Dr. Kavita K. Katti

Vice President: Research
Senior Scientist: Nanomedicine & Radiopharmaceutical Sciences
University of Missouri. USA

Professional Background

Kavita K. Katti is a distinguished scientist with over three decades of expertise in nanomedicine, green nanotechnology, and radiopharmaceutical sciences. With advanced academic training in chemistry and biomedical research, she has played a pivotal role in advancing translational nanoscience for healthcare applications.
Her work integrates coordination chemistry, ligand design, molecular imaging, and nano-enabled therapeutic systems, contributing significantly to the development of targeted diagnostics, precision therapeutics, and bio-compatible nanoplatforms. She is widely recognized for her contributions to nano-Ayurvedic systems, oncology research, and safety evaluation of nanomaterials, bridging fundamental science with real-world clinical applications.

Core Areas of Expertise

- Green Nanotechnology & Sustainable Nano-Synthesis
- Nanomedicine & Nano-Ayurvedic Therapeutics
- Radiopharmaceutical Chemistry & Molecular Imaging
- Coordination Chemistry & Ligand Design
- Immunomodulation & Tumour Microenvironment Research
- Safety, Toxicology & Biocompatibility Studies
- Translational Biomedical Research

Research, Innovation & Scientific Contributions

- Developed novel ligand systems (including hydrazides and water-soluble phosphines) for radiopharmaceuticals such as Technetium-99m (Tc-99m) and Gold-198 (Au-198), enabling site-specific diagnostic imaging and targeted radiotherapy.
- Pioneered phytochemical-functionalized gold and palladium nanoparticles for tumour targeting, enhanced therapeutic efficacy, and eco-friendly synthesis
- Contributed to nano-enabled immunotherapy, focusing on cytokine modulation and tumour microenvironment targeting with demonstrated preclinical outcomes
- Led extensive in vitro and in vivo safety and toxicology studies, ensuring biocompatibility and ethical compliance in nanomedicine research
- Advanced the development of nano-Ayurvedic formulations, integrating traditional knowledge with modern nanoscience

Publications, Patents & Academic Impact

- **250+ scientific publications**, including peer-reviewed articles, research reviews, and book chapters

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- Research spanning **nanomedicine, green nanotechnology, oncology therapeutics, nano-Ayurvedic systems, and toxicity evaluation**
- **20+ issued U.S. and international patents** from over 70 inventions
- Technologies successfully **licensed and translated into commercial healthcare applications**, contributing to global translational impact

Research & Leadership

- Associated with major international funding agencies including:
- National Science Foundation (NSF)
- National Institutes of Health (NIH)
- Active leadership in **training and mentoring undergraduate, graduate, and postdoctoral researchers** across interdisciplinary domains
- Strong advocate of **ethical and responsible scientific practices** in translational research

Academic Mentorship & Scientific Leadership

- Dr. Kavita Katti has mentored a wide spectrum of researchers across green nanotechnology, nanomedicine, biological engineering, and biomedical sciences, fostering interdisciplinary innovation and contributing to the development of next-generation scientific talent globally.

Transformational Significance

- Dr. Kavita K. Katti's illustrious career exemplifies innovation at the intersection of science, medicine, and sustainability. Her pioneering contributions in green nanotechnology and nano-Ayurvedic medicine have significantly advanced the frontiers of cancer therapy, molecular imaging, and precision healthcare.
- Her work has enabled the development of globally deployable, eco-friendly, and clinically relevant technologies, with over 40 products reaching international markets, reinforcing her role as a key contributor to the evolution of sustainable and translational biomedical science