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PREFACE

Radial basis functions have been used extensively for scattered data, grid-free interpolation and approximations for many years. Some of the techniques used have been linear and cubic splines, Gaussians, thin-place splines, and multiquadrics. A very comprehensive review of successful usage thin-plate splines and multiquadrics can be found in the review article by R. L. Hardy [1] with 109 citations.

Because of the contribution of Prof. Rolland L. Hardy to radial basis functions, and the interest his work has generated, we believe it is appropriate to dedicate this special issue to him. Although he is retired from teaching, he is still a very active researcher.

Radial basis functions were first seriously studied by applied and theoretical mathematicians with the paper of Franke [2]. This inspired Micchelli [3] and Madych and Nelson [4] to give this subject a firm theoretical foundation, validating that the observed computational results were not fortuitous.

The purpose of this special edition of *Computers and Mathematics with Applications* entitled, "Advances in the Theory and Application of Radial Basis Functions," is to inform both the applied and theoretical mathematical community of the research opportunities available. Both applied and theoretical papers have been included in this issue to foster more communication between the applied and theoretical communities. I wish to express my gratitude to the authors for their timely contributions to this special issue. In addition, I wish to express my gratitude to each referee who peer-reviewed these papers. It is unfortunate that the management of many institutions choose to ignore the time and effort required in the refereeing process as well as its importance.

Edward J. Kansa
Guest Editor

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