

**10th INTERNATIONAL CONFERENCE
ON ENVIRONMENTAL EFFECTS ON BUILDINGS AND PEOPLE:
ACTIONS, INFLUENCES, INTERACTIONS, DISCOMFORT
(EEBP X)**

September 16-19, 2024, Cracow, Poland

Co-organised by:

- **Polish Association for Wind Engineering**
Member Organisation of international Association for Wind Engineering
- **Wind Engineering Laboratory, Cracow University of Technology**
- **Polish Group for Snow Engineering**

In cooperation with:

-International Association for Wind Engineering



FOREWORD

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

The wind, snow and environmental engineering community in Poland is very pleased to cordially welcome you to Cracow, Poland, for the 10th International Conference on Environmental Effects on Buildings and People: Actions, Influences, Interactions, Discomfort (EEBP X), which is 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 Polish Group for Snow Engineering (PGSE); 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.

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 finished realization of new big

laboratory equipped with three wind tunnels: 1 – Big-size wind tunnel of building aerodynamics and wind power engineering; 2 – Big-size climatic wind tunnel of environmental engineering; 3 – Wind tunnel of flow visualization. In this laboratory will be conducted model tests and computer simulations regarding: wind action on buildings, wind powers, transmission lines; dynamic impact on smog and ventilation of urban areas; experimental studies of environmental and climatic influences on buildings and structures. Visiting of this new laboratory is planed during the conference as a special conference event.

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 10th International Conference on Environmental Effects on Buildings and People: Actions, Influences, Interactions, Discomfort (EEBP X) in Cracow will be great event, success and outstanding opportunity to open the doors for better future professional and cultural cooperation. We encourage everyone to come to visit the beautiful country of Poland and its former capital city Cracow, a charming royal town in central Europe.

CONFERENCE CHAIRMAN: PROF. DR. SC. ENG. ANDRZEJ FLAGA

- PRESIDENT OF THE POLISH ASSOCIATION FOR WIND ENGINEERING AND POLISH GROUP OF SNOW ENGINEERING
- FOUNDER AND FULL PROFESSOR AT THE WIND ENGINEERING LABORATORY OF CRACOW UNIVERSITY OF TECHNOLOGY
- CHAIRMAN OF THE SEVEN SYMPOSIA AND ONE CONFERENCE ON ENVIRONMENTAL EFFECTS ON BUILDINGS AND PEOPLE: ACTIONS, INFLUENCES, INTERACTIONS, DISCOMFORT (EEBP)



INTERNATIONAL SCIENTIFIC COMMITTEE

➤ **Co-Chairs:** Prof. Joanna Dulińska (Poland), Prof. Tim K.T.Tse (China)

➤ **Members:**

Prof. Alexandru Aldea (Romania)	Prof. Gregory A. Kopp (Canada)
Dr Srinivasan Arunachalan (India)	Prof. Holger Koss (Denmark)
Prof. Chris Baker (UK)	Dr Hrvoje Kozmar (Croatia)
Prof. Gianni Bartoli (Italy)	Prof. Kenny Kwok (Australia)
Prof. Jeroen van Beeck (Belgium)	Dr Guy Larose (Canada)
Prof. Jan Benčat (Slovakia)	Prof. Zhu Le-Dong (China)
Prof. Ewa Błazik-Borowa (Poland)	Prof. Chris W. Letchford (USA)
Prof. Claudio Borri (Italy)	Prof. Tomasz Lipecki (Poland)
Dr Ilena Calotescu (Romania)	Prof. Arcir M. Loredo-Souza (Brazil)
Prof. Shuyang Cao (China)	Prof. Mariusz Maślak (Poland)
Prof. Xinzhong Chen (USA)	Prof. Hans J. Niemann (Germany)
Prof. Tadeusz Chmielewski (Poland)	Dr Felix Nieto (Spain)
Prof. Ashraf El Damatty (Canada)	Prof. Luisa Pagnini (Italy)
Prof. Vincent Denoël (Belgium)	Prof. Stanislav Pospišil (Czech Republic)
Prof. Maciej Dutkiewicz (Poland)	Prof. Francesco Riccardelli (Italy)
Prof. Andrzej Flaga (Poland)	Prof. Fabio Rizzo (Italy)
Dr Olivier Flamand (France)	Prof. Krzysztof Rogowski (Poland)
Prof. Richard Flay (New Zealand)	Dr Jonas Snaebjörnsson (Iceland)
Prof. Chris Geurts (The Netherlands)	Prof. Ted Stathopoulos (Canada)
Prof. Piotr Górski (Poland)	Prof. Mark Sterling (UK)
Dr Rajeew Gupta (India)	Dr Paweł Sulik (Poland)
Dr Hassan Hemida (UK)	Prof. Yukio Tamura (China)
Prof. Rüdiger Höffer (Germany)	Prof. Thomas Thiss (Norway)
Dr Stanislav Hračov (Czech Republic)	Prof. Yoshihide Tominaga (Japan)
Prof. Michail Iancovici (Romania)	Prof. Takuya Tsutsumi (Japan)
Dr Peter Irwin (Canada)	Prof. Yasushi Uematsu (Japan)
Prof. Sungmoon Jung (USA)	Dr Wojciech Węgrzyński (Poland)
Prof. Jan Juraszek (Poland)	Prof. Qingshan Yang (China)
Prof. Roman Kinash (Poland/Ukraine)	Prof. Alberto Zasso (Italy)
Prof. Katarzyna Klemm (Poland)	Prof. Xuanyi Zhou (China)

