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Accredited



NATIONAL
INSTITUTIONAL
RANKING
FRAMEWORK



Times Higher Education
Impact Rankings 2024



Times
Higher
Education

QS UNIVERSITY
RANKINGS
ASIA



GITAM
DEEMED TO BE UNIVERSITY

BENGALURU • HYDERABAD • VISAKHAPATNAM

7 AFFORDABLE AND
CLEAN ENERGY



SDG # 7 :: Progress Report : AY 2023 - 24

Introduction:

Sustainable Development Goal 7 (SDG 7) aims to ensure access to affordable, reliable, sustainable, and modern energy for all by 2030. Energy is essential for driving economic growth, improving quality of life, and addressing global challenges such as poverty, health, education, and climate change. This goal is central to achieving many other Sustainable Development Goals (SDGs), as access to clean energy is key to promoting economic development, improving health outcomes, and reducing inequality.

Research:

- ☞ Research Publications in Scopus Index: GITAM has a relative activity index of 1.52 in its Scopus indexed publications relating to SDG7 during the reference period of 2021-2023.
- ☞ Projects: GITAM is supported by UGC-DAE and SERB establishing four projects.
 - ❖ Dr. Kumar Raju Mukhi's research is centered around understanding the shapes of atomic nuclei—a fundamental aspect of nuclear physics that influences their stability and reactions. He uses low-energy Coulomb-excitation techniques to study the various shapes of atomic nuclei and the phenomenon of quintuple shape coexistence.
 - ❖ Dr. Kumar Raju Mukhi's second research topic also involves nuclear shapes, but with a specific focus on the $A \sim 40$ region of the periodic table, which contains nuclei with atomic mass numbers around 40.
 - ❖ Dr. Tadisetti Durga Rao's research examines the structural and magnetic properties of a class of materials known as R_2NiIrO_6 iridates, where R represents various rare-earth elements such as lanthanum (La), cerium (Ce), praseodymium (Pr), and others.
 - ❖ Dr. B. Satti Babu's research delves into the structural and multicaloric properties of a class of materials known as doped double perovskite compounds, specifically La_2NiMnO_6 .

Education:

- ☞ The Masters Program in Architecture (sustainable Architecture) deals with sustainability and energy conservation, efficiency, renewable energy, energy management, energy audit etc aspects in building designs, cities. A few specialised courses to mention are:
 - ❖ Sustainability and Energy Conservation in Landscape Architecture (M. Arc : Sustainable Architecture)
 - ❖ Energy Efficient Green Architecture
 - ❖ Sustainable, Energy Efficient Building Materials & Technologies
 - ❖ Energy auditing
 - ❖ SUSTAINABLE AND GREEN BUILDING DESIGN
 - ❖ SOLAR PASSIVE ARCHITECTURE
- ☞ In B. Tech (Electrical and Computer Engineering) a specialised elective module is there for Electric Vehicle Technology where a bundle of 11 course are offered that impart knowledge on clean energy, energy management,
- ☞ In various B. Tech and M. Tech programs courses are offered to impart technical knowledge on energy related aspects, a few to mention are:
 - ❖ Renewable Energy Systems
 - ❖ Energy Conservation and Management
 - ❖ Energy Auditing and Management
 - ❖ Waste to Energy
 - ❖ Wind energy
 - ❖ Solar Energy
 - ❖ Hydrogen Energy and fuel cells

Key initiatives:

- ☞ GITAM invested on solar energy sources and currently it has 1670 KWH solar energy installed capacity which accounts for 35 percent of its total energy.
- ☞ GITAM installed solar water heaters on the top of its hostel buildings for the supply of hot water.
- ☞ GITAM started Digital Kitchen to reduce its dependency on cooking gas

and fuel.

- ☞ GITAM has 4 wind turbines at the Hyderabad Campus to gain the wind energy.
- ☞ GITAM has Bio-gas plants to supplement its energy needs.

Solar Panels



Wind Turbines



Bio Gas



Solar Water Heaters





Progress:

Energy efficiency appliances like led bulbs, 7-star rated Air Conditioning Units, sensor based lighting systems

Engagement:

GITAM Bengaluru concludes global conference on Green Chemistry Solutions and sustainable tech

The GITAM School of Science, Bengaluru - Department of Chemistry recently wrapped up a three-day International Conference on 'Green Chemistry Solutions for Sustainable Future (ICGCSSF 2023)', held in collaboration with the Catalysis Society of India Bengaluru Chapter. The widely-attended conference drew a global audience and tackled critical issues like surging energy demands, resource scarcity, and climate change by spotlighting the principles of green chemistry and sustainable progress.

