THE SURVEY SCHOOL

Module – Photogrammetry
Three Day Course

Course Summary

There has been significant interest in the decision of the TSA to consider a quarterly course on **photogrammetry**. The demand has arisen because of the recent introduction of more user friendly and semi-automated methods developed via a combination of computer vision algorithms and conventional photogrammetry. The application of the new techniques has grown enormously due to:

- the low investment costs,
- general familiarity with photography,
- the increasing interest in the provision of 3D metric data for archaeological, architectural and engineering purposes and
- the use of unmanned aerial vehicles (UAVs) for survey and reconnaissance work.

The new technique uses image matching methods and off-the-shelf cameras for the production of geo-referenced point clouds that can be favourably compared to those produced by laser scanners. The use of UAVs for aerial survey of smaller sites is a fraction of the cost of conventional aircraft and the newer algorithms are perfect for the analysis of the many smaller and more randomly distributed images taken on a UAV project.

The course will be a teaching module with some practical exercises where resources allow. It will cover:

- photographic methods and other field considerations
- conventional photogrammetry theory and applications
- plane and ortho rectification of imagery
- user orientated techniques now available in lower cost software (eg EOS Photomodeler, Topcon Imagemaster and Agisoft Photoscan) and their application
- the advantages and disadvantages compared to laser scanning
- specifying and commissioning projects
- case studies

The course will extend over three days to include six sessions of a maximum of 2.5 hours each.