UNS-USHAS

Let's experience research

UNS – USHAS

Brochure

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ABOUT US

Universality Science Hub for Aspiring Scholars @ UNS-USHAS, R&D training campus is a specialized establishment focused on research and development, providing training and resources for Secondary School students, scientists, engineers, Innovators and researchers. It combines academic learning with hands-on experience in laboratories and other research facilities, offering a range of courses, workshops, and certifications in various R&D fields, such as medicine, engineering, sciences, and technology. Nurturing scientific research among schools students and budding scholars are vital for cultivating curiosity, critical thinking, and innovation, preparing students for future challenges and contributing to societal progress. It equips students with valuable skills, fosters a scientific mindset, and allows them to actively engage with the world around them.

Develops Essential Skills:

Hands-on research experiences in schools help students develop critical thinking, problem-solving, and analytical skills, which are crucial for future success in various fields.

Develops Essential Skills:

By encouraging students to ask questions, experiment, and explore, research-driven learning nurtures their natural curiosity and encourages innovative thinking.

Engages Students Actively:

Instead of passive learning, research-driven activities make learning more interactive and engaging, helping students understand scientific concepts more deeply and appreciate their real-world applications.

Connects Learning to the Real World:

Integrating research into the curriculum helps students see the practical relevance of science and connect their learning to real-world issues and problems.

Prepares Students for Future Challenges:

By engaging in research, students develop the skills and perspectives needed to tackle complex challenges and contribute to societal progress.

Cultivates a Scientific Mindset:

Research-driven education encourages students to think critically, analyze evidence, and evaluate hypotheses, developing a scientific mindset that is essential for lifelong learning.

Promotes Collaboration and Communication:

Many research projects involve teamwork and require students to communicate their findings effectively, fostering important collaborative and communication skills.

Ignites a Passion for Learning:

The excitement and satisfaction of conducting research can ignite a lifelong passion for learning and inquiry, motivating students to continue exploring and discovering.

UNS Research Council
(Principal Sponsor for the UNS-USHAS Project)

The UNS Research Council is a globally recognized institution committed to advancing scientific research, innovation, and academic excellence. As a hub for interdisciplinary collaboration, we bring together distinguished researchers, scholars, and industry professionals to foster groundbreaking discoveries that address real-world challenges: Our mission is to support the next generation of scientists by providing high-quality training, mentorship, and resources that drive impactful research. UNS thrives to be a leading research council dedicated to shaping the future of scientific discovery and innovation, bridging the gap between academia and industry while upholding the highest standards of ethics and integrity in research. To support and promote high-quality scientific research and innovation. To provide a platform for researchers to collaborate across disciplines and institutions. To facilitate knowledge sharing through workshops, conferences, and scholarly publications. To guide young researchers in their academic and professional journeys. To advocate for research integrity, ethics, and responsible scientific practices.

EDSURANCE

UNS Digital Technologies and UNS Research Council, is revolutionizing global education with Edsurance, an AI-powered, research-backed educational platform designed to install moral and ethical values in students, counteract technology-induced learning challenges, provide critical emotional and developmental support, foster talent through structured mentorship, and guide students toward independent success. Edsurance intend to capture global attention from policymakers, educators, and industry leaders. Its launch is expected to set a new benchmark in education technology, reshaping how learning is delivered and experienced worldwide. To accelerate research- driven innovation, the Edsurance platform included a R&D module for Nurturing Scientific Temper to the enquiring minds among senior secondary School students as a Skill based laboratory training approach to ignite research thoughts, career prospects and skills among Higher Secondary Students. The company sponsors high-impact studies conducted by the UNS Research Council, an elite think tank comprising of renowned scientists and academics from top global institutions, industry leaders and professionals shaping the future of global R&D.

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UNS - USHAS SERVICE CONCEPT

Holistic Learning Model

USHAS aims to create an integrated learning ecosystem that combines experimental labs, leadership training, and career guidance to shape the next generation of scientific minds. This model is designed to provide hands-on experience, critical thinking skills, and personal development opportunities for students. Holistic research training for students emphasizes a comprehensive approach to research education, aiming to develop well-rounded researchers and innovators. It goes beyond simply acquiring knowledge and skills, focusing on fostering a mindset that values research, promotes critical thinking, and integrates research with other aspects of a student's development.

Curriculum Integration:

Holistic research training isn't just a separate course; it's integrated into the overall curriculum in the participating school clubs, making it a natural part of the learning experience.

Mentorship and Guidance:

Students receive guidance both as offline and online from experienced researchers, fostering a supportive learning environment and personalized attention.

Mindset and Skills Development:

The goal is to cultivate a research mindset, including critical thinking, problem-solving, and the ability to analyze and interpret information.

Interdisciplinary Approach:

Research training encourages students to explore connections between different disciplines, fostering a more comprehensive understanding of complex issues.

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Ethical Considerations:

Students are taught about ethical research practices, ensuring that they conduct research responsibly and with integrity.

Real-world Application:

Research training connects academic research with real-world applications, allowing students to see the practical impact of their work.

Improved research skills:

Students develop a deeper understanding of research methodologies and techniques, leading to more effective research outcomes.

Enhanced critical thinking:

Research training promotes critical thinking and analytical skills, allowing students to make informed decisions and solve problems effectively.

Increased innovation:

Students are encouraged to think creatively and explore new ideas, fostering innovation and problem-solving.

Greater job prospects:

A strong foundation in research and innovation can lead to better job opportunities and career advancement.

Contribution to society:

Research training empowers students to contribute to societal advancements by addressing real-world problems and developing innovative solutions.

Vision and Mission

Vision:

USHAS focuses on Interdisciplinary & empirical research approach, blend with ethical standards & social responsibility, by cultivating a mindset of continuous learning to stay current with advancements in their field and beyond.

Mission:

•To develop researchers who possess research ethics, technical skills, critical thinking, communication, and collaboration abilities.
•To Encourage researchers to work with diverse stakeholders, including communities, policymakers, and other researchers, to address complex issues collaboratively.
•To focus on identifying and addressing pressing social, economic, and environmental challenges.
•To provide opportunities for researchers to explore innovative approaches and solutions, pushing the boundaries of their field.

