

Program of 7th International Working Group on Rotational Seismology Meeting

Faculty of Civil Engineering & Architecture, Opole University of Technology, June, 23rd- 26th, 2025
(presenting author's names are underlined).

Monday, June 23rd, 2025

17.00 --- 21.00 Registration and icebreaker party

Aula of the Faculty of Civil Engineering & Architecture, Opole, Katowicka 48 street.

Tuesday, June 24th, 2025

8.00 --- 9.00 Registration

Hall of the New Wing of the Faculty of Civil Engineering & Architecture, Opole, Katowicka 48 street,

9.00 --- 9.30 Welcoming addresses and introductory presentations,

9.30 --- 10.20 Session #1.

9:30-9:25 **keynote: SCHREIBER Ulrich K.** *High Resolution Inertial Earth Sensing with Large Sagnac Interferometers*

9:55-10:00 Discussion

10:00-10:15 BROTZER Andreas, WIDMER-SCHNIDRIG Rudolf, IGEL Heiner, *On the influence of ambient atmospheric pressure on rotational ground motion at ROMY*

10:15-10:20 Discussion

10:20-10:35 BOŃKOWSKI Piotr, ZEMBATY Zbigniew, *Bounds for estimations of rocking ground motion effects on slender towers and buildings*

10.40 --- 11.30 Posters and coffee – part 1

11.30 --- 12.40 Session #2.

11:30-11:55 **keynote: TODOROVSKA Maria, CRUZ Lichiel, KISOMI Hossein Bazeghi, TRIFUNAC Mihailo D, LIN Guoliang & CUI Jianwen,** *Rotations in the seismic response of a tall building on piles*

11:55-12:00 Discussion

12:00-12:15 QIN Linpeng, GUO Zhen, WANG Yun, *Torsional and translational resonance amplification in a high-rise building*

12:15-12:20 Discussion

12:20-12:35 **commercial presentation by Güralp Stratis:** HILL Phil, MALETRAS Francois, WATKINS Neil, RESTELII Federica, LINDSEY James, MOHR Sally, *A Commercial 6 Degree of Freedom Seismometer for Academic and Research Applications,*

12:35-12:40 Discussion

12.40 --- 13.40 Lunch.

13.40 --- 15.10 Session #3.

13:40-14:05 **keynote: KAUSEL Eduardo** *On ground displacements, their spatial derivatives, and instrument rotations from SSI*

14:05-14:10 Discussion

14:10-14:25 SINGLA Varun Kumar, *On Computation of Rocking Response Spectra at Short Periods,*

14:25-14:30 Discussion

14:30-14:45 BOŃKOWSKI Piotr, *Sensor fusion in the modal identification of civil engineering structures,*

14:45-14:50 Discussion

14:50-15:05 TANIMOTO Toshiro, *Shallow Earth Structure from the Analysis of Lamb Waves in the Coupled Earth,*

15:05-15:10 Discussion

15.10 --- 15.40 Coffee break

15.40 --- 16.50 Session #4.

15:40-16:05 **keynote: LAI Carlo** *Damping Measurement in Soils by Inversion of Dispersion Functions of P and S waves*

16:05-16:10 Discussion

16:10-16:25 LU Hongbin, WANG Yibo, SHAO Jie, XUE Qingfeng, *High-Precision Wavefield Separation Method Using Single-Station Six-Component Seismic Observations*

16:25-16:30 Discussion

16:30-16:45 **commercial presentation: Modern test hardware and software offered by EC TEST Systems**

16:45-16:50 Discussion

18.00 --- 19.15 Guided Tour about the downtown

19:15 – 19:45 Organ Concert at St. Sebastian Church

Wednesday, June 25th, 2025

9.00 --- 10.30 Session #5.

