

# Preface

This volume comprises the proceedings of the 21st edition of the Medical Image Understanding and Analysis (MIUA) Conference, an annual forum organized in the United Kingdom for communicating research progress within the community interested in biomedical image analysis. Its goals are the dissemination and discussion of research in medical image analysis to encourage the growth and to raise the profile of this multi-disciplinary field that has an ever-increasing real-world applicability. The conference constitutes an excellent opportunity to network, generate new ideas, establish new collaborations, learn about and discuss different topics, listen to speakers of international reputation, and present and show medical image analysis tools.

This year's edition was organized by The Row Fogo Centre for Research in Ageing and Dementia in conjunction with Edinburgh Imaging (<http://www.ed.ac.uk/clinical-sciences/edinburgh-imaging>) at The University of Edinburgh, in partnership with the Scottish Imaging Network A Platform for Scientific Excellence (SINAPSE) (<http://www.sinapse.ac.uk/>), the *Journal of Imaging* (<http://www.mdpi.com/journal/jimaging>), and the EPSRC Medical Image Analysis Network (MedIAN) (<http://www.ibme.ox.ac.uk/MedIAN>) and MathWorks (<https://uk.mathworks.com/>); it was supported by the British Machine Vision Association (BMVA), Toshiba Medical Visualisation Systems Europe, General Electric, Bayer, Siemens, Edinburgh Imaging, Optos, Holoxica Ltd., AnalyzeDirect and NVIDIA.

The number and level of submissions of this year's edition were unprecedented. In all, 105 technical papers and 22 abstracts showing clinical applications of image-processing techniques (the latter not considered for inclusion in this volume) were revised by an expert team of 93 reviewers from British(38), Spanish(25), French(6), Italian(11), Swedish(5), Greek(2), New Zealand(1), American(3), German(1), Dutch(1), Bangladeshi(1) and Swiss(1) institutions. Each of the 127 submissions were reviewed by two to four members of the Program Committee. Based on their ranking and recommendations, 18 of 105 papers were accepted, 65 of 105 papers were provisionally accepted pending minor revisions and suggestions, and 22 of 105 papers were rejected for publication in this volume. From the papers rejected, 15 were considered to need a major revision, and their authors were invited to address the reviewers' comments and submit their revised work to the *Journal of Imaging* (conference partner), to which the reviews will be provided for facilitating the new review process. After a second round of revision, we are including in this volume 82 full papers. We hope you agree with us that they all show high quality and represent a step forward in the medical image analysis field.

We thank all members of the MIUA 2017 Organizing, Program, and Steering Committees and, particularly, all those who supported MIUA 2017 by submitting papers and attending the meeting. We thank Professor Joanna Wardlaw, Head of the Academic Hub and Centre that organized the conference, for her welcome words.

We also thank our speakers Professors Sir Michael Brady, Daniel Rueckert, Ingela Nyström, and Jinah Park, and Dr. Constantino Carlos Reyes Aldasoro and Konstantinos Kamnitsas for sharing their success, knowledge, and experiences. We hope you enjoy the proceedings of MIUA 2017.

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