KEY PEOPLES

Dr. K.P. Srinivasakumar

Concept Developer, Principal Consultant &
Managing Director UNS-USHAS Project

Dr. Srinivasakumar K.P, Clinical Research Scientist, Academician and Philanthropist with Ph.D from Mangalore University in BioSciences; Doctor of Medicine (MD) in Complementary Medicine from International University of Complementary Medicine, Srilanka; Fellowship in Clinical Profession (FCP) from Reliance School of Life Science, Postdoctoral research from Thu Dau Mot University, Vietnam and from University of South Florida; Post Doctoral Associate in Texas A&M University, Qatar. He is also the prestigious member of British Council for Complementary Therapies, London and American Society of Biochemistry and Molecular Biology & D.Sc on his contribution in Clinical Research from DBHI, Shiraz Institute of Medical Sciences, Iran. He is currently serving as Visiting faculty and Professor of Health Sciences, Lincoln University College, Malaysia & Director SMART Medical Centre, Kerala and Clinical Research consultant SUT Hospital, Trivandrum & Advisory board member to few International Medical Universities and hospitals across globe and as the Head of Clinical operations of a global research initiative, Institute of Biology and Clinical Research (IBCR) and Chief Scientific officer to Inbiotics a training and research institute promoted by IBCR. He is a Principal Investigator in a research project funded by SHRI, DST, Govt of India. He published more than 50 Original research papers and authored few books and holds 5 International Patents. He is also the He is listed as research professional in Marquis Who is Who- 2011 and evaluated for the "Thousand Intellectuals in Research" by BMS, London. He has visited many countries for various research engagements.

Dr. Suresh Sathyanarayanan

CEO, UNS Research Council & Sponsor, UNS-USHAS Project

Dr. Suresh Sathyanarayanan, CEO of UNS Groups, Wealth Coach, Business Consultant, 20+ Years Of Coaching Experience & Research, Philanthropist, Investor, Entrepreneur, who is on a Mission to Serve 10% of the World Population in the essential sectors such as Agriculture, Education , Energies , Health Care and Blockchain. As a corporate Trainer he transformed 65k+ people as ELT Professional and Soft Skills Trainer. Being a Mentor and Coach guided 100s through Success Park International and Ellora Music School. Public Speaker and Content Writer impacted 1000s at Schools, Colleges and Corporates , HYPNOTHERAPIST empowered 100s by being trustworthy therapist. Created 10s of Entrepreneurs through EarnApp and Agree2Agri. Real Estate Entrepreneur transacted across in 3k+ small and big properties. He is instrumental in encouraging research concept and funding of UNS-USHAS project.

Dr. Hemachandran Ravikumar

Research Consultant and Advisor, UNS-USHAS Project

Dr. Hemachandran Ravikumar is a distinguished Neurologist, scientist and Doctorate of Medical Research and Development, known internationally for his groundbreaking contributions across the fields of biology, space science, healthcare innovation, and alternative therapies. He is the Founder and Director of N&H Research Park, India's first private research and development services company focused on space logical analysis. His pioneering efforts continued with the authorship of the world record-setting book "Secrets of Society" in 2019, which earned him recognition as the Fastest Book Writer. More about the achievement he received 9 National Medals in Science and Technology and 2 International Honour From Royal Society of United Kingdom.

In 2023, Dr. Ravikumar's outstanding contributions to the advancement of biological sciences were globally recognized when he was conferred the Registered Scientist (Rsci) Award by the Science Council of the United Kingdom, in association with the Royal Society of Biology (UK). His dedication to international scientific collaboration also earned him the title of Ambassador of the Royal Society of Biology in London. Dr. Ravikumar's leadership extends to his role as President of the International Youth Research Foundation (IYRF) since 2018, where he has mentored young researchers and advocated for innovative scientific education. His excellence in public service was recognized by the United Nations Development Programme (UNDP) with the award of the Karmaveer Chakra Medal in 2023.

Ms. Archana Srinivasakumar

Director and Advisor, UNS-USHAS Project

Mrs. Archana Srinivasakumar, a BTech Graduate with 15 years of experience in research activities as Women entrepreneur, and her entrepreneurial journeys are characterized by resilience, innovation, and a commitment to creating meaningful impact. With her experience in the field of HR, Strategic Planning, Team Leadership & Planning, Mrs. Archana has played a vital role in devising the vision and strategy being instrumental in the launch and operation of a global research Initiative, Institute of Biology and Clinical Research (IBCR) and a Pharmaceutical start up, PRAWN Rx Healthcare Pvt Ltd. She also facilitates smooth and flawless functioning of operational activities of the organization.

EXTERNAL DIRECTORS

Dr. Samji DR

Director, Operations,UNS-USHAS Project

Dr. Samji DR, a Cardio-Physiotherapist and a clinical researcher and entrepreneur and the Director of a Clinical Establishment SMART Medical Centre, He has a deep understanding of the challenges of leading any clinical, academic and research institution. His leadership skills, technological prowess and stewardship has strengthened the culture of innovation of Institute of Biology and Clinical Research and the Pharmaceutical Startup company, PRAWN Rx Healthcare Pvt. Ltd. With his futuristic leadership, he has expanded the organization verticals and enhanced its global reach over the years. Dr. Samji oversees the development, planning, target setting, auditing and reviewing processes of the entire congregation. With his impeccable work ethics, he has inculcated a strong value system in the organization.

Mr. Venkatesh Ramamurthy

Director, Training and Development, UNS-USHAS Project

Mr. Venkatesh Ramamurthy is responsible for strategic planning, organizing, and directing all phases of Centre for Training and Development programs, including but not limited to business development, consulting, and teaming programs. In addition to program and staff management, the individual is responsible for fiscal management, budgeting, marketing, and for being the external face of all programs in the UNS-USHAS project. He monitors programs and strategies to further the goals and mission of the UNS-USHAS foundation. He also Develops relationships with community-based, faith-based and social service organizations within the community to further collaborative initiatives. Analyzes situations accurately and adopts effective courses of action; Selects, assigns, directs, and evaluates the performance of direct reports; oversees staff professional development and training programs. He directly supervises EC staff in the completion of their job objectives.

