

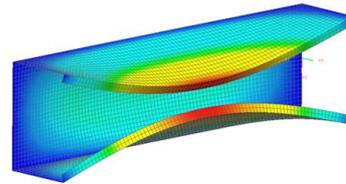
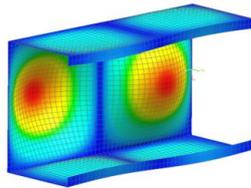


First Announcement and Call for Papers

6th International Conference on Coupled Instabilities in Metal Structures

(With Special Sessions on Polymer Composite Material Structures)

CIMS 2012, 3-5 December, 2012
Strathclyde University, Scotland, UK



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J Loughlan, *Aero & Auto Eng., Loughborough University*

INTRODUCTION

The sixth international conference on **Coupled Instabilities in Metal Structures, CIMS 2012**, will be held at Strathclyde University, Scotland, UK. The conference is being run jointly by the Department of Mechanical and Aerospace Engineering at Strathclyde University and the Department of Aeronautical and Automotive Engineering at Loughborough University.

This conference follows the successful series of CIMS conferences held in Timisoara (1992), Liege (1996), Lisbon (2000), Rome (2004) and Sydney (2008). The coupled buckling and post-buckling interactive failure mechanics of metallic structural systems is an area of research study that has received a great deal of attention over the years and which has made a great many contributions to research advancement in the field of structural mechanics and to the evolution and development of our present day codes of practice pertaining to safe and reliable structural designs. The subject of coupled instabilities is indeed a fascinating and intriguing area of research and its influence on structural response is to be found in many engineering applications.

CONFERENCE OBJECTIVES

The aim of the sixth conference is to bring together the world's experts in the field of structural mechanics and stability in order to review and discuss current developments in research and design and to relate to the progress and achievements made in our knowledge and understanding of coupled buckling behaviour. It is the intention of the conference to attract a broad range of individuals from the global structures community including academics, researchers, designers and manufacturers, in order to promote good cross fertilisation between theory and practice and to facilitate healthy discussion and debate.

CONFERENCE SCOPE

The conference welcomes the submission of quality papers which make a good contribution to our knowledge and understanding and to research advancement with regard to the stability aspects of metal structures. Particular emphasis is to be paid to the advances made in the analysis and design of structural systems which are associated with stability aspects involving more than one mode of buckling. Theoretical, numerical and experimental research related to the buckling of metal, notably steel, stainless steel and aluminium structures or metal-composite structures are central themes of the conference as are reliability based studies related to the design of coupled instability phenomena. Thin-walled structures, in particular, are susceptible to the effects of coupled mode interaction whereby local effects due to the thinness of the walls interact with the global behaviour of the structural system. Coupled local-distortional-global/flexural behaviour can be encountered in thin-walled columns or coupled local-lateral buckling may occur in thin-walled beams. The conference looks forward to the submission of quality papers dealing with the coupled instability phenomena in thin-walled structural systems and which highlight the progress and advances made in analysis and design during the last four years since the last CIMS conference held in Sydney, Australia in 2008.

COMPOSITE MATERIAL STRUCTURAL SYSTEMS

In this, the sixth conference in the CIMS conference series, we introduce some special sessions pertaining to coupled instability phenomena in lightweight composite material structural systems. This is to widen the scope of the conference series which has traditionally, over the previous five conferences, limited its attention to metallic construction or to metal-composite structures. The conference therefore welcomes the submission of quality papers which explore and highlight the influence of coupled mode instability behaviour on the design of lightweight composite material structural systems. High strength and high stiffness carbon and glass fibre polymer matrix composite laminated construction is being used more extensively today in a number of engineering fields and this is particularly true in aeronautical, aerospace and automotive engineering with civil engineering indicating a greater association with polymer composites and a greater awareness of the possibilities for the future.