AUSPICES

- Prof. Andrzej Szarata – Rector of the Cracow University of Technology
- Dr Aleksander Miszański – President of Cracow City
- Prof. Maria Kaszyńska – President of the Polish Association of the Civil Engineers and Technicians
- Prof. Joanna Dulińska – President of the Civil Engineering Committee of the Cracow Branch of the Polish Academy of Sciences
- Prof. Lucyna Domagała – Dean of Faculty of Civil Engineering, Cracow University of Technology
- MSc. Eng. Mirosław Boryczko - President of the Chamber of Civil Engineers of Małopolska District
- MSc. Eng. Antoni Szlagor – Mayor of Żywiec City

In cooperation with:

- International Association for Wind Engineering

CONFERENCE ORGANISERS

- Polish Association for Wind Engineering
Member Organization of the International Association for Wind Engineering
- Wind Engineering Laboratory at the Cracow University of Technology
- Polish Group for Snow Engineering

LOCAL ORGANIZING AND HOST COMMITTEE

- Chair – Prof. Andrzej Flaga
- Vice Chair – Prof. Tomasz Lipecki
- Secretary – Dr Maciej Pilch
- Members: Dr Łukasz Flaga, Dr Renata Kłaput, Dr Aleksander Pistol, MSc Joanna Obłój

CONTACT

- Names: Prof. Tomasz Lipecki, Dr Maciej Pilch, Dr Aleksander Pistol,
- Add: EEBPX, Wind Engineering Laboratory, Cracow University of Technology, Al. Jana Pawła II 37/3a, 31-864 Cracow, Poland
- Website: www.psiw.org.pl
- E-mails: t.lipecki@pollub.pl, maciej.pilch@pk.edu.pl, aleksander.pistol@pk.edu.pl

POTENTIAL SPONSORSHIP

Wind Engineering Laboratory of Cracow University of Technology has a history of cooperation with a large number of companies that could be interested in acting as sponsors of the Conference. These companies represent the following fields:

- Structural design, architecture, development
- Wind energy and wind turbines
- Measurement equipment and software
- Engineering software and CFD simulations
- Mechanical design, specialised automatics
- Production and storage

TOPICS OF THE CONFERENCE

Topics include, but are not limited to:

- Actions and disasters due to hurricanes, tornadoes, downbursts
- Applied buildings and environmental acoustics
- CFD applications in environmental actions
- Codes, norms and standards – problems of standardization of environmental effects on buildings and people
- Combinations and interactions of wind and other environmental actions (snow engineering, wind-driven rain, sand drifting)
- Environmental effects on buildings and structures (wind action, snow load, ice accretion and ice load, thermal action of climatic and technological origin, etc.)
- Local wind actions on roofing and cladding
- New measuring techniques of environmental effects on buildings and people
- Pedestrian wind comfort and environmental comfort of people in buildings and their surroundings
- Smog and air pollution dispersion reduction and urban ventilation
- Thermal and fire influences on buildings and structures
- Ways of reduction of excessive environmental effects on buildings and people
- Wind energy and wind power plants
- Wind flows over complex terrain

KEYNOTE LECTURES

1. Prof. Yukio Tamura (China)
Damping devices to suppress vibrations of buildings and structures.
2. Prof. Ashraf El Damatty (Canada):
Wind tunnel tests and standardization problems of tornados actions and downburst actions on power lines and other engineering structures.
3. Dr Łukasz Flaga, Prof. Andrzej Flaga (Poland):
New big-size wind tunnels of the Wind Engineering Laboratory at the Cracow University of Technology and their research possibilities in wind, snow and environmental engineering.
4. Prof. Fabio Rizzo (Italy):
Cable net roofs with hyperbolic-paraboloid shape: structural behaviour, aerodynamics and aeroelasticity.
5. Prof. Andrzej Flaga (Poland):
Similarity criteria for wind tunnel model tests and standardization problems of snow loads in conditions of snow precipitation and snow redistribution.

