



PREFACE: ANALYSIS

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This special issue on Analysis is dedicated to Professor David Preiss on the occasion of his 75th birthday.

David Preiss is an outstanding Czech and British mathematician who has made fundamental contributions to the field of Mathematical Analysis. He is a professor of mathematics at the University of Warwick. David Preiss is a recipient of the Ostrowski Prize (2011) and the winner of the 2008 London Mathematical Society Pólya Prize for his 1987 result on the geometry of measures, where he solved the remaining problem in the geometric theoretic structure of sets and measures in Euclidean space. He was an invited speaker at the 1990 International Congress of Mathematicians in Kyoto. David Preiss is a Fellow of the Royal Society (2004) and a Foreign Fellow of the Learned Society of the Czech Republic (2003). He is an author of about 130 research publications and a co-author together with J. Lindenstrauss and J. Tišer of the book “Fréchet Differentiability of Lipschitz Functions and Porous Sets in Banach Spaces” (2012). Professor Preiss has supervised over 10 doctoral students.

In this special issue we present papers authored by a selected group of experts in the area of Mathematical Analysis. The papers collected here have been contributed by collaborators, friends and colleagues of David, who were influenced by his scientific work. The special issue contains twelve papers contributed by researchers in Analysis from Austria, Canada, China, Finland, Germany, Hungary, Israel, Japan, Russia, United Kingdom, and the USA.

These papers cover a wide spectrum of important problems and topics of current research interest, including Morrey’s Quasi-convexity, Cheeger’s differentiation theorem via the multilinear Kakeya inequality, convergence of remote projections onto convex sets, measure of noncompactness, Hausdorff dimension of union of lines that cover a curve, mapping n grid points onto a cube, linear transfers as minimal costs of dilations of measures in balayage order, interpolated polynomial multiple zeta values of fixed weight, depth, and height, visualization of enumeration questions with factor spectrum tiling, the structural decomposition of planar Lipschitz quotient mappings, tangent graphs, and uniformly locally contractive mappings.

Therefore, we feel that this special issue will be highly important for many mathematicians, who are interested in recent developments in Mathematical Analysis as well as in their diverse applications.

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