CRM-Fields-PIMS Prize Lecture:
Stevo Todorcevic (University of Toronto)

3pm, April 4 2012
Pre-lecture refreshments at 2:45pm

WMAX 110 at PIMS
University of British Columbia

STRUCTURE THEORY OF RAMSEY SPACES AND SOME OF ITS APPLICATIONS

We give an overview of the most basic Ramsey theoretic principles such as the Hales-Jewett theorem and the Halpern-Läuchli theorem and the corresponding Ramsey space theories that they lead to. The theory has natural counterparts both in the sense of dimensions and cardinalities of the structures. For example, we explain the close relationships between the finite and the infinite-dimensional theory and we also explain the Ramsey theory of finite structures and its close relationship to the Ramsey theory of infinite structures. If time permits we will also explain some of the most recent advances in the density Ramsey theory with a particular emphasis on the new phenomena that show up in the context of infinite structures. We point out some of the successes in applying this theory to, for example, topological dynamics and functional analysis.
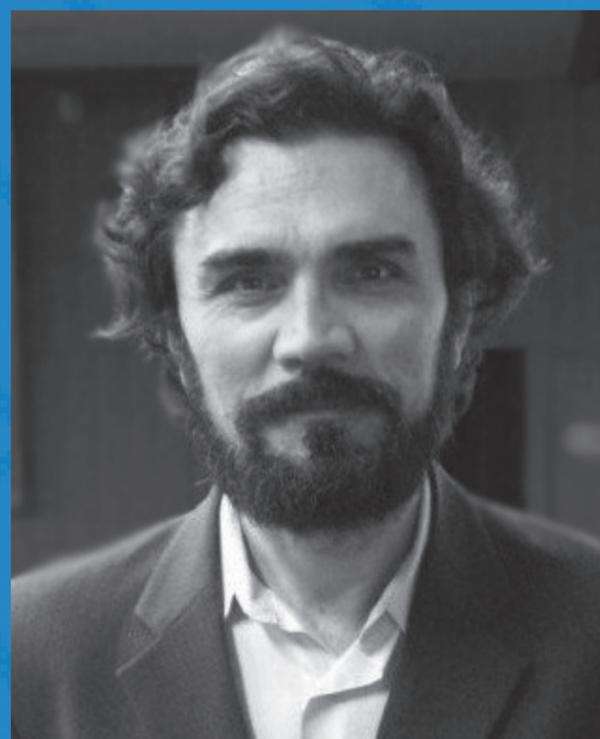
About the CRM-Fields-PIMS Prize
The CRM-Fields-PIMS Prize is the premier Canadian award for research achievements in the mathematical sciences. The prize winner is selected each fall by an independent international committee with members from each of the institutes.

About Stevo Todorcevic
Professor Todorcevic's contributions to set theory have made him a world leader in this topic with a particular impact on combinatorial set theory and its connections with topology and analysis. His work is recognized for its striking originality and technical brilliance. He was an invited speaker at the 1998 ICM in Berlin for his work on rho-functions. He made major contributions to the study of S- and L-spaces in topology, proved a remarkable classification theorem for transitive relations on the first uncountable ordinal, made a deep study of compact subsets of the Baire class 1 functions thus continuing work of Bourgain, Fremlin, Talagrand, and others in Banach space theory. Professor Todorcevic obtained his Ph.D. in Belgrade and currently holds a Canada Research Chair at the University of Toronto.

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