

SECOND INTERNATIONAL WORKSHOP ON VALIDATION OF COMPUTATIONAL MECHANICS MODELS

5TH NOVEMBER, 2013 AT THE BRITISH MUSEUM, LONDON

PROGRAMME

- 10.00 Registration and Coffee
- 10.20 Introductory Remarks: Eann Patterson, Workshop Chair
- TOPIC ONE: *Solid mechanics model validation*** Chair: Eann Patterson (University of Liverpool)
- 10.30 Keynote Lecture 1: **Quantifying model quality using measured strain fields**
ERWIN HACK (EMPA, Switzerland)
- 11.10 **Application of 3D DIC for calibration of FEM model of graded metal plate arches**
Malowany K, (Warsaw University of Technology), Piekarczyk A, (BRI, Warsaw), Więch P, (BRI, Warsaw), Kujawińska M & Malesa M, (Warsaw University of Technology)
- 11.30 **Uncertainty quantification and robust design optimisation**
Sönke Klostermann (EADS Innovation Works)
- 11.50 Plenary Discussion 1: **Solid mechanics model validation**
Panel: Erwin Hack (EMPA), George Lampeas (University of Patras) & Sönke Klostermann (EADS Innovation Works)
- 12.20 **LUNCH** [not provided but plenty of choice locally]
- TOPIC TWO: *Acceptable evidence for engineering decisions*** Chair: Erwin Hack (EMPA)
- 13.45 Keynote Lecture 2: **What constitutes evidence and its role in calibration & confirmation**
CHARLOTTE WERNDL (LSE, UK)
- 14.25 **A principal component analysis decomposition based validation metric for use with full-field measurement situations**
Allemang RJ (University of Cincinnati), Eason TG (USAF), Spottswood SM (USAF)
- 14.45 **Accommodating the Effect of Sparse Data Input in Engineering Modelling Applications**
Graham S, Taylor R (National Nuclear Laboratory)
- 15.05 Plenary Discussion 2: Acceptable evidence for engineering decisions
Panel: Charlotte Werndl (LSE), Randy Allemang (University of Cincinnati) & Alex Ihle (High Performance Space Structures GmbH)
- 15.35 **TEA BREAK**
- TOPIC THREE: *Fluids mechanics model validation*** Chair: George Lampeas (University of Patras)
- 15.50 Keynote Lecture 3: **Validation Challenges in Industrial Computational Fluid Dynamics**
ALTHEA DE SOUZA (Tridiagonal Solutions Ltd, UK)
- 16.30 **Quantifying turbulence-model inadequacy with Bayesian-Model Averaging**
Dwight R (TU Delft), Edeling W (TU Delft), Cinnella P (ENSAM, ParisTech)
- 16.50 **Validation of a rheological model for non-Newtonian fluid flow**
Widmer-Soyka RP (ETH Zurich), Lopez A, Persson C (Uppsala University), Cristofolini L (Rizzoli Orthopaedic Institute, Bologna), Ferguson SJ (ETH Zurich)
- 17.10 Plenary Discussion 3: Fluids mechanics model validation
Panel: Althea de Souza (Tridiagonal Solutions Ltd, UK), Richard Dwight (TU Delft) & Steve Graham (NNL)
- 17.40 End of Workshop
- 18.00 Museum closes