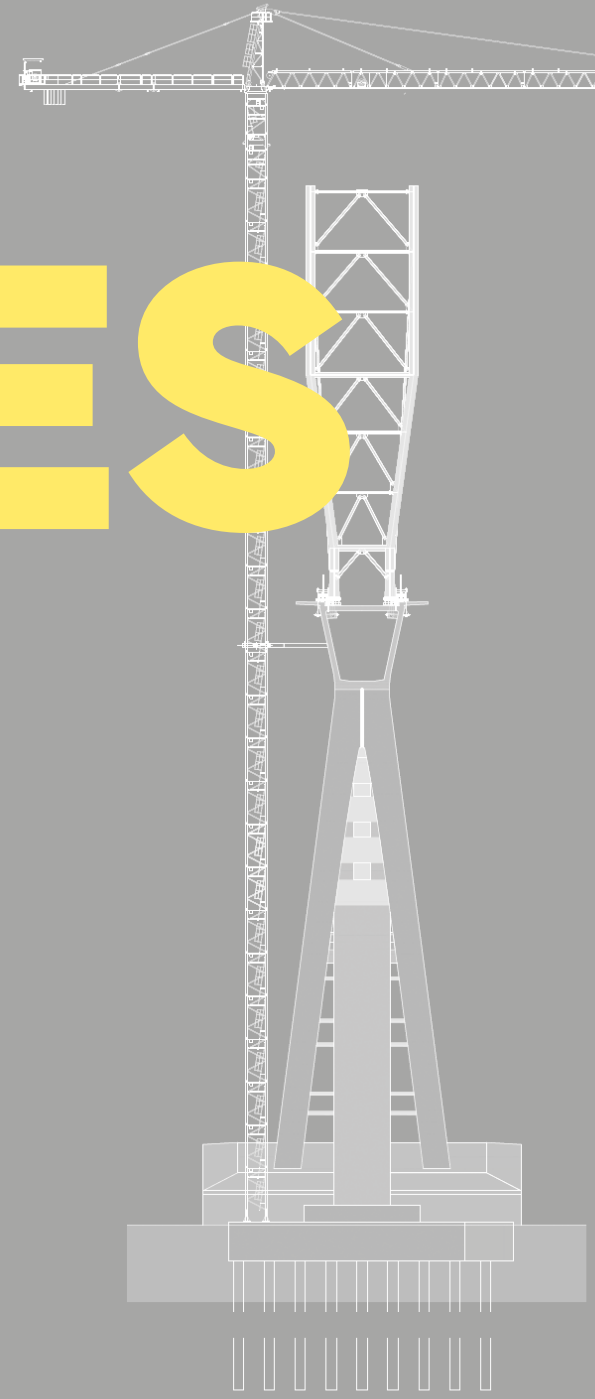
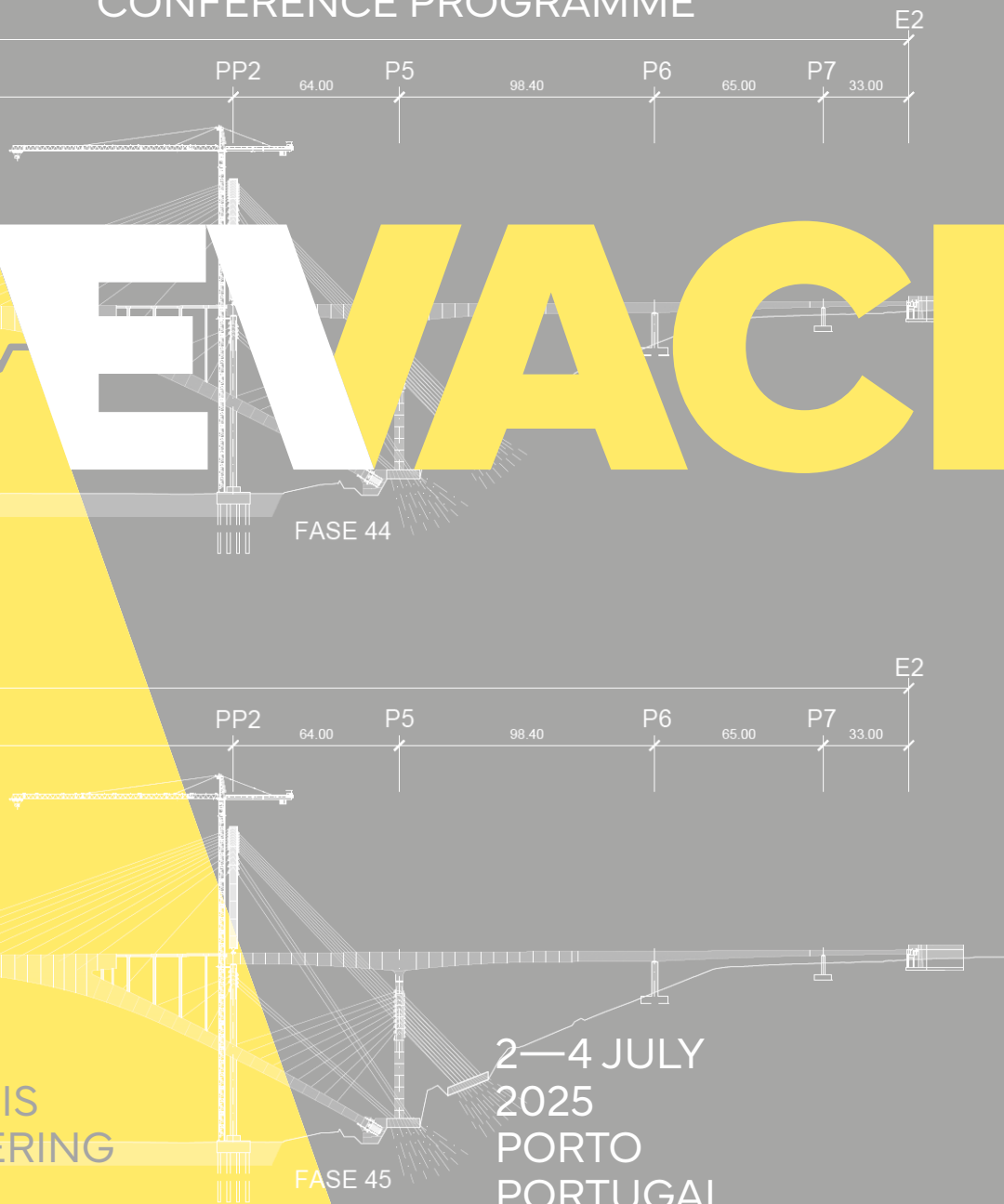


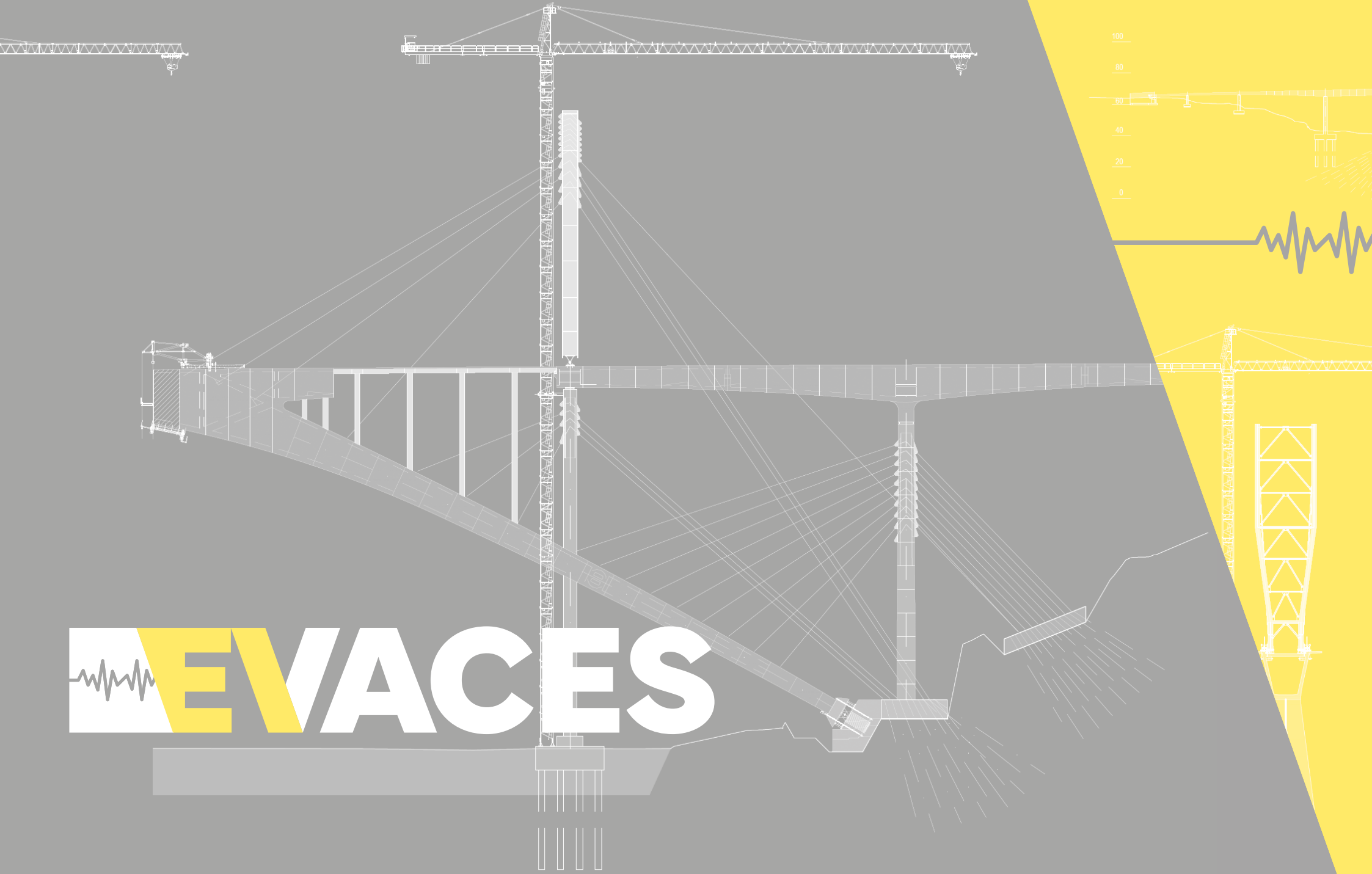
CONFERENCE PROGRAMME

EVAVACES

XI INTERNATIONAL
CONFERENCE
ON EXPERIMENTAL
VIBRATION ANALYSIS
FOR CIVIL ENGINEERING
STRUCTURES

2—4 JULY
2025
PORTO
PORTUGAL





EVACES



XI EVACES
INTERNATIONAL
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VIBRATION ANALYSIS
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FEUP.PT/EVACES2025

On behalf of the EVACES International Association and the Faculty of Engineering of the University of Porto (FEUP), it is a great pleasure to welcome you to the 11th International Conference on Experimental Vibration Analysis for Civil Engineering Structures (EVACES 2025), in Porto. This conference follows earlier successful conferences held in Bordeaux (France, 2005), Porto (Portugal, 2007), Wrocław (Poland, 2009), Varenna (Italy, 2011), Ouro Preto (Brasil, 2013), Zürich (Switzerland, 2015), San Diego (USA, 2017), Nanjing (China, 2019), Tokyo (Japan, 2021) and Milan (Italy, 2023), and we are very honoured to host this important International Conference once again at the campus of FEUP. EVACES 2025 is devoted to recent research advances on vibration-based structural assessment, monitoring, and control of Civil Engineering structures, such as buildings, bridges, stadia, dams, or wind turbines, aiming at providing a forum for practitioners and researchers from all around the world to exchange and share views and experiences related to the measurement, the

data processing and the use of experimental vibration analysis for civil engineering structures. It comprehends six plenary keynote lectures, about three hundred papers distributed by forty-five special sessions, plenary industrial presentations and a technical exhibition. The conference is intended for structural engineers, researchers, and associated professionals interested in the latest achievements and developments in research, instrumentation, monitoring, signal processing, structural integrity, and vibration mitigation. Owing to the success of previous events, EVACES has naturally become a key conference in Experimental Structural Dynamics for Civil Engineering Structures, reflecting not only the state-of-the-art in the field but also addressing industrial developments and applications. Although originally an European conference, EVACES 2025 welcomes a strong participation from non-European countries. The conference proceedings have been published by Springer, while the conference program,

available in paper and digital form, should help you plan your conference. We would like to thank all the special session organizers, as well as the members of the International Scientific Committee for their contribution to the successful organization of this conference. We would also like to thank all plenary keynote speakers, authors, participants, sponsors and exhibitors for their contribution to the conference. A special word of thanks finally goes to all who actively collaborated in the organization of this event at FEUP and to the conference secretariat for their considerable help. We hope you will all have a stimulating and fruitful conference and a very pleasant stay in Porto.

