

# 1st INTERDISCIPLINARY DOCTORAL CONFERENCE & WORKSHOP

LUBLIN 7-10 XI 2023

## INFOPACK

# IMPORTANT PLACES

## WEDNESDAY - PLACE OF MEETING

Faculty of Mechanical Engineering  
Lublin University of Technology,  
Nadbystrzycka Street 36  
Stanisław Podkowa Auditorium



## TUESDAY - OPENING

Faculty of Electrical Engineering  
and Computer Science  
Lublin University of Technology,  
Nadbystrzycka Street 38a  
Auditorium E201, floor 1



## THURSDAY - VENUE OF THE DEBATES

Faculty of Civil Engineering  
and Architecture  
Lublin University of Technology,  
Nadbystrzycka Street 40  
Auditorium III, floor 3



## FRIDAY - PLACE OF MEETING

Faculty of Environmental Engineering  
Lublin University of Technology,  
Nadbystrzycka Street 40B  
Auditorium1, floor 1



## LUNCH (WEDNESDAY AND THURSDAY)

Student canteen "Lanczomania"  
ul. Nadbystrzycka 40A



## VISIT LUBLIN (THURSDAY - START AT 16:30)

"Grodzka Gate - NN Theatre"  
Centre in Lublin, Grodzka Street 21

**DURATION: APPROX. 1 HOUR**



## GALA DINNER (WEDNESDAY)

"Za Kulisami" restaurant  
Plac Teatralny 1

**DRESS CODE: SEMI-FORMAL/BUSINESS**

## DINNER (THURSDAY)

Restauracja "Trybunalska"  
Rynek 4

**DRESS CODE: BUSINESS CASUAL**



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# CAMPUS OF LUT



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# CONFERENCE PROGRAMME

07.11.2023 (Tuesday)

Faculty of Electrical Engineering and Computer Science  
Lublin University of Technology

14:00-15:00 Registration

floor 2

15:00-15:30 **Invited Lecture 1**  
prof. Kruno MILICEVIC: *Digital Transformation of Metrology*

**Chairman:** T. Kołtunowicz  
D. Kostyła

15:30-16:00 **Invited Lecture 2**  
prof. Anton TRNIK: *Non-destructive measurement of Young's modulus*

**Auditorium E201**

16:00-18:00 Visit Laboratory

18:00-19:00 Steering Committee Meeting-part 1

19:00-20:00 Steering Committee Meeting-part 2

**Auditorium E212**



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# CONFERENCE PROGRAMME

08.11.2023 (Wednesday)

Faculty of Mechanical Engineering, Auditorium A1  
Lublin University of Technology

8:00-9:00 Registration

ground floor

9:00-9:30 Welcome Speech

Chairman: M. Janek, D. Kostyła

## Invited Lecture 3

prof. Ivana MILICEVIC: *Application of recycled materials in construction:  
From Structural Elements to Electromagnetic Shielding*

Chairman: A. Trnik  
M. Kuszneruk

## Session 1 - Mechanical Engineering - A

Chairman: A. Trnik  
M. Kuszneruk

10:00-10:15

P. R. Koczan  
*Thermal conditions of 3D prints created using the FDM method*

10:15-10:30

M. Lelen  
*Analysis of geometric features of double-layer structure after water jet cutting*

10:30-10:45

K. Ludziak  
*Application hydrotreated vegetable oils (HVO) in low-temperature combustion systems.*

10:45-11:00

W. Okuniewski  
*Effect of shot peening treatment on Ti-6AL-4V: Comparison of additive manufacturing to conventional methods*

11:00-11:15

P. Podolak  
*Multiple impact response of titanium-based FMLs in numerical simulations*

11:15-11:30

M. Rodziewicz  
*The Effect of Filler Size on the Structure and Selected Functional Properties of Silorane-based Powder Composites*

11.30-12.00 Coffee Break



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# CONFERENCE PROGRAMME

08.11.2023 (Wednesday)

Faculty of Mechanical Engineering, Auditorium A1  
Lublin University of Technology

## Session 2 - Electrical Engineering

Chairman: K. Milicevic  
M. Janek

12:00-12:15	M. Lech <i>Analysis of the phenomenon of vacuum, low-voltage electric arc</i>
12:15-12:30	A. Zielonka <i>The impact of renewable energy sources on power grids in Poland</i>
12:30-12:45	P. Gałaszkiwicz <i>Electrical properties of Mo-W-C nanocomposites.</i>
12:45-13:00	J. Kowalska <i>The impact of PV sources on the SAIDI and SAIFI indicators</i>
13:00-13:15	D. Kostyla <i>Fiber optic pressure gauge in medium-voltage vacuum devices</i>
13:15-13:30	A. Wilczyńska <i>The influence of constructional and technological parameters on AC measurements and surface morphology of multilayered NiFe-SiO<sub>2</sub> nanocomposites</i>

13.30-14.30 LUNCH - restaurant "Lanczomania"

14.30-15.00 **Invited Lecture 4**  
prof. Igor MEDVED: *Determination of moisture diffusivity in porous materials*

Chairman: Z. Suchorab  
A. Zielonka

## Session 3 - Interdisciplinary

Chairman: I. Medved  
A. Zielonka

15:00-15:15	E. Osmólska <i>Innovative Strategies to Increase Safety in the Fruit and Vegetable Juice Production Process</i>
15:15-15:30	P. Tymińska-Wójcik <i>Innovative Cheneau brace as an optimised alternative to static orthosis improving idiopathic scoliosis therapy</i>

15.30-16.00 Coffee Break

16.00-18.00 Poster Session - PS

19.00-22.00 Gala Dinner - restaurant "Za Kulisami"

