunchanagiri Institute for Molecular Medicine (AIMM) Patents Affiliated

- Dr. Devaraj Reddy, Dr. Prathvi Shetty, Dr. Srilakshmi Aluri, Dr. Shobith Rangappa, Dr. M S Sudhanva, and Shreya Uday invented a composition of neem leaf water-soluble bitters and a process for its preparation. This patent was filed on December 21, 2022, with Application Number 202241074158.
- Dr. Devaraj Reddy, Dr. Prathvi Shetty, Dr. Srilakshmi Aluri, Dr. Shobith Rangappa, Dr. M S Sudhanva, and Shreya Uday developed a bioactive bacopa extract and bitterless Ebelin lactone composition, along with a method for its preparation. This patent was filed on January 12, 2023, with Application Number 202341002516.
- Dr. Devaraj Reddy, Dr. Prathvi Shetty, Dr. Srilakshmi Aluri, Dr. Shobith Rangappa, Dr. M S Sudhanva, and Shreya Uday formulated a composition of highly bioabsorbable ashwagandha root extract and detailed the process for its preparation. Filed on January 12, 2023, the patent bears Application Number 202341002519.
- Rangappa KS, Basappa, Mohan CD, Shobith R, Bharathkumar H, Sethi G, Bender A, Lobie PE, Hui KM, Kumar AP, Pandey VK, Fuchs J, Shanmugam MK, Bulusu K, Dai X, Li F, and Deivasigamani A invented compounds as modulators of the JAK-STAT pathway, with methods and applications thereof. This US patent (15/004114) was granted on January 22, 2016, and published as US 2016/0214968 A1 on July 28, 2016.
- Rangappa KS, Basappa, Mohan CD, Shobith R, Keerthy HK, Sethi G, Bender A, Girish KS, Fuchs J, Sundaram MS, Li F, and Siveen KS developed compounds as modulators of tumor necrosis factor, with methods and applications thereof. This Indian patent (4345/CHE/2015) was published on February 24, 2017.
- Peter Edward Lobie, Vijay Kumar Pandey, Rangappa Kanchugarakoppal Subbegowda, Basappa Salundi, Mohan Chakrabhavi Dhananjaya, and Shobith Rangappa patented small molecule inhibitors of Bcl-2-associated death promoter (Bad) phosphorylation under US patent 16605630, dated April 30, 2020.
- Peter Edward Lobie, Vijay Kumar Pandey, Rangappa Kanchugarakoppal Subbegowda, Basappa Basappa, Mohan Chakrabhavi Dhananjaya, and Shobith Rangappa developed compounds useful in inhibiting human trefoil factor 3, as described in US patent 16619218, dated May 14, 2020.



Sensitization of Triple Negative Breast Cancer (TNBC) to DOXO by Garcinol

Investigators: Dr. Shobith Rangappa (PI), Dr. Sudhanva M. S. (Co-PI)

Project Amount: Rs. 15,00,000

Funding Agency: VGST, GOK

This project aims to enhance the effectiveness of doxorubicin (DOXO) in treating triple-negative breast cancer (TNBC) using garcinol. The study includes elucidating the molecular pathways involved using a nude mice tumor model, potentially paving the way for novel therapeutic strategies in breast cancer treatment.

Development of Novel Small Molecule Inhibitor as an Anticancer Agent

Investigator: Dr. Shobith Rangappa (PI)

Project Amount: Rs. 4,00,000

Funding Agency: ACU

Focused on synthesizing and developing a new small molecule inhibitor, this project targets its potential as an anticancer agent. The research aims to discover compounds that exhibit potent anti-cancer properties, contributing to the ongoing efforts in drug discovery at AIMM.

Diagnostic Efficacy in Extrapulmonary Tuberculosis

Investigators: Dr. Amitha (PI) (AIMS, ACU), Dr. Sudhanva M. S. (Co-PI)

Project Amount: Rs. 3,10,000

Funding Agency: ACU

This project evaluates the diagnostic efficacy of phenotypic and cartridge-based nucleic acid amplification techniques in extrapulmonary tuberculosis. Emphasis is placed on molecular characterization of Mycobacterium tuberculosis, aiming to improve diagnostic accuracy and patient management.

