INTERNATIONAL FORUM ON AEROELASTICITY & STRUCTURAL DYNAMICS 2013

24 - 26 JUNE 2013 / BRISTOL, UK

BOOK YOUR PLACE AT WWW.AEROSOCIETY.COM/EVENTS

Sponsored by:

AIRBUS
AN EADS COMPANY
**SESSION 1: AEREOELASTIC PREDICTION WORKSHOP**

1. Lessons Learned from the Aerolelastic Prediction Workshop
   - **Dr Sudha U.P.V., Scientist, ISAS JAXA**
   
2. Aircraft Aerelastic Stability and Response during Wake Penetration
   - **Dr Hitoshi Arizono, Associate Professor, TsAGI**

**SESSION 2: AEREOELASTIC ANALYSIS**

1. Aircraft Aerelastic Stability and Response during Wake Penetration
   - **Dr Sudha U.P.V., Scientist, ISAS JAXA**

2. Identification of Aerelastic Parameters of Helicopter Tail Rotor Structures
   - **Dr David Zimick, Group Leader Aeraoustics and Structural Dynamics, National Research Council Canada**

**SESSION 3: FLAPPING WINGS**

1. Flapping Wing Aerelasticity Using a Corotational FEM and a 3D Panel Method
   - **Prof Siddhartha Mitra, PhD Student, University Roma Tre**

2. Kinematic and Unsteady Aerodynamic Modelling, Numerical Simulation and Parametric Study of Flapping Wing Oscillation
   - **Prof Dr Harjono Djojodihardjo, Professor of Aerospace Engineering, University Putra Malaysia**

**SESSION 4: OPTIMISATION 1**

1. Confident Aircraft Design and Development using Robust Aerelastic Analysis
   - **Dr Sudha U.P.V., Scientist, ISAS JAXA**

2. Dynamic Loads on the Aircraft due to Engine Imbalance at Blade Off
   - **Prof Oleg Kuznetsov, Principal Scientist, TsAGI & Regina Leontieva, Engineer, TsAGI**

**SESSION 5: ROTATING SYSTEMS / TURBOMACHINERY**

1. Dynamic Loads on the Aircraft due to Engine Imbalance at Blade Off
   - **Prof Oleg Kuznetsov, Principal Scientist, TsAGI & Regina Leontieva, Engineer, TsAGI**

2. Dynamic Loads on the Aircraft due to Engine Imbalance at Blade Off
   - **Prof Oleg Kuznetsov, Principal Scientist, TsAGI & Regina Leontieva, Engineer, TsAGI**

3. Combined Optimisation and Design of Experiment Procedures in Order to Estimate MLGD Interface Loads Under Unsteady Aerodynamic Vibration
   - **Edoardo Menga, Aeronautics Eng.**

4. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

5. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

6. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

7. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

8. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

   - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

11. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

12. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

13. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

15. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

17. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

18. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

19. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

20. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

22. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

23. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

24. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

25. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

27. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

28. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

29. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

30. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

31. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

32. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

33. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

34. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

35. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

36. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

37. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

38. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

39. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**

40. Probabilistic Investigations of Mode Localisation and Power Flow in a Mistuned, Generic Rotor
    - **Dr Gautham SenGupta, Technical Fellow, The Boeing Company**
PROGRAMME / DAY 1 - MONDAY 24 JUNE (cont)

Main Lecture Theatre

12:30  Networking Lunch

13:30  SESSION 6: AEREOLOGICAL PREDICTION WORKSHOP 2
  6A) Reduced Order Modelling of Nonlinear, Transient Aerodynamics of the HIERNASD Wing
  Dipl.-Ing. Kiemen Liemorch, Research Assistant, TU Braunschweig

14:00  6B) Investigation of Experimental Uncertainty & Computational Variation for the HIERNASD data sets of the Aerological Prediction Workshop
  Prof. Melike Nkbo, Associate Professor, Istanbul Technical University

14:30  6C) Computation of the Unsteady Aerodynamics of the Rectangular Supercritical Wing for the HIERNASD Prediction Workshop
  Dr. David Schuster, NASA Technical Fellow for Aerodynamics, NASA Engineering and Safety Center

15:00  6D) The Validation of Aerological Simulations using STAR-CCM+ Coupled to Abaqus
  Alan Mueller, CD-Adapco