Álvaro Cunha, conference chair
Elsa Caetano, conference co-chair



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Conference Chair

Álvaro Cunha, FEUP, Portugal

Conference Co-Chair

Elsa Caetano, FEUP, Portugal

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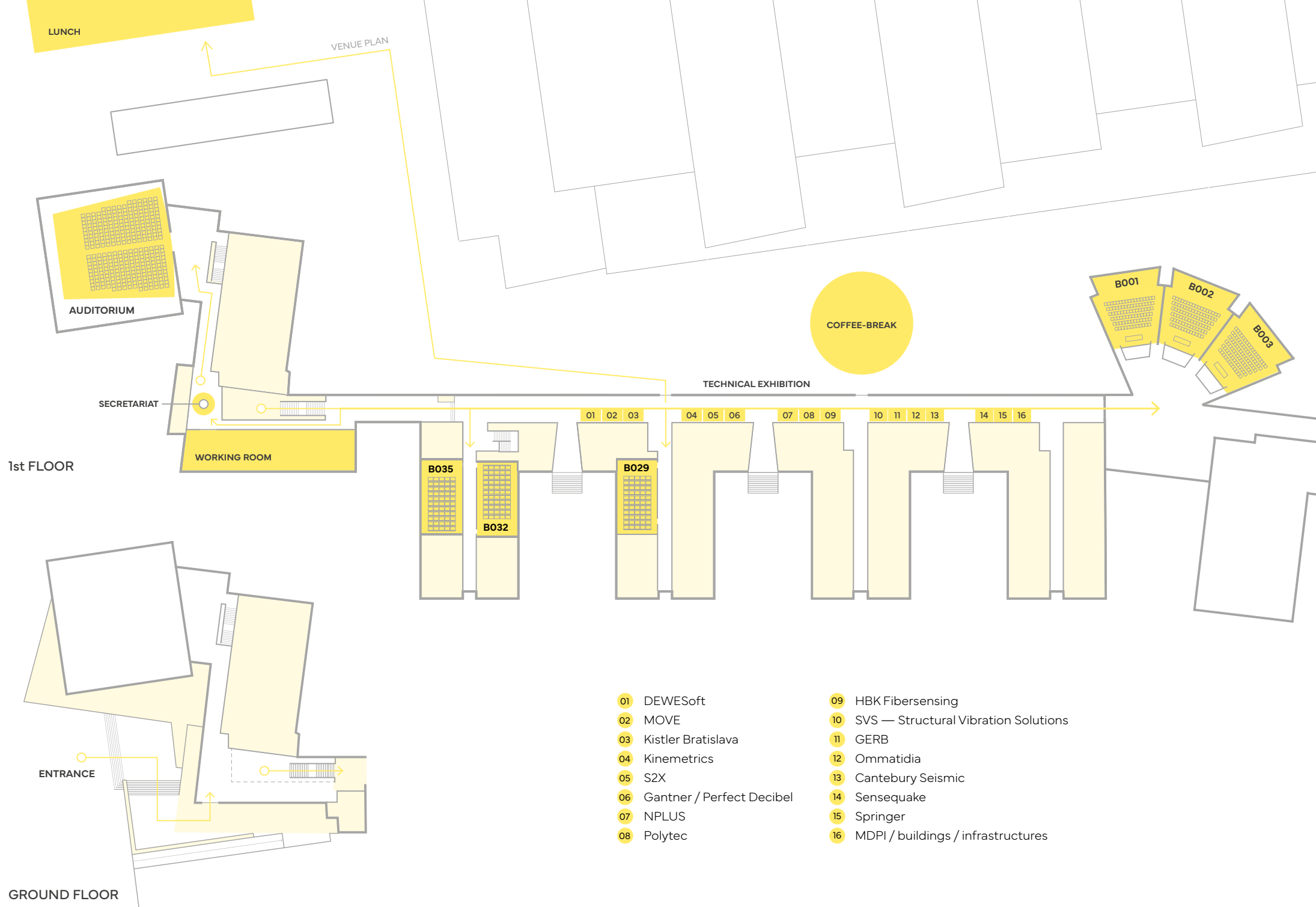
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J. Zhang, China



LUNCH

VENUE PLAN

AUDITORIUM

SECRETARIAT

WORKING ROOM

1st FLOOR

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ENTRANCE

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- 02 MOVE
- 03 Kistler Bratislava
- 04 Kinematics
- 05 S2X
- 06 Gantner / Perfect Decibel
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- 12 Ommatidia
- 13 Canterbury Seismic
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- 15 Springer
- 16 MDPI / buildings / infrastructures

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Dewesoft is a leading provider of Structural Health Monitoring tools for bridges, tunnels, buildings, wind turbine towers and other critical structures. Data acquisition systems with capability to connect almost any sensor bundled with our powerful analytical tools (including EMA and OMA), dashboards, and rich visualizations help you speed up the transformation of sensor data into meaningful results. Possibility to create alarm notifications and reports customized to user roles, are strengthening decision-making, risk management, and structure safety. Dewesoft has earned a reputation as a trusted partner for companies that demand the highest standards of data quality and performance.

Rok Mesar, Business Developer, Dewesoft Monitoring

Dewesoft d.o.o.

Gabrsko 11a, 1420 Trbovlje, Slovenia (SI)
M:{mobile_number} T:+386 3 56 25 300

www.dewesoft.com



KINEMETRICS

Located in Pasadena, California, Kinematics has developed into the undisputed world leader in cutting-edge seismic instrumentation and monitoring solutions.

Since 1969, Kinematics and its subsidiaries have created technologies, products, and solutions for monitoring earthquakes and their effects on people and structures. Our products and services are used in a variety of applications, including seismology, earthquake engineering, business continuity solutions, and monitoring of critical civil structures, dams, bridges, LNG plants and nuclear facilities.

For over 50 years, Kinematics' technicians and engineers have gathered extensive experience by providing specialized services and delivering customized and comprehensive systems and solutions for hundreds of projects around the world. Notable project references from our portfolio include many of the world's most famous structures, including New York's Statue of Liberty, San Francisco's Golden Gate Bridge, Egypt's Sphinx, Athens' Parthenon, India's Taj Mahal, Dubai's Burj Khalifa, and United States' Hoover dam. We have also supplied dozens of Regional and National Seismic Networks throughout the world, as well as Global Seismic Networks and Data Centers. With NASA's InSight Mission, Kinematics' instrumentation even reached Mars. Kinematics' presence is not only limited to North America (Kinematics Inc., USA), Europe (Kinematics SA, Switzerland), and Japan (Oyo SI), since we benefit from having over 30 representatives and field-trained consultants throughout the world.

Derek Skolnik, Program Manager, Open Systems and Services Division | das@kmi.com

André Alegre, Project Engineer, Open Systems and Services Division | afa@kmi.com

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KISTLER

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology. Measurement solutions from Kistler for transportation and traffic engineering such as our Weigh In Motion (WIM) systems and Structural Health Monitoring solutions keep vehicles moving safely on roads, bridges and railways across the globe for decades.

As a provider backed by worldwide experience, we supply turnkey solutions from one single source: systems that offer maximum data quality based on innovative high-precision sensor technology, advanced electronics and state-of-the-art data acquisition.

Dr. Giacomo Imposa

Business Development Structural Health Monitoring (SHM)

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S2X

S2X is an Italian company specialized in the development of advanced software for operational modal analysis, structural health monitoring and vibration data acquisition and analysis. Our powerful software suite includes state-of-art OMA methods as well as robust automated OMA and data-driven SHM procedures to turn sensor data into meaningful information moreover. It is designed to speed up the phases of setting and reporting taking advantage of the more than a decade long experience of our team in OMA and SHM applications.

Eng. Matilde Notarangelo
amministrazione@s2x.it

www.s2x.it



MOVE

Move Solutions is an Italian company specializing in wireless structural monitoring systems for civil and industrial infrastructures. Our solution combines high-precision IoT sensors with a cloud-based platform for real-time data analysis, enabling predictive maintenance and long-term structural health management.

Matteo Maccanti

matteo.maccanti@movesolutions.it

www.movesolutions.it

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Since 1982, Gantner Instruments has been a global leader in precision measurement solutions for mechanical and thermal quantities. With a focus on innovation, Gantner Instruments have built a strong reputation in the data acquisition market, providing advanced structural health monitoring systems that seamlessly integrate edge-to-cloud capabilities.

Gantner Instruments' data acquisition systems are designed with key features such as distributed I/O, autonomous operation, real-time on-device data analysis, and cloud-based data acquisition. This combination ensures exceptional performance and flexibility to meet diverse application needs.

With offices across Europe, the USA, India, China, and Singapore, and strong partnerships with industry leaders like PerfectDecibel in Portugal, Gantner Instruments is the trusted choice for measurement solutions worldwide.

Gantner Instruments
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+43 5556 77463-0
www.gantner-instruments.com



NPLUS

Nplus is a technology company specializing in design, manufacturing, and integration of advanced structural monitoring systems. With proprietary sensor technology and integrated data platforms, Nplus provides high-performance systems for infrastructure diagnostics, ensuring safety, durability, and intelligent maintenance. Trusted in national and international projects and with a portfolio of over 850 structures, Nplus combines engineering expertise with innovation to support smart, resilient infrastructure worldwide.

NPLUS SRL
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HBK FiberSensing

HBK FiberSensing, S.A., is a business unit of HBK – Hottinger Brüel & Kjær located in Maia, Portugal, and dedicated to the development and production of advanced monitoring systems based on Optical Fiber Bragg Grating (FBG) technology. Originally founded in 2004 and acquired in 2014 by Hottinger Baldwin Messtechnik (HBM), the company today manages all HBK optical activities, including product development, manufacturing, and business development, while working in conjunction with the global sales organization, which currently marks its presence in more than 50 countries worldwide.

Specially requested for test, measurement, and monitoring applications in markets such as Energy, Civil Engineering, Wind, Transportation, Industry and R&D, HBK FiberSensing optical solutions are used in a wide range of applications where long-term, self-referenced and reliable measurements are required. HBK – Hottinger Brüel & Kjær was founded in 2019, when Hottinger Baldwin Messtechnik (HBM) and Brüel & Kjær (B&K) merged their activities into a new company aiming to form the world's foremost provider of integrated test, measurement, control, and simulation solutions. HBK continues to build on the two legacies, untapping the potential of combined knowledge and insight within three physical domains – mechanical, sound and vibration and electrical – and allowing us to pursue solutions for the unmet needs of our customers. With more than 3500 employees worldwide and production facilities in Denmark, Germany, UK, USA, China, and Portugal, HBK is a leading player in the field of test and measurement.

Cristina Barbosa
Product Manager, Optical Business

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Phone: +351 229 613 010
sales.fs@hbkworld.com
www.hbkworld.com

EXHIBITORS



Structural Vibration Solutions

Structural Vibration Solutions has been at the forefront of developing and producing advanced software solutions for modal testing, analysis, and problem-solving across a broad range of industries for over two decades. ARTeMIS Modal is trusted by professionals worldwide to identify and resolve vibration issues in civil structures such as bridges, dams, and buildings. With features like Operational and Experimental Modal Analysis, direct hardware control, and damage detection, we deliver precise and reliable results for critical projects. Our mission is to empower professionals with the tools they need to ensure structural integrity and performance.

Niels Jernes Vej 10, 9220 Aalborg East, Denmark
+45 96354422
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POLYTEC

Polytec has been developing and producing optical metrology solutions for research and industry for more than 50 years. This includes systems for non-contact vibration measurement, surface characterization, length and velocity measurement, process analytics and optical systems. Laser vibrometers manufactured by Polytec define the globally recognized standard for optical vibration measurement and test objects of various sizes - from large structures like buildings, bridges or industrial plants to entire car bodies or even microcomponents such as MEMS. Utilizing patented technologies like QTec® multi-path interferometers grants highest signal quality even at long stand-off distances. The outdoor-proof long-range laser vibrometers like VibroFlex Range are especially designed for remote analysis of vibrating structures, model validation and health monitoring. It allows measuring on large and distant structures without contact from a distance up to 500 m and more for conveniently monitoring structural dynamics and stability of buildings, operating machinery or critical production facilities, providing a fast and efficient on-site testing solution.

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GERB

Experts in Vibration Control Since 1908
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GERB Schwingungsisolierungen GmbH & Co. KG
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13407 Berlin, Germany
+49 30 4191-0
info@gerb.com
www.gerb.com



OMMATIDIA

Ommatidia LiDAR Description:
Massively Parallel Laser technology, generating 128 parallel laser beams to enable local measurement of sub-millimeter displacements and real-time vibration analysis for large structures. Each laser beam functions as a non-contact gauge and precision accelerometer, offering detailed insights into structural deflection under load and dynamic behavior. With high-sensitivity measurements at every laser projection point, the Q system is a powerful tool for structural engineers and researchers. Its innovative Massively Parallel Laser Architecture exceptional precision and robust data to ensure the safety and longevity of civil infrastructure.