Mr. K.P. Amrithkumar

Director, Internal Affairs, UNS-USHAS Project

Mr. K.P Amrithkumar, is the founder director of INBIOTICS PvtLtd, a biological research and training company. He is responsible for developing and implementing strategies, managing operations, and making key decisions for the UNS-USHAS in collaboration with key management personnels. He works in-line between the entrepreneurial drive and the organizational structure, ensuring the company's vision is realized while maintaining operational efficiency. He monitors and measures the overall successes of program and program participants. He performs other duties/special projects as assigned in empowering the Entrepreneurship & Innovation objectives of UNS-USHAS.

Affiliations

Institute of Biology & Clinical Research (IBCR) ensuring Health & Wellness

UNS RESEARCH COUNCIL

SMART MEDICAL CENTRE

Inbiotics Pvt.Ltd workshop for biologists (A training unit affiliated to Institute of Biology and Clinical Research)

N·S·D·C National Skill Development Corporation

NIH RESEARCH PARK

TIMER

NITI Aayog

PRAWN Rx Healthcare Pvt Ltd Amazing Molecular Techniques

NGO DARPAN

Research Ethics committee

A Research Ethics Committee (REC), also known as an Ethics Committee or Institutional Review Board (IRB), is a group of individuals tasked with reviewing and approving research proposals involving human participants to ensure ethical standards are met. Their main responsibility is to protect the rights, safety, and well-being of research participants while also promoting ethical and scientifically sound research.

UNS-USHAS is proposed to formulate an ICMR / DHR approved IRB to conduct research activities in campus.

UNS-USHAS PROJECT MODEL

Objectives of the project

- To empower the thought process and research insight of Higher Secondary school students enrolled in "Edsurance" program, through the generation, acquisition and use of experimenting knowledge and skills in Science, Technology, Engineering and Medicine.
- Installation of USHAS, Young Researcher clubs in 1000 selective "Edsurance" Operating schools in TamilNadu by involving students from 11th to 12th standards and to impart them with skill experiments in Life Sciences to promote their scientific temper.
- To conduct Research skill workshop for a day in-campus by USHAS tech experts and further to train those enrolled students on research based activities as per defined programs as ongoing process.
- To encourage research data generation from each schools and to publish original and selective research articles from each school in ISSN indexed research journals.
- To conduct three day Intense training for the professional course aspiring club students on Basic Engineering and Medicine Research Concepts at USHAS Skill Training Campus in Nagercoil. To propose physical Basic Life Support (BLS) Skills & Basic First aid training for the students involved in the club activities.
- To Offer continuous research support to the USHAS club students through Online support service centre.

UNS-USHAS CLUB:

Project Activities proposed / Offered for "USHAS club" students at School Campus.

- Launch of Universal Science Hub for Aspiring Students, USHAS- Club in all higher secondary schools subscribing EDSURANCE application.
- Monthly Online / Offline technical sessions focus on research Applications in Engineering, Medicine and Life Sciences.
- Proposed to conduct ONE day workshop on aspiring List of scientific Experiments / Research to enhance the scientific temper among the students.
- To encourage club students to perform basic short-term research in the topic of interest and the data generated out of research shall be analyzed & published.
- Best researchers from USHAS Club can be nominated for the "Annual School level State Scientific Research Congress" event Organized by "Edsurance" to display / present their research skills.
- On-line support service to address research skill related queries raised by USHAS club members.
- One informative session on Career Guidance on higher education opportunities.
- Issuance of USHAS club skill certification after finishing school.

UNS-USHAS Camp

Project Activities proposed for "USHAS club" students at USHAS Skill training Campus in Nagercoil. (Benefits in-addition to In-school campus activities)

- Proposed to conduct THREE day Hands on Internship training on aspiring List of scientific Experiments / Research in Life Science, Engineering & Medicine to enhance the scientific temper among the students. (Practical Exposure in Anatomy, Biochemistry, Microbiology, Pharmacology, Clinical Chemistry, Engineering Mechanics, Computational Biology, Robotics, Genetics, Molecular biology, AI)
- Informative session on Career / admission Guidance on higher education opportunities in top International / National Institutions.
- To train students on Basic Life Support (BLS) Skills & Basic First aid training.
- Accommodation and food is inclusive during the training period.
- Exposure training on insight to Animation Lab
- Special awareness sessions on NewGen Courses like AI/ML/Data Science/ Drone/ Genomics
- Industrial visit on a Robotic manufacturing lab, a Hospital and a food industry (Optional).
- One day touring in India's first UNS-USHAS Science Planet' (Optional) - Yet to develop.
- Issuance of Industry relevant Internship certification.

All Tech Research Incubator (ATRI)

Technology research incubators proposed as All Tech Research Incubator (ATRI) in UNS-USHAS campus are vital for fostering innovation and entrepreneurship, particularly in the tech sector. ATRI provide a supportive ecosystem for startups and researchers, offering resources, mentorship, and networking opportunities that accelerate the development and commercialization of new technologies.

Nurturing Innovation:
ATR Incubators provide a platform for researchers and entrepreneurs to develop and refine their ideas into scalable and sustainable businesses.

Accelerating Technology Development:
ATRI offer resources like low-cost infrastructure, technical expertise, and access to funding, allowing startups to concentrate on product development and innovation.

Facilitating Knowledge Transfer:
ATRI Incubators bridge the gap between academic research and industry, promoting the commercialization of technologies developed in universities and research institutions.

Creating a Supportive Ecosystem:
ATRI foster a collaborative environment where entrepreneurs can connect with mentors, investors, and potential partners, expanding their market reach.