9:00-9:25 **keynote: ERRICO Luciano, *High precision tiltmetry above 10 mHz for gravitational physics experiments, ARCHIMEDES project***

9:25-9:30 Discussion

9:30-9:45 GUATTARI Frédéric, DUPONT Hippolyte, ROBERT Olivier, HAJAALI Hugo, Arnaud GAILLOT, PONCEAU Damien, POTTIE Paul-Eric, LEFÈVRE Hervé, ARDITTY Hervé, *MAAGM, write a new chapter in rotational seismology instrumentation*

9:45-9:50 Discussion

9:50-10:05 Wentao ZHANG, Wenzhu HUANG, YanJun CHEN, Zhengbin LI, Li LI, *Fiber optic 6-C seismometer*

10:05-10:10 Discussion

10:10-10:25 BERNAUER F., KÖBER D., BUTENWEG C., MONGABURE P., MICCOLI L., HESSE M., NOMIKOU, M. KALOUIDAS V. DUMITRESCU M., *6DoF sensors for structural health monitoring: Show cases from the ECORE shake table experiments*

10:25-10:30 Discussion

10.30 --- 11.10 Posters and coffee – part 2

11.10 --- 12.40 Session #6.

11:10-11:35 **keynote: ROSSI Yara, GUEGUEN Philippe, BERNAUER Felix, CHEN Kate Huihsuan, LIN Chin-Jen, KU Chin-Sang, CHEN Yaochieh, *Enhancing structural monitoring through 6C measurement techniques,***

11:35-11:40 Discussion

11:40-11:55 Di VIRGILIO Angela, *GINGER Scientific objectives*

11:55-12:00 Discussion

12:00-12:15 LIU Kui, CHEN Yuxuan, ZHONG Yuhong, LIU Yawen, CAI Yangsheng, LIU Zhanhao, CHEN Fan, HU Ningxiang, TU Liangcheng, SCHREIBER Ulrich Karl, LU Zehuang, ZHANG Jie, *Recent Progress of Large Green Laser Gyroscopes in China,*

12:15-12:20 Discussion

12:20-12:35 De LUCA Gaetano, Di VIRGILIO Angela D. V., BASTI Andrea, CARELLI Giorgio, DI SOMMA Giuseppe, MACCIONI Enrico, MARSILI Paolo, BARBERIO Marino Domenico, FAMIANI Daniela, PIZZINO Luca, GOVONI Aladino, BRAUN Thomas Di CARLO Giuseppe, PREVITALI Ezio, BEVERINI Nicolò, FUSO Francesco, PETITTA Marco, TALLINI Marco, *Multi-parametric observations of the large bang of August 14th, 2023 in the Gran Sasso aquifer, Central Italy*

12:35-12:40 Discussion

12.40 --- 13.40 Lunch.

13.40 --- 15.30 Session #7.

13:40-14:05 **keynote: XU Weiwei, *Optical Fiber Sensing in the CSES Project: Opportunities and Challenges***

14:05-14:10 Discussion

14:10-14:25 IGEL Heiner, BROTZER Andreas, BERNAUER Felix, WASSERMANN Joachim, SCHREIBER Ulrich, *Challenges with ring laser observations in seismology,*

14:25-14:30 Discussion

14:30-14:45 WASSERMANN Joachim, BRAUN Thomas, KEIL Sabrina, IGEL Heiner, *About the Use of 6C Measurements on Active Volcanoes*

14:45-14:50 Discussion

14:50-15:05 EIBL Eva P. S., YASAROGLU Harun, HEIMANN Sebastian, HERSIR, Gylfi Páll, *Investigating the subsurface structure at Strokkur geyser, Iceland, using 6 DoF measurements,*

15:05-15:10 Discussion

15:10-15:25 NAWROCKI Dariusz, RUDZINSKI Łukasz, *Directional amplification effect observation across quaternary faults: comparison on rotational and translational H/V spectra,*

15:25-15:30 Discussion

15:30-15:55 **keynote: KATUNIN Andrzej, *Evaluation of modal rotation fields using shearography for structural damage identification***

15:55-16:00 Discussion

16:00-16:45 IWGoRS Meeting

19.00 --- 22.00 Conference Dinner.

Thursday, June 26th, 2025

9.00 --- 10.20 Session #8.