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# CONFERENCE PROGRAMME

09.11.2023 (Thursday)

Faculty of Civil Engineering and Architecture - Auditorium III  
Lublin University of Technology

9:00-9:30	<b>Invited Lecture 5</b> Hakim ABDELGADER: <i>How to choose concrete mix design methods in hot weather climates</i>	<b>Chairman:</b> R. Rusinek D. Kostyła
9:30-10:00	<b>Invited Lecture 6</b> Andjelka HEDRIH: <i>Sperm-oocyte interaction as an oscillatory phenomenon</i>	
<b>Session 4 - Mechanical Engineering - B</b>		<b>Chairman:</b> P. Valvo D. Kostyła
10:00-10:15	D. Salamacha <i>Impact of measurement conditions and measurement strategy on the accuracy and repeatability of positioning of a milling plotter</i>	
10:15-10:30	M. Sowa <i>Effect of the oral environment on the degradation of dimethacrylate resins blends modified with liquid rubber</i>	
10:30-10:45	A. Świetlicki <i>Effects of heat treatment and shot peening on 17-4PH steel manufactured using DMLS technology.</i>	
10:45-11:00	M. Trendak <i>Oil quality testing as a basis for warranty claims</i>	
11:00-11:15	K. Vasiukov <i>Wet vacuum impregnation as a modification of the malting process of barley grains of different varieties</i>	
11:15-11:30	R. Zablotni <i>Examining the Effect of Double Excitation in a Lumped Parameter Model for the Implanted Human Middle Ear</i>	
1.30-12.00	Coffee Break	



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# CONFERENCE PROGRAMME

09.11.2023 (Thursday)

Faculty of Civil Engineering and Architecture - Auditorium III  
Lublin University of Technology

## Session 5 - Civil Engineering

Chairman: Z. Suchorab  
M. Lech

12:00-12:15	A. Alsharif- ONLIE <i>The effects of polyethylene and polypropylene fiber additions on the mechanical properties of self-compacting concrete</i>
12:15-12:30	M. Budka <i>Mechanical properties and mechanical erosion resistance of polymer composites with a quartz protective layer</i>
12:30-12:45	M. Grzegorzczak-Frańczak <i>Investigation of the possibility to improve the frost resistance of concrete using polymer microspheres</i>
12:45-13:00	M. Janek <i>Self-healing of cementitious composites by microbial precipitation of carbonates</i>
13:00-13:15	A. Szewczak <i>Adhesion of modified epoxy glue to concrete</i>
13:15-13:30	W. Zbyszyński <i>Evaluation of the interface layer impact on fracture energy of the 3D printed multi-layered mortar composite</i>

13.30-14.30 LUNCH - restaurant "Lanczomania"

14.30-15.00	<b>Invited Lecture 7</b> prof. Paolo VALVO: <i>The Finite Element Method in Solid and Structural Mechanics</i>	Chairman: A. Hedrih M. Grzegorzczak-Frańczak
15.00-15.30	<b>Invited Lecture 8</b> prof. Daniele FANTERIA: <i>Differences and potential synergies between science, technology and engineering: the perspective of an aeronautical structural engineer</i>	

16.00-18.00 Visit Lublin

19.00-22.00 Dinner - restaurant "Trybunalska"

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# CONFERENCE PROGRAMME

10.11.2023 (Friday)

Faculty of Environmental Engineering, Auditorium  
Lublin University of Technology

9:00-9:30	<b>Invited Lecture 9</b> prof. Stefano LENCI: <i>1:1 internal resonance in wind turbines towers</i>	<b>Chairman:</b> R. Rusinek P. Gałaszkiwicz
9:30-10:00	<b>Invited Lecture 10</b> prof. Tamas KALMAR-NAGY: <i>A mechanistic model for turbulence</i>	
<b>Session 6 - Mechanical Engineering - C</b>		<b>Chairman:</b> T. Kalmar-Nagy P. Gałaszkiwicz
10:00-10:15	M. Drożdźiel-Jurkiewicz <i>Interlaminar fracture toughness analysis of carbon-fiber titanium laminates – effect of surface modification</i>	
10:15-10:30	S. Kapyś <i>Selected properties of PHB modified by nigella oil cake</i>	
10:30-10:45	J. Brzozowska <i>Problems of forecasting the length of the assembly cycle of complex products realized in the mto (make-to-order) model</i>	
10:45-11:00	K. Cybul <i>Improving relative measurement uncertainty by developing and implementing a new force reference standard up to 100 kN into the national metrology infrastructure</i>	
11:00-11:15	B. Czajka <i>Compressed composite columns - experimental and numerical research</i>	
11:15-11:30	F. Longwic <i>Highly filled polymers as a method of plant waste management</i>	
11.30-12.00	Coffee Break	



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10.11.2023 (Friday)  
Faculty of Environmental Engineering  
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## Session 7 - Environmental Engineering

Chairman: Z. Suchorab  
A. Wilczyńska

12:00-12:15	G. Sadowska <i>Development of a method for short-term forecasting of energy yield in solar-powered systems</i>
12:15-12:30	K. Wrześcińska <i>Application of HPLC-ICP-MS Coupled Technique for Direct Determination of Iodinated Contrast Media (ICM) in Hospital Wastewater</i>
12:30-12:45	M. Staniszewski <i>Application of machine learning to identify activated sludge organisms</i>
12:45-13:00	N. Marchelina <i>Non-ureolytic pathway of MICP for improvement of loose sandy soil</i>
13:00-13:15	D. Mikušová <i>Monitoring of water transport using reflectometric technique</i>
13:15-13:45	Closing Ceremony

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See you at Lublin University of Technology



**CONTACT US!**



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