



TREFFTZ VIII MFS IV 2017

**The Joint International Conference on Trefftz Method VIII
and Method of Fundamental Solutions IV**

PROGRAMME

**4-9 July 2017
Poznań, Poland**

Organized by:



Poznan University of Technology
Faculty of Mechanical Engineering and Management
Institute of Materials Technology



Under the honorary patronage of:

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Assoc. Prof. Olaf Cizak, Dean of the Faculty of Mechanical Engineering
and Management

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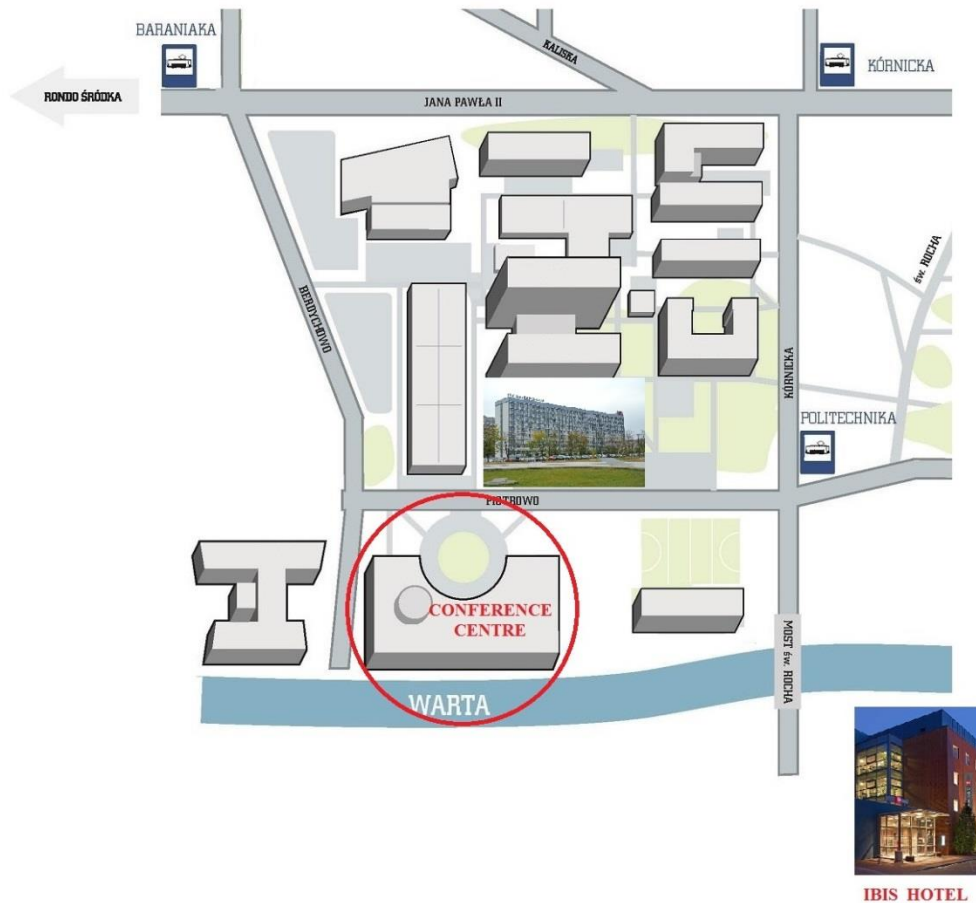
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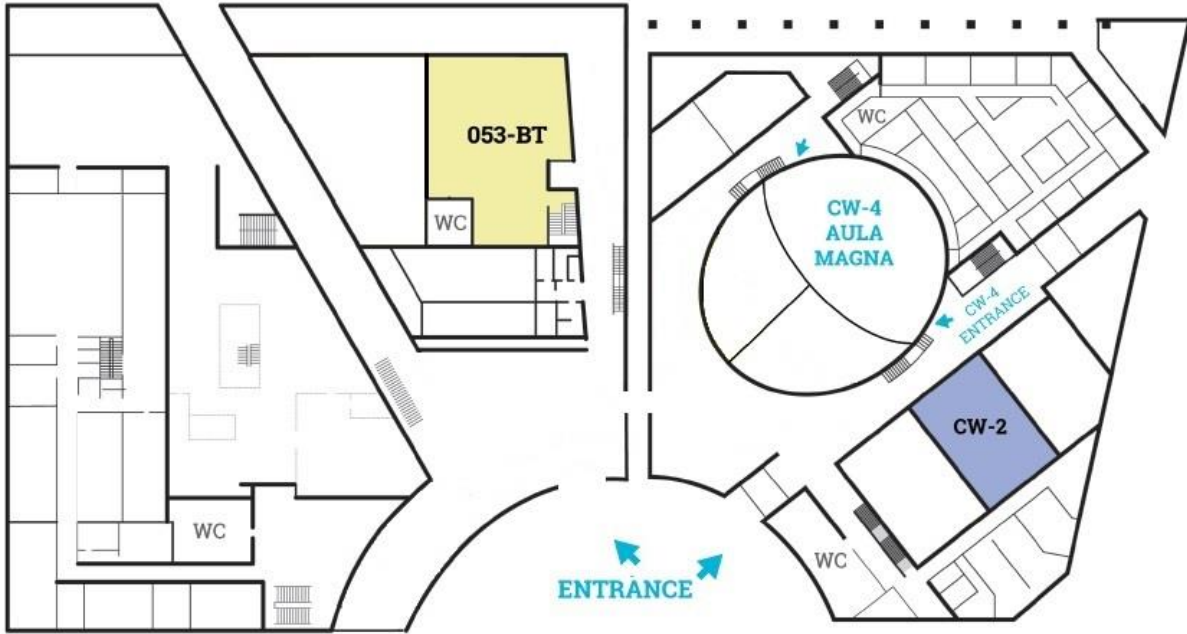
Organizing committee

