

BEM/MRM

46

WIT
CONFERENCES
Call for Papers

**46th International Conference on Boundary Elements
and other Mesh Reduction Methods**

15–17 May 2023 | Daytona Beach, USA

Organised by

Wessex Institute, UK
Embry-Riddle Aeronautical University, USA
University of Central Florida, USA
University of Mississippi, USA

Sponsored by

WIT Transactions on Engineering Sciences
International Journal of Computational Methods
and Experimental Measurements



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The meetings since 1978 have produced a collection of edited volumes in which the major developments in the field have been represented. This valuable series has been offered in digital form since 1993, with all papers available Open Access in the Wessex Institute's eLibrary website (www.witpress.com/elibrary), where they can be easily accessed and downloaded for free.

Since starting in 1978 the Conference has attracted high quality papers that report further advances in techniques that reduce or eliminate the type of meshes associated with finite elements or finite differences, for instance.

Theoretical advances and new foundations have been reported at the Conference for more than 40 years, helping to expand the range of applications as well as the type of materials in response to industrial and professional requirements. This ability to evolve is reflected in the history of the Conference which has ensured the success of the meetings as well as the

establishment of a community of stakeholders.

As design, analysis and manufacture become more integrated the chances are that the users will be less aware of the capabilities of the analytical techniques that are at the core of the process. This reinforces the need to retain expertise in certain specialised areas of numerical methods, such as BEM/MRM, to ensure that all new tools perform satisfactorily in the integrated process.

The maturity of BEM since 1978 has resulted in a substantial number of industrial applications which demonstrate the accuracy, robustness and easy use of the technique. Their range still needs to be widened, taking into account the potentialities of the Mesh Reduction techniques in general.

This well-established conference acts as a forum to discuss new ideas and critically compare results before the solution and tools are released to end users.

The meeting welcomes all stakeholders interested in the methods and particularly the participation of young researchers. Their new contributions have been the principal reason why the conference has continued to evolve.

Location

Centred between Florida's two coastlines, Orlando is a modern and vibrant city situated in an area known best for its many popular visitor attractions, but also for its beautiful lakes and citrus groves. The surrounding county has increasingly become a centre for digital technologies and aerospace industries, which along with tourism have contributed to the development of Orlando into a city with a thriving downtown area, full of shops, bars and restaurants, but also multinational companies and a substantial university. For thrill-seekers, the city offers some of the world's most well-known theme parks, but also a surprising array of botanic gardens, art collections and performing arts venues.

Conference Venue

The conference will take place at the Daytona Beach Campus of the prestigious Embry-Riddle Aeronautical University. Only one hour away from Cape Canaveral and the Kennedy Space Center, the University is one of the world's leading institutions of higher education focusing on aviation and aerospace research.



Benefits of Attending

USB Drive

Delegates will receive a USB drive at the conference containing the presented papers.

Publication

Papers presented at BEM/MRM 46 are to be published in a Volume of WIT Transactions on Engineering Sciences (ISSN 1743-3533). The publication will be available both in electronic and hard copy.

Indexing

The WIT Transactions are DOI registered with CrossRef and are currently listed in indexing services such as Scopus and Google Scholar, as well as being submitted to the Web of Science. All conference books are listed in the British Library and American Library of Congress.

Open Access and Digital Archive

All conference papers are archived permanently on our electronic library where they can be downloaded for free (www.witpress.com/elibrary).

Peer review

To ensure the quality of our publications, abstracts and papers are double peer-reviewed by members of the International Scientific Advisory Committee and other experts, with manuscripts processed through CrossRef Similarity Check.

Reduced Fee for PhD Students

The Wessex Institute believes in the importance of encouraging PhD students to present and publish innovative research at its conferences. As a result, the Institute offers PhD students a much reduced conference fee.

Networking

Participants can present their research and interact with experts from around the world, as part of a unique community.

Journal Publication Opportunity

After the conference, delegates may be invited to submit an enhanced version of their conference paper to one of the WIT Press International Journals.

Conference Topics

The following list covers some of the topics to be presented at the conference. Papers on other subjects related to the objectives of the meeting are also welcome.

Advanced formulations

Hybrid foundations

Advanced meshless and mesh reduction methods

Structural mechanics applications

Solid mechanics

Heat and mass transfer

Electrical engineering and electromagnetics

Computational methods

Fluid flow modelling

Damage mechanics and fracture

Dynamics and vibrations

Engineering applications

Interfacing with other methods

Coupling with design and manufacturing

Solution of large systems of equations

Fast multipole BEM

H-matrices and wavelets

Multiscale problems

Applications in biomedical engineering

Particle-particle interaction methods

Design optimisation and inverse problems

Stochastic modelling

Wave propagation phenomena

Nanocomposites and nanofluids

Molecular dynamics simulations

Artificial intelligence and machine learning

Case studies

Conference Chairmen

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Embry-Riddle Aeronautical
University, USA

Alain Kassab
University of Central Florida, USA

Alexander Cheng
University of Mississippi, USA
Member of WIT Board of Directors, UK

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Technology, CHINA

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GREECE

Liviu Marin
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Toshiro Matsumoto
Nagoya University, JAPAN

Leandro Palermo Jr
State University Of Campinas,
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Ernian Pan
National Yang Ming Chiao Tung
University, TAIWAN

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Tsinghua University, CHINA

Wolf Yeigh
University of Washington, UNITED
STATES

Jianming Zhang
Hunan University, CHINA

Chuanzeng Zhang
University of Siegen, GERMANY

Submission Information

Abstracts of no more than 300 words should be submitted as soon as possible.

Abstracts should clearly state the purpose, results and conclusions of the work to be described in the final paper. Final acceptance will be based on the full-length paper which, if accepted for publication, must be presented at the conference.

The language of the conference will be English.

Online submission:
www.witconferences.com/bem46

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