

# 16<sup>TH</sup> INTERNATIONAL CONFERENCE ON WIND ENGINEERING (ICWE16)

## Co-organised by:

- Polish Association for Wind Engineering,  
Member Organisation of International Association for Wind Engineering
- Wind Engineering Laboratory, Cracow University of Technology
- Department of Structural Mechanics, Lublin University of Technology

## In cooperation with:

- International Association for Wind Engineering



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# FOREWORD

## DEAR PRESIDENTS, CHAIRPERSONS, EXECUTIVE OFFICERS, SECRETARIES OF THE WIND ENGINEERING COMMUNITY

The wind engineering community in Poland is very pleased to cordially welcome you to Cracow, Poland, for the next International Conference on Wind Engineering, which is planned to be organized by Polish Association for Wind Engineering (PAWE), Member Organisation of International Association for wind Engineering (IAWE), Wind Engineering Laboratory of the Cracow University of Technology and Department of Structural Mechanics of the Lublin University of Technology; in cooperation with International Association for Wind Engineering (IAWE).

Cracow as the former capital of Poland with a history lasting over a thousand years, still remains the spiritual heart of Poland. Cracow has traditionally been one of the leading centres of Polish scientific and cultural life. The intellectual environment of Cracow is created by 23 universities, nearly 20 000 academic lectures and 190 000 students. It is a major attraction for local and international tourists and welcomes seven million visitors annually. In 1978, UNESCO added Cracow historic centre to the list of World Heritage Sites.

We encourage everyone to come and visit our beautiful country and its old capital Cracow, a very historic, charming king-town in the Central Europe.

Wind Engineering Laboratory with boundary layer wind tunnel, at the Cracow University of Technology, is well-known abroad. It is worth pointed out that our team have just started with realization of new big Laboratory of Environmental Aerodynamics at the Cracow University of Technology, which is planned to be finished in three years. The Laboratory will be equipped with two big-size closed circuit wind tunnels. In this laboratory will be conducted model tests and computer simulations regarding dynamic impact on smog and ventilation of urban areas, and also experimental studies of environmental and climatic influences on buildings and structures.

In the past, Polish wind and snow engineering community organized three domestic and four international symposia as well as international conference on Environmental Effects on Buildings and People: Actions, Influences, Interactions, Discomfort (EEBP).

We hope that the 16<sup>th</sup> International Conference on Wind Engineering (ICWE'16) in Cracow will be great event, success and outstanding opportunity to open the doors for better future professional and cultural cooperation.

*Andrew Flaga*

PROF. DR. SC. ENG. ANDREW FLAGA

**CHAIR OF THE ORGANIZING COMMITTEE**

President of PAWE

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Chief of the Wind Engineering Laboratory, Cracow University of Technology, Poland

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Chairman of the seven Symposia and one Conference on Environmental Effects on Buildings and People: Actions, Influences, Interactions, Discomfort (EEBP)

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# POLISH WIND ENGINEERING COMMUNITY

## PAWE

The PAWE is a professional organization that promotes research and development in various fields of wind engineering and snow engineering. The areas of our organization includes topics such as: bluff body aerodynamics; wind tunnel testing and full-scale measurements; wind energy and wind power plants; environmental effects on

buildings and structures (wind action, snow load, ice accretion and ice load, thermal action of climatic and technological origin); influence of wind on people (in buildings and their surroundings), problems of standardization of environmental effects on buildings and people; disasters caused by environmental actions; CFD applications of environmental actions and so on.

## WIND ENGINEERING LABORATORY

Wind Engineering Laboratory with boundary layer wind tunnel is a unit of the Cracow University of Technology.



Main research topics

Wind physics in the ground boundary layer

Aerodynamics of buildings and structures

Wind climate

Snow engineering

Wind turbines and wind power engineering

Means of wind-induced vibration reduction

## LABORATORY OF ENVIRONMENTAL AERODYNAMICS

### Main research topics

Wind conditions in cities

Transport of air pollutants

Dynamic ventilation and smog reduction of urban areas

Snow engineering

Wind engineering and wind energy

Environmental influences on buildings and people

Aerodynamics and building dynamics

Research on constructions exposed to wind and snow loads



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# BRIEF INFORMATION ABOUT POLAND

Member state of the European Union

6th-largest Economy in the European Union and the 23rd biggest the 23rd biggest in the World

Population - over 38.5 million people + 10 million of Poles living abroad

Area – 312,679 square kilometers (120,726 sq mi)

60% of young Poles study at the university level, above the EU average

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## FAMOUS POLES

**Karol Wojtyła**  
the pope John Paul II



**Fryderyk Chopin**  
the most famous Polish composer and pianist



**Mikołaj Kopernik**  
the founder of modern astronomy



**Maria Skłodowska-Curie**  
scientist of nuclear physics,  
a winner of the Nobel Prize



**Andrzej Wajda**  
the Polish Director, awarded  
with Oscar



**Robert Lewandowski**  
the famous Polish football  
player



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## CRACOW UNIVERSITY OF TECHNOLOGY



