



## Special Issue “**Crash and Impact Methods and Simulation**”

Journal of Structural Design and Numerical Methods (JSDNM)

### Guest Editor:

**Olivier R. Gouveia** is an Invited Assistant Professor in the department of Mechanical Engineering of the Polytechnic Institute of Leiria (IPLeiria), Portugal. He completed his MSc in Motorsport Engineering in 2017 at Oxford Brookes University, UK, and his MSc in Automotive Engineering at the Polytechnic Institute of Leiria, Portugal, in 2016. Since 2019, he is a research fellow at the Center for Rapid and Sustainable Product Development (CDRSP-IPLeiria) where he participates in various activities related to computational simulation and algorithm development. His research interests are focused on finite element modelling, computational simulation, impact and crashworthiness. He has published several peer-reviewed articles and is currently serving as Guest-Editor of the Journal of Structural Design and Numerical Methods (JSDNM). Olivier R. Gouveia is additionally member of the Portuguese Association of Theoretical, Applied and Computational Mechanics (APMTAC) and board secretary of the Portuguese Association of Automotive Engineering (APDEA).

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### Call for Papers:

Crash analysis is an integral part of a safety analysis, helping to assess concerns and determine potential improvement options for structures and materials under crash and impact events. Once the information of interest is collected and compared against the identified needs and requirements, analysis can further support the engineers/scientist for the determination of countermeasures to apply.

Therefore, experimental testing and simulation have become increasingly important to obtain the desired properties and behavior to ensure reliable and safe structures under such dynamic events.

The added complexity due to the multitude of failure and damage mechanisms, transient and non-linear behavior of structures and materials under crash and impact events have led to the development of new computational models that have been extensively studied over the decades. On the other hand, experimental studies of crash events can help reduce the computational cost and problematic complexity of simulations and obtain reliable outputs of the system behavior as well as check numerical predictions. However, experimental crash studies imply destructive testing of specimens, vehicles, or others, and thus involve excessive costs, in addition to the high difficulty of accurate system sensorization and variable monitoring.

This special issue aims to report the recent advances and latest achievements gained by international scholars specializing in the fields of crash and impact modelling and test methods, in order to enhance the understanding of key aspects surrounding design, testing, and modelling of such dynamic events.

Full-length papers, case studies as well as reviews covering any aspect of crash and impact simulation and methods are welcome. The goal of this special issue “**Crash and Impact Methods and Simulation**” is to bring together the latest advances and developments on the experimental and computational methods for crash and impact analyses.

This special issue seeks to publish papers aimed at addressing significant issues and contributing toward the introduction of new concepts, methodologies, and knowledge to the modeling and testing of crash and impact events. We are happy to invite you to submit an article for the Journal of Structural Design and Numerical Methods (JSDNM) for a special issue on “**Crash and Impact Methods and Simulation**”.

Original articles in the following topics are welcome for submission.

**Specific topics:**

- Crashworthiness
- Optimization
- Materials Behavior
- Numerical Methods
- Impact Biomechanics
- Measurement and Testing Techniques
- Ballistic
- Case Studies

**Evaluation by EiC:**

Since this Special Issue will be organized by journal AEs therefore, the EiC will be responsible for evaluating the papers based on scope, feasibility, and technical merit. The decision on the Acceptance or Revision of Paper will be taken by EiC.

**Manuscript Submission (Guidelines):**

- Papers will be submitted through regular submission process: author can register by using the link <http://rationalpublication.com/registration.php>, choosing “**Journal of Structural Design and Numerical Methods**” after reading “Instructions to authors” through <http://rationalpublication.com/cses/instruction-to-authors.php>, thereafter, manuscript will be submitted through <http://rationalpublication.com/admin/login>, two files are required for submission:
  - 1) Cover Letter (mention Special Issue “**Crash and Impact Methods and Simulation**”);
  - 2) Manuscript.
- The Managing AE will be responsible for organizing the view process. The review process will be the same as for the regular submission.

**Suggested Timeline:**

- Manuscript Submission Due: 30 November 2020
- First Review Completed: 31 December 2020
- Revised Manuscript Due: 31 January 2021
- Second Revision Completed and Final Decision: 15 February 2021
- Final Manuscript Due: 28 February 2021

**This special issue is being edited by:**

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