Boosting Economic Growth:
By nurturing startups and promoting innovation, ATRI contribute to regional economic development by creating jobs, attracting investment, and stimulating economic activity.

Enhancing Entrepreneurial Skills:
ATRI offer training and workshops on various entrepreneurial skills, helping startups navigate the complexities of starting and growing a business.

Solving Societal Challenges:
ATRI encourage startups to develop innovative solutions to societal problems, contributing to a broader positive impact.

Promoting Entrepreneurial Culture:
ATRI foster a culture of innovation and entrepreneurship, encouraging individuals to take risks and pursue new ventures.

Supporting Diverse Startups:
ATRI can support a variety of startups, including those in fields like biotechnology, nanotechnology, and artificial intelligence.

Adaptability and Evolution:
As the tech landscape evolves, ATRI must adapt and refine their models to meet the changing needs of entrepreneurs and maximize their impact on the broader economy.

KEY SPECIALTIES

Research Facilities:

Research facilities encompass various spaces and resources dedicated to scientific exploration, including labs, libraries, computational tools, and more. UNS-USHAS campus Equipped with advanced laboratories, equipment, and resources for conducting research and development activities. We provide the infrastructure for conducting research, whether for developing new products, improving processes, or advancing knowledge in specific fields.

Key Components

Laboratories & Specialized Equipment:
Essential for conducting experiments, testing materials, and analyzing data.
Libraries:
Provide access to books, journals, databases, and other resources needed for research.
Computational Resources:
Include powerful computers, servers, and software for data analysis, simulations, and modeling.
Data Archives:
Store and manage research data for analysis and future use.
Collaboration Spaces:
Encourage teamwork and knowledge sharing through conference rooms, discussion areas, and social spaces.
Support Services:
includes technical support, data management, and administrative assistance.

Key Considerations for Research Facilities

Safety:
Ensuring the safety of researchers and protecting sensitive materials is crucial.
Sustainability:
Implementing energy-efficient practices and minimizing waste.
Accessibility:
Making facilities accessible to people with disabilities.
Security:
Protecting research data and intellectual property.
Cost:
Developing and maintaining research facilities can be expensive.

In essence, UNS-USHAS research facilities provide the necessary infrastructure for scientific advancement, innovation, and knowledge creation across various fields.

Training Programs

A research training program, offered by UNS-USHAS, provides structured training and mentorship to individuals pursuing research careers and to the young scientific minds from schools. These programs often include instruction in research design, ethics, and statistical analysis, and may lead to certifications. Our aim to cultivate researchers by integrating basic research and offering diverse training opportunities relevant to specific health priorities. UNS-USHAS Offers courses, workshops, and certifications in specialized R&D areas, focusing on both theoretical knowledge and practical skills.

Key Features:

Structured Training:

Research training programs offer a structured curriculum that covers essential research skills and knowledge, such as research design, data analysis, and writing.

Mentorship:

Our programs often involve mentorship from experienced researchers who guide and support trainees throughout their research journey.

Research Opportunities:

Trainees are given opportunities to engage in research projects, contributing to real-world research endeavors.

Certification:

Industry relevant certification upon completion.

Networking:

These programs can provide a platform for networking with other researchers and professionals in the field.

International Collaboration:

Many programs encourage international collaborations to broaden research horizons and access global expertise.

Collaboration

Research collaborations involve organizations working together on a research goal. This can involve sharing ideas, resources, and expertise, leading to more impactful and innovative research outcomes. Collaborations can take many forms, from within a single institution to international partnerships. UNS-USHAS Facilitates collaboration between researchers, industry experts, and academic institutions, fostering innovation and knowledge exchange.

Sharing resources and expertise:
To pool resources, equipment, and skills, potentially leading to more comprehensive and efficient research.

Increased impact:
Our Collaborative projects can result in more significant research findings that are more likely to be recognized and published in international journals.

Improved quality:
We involve diverse perspectives and expertise, which can enhance the quality and validity of research.

Innovation and new solutions:
By merging of different fields can enable the achievement of incredible goals, leading to innovative solutions and breakthroughs.

Career advancement:
Possibility of research grants, mentorship opportunities, and career advancement for researchers.

Networking and learning:
Opportunities for researchers to network with others in their field, learn new techniques, and expand their knowledge.

Industry Partnerships

We believe that Industry partnerships can significantly benefit biology research labs, accelerating discoveries and commercializing innovations. These collaborations provide access to resources, expertise, and real-world applications, fostering a more translational research ecosystem. UNS-USHAS encourages partnerships with companies for research projects, internships, and technology transfer, bridging the gap between academia and industry.

Access to Resources: Industry partners can provide funding, infrastructure, and specialized equipment that may not be readily available within our premises.
Expertise and Skills: Industries often have specialized knowledge and skills in areas like product development, manufacturing, and market access, which can be invaluable to research labs.
Real-World Applications: Collaboration with industry allows researchers to directly apply their findings to real-world problems and challenges, leading to more impactful discoveries.
Accelerated Innovation: By working with industry partners, researchers can accelerate the pace of innovation, moving discoveries from the lab to the market more quickly.
Commercialization Opportunities: Partnerships can help researchers commercialize their inventions and discoveries, creating new products and services that benefit society.
Networking and Career Opportunities: Collaboration with industry can provide researchers with valuable networking opportunities and career advancement pathways.
Diverse Funding Sources: Access to multiple funding streams (e.g., government grants, industry funding) can create a more sustainable and resilient research environment. CSR funding Provides necessary infrastructure for R&D activities, including networking, computational facilities, and specialized equipment.

Focus Areas

UNS-USHAS research labs focus on diverse areas within the life sciences & Engineering sciences, encompassing molecular and cellular biology, genomics, ecology, and human health. Some specific areas include genomics and biotechnology, climate change and ecology, disease and human health, and environmental biology and conservation. Other areas of focus include biochemistry, biophysics, structural biology, cell biology, development and cancer, genetics and genomics, microbiology, virology, immunology, and quantitative and computational biology, Space Science, robotics, and artificial intelligence.

