

## DEADLINES

Minisymposium proposals:	31.12.2022
Minisymposium acceptance:	31.01.2023
Early registration:	31.01.2023
Regular registration:	28.02.2023
Abstract submission:	15.03.2023
Notification of acceptance:	21.03.2023
Payment:	31.03.2023

## REGISTRATION

Registration for the Congress and abstract submission, as well as notification of acceptance and qualification for the oral or poster presentation will be done electronically.

## FEES (PLN)

The Congress fee includes the Congress proceedings and materials, access all scientific sessions, refreshments and lunches, get – together party, banquet.

The current prices are listed on the website.

## VENUE

The Congress will be hosted in the Education and Congress Centre of The Silesian University of Technology in Gliwice.

## ACCOMMODATION

A list of suggested hotels located in close proximity of the Congress venue will be available in the Congress website. There is also the option of accommodation in student dormitories.

## CONGRESS OFFICE

**PCM-CMM 2023 Organizing Committee**  
Silesian University of Technology  
Katedra Mechaniki Teoretycznej i Stosowanej  
Ul. Konarskiego 18A, p. 182  
44-100 Gliwice

**Congress website & e-mail**  
<https://pcm-cmm.com/>  
[contact@pcm-cmm.com](mailto:contact@pcm-cmm.com)

## ORGANIZING COMMITTEE

### Conference Organizing Chairs

- Sławomir Duda (Chairman)
- Sławomir Kciuk
- Ewa Majchrzak
- Anna Timofiejczuk
- Tomasz Trawiński
- Antoni John
- Robert Michnik
- Damian Gąsiorek
- Marek Gzik

### Administrators

- Grzegorz Gembalczyk
- Sebastian Sławski
- Mariusz Pawlak
- Tomasz Machoczek
- Barbara Skarka

## ORGANIZED BY



Polish Society of Theoretical and Applied Mechanics  
[www.ptmts.org.pl](http://www.ptmts.org.pl)



Polish Association for Computational Mechanics  
[www.ptnkm.pl](http://www.ptnkm.pl)



Silesian University of Technology  
[www.polsl.pl](http://www.polsl.pl)



- Institute of Fundamental Technological Research of Polish Academy of Sciences
- Committee on Mechanics of the Polish Academy of Sciences
- Committee on Machine Building of the Polish Academy of Sciences
  - Committee on Civil Engineering and Hydroengineering of the Polish Academy of Sciences
- Committee of Biocybernetics and Biomedical Engineering of the Polish Academy of Sciences

graphic design: joanna@frydtko.pl



5<sup>th</sup> Polish Congress  
of Mechanics



25<sup>th</sup> International  
Conference on Computer  
Methods in Mechanics

# 4-7.09.2023

[www.pcm-cmm.com](http://www.pcm-cmm.com)  
[contact@pcm-cmm.com](mailto:contact@pcm-cmm.com)

## GLIWICE



The Honorary Patronage  
of the President of the Republic of Poland  
Andrzej Duda



[www.pcm-cmm.com](http://www.pcm-cmm.com)



## SCOPE AND OBJECTIVES

Referring to the splendid tradition of Polish Theoretical and Applied Mechanics, the Congress has become one of the most important international scientific conventions representing this domain of science and gathering every 4 years about 500-600 specialists, who deal with the issues of mechanics and mechanical engineering in a broad sense.

The 5th Polish Congress of Mechanics continues the tradition of scientific meetings on Mechanics, initiated around 16 years ago during the 1st PCM in Warsaw (2007). The Congress presents the current state of art research in all disciplines of classical and quantum mechanics, solid and fluid mechanics, computational mechanics, applied mechanics and physics, as well as structural mechanics and engineering.

Polish Congress of Mechanics combined with International Conference on Computer Methods in Mechanics is held under the auspices of Polish Society of Theoretical and Applied Mechanics, Polish Society of Computer Methods in Mechanics and Committee of Mechanics of the Polish Academy of Science.

The 25rd International Conference on Computer Methods in Mechanics continues the 50-years old series of conferences dedicated to numerical methods and their applications in the mechanics-based problems. The scientific meetings, organized biannually since 1973, provide a forum for presentation and discussion of new ideas referring to theoretical background and practical applications of computational mechanics.

## CONGRESS FORMAT

During the Congress, plenary and keynote lectures, joint sessions, mini-symposia and parallel sessions, as well as oral and poster presentations, will be delivered in the auditoria and lecture rooms of Education and Congress Centre of The Silesian University of Technology in Gliwice.