Radio Resistance Mechanisms in Breast Cancer

Investigator: Dr. Sudhanva M. S. (PI)

Project Amount: Rs. 1,50,000

Funding Agency: ACU

Examining the role of miR195 and miR497 in conferring radioresistance in breast cancer cells by upregulating PPM1D (WIPI), this project seeks to uncover molecular mechanisms underlying treatment resistance. Insights gained could lead to strategies for overcoming resistance and improving treatment outcomes.

Synthesis of Antimicrobial Chemical Library

Investigator: Dr. Thammanna Gowda S. S. (PI)

Project Amount: Rs. 1,30,000

Funding Agency: ACU

This project involves synthesizing a novel piperazine-based chemical library and evaluating its antimicrobial potency. The research aims to identify new compounds effective against microbial infections, contributing to the development of novel antimicrobial agents.

Characterization of Phenoxazines Libraries

Investigator: Ms. Parimala B. Hanumesh (PI)

Project Amount: Rs. 1,50,000

Funding Agency: ACU

Focused on synthesizing and characterizing N10-substituted phenoxazines libraries, this project aims to conduct preliminary screenings to assess their potential in various biomedical applications. The research contributes to AIMM's efforts in exploring diverse chemical structures for therapeutic purposes.

The total funding for these projects amounts to Rs. 26,40,000/-.



Cancer Cell Lines

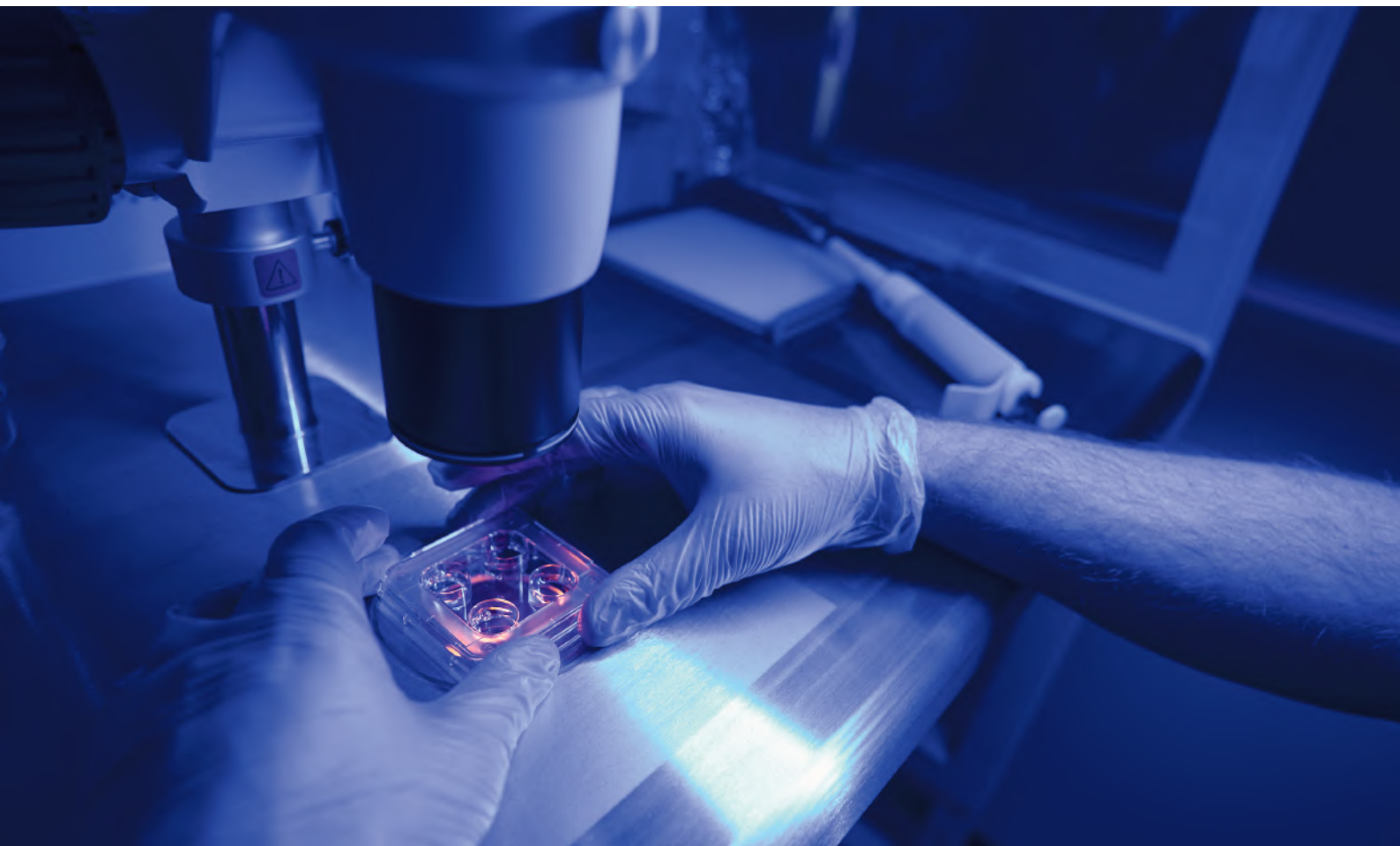
- **HCT-116** is a cell line originating from the **colon** of an adult Homo sapiens (human)
- **HCT-15** is a cell line originating from the **colon** of an adult Homo sapiens (human)
- **MIAPACA2** is a cell line originating from the **pancreas** of an adult Homo sapiens (human)
- **Panc-1** is a cell line originating from the **pancreas** of an adult Homo sapiens (human)
- **SHSY5Y** is a cell line originating from a **neuroblast** of an adult Homo sapiens (human)
- **MDA-MB-231** is a cell line originating from the **breast** of an adult Homo sapiens (human)
- **MDA-MB-468** is a cell line originating from the **breast** of an adult Homo sapiens (human)

