Special Volume on Constructive Function Theory

This special volume of ETNA contains selected papers presented at Constructive Functions Tech-04, a conference held at the Georgia Institute of Technology, Atlanta, November 7–9, 2004. The conference honored the sixtieth birthday of Edward B. Saff, and the twentieth anniversary of the international journal *Constructive Approximation*, which he founded together with Ronald DeVore. Ed Saff is internationally renowned for his seminal contributions in approximation theory, orthogonal polynomials and potential theory. His textbooks in areas ranging from complex analysis to differential equations are widely used. He has made a major impact on many research areas worldwide, not only through his research, but also through his supervision of students, his organization of international conferences worldwide, and his initiation of collaborative programs across all political boundaries.

Some ninety seven mathematicians from twenty five countries attended the conference. There were eighteen plenary talks, presented by

- Alexander Aptekarev (Russian Academy of Sciences, Russia)
- Jinho Baik (University of Michigan, US)
- Laurent Baratchart (INRIA, France)
- Wolfgang Dahmen (RWTH Aachen, Germany)
- Ron DeVore (University of South Carolina, US)
- Andrei Martínez-Finkelshtein (University of Almeria, Spain)
- Arno Kuijlaars (Katholieke Universiteit Leuven, Belgium)
- Eli Levin (The Open University Of Israel, Israel)
- Hrushikesh Mhaskar (California State University, US)
- Igor Pritsker (Oklahoma State University, US)
- Amos Ron (University of Wisconsin-Madison, US)
- Barry Simon (California Institute of Technology, US)
- Ian Sloan (University of New South Wales, Australia)
- Herbert Stahl (Technische Fachhochschule Berlin, Germany)
- Nicos Stylianopoulos (University of Cyprus, Cyprus)
- Vilmos Totik (University of Szeged, Hungary, and University of South Florida, Tampa)
- Richard Varga (Kent State University, US)
- Yuan Xu (University of Oregon, US)

In addition, there were fifty six contributed talks, as well as a lively problem session. The conference covered all aspects of constructive function theory: potential theory; theory of orthogonal polynomials and special functions; approximation theory; and interactions with classical, functional, and numerical analysis. It also emphasized applications of these disciplines to data analysis, curve and surface fitting, wavelets, and signal and image processing. The range of topics in these talks is also reflected in the papers in this special volume, all of which have been peer-reviewed.

The Organizing Committee of the conference consisted of: Laurent Baratchart, Ron DeVore, Jeff Geronimo, Xin Li, Andras Kroo, Eli Levin, Doron Lubinsky, Nicholas Papamichael, Igor Pritsker, Stephan Ruscheweyh, Vilmos Totik, and Richard Varga. The conference program, abstracts, and photos are available at
http://www.math.gatech.edu/news/conferences/at04/index.html.

We gratefully acknowledge financial and other support from the Georgia Tech Foundation, the National Science Foundation (Grant 0411729), NATO, Vanderbilt University College of Arts and Science, and Springer Verlag Publishers. In addition, we thank Prof. Tom Trotter, Chair of the School of Mathematics at Georgia Tech for his support, Annette Rohrs for her endless hours of work preparing the conference website and material, and Christy Dalton for so ably taking care of financial aspects. Leslie O'Neill at Distance Learning and Professional Education did a wonderful job of setting up and administering the conference. We thank Annette Rohrs for her many hours of meticulous work on this special volume.

Wolfgang Dahmen, Jeff Geronimo, Xin Li, Igor Pritsker, Ian Sloan
Special Volume Associate Editors

Doron Lubinsky
Special Volume Managing Editor