



Photoacoustic and Photothermal Phenomena in Nanomaterials

Guest Editors:

Dr. Mykola Isaiev

Université de Lorraine, CNRS,
LEMTA, Nancy F-54000, France

Dr. Vladimir Lysenko

Light-Matter Institute, UMR CNRS
5306, Claude Bernard University
of Lyon, Campus de la Doua, 2,
rue Victor Grignard, Bat. Jules
Raullin, 69622 Villeurbanne,
France

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Message from the Guest Editors

Light-induced temperature and pressure perturbations can be used to examine matter in its different states. The use of continuous, modulated, or pulsed light sources allows for a high degree of experimental flexibility when carrying out various non-contact measurements. In particular, photoacoustic (PA) and photothermal (PT) phenomena are essential when studying various kinds of nanomaterials under different surrounding conditions and can be used for multidisciplinary applications. As the most remarkable example, one can mention the application of PT and PA phenomena in cancer theranostics, i.e., the simultaneous diagnosis and treatment of cancer. Over the past decade, several contrast agents based on metallic, inorganic, and organic nanomaterials have been developed to perform PA/PT bioimaging and therapy. This Special Issue will be devoted to the PA and PT phenomena in nanomaterials. We welcome the submission of original research papers and review articles on any aspect of the application of PT and PA phenomena in the life sciences, material research, energy, etc. or that describe the physical mechanisms and features of the informative response formed at the nanoscale.





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Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and
Environmental Science,
University of Birmingham,
Birmingham B15 2TT, UK

Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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