Preface

Marius Ghergu¹ · Hermann Render¹

Published online: 21 May 2019

© Springer Nature Switzerland AG 2019

The “International Conference on Complex Analysis, Potential Theory and Applications” was held at University College Dublin in Ireland, from 11 to 15 June, 2018. It attracted 76 participants from 22 countries, and featured 18 keynote talks by international experts from Canada, USA, Japan, Czech Republic, Greece, Germany, Ireland, Norway, Spain and Sweden.

The agenda of the conference was set by recent advances in complex function theory, potential theory and related fields. Thus there were lectures covering topics such as Hardy and BMO spaces of Dirichlet series, weak factorization of Bergman and Hardy spaces, generalizations of the notion of an inner function, optimal polynomial approximants, Chebychev quadrature formulae, universality and other generic properties of Taylor series. There were also addresses on the integrability of supertemperatures, fine potential theory on metric spaces, Jensen measures, entire solutions of the Dirichlet problem, a uniform boundedness principle in pluripotential theory, energy minimizing configurations for Riesz potentials, sharp constants for the Sobolev–Poincaré inequality, and applications of partial balayage. In addition, there was a survey lecture by Ivan Netuka on Stephen Gardiner’s contributions to potential theory. In parallel afternoon sessions 39 further talks covered a wide range of themes in Complex Analysis and Potential theory and contributed to the dissemination of new ideas. The speakers included early-career mathematicians and Ph.D. students, who were given an opportunity to present their results and expand their knowledge of the field. Throughout the conference a creative and friendly atmosphere led to many interesting discussions.

This special issue marks the *60th anniversary of Professor Stephen Gardiner*. It is a great honour to act as guest editors for this anniversary volume that celebrates more than 30 years of his activity in mathematics. In a special survey article we describe the scientific achievements of Stephen Gardiner, who has contributed extensively to the fields of Potential Analysis, and Complex and Harmonic Approximation. We are

✉ Hermann Render
hermann.render@ucd.ie

Marius Ghergu
maris.ghergu@ucd.ie

¹ University College Dublin, Belfield 4, Dublin, Ireland

grateful to Professor Ivan Netuka and Dr. Myrto Manolaki for their collaboration and support in preparing it.

As guest editors we thank all authors who contributed to this special issue, and all the referees for their time, willingness and constructive reviews of the papers. We also thank the Editors-in-Chief, Professor Dmitry Khavinson and Professor Razvan Teodorescu for hosting this special issue.

Finally we gratefully acknowledge financial support from Science Foundation Ireland, the Irish Mathematical Society and the Seed Funding Scheme of the University College Dublin.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interests.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.