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MS5-02C Computational Fluid Mechanics with Free and Moving Boundaries: Methods and Applications

□ Wed, 26/04/2023

Chaired by:

⌚ 16:00 - 18:00

Phd. Alec Kucala (Sandia National Labs), Dr. Scott Roberts

📍 Auditorium H

(Sandia National Laboratories)

MS5-02C

Contributions in this session:

- **Keynote** A one-velocity-field monolithic method for fluid-structure interaction
Y. Wang*, P. Jimack, M. Walkley, O. Pironneau
- **EFPA** An efficient and accurate iterative solution algorithm for fluid-structure interactions using an ALE finite element method
G. Walton*, P. Jimack, M. Walkley
- **EFPA** A Moving-mesh Approach for Interface-tracking Multiphase Flow
L. Li*, J. Xiang, C. Pain
- **EFPA** A space-time framework for periodic flows
J. Lotz*, M. ten Eikelder, I. Akkerman
- A Verified Conforming Transient h-r Unstructured Adaptive Mesh Refinement (cThruAMR) Method for Capillary Hydrodynamics
D. Noble*

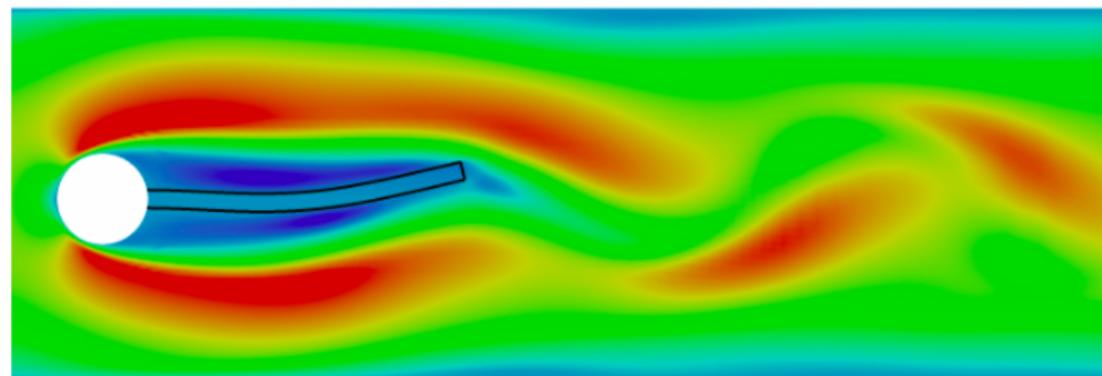


14th WCCM & ECCOMAS Congress 2020

Virtual Congress 11-15 January, 2021

Computational Methods for Interface Problems Workshop

03 January 2019–04 January 2019, 9:00 am–2:00 pm



The workshop Computational Methods for Interface Problems will take place at UCL on Thursday 3rd January - Friday 4th January 2019

Stefanie Gutschmidt
James N. Hewett
Mathieu Sellier *Editors*

IUTAM Symposium on Recent Advances in Moving Boundary Problems in Mechanics

Proceedings of the IUTAM Symposium
on Moving Boundary Problems,
Christchurch, New Zealand,
February 12–15, 2018



WEDNESDAY 6 - FRIDAY 8 SEPTEMBER, 2017

UK Fluids Conference 6-8 September 2017

Date: Wednesday 6 - Friday 8 September, 2017

External URL: <http://www.fluid-dynamics.leeds.ac.uk/uk-fluids-conference/>

The EPSRC Centres for Doctoral Training (CDT) in Fluid Dynamics at the University of Leeds and Imperial College London are organising the second annual UK Fluids Conference. Our primary intention is to encourage greater cohesion and interaction amongst the fluids communities in the UK and to be of benefit, in particular, to PhD students. The first annual UK Fluids Conference took place at Imperial College London on 7 – 9 September 2016.

[Read more about the UK Fluids Conference. http://www.fluid-dynamics.leeds.ac.uk/uk-fluids-conference/](http://www.fluid-dynamics.leeds.ac.uk/uk-fluids-conference/)

Inaugural UK Fluids Conference

7-9 September 2016
Imperial College London





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Prof. Dr. Peter Comba

GESCHÄFTSFÜHRERIN:

Dr. Ellen Peerenboom

IWH SYMPOSIUM

SIMULATION AND OPTIMIZATION OF **EXTREME** **FLUIDS**

October 10-12, 2016

SPEAKERS:

Malte Braack, Universität Kiel
Roland Becker, Université de Pau
Erik Burman, University College London
Miguel Angel Fernandez, INRIA de Paris
Giovanni Galdi, University of Pittsburgh
Celine Grandmont, INRIA Paris-Rocquencourt
Gabor Janiga, Universität Magdeburg

Olivier Pironneau, Université Pierre-et-Marie-Curie

Andreas Prohl, Universität Tübingen
Stefan Turek, Technische Universität Dortmund
Christian Vergara, Politecnico di Milano
Thomas Wick, Ecole Polytechnique, Palaiseau
Winnifried Wollner, Technische Universität Darmstadt

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ORGANISATION:

Interdisciplinary Center for Scientific Computing (IWR)

SUPPORTED BY:



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und Forschung



Institute for Mathematical Sciences Event Archive

International Workshop on Fluid-Structure Interaction Problems (30 May - 3 June 2016)

[Online registration form](#)

Enquiries

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[✉ Scientific aspects](#)



[Group Photo](#)

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- [Zhilin Li](#) (North Carolina State University)
- [Jie Liu](#) (National University of Singapore)

Members

- [Rajeev Jaiman](#) (National University of Singapore)
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- [Sheng Xu](#) (Southern Methodist University)
- [Wenjun Ying](#) (Shanghai Jiaotong University)

Visitors and Participants

- [Overseas visitors](#)
- [Local visitors](#)
- [Graduate students](#)
- [Registered local participants](#)

Overview

Many problems in applied sciences and engineering involve the motion of geometric objects such as interfaces or filaments interacting with surrounding fluids. These problems are generally called fluid-structure interaction problems. Since the interface position is unknown and must be solved as part of the solution, this poses challenging difficulties from theoretical and numerical points of view. For the past decades, the research effort on those topics is overwhelming and is still popular in applied mathematics and engineering communities. This international workshop aims to bring together mathematicians, computational scientists, and engineers having a common interest in solving fluid-structure interaction problems. The ultimate goal is to



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