Prof. Anita Uściłowska (Institute of Materials Technology, Poznan University of Technology)
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Jakub Grabski, PhD (Institute of Applied Mechanics, Poznan University of Technology)

CONFERENCE VENUE

Poznan University of Technology Conference Centre,
ul. Piotrowo 2, 61-138 Poznań, POLAND.





CONFERENCE CENTRE

Room CW-7 is located on the first floor over room CW-2.

GENERAL INFORMATION

Opening ceremony

Wednesday, July 5th 2017 – 9:00

The ceremony will take place at Poznan University of Technology, Conference Centre, ul. Piotrowo 2 in Poznań, CW-4, Aula Magna.

Closing ceremony

Friday, July 7th 2017 – 16:40

The ceremony will take place at Poznan University of Technology, Conference Centre, ul. Piotrowo 2 in Poznań, CW-7.

Registration

For registration and collection of conference materials, please visit the Registration Desk located at the Conference Centre, 053-BT. At the time of registration participants are asked to submit a declaration regarding the participation in special events: the walk to the city centre with dinner on Wednesday and the conference tour on Friday.

Registration opening hours:

Tuesday, July 5th 2017: 18:00 – 20:00

Wednesday, July 6th 2017: 8:00 – 9:00

On the other days of the conference please contact with any member of the Organizing Committee.

Getting around

The best way to discover Poznań is by public transport. The transport system is based on a network of trams and buses. The following tickets are available:

- 3 PLN for 10 minutes,
- 4.60 PLN for 40 minutes.

Single Proximity Cards must be validated in the reader at the entrance to the vehicle. If you plan on travelling often, you may want to consider a 24h, 48h, 72h or one week tickets.

Tickets are bought from automated machines found on most (specially marked) buses and trams as well as at most transport stops.

We recommend also using the website <http://poznan.jakdojade.pl> whenever planning your journey in Poznań with public transport. You can use *JakDojade* on both desktop computer and mobile devices.

Taxi

The most comfortable way to travel from the airport or railway station to your hotel or to conference venue is to go with taxi. You can order taxi in one of taxi corporations

RADIO TAXI 519 +48 61 8 519 519	RADIO TAXI STOP +48 61 8 222 333	MULTI-TAXI +48 61 96 66	RADIO TAXI LUX +48 61 96 62
RADIO TAXI +48 61 96 22	EXPRESS TAXI +48 61 96 24	EB TAXI +48 61 8 222 222	HALLO TAXO +48 61 8 216 216

Arriving by trainFrom Poznań Dworzec Główny (main railway station)

Take the tram line 5, direction Stomil from Most Dworcowy and get off at Politechnika (7 stops, about 15 minutes).

Arriving by plane

Take the bus line 59 (14 stops, about 20 minutes), direction Rondo Kaponiera, get off at Rondo Kaponiera. Then take the tram line 5 (direction Stomil, 6 stops, about 10 minutes) or line 13 (direction Starołęka, 6 stops, about 10 minutes). Get off at Politechnika.

