

## Tentative Outline

### Special Thematic Issue for the journal Recent Patents on Nanotechnology

#### Title of the Thematic Issue:

#### Nanofluids, preparation, characterization and applications

*Guest Editors: Prof Lioua Kolsi, Prof Abdulaziz AlGhamdi and Dr Mohamed Bouzidi*

#### • Scope of the Thematic Issue:

Nanofluids are engineered suspensions of nanoparticles in base fluids. Due to their enhanced thermophysical properties, nanofluids are used in several engineering applications such as heat transfer systems, chemical engineering, water treatments, medical applications, optoelectronics etc.... The most important problem in the preparation of nanofluids is the agglomeration of nanoparticles that deteriorate the properties, reduce the stability of the nanofluid and causes the sedimentation of the clustered nanoparticles. Several methods can be used to oppose the agglomeration phenomenon, such as, control of the pH, the use of ligands as stabilizers, surfactants and sonication. The characterization of nanofluids is necessary before using them in specific applications. The commonly used characterization techniques are SEM, EDAX, TEM, XRD, FT-IR, DLS, TGA, photoluminescence, absorption, zeta potential, thermal conductivity, and viscosity.

**Keywords:** Nanofluids, Engineering Applications, Physics applications, Preparation, Stability, Characterization

#### Sub-topics:

The sub-topics to be covered within the issue should be provided:

- Nanofluids preparation
- Nanofluids characterization
- Nanofluids applications

#### Schedule:

✧ Thematic issue submission deadline: Dec 2023

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