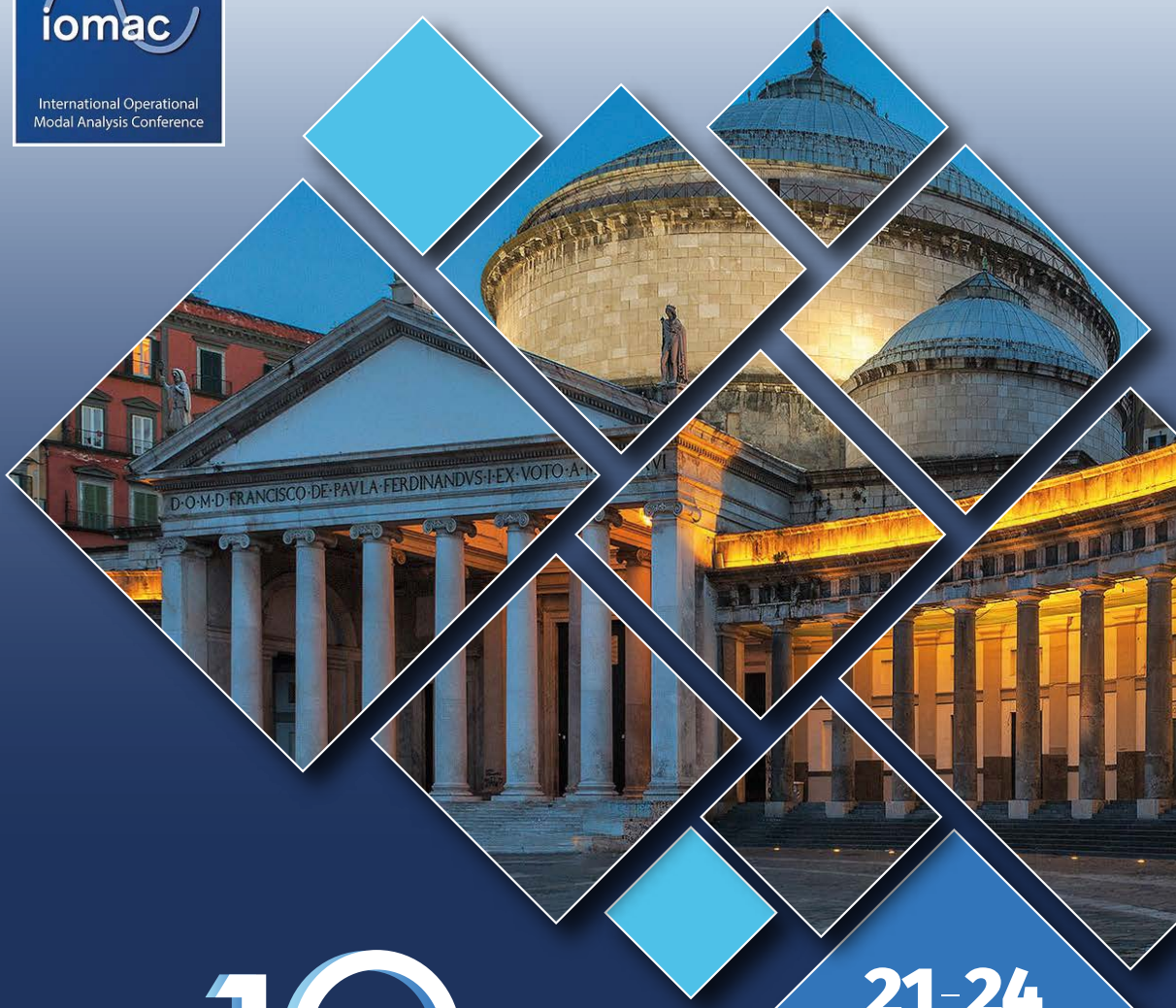
iomac

International Operational
Modal Analysis Conference



10th

International Operational Modal Analysis Conference

21-24 *May* 2024

Naples, Italy

International Operational Modal Analysis Conference

May 21 - 24 | Naples, Italy

Contents

Welcome Message 6

Conference Chairs 7

Local Organizing Committee 8

International Scientific Committee 9

Lecture of Honor 11

Keynote Lectures 11

Secretariat and Logistics 13

Naples, an enchanting city of sea and culture 14

The City Highlights 15

The Venue 16

General Information 18

Trasportation 22

Program at a Glance 26

Program 28

Social Events 35

Awards 41

The Exhibition Area 43

Sponsors and Exhibitors 44

Welcome Message

After the previous events in Copenhagen (2005, 2007, 2019), Portonovo (2009), Istanbul (2011), Guimaraes (2013), Gijon (2015), Ingolstadt (2017), and Vancouver (2022), the 10th International Operational Modal Analysis Conference IOMAC 2024 is held in Naples, Italy, on May 21-24, 2024.