Javier Prado
javier.prado@ommatidia-lidar.com
www.ommatidia-lidar.com



CANTERBURY SEISMIC

Canterbury Seismic is both a manufacturer of strong motion accelerographs for structure behaviour assessment and earthquake response, and data service provider for structural engineers and earthquake responders. Based in New Zealand, the world's best natural laboratory, Canterbury Seismic has been manufacturing and exporting accelerographs for over 20 years to projects around the world. Since 2019, Canterbury Seismic introduced the world to Sentinel, an earthquake resilience as a service tool providing structure performance data to engineers for detailed assessments, and instant alerts based on comparing building design tolerances with the New Zealand building code for first responders. Including building operators, distributed asset operators, local and national government, and civil defence emergency responders.

Paul Drummond, Chief Executive Canterbury Seismic
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Sensequake

Sensequake provides advanced structural monitoring solutions using highly sensitive vibration sensors and web-based modal analysis software. Our technology enables both temporary and permanent monitoring, real-time tracking of dynamic properties, structural integrity evaluation, and automated reporting. Used worldwide by researchers, engineers, and asset owners, Sensequake helps deliver safer, smarter infrastructure through data-driven insights and next-generation sensing technology.

Alexandre Darche, Senior Project Manager

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www.sensequake.com

THEMES

- [SS01](#) Innovative sensors for monitoring of Civil structures and infrastructures
- [SS02](#) Unmanned vehicles, robotics, spatial computing technologies for structural monitoring and inspection automation
- [SS03](#) From data to action: vibration-based monitoring driven decision making and value of information
- [SS04](#) Advances in vibration-based system and damage identification of Civil structures under operational and extreme loads
- [SS05](#) Model-based SHM strategies for Civil structures and infrastructures
- [SS06](#) Fiber optics and AI for smart Structural Health Monitoring
- [SS07](#) Advanced computational techniques for efficient assessment in Structural Health Monitoring
- [SS08](#) Data-driven strategies and AI/ML innovations for Civil Structural Health Monitoring
- [SS09](#) Machine learning/Deep learning in Structural Dynamics
- [SS10](#) Machine learning for damage identification under operational and environmental effects, including climate change
- [SS11](#) Advances in Civil Structural Health Monitoring: vibration-based techniques and smart materials aided AI technology
- [SS12](#) AI and DX for Structural Dynamics
- [SS13](#) Digital twins of engineering structures
- [SS14](#) Human induced vibrations
- [SS15](#) Vibration-based condition assessment of bridges
- [SS16](#) Advancements in bridge health monitoring: data-driven approaches and machine learning techniques for enhanced feature extraction, damage detection, and operational and environmental dependencies
- [SS17](#) Bridge dynamics
- [SS18](#) Railway bridges
- [SS19](#) Data science applied to railways
- [SS20](#) Ground-borne noise and vibrations induced by railway traffic and construction activities
- [SS21](#) Experimental, numerical and theoretical approaches for the assessment of vibrational impact induced by underground railway and road infrastructures during construction and exploitation
- [SS22](#) Advancements in understanding and mitigating train-induced vibrations
- [SS23](#) Wind-induced vibrations of slender structures and infrastructures
- [SS24](#) Structural health monitoring and assessment techniques for cable and tendon elements in cable-supported structures
- [SS25](#) Harnessing the wind: testing and monitoring challenges in wind turbine engineering
- [SS26](#) Recent developments in vibration-based health monitoring and performance assessment of offshore wind turbines
- [SS27](#) Dynamics of onshore and offshore wind turbine structures
- [SS28](#) Data driven SHM of cultural heritage structures
- [SS29](#) Seismic Structural Health Monitoring of Civil structures
- [SS30](#) Seismic safety assessment and long-term Structural Health Monitoring of large dams
- [SS31](#) Recent developments in infrastructure inspection and management
- [SS32](#) Indirect Structural Health Monitoring (iSHM) of transportation infrastructures using responses of passing vehicles
- [SS33](#) Dynamic monitoring approaches to enhance information gathered by Infrastructure monitoring network
- [SS34](#) Long-term Structural Health Monitoring for Civil infrastructures
- [SS36](#) Dynamic characterization and long-term monitoring of timber and timber-hybrid buildings and infrastructures
- [SS37](#) Experimental vibration analysis and monitoring of mass timber structures
- [SS38](#) Static and dynamic performance assessment of building facades and envelopes
- [SS40](#) Advances in vibration control systems: from testing techniques to practical implementation
- [SS41](#) Experimental tests and numerical modeling of novel vibration absorbers
- [SS42](#) Modal identification and machine learning tools for deterioration assessment in railway infrastructure (pre-stressed concrete sleeper)
- [SS43](#) Numerical simulations and experimental mechanics in terms of impulse loads
- [SS44](#) Round Robin Finite element model validation of the reconstructed bridge based on structural dynamic properties
- [SS45](#) Other topics

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08:00	Registration			08:00
08:30		Parallel Sessions	Parallel Sessions	08:30
09:00				09:00
09:30	Opening Ceremony			09:30
10:00	Keynote Lecture 1	Keynote Lecture 3		10:00
10:30	Keynote Lecture 2	Keynote Lecture 4	Coffee-break	10:30
11:00	Coffee-break	Coffee-break	Parallel Sessions	11:00
11:30	Parallel Sessions	Parallel Sessions		11:30
12:00				12:00
12:30				12:30
13:00	Lunch	Lunch	Lunch	13:00
13:30				13:30
14:00	Parallel Sessions	Industrial Plenary Presentations	Parallel Sessions	14:00
14:30				14:30
15:00				15:00
15:30	Coffee-break	Coffee-break	Keynote Lecture 5	15:30
16:00	Parallel Sessions	Parallel Sessions	Keynote Lecture 6	16:00
16:30			Closing Ceremony	16:30
17:00				17:00
17:30				17:30
18:00	Douro River Cruise			18:00
19:00	Conference Reception			19:00
20:00		Gala Dinner		20:00

Digital Program

During the conference all participants can access the papers in .pdf format through the digital version of the programme. For that purpose, please follow the QRCode.



DAY 01

ROOMS

AUDITORIUM

B032

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B002

B003

AUDITORIUM

B032

B035

08:00	Registration			08:00
09:00				09:00
09:30	Opening Ceremony			09:30
10:00	Keynote Lecture 1 <i>Chairs: A. Cunha, E. Caetano</i>			10:00
10:30	Keynote Lecture 2 <i>Chairs: A. Cunha, E. Caetano</i>			10:30
11:00	COFFEE-BREAK			11:00
11:30	SS04-1 – Advances in vibration-based system and damage identification of Civil structures under operational and extreme loads <i>Chairs: A. Barbosa, J. Conte</i>	SS01-1 – Innovative sensors for monitoring of Civil structures and infrastructures <i>Chair: C. Moutinho</i>	SS06-1 – Fiber optics and AI for smart Structural Health Monitoring <i>Chairs: L. Sun, E. Figueiredo</i>	11:30
12:00				12:00
12:30	LUNCH			12:30
14:00	SS04-2 – Advances in vibration-based system and damage identification of Civil structures under operational and extreme loads <i>Chairs: J.Conte, B. Moaveni</i>	SS01-2 – Innovative sensors for monitoring of Civil structures and infrastructures <i>Chair: C. Moutinho</i>	SS09-1 – Machine learning/Deep learning in Structural Dynamics <i>Chairs: L. Sun, E. Figueiredo</i>	14:00
14:30				14:30
15:00		SS02-1 – Unmanned vehicles, robotics, spatial computing technologies for structural monitoring and inspection automation <i>Chair: J. Dang</i>		15:00
15:30	COFFEE-BREAK			15:30
16:00	SS04-3 – Advances in vibration-based system and damage identification of Civil structures under operational and extreme loads <i>Chairs: G. Lombaert, B. Moaveni</i>	SS02-2 – Unmanned vehicles, robotics, spatial computing technologies for structural monitoring and inspection automation <i>Chairs: J. Dang, Y. Narazaki</i>	SS10-1 – Machine learning for damage identification under operational and environmental effects, including climate change <i>Chair: E. Figueiredo</i>	16:00
16:30				16:30
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SS08-1 – Data-driven strategies and AI/ML innovations for Civil Structural Health Monitoring
Chairs: Z. Sun, L. Cheng

SS12-1 – AI and DX for Structural Dynamics
Chairs: J. Dang, M. Nishio

SS14-1 – Human induced vibrations
Chairs: S. Živanović, V. Racic

LUNCH

SS08-2 – Data-driven strategies and AI/ML innovations for Civil Structural Health Monitoring
Chairs: Z. Sun, L. Cheng

SS12-2 – AI and DX for Structural Dynamics
Chair: J. Dang

SS14-2 – Human induced vibrations
Chairs: S. Živanović, V. Racic

SS13-1 – Digital twins of engineering structures
Chair: D. Tcherniak

COFFEE-BREAK

SS08-3 – Data-driven strategies and AI/ML innovations...

SS13-2 – Digital twins of engineering structures
Chair: D. Tcherniak

SS14-3 – Human induced vibrations
Chairs: S. Živanović, V. Racic

SS11-1 – Advances in Civil Structural Health Monitoring: vibration-based techniques and smart materials aided AI technology
Chairs: Z. Sun, L. Cheng

08:30

08:30

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10:00

Keynote Lecture 1**6-years vibration monitoring of the Milan Cathedral***C. Gentile, A. Avramova*

10:00

10:30

Keynote Lecture 2**Extracting information from monitoring: the case studies of a steel bowstring bridge and a concrete girder bridge***G. Lombaert, M. Velde, E. Reynders, K. Maes*

10:30

11:00

COFFEE-BREAK

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SS04-1**Autocovariance functions as damage sensitive features: Case study of a lattice tower***J. Thurn, J. Kullaa, C. Jonscher, R. Rolfes***Volterra system identification using Wigner-Ville representations***L. Scussolini, V. Cavanni, R. Ceravolo***Multi-target computer-vision monitoring of multi-story buildings during shake table tests***L. Gioiella, F. Micozzi, M. McBain, M. Morici, A. Zona, A. Dall'Asta, B.G. Simpson, A.R. Barbosa***Time-Variant Identification of Modal Parameters in Base Isolated Structures Using Mod- Ξ (var) Methodology***J. Orozco, F. Hernandez, R. Astroza***SS01-1****Structural Monitoring of Trezói Railway Bridge After Its Rehabilitation***C. Salvi, C. Moutinho, S. Pereira, E. Caetano***Modal Identification of a Roadway/Railway Bridge using Customized Accelerometers***G. Marulli, C. Moutinho, M. Cabaleiro***Experimental Investigation of the Signal Quality of One-way Scanning Laser Doppler Vibrometer on Different Materials***S. Katta, Y. Zeng, Z. Li***High-Sensitivity Vibration Monitoring of La Marota Viaduct Using a Novel 128-Channel Laser Radar System***S. A. O'Brien, N. Tarque, J. L. Rubio, G. Pandraud, E. Margallo, J. L. Martínez, J. M. Goicolea***SS06-1****Long-term Monitoring on A New Composite Bridge Girder Based on A Fiber Optic Sensing Textile***R. Wu, A. Biondi, L. Cao, G. Cui, S. Abedin, X. Wang, G. HarshNareshkumar, T. Yu***Advances in data preprocessing of distributed fiber optic strain measurements***B. Richter, L. Ulbrich, M. Herbers, S. Marx***Smart Anomaly Detection on Water Infrastructures through Distributed Fiber Optic Sensors and Sensor Fusion: a Case Study***M. Bertulesi, M. Brunero, G. Menduni***Preliminary Feasibility Study on Using Fiber-Optic Infrastructure with an Interferometric Approach for Structural Health Monitoring***H. Ceylan, A. Kanyilmaz, S. Donadello, C. Clivati, D. Loiacono, A. Herrero, F. Levi, D. Calonico*

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COFFEE-BREAK

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SS08-1**Data-Driven Vibration Based Damage Identification with Deep Learning Algorithms***J. Stähle, A. Stark***Detection of Loose Bolt Damage in Jacket-Type Supports of Offshore Wind Turbines***B. Puruncajas, C. Tutivén, I. González, Y. Vidal***Modeling and Predicting Soil Vibrations During Vibrodriving Installation Using Noisy Data and Dynamic Mode Decomposition***F. Williams-Riquer, M. Abdennadher, A. Chmelnizkij, J. Grabe, K. Smarsly*