15:30  Refreshments and Poster Sessions

16:30  SESSION 11: AEREOLOGICAL PREDICTION WORKSHOP 3
  11A) Comparison of Aerological Solutions on the HIERNASD Model
  Anne-Sophie Sens, Research Scientist, ONERA

17:00  11B) Numerical Prediction and Post-Test Numerical Analysis of the HIERNASD Wind Tunnel Tests in ETW
  Prof. Dr.-Ing. Josef Ballmann, RET Professor & ITAM Consultant, ITAM GmbH

17:30  11C) Structural Responses of the ASMDAD Wing Model Taking into Consideration Actual Wind Tunnel Flow Conditions
  Dr.-Ing. Athanasios Dafnis, Aachen University, Chair and Institute of Aerospace and Lightweight Structures

18:30  CLOS E OF DAY ONE - WELCOME DRINKS & RECEPTION - SS GREAT BRITAIN
07:45 Registration
08:15 Keynote 2: Dewey Hodges, Professor of Aerospace Engineering, Georgia Institute of Technology
09:00 Networking & Coffee Break

SESSION 16: HIGHLY FLEXIBLE AIRCRAFT
09:30 16A) Critical Flight Loads on the Geometrically Nonlinear Dynamics of Very Flexible Aircraft
Dr Josefa Murua, Lecturer in Aerospace Engineering, University of Surrey

16B) Reduced-Order Aerelastic Models for the Dynamics of Maneuvering Flexible Aircraft
Henrik Hesse, PhD Research Student, Imperial College London

16C) In-Flight Aerelastic System Identification of High-Aspect-Ratio Motor Glider
Alexander Köthe, Research Co-worker, Berlin Institute of Technology

16D) Condensation of Large Finite-element Models for Wing Load Analysis with Geometrically-nonlinear Effects
Dr Rafael Palacios, Senior Lecturer, Imperial College London

16E) Preliminary Flight Test Correlations of the X-HALE Aerelastic Experiment
Prof Carlos Cesnik, Professor of Aerospace Engineering, University of Michigan

10:00 16F) Networking & Coffee Break

SESSION 17: COMPUTATIONAL AEROELASTICITY 1
17A) Forced Motion Simulations Using a Linear Frequency Domain Solver For a Generic Transport Aircraft
Reik Thomann, Scientist, DLR, Institute of Aeroelasticity

17B) Forced Response Calculation using TWIN Approach
Dr Majid Mesbah, Researcher, Cenaeo

17C) A Reduced-Order Model for Aeroelastic Studies on Circulation Controlled Wings
Dipl.-Ing Ian Krukow, Research Assistant, TU Braunschweig

17D) Roll Damping Derivative from Wind Tunnel Forced-Oscillation Tests and Generalised Lifting - Surface Aerodynamic Theory
Anthony Pototzy, Aeroelasticity Branch, NASA Langley Research Center

Taehyoun Kim, Associate Professor, National University of Singapore

10:30 17F) Networking & Coffee Break

SESSION 18: LOADS 3
18A) New Method for Horizontal Tail Plane Buffeting Loads Prediction
Raul Calderon, Engineer/PhD Student in Aerodynamics, Airbus Operations S.A.S

18B) A New Methodology for the Estimation of Structural Load Level due to Complex Unsteady Aerodynamic Excitation
Hadrien Mamelle, Structural Dynamics Engineer, Dassault Aviation

18C) Use of Linearized CFD for Unsteady Aerodynamics for Gust Loads
Guillermo Jenero, H0 Dynamic Loads, Airbus Operations GmbH & Jörg Hasselbring, Dynamic Loads Engineer, Airbus Operations GmbH

18D) Continuous Turbulence Design Loads Calculation in Presence of Non-linear Controls
Prof Sergio Ricci, Associate Professor, University of Milan

11:00 18F) Networking & Coffee Break

SESSION 19: NONLINEARITY 1
19A) Analysis for a Three-dimensional Structurally Nonlinear Wing with a Control Surface
Prof Sang-Joon Shin, Associate Professor, Seoul National University

19B) Nonlinear Analysis of the Influence of Aircraft Dynamics on Nose Landing Gear Shimmy
Nandor Terkovics, PhD Student, University of Bristol

