September 2010 Workshop

Days 1 and 2 held in the Foresight Centre
University of Liverpool
1 Brownlow Street, Liverpool L69 3GL
Tel: 0151 794 8060

DAY 1 MONDAY 13 September 2010

09:00 ***Registration with Tea and Coffee***

09:15 ***Welcome -*** *Ken Badcock (University of Liverpool)*

Session 1: ECERTA (Chair J.Mottershead)

09:30 ***Outcomes of ECERTA project -*** *Ken Badcock (University of Liverpool)*

10:00 ***Exploiting an Aerodynamic Hierarchy for Searching Large Parameter Spaces for Aeroelastic Instabilities -*** *Sebastian Timme (University of Liverpool)*

10:00 ***Structural Model Updating and Uncertainty Propagation to Aeroelastic Systems*** *- Hamed Khodaparast (University of Liverpool)*

11:00 ***Tea and Coffee break***

1130 ***Eigenvalue Stability Formulation for Uncertainty Propagation to Nonlinear Aeroelastic Systems -*** *Simao Marques (University of Liverpool)*

12:00 ***Identification of Structural Damping from Tests –*** *Marco Prandina* ***(****University of Liverpool)*

12:30 ***Lunch***

Session 2: Aeroelasticity (Chair J.Cooper)

13:30 ***Development of Reduced-Order Models Using System Identification****, Walt Silva (NASA LaRC)*

14:00 ***The Increased-Order Modeling Approach to Nonlinear Aeroelasticity****, Moti Karpel (Technion)*

14:30 ***Aeroelastic Analysis of Full Configurations Including the Generic Fighter and MAVs,*** *Phil Beran (AFRL)*

15:00 ***Experience with rapid unsteady DLR-CFD-Methods****, Reik.Thormann (DLR)*

15:30 ***Tea and coffee break***

16:00 ***Preliminary Results of the Generic Fighter Using Kestrel, a CREATE Program Virtual Aircraft Simulation Tool****, Scott Morton (USAF)*

16:30 ***Low-order aeroelastic modelling of highly deformable wings*** *, Rafael Palacios (IC)*

17:00 **Bayesian assimilation of experimental data into simulation***, Richard Dwight (TU Delft)*

1730 ***close***

DAY 2 TUESDAY 14 September 2010

Session 3: Uncertainty in Structural Dynamics and Aeroelasticity

(Chair J.Mottershead)

09:00 ***Bayesian* Sensitivity Analysis of a Simple Flutter Model,** *Keith Worden (Sheffield)*

09:30 ***A Reduced Orthogonal Projection Approach for Stochastic Finite Element Analysis,*** *Sondipon Adhikari (Swansea)*

10:00 ***Concepts of Imprecise Probabilities with Engineering Applications,*** *Michael Beer (NUS)*

10:30 ***Tea and Coffee break***

11:00 ***Interval flutter analysis using the short transformation method,*** *Jan Schwochow(DLR)*

11:20 ***How to Validate Stochastic Finite Element Models from Uncertain Experimental Modal Data,*** *Yves Govers (DLR)*

11:40 ***Use of Polynomial Chaos Expansions for Uncertain Aeroelastic Systems,*** *Jonathan Cooper (University of Liverpool)*

12:00 ***The quantum mechanics approach to uncertainty modeling in structural dynamics*** *Andreas Kyprianou (University of Cyprus)*

12:20 ***Structural dynamics with coincident eigenvalues: test bench and ideas for aerodynamic structures***, *Elvio Bonisoli (Politecnico di Torino)*

12:45 ***Lunch***

Session 4: Industry session (Chair P.Beran)

14:00 **Aeroelasticity in Aircraft Development - Challenges and Objectives,** *Silvio Schulze (Airbus)*

14:30 **Flutter Analysis with Advanced CFD tools in an Industrial Environment,** *Laurent Daumas (Dassault)*

14:50 **Estimation of non-linear damping characteristics of a wing**, *Caroline Havill and Greg Kemble (Stirling Dynamics)*

15:10 ***Vibration related examples of uncertainty issues in the design and validation of gas turbine components and systems,*** *Hilmi Kurt-Elli (Rolls-Royce)*

1530 ***Tea and Coffee***

Session 5: Test Cases (Chair K.Badcock)

1600 ***Overview of Test Cases – Ken Badcock***

17:30 ***Close***

DAY 3 Wednesday 15 September 2010

(morning) hands on session on test cases with interested participants, held in the School of Engineering

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The Quadrangle,
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