MEDICAL IMAGING CALL FOR PAPERS

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Medical Imaging 2019

Submit abstracts by 8 August 2018

16–21 February 2019
Town & Country Resort and Convention Center
San Diego, CA, USA

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CALL FOR PAPERS

Image-Guided Procedures, Robotic Interventions, and Modeling (MI104)

Conference Chairs: Baowei Fei, The Univ. of Texas at Dallas (USA), The Univ. of Texas Southwestern Medical Ctr. (USA); Cristian A. Linte, Rochester Institute of Technology (USA)

Program Committee: Purang Abolmaesumi, The Univ. of British Columbia (Canada); Wolfgang Birkfellner, Medizinische Univ. Wien (Austria); Elvis C. S. Chen, Roberts Research Institute (Canada); Sandrine de Ribaupierre, Western Univ. (Canada); Gabor Fichtinger, Queen’s Univ. (Canada);
George J. Grevera, Saint Joseph’s Univ. (USA); David Hawkes, Univ. College London (United Kingdom); David R. Haynor, Univ. of Washington (USA); William E. Higgins, The Pennsylvania State Univ. (USA); David R. Holmes III, Mayo Clinic (USA); Pierre Jannin, Univ. de Rennes 1 (France); David M. Kwartowitz, Grand Canyon Univ. (USA); Shuo Li, Western Univ. (Canada); Lena Maier-Hein, Deutsches Krebsforschungszentrum (Germany); Michael I. Miga, Vanderbilt Univ. (USA); Kensaku Mori, Nagoya Univ. (Japan); Parvin Mousavi, Queen’s Univ. (Canada); Jack H. Noble, Vanderbilt Univ. (USA);
Maryam E. Rettmann, Mayo Clinic (USA); Frank Sauer, Siemens Healthineers (USA); Eric J. Seibel, Univ. of Washington (USA); Guy Shechter, Philips Healthcare (USA); Jeffrey H. Siewerdsen, Johns Hopkins Univ. (USA); Amber L. Simpson, Memorial Sloan-Kettering Cancer Ctr. (USA); Stefanie Speidel, Karlsruher Institut für Technologie (Germany); Satish E. Viswanath, Case Western Reserve Univ. (USA); Andrew D. Wiles, Northern Digital Inc. (Canada); Ivo Wolf, Hochschule Mannheim (Germany); Ziv R. Yaniv, National Library of Medicine (USA)

This conference is primarily concerned with applications of medical imaging data in the engineering of therapeutic systems. Original papers are requested in the following topic areas:

- Image-guided procedures
- Minimally invasive surgery
- Computer-assisted therapy and therapy planning
- Robotic interventions and surgical tools
- Localization technologies and navigation systems
- Tracking and calibration
- Intraoperative imaging
- Novel image-to-patient registration for surgery and intervention
- Mathematical modeling to guide and understand therapy
- Modeling of intraprocedural changes
- Modeling and analysis of procedures and procedure workflows
- Techniques in population-specific and patient-specific model generation
- Image-based models for characterization of tissue and disease properties
- Medical image-based simulation and training
- Validation/evaluation
- 3D visualization
- Novel interfaces for therapy and visualization of data
- Augmented, virtual, and enhanced reality
- Clinical applications and technology integration
- High performance computing for real-time modeling and/or large dataset visualization
- Machine learning and artificial intelligence for surgical/interventional applications
- Interventional/therapeutic assessment and prediction
- Surgical/interventional data science
- Safety and standards for image-guided and robotic procedures
- Other related areas.

Submissions that cross over between this conference and others at SPIE Medical Imaging, and which would be appropriate for combined sessions, are also welcome.

AWARDS: Papers from student authors are particularly encouraged; there is a competition for the best student paper as well as a young scientist award.

TOPIC AREAS: FOR THIS CONFERENCE ONLY
During the submission process, you will be asked to choose no more than three topics from the following list to assist in the review process.

- Abdominal procedures
- Calibration
- Cardiac procedures
- Pelvic procedures
- Deep learning
- Diagnosis
- Disease characterization
- Endoscopic procedures
- Human factors
- Image-guided therapy
- Data integration for the clinic/OR
- Intraoperative imaging
- Localization and tracking technologies
- Machine learning and artificial intelligence for surgical/interventional applications
- Medical robotics
- Modeling
- Monitoring and feedback
- Multimodality display
- Neurosurgical procedures
- Registration
- Segmentation
- Stereoscopic display
- Surgical simulation
- Surgical/interventional data science
- Therapy planning
- Treatment planning
- Ultrasound guidance
- Validation/evaluation
- Virtual, augmented, and mixed reality
- Visualization