



Open source | Finite-Difference Time-Domain
Electromagnetic modelling software

“Modelling GPR (and more) using gprMax”

gprMax is open source software that simulates electromagnetic wave propagation.

It uses Yee's algorithm to solve Maxwell's equations in 3D using the **Finite-Difference Time-Domain** (FDTD) method.

It is designed for simulating **Ground Penetrating Radar** (GPR) but can also be used to model electromagnetic wave propagation for many other applications.

This **half-day workshop** is intended to be interactive and hands-on, and will cover more advanced usage gprMax. It is aimed at those who have used gprMax before and have some familiarity with EM modelling software, and/or GPR modelling. The workshop will include the following sessions:

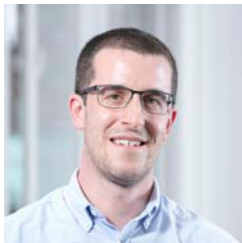
- Overview of gprMax, advanced features/capabilities, GPGPU computing
- Modelling antennas - obtaining s11 and input impedance data
- Modelling GPR antennas - model development and examples
- Simulating materials with dispersive properties
- Using heterogeneous soil model and rough surface modelling

For maximum benefit from the workshop it is recommended that you bring your own laptop computer. This will enable you to follow along with the examples on your own machine.

Time: To be confirmed

Date: To be confirmed

Venue: To be confirmed



The workshop will be given by **Dr Craig Warren** – Vice Chancellor's Senior Fellow in Future Engineering at Northumbria University, UK. Craig carries out fundamental and applied research on sensing technologies to develop enhanced and predictive monitoring solutions for infrastructure and geophysical applications. He has a specific interest in computational modelling and optimisation of electromagnetic (EM) sensing systems. He is currently the lead developer of gprMax.

<http://www.gprmax.com>
https://twitter.com/gprMax_fdttd