Journal of Spectroscopy

Hindawi

Special Issue on

Spectroscopy: An Ideal Tool for Biomedical Materials

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The spectroscopy, which is a fast growing technology, covers various fields, such as materials, optical, biomedical, biophysics, and biotechnology, due to its huge applicability in all area of sciences. The spectroscopy provides the information at electron level related to every molecule in material science, whereas, in biological sciences, it provides the architecture of the objects (microbes, tissues, cells, etc.). The spectroscopy techniques are also important for tracing biomedical materials such as drug delivery systems and other medical materials. The spectroscopy is a process of visualization that covers the functional footprint of nanostructures at their electron level (SEM and FESEM). These instruments are incredible tools for seeing the behavior of hidden nanospace and creating the magnified images by using electrons instead of light waves and scanning. These techniques depend on the information of electrons liberated from a single source and accelerated in a high electrical field gradient. Including the applicability of spectroscopy in materials world (including nanomaterial's used for medical applications), the spectroscopy has vast application in biomedical field, covers the living objects or systems, and collects the information of anatomy of human body, for example, tissues at molecular level for the detailed information related to diagnosis, examination, and treatment of several diseases. The spectroscopy is also applied to know the information of drug delivery systems, bone scaffolds, stents, and other medical devices and materials. The biomedical spectroscopy of various tissues or human anatomy depends on advanced tools such as X-ray spectroscopy, CT, MRI, and PET.

The aim of the present special issue is to assemble and provide the latest information of spectroscopic methodologies, advancement, and implementations in the area of biomedical applications. The issue accepts good quality articles from all over the globe, which contain original research results along with high-quality review articles. This special issue will provide the relation of application of spectroscopy in biomedical and materials science field.

Potential topics include but are not limited to the following:

- Scanning electron microscopy (SEM)
- Scanning tunneling microscopy (STM)
- Application of differential scanning calorimetry in nanobioscience
- Confocal laser scanning microscopy (CLSM)
- Nanoscale X-ray computed tomography (CT) instrument
- Bioimaging and X-ray spectroscopy
- CT, MRI, and PET
- Spectroscopy in biomedical nanotechnology
- Spectroscopy in drug delivery systems
- Spectroscopy in biomedical materials (i.e., bone scaffolds, stents, dental implants, and nerve conduits)

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jspec/usm/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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