All keynote lectures will be published in the Conference Proceedings, i.e. in the Book of Keynote Lectures and Abstracts. The keynote lecture should not exceed 20 pages. Instructions for the format of preparations the keynote lectures is the same as for abstracts (see attached instructions at the end of this booklet). Electronic version of the keynote lecture should be sent to the Organizing Committee not later than 30.07.2024.

REGISTRATION FORM, ABSTRACTS AND FULL PAPER

Participants are asked to send the registration form with the title of the paper and the abstract (not exceeding 2 A4 pages) not later than May 15, 2024 in the format attached at the end of this booklet.

These abstracts will be published in the EEBP X Conference Proceedings, together with the keynote lectures.

Full papers should not exceed 10 pages. Apart from, the instruction for the preparation of a full paper is the same as for an abstract. Electronic version of the full paper should be sent to the Organizing Committee just before the Conference.

Full papers after two reviews could be printed past the EEBP X in the journals:

- Technical Transactions (<https://sciendo.com/journal/TECHTRANS>)
- Building and Architecture (<https://ph.pollub.pl/index.php/bia/index>)

REGISTRATION FEES AND BUDGET

			Total delegates
			200
Registration fee	Price	Percentage of people	Income
Participant (early)	500	40%	40 000
Participant (standard)	550	25%	27 500
PAWE Members	400	20%	16 000
Student (early)	250	5%	2 500
Student (standard)	300	3%	1 800
Accompanying person	300	5%	3 000
Day visitor	200	2%	800
Total income (euro)			91 600

ESTIMATED EXPENSES

			Total delegates
			200
Variable costs	Price/person	Days or units	Costs
Conference kit	30	1	6 000
Welcome reception	25	1	5 000
Gala dinner	50	1	10 000
Daily lunch	15	3	9 000
Coffee break (2 per day)	10	5	10 000
Contribution to IAWE 5%	-	-	6 645
Total variable costs (euro)			45 645

Fixed costs	Price/unit	Units	Total (euro)
Banner	100	3	300
Roll-up	100	8	800
Bus rental	200	5	1 000
Invited persons	2500	6	15 000
Photo & video	300	4	1 200
Promotion & design	6 000	1	6 000
Total fixed costs (euro)			24 300

PAYMENT METHOD

By wire transfer

Payment details:

