

# BEM/MRM

# 44

**WIT**  
CONFERENCES  
Call for Papers

## 44<sup>th</sup> International Conference on Boundary Elements and other Mesh Reduction Methods

15 – 17 June 2021 | Valencia, Spain

**Organised by**

Wessex Institute, UK  
University of Mississippi, USA

**Sponsored by**

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



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## The annual conference on Boundary Elements and other Mesh Reduction Methods (BEM/MRM), now in its 44<sup>th</sup> version, is to take place in Valencia, Spain.

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 developments and new formulations have been reported, helping to expand the range of applications as well as the type of modelled materials in response to the requirements of contemporary industrial and professional environments. This ability to evolve is reflected in the history of the Conference and 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 software 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 within the aforementioned integrated process.

The maturity of BEM since 1978 has resulted in a substantial number of industrial applications

of the method; this demonstrates its accuracy, robustness and ease of use. The range of applications 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 developed solutions 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.

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](http://www.witpress.com/elibrary)), where they can be easily accessed and downloaded for free.

### Location

Situated on the eastern coast of Spain, Valencia is the third largest city and has one of the biggest ports on the Mediterranean, famous for having recently hosted the America's Cup. A large historic city centre makes Valencia a popular tourist destination with many ancient monuments, museums and sights of interest. Traditionally, visitors have been drawn to the region for its food, with "Paella" having originated from the city. In recent years, the city has seen an increase in tourism due to "The City of Arts and Sciences", project designed by Valencia's own Santiago Calatrava. The structure houses an IMAX cinema, Europe's largest aquarium, interactive educational exhibits in the Príncipe Felipe Science Museum and the avantgarde Opera House.

### Venue

The Hotel Valencia Oceanic is situated near the centre of Valencia. Only a short distance from the City of Arts and Sciences, the harbour and downtown, the hotel is close to most that the city has to offer. With 200 rooms all with highspeed internet access, a 24 hour fitness centre, pool, sauna, bar and restaurant, the hotel has all the amenities guests may require.



## Benefits of Attending

### USB Drive

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

### Publication

Papers presented at BEM/MRM 44 are to be published in a Volume of WIT Transactions on Engineering Sciences (ISSN 1743-3533). The publication will be available in both 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](http://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 to screen for plagiarism.

### 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 will 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

### Fast multipole BEM

### Advanced meshless and mesh reduction methods

### Hybrid formulations

### Interfacing with other methods

### Computational methods

### Solution of large systems of equations

### H-matrices and wavelets

### Multiscale problems

### Stochastic modelling

### Other numerical techniques not necessarily meshless

### Solid mechanics

### Heat and mass transfer

### Fluid flow modelling

### Damage mechanics and fracture

### Dynamics and vibrations

### Wave propagation phenomena

### Particle-particle interaction methods

### Engineering and industrial applications

### Structural mechanics applications

### Electrical engineering and electromagnetics

### Applications in Biomedical engineering

### Design optimisation and inverse problems

### Coupling with design and manufacturing

### Computer science issues related to any of the above topics

### Characterisation based on simulation and experimental data

### Case Studies

## Conference Chairman

### Alexander Cheng

University of Mississippi, USA  
Member of WIT Board of Directors

## International Scientific Advisory Committee

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### Leopold Skerget

Slovenian Academy of Engineering, Slovenia

### Vladimir Sladek

Slovak Academy of Sciences, Slovakia

### Elena Strelnikova

Ukrainian Academy of Sciences, Ukraine

### Stavros Syngellakis

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### Jon Trevelyan

University of Durham, UK

### Luiz Wrobel

Pontifical Catholic University of Rio de Janeiro, Brazil

### Wolf Yeigh

University of Washington, USA

### Chuanzeng Zhang

University of Siegen, Germany

### MingHao Zhao

Zhengzhou University, China

## 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/bem44](http://www.witconferences.com/bem44)

### Conference Secretariat

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