

Tentative Outline

Special Thematic Issue for the Journal Current Nanoscience

Title of Thematic Issue: Applications of Nanofluids in the Engineering and Technology

Guest Editor: Dr. Shriram S. Sonawane

Scope of the Thematic Issue:

Nanofluids (engineered colloidal suspensions of nanoparticles) are the next generation of smart fluids with exceptional properties. Nanofluids are created by tuning the properties of nanoparticles and are made by adding small concentrations of nanoparticles to a liquid phase to enhance or improve some of the fluid properties. Several studies have shown that nanofluid properties are influenced by nanoparticle type, size, shape, concentration, base fluid type, and operating conditions. The current Special Issue will concentrate on nanofluid applications in a wide range of engineering systems, including thermal, automotive, and solar systems, membrane and separation operations, petroleum science and technology, and many more. The special issue will provide an excellent opportunity for scholars and researchers to submit original research papers on the most recent system development research activities, which will provide useful guidelines for future research directions and engineering applications.

Sub-topics

Among the topics of interest are, but are not limited to:

- Experimental and numerical investigation of nanofluids in the heat and mass transfer systems
- Purpose of nanofluids in the various industrial applications
- Fabrication, stability, and thermophysical properties of nanofluids
- Nanofluids based renewable energy systems and flow boiling processes
- Applications of artificial intelligence in predicting the properties of nanofluids and their performance in various devices
- Nanofluids based tribological applications
- Thermal systems using hybrid nanofluids
- Improvement of thermal efficiency by using nanofluids

Keywords: Nanofluids, CO₂ absorption, Solar energy, Car radiators, nuclear reactors, coolants, Critical heat flux, Boiling, heat exchangers, Engineering, and technology

Tentative titles of the articles:

- 1- Ultrasonic synthesis of bio-functional glycogen nanoparticles for the nanofluid synthesis
- 2- Synthesis of the nanofluids using nanoencapsulated materials: A review
- 3- Nanofluids for the solar energy conservation and effective utilization
- 4- Applications of the nanofluids in the surgery and cosmetics
- 5- A micro-reactor-based continuous process for controlled synthesis of nano-encapsulated materials for the nanofluid preparation
- 6- Effect of nanofluids in proton exchange membranes
- 7- Novel methods of the nanofluid synthesis: An Overview
- 8- Nanocomposites based nanofluids: An overview
- 9- Novel methods of the nanofluid based petroleum drilling fluids: Scope and Challenges
- 10- Nano-fluid for the Precisely targeted drug delivery

Schedule:

Paper submission	From 28 st January 2022 (Based on the approval)
Last date of submission deadline	Almost 10 weeks i.e. 30 th March, 2022
Period of peer-review process	3 to 5 weeks
Revised manuscript due + Final acceptance	2 to 3 weeks
Tentative Publication Date	June 2022

Contacts:

Guest Editor Name: Dr. Shiram Sonawane,

Affiliation: Associate Professor, Faculty of Chemical Engineering Department, VNIT Nagpur, India

Email: shriramsonawane@gmail.com; ssonawane@che.vnit.ac.in