



Special Track: **Biomedical Image Analysis Techniques for Cancer Detection, Diagnosis and Management**

17th International Symposium on Visual Computing

San Diego, CA, USA

October 3-5, 2022

<http://www.isvc.net>

Scope

Multiple biomedical imaging modalities are used in cancer detection, diagnosis and management including X-ray (plain film and Computed Tomography (CT)), Ultrasound (US), Magnetic Resonance Imaging (MRI), Single-Photon Emission Computed Tomography (SPECT), Positron Emission Tomography (PET), Optical Imaging and Digital Pathology. These imaging modalities form an essential part of cancer clinical decision making and are able to furnish morphological, structural, metabolic and functional information. In particular, biomedical imaging has become an important element for early cancer detection, for determining the stage and precise localization of cancer lesions to aid in directing surgery and other cancer treatments, or to check if cancer has recurred.

This special track invites research contributions on innovative biomedical image analysis techniques for cancer screening, diagnosis and staging, guiding cancer treatments, determining if a treatment works, and monitoring for cancer recurrence. Of particular interest are research contributions employing modern computer vision techniques, powered by statistical and machine/deep learning models, addressing the above challenges.

The authors of all accepted papers in the special track will be invited to submit an extended version of their work for review and possible publication in a Special Issue of the **Mathematical Biosciences and Engineering** journal (published by the American Institute of Mathematical Sciences) with an expected submission deadline in the second quarter of 2023.

Topics

Topics of interest include but are not limited to:

- Biomedical image analysis (e.g., detection, segmentation, classification, registration)
- Computer-aided detection/diagnosis of various cancer types in biomedical images
- Multi-modality fusion (e.g., MRI/PET, PET/CT, X-ray/ultrasound, etc.) for diagnosis, image analysis and image guided interventions
- Image reconstruction for biomedical imaging
- Cellular image analysis (e.g., genotype, phenotype, classification, identification, cell tracking)
- Molecular/pathologic image analysis (e.g., PET, digital pathology)
- Statistical and machine/deep learning models for biomedical image analysis
- Evaluating and interpreting machine/deep learning models
- Designing and building interfaces between algorithms and clinicians

Organizers (incomplete)

George Bebis, University of Nevada, Reno, USA

Sokratis Makrogiannis, Delaware State University, USA

Important Dates

See <http://www.isvc.net/>

Paper Submission

See <http://www.isvc.net/index.php/paper-submission/>

