



Quantitative and Computational Aspects of Metric Geometry

January 12 - 16, 2009

ORGANIZING COMMITTEE: SUBHASH KHOT (NEW YORK UNIVERSITY); BRUCE KLEINER (YALE UNIVERSITY); MANOR MENDEL (THE OPEN UNIVERSITY OF ISRAEL); ASSAF NOAR (NEW YORK UNIVERSITY); YUVAL RABANI (ISRAEL INSTITUTE OF TECHNOLOGY)

Scientific Overview

Following the seminal work on the non-linear theory of Banach spaces in the 1970s and 1980s, we have witnessed a recent revival of interest in the rich structure and profound properties of metric spaces. Much contemporary research on metric geometry is motivated by the discovery of unexpected connections linking fundamental questions in geometry and analysis with combinatorial optimization, computational complexity, and statistics. This has led to the emergence of an impressive and growing repertoire of common problems and techniques.

Our workshop will focus on the theory of metric embedding and its wide-ranging impact on geometric functional analysis, theory of algorithms, geometric group theory, mining massive data sets, distributed computing, pseudo-randomness, and other areas.

Confirmed Speakers

Nir Ailon (Google Research); **Sanjeev Arora** (Princeton University); **Goulmara Arzhantseva** (Université de Genève); **Keith Ball** (University College London); **Yair Bartal** (Hebrew University); **Moses Charikar** (Princeton University); **Jeff Cheeger** (New York University); **Anupa Gupta** (Carnegie Mellon University); **Bill Johnson** (Texas A&M University–College Station); **Peter Jones** (Yale); **Subhash Khot** (New York University); **Bruce Kleiner** (Yale University); **Robert Krauthgamer** (Weizmann Institute of Science); **James Lee** (University of Washington); **Nathan Linial** (Hebrew University); **Konstantin Makarychev** (IBM Thomas J. Watson Research Center); **Yury Makarychev** (Microsoft Research); **Manor Mendel** (The Open University of Israel); **Assaf Naor** (New York University); **Pierre Pansu** (Université d'Orsay); **Yuval Rabani** (Israel Institute of Technology); **Satish Rao** (UC Berkeley); **Gideon Schechtman** (Weizmann Institute of Science); **Alain Valette** (Université de Neuchâtel)

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

www.ipam.ucla.edu/programs/mg2009

