



Conference

on Modelling Fluid Flow (CMFF'22)

Radisson Blu Béke Hotel August 30 – September 2, 2022 Budapest / Hungary

The 18th International Conference on Fluid Flow Technologies

- The next event in the series
of International Conferences on Fluid Machinery
held in Budapest

August 30 – September 2, 2022
Radisson Blu Béke Hotel
Budapest, Hungary

1 First Announcement
and
Call for Papers



INVITATION

It is our privilege to invite you to attend the 18th International Conference on Fluid Flow Technologies, entitled **Conference on Modelling Fluid Flow (CMFF'22)**, the next event in the series of International Conferences on Fluid Machinery held in Budapest since 1959. The aim of the Conference is to respond to challenges in the rapidly developing fields of fluid mechanics: numerical simulation of flows and physical modelling of flow processes using advanced measurement methods. The Conference aims at defining the state of the art in CFD and advanced measurement methods, inspiring both research and practical applications by promoting interaction between scientists and practitioners. At CMFF'22, emphasis will be placed on recently emerging computational and measurement techniques, as well as the practical application of CFD and physical flow modelling in a wide range of engineering fields.

The last event, CMFF'18, in 2018, incorporated approximately 100 selected presentations with authors from more than 20 countries. The high standard of the papers presented at the previous CMFF conferences has enabled us to organize special issues in prestigious international journals. Preliminary steps are being taken to provide a similar opportunity for selected papers from CMFF'22.

The success of the previous CMFF events encourages the conference organisers to foresee a fruitful CMFF'22. We look forward to welcoming you to Budapest in 2022.



Professor D. **Thevenin**

Chairman of International Scientific
and Programme Committee
(ISPC)



Professor J. **Vad**

Chairman of Local
Organising Committee
(LOC)



COMMITTEES

International Scientific and Programme Committee (ISPC)

Chairman

Prof. D. **Thevenin**, Magdeburg (D)

Honorary Chairman

Univ. Prof. Dr.-Ing. habil. R. **Schilling**,
Munich (D)

Secretary

Dr. Cs. **Horváth**, Budapest (H)

Members (tentative)

Prof. R.S. **Abhari**, Zürich (CH)
Prof. L. **Baranyi**, Miskolc (H)
Prof. B. J. **Boersma**, Delft (NL)
Prof. A. R. J. **Borges**, Lisbon (P)
Dr. A. **Ćocić**, Belgrade (SRB)
Prof. S. **Drobniak**, Czestochowa (PL)
Dr. B. P. M. van **Esch**, Eindhoven (NL)
Dr. Á. **Fáy**, Miskolc (H)
Prof. L. **Fuchs**, Lund (S)
Dr. T. **Gausz**, Budapest (H)
Prof. B.J. **Geurts**, Twente (NL)
Prof. V. **Goryatchev**, Tver (RUS)
Prof. R. **Grundmann**, Dresden (D)
Prof. G. **Halász**, Budapest (H)
Dr. F. **Hegedűs**, Budapest (H)
Prof. H. **Jaberg**, Graz (A)
Dr. L. **Kalmár**, Miskolc (H)
Prof. G. **Kosyna**, Braunschweig (D)
Prof. K. **Kozel**, Prague (CZ)
Dr. G. **Kristóf**, Budapest (H)
Prof. I.R. **Lewis**, Newcastle-upon-Tyne (UK)
Prof. Y. **Li**, Hong Kong (HK)
Prof. S. **Liu**, Beijing (CN)
Prof. K. H. **Luo**, London (UK)

