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DESCRIPTION

The aim of the open access Photoacoustics journal (PACS) is to publish original research and review contributions within the fast growing field of photoacoustics (optoacoustics) and thermoacoustics, which exploits optically and electromagnetically excited acoustical and thermal phenomena for visualization and characterization of a variety of materials and biological tissues, including living organisms. While some of the spectroscopic and photothermal applications have reached a mature state, many other research directions experience an explosive growth, in particular biomedical photoacoustics, which is currently considered the fastest growing bio-imaging modality. The wealth of investigated topics clearly indicates that this field has developed a broad range of tools for fundamental and applied research. The enormous recent progress is greatly supported by the advances in laser technologies, ultrasound detection approaches, development of inverse theory and fast reconstruction algorithms. This progress is also driven by a large number of unmet biological and medical needs that can be addressed by the unique contrast mechanisms available to photoacoustic (optoacoustic) methods. These include pre-clinical research and clinical imaging of vasculature, tissue and disease physiology, drug efficacy and treatment monitoring, optical anatomy and molecular imaging employing fluorochromes, chromophores and nanoparticles. Correspondingly applications span the entire range of biological and medical imaging including cancer, cardiovascular diseases, neuroimaging, ophthalmology or imaging in immunology, diabetes and obesity, cell trafficking application and a multitude of other biological functions. The multi-disciplinarily nature of photoacoustics and thermoacoustics is also evinced by the growing contribution from chemistry and nanotechnology where a multitude of novel contrast materials and agents have been constantly developed, from nanoparticles and organic dyes, to targeted agents and genetically expressed markers.

The list of topics of interest includes (but is not limited to) the following. Note that the terms optoacoustic and photoacoustic can be used synonymously.

- Photoacoustic / optoacoustic imaging, tomography
- Photoacoustic / optoacoustic mesoscopy and microscopy
- Novel detectors
- Novel laser and light sources and delivery technologies
- Spectroscopy and analysis of compounds
- Signal processing and image reconstruction methods
- Thermoacoustics and microwave-induced imaging
- Ultrasound-modulated optical phenomena
- Multi-modality systems involving light and sound
• Contrast agents, nanoparticles, nanotechnology
• Interactions with cells and tissues
• Pre-clinical imaging
• Molecular imaging
• Clinical translation and applications

This journal is a peer reviewed, open access journal.

**Keywords:** PACS, photoacoustics, optoacoustics, imaging, photothermal

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Area of expertise: photoacoustic microscopy, optical microscopy, vascular biology, tumor biology, cardiovascular disease, neurovascular coupling

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Area of expertise: laser–tissue interaction, photoacoustics for medical application, PVDF film sensor

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Area of expertise: photoacoustic imaging, biomedical ultrasound, molecular imaging

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Area of expertise: photoacoustic imaging, ultrasonic imaging, optoacoustic devices, contrast agents, biomedical engineering

Malini Olivo, Singapore Bioimaging Consortium, Helios, Singapore
Area of expertise: photomedicine, nanobiophotonics, optical imaging, bio-sensing

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Area of expertise: imaging, sensing, monitoring, tomography, spectroscopy, microscopy, laser (all associated with biomedical applications)

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Area of expertise: photoacoustic microscopy, photoacoustic endoscopy, intravascular photoacoustics, atherosclerosis imaging, angiogenesis imaging

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Area of expertise: photoacoustic mammography, breast cancer, quantification, acousto-optics, rheumatology

Jie Tian, Inst. of Automation, Chinese Academy of Sciences (CAS), Bejing, China
Area of expertise: multimodal optical molecular imaging, photoacoustic imaging, image reconstruction, photoacoustic devices

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Optical coherence tomography, intravascular ultrasound, and photo-acoustics

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Area of expertise: biomedical photoacoustics, optical imaging, light-tissue interactions, medical ultrasound

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GUIDE FOR AUTHORS

INTRODUCTION

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- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.

A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

*Formats*
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.
Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
- EPS (or PDF): Vector drawings, embed all used fonts.
- TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
- TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
- TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

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Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

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