12:00

AS-2DHPME: A Novel Phase-based Motion Estimation Method for Structural Dynamics Measurement and Analysis based on 2D Hilbert Transform and Steerable Angular Filter*K. Xie, D. Lei, W. Du, L. Cheng***SS12-1****Identification of force in tieback anchors by vibration analysis with AI and PINNs***C. Gasser, M. Rebhan, A. Vorwagner, M. Czuka***High-rise building seismic damage identification using Timoshenko Beam model enhanced PINN***A. Eguchi, X. Wang, J. Dang***Evaluation of Damage State of Wooden Houses Based on Machine Learning Using Response Acceleration Time Histories***Y. Maruyama, R. Ogino, W. Liu***Real-time simulation and data assimilation of time-history dynamic structural responses using physics-informed neural networks and AR visualization***T. Okuda, M. Nishio***SS14-1****Light floor vibrations and user comfort***T. Catterou, A. Barlet, R. Le Normand, S. Boulet***Structural modal mass identification by human-induced vibration***J. Chen, H. Su, Y. Li, P. Wang, Z. Han, F. Ye, T. Han and X. Zhao***Can FRP reinforcement reduce vibrations of CLT floors?***V. Racic, M. Nefovska-Danilović, I. Glišović, M. Milojević, N. Simović, M. Popović***Simplified and temporary devices to ensure footbridge vibration comfort during unusual events***T. Bastin, Y. Duchêne, M. L. Cerquaglia, V. de Goyet***Experimental calibrated model of a walking human on the UniOvi footbridge***D. Francisco-Fernández, M. García-Diéguez, B. Zapico-Blanco*

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14:00	<p>SS04-2 Bayesian Model Updating of a Dam-Water-Foundation Rock System: A Case Study of Pine Flat Dam <i>E. Zeballos, M. Ramancha, M. Petracca, G. Camata, J. Conte</i></p> <p>Bias-aware Bayesian filtering using Gaussian process latent force models <i>E. Lourens, Ø. W. Petersen</i></p> <p>Vibrational monitoring of a concrete beam for bridge damage detection: data fusion between contact, non-contact techniques <i>V. Pasquinelli, G. Cosoli, M. Martarelli, A. Mobili, F. Tittarelli, G. Pandarese, L. Violini, P. Castellini, M. Morici, F. Micozzi, A. Zona, V. Leggieri, A. Dall'Asta, G. Revel</i></p> <p>Finite Element Model Updating for Digital Twin Development using Operational Modal Analysis: the JRC Atmospheric Observatory Tower Case Study <i>H. Ali, G. Bocchino, F. Bono, F. Perotti, L. Martinelli</i></p> <p>Modal identification of buildings with complex geometry and tested at different times <i>V. Nicoletti, S. Quarchioni, F. Gara</i></p>	<p>SS01-2 Customized Sensors for Structural Health Monitoring: advantages and application to a case study <i>L. Soares, C. Moutinho</i></p> <p>Characterization of the dynamic behavior of the Arrábida Bridge taking advantage of the data collected by customized sensors <i>I. Hyppolito, C. Moutinho, S. Pereira, A. Cunha</i></p> <p>Non-contact Energy Flux Measurement of Impact Pile Driving <i>P. Meijers, F. Greco</i></p> <p>Monitoring Corrosion in Prestressed Tendons: Case Studies, Results, Analysis and Outputs <i>J. Torres, N. Rebolledo, A. Silva, J. Sanchez</i></p>	<p>SS09-1 Monitoring different prestressing forces of a concrete steel tower using neuronal networks <i>N. Römgens, A. Abbassi, M. Talahmeh, T. Griebmann, R. Rolfes</i></p> <p>Experimental investigation of the influence of tuned mass damper on first-passage time evaluated by neural network <i>P. Fossat, G. Shimaru, M. Ichchou</i></p> <p>An Optimized Inference System for Predicting Seismic Responses of Bridges Considering Structural Behavior <i>A. Shamsaddinlou, S. Shirgir, M. Nikoofaraz, D. Domenico, M. Bitaraf</i></p> <p>Joint Input-State Estimation Based on Recurrent Neural Network Assisted-Augmented Kalman Filter <i>Y. Wang, M. Song, Y. Xia, L. Sun</i></p> <p>Deep Metric Learning-Based Feature Extraction for Anomaly Classification in Bridge Monitoring <i>I. Bayane, J. Leander, R. Karoumi</i></p>	14:00
14:30	<p>Numerical Considerations in Context of Stochastic Subspace-Based Fault Detection Test <i>L. Schwegmann, A. Dederichs, V. Zabel</i></p>	<p>SS02-1 BridgeSegPCR: A Novel Framework for Bridge Automated Segmentation on Point Cloud Representations <i>W. Wang, X. Wang</i></p> <p>Flight path optimization for UAV bridge inspection considering required functions of structural members by viewpoint importance and verification with 3D model in virtual space <i>S. Sato, M. Nishio</i></p>	<p>Performance Evaluation of Unsupervised Learning Application for Warren Truss Bridge Anomaly Detection Using MLP Autoencoder <i>N. Ita, K. Caballero, J. Casas, R. Delgadillo</i></p> <p>Population-based damage detection using Bidirectional LSTM and GRU networks <i>D. Ruiz, B. Poncetti, M. Futai</i></p>	14:30
15:00		<p>Deep learning-based bridge geometric digital twinning based on incomplete sparse point cloud data <i>Y. Narazaki, J. Xu, M. Shi</i></p>		15:00
15:30				15:30

COFFEE-BREAK

16:00	<p>SS04-3 Passive Structural Monitoring via Deconvolution-Reconstructed Waves <i>F. Scalea, A. Hosseinzadeh, C. Huang</i></p> <p>Characterizing the dynamic behavior of a high-rise building using homogenized beam models versus in-situ measurements <i>P. Fossat, A. Rallu, S. Hans</i></p> <p>Experimental free vibration of damaged RC beam-column joints <i>E. Magagnini, A. Khatir, R. Capozucca</i></p>	<p>SS02-2 Construction of shell element FE models of steel girder bridge from point clouds for efficient structural dynamic analysis <i>T. Nakamizo, M. Nishio</i></p> <p>Bridge Inspection Using AI & Drone <i>M. Mohammed, A. Zahraee</i></p> <p>UAV vision-based 3D damage deep segmentation for bridge maintenance and resilience <i>J. Dang</i></p> <p>Remote Deformation Monitoring of Riveted Steel Railway Bridges During Load Testing using UAVs: field investigation and accuracy assessment <i>M. Castellani, E. Garcia-Macias, A. Meoni, F. Antonini, F. Ubertini</i></p>	<p>SS10-1 Stochastic transfer learning strategy for monitoring twin concrete bridges <i>L. Ferreira, M. Yano, L. Souza, I. Moldovan, S. Silva, R. Lopes, C. Cimini Jr., J. Costa, E. Figueiredo</i></p> <p>An investigation of the effect of age degradation on natural frequency of single span prestressed concrete bridge under environmental variation using gaussian process regression <i>H. Ahmad, Y. Matsumoto</i></p> <p>Damage detection of a real structure using genetic algo-rithms based on FE model <i>M. Maccanti, D. Gaudioso</i></p>	16:00
16:30	<p>Vibration-based Structural Health Monitoring from single-pass SAR images <i>A. Lotti, A. Vattulainen, S. Riofrio, C. Suppi, D. Tonelli, F. Rollo, C. Ilioudis, P. Milillo, E. Tubaldi, C. Clemente, D. Zonta</i></p>			16:30

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14:00	<p>SS08-2 Autonomous Mobile Robotic System for Bridge Cable Condition Monitoring <i>D. Chen, Z. Sun</i></p> <p>Structural Response Prediction from Learned System Realization Matrices <i>C. Chern, C. Perez, K. Mosalam</i></p> <p>A Model Updating Framework for Railway Ballasted Track Stiffness Irregularity Interference based on the 2D dynamic train-track MDOF model <i>X. Han, S. Li, L. Cheng</i></p> <p>Towards a Population-based approach for dynamic monitoring of underground structures <i>C. Corbani, G. Delo, C. Surace</i></p> <p>Traffic Load Estimation via Time-Frequency Analysis of Dynamic Monitoring data and Deep Learning <i>S. Zanella, F. Barchi, A. Moallemi, M. Longo, M. Salvaro, P. Darò, L. Benini, A. Acquaviva</i></p>	<p>SS12-2 Image Rotation Monitoring Based Damage Detection on Bridge Bearings with Consensus Motif Search to Extract Waveforms <i>R. Zuo, J. Dang</i></p> <p>Efficient AEKF Implementation for Structural Response Estimation <i>J. Geda, Y. Yang, M. Kitahara, T. Nagayama</i></p>	<p>SS14-2 Footbridge Dynamics and Pedestrian Comfort: A Statistical Framework <i>R. Govindan, B. Lin, C. Caprani, S. Živanović</i></p> <p>Virtual Meets Real: A Testbed Facility for Multisensory Human-Structure Interaction Analysis <i>B. Lin, R. Govindan, S. Živanović</i></p> <p>Vision-based identification of spatio-temporal running gait characteristics <i>J. Lottefier, P. Van den Broeck, K. Van Nimmen</i></p> <p>Measurements and review of grandstand loads <i>W. Meijers, M. Hermens</i></p> <p>Dynamic Behavior of a Full-Scale Hybrid Timber-Concrete Composite Floor with Concrete Slab Support <i>J. Moura, M. Souza, R. Carrazedo, J. Molina</i></p> <p>Modal properties and human induced vibration of an arch footbridge in Gdynia (PL) <i>A. Banas, A. Nariswari, M. Mulas</i></p>	14:00
14:30	<p>Generation of synthetic data with variational autoencoders for structural health monitoring based on electromechanical impedance <i>R. Perera, J. Montes, M. Asunción</i></p>	<p>SS13-1 Structural Health Monitoring of Engineering Structures Using Digital Twins: A Digital Twin Platform Approach <i>P. Talasila, D. Tcherniak, A. Jensen, S. Mahato, A. Schörghofer-Queiroz, M. Ulriksen, G. Abbiati, P. Larsen, L. Damkilde</i></p> <p>Real-Time capable Model Updating of Digital Twins: A Case Study of a Cantilever Beam <i>C. Jonscher, S. Warnken, J. Ragnitz, J. Heinemeyer, D. Mürtins, S. Möller, B. Hofmeister, R. Rolfes</i></p> <p>Data-Driven Approaches Integrating SHM, WIM, and Digital Twin for Service Life Assessment of the Brooklyn-Queens Expressway (BQE) <i>C. Na, H. Nassif, P. Lou, S. Hanbay, T. Braguim, C. Yang, D. Harrison, T. Pandya, K. Ozbay</i></p> <p>Digital Twin for Structural Monitoring and Anomaly Detection of the JRC Atmospheric Tower <i>G. Bocchino, G. Vaglica, G. Renaldi, F. Perotti, L. Martinelli, F. Bono</i></p>		14:30
15:00				15:00

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COFFEE-BREAK

16:00	<p>SS08-3 Unseen Mooring Monitoring by Conditional Hierarchical Variational Domain Translation <i>H. Fathnejat, V. Nava</i></p> <p>SS11-1 Video-Based Micro-Vibration Measurement for Hydraulic Structure in Field Environments Using Phase-Based Motion Extraction <i>Y. Zhang, H. Liu, X. Liu</i></p>	<p>SS13-2 Leveraging Digital Twins for actionable damage identification and virtual sensing for fatigue life assessment of offshore wind turbines <i>C. Devriendt, W. Weijtjens</i></p> <p>A decentralized digital twinning approach for wireless structural health monitoring systems <i>K. Dragos, K. Smarsly</i></p>	<p>SS14-3 Simulations of human-induced floor vibrations considering guidance for serviceability assessment <i>M. Cavacece</i></p> <p>Experimental study of three buildings in Mexico City exposed to different conditions of usage and vehicular traffic <i>M. Suarez, G. Rodríguez, M. Rodríguez</i></p> <p>Using wearable sensors and image recognition techniques to develop a realistic walking load model <i>D. Fuentes-Jiménez, G. Fernández, A. Iglesias-Pordomingo, E. Pereira-González, P. Gil-Jiménez, A. Lorenzana</i></p> <p>Assessment of Footbridge with Excessive Vibration <i>M. Xu, L. Santos, P. Campos</i></p>	16:00
16:30	<p>Self-sensitive Construction Materials for SHM of Masonry Structures: Experiences Towards Smart Masonry <i>A. Meoni, M. Mattiacci, A. D'lessandro, F. Ubertini</i></p>			16:30

