



## Computational Trends in Medical Ultrasound

Guest Editor:

**Dr. Mahdi Bayat**

Department of Electrical,  
Computer and Systems  
Engineering, Case School of  
Engineering, Case Western  
Reserve University, Cleveland, OH  
44106, USA

Deadline for manuscript  
submissions:

**closed (31 May 2022)**

### Message from the Guest Editor

Dear Colleagues,

Medical ultrasound has witnessed dramatic progress during the last two decades thanks to advances in hardware, software, and applications. These have resulted in significant image quality improvement, emergence of new imaging modalities, novel automatic image analysis and diagnosis tools and more. At the core of these improvements are computational methods that enable better image reconstructions or allow real-time parallel computing for the formation of new modalities that include but are not limited to: ultrafast plane wave imaging, shear wave elastography, vector flow imaging, 3D and 4D imaging, ultrasensitive microflow imaging, super resolution ultrasound localization microscopy, model-based and deep-learning-based image restoration, artifact removal, automatic segmentation, and classification. These advances allow quantitative and objective imaging for better management of diseases and health conditions.

This Special Issue will create a unified platform to cover this diverse range of new methods and applications in medical ultrasound driven by advanced computational methods.