Prof. N. C. **Markatos**, Athens (GR)
Prof. M. **Nedeljkovic**, Belgrade (SRB)
Prof. H. **Nørstrud**, Trondheim (N)
Prof. A. **Okajima**, Kanazawa (J)
Dr. B. **Pritz**, Karlsruhe (D)
Prof. F. **Rispoli**, Rome (I)
Prof. R. **Rohatynski**, Zielona Góra (PL)
Dr. F. **Romanò**, Vienna (A)
Dr. A. **Samad**, Chennai (IND)
Dr. E. **Shapiro**, Cranfield (GB)
Prof. M. **Shirakashi**, Nagaoka (J)
Prof. S. J. **Song**, Seoul (KR)
Prof. H. **Steinrück**, Vienna (A)
Prof. R. Susan-**Resiga**, Timisoara (RO)
Prof. T. **Takahashi**, Nagaoka (J)
Prof. Dr.-Ing. P. U. **Thamsen**, Berlin (D)
Dr. T. **Verstraete**, Sint-Genesius-Rode (B)
Dr. A. **Tyliszczak**, Czestochowa (PL)
Dr. T. **Weidinger**, Budapest (H)

Local Organising Committee (LOC)

General Chairman

Prof. J. **Vad**, Budapest

Co-Chairwoman

Prof. G. **Bognár**, Miskolc

Secretary

Dr. E. **Balla**, Budapest

Members

Dr. P. **Bencs**, Miskolc
Prof. T. **Lajos**, Budapest
Prof. Gy. **Paál**, Budapest
Prof. Sz. **Szabó**, Miskolc



Organising Institution

Department of Fluid Mechanics,
Faculty of Mechanical Engineering,
Budapest University of Technology and Economics

Co-operating Organisations (tentative)

European Research Community on Flow, Turbulence and Combustion (ERCOFTAC)

The Japan Society of Mechanical Engineers (JSME)

The Visualization Society of Japan (VSJ)

Department of Hydrodynamic Systems,

Faculty of Mechanical Engineering, Budapest University of Technology and Economics

Department of Fluid and Heat Engineering,

Faculty of Mechanical Engineering and Informatics, University of Miskolc

Scientific Society of Mechanical Engineers (Flow Technology Section)

Committee of Fluid Mechanics and Thermodynamics

of the Hungarian Academy of Sciences

Conference Secretariat

Secretariat of Conference on Modelling Fluid Flow (Dr. E. Balla)
Department of Fluid Mechanics

Budapest University of Technology and Economics

H 1111 Budapest, Bertalan L. u. 4-6, Hungary

Tel +36-1-463-2635

e-mail cmff@gpk.bme.hu web site <https://www.cmff.hu>

CONFERENCE TOPICS

The scope of the Conference includes the theoretical aspects of numerical simulation and physical modelling of flows as well as their practical use in research, product development, solving problems, and optimisation.

The main thematic areas of the Conference are:

- **Atmospheric Flows**
- **Biomedical Flows**
- **Chemical and Process Engineering**
- **Combustion and Heat Transfer**
- **Environmental Protection**
- **External Aerodynamics**
- **Flow Induced Noise**
- **Fluid Power: Hydraulics and Pneumatics**
- **Fluid-Solid Interaction**
- **Heating, Ventilation and Air Conditioning**
- **Internal Flows**
- **Power Engineering**
- **Turbomachinery**
- **Vehicles**

Each thematic area covers research, development, design, new applications and equipment, case studies and future trends with particular emphasis on the use of CFD and advanced measurement methods.



WORKSHOPS AND EXHIBITION

A specialty of CMFF conferences is the organisation of workshops. A workshop is a session, where questions about challenges, recent trends and solutions related to fluids engineering are raised by the Workshop Leader and are discussed by internationally acknowledged experts, with active contribution of the audience. The Workshop Leader has the opportunity to invite presenting authors, to illustrate certain workshop topics, but it must be kept in mind that the workshop is principally different from a “traditional” lecture sessions.

**At CMFF'22 the organisation of the following workshops is envisaged:
State of the Art and recent challenges in research related to:**

- **“Biomedical flows 1-2”** by Prof. M. **Oshima**, Tokyo (J)
- **“DEM-CFD simulations for particulate flows”** by Prof. V. **Scherer**, Bochum (D)
- **“Smart ventilation systems”** by Prof. J. **Vad**, Budapest (H)

We welcome proposals for workshops from the members of the International Scientific and Programme Committee as well as from senior scientists.

