



**The Institution of Civil Engineering Surveyors (ICES) (Northern Ireland Branch)**

and the

**Geophysical Association of Ireland (GAI)**

invite you to an evening lecture

**The Resolution and Detection Ability of Ground Penetrating Radar (GPR)**

Dr. Andreas Kathage

GSSI International Sales Manager and Consultant with GeoHiRes International Ltd.

**Date:** 11<sup>th</sup> March 2009

**Time:** 6 p.m. for 6.30 start (tea, coffee & sandwiches available from 6pm)

**Venue:** Colby House, Stranmillis Court, Malone Lower, Belfast, BT9 5BJ (see map on following page)

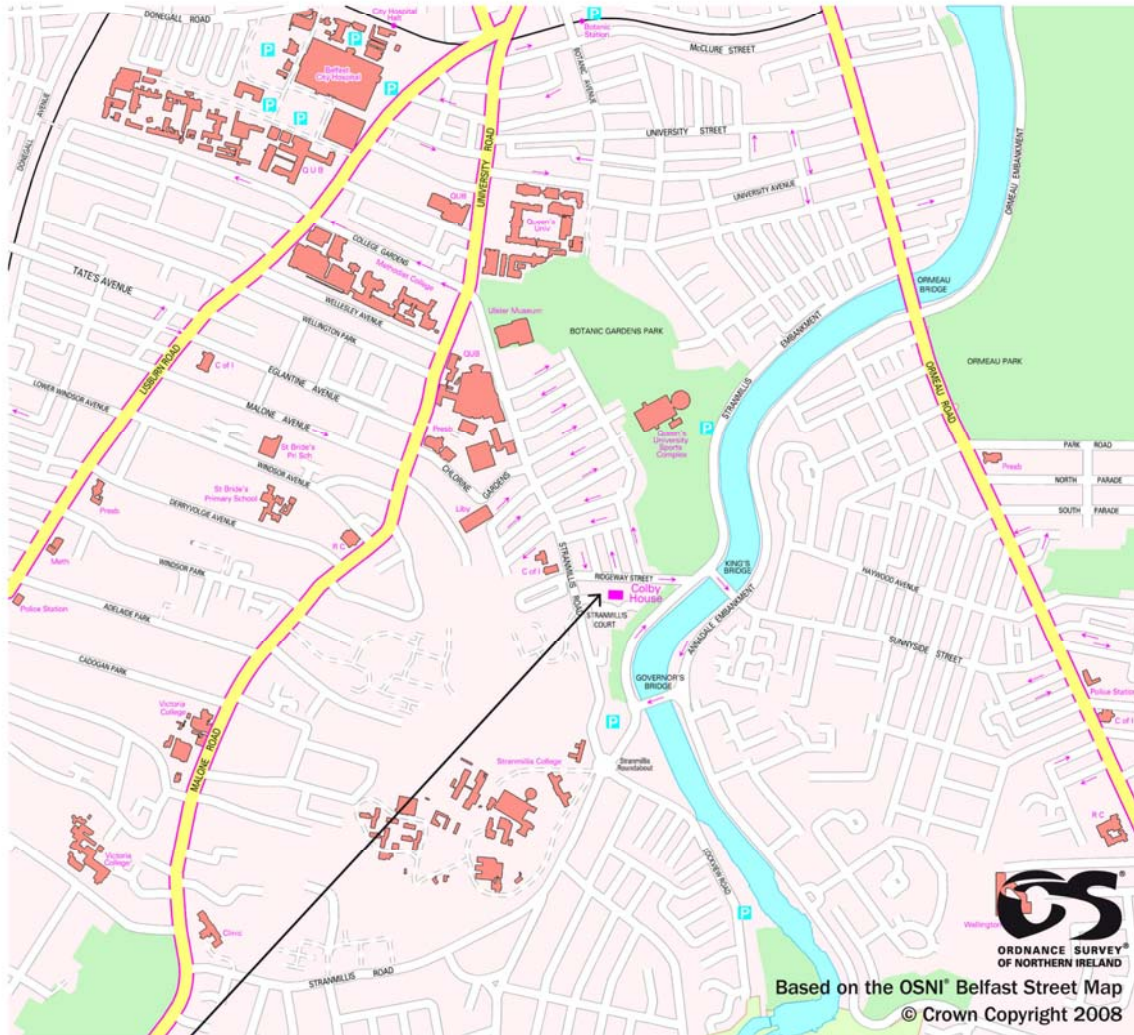
**Intended audience:** Professionals involved in surveying for underground services, civil engineers, topographical surveyors, geophysicists, researchers. No prior knowledge of GPR required. All welcome. Admission is free, however please email [Suzanne.mclaughlin@osni.gov.uk](mailto:Suzanne.mclaughlin@osni.gov.uk) or phone 02890 388424 to register your place.

**Topics:** Ground Penetrating Radar (GPR) is used increasingly as an investigation tool in locating underground services and utilities. The lecture will address the most important issues relating to GPR detection capabilities and resolution limits. Special emphasis will be placed on the detection of underground utilities (pipes, cables, ducts) and metal rebar. The choice of different antenna frequencies in relation to the size, depth, diameter, material and pipe content will be considered. The effects of background materials with different electrical properties will also be discussed.

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