The language of the Congress will be English.

The social program of the Congress includes a get-together party, banquet and other events. More information on all events will be available on the Congress website.

## CONGRESS PROCEEDINGS

The accepted abstracts will be printed in the Congress Book of Abstracts (electronic version). Full-length articles contributed by plenary and keynote speakers and chosen articles presented during Congress will appear in Journal of Theoretical and Applied Mechanics. A special issue of the Springer publishing house is planned to be published. In addition, a list of recommended journals, to which the Congress article may be submitted, will be announced. Details of the article format, and the list of journals will be available on the Congress website.

## TOPICS

The authors are cordially invited to submit papers on all aspects of theoretical, applied, and computational mechanics, including:

### SOLID MECHANICS

- Contact and Friction
- Damage Mechanics
- Elasticity, Plasticity, Viscoplasticity and Creep
- Fracture Mechanics
- Geophysics and Geomechanics
- Impact Mechanics and Wave Propagation
- Multi-component Materials and Composites
- Phase Transformations and Thermomechanical Phenomena
- Multibody, Vehicle and Structural Dynamics
- Nanostructures and MEMS
- Stability of Structures
- Vibrations and Control of Structures
- Other Topics in Solid Mechanics

### FLUID MECHANICS

- Biological Fluid Mechanics
- Boundary Layers
- Combustion and Flames
- Compressible Flow
- Convection
- Drops, Bubbles and Multiphase Flows
- Flow Instability and Transition
- Flow in Thin Films
- Geophysical and Environmental Fluid Dynamics
- Low Reynolds Number Flow
- Micro- and Nano-fluidics
- Non-Newtonian and Complex Fluids
- Turbulence, Vortex Dynamics
- Waves in Fluids
- Other Topics in Fluid Mechanics

### COMPUTATIONAL MECHANICS

- Artificial intelligence methods
- Computational intelligence
- Sensitivity and reliability analysis
- Inverse problems and optimization
- Advanced Finite Element Method, Finite Volume Method and Boundary Element Method
- Discrete Element Method
- Meshless and related methods
- Numerical approach to the initial and boundary value problems
- Parallel computing
- Soft computing
- Exascale Computing
- Other Topics in Computational Mechanics

### SOLID/FLUID INTERACTION

- Acoustics
- Experimental Methods in Mechanics
- Chaos and Pattern Formation
- Porous Media
- Fluid Structure Interactions
- Actuating and Smart Materials
- Granular Materials and Flows
- Foams and Cellular Materials
- Other Topics in Solid/Fluid

### ADVANCED MATERIALS

### BIOMECHANICS

### TRANSDISCIPLINARY ENGINEERING

## PLENARY LECTURES

Plenary lectures dedicated to the most achievements in all aspects of theoretical, applied, and computational mechanics will be given by the following researchers of international renown:

- **Marek Behr**, RWTH Aachen University, Germany
- **Piotr Breitkopf**, Université de Technologie de Compiègne, France
- **Witold Elsner**, Czestochowa University of Technology, Poland
- **Maciej Floryan**, Western University, Canada
- **Andrzej Katunin**, Silesian University of Technology, Poland
- **Kostyantyn Korytchenko**, National Technical University „Kharkiv Polytechnic Institute”, Ukraine
- **Bozidar Sarler**, University of Ljubljana, Slovenia
- **Wojciech Sumelka**, Poznan University of Technology, Poland
- **Utz von Wagner**, TU Berlin, Germany
- **Sebastian Wolf**, Heidelberg University Hospital, Germany

## CHAIRMANSHIP

### Congress President

- **Michał Kleiber** (Polish Academy of Sciences)

### Congress Vice-President

- **Włodzimierz Kurnik** (Warsaw University of Technology)
- **Tadeusz Burczyński** (Institute of Fundamental Technological Research of Polish Academy of Sciences)

### Chairman of the Honorary Scientific Committee

- **Eugeniusz Światoński** (Silesian University of Technology)

### Chairman of the Scientific Committee

- **Stanisław Stupkiewicz** (Institute of Fundamental Technological Research of Polish Academy of Sciences)

### President of the Polish Society of Theoretical and Applied Mechanics

- **Tomasz Krzyżyński**

### President of the Polish Association for Computational Mechanics

- **Wojciech Sumelka**