

Editorial

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Professor David L. Russell just celebrated his 70th birthday in 2009. His numerous important and fundamental contributions to the control theory of partial differential equations have won him recognitions as a true pioneer and giant in this field. And his pleasant personality and ready helpfulness have won our hearts as his admirers, students, and friends.

Prof. Russell's lifetime love and interests are control theory and partial differential equations. We have asked Goong Chen, a former PhD student of Prof. Russell, to write a survey of his career and mathematical work. Moreover, as a way to pay our tribute to him, it is only proper here that we put together a collection of papers by researchers who work on these and closely related subjects of Prof. Russell's. Indeed, the topics collected are extensive, including the theory and applications of analysis, computation, control, optimization, etc., for various systems arising from conservation laws and quasilinear hyperbolic systems, fluids, mathematical finance, neural networks, reaction-diffusion, structural dynamics, stochastic PDEs, thermoelasticity, viscoelasticity, etc. They are covered in great depth by the authors. There are a total of 35 papers finally accepted for publication after going through strict manuscript reviews and revision. Due to the large number of papers on hand, we divide them into Groups I (20 papers) and II (15 papers). Papers in Group I is published in Discrete and Continuous Dynamical Systems-Series B (DCDS-B) Volume 15, No. 2/3 (2010), while those in Group II are published in Journal of Systems Science and Complexity (JSSC) Volume 23, No. 3 (2010). This division is up to the preference of the authors. We thank all the authors and reviewers for their critical contributions and valuable assistance that make the publication of these two journal issues possible.

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