Special Volume on
Orthogonal Polynomials and Approximation Theory

This special volume of ETNA contains 10 selected papers presented at the Fifth International Workshop on Orthogonal Polynomials, held at Universidad Carlos III de Madrid in June 24-27, 2002. The workshop was organized by Francisco Marcellán, Jorge Arvesú (Universidad Carlos III de Madrid) and Renato Alvarez Nodarse (Universidad de Sevilla), who also serve as guest editors for this special Volume. 90 mathematicians from 16 countries contributed to the success of the workshop during the talks and the very lively discussions. Six invited two-hour lectures were given on recent trends in orthogonal polynomials, approximation theory, and their applications:

- J. Geronimo (Georgia Institute of Technology, Atlanta, Georgia, USA): A two variable extension of the Riesz-Féjer Lemma.

- P. González Vera (Universidad de La Laguna, Spain): Orthogonal rational functions on the real half-line with applications to Padé approximation and quadratures.

- A. B. J. Kuijlaars (Katholieke Universiteit Leuven, Belgium): Riemann-Hilbert analysis of orthogonal polynomials in [-1,1] .

- J. L. López (Universidad Pública de Navarra, Spain): Asymptotic approximations of integrals: application to asymptotic approximations of orthogonal polynomials.

- A. Martínez Finkelshtein (Universidad de Almería, Spain): Electrostatic models associated with the zeros of special functions .

- H. Stahl (Technical University, Berlin, Germany): H^∞ and H^2 rational best approximants on the unit circle.

In addition, 20 half-hour lectures and 16 posters demonstrated the breadth, relevance, and vividness of these important fields of Applied Mathematics. The broad range of topics in these talks is also reflected by the papers in this special volume. All the papers were peer refereed. We would like to express our sincere gratitude to all referees for their excellent work. Moreover, we gratefully acknowledge financial support for the workshop from Universidad Carlos III de Madrid (Programa Propio Vicerrectorado de Investigación) and from Dirección General de Investigación, Ministerio de Ciencia y Tecnología of Spain (Acción Especial BFME 2001-5081-E/MATE). Finally, the Real Sociedad Española de Matemáticas (RSME) and Sociedad Española de Matemática Aplicada (SEMA) contributed grants for young postgraduate students attending the workshop.

On behalf of the Organizing Committee, we also want to thank some others who have collaborated with us in the organization of the meeting. They are Guillermo López Lagomasino, María Isabel Bueno, María Antonia Delgado, Angeles Garrido, Carmen Rodríguez, Javier Segura, Alfredo Deaño, Jorge Sánchez, and Ulises Fidalgo from the Universidad Carlos III de Madrid.

Renato Alvarez-Nodarse, Jorge Arvesú, and Francisco Marcellán (Special Volume Editors).