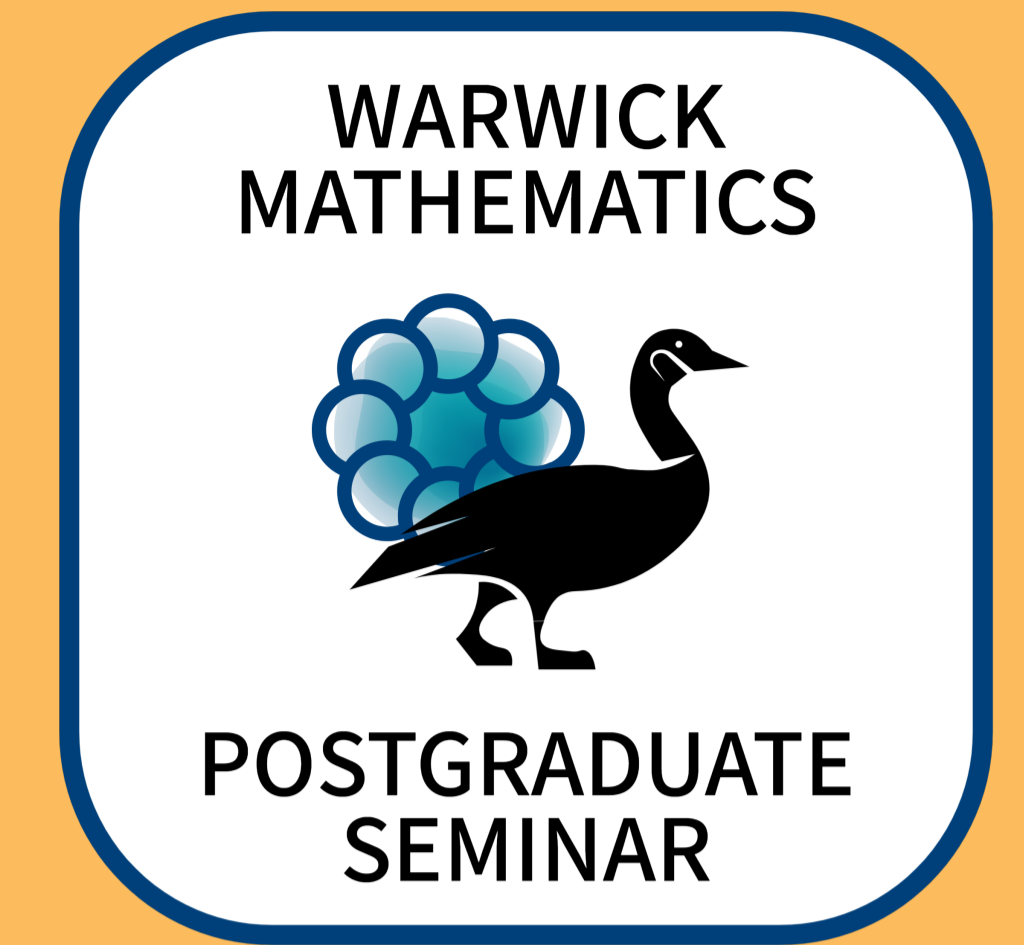


# An introduction to inverse problems

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Week 7 - Term 2



## Abstract

Given an observed effect, the inverse problem is to determine the cause. These problems are hard to solve because they are unstable: small errors in the observed effect lead to big errors in the reconstructed cause.

I will give some examples of inverse problems and discuss practical ways to solve them. We'll also see how this links to uncertainty quantification, which is an active research topic both for applied mathematicians and for engineers modelling real-world phenomena in the presence of noise and uncertainty.

### Time

12 pm, 22<sup>nd</sup>  
February 2023

### Location

Room B3.02

### Organisers

Alvaro Gonzalez Hernandez  
Katerina Santicola