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DAY 02

ROOMS

AUDITORIUM

B032

B035

B001

B002

B003

AUDITORIUM

B032

B035

08:30	SS04-4 – Advances in vibration-based system and damage identification of Civil structures under operational and extreme loads <i>Chair: A. Barbosa</i>	SS03-1 – From data to action: vibration-based monitoring driven decision making and value of information <i>Chairs: M. P. Limongelli, P. F. Giordano</i>	SS10-2 – Machine learning for damage identification under operational and environmental effects, including climate change <i>Chair: E. Figueiredo</i>	08:30
09:00	SS05-1 – Model-based SHM strategies for Civil structures and infrastructures <i>Chair: V. Nicoletti</i>		SS16-1 – Advancements in bridge health monitoring: data-driven approaches and machine learning techniques for enhanced feature extraction, damage detection, and operational and environmental dependencies <i>Chairs: F. Ubertini, E. Tronci</i>	09:00
09:30				09:30
10:00	Keynote Lecture 3 <i>Chairs: A. Cunha, E. Caetano</i>	COFFEE-BREAK		10:00
10:30	Keynote Lecture 4 <i>Chairs: A. Cunha, E. Caetano</i>			10:30
11:00	COFFEE-BREAK			11:00
11:30	SS05-2 – Model-based SHM strategies for Civil structures and infrastructures <i>Chairs: V. Nicoletti, P. Borlenghi</i>	SS15-1 – Vibration-based condition assessment of bridges <i>Chairs: E. Reynders, D. Anastasopoulos</i>	SS16-2 – Advancements in bridge health monitoring: data-driven approaches and machine learning techniques for enhanced feature extraction, damage detection, and operational and environmental dependencies <i>Chairs: F. Ubertini, E. Tronci</i>	11:30
12:00				12:00
12:30	LUNCH			12:30
14:00	Industrial Plenary Presentations <i>Chairs: P.F. Giordano, C. Moutinho</i>	COFFEE-BREAK		14:00
14:30				14:30
15:00				15:00
15:30	COFFEE-BREAK			15:30
16:00	SS05-3 – Model-based SHM strategies for Civil structures and infrastructures <i>Chairs: V. Nicoletti, P. Borlenghi</i>	SS15-2 – Vibration-based condition assessment of bridges <i>Chairs: E. Reynders, D. Anastasopoulos</i>	SS21-1 – Experimental, numerical and theoretical approaches for the assessment of vibrational impact induced by underground railway and road infrastructures during construction and exploitation <i>Chairs: A. Rallu, E. Bertrand</i>	16:00
16:30				16:30
17:00				17:00
17:30				17:30

B001

B002

B003

08:30	SS17-1 – Bridge dynamics <i>Chairs: I. Drygala, A. Cigada</i>	SS25-1 – Harnessing the wind: testing and monitoring challenges in wind turbine engineering <i>Chairs: F. Magalhães, S. Pereira</i>	SS23-1 – Wind-induced vibrations of slender structures and infrastructures <i>Chair: F. Lupi</i>	08:30
09:00				09:00
09:30				09:30
10:00	COFFEE-BREAK			10:00
10:30	COFFEE-BREAK			10:30
11:00	SS17-2 – Bridge dynamics <i>Chair: I. Drygala</i>	SS25-2 – Harnessing the wind: testing and monitoring challenges in wind turbine engineering <i>Chairs: S. Pereira, F. Pimenta</i>	SS20-1 – Ground-borne noise and vibrations induced by railway traffic and construction activities <i>Chair: A. Colaço</i>	11:30
12:00	SS19-1 – Data science applied to railways <i>Chair: D. Ribeiro</i>			12:00
12:30	LUNCH			13:00
14:00	LUNCH			14:00
14:30	LUNCH			14:30
15:00	LUNCH			15:00
15:30	COFFEE-BREAK			15:30
16:00	SS24-1 – Structural health monitoring and assessment techniques for cable and tendon elements in cable-supported structures <i>Chairs: E. Caetano, I. Diaz</i>	SS26-1 – Recent developments in vibration-based health monitoring and performance assessment of offshore wind turbines <i>Chair: F. Pimenta</i>	SS28-1 – Data driven SHM of cultural heritage structures <i>Chairs: C. Gentile, C. Rainieri</i>	16:00
16:30				16:30
17:00		SS27-1 – Dynamics of onshore and offshore wind turbine structures <i>Chair: A. Tsouvalas</i>		17:00
17:30				17:30

08:30	<p>SS04-4 Damage identification in railway bridges using a novel nonlinear time series analysis methodology with sensor clustering <i>P. Oliveira, X. Min, A. Meixedo, R. Calçada</i></p> <p>Assessing the influence of fire damage on the modal characteristics of reinforced concrete beams <i>E. Reynders, J. Godeau, B. Jovanović, M. Van de Velde, D. Anastasopoulos, G. Lombaert, R. Caspeele, R. V. Coile</i></p>	<p>SS03-1 Value of information for the innovation of vibration-based monitoring systems for multiple applications <i>G. Costa, M. P. Limongelli, S. Thöns</i></p> <p>Influence of defects on modal parameters extracted by AVTs processed through OMA: application to two full-scale viaducts <i>C. Alfonsi, N. Fiorini, M. Silla, F. Talanas, R. Acerbis</i></p> <p>Bridge management based on Bayesian decision analysis with Sustainability Considerations <i>P. F. Giordano, M. P. Limongelli</i></p> <p>Vulnerability assessment of bridge networks integrating model updating and Bayesian network modeling <i>P. Mesbahi, E. García-Macías, L. Ierimonti, M. Breccolotti, F. Ubertini</i></p> <p>Analytical Assessment of Optimal Number and Placement of Sensors for Modal Response Estimation of Frame Buildings <i>T. Yilmaz, S. Kocapinar</i></p> <p>Data-driven MLA to support Vibration-based Inspection Method for Continuous Welded Rails <i>P. Rizzo, M. Belding, S. Baktash</i></p>	<p>SS10-2 An Unsupervised Learning Approach for the Analysis of Long-term Monitoring Data in a Prestressed Concrete Bridge <i>F. Saitta, G. Buffarini, A. Tofani, F. Ciarallo, D. Esposito</i></p> <p>Impact of climate change on concrete bridges: A case study on temperature effects <i>N. Molon, E. Figueiredo, I. Moldovan, P. M. Soares, M. H. Faber, D. C. Lima, L. O. Santos, P. Cabral, F. da Porto</i></p>	08:30
09:00	<p>Low-Cost Structural Health Monitoring using RaspberryShake R4SD Seismic Instrumentation <i>F. Hernández, P. Guindos, R. Astroza, R. Bazález, P. Soto</i></p>		<p>SS16-1 Application of Sparse Autoencoder to Damage Detection of a Model Steel Truss Bridge <i>P. Vanova, J. F. Alonso, Z. Jiang</i></p> <p>A streaming clustering approach for automated mode tracking based on SSI outputs <i>D. Raviolo, K. A. Kvåle, Ø. Petersen, O. Øiseth</i></p>	09:00
09:30	<p>SS05-1 Damage detection on real-world structures through M-DLAC technique <i>A. V. de Nunzio, G. Faraco, A. Messina, N. I. Giannoccaro</i></p> <p>Comparison of Automated and Manual Damage Assessment based on Sagging for a Prestressed Concrete Bridge Beam with Model Updating <i>K. Dakhili, S. Maas</i></p> <p>Vibration Based Damage Detection: Experimental and Finite Element Case Study <i>M. Aghagholizadeh</i></p>		<p>A domain adversarial neural network-based strategy for model-class selection: numerical simulations via finite element modeling of roadway bridges <i>V. Giglioli, F. Ubertini, I. Venanzi</i></p> <p>Data-Driven Approaches for Predicting Bridge Defectiveness: A Machine Learning-Based Assessment of Structural and Contextual Factors <i>E. Casassa, V. Gervasi, V. Messina, F. Del Carlo, A. Natali, W. Salvatore</i></p>	09:30
10:00	<p>Keynote Lecture 3 Vibration-based condition assessment and monitoring of external post-tensioning tendons and cables <i>I. M. Díaz, C. M. Renedo, J. H. García-Palacios, L. Chillitupa-Palomino, B. Vecino, J. Naranjo-Pérez</i></p>			10:00
10:30	<p>Keynote Lecture 4 Digitalization of bridge integrity management: the role of monitoring <i>M. P. Limongelli</i></p>			10:30
11:00				
11:30	<p>SS05-2 Numerical Study on Multi-Class Damage Classification in Prestressed Concrete Bridges Using Multilayer Perceptron Artificial Neural Networks <i>P. Giri, L. Ierimonti, E. García-Macías, F. Ubertini, I. Venanzi</i></p> <p>Eigenstructure assignment in stochastic systems based on virtual output feedback <i>M. D. Ulriksen, D. Bernal</i></p> <p>Sensor placement optimization for early damage detection in Gerber girder bridges <i>M. G. Masciotta, A. Barontini, A. Dhima, G. Brando, P. B. Lourenço</i></p>	<p>SS15-1 Bridge monitoring with a density-based clustering Automated Operational Modal Analysis methodology <i>A. Tavares, M. Barreira, E. di Lorenzo, B. Cornelis, S. Manzato, B. Peeters, C. Moutinho, F. Magalhães, W. Desmet, K. Gryllias</i></p> <p>Assessment of the steel footbridge using ambient vibrations <i>M. Sykora, M. Venglar</i></p> <p>Nonlinear response identification of precast r.c. bridges with post-tensioned internal tendons <i>F. Scozzese, S. Naz, G. Leoni, A. Dall'Asta</i></p>	<p>SS16-2 Forecast Model for Damping and Vibration Periods of Bridges <i>M. Cavacece</i></p> <p>Optimizing Bridge Health Monitoring with Acoustic Emission Techniques <i>L. Severa, S. Milana, N. Roveri, A. Culla, A. Carcaterra</i></p> <p>Enhancing Early-Stage Damage Detection in Bridges through Advanced Feature Extraction Strategies <i>L. Severa, S. Milana, N. Roveri, E. M. Tronci, A. Culla, A. Carcaterra</i></p> <p>Bridge health monitoring under varying environmental conditions using conditional principal component analysis <i>J. Gertheiss, L. Neumann, P. Wittenberg</i></p>	11:30
12:00	<p>A Bayesian neural network approach for probabilistic-based damage detection of monitored bridges <i>F. Mariani, L. Ierimonti, F. Ubertini, I. Venanzi</i></p>	<p>Full-Size Testing of Stay Cable Damping for the Assessment of High Damping Rubber Damper Efficiency <i>M. Vollmering, P. Karásek, W. Brand</i></p>	<p>Detection and Localization of Traffic on a Bridge Structure Using a Distributed Accelerometer Network <i>V. Bokaeian, J. Bowmaster, K. Arjomandi</i></p>	12:00
12:30				12:30

