Title of the talk: Seismicity of a mechanical model of Earthquake fault with competing nonlinear elastic and frictional forces

Abstract: Instabilities caused by the stick-slip motion of contact tectonic plates are believed to be responsible for seismic faults favoring the release and propagation of stress accumulated within the plates. As a mechanical process the fault generation can be described by the so-called Burridge-Knopoff (BK) model, consisting of an elastic lithosphere overlying a viscous asthenosphere and a fault of finite width with an upper brittle (i.e. seismic) zone having an elastoplastic response. Mathematically
the BK model assumes a periodic network of linearly interacting equal-mass blocks forming the asthenosphere, each block coupled to the upper plate (i.e. the lithosphere) via linear springs and a nonlinear frictional force between the two plates. In this talk we shall discuss the effects of competing elastic and frictional anharmonicities on seismicity of the BK model.