Arriving by car

If you arrive by car, you can use the car parks at the Poznan University of Technology. Please contact with the organizing committee.

Meals

Welcome reception, lunches and banquet will be served at Conference Centre, room 053-BT.

If you have any questions feel free to contact with members of the Organizing Committee.

SPECIAL EVENTS

Walk to the city centre and dinner

Wednesday, July 5th 2017, 18:45

We planned walk to the city centre with short comments of tourist guide. During the walk we will see the Old Market Square with renaissance town hall, Royal Castle, Liberty (Wolności) Square and Imperial Castle.

At the end of the walk a dinner with traditional polish dumplings (pierogi) will be served in the restaurant "*Chłopskie Jadło*". If someone want to go directly to the restaurant see the address of the restaurant below. The dinner is planned at 20.00.

Chłopskie Jadło

ul. Fredry 12, 61-701 Poznań

Banquet

Thursday, July 6th 2017, 20:00

The conference banquet will take place at the Poznan University of Technology, Conference Centre, ul. Piotrowo 2, Poznań.

Conference tour

Friday, July 7th 2017, 8:30-14:00

During the conference tour we will go to Rogalin. We will see there beautiful residence which was built in the second half of the eighteenth century for one of the most significant family in Greater Poland – family Raczyński. There is also a landscaped park with cluster of old oak trees which are very famous in Poland.

SCHEDULE

Time	Tuesday, July 4th	Wednesday, July 5th	Thursday, July 6th	Friday, July 7th
8.00-9.00		8.00-9.00 Registration (053-BT)		
9.00-10.00		9.00-9.30 Opening ceremony (CW-4) 9.30-10.15 Plenary lecture (CW-4)	9.00-9.45 Plenary lecture (CW-2)	
10.00-11.00		10.15-10.45 Coffee break (053-BT) 10.45-11.30 Plenary lecture (CW-4)	9.50-11.30 Regular session 4 (CW-2)	8.30-14.00 Conference tour
11.00-12.00			11.30-12.00 Coffee break (053-BT)	
12.00-13.00		11.40-13.20 Regular session 1 (CW-2)	12.00-13.40 Regular session 5 (CW-2)	
13.00-14.00				
14.00-15.00		13.30-15.00 Lunch (053-BT)	13.45-15.00 Lunch (053-BT)	14.00-15.00 Lunch (053-BT)
15.00-16.00		15.00-16.40 Regular session 2 (CW-2)	15.00-15.45 Plenary lecture (CW-2) 15.45-16.20 Coffee break (053-BT)	15.00-16.40 Regular session 7 (CW-7)
16.00-17.00		16.40-17.10 Coffee break (053-BT)	16.20-17.20 Regular session 6 (CW-2)	16.40-16.50 Closing ceremony (CW-7) 16.50-17.30 Coffee break (053-BT)
17.00-18.00		17.10-18.10 Regular session 3 (CW-2)		
18.00-19.00	18.00-20.00 Registration and welcome reception (053- BT)	18.45 - Walk to the city center + dinner		
19.00-20.00				
			20.00 - Banquet (053-BT)	

PROGRAMME

Tuesday, July 4

18.00-20.00 Registration and welcome reception

Wednesday, July 5

9.00-9.30 Opening ceremony

9.30-10.15 Plenary lecture 1 (Aula Magna, CW-4)

Chair: A. Karageorghis

J.A. Kołodziej, *Many names of the Trefftz method*

10.15-11.30 Coffee break (053-BT)

10.45-11.30 Plenary lecture 2 (Aula Magna, CW-4)

Chair: C. Gáspár

C.S. Chen, *Use of the MFS in locating points inside or outside of an arbitrary simple-connected domain in 3D*

11.40-13.20 Regular session 1 (CW-2)

Chair: R. Piltner, A. Maciąg

R. Schaback, *An approximation theorist's view on Trefftz, MFS, MPS and DRM*

M. Potier-Ferry, *Trefftz method and Taylor series*

M. Borkowski, *Application of conformal mappings and the analysis of conditioning of the matrices in Trefftz method for some boundary value problems*

L. Li, *Utilizing discretized Cauchy integrals for the biharmonic equation and two-dimensional data interpolation*

I.D. Moldovan, *FreeHyTE: a hybrid-Trefftz finite element platform*

13.30-15.00 Lunch (053-BT)

