



*Department of Mathematics and Statistics
Colloquium Lecture Series*

*Ed Bueler
UAF*

WHAT IS ... A VARIATIONAL INEQUALITY?

Some applied problems include equations which are only solved where they can be solved! Problems like this include the shape of a membrane obstructed by an object (want to solve the minimal surface equation but can't on the obstacle) or the temperature of a freezing ice/water mixture (want to solve the classical heat equation but can't in the solid part). A variational inequality generalizes the weak-formulation concept for such equations, and it also generalizes the constrained-optimization concept. The payoff:

clearly-posed free boundary problems

graceful finite element approximations

This talk is an introduction to a topic in applied math. It will have lots of pictures and be at the first-year graduate level. There will be new results, specifically about glacier free boundary problems, but only in the last slide or two.

Thursday, January 30, 2014

Chapman 104

1:05 – 1:55 pm

Refreshments after the talk in Chapman 101A

