



Structural Performance of Rapid-Prototyped Materials and Components

Tuesday 9 March 2010, Wolverhampton University, Telford Campus

Rapid Prototyping is widely used and has proved its worth as a visualisation tool. Now rapid prototyping, or Additive Layer Manufacture (ALM), is being used increasingly for polymeric and metallic components, opening up novel techniques & possibilities for component manufacture. However this also exposes businesses to unmanaged risk as the structural performance of these materials is less well understood. This will mean a new set of design rules and engineers will need to understand the properties of materials produced by rapid prototype methods. Laboratories will need to know what additional testing requirements this may create and what properties need to be quantified. This seminar will discuss current applications, fatigue properties and long term durability of rapid prototyped materials and ALM components.

Programme *:

09:00—09:30

Registration & Coffee

Welcome & Introduction:

Professor Richard Hall, School of Engineering & the Built Environment, Wolverhampton University

The industrial revolution & modern manufacturing methods.

Keynote Presentation:

Dr Neil Hopkinson, Loughborough University

Additive manufacturing and its potential for high volume production.

Prof. Kevin Kibble & Dr. Mark Stanford, Wolverhampton University

High temperature mechanical test evaluation of laser melted (or sintered?)Ti-6AL-4V

11.00

Coffee

Roger Fairclough, TWI Technology Centre, Yorkshire

Assessment of material properties produced using Additive Layer Manufacture

Dr Iain Todd, University of Sheffield

The static & dynamic mechanical properties of metallic materials manufactured by Additive Layer Manufacturing

Q & A

12.30 - 13:30

Lunch

13:30

Tour of university Labs & Manufacturing Facilities.

Graham Tromans, Loughborough University

Where are we going with Additive Manufacturing?

Mark deCooper-Jones & Dr Adrian Pickles, TRW Conekt.

A preliminary investigation into the static and fatigue performance of Direct Metal Laser Sintered rapid manufactured parts with a view to design optimisation in prototype applications.

15:30

Coffee

Jonathan Meyer, EADS Innovation Works UK, Filton

A revolution in Hybrid Component manufacture

Stuart Jackson, EOS Electro Optical Systems Ltd

Performance of titanium, Inconel 718, Laser sintered PEEK & ductile PA11

Discussion

17:00

Close

Co-sponsored by:

Abstracts available on www.e-i-s.org.uk

* programme subject to change



Registration Form :

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Delegate	£95+VAT	£135+VAT
Students	£30+VAT	£30+VAT
Leaflet Insert in delegate pack	£35+VAT	£50+VAT
Sponsorship of Event	£200+VAT	£250+VAT
Personal membership of EIS	£25 (UK)	£30(Overseas)

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RESERVATIONS TO:

Engineering Integrity Society, 18 Oak Close, Bedworth, Warwickshire, CV12 9AJ

Tel: (0)2476 730 126 , Email: rapid@e-i-s.org.uk

A map to the venue can be found at http://www.wlv.ac.uk/PDF/uow_telford_campus.pdf (SATNAV TF2 9NN)

The Engineering Integrity Society

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The Engineering Integrity Society would like to express their thanks to Professor Richard Hall of Wolverhampton University for co-organising this event.

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