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**Ebrahim Sarabi\*** ([sarabim@miamioh.edu](mailto:sarabim@miamioh.edu)), 301 S. Patterson Ave, Oxford, OH 45056. *Twice epi-differentiability of extended-real-valued functions and its remarkable applications.*

This talk is devoted to the study of the twice epi-differentiability of extended-real-valued functions, with an emphasis on functions satisfying a certain composite representation. First, we present conditions under which this property can be ensured for extended-real-valued functions. We then provide remarkable applications of this property in parametric optimization, second-order variational analysis, and local convergence analysis of numerical algorithms including the Newton method and the augmented Lagrangian method. This talk is based on joint works with Nguyen T. V. Hang, Ashkan Mohammadi, and Boris Mordukhovich. (Received September 15, 2020)