

# MULTIPHASE FLOW 2021

**WIT**   
CONFERENCES  
Call for Papers

**11<sup>th</sup> International Conference on Computational and  
Experimental Methods in Multiphase and Complex Flow**

**6 – 8 July 2021 | Madrid, Spain**

**Organised by**

Wessex Institute, UK  
University of New Mexico, USA

**Sponsored by**

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



[www.witconferences.com/multiphase2021](http://www.witconferences.com/multiphase2021)

This is the 11<sup>th</sup> International Conference on Multiphase Flow in the very successful series which started in Orlando, Florida (2001), followed by meetings in Santa Fe, New Mexico (2003), Portland, Maine (2005), Bologna, (2007), the New Forest, home of the Wessex Institute (2009), Kos (2011), A Coruna (2013), Valencia (2015), Tallinn (2017) and Lisbon (2019).

The overall focus of this conference series is on using synergies between experimental and computational techniques to gain a better understanding of all classes of multiphase and complex flow. The meeting aims to facilitate the exchange of ideas and experiences directly and interactively, thereby promoting the development of knowledge in this increasingly important field.

Fluid dynamics processes in nature are predominantly multi-phased, i.e. involving more than one phase of a component such as liquid, gas or plasma. The range of related problems of interest is vast: astrophysics, biology, geophysics, atmospheric processes, and a large variety of engineering applications.

Multiphase fluid dynamics have generated a great deal of recent interest, leading to many notable advances in experimental, analytical, and numerical studies in this area. While progress is continuing in all three categories, advances in numerical solutions are likely the most conspicuous, owing to the continuing improvements in computer power and the software tools available to researchers. Progress in numerical methods has not only allowed

for the solution of many practical problems, but also helped to improve our understanding of the physics involved. Many unresolved issues are inherent in the very definition of multiphase flow, where it is necessary to consider coupled processes on multiple scales, as well as the interplay of a wide variety of relevant physical phenomena.

Close interaction between numerical modellers and other researchers is indispensable to resolve many outstanding issues in multiphase flow. Theory and experiments are essential for validation and verification of numerical methods, with the latter providing new insights into the interpretation of experimental results and suggesting new directions of theoretical research.

This series of conferences on Multiphase Flow, organised by the Wessex Institute since 2001, aims to further such initiatives and to develop knowledge transfer mechanisms, in particular between academics and industry professionals. The papers presented at previous meetings are stored in digital form at [www.witpress.com/](http://www.witpress.com/) eLibrary where they are permanently available to the international community.

## Conference Chairmen

**Santiago Hernandez**  
University of A Coruna, Spain  
*Member of WIT Board of Directors*

**Peter Vorobieff**  
University of New Mexico, USA

## International Scientific Advisory Committee

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**Ali Tabikh**  
GE Power Sweden AB, Sweden

## Benefits of Attending

### USB Drive

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

### Publication

Papers presented at Multiphase Flow 2021 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.

**Multiphase flow simulation**

**Bubble and drop dynamics**

**Interface behaviour**

**Experimental measurements**

**Compressible multiphase flows**

**Flow in porous media**

**Turbulent multiphase flow**

**Heat and mass transfer**

**Atomization and sprays**

**Fluidized beds**

**Cavitation**

**Phase transition and interface behaviour**

**Multiphase chemical reactions**

**Statistical approaches in multiphase flow**

**Visualisation techniques of multiphase flow**

**Non-Newtonian multiphase flows**

**Validation methods in multiphase flow**



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## Location

Madrid is the political, economic and cultural centre of Spain. Since Philip II made Madrid the capital of the country in the 16th Century, the city has grown to become one of the most beautiful cities in Spain. While possessing a modern infrastructure, it has maintained most of its magnificent architecture through the centuries, preserving the look and feel of many of its historic neighbourhoods and streets. Madrid's cultural highlights include the "El Prado" and "Reina Sofia" museums which show works from Picasso, Velazquez and Gaudi as well as many other international artists. Other sights are the Royal Palace and Gardens, as well as tree-lined avenues which add to the charm of the city. Madrid town hall square or Plaza Mayor is one of the best places to enjoy the famous Spanish gastronomy and nightlife.

## Venue

The Tryp Atocha Madrid is built within a splendid palace dating back to 1913 and retains its original architectural detail and beauty. Located in the historical heart of the city, called "Barrio de las Letras" (Arts District), the hotel is within walking distance from the city's main museums: the Prado Museum, the Thyssen Museum and the Reina Sofia Museum, delicious tapas bars, chic shops and exciting night life. The hotel is also within walking distance from the main train station in Madrid (Atocha station).



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## 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/multiphase2021](http://www.witconferences.com/multiphase2021)

### Conference Secretariat

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