

Javad Mashreghi
Myrto Manolaki
Paul Gauthier Editors



New Trends in Approximation Theory

In Memory of André Boivin



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The Fields Institute for Research
in Mathematical Sciences

 Springer

Editors

Javad Mashreghi
Département de Mathématiques et de
Statistique
Université Laval
Québec, QC, Canada

Myrto Manolaki
Department of Mathematics and Statistics
University of South Florida
Tampa, FL, USA

Paul Gauthier
Département de Mathématiques et de
Statistique
Université de Montréal
Montréal, QC, Canada

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Preface

The international conference entitled “New Trends in Approximation Theory” was held at the Fields Institute, in Toronto, from July 25 to July 29, 2016. The conference (which received financial support from the Fields Institute and CRM) was fondly dedicated to the memory of our unique friend and colleague André Boivin, who gave tireless service in Canada until the very last moment of his life in October 2014. The impact of his warm personality and his fine work on Complex Approximation Theory was reflected by the mathematical excellence and the wide research range of the 37 participants. In total there were 27 talks, delivered by well-established mathematicians and young researchers. In particular, 19 invited lectures were delivered by leading experts of the field, from 8 different countries (USA, France, Canada, Ireland, Greece, Spain, Israel, Germany). Videos and slides of the presentations can be found at the following link:

<https://www.fields.utoronto.ca/video-archive/event/1996>

The wide variety of presentations composed a mosaic of multiple aspects of Approximation Theory and highlighted interesting connections with important contemporary areas of analysis. In particular, the main topics that were discussed include the following:

1. Applications of Approximation Theory (isoperimetric inequalities, construction of entire order-isomorphisms, dynamical sampling);
2. Approximation by harmonic and holomorphic functions (and especially uniform and tangential approximation);
3. Polynomial and rational approximation;
4. Zeros of approximants and zero-free approximation;
5. Tools used in Approximation Theory (analytic capacities, Fourier and Markov inequalities);
6. Approximation on complex manifolds (Riemann surfaces), and approximation in product domains;
7. Approximation in function spaces (Hardy and Bergman spaces, disc algebra, de Branges–Rovnyak spaces);
8. Boundary behaviour and universality properties of Taylor and Dirichlet series.

Throughout the conference there was a very creative and friendly atmosphere, with many interesting discussions and mathematical interactions which, hopefully, will lead to future collaborations. The last talks of the conference were devoted to the main contributions of André Boivin in Approximation Theory and his collaborations which are presented in the first chapter in further detail.

Montréal, QC, Canada
Tampa, FL, USA
Québec, QC, Canada

Paul Gauthier
Myrto Manolaki
Javad Mashreghi



A Riemann surface, full of some (among many) good friends of André Boivin, during the conference “New Trends in Approximation Theory” which was held in his memory (Fields Institute, July 2016).

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