ICERM Workshops

These workshops are affiliated with the semester program Topology in Motion running at the Institute for Computational and Experimental Research in Mathematics (ICERM) in Fall 2016.

■ SEPTEMBER 12 – 16, 2016
Unusual Configuration Spaces
This workshop will bring together researchers interested in a panoply of unusual configuration spaces, arising in applied fields or in plausible models, to look for similarities or creative tensions between them. Along with the mathematical aspects, computational experimentation aspects will be highlighted, as well as applications ranging from path planning algorithms for robots, reconfiguration strategies for origami and protein folding. Organizing Committee: Y. Baryshnikov, M. Farber, M. Kapovich, R. Kamien, I. Streinu

■ OCTOBER 17 – 21, 2016
Stochastic Topology and Thermodynamic Limits
Participants will explore topological properties of random and quasi-random phenomena in physical systems, stochastic simulations/processes, as well as optimization algorithms. Practitioners in these fields have written a great deal of simulation code to help understand the configurations and scaling limits of both the physically observed and computational phenomena. However, mathematically rigorous theories to support the simulation results and to explain their limiting behavior are still in their infancy. Organizing Committee: M. Kahle, S. Mukherjee, S. Weinberger, I. Streinu, P. Charbonneau

■ NOVEMBER 28 – DECEMBER 2, 2016
Topology and Geometry in a Discrete Setting
Many theorems in discrete geometry may be interpreted as relatives or combinatorial analogues of results on concentration of maps and measures. This workshop focuses on building bridges by developing a unified point of view and by emphasizing cross-fertilization of ideas and techniques from geometry, topology and combinatorics. New experimental evidence is crucial to this goal. This workshop will emphasize the computational and algorithmic aspects of problems within a variety of topics. Organizing Committee: E. M. Feichtner, L. Guth, G. Kalai, R. Karasev, E. Mossel, I. Pak, R. Zivaljevic

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