08:30	<p>SS17-1 Ambient Vibration Testing, Modal Response Analysis and FE Model Updating of a Curved Concrete Bridge in Canada <i>M. Motamedi, C. E. Ventura, B. Robazza</i></p> <p>Dynamic performance analysis of a single-span footbridge supported by a spatially variable truss <i>I. Drygala, J. Dulińska, D. Jasińska, T. Tatara, M. Małecki, S. Grabon, R. Mesar</i></p> <p>Assessment of Provisions for Control of Vibration in Highway Steel Girder Bridges <i>S. Hanbay, H. Nassif, P. Lou, M. Liu</i></p>	<p>SS25-1 Strain Virtual Sensing for Offshore Wind Turbine Jacket Supports via Multivariate Time Series Transformers <i>A. Encalada-Dávila, Y. Vidal, B. Puruncajas, C. Tutivén</i></p> <p>Estimating fatigue through latent space embedding of acceleration in offshore wind turbines <i>F. D. Santos, Y. Bel-Hadj, W. Weijtjens, C. Devriendt</i></p> <p>Strain-based monitoring and modal analysis on wind turbines for structural characterization <i>A. Galhardo, F. Pimenta, J. P. Santos, F. Magalhães</i></p> <p>Wind Turbine Gearbox Fault Detection under Distribution Shifts <i>S. Wang, Y. Vidal, F. Pozo</i></p> <p>Hierarchical Bayesian model updating of a 6 MW offshore wind turbine accounting for variable environmental and operational conditions <i>B. Moynihan, B. Moaveni, E. Hines</i></p> <p>Addressing the complexities of wind turbine monitoring via Automated Operational Modal Analysis <i>A. Tavares, S. Dias, S. Pereira, E. D. Lorenzo, B. Cornelis, B. Peeters, F. Magalhães, W. Desmet, K. Gryllias</i></p>	<p>SS23-1 Vortex-Induced Vibration of wind turbine tower: Measurement and analysis on second mode oscillation <i>I. Kurniawati, F. Lupi, M. Seidel, R. Höffer</i></p> <p>Combined wind and sea excitations in the nonlinear dynamics of a simple model of FOWT under internal resonance conditions <i>V. Settimi, S. Lenci</i></p> <p>Performance Based Assessment of a Eurocode Compliant 20-Story MRF Steel Building under Wind and Earthquake Loads <i>A. Ullah, A. Athanasiou</i></p> <p>Elastic wind spectra for the design of slender structures <i>A. Panchal, A. Athanasiou</i></p> <p>Vortex Shedding Occurrence at the Humen Bridge in China - Results of an ongoing monitoring campaign <i>C. Meinhardt, X. Gao</i></p> <p>Isolation of Train Induced Ground-Borne Vibrations <i>M. S. Rahman, M. Wesolowsky, R. Alkhatib</i></p>	08:30
09:00	<p>Bayesian structural identification of a modern footbridge <i>U. Bohinc, T. Franković, N. Friedman, B. Brank</i></p> <p>Evaluating the Suitability of MEMS-Based Monitoring Systems: a Comparative Study of Performance and Applicability <i>S. Paganoni, L. Iacussi, M. Brambilla, P. Chiariotti, E. Zappa, M. Longo, P. Darò, G. Mancini, A. Cigada</i></p>			09:00
09:30	<p>Human Structure Interactions in Vertical Vibrations of Footbridges Using the Pseudo Excitation Method <i>S. L. Arachchilage, C. C. Caprani</i></p>			09:30
10:00				10:00
10:30				10:30
11:00				11:00
11:30	<p>SS17-2 Utilizing Forced Vibration Testing for Suspenders' Tension Evaluation in Bridge Structures: Insights from the Menai Suspension Bridge <i>O. K. As-Saad, Z. Sun, K. Evans, C. Moutinho, T. Inglis, E. Caetano</i></p> <p>SS19-1 A numerical study on damage detection in railway bridges combining wavelet analysis and deep learning <i>A. Rahimi, L. Ierimonti, E. García-Macías, F. Ubertini, I. Venanzi</i></p>	<p>SS25-2 A Virtual Sensing Strategy for Predicting Bending Moments in Offshore Wind Turbines Using SCADA-Informed Gaussian Processes <i>E. M. Tronci, B. Moynihan, B. Moaveni, E. Hines</i></p> <p>Pattern Recognition and Damage Detection in Wind Turbine Monitoring Using Cepstral Coefficients <i>E. M. Tronci, S. Shid-Moosavi, C. Speciale</i></p> <p>Analysing a Wind Turbine Rotor from a Structural Dynamic Perspective <i>S. Pereira, F. Pimenta, J. Pacheco, C. Moutinho, F. Magalhães</i></p> <p>Evaluation of wind turbine foundation repair with accelerometer measurements <i>T. Lipari, F. Pimenta, A. Biscaya, F. Magalhães, A. J. Santos</i></p>	<p>SS20-1 Supervised machine learning models for ground vibration assessment induced by impact pile driving <i>A. M. Abouelmaty, A. Colaço, P. A. Costa</i></p> <p>Dynamic behaviour of track-ground system: the impact of ground treatment <i>N. C. dos Santos, A. Colaço, P. Soares, A. Castanheira-Pinto, P. A. Costa, A. M. Kaynia</i></p> <p>Influence of trams' speed on the level of generated vibrations of measured ceilings in residential buildings <i>P. Stecz</i></p>	11:30
12:00	<p>A learning methodology for damage identification of railway tracks using an in-service freight vehicle and a virtual on-board system <i>A. Guedes, R. Silva, D. Ribeiro, C. Vale, A. Meixedo</i></p> <p>Investigation of the modal properties of prestressed concrete sleepers subjected to localized damage <i>M. E. Coutinho, J. F. Fernandes, C. Bragança, I. Ames, T. N. Bittencourt, A. C. Santos</i></p>			12:00
12:30				12:30

14:00	<p>Industrial Plenary Presentations</p> <p>Real bridge monitoring case study using ultimate SHM technologies <i>R. Mesar, I. López</i></p> <p>Ensuring Operational Continuity Through Multi-Asset Infrastructure Monitoring and Management <i>D. Skolnik, A. Alegre, M. Aguero, M. Ciudad-Real</i></p> <p>Putting monitoring solution in practice with Kistler: Merging structural data with traffic data <i>G. Imposa, L. Soares, S. Vaz</i></p> <p>Software and solutions for Structural Health Monitoring and Operational Modal Analysis <i>M. Notarangelo, D. Gargaro, G. Fabbrocino, C. Rainieri</i></p> <p>Integrated Wireless Sensors with MyMove Cloud Platform for Vibration Assessment of a 500 m Highway Bridge <i>P. Lellis, M. Maccanti</i></p>			14:00
14:30				14:30
15:00				15:00
15:30				15:30
16:00	<p>SS05-3</p> <p>Continuous Dynamic Monitoring and Model-Based Damage Assessment of a RC Frame Building <i>P. Borlenghi, V. Nicoletti, F. Gara, C. Gentile</i></p> <p>Beam model updating based on in-situ measured modal properties of a high-rise building <i>I. S. Ritfeld, A. J. Bronkhorst, D. Moretti</i></p> <p>Modal parameter identification of Milad Tower using upgraded MEMS accelerometers <i>A. Sadeqi, A. Esfandiari, M. Sanayei</i></p> <p>Structural monitoring of the Zeeland Bridge for improved load - response evaluation and structural lifetime estimation <i>F. Besseling, E. Lourens</i></p> <p>Isospectral Equivalent Frame models for seismic SHM of masonry buildings <i>D. Sivori, M. Lepidi, S. Cattari</i></p> <p>Reliability-based quality assessment of monitoring systems using Bayesian network <i>S. Zorzi, M. Broccardo, D. Zonta</i></p>	<p>SS15-2</p> <p>Strain-based AOMA and Strain Influence Line monitoring of a historic steel railway bridge <i>D. Anastasopoulos, E. P. Reynders</i></p> <p>Assessment of prestress loss in a large-scale concrete bridge model under outdoor condition <i>C.-M. Liao, F. Bernauer, E. Niederleithinger, H. Igel, C. Hadziioannou</i></p> <p>A Comparative Study on the Estimation of Bridges Modal Parameters through Different OMA Techniques for Structural Health Monitoring <i>A. Shamsaddinlou, D. de Domenico, M. Longo, D. La Mazza, G. Mancini, A. Recupero</i></p> <p>Modal identification and model updating: a case study on historical iron-truss bridges <i>F.-B. Cartiaux, J. Semiao, C. Menuet, L. Tosini</i></p> <p>Mode shape reconstruction using operational modal analysis of stay cables load cells data <i>S. Quarchioni, V. Nicoletti, S. Carbonari, F. Gara</i></p> <p>Identification of influence lines obtained from acceleration measurements <i>M. A. Siddiqui, F. Zonzini, S. Quqa, A. Palermo</i></p>	<p>SS21-1</p> <p>In-situ dynamic measurements within the ground during tunnelling in urban areas <i>Y. Aslan, A. Rallu, N. Berthoz, D. Branque</i></p> <p>Measurement of the Impact of Human-Induced Vibrations, application to Railway Traffic: Evaluation of Vibration Attenuation in Champs-sur-Marne, France <i>E. Bertrand, C. Bourdeau, F. Bonilla</i></p> <p>Lyon metro site: cross-analysis of the vibratory impact of the construction and operating phases <i>A. Rallu, E. Bertrand, N. Berthoz, L. Lenti</i></p> <p>Influence of the two-dimensional stratigraphic environment on the transmission of vibrations induced by rail traffic <i>N. Glinsky, C. Bourdeau, Y. Yan, E. Bertrand, L. Lenti</i></p> <p>Impact of Tram Passage on an Old House in Bucharest, Romania <i>A. Aldea, E. Bertrand, B. Chesca, P. Ioan, R. Enache</i></p> <p>Effect of piles on ground borne vibrations due to tunnel excavation by TBM <i>Y. Aslan, M. Feuilas, T. Makrypidi, C. Chatzigogos, A. Rallu</i></p> <p>Modal Parameter Identification in Asphalt Concrete using Non-Destructive Vibrational and Vibroacoustic Experimental Modal Analysis Techniques <i>B. Aktaş, F. Çeçen, Ş. Aytekin</i></p>	16:00
16:30				16:30
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SS24-1

Tension determination of cables with non-uniform cross section using half wavelength of sinusoidal component of mode shape

C. Chen, W. Wu, J. Chang

Development of a Convenient Tension Estimation Method for Linked Parallel Stay Cables Based on Multiple Vibration Measurements

W. Wu, C. Chen, C. Chang, G. Lai

Development of tension and bending stiffness estimation method for cables connected by intersection clamps using mode shape from low to high orders

T. Kato, A. Furukawa, T. Takeichi

Hanger force measurements using equivalent vibration lengths determined through modal analysis

S. Verdenius, V. Ros, K. Kleverwal

Dynamic investigation of a stay cable system of the largest concrete bridge in Poland, conducted within international research project

P. Hawryszkow

16:30

17:00

Stress-corrosion fatigue assessment of external post-tensioning tendons in high-speed railway bridges

J. Naranjo-Pérez, C. M. Renedo, B. Vecino, J. F. Alonso

Tension Estimation of External Post-Tensioning Tendons Using Machine-Learning-Based Models

L. Chillitupa-Palomino, B. Vecino, J. H. Garcia-Palacios, I. M. Díaz

SS26-1

Predictive Vibration Diagnostics of Wind Turbine Aggregates

A. Mironov, P. Doronkin, A. Safonovs

Structural health monitoring of mooring systems for floating wind turbines

A. Pandit, R. Ghiasi, M. O'shea

A Physics-Informed Framework for Input Load Estimation in Offshore Wind Turbines

A. Mehrjoo, E. M. Tronci, B. Moaveni

SS27-1

Damping ratio assessment for two full-scale operational onshore wind turbines

T. Nunez, C. Ventura

Magnetic Control of Translational & Torsional Motions of Suspended Loads

P. Atzampou, P. Meijers, A. Tsouvalas, A. Metrikine

Acoustic Monitoring and Validation of Noise Mitigation for Offshore Pile Driving

Y. Peng, A. Tsouvalas

SS28-1

Using Artificial Intelligence for the Dynamic Monitoring of an Old Tower in the Medicean Port of Livorno (Italy)

G. Bartoli, M. Betti, M. Girardi, G. Gurioli, N. Messina, C. Padovani, D. Pellegrini, G. Zini

Knowledge transfer between dynamically monitored masonry bell towers

A. Crocetti, R. Ceravolo, G. Miraglia, L. Scussolini, M. Taliano

Vibration-based Monitoring of the Historic Quay Walls of Amsterdam

D. W. ter Meulen, A. Cabboi, J. M. Brownjohn, A. Antonini

Dynamic characterization of Monumental Building for SHM purpose: the case of the Papal Basilica of St Peter

P. Darò, L. Iacussi, S. Turrisi, G. Rusticano, P. Chiariotti, E. Zappa, A. Cigada, G. Mancini

Video-based dynamic monitoring of ancient masonry structures: the case study of Santa Maria della Quercia bell tower

P. Meriggi, A. Montabert, F. C. Stan, M. Ahmed, S. de Santis, G. de Felice

Optimal Sensor Placement for Dynamic Identification in Historical Masonry Structures: Heuristic Methods and Brute Force Approach

E. Chaves, N. Mendes, A. Barontini, V. Compán

16:00

16:30

17:00

17:30

DAY 03

ROOMS

AUDITORIUM

B032

B035

B001

B002

B003

B029

AUDITORIUM

B032

B035

08:30	SS05-4 – Model-based SHM strategies for Civil structures and infrastructures <i>Chair: P. Borlenghi</i>	SS15-3 – Vibration-based condition assessment of bridges <i>Chairs: F. Ubertini, E. Reynders</i>	SS30-1 – Seismic safety assessment and long-term Structural Health Monitoring of large dams <i>Chairs: S. Oliveira, A. Alegre</i>	08:30
09:00	SS07-1 – Advanced computational techniques for efficient assessment in Structural Health Monitoring <i>Chairs: A. F.-Navamuel, D. Z. Sánchez</i>			09:00
09:30				09:30
10:00			SS33-1 – Dynamic monitoring approaches to enhance information gathered by Infrastructure monitoring network <i>Chair: I. Alovisi</i>	10:00
10:30	COFFEE-BREAK			10:30
11:00	SS34-1 – Long-term Structural Health Monitoring for Civil infrastructures <i>Chairs: L. Bernardini, C. Stoura</i>	SS15-4 – Vibration-based condition assessment of bridges <i>Chair: F. Ubertini</i>	SS38-1 – Static and dynamic performance assessment of building facades and envelopes <i>Chair: S. Jordão</i>	11:00
11:30		SS32-1 – Indirect Structural Health Monitoring (iSHM) of transportation infrastructures using responses of passing vehicles <i>Chair: R. Corbally</i>	SS42-1 – Modal identification and machine learning tools for deterioration assessment in railway infrastructure (prestressed concrete sleeper) <i>Chair: S. Jordão</i>	11:30
12:00				12:00
12:30	LUNCH			12:30
14:00	SS34-2 – Long-term Structural Health Monitoring for Civil infrastructures <i>Chairs: G. Cazzulani, P. Chiariotti</i>	SS32-2 – Indirect Structural Health Monitoring (iSHM) of transportation infrastructures using responses of passing vehicles <i>Chairs: R. Corbally, Z. Li</i>	SS45-1 – Other topics <i>Chair: S. Pereira</i>	14:00
14:30				14:30
15:00				15:00
15:30	Keynote Lecture 5 <i>Chairs: A. Cunha, E. Caetano</i>			15:30
16:00	Keynote Lecture 6 <i>Chairs: A. Cunha, E. Caetano</i>			16:00
16:30	Closing Ceremony			16:30
17:00				17:00
17:30				17:30

