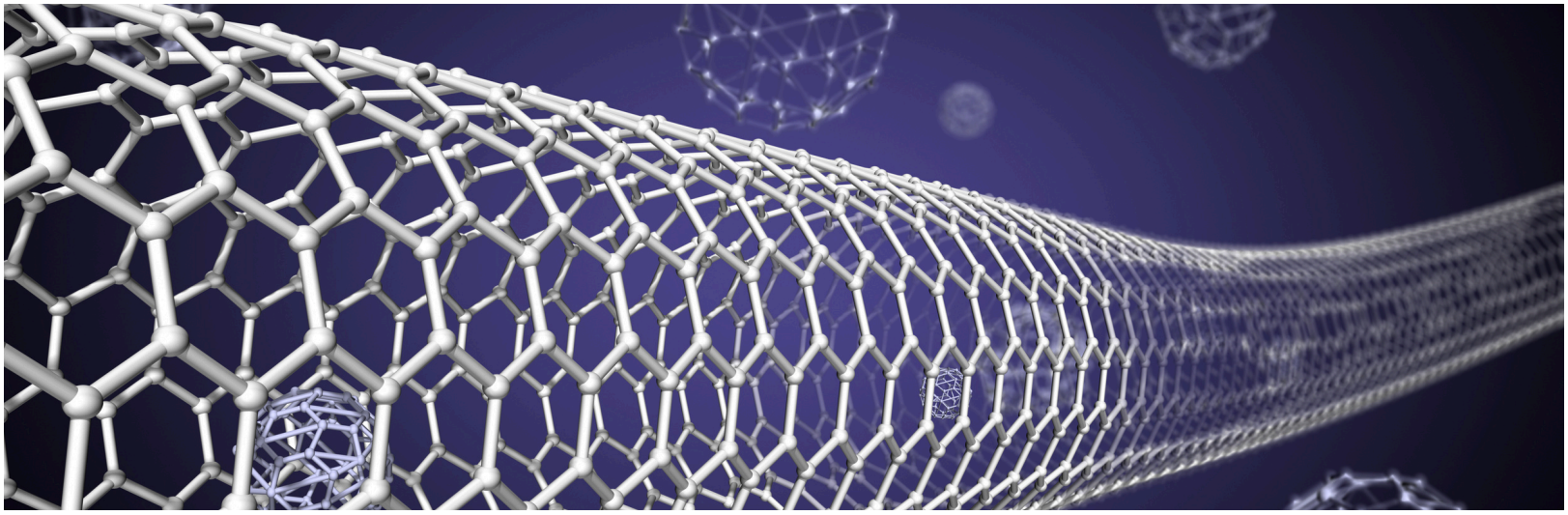
NANOTECHNOLOGY NEWSLETTER

MAY 2025



RECENT BREAKTHROUGHS & ADVANCEMENTS

GOLDEN EYES: HOW GOLD NANOPARTICLES MAY ONE DAY HELP TO RESTORE PEOPLE'S VISION

Source: *Brown University, Science Daily*
April 16, 2025

Researchers at Brown University have developed a novel method to potentially restore vision in individuals with retinal disorders such as macular degeneration. Their approach involves injecting gold nanoparticles into the retina, which, when stimulated by near-infrared light, activate the remaining healthy retinal cells, effectively bypassing the damaged photoreceptors. In mouse models, this technique successfully elicited visual responses without adverse effects, suggesting its promise as a less invasive alternative to existing retinal prostheses. The envisioned human application includes a wearable device, like specialized goggles, equipped with a laser system to stimulate the nanoparticles, offering a potential new avenue for vision restoration therapies.

NANOTECHNOLOGY FOR OIL SPILL RESPONSE AND CLEANUP IN COASTAL REGIONS

Authors: *Huifang Bi et al.*
Journal: *Environmental Science: Nano*
Issue 1, 2025

This perspective article explores the innovative use of nanomaterials in addressing oil spills in coastal environments. The authors discuss how nanoparticles and nanocomposites can enhance oil spill response through mechanisms such as breaking oil into smaller droplets (forming stable Pickering emulsions), absorbing and adsorbing oil from water, and catalyzing the degradation of petroleum hydrocarbons into less harmful compounds. Additionally, certain nanomaterials can promote microbial activity, accelerating the biodegradation of oil. The paper highlights the potential of nanotechnology to overcome limitations of traditional oil spill remediation methods, offering more efficient and environmentally friendly solutions.

UPCOMING CONFERENCES

TANN 25

9TH International Conference of Theoretical and Applied Nanoscience and Nanotechnology (TANN 2025)
London, UK | July 13-15, 2025

SUBMIT YOUR PAPER

IC NFA 25

11TH International Conference on Nanomedicine, Drug Delivery, and Tissue Engineering
Paris, France | August 21-23, 2025

SUBMIT YOUR PAPER

ICNNFC 2026

11TH International Conference on Nanomaterials, Nanodevices, Fabrication and Characterization
Paris, France | April 12-14, 2026

SUBMIT YOUR PAPER

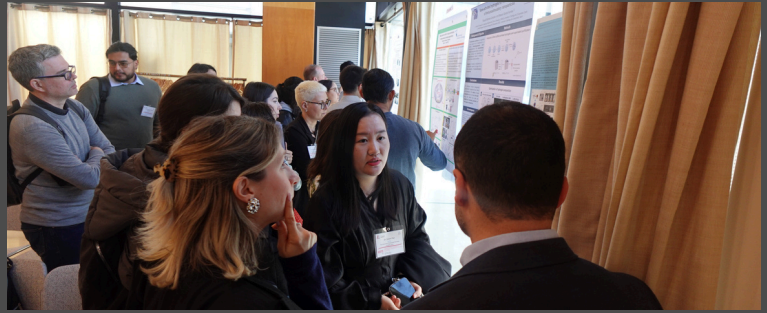
NDDTE 2026

11TH International Conference on Nanomedicine, Drug Delivery, and Tissue Engineering
Paris, France | April 12-14, 2026

SUBMIT YOUR PAPER

CONFERENCE GALLERY

RAN'2025 - BARCELONA - APRIL 2025



ADVANCEMENTS IN DNA NANOTECHNOLOGY FOR TARGETED DRUG DELIVERY: DESIGN STRATEGIES AND APPLICATIONS

Authors: *Pratikeswar Panda, Rajaram Mohapatra*
Journal: *Hybrid Advances*
Volume 10, September 2025

This article provides a comprehensive overview of recent progress in utilizing DNA nanostructures for precise drug delivery applications. The authors discuss how the unique properties of DNA—such as its programmability, biocompatibility, and structural versatility—enable the design of nanocarriers that can deliver therapeutic agents directly to specific cells or tissues. The review highlights various strategies for constructing DNA-based nanocarriers, their mechanisms of action, and their potential advantages over traditional drug delivery systems. Additionally, the article addresses current challenges in the field, including stability, scalability, and in vivo performance, and suggests future directions for research to overcome these hurdles and translate DNA nanotechnology into clinical applications.

REGISTER TO OUR UPCOMING CONFERENCES TO LEARN, DISCOVER, & NETWORK.

INTERNATIONAL ASET https://international-aset.com/

UNIT NO. 104, 2442 ST. JOSEPH BLVD.
ORLÉANS ONTARIO, CANADA

FOR MORE INFO ABOUT RAN 2026:
https://rancongress.com/
Email us at info@rancongress.com