Course description:

Linear elastic fracture mechanics of homogeneous brittle solids (e.g. geo-materials, ceramics, metallic glasses); small scale yielding concepts; fracture of bi-material interfaces with applications to bonded engineering structures; thin-film and micro-electronic components and systems; dynamic fracture mechanics of homogeneous engineering materials; dynamic shear dominated failure of coherent and incoherent interfaces at all length scales; experimental methods in fracture; dynamic rupture of frictional interfaces with application to earthquake source mechanics; allowable rupture speeds regimes and connections to earthquake seismology.