B001

B002

B003

B029

08:30	SS24-2 – Structural health monitoring and assessment techniques for cable and tendon elements in cable-supported structures <i>Chair: E. Caetano</i>	SS18-1 – Railway bridges <i>Chairs: P. Montenegro, A. Stollwitzer</i>	SS29-1 – Seismic Structural Health Monitoring of Civil structures <i>Chair: M. P. Limongelli</i>		08:30	
09:00						09:00
09:30	SS31-1 – Recent developments in infrastructure inspection and management <i>Chair: C.-W. Kim</i>					09:30
10:00					10:00	
10:30	COFFEE-BREAK				10:30	
11:00	SS36-1 – Dynamic characterization and long-term monitoring of timber and timber-hybrid buildings and infrastructures <i>Chairs: A. Aloisio, M. Civera</i>	SS18-2 – Railway bridges <i>Chairs: M. Baeßler, A. Andersson</i>	SS40-1 – Advances in vibration control systems: from testing techniques to practical implementation <i>Chairs: I. Diaz, C. Moutinho</i>	SS43-1 – Numerical simulations and experimental mechanics in terms of impulse loads <i>Chairs: P. Baranowski, M. Bocian</i>	11:00	
11:30					11:30	
12:00		SS22-1 – Advancements in understanding and mitigating train-induced vibrations <i>Chair: M. Sanayei</i>			12:00	
12:30	LUNCH				13:00	
14:00	SS37-1 – Experimental vibration analysis and monitoring of mass timber structures <i>Chairs: C. Amaddeo, L. Martinelli</i>	SS44-1 – Round Robin Finite element model validation of the reconstructed bridge based on structural dynamic properties <i>Chairs: I. Duvnjak, J. F. J.-Alonso</i>	SS41-1 – Experimental tests and numerical modeling of novel vibration absorbers <i>Chairs: I. Diaz, C. Moutinho</i>	SS43-2 – Numerical simulations and experimental mechanics in terms of impulse loads <i>Chair: P. Baranowski, K. Jamroziak</i>	14:00	
14:30					14:30	
15:00					15:00	
15:30	Hatched area				15:30	
16:00	Hatched area				16:00	
16:30	Hatched area				16:30	
17:00					17:00	
17:30					17:30	

08:30	<p>SS05-4 An embedded computing approach for vibration-based system identification using reduced-order finite elements <i>K. Dragos, F. Magalhães, K. Smarsly</i></p> <p>Long-term continuous monitoring of the dynamic response of the steel bridge <i>S. Urushadze, S. Hračov</i></p>	<p>SS15-3 Operational Modal Analysis and model validation of a reinforced concrete highway bridge with special deck geometry <i>I. Rosati, C. Rainieri</i></p> <p>The influence of temperature and solar irradiation on natural frequencies and strain mode shapes: case study of a post-tensioned concrete girder bridge <i>M. Van de Velde, D. Anastasopoulos, H. de Backer, E. Reynders, G. Lombaert</i></p> <p>Local Failures Analysis in a Scaled Steel Truss Bridge <i>S. Mammeri, B. Barros, A. D. Eslamlou, J. C. Reyes-Suárez, M. Buitrago, J. M. Adam, B. Riveiro</i></p> <p>Enhancing Vibration-Based Tension Measurement in External Prestressing Tendons Using a Monte Carlo Markov Chain Algorithm <i>J. Aparicio, V. Ehrbacher, G. Cumunel, T. Hoang, G. Foret</i></p> <p>Advancing infrastructure management on a territorial scale: A comprehensive framework for real-time monitoring of a large bridge inventory <i>E. Tomassini, G. Chellini, E. García-Macías, G. Centofanti, L. Ierimonti, L. Lepori, P. Mannella, W. Salvatore, F. Ubertini</i></p> <p>Enhancing the reliability of modal-based Structural Health Monitoring by appropriate threshold selection <i>A. de Corso, C. Rainieri</i></p> <p>Bayesian model selection approach for structural damage detection using cepstral features <i>S. Zorzi, M. Broccardo, R. Betti, D. Zonta</i></p> <p>Uncertainty and non-linear effects in experimental vibration data of a viaduct <i>P. Huguenet, M. H. Puig, J. F. Santamaria</i></p>	<p>SS30-1 Metrological characterization study of electromagnetic velocity transducers used in field dynamic test of large structures <i>L. L. Martins, J. P. Gomes, A. S. Ribeiro</i></p> <p>Evaluating the structural health of concrete gravity dams: Insight into the impact of AAR and damage detection techniques <i>A. Sarkar, B. K. Patra, A. Pradeep, A. Bagchi</i></p> <p>Ambient Vibration Testing and Modal Tuning of the Ridracoli Arch-Gravity Dam in Italy <i>A. Ullah, G. Buffi, N. Cavalagli, P. Manciola, G. Montanari, D. Salciarini, F. Ubertini</i></p> <p>Cahora Bassa dam SSHM system: initial configuration installed in 2010, and upgrades implemented in 2013 and 2024 <i>P. Mendes, E. Carvalho, B. Matsinhe, R. Ramos, J. Proença, A. Alegre, S. Oliveira</i></p> <p>A Frequency Domain Approach for Modal Parameter Extraction of Dam Structures under Non-Stationary Non-Uniform Excitations <i>E. MacLeod, K. Arjomandi, K. MacDonald</i></p> <p>Seismic behaviour of an arch dam using a 3DFE mod-el. Study on the influence of a dam body horizontal crack <i>R. Ramos, S. Oliveira, A. Alegre, J. Proença, P. Mendes</i></p>	08:30
09:00	<p>SS07-1 Optimal experimental design for multi-fidelity optimization in peridynamic models <i>G. Miraglia, R. Ceravolo</i></p> <p>Input-state estimation for multi-body dynamic systems with Bayesian filters <i>M. Thing, F. Nordtorp, A. Jensen, G. Abbiati</i></p> <p>Vibration-based Structural Health Monitoring of a concrete dam using Autoencoder networks <i>M. Pirrò, S. Pereira, C. Gentile, F. Magalhães, J. P. Gomes, A. Cunha</i></p>			09:00
09:30	<p>Variational Autoencoder-Based Alert System for Onshore Wind Turbine: Application to a Real Case Study <i>D. Zamora-sanchez, A. Fernandez-navamuel, D. Pardo, F. Magalhães, S. Pereira</i></p> <p>Damage identification study based on a likelihood-free method <i>M.L.M. de Souza, D.A. Castello, N. Roitman</i></p> <p>A non-destructive approach for damage localization in civil or mechanical structures without reference model <i>G. Faraco, A. V. Nunzio, N. I. Giannoccaro, A. Messina</i></p>			09:30
10:00			<p>SS33-1 Balancing model-driven and data-driven strategies in the SHM: lessons learned from a case study on the dynamic behaviour identification of complex structural scheme bridge <i>M. Longo, D. La Mazza, G. Lastrico, S. Cirelli, P. Darò, I. Alovisi, G. Mancini</i></p> <p>Investigation of the ultimate response of an existing PRC bridge beam after 60 years of working life <i>D. Gino, E. Miceli, P. Castaldo, L. Giordano, D. La Mazza, I. Alovisi, G. Mancini, M. Deiana, M. Mori</i></p> <p>AVTs as a guide tool for the definition of an optimized layout in a permanent monitoring system: Application to Ilde Bridge in A14 Highway <i>N. Fiorini, C. Alfonsi, M. Silla, F. Talanas, R. Acerbis, P. Mascitti, C. Tucciarone</i></p>	10:00
10:30				10:30
11:00	<p>SS34-1 Open-Access Data Sets for Structural Health Monitoring of Bridges in Norway <i>Ø. W. Petersen, O. Øiseth, K. A. Kvåle, A. Fenerci, B. T. Svendsen, G. T. Frøseth, A. Rønnequist</i></p> <p>SSI-COV performance using ambient vibration excitation and free-decays for automatic OMA: An application on a reinforced concrete bridge <i>F. M. Bono, L. Bernardini, A. Argentino, C. Somaschini, G. Cazzulani, M. Belloli</i></p>	<p>SS15-4 A virtual baseline method to enhance anomaly detection in progressive damage scenarios <i>S. Kamali, A. Palermo, A. Marzani</i></p> <p>Experimental Modal Analysis for Detecting Structural Damage: A Case Study on Bridge Deck Panel <i>S. Hračov, S. Urushadze, K. Golubiatnikov</i></p>		11:00
11:30			<p>SS38-1 Long-term structural performance of IGUs: a parametric numerical analysis <i>N. Cella, C. Bedon, S. Jordão, P. Lucia</i></p> <p>Seismic floor acceleration demands for European steel frames designed with different damage limitation criteria <i>S. A. Hosseini, S. Jordão, C. Bedon, C. Rebelo</i></p> <p>Mechanical Characterisation and Numerical Modelling of Structural Silicon Sikasil® SG-500; Uniaxial Tensile Test <i>S. A. Hosseini, E. Inca-Cabrera, S. Jordão, C. Leitão, A. Mesquita</i></p>	11:30

	AUDITORIUM	B032	B035	
11:30	<p>(... SS34-1)</p> <p>Long-Term Model based approach for Anomaly and Damage detection: real case studies and results <i>I. Alovisi, F. Basone, P. A. Centrone, B. D. Cicco, G. Mancini</i></p> <p>Long-term monitoring of the Hell Bridge Test Arena: the effects of environmental variability and damage on the natural frequencies <i>G. A. Pozo, B. T. Svendsen, Ø. W. Petersen, O. Øiseth</i></p> <p>Long-term Ageing Damage Identification in Vibration-Based Structural Health Monitoring <i>F. Marafini, G. Zini, A. Barontini, M. Betti, G. Bartoli, N. Mendes, A. Cicirello</i></p> <p>Condition assessment of an ageing railway bridge us-ing FBG dynamic strain data over 8 years <i>W. B. Inqiad, C. Kechavarzi, B. Sheil, J. Schooling, M. DeJong, H. Alexakis</i></p>	<p>SS32-1</p> <p>Numerical dataset for drive-by monitoring and application examples <i>D. Cantero, Z. Sarwar, A. Malekjafarian, R. Corbally, M. M. Alamdari, P. Cheema, J. Aggarwal, H. Y. Noh, J. Liu</i></p> <p>Extraction of Time-varying Bridge Frequency from Responses of Two-axle vehicles <i>Z. Li, Y. Lan, K. Feng, W. Lin</i></p> <p>A Two-Stage Bayesian Approach for CP Response Estimation of Sensing Vehicles for Indirect Bridge Monitoring <i>M. Talebi-Kalaleh, Q. Mei</i></p> <p>Enhancing Road Profile Identification Using Vehicle Acceleration Responses with Bayesian Optimization <i>J. Irawan, S. Hasegawa, C.-W. Kim</i></p>	<p>(... SS38-1)</p> <p>SS42-1</p> <p>Triaxial Modal Analysis of Conventional Prestressed Concrete Railway Sleepers, Novel CFRPU Laminate Reinforced Green Alternatives <i>F. Çeçen, B. Aktaş</i></p>	14:00
12:00				12:00
12:30				12:30
14:00	<p>SS34-2</p> <p>Multivariate Long-term Profile Monitoring with Application to the KW51 Railway Bridge <i>P. Wittenberg, A. Mendler, S. Knoth, J. Gertheiss</i></p> <p>Probabilistic Sensor Fault Detection in Structural Health Monitoring Systems Using Mahalanobis Distance <i>J. Bartels, F. Mett, N. Winnewisser, T. Potthast, M. Beer, S. Marx</i></p> <p>Evaluating mode tracking algorithms through an AOMA outcome simulation framework <i>A. C. Dederichs</i></p> <p>The Potential of Distance Correlation for Structural Health Monitoring <i>C. Beering</i></p> <p>Nonlinear Modelling for Temperature Response of Bridges Incorporating Time Lag Effects <i>M. Xu, G. Qu, L. Sun</i></p> <p>Bayesian Approach for main Frequency Identification on Extremely Under-sampled Signals <i>C. Nardin, S. Zorzi, F. Zonzini, D. Zonta, O. S. Bursi, M. Broccardo</i></p>	<p>SS32-2</p> <p>Evaluation the residual bearing capacity of concrete bridges based on the Tap-scan method <i>Z. Xiang, Z. Hu, H. Guo</i></p> <p>The Impact of the Vehicle-Bridge Coupling Effect on the Solutions of Passing-Vehicle Problems <i>J. Liu, Z. Xiang</i></p> <p>A damage detection algorithm for drive-by inspection through a Continuous Wavelet Transform-based approach <i>L. Bernardini, F. M. Bono, C. Somaschini, K. Matsuoka, A. Collina</i></p> <p>Feasibility Study of Monitoring Railway Bridges Using Axle Box Accelerations: A Joint Analysis of Simulations and Field Measurements <i>W. S. Wolswijk, Y. Zeng, S. Verdenius, J. Hendriks, M. Veljkovic, Z. Li</i></p> <p>Indirect Bridge Condition Monitoring using Deep Learning <i>R. Corbally, A. Malekjafarian</i></p>	<p>SS45-1</p> <p>Assessment of the Impact of Railway Vibrations on People in the Dynamic Influence Zone of Railway <i>A. Kowalska-Koczwara, F. Pachla</i></p> <p>Significance of Dynamic Modulus in pavement structure reinforced with Geocell <i>A. Chatterjee, S. Pokharel</i></p> <p>Applications of T-Mass and T-Stiffness Correlation Techniques <i>N. García-Fernández, F. Pelayo, M. Aenlle</i></p> <p>Assessment of Ibarra's Model for Cyclic Simulation of Frames under Experimental Loading <i>Y. Bakhtaoui, R. Bentafat, H. Ziou</i></p> <p>An influence of defects on guided wave propagation in steel I-beam <i>D. Ziaja, M. Jurek</i></p> <p>Evaluation of Damping Functions Using Transfer Functions of Up-Going and Down-Going Waves: Application to Shake-Table Tests on Building Models and Existing Structures <i>X. Wang, B. Duan, Y. Nitta</i></p>	14:30
14:30				14:30
15:00				15:00
15:30	<p>Keynote Lecture 5</p> <p>Structural monitoring of wind turbines: from onshore to offshore floating <i>F. Magalhães, S. Pereira, F. Pimenta</i></p>			15:30
16:00	<p>Keynote Lecture 6</p> <p>Vibrations induced by railway traffic: prediction, analysis and mitigation <i>P. A. Costa</i></p>			16:00
16:30				16:30