CAMPUS FACILITIES

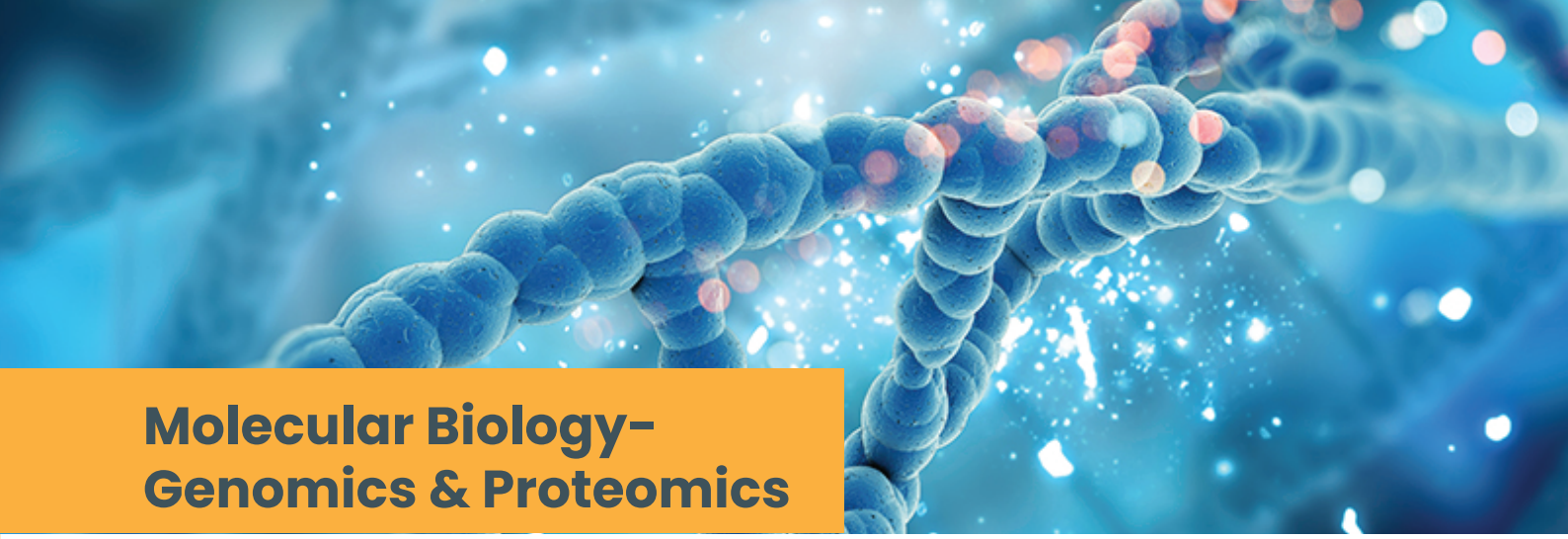
Training / Research Laboratories

Microbiology / Pathology

The department of Microbiology/Pathology at UNS-USHAS carries out sample analysis and research in the area of Hematology, Biochemistry, Histopathology, Cytopathology, Serology, Immunology and Microbiology. Microbiology and pathology research involve studying microscopic organisms and the effects of diseases on tissues and fluids. Microbiology focuses on the study of microorganisms like bacteria, viruses, and fungi, including their role in causing diseases. Pathology, on the other hand, investigates the causes, mechanisms, and effects of diseases on the body, often involving the examination of tissues and fluids. Microbiology and pathology are closely linked in many research areas, especially in the study of infectious diseases. Pathologists use microbiology to identify the causative agent of infections, while microbiologists may study the effects of these pathogens on tissues and fluids.

Clinical Biochemistry /Phytochemistry / Organic Chemistry

Clinical biochemistry and phytochemistry research are related fields that overlap in their exploration of chemical compounds, but with distinct focuses. Clinical biochemistry focuses on biochemical measurements in body fluids to diagnose and monitor diseases. Phytochemistry, on the other hand, investigates plant-derived chemical compounds, particularly their structure, function, and potential medicinal applications. High quality research in synthetic methodologies, catalysis, functional organic molecules, organic synthesis and more are also focused in the department.



Molecular Biology- Genomics & Proteomics

Molecular biology, genomics, and proteomics departmental research focus on understanding the fundamental aspects of life at the molecular level. Genomics studies the genome of an organism, including its genes and how they interact, while proteomics investigates the complete set of proteins (proteome) expressed by a cell, tissue, or organism. These disciplines are intertwined, as proteins are the functional products of genes, and their analysis provides insights into cellular processes and disease mechanisms. UNS_USHAS premises is equipped to perform real-time genomic and proteomic analysis through its customized, cutting edge methodologies.

Computational Biology / Bio-Informatics

Computational biology and bioinformatics research is an interdisciplinary field that uses computational methods to analyze biological data, model biological systems, and make predictions about biological phenomena. It combines computer science, mathematics, and statistics with biological knowledge to address complex questions in biology and medicine.

Interdisciplinary nature:
Computational biology and bioinformatics draw from various disciplines, including computer science, mathematics, statistics, and biology, to tackle complex biological problems.

Data analysis:
A core aspect of the field is the analysis of large biological datasets, such as genetic sequences, protein structures, and genomic data.

Model building:
Computational biology involves creating models of biological systems to understand their behavior and predict their responses to various stimuli.

Applications:
The field has diverse applications, including drug discovery, disease diagnosis, personalized medicine, and understanding evolutionary processes.

Tools and methods:
Our Researchers in this field develop and use software tools, algorithms, and statistical methods to analyze biological data.

Overlap with other fields:
Computational biology has strong connections with related fields like bioinformatics, systems biology, and computational bioengineering.

Anatomy Museum / Basic Life Support (BLS) Lab

An anatomy museum and a Basic Life Support (BLS) lab serve distinct purposes in medical education and practice. The anatomy museum provides a visual and hands-on learning environment for understanding the structure of the human body, while the BLS lab focuses on developing practical skills in life-saving interventions like CPR and airway management.