11:30 19F) Networking & Coffee Break

SESSION 20: OPTIMISATION 2
20A) Design and Aerelastic Assessment of a Forward Swept Wing Aircraft
Dr Wolf Krueger, Head of Division Loads Analysis and Design, German Aerospace Center (DLR), Institute of Aeroelasticity

20B) On the Use of Tow-Steered Composites for Aerelastic Tailoring
Olivia Stodieck, PhD Researcher in Aerospace Engineering, University of Bristol

20C) The Needs to Incorporate Aerelastic Aspects into the Conceptual Design Process
Dipl.-Ing Johannes Schweiger, Conceptual Design Analysis, Cassidian

20D) Multidisciplinary Optimisation of Flexible Aircraft in Flight with Superimposed Static and Dynamic Aeroelastic Loads
Ondrej Pettersson, Specialist, Cassidian Air Systems

12:00 20F) Networking & Coffee Break

SESSION 21: COMPUTATIONAL AEROELASTICITY 2
21A) Role of Mach Number Freeze in Transonic Flutter
Prof Oddvar Bendiksen, Professor, University of California

21B) Influence of Transitional Flows at Transonic Mach Numbers on the Flutter Speed of a Laminar Airfoil
Michael Fehrs, Research Assistant, DLR – Institute of Aeroelasticity

21C) Time Integration Schemes’ Influence on Partitioned Method for the Fluid-Structure Coupling Procedure
Guillaume Bénéfice, PhD Student, Ecole Centrale Lyon

21D) Extension of the Non-Linear Harmonic Method to Flow Computation Around Moving and Deforming Structures
Francois Debrabandere, Development Engineer, Numeca International

13:30 21F) Networking Lunch

SESSION 22: FLUTTER
22A) A Consistent Strip Theory for T-tail Flutter Computations
Prof Pablo Garcia-Fogeda, Professor of Aeroelasticity, EIAE-UPM

22B) T-tail Flutter: Potential-flow Modelling and Experimental Validation
Dr Josefa Murua, Lecturer in Aerospace Engineering, University of Surrey

22C) Experimental and Computational Investigation of a Full Aircraft Flutter at Transonic Speeds
Prof Qian Wei, Senior Engineer, Shenyang Aircraft Design & Research Institute

14:00 22F) Networking & Coffee Break

SESSION 23: NONLINEARITY 2
23A) Instability of Aerelastic Systems with Softening Nonlinearity
Xiaojun Wei, PhD Student, University of Liverpool

23B) Limit-Cycle Oscillations of Supercritical Airfoils
Anna Van Rooij, PhD Candidate, German Aerospace Center (DLR)

23C) Identification of Structural Non-linear Stiffness and Damping Parameters using the Restoring Force Surface Method
Dr Marc Boeswald, Head of Department of Structural Dynamics, German Aerospace Center (DLR)

14:30 23F) Networking Lunch
CONFERENCE DINNER - @BRISTOL SCIENCE CENTRE

REGISTRATION FORM:
Registration and secure payment can be made on-line at www.aerosociety.com/events. Alternatively, complete one registration form per person (photocopies may be used) and return with payment to:
Conference & Events Department, Royal Aeronautical Society, No.4 Hamilton Place, London, W1J 7BQ, UK

CREDIT CARDS:
The RAeS can accept payment on the following payment cards
Visa  Mastercard  Amex  Maestro

METHODS OF PAYMENT:
All payments should be made in Sterling (UK£).
Online: Registration and secure payment can be made online at www.aerosociety.com/events
Cheque: Should be made payable to the RAeS and enclosed with this registration form. Please add £1.50 if your cheque is not drawn on a UK bank to cover bank charges/currency exchange rates.
Bank Transfer: Payments can be made by bank transfer into Account No. 01564641, Sort Code 40 05 22, HSBC Bank plc, Mayfair Branch, 18a Curzon Street, London W1J 7LA, UK. Please indicate on the registration form if you have paid your fees direct.