- Faculty of Architecture
- Faculty of Physics, Mathematics and Computer Science
- Faculty of Electrical and Computer Engineering
- Faculty of Civil Engineering
- Faculty of Environmental Engineering
- Faculty of Chemical Engineering and Technology
- Faculty of Mechanical Engineering

*Cracow University of Technology (CUT) is an autonomous state university founded in 1945, reporting to the Polish Ministry of Science and Higher Education*

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# THE CITY OF CRACOW



## Few words about Cracow

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Former Royal City (1138 - 1606)

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The second largest (760 000 residents) and one of the oldest cities in Poland

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One of the most important Polish economic hubs, a major national academic and cultural centre.

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Classified as a global city by GaWC and cited as one of Europe's most beautiful cities, approved in 1978 by UNESCO for its World Heritage List, famous for its Gothic, Renaissance and Baroque architecture.

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## CRACOW – FAMOUS PEOPLE



***Joseph Conrad (1857-1924)***

Polish-born English writer and master mariner. Conrad is regarded as one of the greatest novelists in the English literature



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***Stefan Banach (1892-1945)***

Polish mathematician considered as one of the world's most important and most influential 20th-century mathematicians



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***Krzysztof Penderecki (1933)***

Famous contemporary Polish composer and conductor

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## CRACOW INTERNATIONAL AIRPORT

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### ***Destinations***

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Europe: main cities

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USA: Chicago

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Asia: Dubaj, Kutaisi, Tel Awiw

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### **Cracow Balice International Airport:**

- is the second busiest airport in Poland in terms of the volume of passengers served annually
- is located 12 km from Cracow city centre
- is connected to Cracow city by railway line and many buses roads

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# ICWE16

## LOCATION OF THE CONFERENCE

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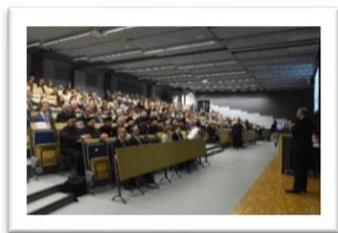
The location of the Conference is in the city centre of Cracow

The conference will be held in auditoria and rooms of the Cracow University of Technology.

The auditoria and rooms are fully equipped with modern multimedia equipment.

The capacity of big auditorium is 300 seats

The roundtables, parallel and poster sessions may be organized simultaneously in two small auditoria and up to 8 rooms



## TOPICS OF THE CONFERENCE

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***Topics include, but are not limited to:***

Actions due to hurricanes, tornadoes, downbursts

Advanced wind engineering tools (new measuring techniques of wind effects on buildings and people)

Bluff body aerodynamics

Combinations and interactions between wind and other environmental actions

Computational wind engineering

Extreme wind events and analysis

Field monitoring, full scale and wind tunnel testing

Impact of climate change in wind engineering

Industrial aerodynamics

Influence of wind on people in buildings

Linear and non linear response of structures to wind

Local wind actions on roofing and cladding

Pedestrian wind comfort

Pollution dispersion

Sports aerodynamics

Ways of reduction of excessive wind effects on people and buildings

Wind driven rain

Wind energy

Wind action codes and standards (problems of standardization of wind effects on buildings and people)

Wind-blown sand and snow drifts, wind-snow load interaction

Wind climate and the atmospheric boundary layer

Wind-related disaster risk reduction

Wind-resistant design of structures

Wind-structure interaction

## PROGRAMME

Time slot	Sunday 10.09.2023	Monday 11.09.2023	Tuesday 12.09.2023	Wednesday 13.09.2023	Thursday 14.09.2023	Friday 15.09.2023	
08:00-9:00		Registration					
9:00-10:30		Keynote 1	Keynote 2	Keynote 3	Keynote 4	Plenary session 13	
10:30-11:00		Coffe break & Poster session					
11:00-12:30		Plenary session 1	Plenary session 4	Plenary session 7	Plenary session 10	Closing ceremony	
12:30-14:00		Lunch					
14:00-15:30		Plenary session 2	Plenary session 5	Plenary session 8	Plenary session 11	Post conference tours	
15:30-16:00		Coffe break & Poster session					
16:00-17:30		Plenary session 3	Plenary session 6	Plenary session 9	Plenary session 12		
from 19:00		Welcome reception	Visit in WE and EA Centre	Cracow tour	Gala dinner	Iawe General Assembly	

