Title: Non-differentiable Functions and Fractional Variational Calculus

Non-differentiable functions have recently caught much attention by effectively describing pointwise behaviors of fractal systems and non-differentiable phenomena in irregular media, e.g., anomalous diffusion, multiple scale problems, and coarse-grained space-time. The fractional calculus of variations is a recent research area, much in progress, allowing dealing with admissible functions that are not differentiable in the classical sense. This minisymposium mainly concentrates on these two research areas (non-differentiable functions on fractals and fractional variational calculus) and their interplay.

Topics include (but are not limited to):

(1) Fractional variational calculus and Hamiltonian mechanics;

(2) Non-smooth initial boundary problems and numerical approximation using non-differentiable functions;

(3) Non-differentiable modeling with fractal support;

(4) Programming and generation of non-differentiable curves.