	B001	B002	B003	B039	
14:00	<p>(... SS36-1)</p> <p>Vibration performance of cross-laminated timber floors considering boundary condition effects of partition walls <i>M. Salehi, A. Aloisio, E. Ussher, R. Tomasi, C. Amaddeo, M. Dorn</i></p> <p>Hybrid cross-laminated timber building case study dynamic identification under forced vibration tests <i>A. Aloisio, M. M. Rosso, D. P. Pasca, I. Gavrić, R. Tomasi, I. Šušteršič, G. C. Marano, M. Fragiacomano</i></p>	<p>(... SS18-2)</p> <p>Review of Ballasted Track Destabilization on Shake Table Tests <i>M. Baessler, P. Simon</i></p> <p>Methods for closing the discrepancy between calculated and measured dynamic behavior of railway bridges – research and application <i>J. Fink, S. Loidl, L. Bettinelli, A. Stollwitzer</i></p>	<p>(... SS40-1)</p> <p>Multi-Passive Tuned Mass Damper for Single-Mode Control of Slender Lab-Scale Timber Footbridge <i>G. Fernández, D. Fuentes-Jiménez, C. Peláez-Rodríguez, J. J. Villacorta-Calvo, J. M. García-Terán, A. Magdaleno</i></p> <p>Active vibration control for high-performance floors <i>P. Reynolds, E. J. Hudson, Z. O. Muhammad</i></p>	<p>(... SS43-1)</p> <p>Study of auxetic cellular structures in terms of ballistic performance <i>P. Baranowski, M. Kucewicz, P. Piatek, K. Cieplak</i></p> <p>Evaluation of the Deflector Geometry Impact on Pipeline Damage Caused by TNT Explosion <i>S. Ślawnki, M. Polis, E. Krzysztala, K. Szydło, S. Duda, A. Stolarczyk, T. Jarosz</i></p>	14:00
12:00	<p>Estimating internal moisture content effects for the vibration-based damage assessment of cross-laminated timber buildings – preliminary results <i>M. Civera, P. F. Giordano, A. Aloisio, R. Tomasi, M. P. Limongelli, B. Chiaia</i></p> <p>Dynamic characterization and vibration serviceability assessment of two bare high-frequency CLT floors <i>C. M. Renedo, M. M. Rosso, L. Chillitupa-Palomino, A. Aloisio, I. M. Díaz</i></p>	<p>SS22-1</p> <p>Characteristic Frequencies of Train-Induced Bridge, Track, Ground and Building Vibrations – Excitation and Mitigation <i>L. Auersch</i></p> <p>Train-induced input vibration into the ground utilizing free-field vibration measurements <i>Z. Tao, J. A. Moore, S. Bolourchi, M. Sanayei</i></p>			12:00
12:30					12:30
14:30	<p>SS37-1</p> <p>Modal analysis of a truss with connection stiffness experimentally obtained <i>C. M. Menezes, A. D. Wahrhaftig, A. P. Borges</i></p> <p>Long-Term Analysis and Monitoring of Environmental Effects on the Dynamic Properties of a Lightweight Timber Frame Building <i>C. Amaddeo, L. Martinelli, M. Dorn, M. P. Limongelli</i></p> <p>Ambient vibration testing of multi-story Cross-Laminated Timber buildings of Limnogen <i>C. Amaddeo, T. Musabyimana, O. R. Mohammed, M. Dorn</i></p> <p>System Identification of a Full-Scale Six-Story Building with Self-Centering Rocking Walls with Distributed Energy Dissipation <i>P. A. Uarac, A. R. Barbosa, A. Sinha, J. W. van de Lindt, B. G. Simpson, K. Lotfizadeh</i></p> <p>Modal Feature Identification of Point-Supported Mass Timber Slabs <i>P. A. Uarac, A. R. Barbosa, B. T. Miyamoto, V. J. Mathews</i></p>	<p>SS44-1</p> <p>Finite Element Model Updating of a Reconstructed Ombla Bridge with Error-Domain Model Falsification Methodology <i>D. Hekič, N. Gošte, A. Anžlin, N. Bertola</i></p> <p>How Reliable Are Dynamic Properties as Indicators of Bridge Reconstruction Success? <i>I. Duvnjak, S. Ereiz, N. Grgić, M. Bartolac</i></p> <p>Finite element model updating based on the experimental dynamic properties of the bridge and prediction of behavior after reconstruction <i>A. Vlastic, M. Srbic, A. M. Ivankovic, D. Skokandic</i></p> <p>Comparative Study of Optimization Algorithms for the Finite Element Model Updating of a Gerber Type Bridge to Predict its Dynamic Behavior After Reconstruction <i>M. Perlaza, J. E. Bravo, E. Marín, P. Thomson, J. Marulanda</i></p> <p>Optimal Hyperparameter Selection of Machine Learning Models for Surrogate-Assisted Finite Element Model Updating of Civil Engineering Structures <i>J. F. Alonso, J. N. Pérez, F. G. Romero, R. Guiasi, A. Malekjafarian, E. Caetano</i></p>	<p>SS41-1</p> <p>Active Vibration Absorber for Vibration Transmission in Car Structure <i>J. Choi, S.-K. Lee, H. Kim</i></p> <p>Experimental investigation on a rack and pinion inerter with amplified inertance <i>C. Masnata, L. A. di Nardo, A. Pirrotta</i></p> <p>Optimal design of bistable meta-panels for energy dissipation in buildings under seismic excitation <i>V. Cavanni, L. Scussolini, L. Caneparo, R. Ceravolo</i></p> <p>Implementation of novel vibration absorbers in conventional seismically isolated bridges <i>M. Spanea, K. Kapasakalis, E. Sapountzakis</i></p> <p>Comparative Assessment of Conventional Seismic Retrofitting Techniques and Base Isolation Approaches - Case Study of Evangelismos Building in Heraklion Crete <i>D. Koutras, S. Kapsalis, K. Kapasakalis, E. Sapountzakis</i></p> <p>Using the experimental axial stiffness of a hydraulic bottle jack to simulate the attenuation of random vibration in an idealized SDOF system <i>A. M. Wahrhaftig, C. M. Menezes, I. G. Oliveira</i></p>	<p>SS43-2</p> <p>Mechanical response of 3D printed auxetic structures made from Maraging M300 steel <i>P. Piatek, K. Cieplak, M. Sarzyński, M. Kucewicz, P. Baranowski</i></p> <p>Analysis of the process of determining dissipative forces in the dissipation of impact energy at high speeds <i>M. Bocian, D. Pyka, K. Olaleye, M. Roszak, M. Bajkowski, T. Roik, K. Jamroziak</i></p> <p>Design, characterization and FEA validation of additively manufactured crash-loaded vehicle parts <i>A. Pawlak, T. Kurzynowski</i></p> <p>Identification of the stiffness of the military helmet shell using modal analysis <i>K. Krawiec, M. Kazmierczak, J. Słowiński, G. Ziółkowski, M. Panek, M. Bocian, K. Jamroziak, D. Larysz, C. Pezowicz, D. Pyka</i></p>	14:30
15:00	<p>In-situ Vibration Characteristics of a Prefabricated GLTCC Floor System <i>E. Hallilovic, C. Amaddeo, W. Derkowski, T. K. Bader</i></p>				15:00
15:30					15:30
16:00					16:00
16:30					16:30

INFO

Oral presentations

All presentations at the conference are oral and in English. Please check the final program to confirm the time and room of your presentation.

The time allocated for each presentation is 15 minutes, including questions and discussion. In order to keep the conference on schedule and to accommodate participants who want to move between sessions, session chairs are urged to strictly follow the time schedule. Please be considerate of your fellow speakers and stay within your allocated time.

All lecture rooms are equipped with a computer.

All presenting authors are requested to be present in the lecture room 15 minutes prior to the start of the session in order to copy their presentation file to the computer in the lecture room. Bring your presentations on a portable data device.

Presentations files may be in .pdf or .pptx format. Note that it is not allowed to use own notebook computers for the presentation to keep the time between presentations minimal. Authors whose presentation contains animations, vídeos, or special effects are strongly encouraged to test it before their session in the respective room. It is the authors' responsibility to check in advance that their presentation works fine with the installed version of the available software.

Wireless network

A wireless network is available in the conference buildings. Connect your mobile device to the UPorto wifi network. Open a browser and enter the portal to the following credentials:
Username: **evacesfeup**
Password: **FeupEvaces@25**

Working Room

Near the Conference Secretariat (Venue Plan) the Working Room is available to all participants for their personal work.

Mobile phones

All conference participants are kindly requested to switch off the sound of their mobile phone during the presentations.

Coffee breaks

Coffee breaks take place during the hours mentioned in the conference program. Location of the coffee break is indicated on the venue plan.

Lunch breaks

Lunch breaks are included in the conference registration fee, and they will be served at the Gymnasium of IPP, close to FEUP, as indicated on the venue plan.

Conference Reception

On Wednesday 2 July 2025 at 19:00, a Welcome reception is organized in Alfândega do Porto (Salão Nobre). This Reception is preceded by a boat cruise in Douro River beginning at 18:00 at Cais da Estiva (see Porto Map). A bus service, leaving from FEUP at 17:00, is organized to take the participants to Praça do Infante D. Henrique. At the end of Reception, a bus service, leaving from Alfândega at 22:00, is organized to take the participants back to FEUP, with stops at Avenida dos Aliados and Boavista Roundabout.

Conference Dinner

On Thursday 3 July 2025 at 19:00, the Conference Dinner takes place at Caves Ferreira, in Gaia (see Porto Map). A bus service, leaving from FEUP at 17:30, is organized to take the participants to Caves Ferreira. At the end of Conference Dinner, a bus service, leaving from Caves Ferreira at 23:30, is organized to take the participants back to FEUP, with stops at Avenida dos Aliados and Boavista Roundabout.

PORTO MAP

FEUP

CONFERENCE

Faculdade de Engenharia
Universidade do Porto
Rua Dr Roberto Frias
4200 465 Porto

Cais da Estiva

DOURO RIVER CRUISE

02 July – 18:00
Cais da Estiva
4050 243 Porto

Alfandega Porto

WELCOME RECEPTION

02 July – 19:00
Rua Nova Alfandega
4050 429 Porto

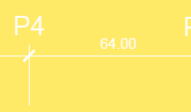
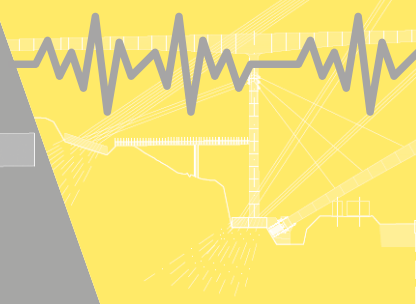
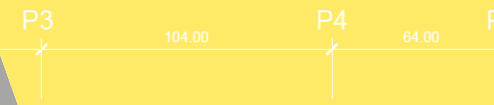
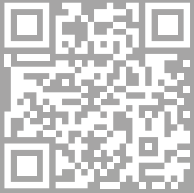
Caves Ferreira

CONFERENCE DINNER

03 July – 19:30
Avenida Ramos Pinto
Cais de Gaia
4400 161 Gaia

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