1163-49-1103   **Boris Mordukhovich*** (`aa1086@wayne.edu`), Detroit, MI 48202. *Parabolic Regularity in Geometric Variational Analysis.*

The talk is devoted to systematic developments and applications of geometric aspects of second-order variational analysis and optimization that are revolved around the concept of parabolic regularity of sets. This concept has been known in variational analysis for more than two decades while being largely underinvestigated. We discover here that parabolic regularity is the key to derive new calculus rules and computation formulas for major second-order generalized differential constructions of variational analysis. The established results of second-order variational analysis and generalized differentiation, being married to the developed calculus of parabolic regularity, allow us to obtain novel applications to both qualitative and algorithmic aspects of constrained optimization including second-order optimality conditions, augmented Lagrangians, SQP and Newton-type methods, etc.

Based on the joint paper with Ashkan Mohammadi and Ebrahim Sarabi to appear in the Transactions of the American Mathematical Society. (Received September 14, 2020)