Lecture 1
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- We revisited definitions for advection-diffusion phenomenons, how they can be extended to elastic/acoustic waves , continuum vs discrete problems and conservation laws.
- We related these laws to real-world phenomenons
- We then discussed briefly the advantages/disadvantages of an actual experiment vs modelling the phenomenon.
- Advective (material has to move with the flow), diffusive (redistribution of potential (energy, mass etc.) from higher concentration to lower concentration ares)
- Examples of advection-diffusion problem: Heat flow, Glacier flow, Fluid flow (Navier-Stokes)?
- Continuum : Totally continuous distribution for 1 system, difficult to break into independent parts
- Discrete: Accurate values at finite, discrete points, with laws to interpolate between
    - Ed mentioned early computers which could do continuum computing :)
- Conservation laws are important in defining/constraining the modelling equations