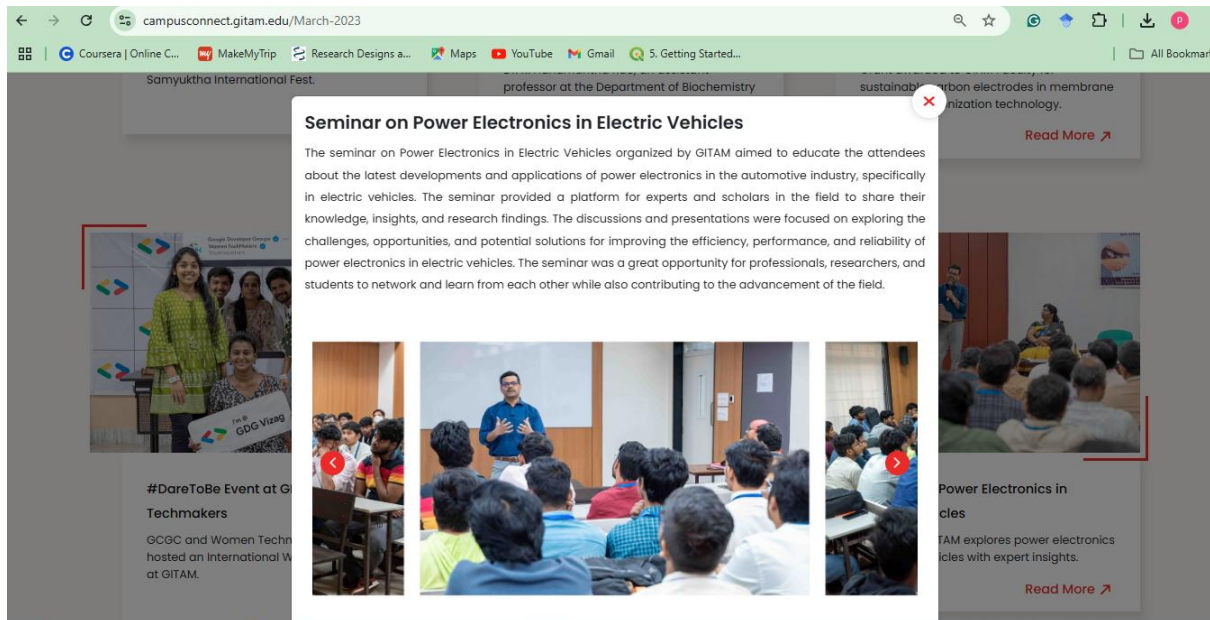
The conference featured four tracks covering various topics spanning Energy, Materials, Environment, Health, and others. Noteworthy discussions revolved

around breakthroughs in waste-to-energy technologies, renewable energy solutions, the creation of green and environmentally-friendly polymers and materials, groundbreaking environmental remediation methods, state-of-the-art ecological sensing technologies, visionary clean water projects, cutting-edge desalination techniques, and the revolutionary exploration of biomaterials.

Eminent experts from both international and Indian academia and industry converged at this conference to exchange insights on green chemistry and explore innovative, eco-friendly technological solutions in chemistry and materials. Their collective mission? To pave the way for a brighter and more sustainable future. Throwing light on the contribution of the guest speakers, Dr. Ch. Srilakshmi, Head of Department, Chemistry Department, GITAM School of Science, added, “Through collaborative efforts and insightful discussions, experts from around the world showcased how advancements in these disciplines can lead to the development of cleaner energy sources, eco-friendly materials, and effective environmental remediation strategies.” Notable science professors who spoke at the conference included: Prof. Tejraj Aminabhavi - Chief Guest at the event and Director of Research, KLE Technological University; Prof. Sanjay Mathur, Director, Institute of Inorganic Chemistry, University of Cologne, Germany; Prof. Kee Hoon Kim - Seoul National University, South Korea; and Prof. A. Shukla - Indian Institute of Science. The search for alternative and sustainable energy sources has become imperative in response to the ever-growing global energy demands, the depletion of natural resources, and the critical consequences of global warming. Therefore, innovative strategies for developing new, greener, cost-effective, and scalable technologies are essential. ICGCSSF 2023 emphasised sustainable technologies' role and significance for a brighter future. The conference highlighted the contributions of chemistry and materials-based solutions and demonstrated how the thoughtful design and development of techniques can enhance their structural, physical, chemical, optical, electronic, and other properties. It also facilitated the exchange of research findings and fostered collaboration between academia and industries.

<https://www.thehansindia.com/news/cities/bengaluru/gitam-bengaluru-concludes-global-conference-on-green-chemistry-and-sustainable-tech-824811>

In March 2023 the Department of Electrical, Electronics and Communication Engineering, Visakhapatnam campus organised a seminar on Power Electronics in Electrical Vehicles.



The CHULIV aims to transform lives by providing an affordable, efficient, and sustainable cooking solution

Anup Paikaray, the winner of the GITAM SmartIDEathon 2023 says in a world filled with innovative startups and groundbreaking technologies, my journey as a B. Tech student from a middle-class family may seem ordinary at first glance. However, my path has been anything but that. My entrepreneurial odyssey has been a tale of perseverance and an unwavering commitment to solving a critical global issue: indoor air pollution caused by biomass-burning stoves. GITAM SmartIDEathon 2023, a pitching platform, played a crucial role in helping me gain recognition for my efforts in addressing this pressing problem.

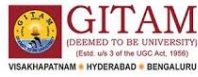
<https://www.thehindu.com/education/on-winning-the-gitam-smartideathon-2023/article67395416.ece>



SmartIDEathon 2023

Inviting all students to pitch in their ideas for start-ups that help build sustainable & resilient communities

Incentives - Cash & Grants upto INR 20 Lakhs, Sponsored Trip to Boston & More



SmartIDEathon-2023 - PANEL DISCUSSION



Way forward: