

Call for Papers: Computers in Industry, Elsevier Science Journal

Special Issue on: 3D Imaging in Industry

Guest Editors

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Scope

Over recent years '3D' has come to represent the cutting edge experience in cinema, TV and gaming. This period has also seen rapid developments in 3D techniques for imaging, visualisation and virtual environments in industrial applications. New uses have emerged and continue to evolve in areas such as inspection/quality and process control, reverse engineering and robotics, to name but a few. An early adopter has been the construction sector, where it was quickly realised that 3D imaging could be used to aid commerce and improve the quality of products and services. Developments in new computer aided design and manufacturing techniques, including 3D visualisations, virtual environments, rapid prototyping and more recently, rapid or additive manufacture aimed at mass customisation, mean that there is now increased interest in 3D data capture across a wide range of industrial sectors. In manufacturing it is increasingly realised that 3D imaging can be used to reduce lead-times, and so time to market, reduce production errors and rework and so increase productivity, product quality and ultimately customer satisfaction.

A major objective of this special issue of the Computers in Industry journal is to provide a forum for the presentation of new ideas and techniques within the context of 3D data acquisition and its effective use in solving real problems in a holistic sense. The successful application of any innovative technology often requires consideration of issues relating to the integration within and interfacing to existing equipment, processes and the wider business enterprise. Hence, the successful practitioner may need to be able to call upon relevant aspects of, for example, industrial and systems engineering as well as computer science and information technology. Papers may show how 3D imaging techniques, and the data thereby derived, are integrated into the larger information technology and communication systems of the enterprise.

Authors are encouraged to submit original papers dealing with theoretical and applied aspects of 3D imaging technology. A wide range of topics is sought, especially in new areas, including issues relating to ICT, systems integration and the wider use of 3D information. Subjects of particular interest include 3D metrology; techniques combining 3D and 2D (colour) data; 4D (moving 3D); computer aided tomography (CAT) in industry; reverse engineering; links between 3D imaging and additive manufacturing; 3D industrial inspection, quality and process control; 3D robot vision; virtual and remote (e.g. via the Internet) imaging and visualisation; use of 3D imaging in industries beyond manufacturing, including real-time interactive viewing in medical, tele-medical and in the gaming industry; innovative use of new and evolving technology, such as photometric stereo, time of flight (ToF) and laser radar (LADAR) in new areas; reviews of existing 3D imaging systems, their applications and performance.

Article of the Future

This special issue will be published in a new article format, known as the *Article of the Future*, intended to offer improved readability and significantly enriched content. Authors are requested to provide, together with their text, media rich supporting content in the form of:

- Videos (instructions at <http://www.elsevier.com/wps/find/authors.authors/authorartworkinstructions>)
- Data sets as supplementary data
- MATLAB .FIG files as supplementary data
- 3D files, such as VRML, as supplementary data

Further details on the Article of the Future project can be found here:
<http://www.articleofthefuture.com/>

Important deadlines

Extended abstract due:	28 February 2012
Invitation to submit full paper:	31 March 2012
Full papers due:	01 September 2012
First review results:	22 December 2012
Resubmitted papers:	15 February 2013
Second review results:	15 April 2013
Acceptance decision:	05 May 2013
Final paper due:	01 June 2013
Publication date:	August 2013

Submissions

Authors are required to send their extended abstract as an attached MS Word file (other acceptable formats are PDF for the initial submission and FrameMaker or LaTeX for the final submission) by e-mail to the Guest Editors at the following address:

melvyn.smith@uwe.ac.uk or lyndon.smith@uwe.ac.uk

A guide for authors from the publisher can be accessed at:
http://www.elsevier.com/wps/find/journaldescription.cws_home/505646/authorinstructions

The file length should be less than 1 MB, otherwise a compressed file (*.zip) is required.

Please include keywords highlighting the main topic(s) of your paper.