The IOMAC 2024 Conference is a forum for the exchange of ideas, knowledge sharing, and technology-need matchmaking in the global OMA community. It represents the ideal venue to showcase the technologies and achievements in civil as well as industrial applications, demonstrating the practical value of OMA research, and raising the public awareness on the need for further OMA research and applications.

The theme of the IOMAC 2024 conference is "Augmented OMA". It reflects the fact that the well-established OMA applicative perspectives and performance can be augmented by applying advanced AI technologies, modeling and optimization tools as well as innovative data processing approaches. These enlarge the classical domain of OMA towards the development of SHM technologies, digital twins and innovative assessment procedures, remarking the primary role played by the discipline in the civil as well as industrial engineering fields. Moreover, new sensing technologies as well as improvements of the existing ones are giving a significant impulse to the applications. The above considerations confirm that there is a tremendous opportunity to explore new applications of the technology. In this context, the Conference is the ideal place where researchers, practicing engineers and technicians, students, industry, equipment vendors, and software developers can meet altogether to cross-fertilize ideas, and to share their knowledge in this fascinating field.

The three-day conference program includes three keynote lectures from renowned speakers, about 140 technical presentations, technical exhibitions, and exciting leisure and networking events.

The significant number of attendees, which makes **IOMAC 2024** by far the most attended event of the series, demonstrates the vitality of the scientific community in this field and rewards us for our commitment and dedication over the last months.

We believe that the quality of the program and the diversity of topics and applications within the unifying field of Operational Modal Analysis will make this event memorable and a professional success for all the delegates.

WELCOME TO IOMAC 2024

Dr. Carlo Rainieri
IOMAC 2024 Chair
Senior researcher, Construction Technologies Institute,
National Research Council, Italy
Naples, Italy

Prof. Carmelo Gentile
IOMAC 2024 Vice Chair
Professor, Department of Architecture, Built Environment
and Construction Engineering, Politecnico di Milano
Milan, Italy

Conference Chairs

Carlo Rainieri (Chair)

Carlo Rainieri is senior researcher at the National Research Council of Italy. His research interests are in the fields of civil Structural Health Monitoring, Operational Modal Analysis, smart materials.
He is author of the first book on Operational Modal Analysis appeared in the literature ("Operational Modal Analysis of Civil Engineering Structures: An Introduction and Guide for Applications", edited by Springer) and of about 200 scientific papers published on international peer-reviewed Journals and National and International conference proceedings.

Consiglio Nazionale delle Ricerche

Carmelo Gentile (Vice Chair)

Carmelo Gentile is full professor of Structural Engineering at the Department of Architecture, Built environment and Construction engineering (DABC), Technical University of Milan (Politecnico di Milano), Italy.
He is author or co-author of more than 300 technical and scientific papers focused on Bridge engineering, Cultural Heritage structures, Dynamic tests and continuous monitoring of bridges and historic structures, Earthquake engineering, Modal and structural identification, Structural Dynamics, Vibration-based damage assessment, Microwave Remote Sensing.

POLITECNICO MILANO 1863

Local Organizing Committee

Carlo Rainieri
Senior Researcher, National Research Council, Italy, Chair, rainieri@itc.cnr.it

Carmelo Gentile
Full Professor, Politecnico di Milano, Italy, Vice Chair, carmelo.gentile@polimi.it

Antonio Occhiuzzi
Full Professor, Parthenope University, Italy, Scientific program coordinator