15.00-16.40 Regular session 2 (CW-2)

Chair: C.J.S. Alves, K. Grysa

A. Karageorghis, *The MFS for the identification of an interior acoustic scatterer*

C. Gáspár, *A multi-level technique for the method of fundamental solutions without regularization and desingularization*

P.R.S. Antunes, *Reducing the ill conditioning in the method of fundamental solutions*

C.-M. Fan, *A localized scheme for the method of fundamental solution for two-dimensional boundary value problems*

F. Wang, *Transient heat conduction analysis in thin coatings by the time-space singular boundary method*

16.40-17.10 Coffee break (053-BT)

17.10-18.10 Regular session 3 (CW-2)

Chair: R. Schaback, I.D. Moldovan

W. Fujisaki, *Correct stress gradient of notched plate using the method of fundamental solutions*

Q. Liu, *Method of fundamental solutions for plastic problems*

J.-W. Lee, *Indirect boundary element method combining the CHIEF and the self-regularization technique for solving 2D exterior Helmholtz equations with fictitious frequencies*

18.45 Walk to the city center + dinner

Thursday, July 6

9.00-9.45 Plenary lecture 3 (CW-2)

Chair: C.C. Tsai

R. Piltner, *Some remarks on 2D and 3D applications of the Trefftz method and the use of complex valued functions*

9.50-11.30 Regular session 4 (CW-2)

Chair: C.-M. Fan, M. Potier-Ferry

J. Piwnik, *Comparison of stresses in semi-trailer frame for various kinds of study*

M.J.Q.R. Duarte, *Complex solutions on embedded cracks with filler and dislocations*

A. Fraska, *Shear modulus of the bar of square cross-section with longitudinal circular hollows*

A. Pawińska, *The solution of nonlinear problem for beam using the Trefftz functions*

Z. Fu, *A parallel meshless solver for multi-term time fractional diffusion-wave equation via collocation Trefftz method*

11.30-12.00 Coffee break (053-BT)

12.00-13.40 Regular session 5 (CW-2)

Chair: C.-S. Huang, A. Uściłowska

K. Grysa, *Trefftz method in solving the direct and inverse problems of heat in biological tissue using the coupled Pennes' and hyperbolic heat transfer equation*

A. Maciąg, *Identification of the heat transfer coefficient by means of Trefftz method*

L. Hożejowski, *Trefftz method in an inverse problem of two-phase flow boiling in a minichannel*

B. Szczucka-Lasota, *Implementation of the method of fundamental solutions for correction of parameters of thermal HM spraying process*

T. Węgrzyn, *Validation of parameters selection of welding with micro-jet cooling by using method of fundamental solutions*

13.30-15.00 Lunch (053-BT)

15.00-15.45 Plenary lecture 4 (CW-2)

Chair: C.S. Chen

C.J.S. Alves, *Extensions of the method of fundamental solutions to non homogeneous acoustic and elastic wave propagation*

15.45-16.20 Coffee break (053-BT)

16.20-17.20 Regular session 7 (CW-2)

Chair: W. Fujisaki, T. Węgrzyn

C.-S. Huang, *On interpolation with increasingly flat hybrid radial basis functions*

C.C. Tsai, *Using a meshless numerical method to study wave-induced seabed instability around a buried pipeline in a poroelastic seabed*

M.A. Jankowska, *The meshless methods and the successive-approximation iteration process used for solving the elastic-plastic problem*

20.00 Banquet (053-BT)

Friday, July 7

8.30-14.00 Conference tour

14.00-15.00 Lunch (053-BT)

15.00-16.40 Regular session 8 (CW-7)

Chair: J.A. Kołodziej, J. Piwnik

J.K. Grabski, *On the sources placement in the method of fundamental solutions for time-dependent heat conduction problems*

M. Chudzicka-Adamczak, *Using the Method of Fundamental Solutions and Infrared Thermography for prediction the temperature distribution for the balcony slab*

M. Mierzwiczak, *Heat transfer for the generalized Newtonian fluid flow through a fibrous porous media*

W. Matysiak, *Analysis of the stamping process supported by Method of Fundamental Solutions*

D. Bartkowski, *Computer simulation of Flowdrill process by Method of Fundamental Solutions*

16.40-16.50 Closing ceremony (CW-7)

16.50-17.30 Coffee break (053-BT)