REGISTRATION FEES: (include refreshments, lunch and access to conference proceedings)

<table>
<thead>
<tr>
<th></th>
<th>Fee £</th>
<th>VAT 20% £</th>
<th>Total £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Member</td>
<td>600.00</td>
<td>120.00</td>
<td>720.00</td>
</tr>
<tr>
<td>RAeS Corporate Partner (inc. Armed Forces)*</td>
<td>550.00</td>
<td>110.00</td>
<td>660.00</td>
</tr>
<tr>
<td>CEAS / AIAA Member Rate</td>
<td>550.00</td>
<td>110.00</td>
<td>660.00</td>
</tr>
<tr>
<td>RAeS Member</td>
<td>500.00</td>
<td>100.00</td>
<td>600.00</td>
</tr>
<tr>
<td>Speaker &amp; Chairmen</td>
<td>500.00</td>
<td>100.00</td>
<td>600.00</td>
</tr>
<tr>
<td>Welcome Reception Ticket (Monday 24 June – Included in price of conference)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference Dinner Ticket (Tuesday 25 June – Included in price of conference)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guest Conference Dinner Ticket</td>
<td>50.00</td>
<td>10.00</td>
<td>60.00</td>
</tr>
<tr>
<td>Technical Tour Attendance (Thursday 27 June)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*RAeS Corporate Partners are entitled to the special offer of five places for £2200.00 + VAT
RAeS Student Members may attend the conference free of charge subject to availability

SIGNATURE:
The International Forum on Aeroelasticity and Structural Dynamics (IFASD) is the key international conference for engineers and scientists working in the fields of Aeroelasticity and Structural Dynamics. The forum has been running since 1981 and, following on from the success of IFASD2011 held in Paris, the 2013 Forum will be held in Bristol, UK, the centre of the UK’s aerospace industry.

IFASD2013 will be organised by the Royal Aeronautical Society (RAeS), in collaboration with the Council of European Aerospace Societies (CEAS) and the American Institute of Aeronautics and Astronautics (AIAA). The Forum Chair will be Professor Jonathan Cooper, who holds the Royal Academy of Engineering Airbus Sir George White Chair of Aerospace Engineering at the University of Bristol.

IFASD2013 will consist of about 200 technical presentations and posters providing a comprehensive snapshot of the current status of industrial practice and research activities in the fields of Aeroelasticity and Structural Dynamics, covering all TRLs (Technology Readiness Levels) from blue sky research through to applications on full scale aerospace structures. The technical sessions will include: the Aeroelastic Prediction Workshop, Certification, Computational Aeroelasticity, Control, Experimental Methods, Flapping Wings, Flutter, Gusts, Highly Flexible Aircraft, Loads, Morphing, Nonlinearity, Optimisation, Rotating Systems, Smart Structures, Structural Dynamics, Turbo-Machinery and Uncertainty.

**THE KEYNOTE SPEAKERS ARE:**
- **Tom Wilson** – Head of Technical Capability for Aircraft Loads, Airbus.
- **Dewey Hodges** – Professor of Aerospace Engineering, Georgia Institute of Technology.
- **Dr Wolf Kruger** – Head of Loads Analysis and Aeroelastic Design, DLR Institute of Aeroelasticity.

**TECHNICAL VISITS – 27 JUNE 2013**
Technical visits will be held to Airbus and other local aerospace industries.

**SOCIAL**
Social events will include a reception on Brunel’s SS Great Britain and a dinner to be held at the @Bristol Science Centre.

**WHO SHOULD ATTEND**
IFASD2013 will provide an excellent opportunity for scientists and engineers from industry, government and universities to exchange knowledge and findings from current studies, and to discuss directions for future research.

**VENUE**
Bristol Marriott Royal Hotel, Bristol, BS1 5TA, UK

**CONTACT US**
Conference & Events
Royal Aeronautical Society
No.4 Hamilton Place
London, W1J 7BQ, UK
+44 (0)20 7670 4345