Anatomy Museum: To enhance understanding of the human body's structure, systems, and anatomical relationships. Typically features preserved specimens, anatomical models, diagrams, and interactive exhibits related to different body systems.

Basic Life Support (BLS) Lab: To train individuals in the skills necessary to recognize and respond to medical emergencies, particularly those involving cardiac arrest or respiratory distress. Employs mannequins, AEDs, and other training tools to simulate real-life emergency scenarios. Provides practical practice in CPR, airway management, and the use of an Automated External Defibrillator (AED).

Pharmaceutical research lab

Our research team is focused on the development and application of AI/informatics technologies in a wide range of life science fields. We're using our strengths in advanced synthetic organic chemistry, medicinal chemistry as an integrated science based on a thorough understanding of the living body, and biotechnology to achieve this goal (genetic, protein, and cell engineering). Furthermore, we are increasing our drug discovery capabilities by introducing fast-evolving Omics, imaging, and iPS cell technologies and bolstering translational research (e.g., validation of targets and discovery of biomarkers). We are attempting to improve research efficiency through the automation of experimental image analytics and the use of AI for novel drug target identification and designing drugs through molecular simulation. We are also working on establishing a global network, managing open innovation through collaboration with pharmaceutical companies, academia, and entrepreneurial ventures worldwide, and actively collaborating with the New Frontiers Research Laboratories to apply bio tools to drug discovery and find biomarkers.

Renewable Energy / Space Science Lab

Physical Research and Space Science Laboratory involved in physics and space science research focuses on atmospheric, space, and planetary science. It conducts basic research in areas like astronomy, astrophysics, and space science. Physics labs are equipped with advanced instruments for conducting cutting-edge research in areas like quantum mechanics, materials science, and advanced technologies. It aims in developing new technologies and solving complex problems in diverse fields, such as space exploration, medical imaging, and energy efficiency.

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Data Science / AI & ML Lab / Number Theory

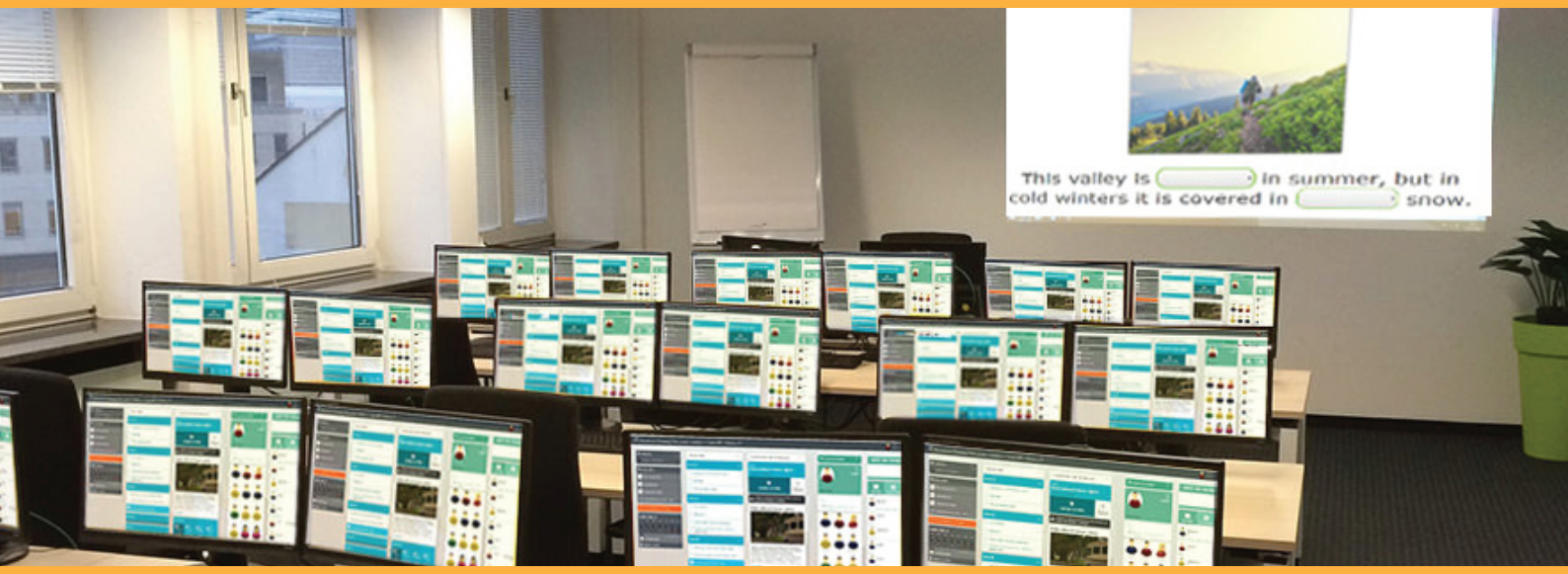
Data science, AI (Artificial Intelligence), and ML (Machine Learning) are interconnected fields. AI is a broad field that aims to create intelligent systems, while ML is a subset of AI that focuses on enabling computers to learn from data. Data science uses data to extract insights and drive decision-making, often employing ML techniques. AI aims to create machines that can perform tasks that typically require human intelligence, such as learning, problem-solving, and decision-making. ML is a subset of AI that focuses on enabling computers to learn from data without being explicitly programmed. Data science is a multidisciplinary field that uses statistical, computational, and domain knowledge to extract insights and knowledge from data. Data science provides the means to understand and manipulate data, while AI provides the framework for creating intelligent systems, and ML provides the algorithms for learning from data and making predictions.