➤ **For euro payment:**

Beneficiary: Cracow University of Technology

IBAN: PL40 2490 0005 0000 4600 3419 4146

BIC/SWIFT: ALBPPLPW

Beneficiary address: ul. Warszawska 24, 31-155 Cracow

Bank / Payment institution: ALIOR BANK

Bank / Payment institution address: ul. Lopuszanska, 02-232 Warsaw

➤ **For PLN payment:**

Beneficiary: Cracow University of Technology

IBAN: 09 2490 0005 0000 4600 1012 1826

BIC/SWIFT: ALBPPLPW

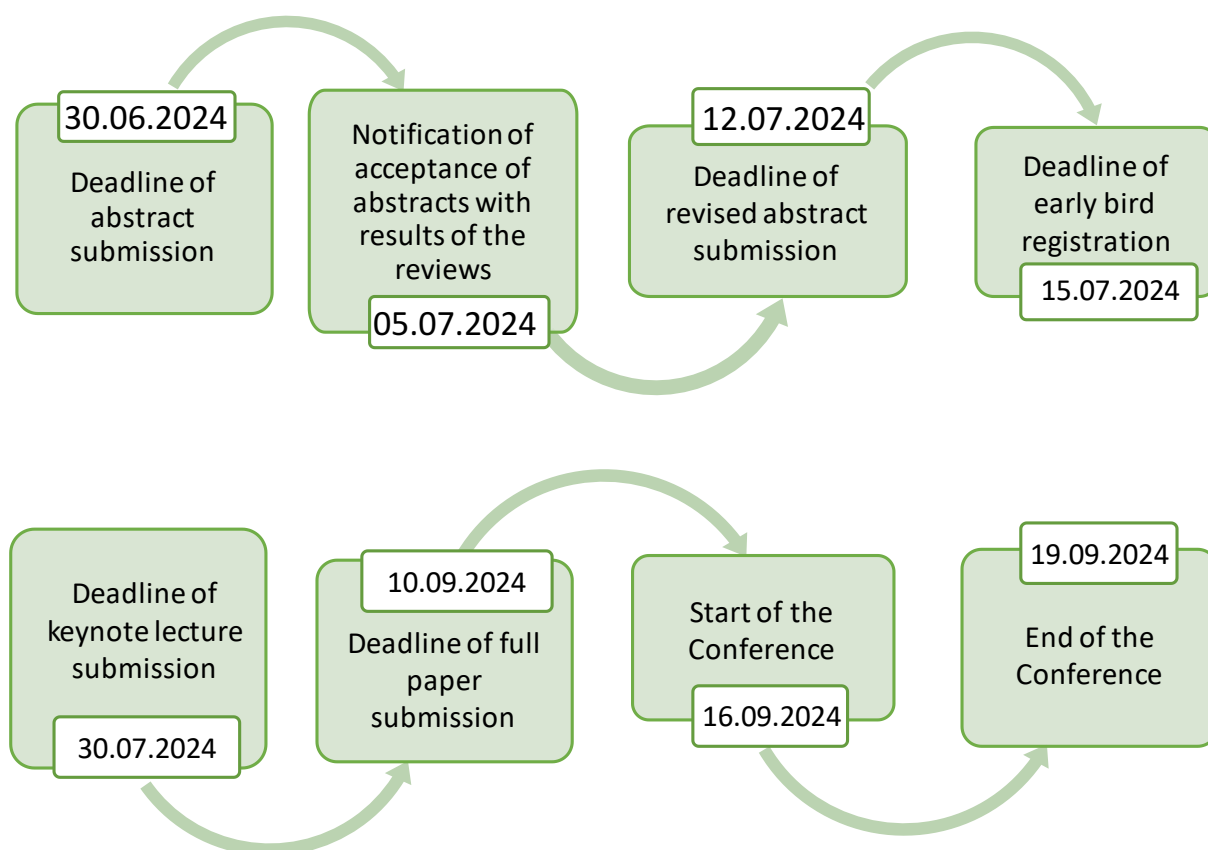
Beneficiary address: ul. Warszawska 24, 31-155 Cracow

Bank / Payment institution: ALIOR BANK

Bank / Payment institution address: ul. Łopuszańska, 02-232 Warsaw

After sending your registration payment by bank wire transfer, scan the bank receipt and attach the PDF file in an email to: joanna.obloj@pk.edu.pl

DEADLINES



PROGRAMME

Time slot	Sunday 15.09.2024	Monday 16.09.2024	Tuesday 17.09.2024	Wednesday 18.09.2024	Thursday 19.09.2024	Friday 20.09.2024
08:00-9:00			Registration			
9:00-9:45			Opening Ceremony	Keynote 3	Keynote 5	Post conference tours
9:45-10:15			Coffe break and Poster Session			
10:15-11:45			Keynote 1	Plenary session 3	Plenary session 6	
11:45-13:00			Lunch			
13:00-13:45			Keynote 2	Keynote 4	Plenary session 7 and Closing Ceremony	
13:45-15:15			Plenary session 1	Plenary session 4		
15:15-15:45			Coffe break and Poster Session			
15:45-17:15		Registration	Plenary session 2	Plenary session 5		
17:15-19:00		Welcome reception	Visit in WEL-CUT	Galla Dinner and Cracow by night		
From 19:00						

Brief info about Poland

Member state of the European Union since 2004

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

Population - over 38 million people + 20 million Poles living abroad

Total area – 312,696 km² (120,733 sq mi)

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



Famous Polish people



- Mikołaj Kopernik (Nicolaus Copernicus) (1473-1543), the father of modern astronomy;
- Fryderyk Chopin (1810-1849), famous composer and virtuoso pianist;
- Maria Skłodowska-Curie (1867-1934), physicist and chemist, 2-times Noble Prize winner in physics and chemistry, 1st woman to win Noble Prize;
- Karol Wojtyła (1920-2005), former archbishop and cardinal of the Cracow Metropoly, pope John Paul II in the Roman-Catholic Church;
- Andrzej Wajda (1926-2016), film director, lifetime Academy Award and Palme d'Or winner;
- Robert Lewandowski (born 1988), a Polish football player currently playing for FC Barcelona, considered one of the best strikers of all time.

