

UNB Physics Department Seminar

Earthquakes, rocks, and water: physics in nonlinear acoustic waves

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During earthquakes, the travelling speeds of seismic waves can change due to the heterogeneous nature of the earth's crust. However, it remains an open question which factors most influence seismic wave speed changes. In this context, we use lab-scale experiments to study how cracks and fluids affect the way that vibrations travel in porous rocks that we expose to acoustic "earthquakes". I will describe how non-linear effects allow us to monitor changes in wave travelling speeds. I will also explain how tomographic imaging of porous rocks (such as with magnetic resonance imaging) could help advance our understanding of non-linear wave physics in solids.

Thursday June 6, 2019, 1:15-2:15 pm in P204.
Colloquium tea in P203 beforehand