Engineering Mechanics Lab

Engineering Mechanics Research Lab is a specialized facility within our research institution dedicated to investigating the principles of statics, dynamics, and mechanics of materials through experiments and simulations. These labs provide students and researchers with a space to study how forces affect objects and systems. The lab is equipped with machinery, tools, and instruments to conduct experiments related to statics and dynamics. This may include setups for tensile, compressive, and impact testing of materials, as well as equipment for studying fluid mechanics and heat transfer. Engineering Mechanics Labs serve as a practical learning space where students can apply theoretical knowledge to real-world scenarios. The labs propose to support research activities in areas like material science, structural analysis, and fluid dynamics. Researchers may use the lab to develop new testing methods, study material behavior under different conditions, or conduct simulations using advanced computational tools.

Cellbiology, Plant & Animal Tissue culture / RTPCR / SAIF Lab

A sophisticated Analytical instrument Facility laboratory (SAIF) is a specialized facility equipped with advanced analytical instruments used for various research and testing purposes. These labs typically house a range of instruments to analyze the composition, properties, and structure of materials. UNS-USHAS SAIF are equipped with instruments like Fourier Transform Infrared Spectrometers (FTIR), High-Performance Liquid Chromatographs (HPLC), RTPCR, GCMS, Fluorescent Microscopy, Nano-Spectrophotometer and more. These instruments are used across various fields, including pharmaceutical, chemical, Cell biology, Tissue culture, biomedical, and materials science research. SAIF Labs enable researchers to conduct in-depth studies and investigations, helping institutions keep pace with global scientific advancements.



Language Lab

A language laboratory, also known as a language lab or networked classroom, is a specialized classroom equipped with technology to enhance language learning. It provides a space for students to practice listening, speaking, reading, and writing skills, often using audio- visual materials and interactive exercises. UNS-USHAS use language labs to conduct face-to-face classes to associate senior secondary school students and research scholars and offer a more interactive and engaging learning environment. It facilitates technology enabled; interactive; individualized learning or exchange environment.

5D digital Scientific Theatre

UNS-USHAS campus proposed to launch a 5D digital scientific theatre combines 3D visuals, surround sound, and motion simulations with environmental effects like rain, wind, and scents to create an immersive and interactive cinematic experience. It goes beyond traditional 3D and 4D by adding physical sensations and interactive elements, potentially enhancing educational and entertainment content.

Potential Educational Applications:

Scientific Exploration: Can be used to simulate complex scientific phenomena, such as exploring the solar system or the human body.

Interactive Learning:

Provides an immersive and engaging way to learn about scientific concepts.

Museum Experiences:

Can enhance museum exhibits by creating interactive and immersive displays.

Symposium Hall

Our symposium hall typically features a focused discussion on a specific topic, involving expert-led presentations, panel discussions, and interactive Q&A sessions. It often includes structured networking opportunities to foster professional connections. The hall itself might have modern designs, adjustable seating, and state-of-the-art audio-visual digital connectivity systems.

Hostel / Mess Facilities

UNS-USHAS campus has separate hostels for boys and girls with well furnished bunker rooms and modern amenities. The safe, secure and serene atmosphere is conducive for the students to concentrate on expertise training. A modern kitchen and spacious dining area is available. Research scholars and project staffs are accommodated in a separate staff quarters.

Digital Support Services

Digital support services in our campus encompass a wide range of IT and digital infrastructure services that enable researchers to conduct their work effectively and efficiently. These services include providing access to digital resources, high speed WiFi connect; training and capacity building, IT support, data management, and project management, as well as in-house research and innovation.

IT Infrastructure:
Providing access to computing resources, servers, networks, and cloud services.
Application Development:
Developing custom software or tools to support specific research needs.
Cloud Services:
Offering access to cloud computing resources for storage, processing, and collaboration.

Medical / First aid Centre

UNS-USHAS research institute equipped with medical and first aid services, primarily in maintaining the health and safety of staff and visitors. Medical care is essential for addressing acute medical emergencies and providing ongoing healthcare services, while first aid ensures immediate support for injuries and illnesses until professional medical help arrives. We understand that a research institute with strong medical and first aid protocols demonstrates preparedness for various emergencies and a commitment to the well-being of its community. We are equipped with Duty doctor availability along with a dedicated team of staff nurses to take care of any untoward medical events.

Field Research

A field research station in a research institute is a location, often in a natural setting, where scientists conduct experiments, collect data, and study natural phenomena or ecosystems. Field stations have supplied students with a space to enhance their learning outside of the classroom by providing more first-hand experiences, especially pertaining to science studies. A field station could host a variety of desirable uses. The set up with facilities for laboratory work and field studies including nurseries and experimental plantations. The centre is having a Scientist in charge, an Officer in charge and a number of supporting Field and Project staffs. We plan to do basic research on vermi composting, earthworm habitation; silkworm lifecycles, soil chemistry, Lab to Field experiments in herbal plants and other relevant experimentations.

Yoga / Meditation Club

A Yoga and Meditation Club within a research institute offers benefits to the student community who visit the campus for intense scientific trainings whereas it may help in stress management, improved mental and physical well-being, and enhanced self-awareness. These clubs typically provide yoga and meditation sessions, guided meditations, and workshops to help students, staff, and faculty manage stress and enhance their overall well-being. Every morning the students shall be exposed with yoga and natural healing tips to manage their career harmoniously.

Security Services

Security services in research institutes are crucial for safeguarding personnel, facilities, and sensitive information. They encompass a range of measures, including physical security, access control, and data protection. Key aspects of security services in research campus includes

Physical Security: This includes perimeter protection, surveillance systems (CCTV), and fire suppression systems.
Access Control: Controlling who can enter specific areas, often through identification badges or access cards.
Surveillance and Monitoring: Monitoring activity within the institute, both internal and external, to detect and prevent security breaches.
Security Personnel: Including guards, supervisors, and potentially specialized personnel like those trained in cybersecurity.
Data Protection: Ensuring the confidentiality, integrity, and availability of sensitive research data through measures like encryption, firewalls, and access controls.
Incident Response: Having procedures in place to respond to security incidents, such as unauthorized access, cyberattacks, or other threats.

Transport Services

UNS-USHAS offers various transportation services for its staff, including employee shuttles, ridesharing programs, or even dedicated transport services for field trips / School visits. These services can be designed to improve staff commute times, reduce costs, and enhance overall well-being. The specific options will depends on the budget, location, and the needs of our staff and scholars.