The City of Cracow



- Former capital and Royal City (1038-1596);
- Second largest city in Poland (780 000 in the city, 1 725 000 in metropolitan area);
- Major national academic and cultural centre, one of the most important economic hubs in Poland;
- Classified as a global city by GaWC and cited as one of Europe's most beautiful cities, approved in 1978 for UNESCO World Heritage List, famous for its Gothic, Renaissance and Baroque architecture;
- With a history lasting over a thousand years, Cracow still remains the spiritual heart of Poland. The intellectual environment of Cracow is created by 23 universities, nearly 20 000 academic lecturers and 190 000 students. It is a major tourist attraction that welcomes seven million visitors annually.



Famous people from Cracow



Joseph Conrad (1857-1924)

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

Stefan Banach (1892-1945)

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



Krzysztof Penderecki (1933-2020)

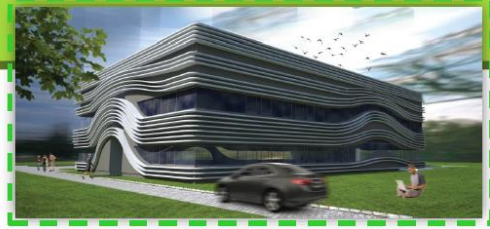
Famous contemporary Polish composer and conductor

Conference venue

Conference Venue:

CUT Kraków-Czyżyny campus

Al. Jana Pawła II 37,
31-864 Cracow (Poland)



Conference Venue:
CUT Kraków-Czyżyny
campus

Conference venue

- The planned conference venue is at the Kraków-Czyżyny campus of CUT ;
- The conference will be held in auditoria and lecture halls of the Cracow University of Technology;
- The venue is fully equipped with modern multimedia equipment;
- The capacity of the large auditorium is 300 seats;
- The roundtables, parallel and poster sessions may be organized simultaneously in two small auditoria and up to 8 additional rooms



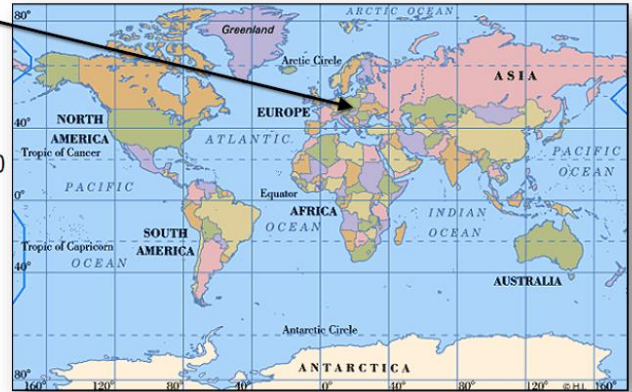
Cracow University of Technology



Tadeusz Kościuszko Cracow University of Technology (CUT) is a public autonomous state university founded in 1945, reporting to the Polish Ministry of Education and Science

Cracow University of Technology

- Academic staff: 1 155
- Administrative staff: 900
- Students: 17 400



Faculties of CUT

- Faculty of Architecture;
- Faculty of Computer Science and Telecommunications;
- Faculty of Electrical and Computer Engineering;
- Faculty of Civil Engineering;
- Faculty of Materials Engineering and Physics;
- Faculty of Environmental Engineering and Energy;
- Faculty of Chemical Engineering and Technology;
- Faculty of Mechanical Engineering;
- Doctoral School.



International cooperation of CUT

Cooperation with academic and industrial centres around the world, including universities from USA, China, United Kingdom, Canada, Germany, France, Norway, Switzerland, Italy, Ukraine, Australia, Japan, South Korea, India, Egypt, Ethiopia, Brasil, Chile, Colombia, Croatia, Czech Republic, Finland, Romania, Hungary, Mexico, Malaysia, Singapore, Morocco, Turkey.



Kraków John Paul II International Airport

- 2nd busiest airport in Poland in terms of volumes of passengers served annually (over 3 million passengers per year);
- Located 11 km from the city centre in the village of Balice;
- Connected to the city with railway line and a number of bus lines with easy and fast transport possibilities.



Destinations:

- Europe: main cities;
- USA: Chicago;
- Asia: Tel Aviv, Dubai, Abu Dhabi, Amman, Kutaisi;
- Africa: Agadir, Hurghada.

Post-conference tours proposals

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.



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.

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.



New Wind Engineering Laboratory at the CUT