AREAS OF APPLICATION

- Aircraft and Aerospace structures
- Skin Stiffened Panel Structures
- Aircraft Composite Structures
- Road Vehicle Body Structures
- Cold-Formed Steel Framed Building Structures
- Cold-Formed Steel Sheetting
- Cold-Formed Steel Sections
- Ship Plating, Stiffened Panel, Hull and Bulkhead Structures
- Thin-Walled Storage Racking and Silo Containment Structures
- Lightweight Fibre Reinforced Plastic Composite Structures
- Composite Bonded Structural Systems
- Railway Carriage Structures
- Honeycomb and Foam-Filled Sandwich Construction
- Metal-Composite Structures
- Stainless Steel Structures
- Lightweight Aluminium Structures
- Plate, Shell and Space Structures

SOME TOPICAL AREAS OF INTEREST

- Theoretical Procedures
- Numerical Simulation
- Experimental Testing
- Dynamic Elasto-Plastic Behaviour
- Buckling, Postbuckling and Collapse Mechanics
- Imperfection Sensitivity
- Cyclic Loading
- Behaviour of Structural Systems at Elevated Temperatures
- The Reliability and Safety of Structural Systems
- Design Codes of Practice and Standards

CALL FOR PAPERS

Those wishing to participate in the conference are invited to submit a single page abstract of about 500 words supplemented by one or two figures which together should clearly indicate the proposed paper content and highlight the advances made and contribution to knowledge in their specific area of research. Abstracts should be sent to the organising committee before 29 February 2012.

LANGUAGE

The language of the conference will be English including the communication of presentations and the publication of the conference proceedings. It is expected that the standard and quality of the layout and general presentation of papers will be high and to facilitate this requirement all abstracts and full papers will be reviewed by members of the International Scientific Committee. Instructions for the preparation of full papers will be automatically sent out to all authors of accepted abstracts.

PUBLICATION OF PAPERS

Only those refereed papers presented at the conference will be published in the bound volume of the **Proceedings of the 6th International Conference on Coupled Instabilities in Metal Structures**. In addition a selection of papers will be chosen as those which are considered to be associated with a high degree of quality research and authors will be asked for extended versions of these to be published in a **Special Issue of the International Journal of Thin-Walled Structures**.

REGISTRATION

The registration fee is yet to be determined and details will be available on the conference website in due course. The fee will cover the attendance at all sessions of the conference, one copy of the published CIMS 2012 Conference Proceedings, the Welcome Reception, morning and afternoon Break Refreshments, Lunches, the Social Evening and the Conference Dinner. The full registration form will be made available on the conference website in due course. A preliminary registration form is included in this first announcement and call for papers and should you wish to attend the conference then please make your intentions known as soon as possible. This will be of considerable benefit to the organisers in helping with the efficient planning of this international event.

IMPORTANT DEADLINES

Submission of Abstracts	29 February 2012
Notification of Acceptance of Abstracts	31 March 2012
Submission of Camera Ready Manuscript	31 July 2012
Notification of Final Acceptance of Full Manuscript	31 August 2012

CONFERENCE VENUE

The Sixth International Conference on Coupled Instabilities in Metal Structures, CIMS 2012, will be held at Strathclyde University, Scotland, UK on 3-5 December 2012. The conference is being run jointly by the Department of Mechanical and Aerospace Engineering at Strathclyde University and the Department of Aeronautical and Automotive Engineering at Loughborough University and the organisers look forward to this truly international gathering of academics, researchers, designers and manufacturers for the mutual exchange of research knowledge and ideas for the advancement, improvement and development of structures technology for the future.

INDICATION OF INTENTION TO PARTICIPATE IN CIMS 2012

If you are planning to attend the 6th International Conference on Coupled Instabilities in Metal Structures, CIMS 2012, then it would be most helpful to the organisers if you could indicate your intentions at the earliest possible time by completing the attached pre-registration form and returning this as a scanned e-mail attachment to the conference scientific secretary j.loughlan@lboro.ac.uk.

FURTHER INFORMATION

For further details, please contact:

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INDICATION OF INTENTION TO PARTICIPATE IN CIMS 2012

PRELIMINARY REGISTRATION FORM

If you are planning to attend the 6th International Conference on Coupled Instabilities in Metal Structures, CIMS 2012, then please indicate your intentions now by completing the details requested below and returning this information as soon as possible by E-mail attachment to j.loughlan@lboro.ac.uk. Your earliest response would be greatly appreciated by the organising committee since this would help significantly with the efficient planning of this international event.

Title (Prof/Dr/Mr/Mrs/Ms):

First Name:

Surname:

Institution:

Postal Address:

Tel:

Email:

I intend to participate in the conference as a presenting author/co-author: []

I intend to participate in the conference as a co-author of a presented paper: []

The provisional title of the paper is:

The authors of the paper are:

Please send your completed details to: Joe Loughlan, Department of Aeronautical and Automotive Engineering, Loughborough University, Loughborough, Leicestershire LE11 3TU, UK [Email:j.loughlan@lboro.ac.uk](mailto:j.loughlan@lboro.ac.uk)