Scientific Community

Scientific Staff Profiles

Collaborations

Collaboration in UNS-USHAS research institute involves researchers and institutions working together to achieve common research goals. This can involve partnerships between different academic institutions, or with other research institutions; collaborations between academia and industry. These collaborations offer mutual benefits through shared resources, expertise, and funding. This bridges the gap between theoretical research and practical application, with industries providing funding and access to market insights, while academia offers research expertise and infrastructure. Collaborations between institutions across different countries can lead to broader knowledge exchange and innovation.

Access to Shared Resources: Collaborative efforts allow researchers to access specialized equipment, datasets, and expertise that might not be readily available at their own institutions.
Enhanced Research Capabilities: Combining the resources and expertise of multiple institutions or organizations can lead to more comprehensive and impactful research.
Increased Funding Opportunities: Many research grants require collaborations, making them an important way to secure funding for projects.
Improved Access to Expertise: Collaboration allows researchers to tap into the specialized knowledge and skills of others, potentially accelerating research progress and discovery.
Increased Publication Opportunities: Collaborations can lead to more joint publications and higher-impact research outputs.
Career Advancement: Collaboration can be a valuable asset for career development, both for individuals and for institutions.
Bridging the Gap Between Theory and Practice: Collaborations between academia and industry can help translate theoretical research into practical applications.
Joint Research Projects: Researchers from different institutions can collaborate on a single research project, pooling their resources and expertise to address a complex problem.
Co-authorship: Researchers from different institutions can co-author research papers, contributing to the overall knowledge base.
Research Networks: Collaborative networks can facilitate the exchange of ideas, data, and expertise among researchers from different institutions.
Industry-Academia Partnerships: UNS-USHAS and industries can collaborate on research projects, leading to the development of new products, technologies, and solutions.
We believe that collaboration in research institutes is a crucial aspect of scientific advancement, facilitating the exchange of knowledge, resources, and expertise among researchers and institutions. It can lead to more impactful research, increased funding opportunities, and ultimately, advancements that benefit society.

Datastics Report

An UNS-USHAS, International Journal of Multi Disciplinary Research in Schools.

Multidisciplinary research in schools offers numerous benefits, including enhanced problem-solving skills, improved collaboration, and a more holistic understanding of subjects. It fosters critical thinking, creativity, and adaptability, preparing students for real-world challenges and future success. UNS-USHAS encourages such research proposals from its associate schools and will guide such budding scholars to experiment on their identified research objectives. The collected data after real time research shall be documented and analysed as per required standards. The respective school students shall be guided to furnish such peer reviewed data set in to original research articles and will get published in ISSN numbered UNS_USHAS eJournal "Datastics Report" or in other peer reviewed journals.

News and Events

Science and Society

Science and society are intricately linked, with scientific research significantly impacting various aspects of society, including culture, policies, and everyday life. Research plays a crucial role in addressing societal challenges, promoting public understanding, and driving innovation.

Addressing Societal Challenges: Scientific research provides new knowledge and tools to tackle complex issues in areas like healthcare, ecology, economics, and energy. Whereas sociological research helps understand society and find solutions to social issues. Medical research leads to advancements in healthcare, disease prevention, and treatment.

Promoting Public Understanding and Engagement: Public understanding of science is essential for individuals to make informed choices and participate in policy debates. Encouraging scientific literacy empowers citizens to critically evaluate information and engage with scientific issues. Involving citizens in scientific research can lead to more inclusive and relevant solutions.

Driving Innovation and Progress: Science-based knowledge is transferred into practice through various means, such as technology development and policy implementation. Scientific discoveries and technological advancements lead to innovation across various sectors, impacting society and the economy. Science, technology, and innovation must be used to drive equitable and sustainable development.

Ethical Considerations: Balancing scientific progress with societal values, Scientists must consider the ethical implications of their research and strive to align their work with societal values. Researchers have a professional obligation to conduct research objectively and accurately. It is important to avoid bias in research and ensure that findings are presented fairly.

In essence, the relationship between science and society is a dynamic one, where scientific research informs policy, drives innovation, and shapes our understanding of the world, ultimately impacting our daily lives.

Job Openings / Vacancies

EXCITING CAREER OPPORTUNITY FOR RESEARCHERS & TRAINERS

A LEADING PRIVATE RESEARCH ORGANIZATION IN INDIA IS HIRING TALENTED PROFESSIONALS FOR A FULL-TIME RESEARCH ASSOCIATE/TRAINER ROLE IN NAGERCOIL. JOIN US IN DRIVING IMPACTFUL RESEARCH AND TRAINING PROGRAMS IN YOUR FIELD!

OPEN POSITIONS

BIOLOGICAL SCIENCES - 75

A) PHD CANDIDATES IN ANY STREAM IN LIFESCIENCES FOR POST DOCTORAL ASSOCIATE POSITIONS

B) BE / ME / MBBS / BDS / MSC/ MPHIL CANDIDATES FOR RESEARCH COORDINATOR JOBS.

ELIGIBILITY

- INDUSTRY/RESEARCH/TEACHING EXPERIENCE IS PREFERABLE.
- STRONG DATA ANALYSIS & RESEARCH PUBLICATION SKILLS.
- GOOD ENGLISH COMMUNICATION & NETWORKING ABILITIES.
- WILLINGNESS TO TRAVEL WITHIN TAMIL NADU FOR TRAINING PROGRAMS.
- PASSION FOR DESK, LAB & FIELD RESEARCH.

WHY JOIN US?

- WORK IN A DYNAMIC RESEARCH & TRAINING ENVIRONMENT.
- COLLABORATE WITH EXPERTS & MENTOR YOUNG RESEARCHERS.
- COMPETITIVE SALARY & CAREER GROWTH OPPORTUNITIES.

APPLY NOW

AND BE PART OF AN INNOVATIVE RESEARCH COMMUNITY!

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