calendar@aerosociety.com
www.aerosociety.com/events
**Main Lecture Theatre**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Parallel 1</th>
<th>Parallel 2</th>
<th>Parallel 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:45</td>
<td>Registration</td>
<td>Networking &amp; Coffee Break</td>
<td>Networking &amp; Coffee Break</td>
<td>Networking &amp; Coffee Break</td>
</tr>
<tr>
<td>08:15</td>
<td><strong>Keynote 3:</strong> Dr Wolf Krueger, Head of Division Loads Analysis and Design, German Aerospace Center – DLR, Institute of Aeroelasticity</td>
<td><strong>SESSION 28: OPTIMISATION 3</strong></td>
<td><strong>SESSION 29: COMPUTATIONAL AEROELASTICITY 4</strong></td>
<td><strong>SESSION 30: LOADS 4</strong></td>
</tr>
<tr>
<td>09:00</td>
<td>Networking &amp; Coffee Break</td>
<td>SESSION 28: An Aeroelastic Multi Fidelity Approach for Aeroelastic Tailoring Dr Roeland De Breuker, Assistant Professor, Delft University of Technology</td>
<td>SESSION 29: Grid Deformation for Computational Aeroelastic Analysis Using RBF Interpolation with Standard Greedy Method Haris Hamed Mian, Postgraduate Student, Northwestern Polytechnical University</td>
<td>30A) Fast Prediction of Worst Case Gusts Loads Hamed Haddad Khodaparast, Lecturer, College of Engineering, Swansea University</td>
</tr>
<tr>
<td>09:30</td>
<td>28A) An Aeroelastic Multi Fidelity Approach for Aeroelastic Tailoring Dr Roeland De Breuker, Assistant Professor, Delft University of Technology</td>
<td>28B) Preliminary Design and Optimisation for Flexible Aircraft in a Distributed Environment Pier Davide Ciampa, German Aerospace Center (DLR)</td>
<td>28C) Parametric Studies for Wing Mounted Fins Ping-Chih Chen, President, ZONA Technology, Inc.</td>
<td>28D) Wake Vortex Encounter Loads Numerical Simulation Sebastián Claverías-Cacero, Structural Dynamics and Aeroelasticity Engineer, Airbus Military</td>
</tr>
<tr>
<td>10:00</td>
<td>28B) Preliminary Design and Optimisation for Flexible Aircraft in a Distributed Environment Pier Davide Ciampa, German Aerospace Center (DLR)</td>
<td>28C) Parametric Studies for Wing Mounted Fins Ping-Chih Chen, President, ZONA Technology, Inc.</td>
<td>28D) Automated Creation of Aeroelastic Optimisation Models from a Parameterised Geometry Reinhold Maierl, PhD Student, CASSIDIAN Air Systems</td>
<td>28E) Nonlinear Reduced Order Models of Unsteady Aerodynamics for Non-classical Alleron Buzz Analysis Francesco Fišer, PhD Candidate, University of Milan</td>
</tr>
<tr>
<td>10:30</td>
<td>28C) Parametric Studies for Wing Mounted Fins Ping-Chih Chen, President, ZONA Technology, Inc.</td>
<td>28D) Automated Creation of Aeroelastic Optimisation Models from a Parameterised Geometry Reinhold Maierl, PhD Student, CASSIDIAN Air Systems</td>
<td>28E) Multi-Disciplinary Wing Optimisation using a Discipline-Specific Trust-Region Method Dr Simão Marques, Lecturer in Aerospace Engineering, Queen’s University Belfast</td>
<td>28F) Investigations of Transonic Aircraft in the Joint DLR / ONERA Project Non-Linear Aeroelastic Simulation, NLAS II Prof Wolf Krueger, Head of Loads Analysis and Aeroelastic Design Department, German Aerospace Center – DLR &amp; Philippe Girodoux-Lavigne, Head of Modelling and Numerical Simulation of Aeroelasticity Research Unit, ONERA – The French Aerospace Lab</td>
</tr>
<tr>
<td>11:00</td>
<td>29A) Grid Deformation for Computational Aeroelastic Analysis Using RBF Interpolation with Standard Greedy Method Haris Hamed Mian, Postgraduate Student, Northwestern Polytechnical University</td>
<td>29B) A Partitioned Method for the Direct Aeroelastic Simulation of Free-Flying Aircraft Georg Wellmer, Loads Engineer, Cassidian</td>
<td>29C) Structural Response Prediction of Surface Panels in Hypersonic Flow Prof Jack McNamara, Associate Professor, The Ohio State University</td>
<td>29D) Efficient, Laplace-Domain Aerodynamics for Load Analyses Natascha Jansson, Doctoral Student, Royal Institute of Technology (KTH)</td>
</tr>
<tr>
<td>11:30</td>
<td>29B) A Partitioned Method for the Direct Aeroelastic Simulation of Free-Flying Aircraft Georg Wellmer, Loads Engineer, Cassidian</td>
<td>29C) Structural Response Prediction of Surface Panels in Hypersonic Flow Prof Jack McNamara, Associate Professor, The Ohio State University</td>
<td>29D) Time Domain Aeroelastic Solution Using Exact Aerodynamic Influence Coefficients and Nonlinear Damping Dr Vin Sharma, Flutter Engineer, Air Force SEEK EAGLE Office</td>
<td>29E) Investigating the Interaction of Shock Movement with Structural Elastic Deformations in Transonic Flow Dr Svetlana Kuzmina, Leading Scientific Researcher, TsAGI &amp; Dr Mikhail Zichenkov, Head of A/C Structure Strength Complex, TsAGI &amp; Dr Fatih Isirimuratov, Head of Static Aeroelasticity Division, TsAGI</td>
</tr>
<tr>
<td>12:00</td>
<td>29C) Structural Response Prediction of Surface Panels in Hypersonic Flow Prof Jack McNamara, Associate Professor, The Ohio State University</td>
<td>29D) Time Domain Aeroelastic Solution Using Exact Aerodynamic Influence Coefficients and Nonlinear Damping Dr Vin Sharma, Flutter Engineer, Air Force SEEK EAGLE Office</td>
<td>29E) Investigating the Interaction of Shock Movement with Structural Elastic Deformations in Transonic Flow Dr Svetlana Kuzmina, Leading Scientific Researcher, TsAGI &amp; Dr Mikhail Zichenkov, Head of A/C Structure Strength Complex, TsAGI &amp; Dr Fatih Isirimuratov, Head of Static Aeroelasticity Division, TsAGI</td>
<td>29F) Numerical Study on the Fluid-Structure Coupling Behaviour of Cascade-Type Thrust Reverser Units for Weight Optimisation Dr Luís Teia Gomes, Installation Aerodynamics Development Engineer, Rolls-Royce Deutschland Ltd &amp; Co KG</td>
</tr>
</tbody>
</table>

