



## LSGI Distinguished Lecture Series

# Close-Range Photogrammetry: Three Decades of Evolution to Full Process Automation

*Prof. Clive Fraser*

*Program Science Director in the Cooperative Research Centre*

*Professorial Fellow in the Department of Infrastructure Engineering*

*University of Melbourne, Australia*



**Date : 17 March 2016 (Thursday)**

**Time : 3:30 pm**

**Venue : ZN603A**

### Abstract

This seminar will present an overview of notable developments in close-range photogrammetry (CRP) over the past three decades, during which time both automated processes were introduced and the full transition from film-based to digital imaging cameras occurred. With these developments and more recent innovations centred upon so-called structure-from-motion approaches to network orientation, along with dense image matching, CRP has over recent years attracted a broader user community who are applying the technology across a host of new application areas. The focus of the presentation will be upon the evolution from manual to automatic image orientation, and from manual feature point measurement through to automatic generation of dense 3D point clouds. Three main orientation and 3D point determination data processing options are discussed, along with the need to consider processing pipelines that integrate these three principal workflows, which are illustrated via practical examples from industrial and engineering measurement through to forensics, heritage recording and the use of UAV (drone) camera platforms. The talk highlights that while targetless multi-image orientation and dense matching have provided significant impetus to CRP, such fully automatic photogrammetric measurement does not necessarily provide a panacea for all measurement ills.

### Biography

Professor Clive Fraser received Bachelors and Masters degrees in Australia before earning his PhD in photogrammetry at the University of Washington in 1979. He is currently a Program Science Director in the Cooperative Research Centre for Spatial Information, and a Professorial Fellow in the Department of Infrastructure Engineering at the University of Melbourne, where prior to retirement in 2010 he had served as a professor. He was Head of the Department of Geomatics, from 1993 to mid-1998 and prior to that was for 10 years Vice President of Geodetic Services, Inc. in Florida, a world-leading company in industrial photogrammetry systems and services. Prof. Fraser's particular areas of research interest lie in digital close-range photogrammetry, including 3D forensic analysis and accident reconstruction, industrial measurement systems, and the metric exploitation of high-resolution satellite imagery. He is a Fellow of both the Australian Academy of Technological Sciences and Engineering, and the American Society of Photogrammetry and Remote Sensing, and he is an Honorary Member of The Remote Sensing and Photogrammetric Society (UK).

### All interested are welcome

All registered attendees will receive a Certificate of Attendance after the lecture.

Registration link: <https://myacs.polyu.edu.hk/utills/mysurvey/index.php/167773/lang-en>

Contact: Miss Kathy Law, Email: [kathywj.luo@polyu.edu.hk](mailto:kathywj.luo@polyu.edu.hk)