## BUDGET

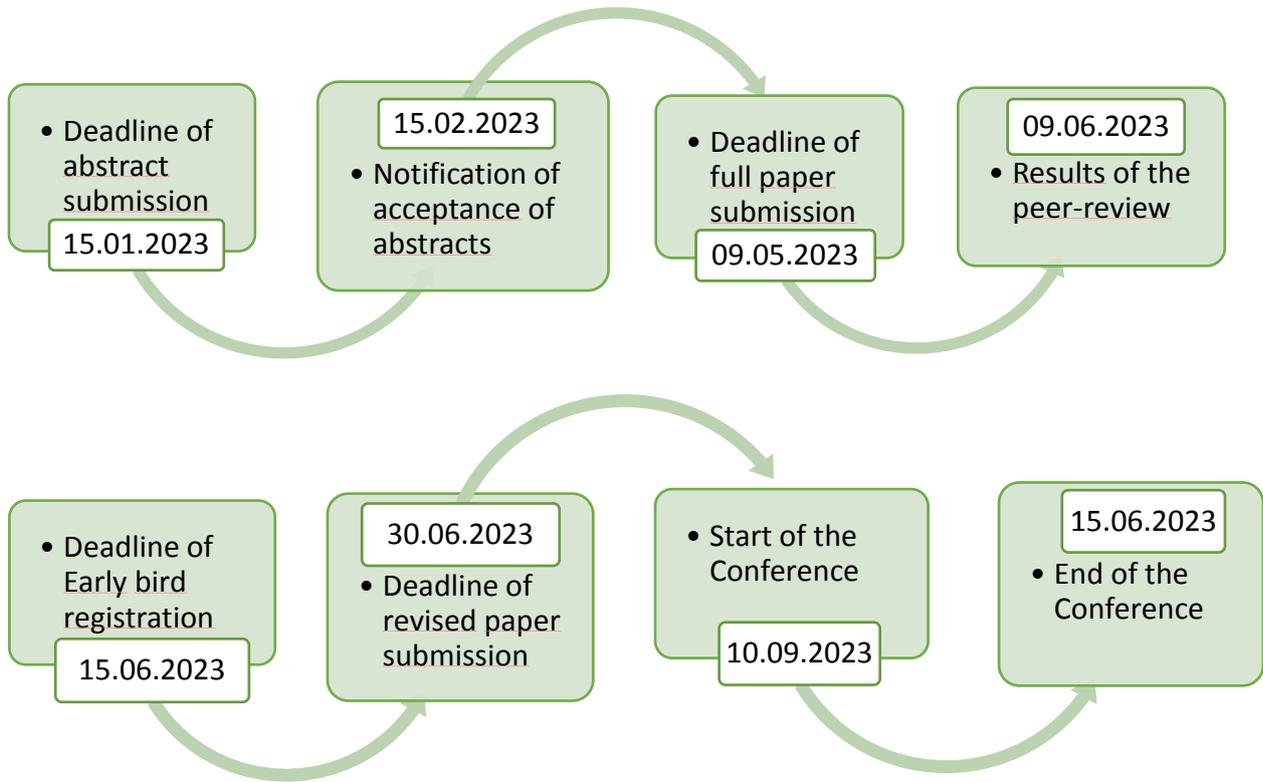
Registration fee	Price	Percentage of people	Total delegates		
			200	300	400
Participant (early)	700	50%	70000	105000	140000
Participant (standard)	750	35%	52500	78750	105000
Student (early)	350	5%	3500	5250	7000
Student (standard)	400	3%	2400	3600	4800
Accompanying person	350	5%	3500	5250	7000
Day visitor	250	2%	1000	1500	2000
<b>Total income (euro)</b>			<b>132900</b>	<b>199350</b>	<b>265800</b>

Variable costs	Price/ person or units	Days	Total delegates		
			200	300	400
Conference kit	30	1	6000	9000	12000
Welcome reception	25	1	5000	7500	10000
Gala dinner	50	1	10000	15000	20000
Daily lunch	15	4	12000	18000	24000
Coffee break (2 per day)	10	5	10000	15000	20000
Contribution to Iawe 5%	-	-	6645	9967.5	13290
<b>Total variable costs (euro)</b>			<b>49645</b>	<b>74467.5</b>	<b>99290</b>

Fixed costs	Price/unit	Units	Total (euro)
Banner	100	3	300
Roll-up	100	8	800
Bus rental	200	5	1000
Best paper prize	1500	4	6000
Invited persons	2500	6	15000
Photo & video	300	4	1200
Promotion & design	6000	1	6000
<b>Total fixed costs (euro)</b>			<b>30300</b>

## DEADLINES

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## POST-CONFERENCE TOURS

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Walking through **the Royal Route** you can take delight in the most important and splendid Cracow's monuments such as churches, Cloth House, buildings and streets. It leads along the historic road from the main entrance gate into the city.



**The Wieliczka Salt Mine** is thought to have been created by the forces of nature around 15 million years ago. Visitors can admire many chambers with carvings and statues. It is worth seeing a salt lake that holds more than 300 g of salt per one litre.



**Ojców National Park** is located in Southern Poland. It embraces valleys of two small rivers and neighbouring fragments of Jurassic plateau and is the smallest National Park in Poland

**Auschwitz Birkenau Museum** reminds us about cruelty of war. „We must remember that this tragedy will never happen again” – this phrase is written in one of the barracks. This place should be visited not to forget.