The participation of technical exhibitors is also encouraged, upon demand.

CONFERENCE FRAMES (tentative)

Tuesday, August 30

Registration, welcome reception (afternoon, evening)

Wednesday, August 31

Plenary session: Opening, **4 keynote speeches:**

- **“Optical Particle Measurements in Flows”** by Prof. C. **Tropea**; (G)
Institute for Fluid Mechanics and Aerodynamics, Technische Univ. Darmstadt, Germany
- **“Past, present, and new challenges for computational hemodynamics of cerebral circulation”** by Prof. M. **Oshima**; (J)
Institute of Industrial Science, The University of Tokyo, Japan;
- **“State of the Art and Challenges in Computational Aeroacoustics”**
by Prof. M. **Kaltenbacher**; (A)
Institute of Fundamentals and Theory in Electrical Engineering,
Division Vibro- and Aeroacoustics, Graz University of Technology, Austria
- **“Simulation of reacting and moving granular assemblies with gas flow: status and challenges”** by Prof. V. **Scherer**; (G)
Institute of Energy Plant Technology, Ruhr-University, Bochum, Germany

Wednesday, August 31 to Friday, September 2

Parallel sessions with presentation of papers, workshops, the Gala Dinner, and a Closing plenary.



OFFICIAL LANGUAGE

The language of the conference is English.

CALL FOR PAPERS

Abstracts of papers (between 200 and 300 words in English) are to be submitted for review and selection via EasyChair by following the instructions on the Conference website www.cmff.hu before November 10, 2021. Authors whose abstracts are accepted will be notified by November 20, 2021, and are requested to submit the full-length papers by February 20, 2022, to be reviewed by April 20, 2022. The revised final papers must be submitted no later than June 20, 2022. The correspondence related to the aforementioned publication process is to be carried out exclusively via the Conference's EasyChair account.

PUBLICATIONS

Authors are expected to submit 8-page papers in English. The Proceedings of the Conference will be published on USB Flash drive that will include the papers reviewed and accepted by the International Scientific and Programme Committee. Upon registration, delegates will receive the e-Proceedings.

The authors of the contributions of highest quality are encouraged to extend appropriately their papers for individual submission to prestigious international journals.

The International Journal of Heat and Fluid Flow (IJHFF) organized special issues involving selected CMFF'06, CMFF'09 and CMFF'12 papers. CMFF'18 special issue was organized for selected papers in the international journal Tech. Mech. (ISSN 0232-3869), which is a free-of-charge open-access journal with DOI referenced by Scopus and other reference databases.

CALENDAR

The Calendar of the Conference is as follows:

- **November 10, 2021** Deadline for submission of abstracts
- **November 20, 2021** Notification of abstract acceptance
- **February 20, 2022** Deadline for papers
- **April 20, 2022** End of paper review, communication
- **June 20, 2022** Deadline for submission of camera-ready papers
- **Aug. 30,-Sept. 2, 2022** Conference in Budapest

For further details on the program, please visit the conference website

<https://www.cmff.hu>



BUDAPEST

Budapest, “the pearl of the Danube” is one of the truly historic European capitals with its past stretching back over one thousand years. The picturesque bridges spanning the river Danube, Castle Hill, the churches and architecture, the sculptures, the wooded hills, the Hungarian cuisine and wine, and the warm hospitality of Hungarian people all ensure that no guest can leave here without longing to return. Walking down streets hosting several open-air programs, those who attend the Conference will have the opportunity to enjoy the refreshing breeze and gentle sunlight of our late summer.

The venue of the conference is the Radisson Blue Béke Hotel – a noble hotel situated in the downtown area of Budapest. The Hotel is an ideal scene for both professional and social events, in the city’s cultural heartland, close to the theatres and concert halls, in a hotel that’s elegant, stylish and easily accessible.

The conference programme includes a Welcome Reception and Gala Dinner. While the organisation of a wide variety of social programmes and tourist events is offered by the Hotel.