---

**Exhibitors attending:**

**Supporters:**

**Proceedings**
Proceedings from this event are free to delegates. If you are unable to attend and would like to purchase a copy, then additional copies can be purchased from the Royal Aeronautical Society or by completing the registration form below. Information on past conferences can be found at www.aerosociety.com/proceedings.

**Sponsorship and exhibition space**
Please contact the Conference & Events Department for details on exhibiting, sponsorship and insertion of information into delegate packs on 020 7670 4345.

**Cancellations**
In the event of cancellation, terms and conditions will apply. Please go to www.aerosociety.com/events for more details.

**Hotel Accommodation**
To book a room at the Marriott Royal, please visit www.ifasd2013.com for more details. Rooms have been reserved on behalf of the delegates, please mention the conference and the RAeS if calling directly to receive the discount.

**FOR MORE INFORMATION AND TO REGISTER**

www.ifasd2013.com
### Technical Tours to Airbus and other local aerospace industries

**Thursday 27 June 2013**

**Main Lecture Theatre**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 32: Experimental Methods 2</th>
<th>Session 33: Computational Aeroelasticity 5</th>
<th>Session 34: Aeroelastic Analysis 2</th>
<th>Session 35: Rotating Systems / Turbomachinery 3</th>
</tr>
</thead>
</table>

**Networking & Tea Break**

<table>
<thead>
<tr>
<th>Time</th>
<th>Networking &amp; Tea Break</th>
<th>Networking &amp; Tea Break</th>
<th>Networking &amp; Tea Break</th>
<th>Networking &amp; Tea Break</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>SESSION 36: GUSTS 2</td>
<td>SESSION 37: Computational Aeroelasticity 6</td>
<td>SESSION 38: Uncertainty 2</td>
<td>SESSION 39: Smart Structures 39A) Aeroelastic Simulations of the SADE FNG Smart Leading Edge – Smart Single Slotted Flap High-Lift Configuration</td>
</tr>
<tr>
<td>17:30</td>
<td>36C) High-Fidelity Simulation of Aeroelastic Wind Gust Effect in Aerodynamic Shapes</td>
<td>37C) Using Proper Orthogonal Decomposition and Dynamic Mode Decomposition Methods for Comparing CFD Results Experimental Measurements</td>
<td>38C) Uncertainties in Measurements and Data Evaluation Concerning Transonic High Reynolds Number Wind Tunnel Tests</td>
<td>39C) Loads, Vibration and Manoeuvre Control Using Active Floating Flaps</td>
</tr>
</tbody>
</table>

**Closing Ceremony and IFASD 2015 Announcement**

**Thursday 27 June 2013**

Technical Tours to Airbus and other local aerospace industries