Normal Cell Lines

- **HEK 293T** cell line originates from a **human fetus** and is derived from the **kidney**
- **C2C12** cell line originates from **muscle cells** of *Mouse Mus musculus* (**Myoblast cell line**)

Pediatric Cancer Cell Lines

- **Rh28** cell line originates from the **muscle** of a **pediatric human** (Homo sapiens)
- **Rh30** cell line originates from the **muscle** of a **pediatric human** (Homo sapiens)
- **Rh18** cell line originates from the **muscle** of a **pediatric human** (Homo sapiens)
- **Rh41** cell line originates from the **muscle** of a **pediatric human** (Homo sapiens)
- **Rh36** cell line originates from the **muscle** of a **pediatric human** (Homo sapiens)
- **ES-1** cell line originates from the **bone** of an **adolescent human** (Homo sapiens)
- **ES-3** cell line originates from the **bone** of an **adolescent human** (Homo sapiens)
- **ES-4** cell line originates from the **bone** of an **adolescent human** (Homo sapiens)
- **ES-6** cell line originates from the **bone** of an **adolescent human** (Homo sapiens)
- **ES-8** cell line originates from the **bone** of an **adolescent human** (Homo sapiens)





Adichunchanagiri Institute for Molecular Medicine (AIMM) Conferences / Symposium

- An international symposium titled "Developing Drugs for Tomorrow: Challenges and Opportunities" was held on February 1, 2018.
- A one-day international symposium on "Recent Trends in Research Across the World" took place on June 12, 2019.
- A lecture series focusing on the exploitation of endophytic fungi secondary metabolites for their medicinal properties was conducted on February 1, 2020, featuring international speakers from the Indian Science Congress.
- An international conference on "Recent Trends in Molecular Biology" was organized on May 25, 2023.
- A national conference on "Recent Trends in Biological Sciences" was held on May 25, 2022.





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Engineering

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- Civil Engg.
- Mechanical Engg.
- Computer Science & Engg.
- Information Science & Engg.
- Electronics & Comm. Engg.
- Artificial Intelligence and Machine Learning

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- VLSI Design & Embedded system
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- Renal Dialysis Technology Optometry
- Anaesthesia & Operation Theatre Technology
- Clinical Psychology

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- Medical Imaging Technology
- Health Inspector Ophthalmic Technology
- Dialysis Technology
- Medical Records Technology
- Operation Theatre Technology

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“Every brilliant experiment, like every great work of art, starts with an act of imagination.”

– Jonah Lehrer