

CALL FOR PAPERS



**ROYAL
AERONAUTICAL
SOCIETY**

Structures & Materials Group Conference

4TH AIRCRAFT STRUCTURAL DESIGN CONFERENCE

Publications Partner



QUEEN'S UNIVERSITY BELFAST / 7-9 OCTOBER 2014

Royal Aeronautical Society's 4th Aircraft Structural Design Conference undertaken with the support of Queen's University Belfast will address the challenges facing the designers of the next generation aircraft. These challenges arise because the new designs will need to meet strict environmental constraints, be subject to ever increasing pressures to reduce manufacturing and life-cycle costs and for continual improvements in overall performance/efficiency factors. The resulting aircraft will be complex, requiring multi-disciplinary design approaches and solutions in a distributed design environment.

The 4th Aircraft Structural Design Conference is hosted by Queen's University Belfast which is internationally recognised as a leading university devoted to teaching and research in engineering with particular expertise in aeronautical engineering. Please visit www.aerosociety.com for more information on the venue and host city.

The conference seeks contributions covering current research focused on the design and manufacture of future civil and military air-vehicle structures both manned and uninhabited. This includes consideration of innovative forms and design scenarios together with the challenges resulting from considering the complete aircraft life-cycle from initial concept to final disposal. The design and analysis of structures constructed from CFRP and novel materials is a major topic area for the conference.

These challenges need complex and innovative design solutions that often require the use of interdisciplinary and dynamically interactive design methods. In addition, today's design teams are multinational, being distributed across continents, or the globe, and the computational methods must be able to support a distributed work environment. The control of such complexity in the designs and the design process is a major issue that the conference wishes to address.

INSTRUCTIONS TO AUTHORS

The International Organising Committee invites prospective authors to submit abstracts of original work for presentation at the conference.

Abstracts should be written in English and contain between 200-500 words, preferably in electronic format or typed double spaced on A4 or 8 x 12 inch paper. Authors should submit their abstracts in electronic format only by Monday 14 March 2014. Selection will be made on the abstract content and applicability to the final published programme requirement.

Accepted scripts and presentations, fully cleared for publication and presentation, should be submitted by Friday 13 September 2014.

All written papers will be included in the conference proceedings and made available to delegates on a CD Rom or through the Society's web pages. Accepted papers may also be considered for inclusion in the Royal Aeronautical Society's Aeronautical Journal, subject to the refereeing process.

It is important to note that all papers should not have been published previously and should avoid inappropriate sales and or marketing content.

The submission address for prospective papers to be included in the conference is richard.nicholl@aerosociety.com, quote #740.

Technical enquiries should be sent to the Chairman of the Organising Committee via the RAeS Conference & Events Department.
Email: richard.nicholl@aerosociety.com
Phone: +44(0)20 7670 4345

KEY DATES AND DEADLINES

- Abstracts submitted by: 14 March 2014
- Authors notified by: 25 April 2014
- Programme Circulation: May/June 2014
- Presentations / papers submitted: 13 Sept 2014
- Conference: 7-9 October 2014

CONFERENCE AND EVENTS DEPARTMENT

Royal Aeronautical Society
No.4 Hamilton Place
London W1J 7BQ, UK
T: +44 (0)20 7670 4345
E: conference@aerosociety.com

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Papers and other contributions will be sought to cover the following broad topic areas:

• Structural Design

Papers are sought that propose design solutions for a range of emerging problems including: environmental constraints; requirements for preventative and corrective maintenance, improved safety and crashworthiness and the need for reducing the time to market.

• FRP and Advanced/Novel Materials

In the case of Fibre Reinforced Plastics (FRP) and hybrid fibre-metal laminates papers may address how these and similar materials can be employed to improve structural performance, including morphing and tailoring taking into account cost and manufacture/fabrication process. Contributors may wish to consider how these material systems can be maintained in service through non-destructive testing, structural health monitoring etc. and subsequently re-cycled. Papers discussing the potential for novel nano-materials such as graphene and the associated manufacturing evaluation and certification issues would be welcome.

• Computational Methods

Papers under this heading can cover the full range of design and analysis methods involving multi-disciplinary or single discipline environments employing a range of discipline models from simple to complex. The design focus may be directed at flexible aircraft including active/adaptive structures and non-linear behaviour. At a more specific level papers can be submitted which address methods for accurate and efficient mass/load estimation and methods taking account of uncertainties and damage tolerance in an optimising regime.

Potential contributors should note that these three major areas are not to be considered as discrete and papers which combine topics in two or more of the above headings will be welcome.

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