



## PREFACE: CONTROL THEORY AND PDE, PART II

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AND ALEXANDER J. ZASLAVSKI

This special issue on Control Theory and PDE is dedicated to Professor Irena Lasiecka on the occasion of her anniversary.

Irena Lasiecka is an outstanding American mathematician who has made fundamental contributions to control theory, partial differential equations, optimization theory, the calculus of variations, feedback stabilization, and to practical applications. She is a Distinguished University Professor of Mathematics and Chair of the Mathematics Department at the University of Memphis, Commonwealth Professor of Mathematics Emeritus of the University of Virginia, and also a co-editor-in-chief of two academic journals, Applied Mathematics and Optimization and Evolution Equations and Control Theory. Professor Lasiecka is a recipient of the 2019 Richard E. Bellman Control Heritage Award from the American Automatic Control Council, a recipient of the SIAM 2011 W. T. and Idalia Reid Prize, Fellow of AMS, SIAM, and IEEE, and ISI Highly Cited Researcher in Mathematics. She is an author of twelve books, over 400 publications, and has supervised over 30 doctoral students.

In part II of this special issue, we present papers authored by a selected group of well-recognized experts in the areas of control, optimization, and partial differential equations. Most of the papers collected here have been contributed by former students, collaborators, friends, and colleagues of Irena, who have been influenced by her research. Part II of the special issue contains eight papers contributed by researchers in control, optimization, and PDE from Austria, China, Germany, Israel, Italy, Russia and the USA. These papers cover a wide spectrum of important problems and topics of current research interest in control, optimization and PDE, including vanishing relaxation time limit of the Jordan–Moore–Gibson–Thompson wave equation, global Sobolev persistence for the fractional Boussinesq equations with zero diffusivity, reconstructing the right-hand part of a distributed differential equation, controllability of a linear system with persistent memory via boundary traction, attractors and determining functionals for a flutter model, the two-phase Navier-Stokes equations with surface tension in cylindrical domains, space of infinitesimal isometries and bending of shells and the regulator problem for the one-dimensional Schrödinger equation via backstepping.

Therefore we feel that this special issue will be highly important for many mathematicians and applied scientists, who are interested in recent developments in control, optimization and partial differential equations, as well as in their numerous applications.

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