9:00-9:15 DĘBSKI Piotr *Rotational Waves in solid amorphous media - Discrete Element Method simulations,*

9:15-9:20 Discussion

9:20-9:35 KURZYCH Anna, PAWEL Marc, DUDEK Michal, STASIEWICZ Karol, ZINOWKO Pawel, KONARSKI Karol, ZEMBALA Lukasz, SAKOWICZ Bartosz, JAROSZEWICZ Leszek, *Identifying and localizing the source of mechanical disturbance through the deployment of an appropriate array of FOS6 class fiber-optic rotational seismometers*,

9:35-9:40 Discussion

9:40-9:55 CHEN Yanjun, ZHU Lanxin, WANG Wenbo, HUANG Huimin, ZHOU Ziqui, SHI Fangshuo, CAO Xinyu, LI Zhengbin, *Fiber-optic rotational seismometer with enhanced temperature adaptability*,

9:55-10:00 Discussion

10:00-10:15 CHANG Chen, WANG Yun, *Rotational Motions Observations in Deep Underground Laboratories*,

10:15-10:20 Discussion

10.20 --- 10.50 Coffee break

10:50---12.10 Session #9

10:50-11:05 THIBAUT Brieux, LAKKIS Muhamad Haidar, AMOROSI Anthony, GUATTARI Frederic, COLLETTE Christophe, *Coupling mitigation in low frequency active vibration isolation systems based on optical gyroscopes*,

11:05-11:10 Discussion

11:10-11:25 MORIN Manon, SEBE Olivier, BEUCLER Eric, CAPDEVILLE Yann, BOYER Daniel, DECITRE Jean-Baptiste, GILLES Micolau, *Assessment of the variability of seismic waves back azimuth estimates based on array-derived 6C analysis*,

11:25-11:30 Discussion

11:30-11:45 IZGI Gizem, *Exploring Seismic Attenuation with Rotational Ground Motion*

11:45-11:50 Discussion

11:50-12:05 CAPEZZUTO Marialuisa, D'APICEL Ferdinando, ZAHOR Rizwan, De NATALE Paolo, GAGLIARDI Gianluca, GALLUZZO Danilo, AMATO Luigi Santamaria, AVINO Saverio, *Monitoring of seismic induced ground rotations at the Campi Flegrei volcanic area with a fiber-optic gyroscope: preliminary results*,

12:05-12:10 Discussion

12.10 --- 13.00 Final Discussion and closure of the Meeting.

13.00 --- 14.00 Lunch.

Friday, June 27th, 2025

Excursion to Cracow (optional)

List of posters (size of the poster area: 100cm vertical and 70cm – horizontal):

1. BEVERINI Nicolo, CARELLI Giorgio, De LUCA Gaetano, DI SOMMA Giuseppe, Di VIRGILIO Angella, FUSO Francesco, GOVONI Aladino, MACCIONI Enrico, MARSILI Paolo, *First-Time Use of AI in GINGERINO Data Analysis for Fast Frequency Reconstruction and Seismic Event Recognition*
2. ROSSI Yara, APPLE Shoshana, BODIN Paul, ROSS Michel, GUNDLACH Jens, *Data curation and quality assessment of novel ground rotation sensor data at LIGO sites in the USA*
3. TANG Le, IGEL Heiner, MONTAGNER Jean-Paul, VEMON Frank, *Seismic anisotropy from 6C ground motions of ambient seismic noise*,
4. BOŃKOWSKI Piotr, KURZYCH Anna, JAROSZEWICZ Leszek, *The usefulness of the different rotational sensors for structural health monitoring*,
5. NAWROCKI Dariusz, LESNODORSKA Anna, MTUPA-NDIAYE Agnieszka, *The EPOS TCS AH EPISODES platform as a tool for the seismic scientific analysis and a source of the rotational motion data*.
6. JAWORSKI Marcin, BOŃKOWSKI Piotr, ZEMBATY Zbigniew *Rotation measurements for plastic hinge detection as an early warning of seismic damage of moment-resisting frames*
7. CARELLI G., *Ginger Status report*
8. ZENNER Jannik, GEREONS Thomas, SCHREIBER Karl Ulrich & STELLMER Simon, *Technical advancements of active and passive ring laser gyroscopes for seismological application*
9. MALEK Jiří, BROKESOVA Johana, *Seismogram noise reduction using non-linear stacking: application to six-degree-of-freedom Rotaphone data*
10. BROTZER A., BERNAUER, Felix. Guattari F., JAROSZEWICZ Leszek, KURZYCH Anna, GARRIDO C. L. Alzar, LANDRAGIN A., PIOT D., De RAUCOURT S., *Ultra-High Performance Gyroscopes for future X-Ray interferometer missions*