

## Editorial for the MEDIA MICCAI special issue 2021

The 24th Medical Image Computing and Computer Assisted Interventions (MICCAI) conference, initially planned in Strasbourg, France, was held from September 27th to October 1st on a virtual platform. In spite of its unconventional nature, the virtual conference attracted over 2500 world-leading scientists from the fields of medical image segmentation, machine/deep learning, registration, computer-aided diagnosis, and computer assisted interventions, applied on various types of medical images ranging from MRI, CT, microscopic, ophthalmic, and ultrasound imaging. We received a total of 1630 submissions, and after a thorough double-blind peer-review process involving 1220 reviewers and 96 area chairs, 531 papers were finally accepted and presented at the conference.

This special issue of Medical Image Analysis features extended versions of some of the top-ranked works presented at MICCAI 2021. Based on the recommendation of the area chairs and reviewers as well as the assessment of the guest editors, the authors of 18 papers were invited to submit a significantly extended version of their original paper, among which 14 accepted the invitation and submitted a paper for review. The submitted journal papers were subjected to a second round of peer-review process, with at least three reviewers per paper. Ultimately, all submitted papers were accepted for inclusion in the special issue.

The final selection represents a broad range of both MIC and CAI topics and clinical applications, from histopathology image classification to surgical workflow anticipation, MRI image analysis or sparse image segmentation. The presence of a study on Covid-19 lung lesion segmentation is also quite representative of the hot topic of the year, but also of the extraordinary involvement and dedication of the researchers from our community in the fight against the virus.

Finally, three excellent papers of this issue were selected for consideration for the MEDIA MICCAI Best Paper Award 2022 by a specific jury. The best paper award went to Tianfei Zhou and co-authors, for their paper entitled “*Volumetric memory network for interactive medical image segmentation*”. All our congratulations to them, and to the two runner-ups: “*Uncertainty-aware report generation for chest X-rays by variational topic inference*” by Ivona Najdenkoska and co-authors, and “*Cross-modal attention for multi-modal image registration*” by Xinrui Song and co-authors.

The guest editors would like to thank all the reviewers and area chairs who contributed to the incredible reviewing process of the MICCAI 2021 conference, as

well as the reviewers who participated in the second round of reviews and made this special issue possible.

### **Guest editors**

Marleen de Bruijne

Philippe C. Cattin

Stéphane Cotin

Nicolas Padoy

Stefanie Speidel

Yefeng Zheng

Caroline Essert