Giovanni Fabbrocino
Full Professor, University of Molise, Italy

Matilde Notarangelo
CEO and CTO, S2X s.r.l., Italy

Paolo Borlenghi
Post-doctoral researcher, Politecnico di Milano, Italy

Luigi Cieri
Post-doctoral researcher, National Research Council, Italy

Ilenia Rosati
Post-doctoral researcher, National Research Council, Italy

Fulvio Busatta
Post-doctoral researcher, Politecnico di Milano, Italy

International Scientific Committee

Abdollah Malekjafarian, *University College Dublin*	**Ireland**
Alexandre Cury, *Universidade Federal de Juiz de Fora*	**Brazil**
Alvaro Cunha, *University of Porto*	**Portugal**
Anders Brandt, *Aarhus University*	**Denmark**
Andrea Prota, *University of Naples "Federico II"*	**Italy**
Andy Nguyen, *University of Southern Queensland*	**Australia**
Bart Peeters, *SIEMENS*	**Belgium**
Carlo Pellegrino, *University of Padua*	**Italy**
Carlos Ventura, *University of British Columbia*	**Canada**
Dionisio Bernal, *Northeastern University*	**USA**
Dionysius M. Siringoringo, *Yokohama National University*	**Japan**
Dmitri Tcherniak, *HBK*	**Denmark**
Dora Foti, *Politecnico di Bari*	**Italy**
Edwin Reynders, *KU Leuven*	**Belgium**
Ehsan Noroozinejad, *Western Sidney University*	**Australia**
Eleni Chatzi, *ETH Zurich*	**Switzerland**
Filipe Magalhaes, *University of Porto*	**Portugal**
Filippo Ubertini, *University of Perugia*	**Italy**
Francesca Ceroni, *University of Naples "Parthenope"*	**Italy**
Francesco Marulo, *University of Naples "Federico II"*	**Italy**
Giuliano Coppotelli, *University of Rome "La Sapienza"*	**Italy**
Guido De Roeck, *KU Leuven*	**Belgium**
Ivan Bartoli, *Drexel University*	**USA**
Jacek Grosel, *Wroclaw University of Science and Technology*	**Poland**
Javier Cara Canas, *Universidad Politécnica de Madrid*	**Spain**
Joel Conte, *University of California San Diego*	**USA**
Joerg Bienert, *Technische Hochschule Ingolstadt*	**Germany**

Julie Regnier, *CEREMA*	**France**
Manuel Lopez Aenlle, *University of Oviedo*	**Spain**
Michael Dohler, *INRIA*	**France**
Nicola Caterino, *University of Naples "Parthenope"*	**Italy**
Niels Jacobsen, *HBK*	**Denmark**
Palle Andersen, *Structural Vibration Solutions*	**Denmark**
Paolo Clemente, *ENEA*	**Italy**
Patrick Bukenya, *Cape Peninsula University of Technology*	**South Africa**
Pelayo Fernandez *Fernandez University of Oviedo*	**Spain**
Peter Thomson, *Universidad del Valle*	**Colombia**
Piervincenzo Rizzo, *University of Pittsburgh*	**USA**
Raimondo Betti, *Columbia University*	**USA**
Ruben Boroscheck, *University of Chile*	**Chile**
Rune Brincker, *Brincker Monitoring*	**Denmark**
Thomas Schmidt, *Magdeburg-Stendal University of Applied Sciences*	**Germany**
Walter Salvatore, *University of Pisa*	**Italy**
Wei-Xin Ren, *Shenzen University*	**China**

Lecture of Honor

Vibration Testing Avenues: from ground to roof

Elsa Caetano
Faculty of Engineering, University of Porto, Portugal

Elsa Caetano received her PhD in Civil Engineering in 2001 from the University of Porto, and the Habilitation in 2011. She is presently Full Professor at the Department of Civil Engineering of this University.
Elsa Caetano has a background in Experimental Structural Dynamics and her research and consultancy has focused on the dynamics of bridges and special structures. Particular topics of her research are Cable Dynamics, Pedestrian and Wind Induced Vibrations, Passive Control Systems and Structural Health Monitoring.

Keynote Lectures

Operational modal analysis and structural health monitoring with fiber-optic strain sensors

Edwin Reynders
Associate Professor, Department of Civil Engineering, Faculty of Engineering Science, KU Leuven

Edwin Reynders is an Associate Professor at the Department of Civil Engineering of the University of Leuven (KU Leuven), Belgium. In 2009, he received his PhD in Engineering Science from KU Leuven and the Best PhD Award in mechanics from the Royal Academies of Belgium. He then became a Postdoctoral Fellow of the Research Foundation – Flanders (FWO) at KU Leuven and the University of Cambridge, before joining KU Leuven again as an Assistant Professor in 2014. From 2017 until recently, he has been a Starting Grant holder of the European Research Council (ERC). His research expertise is in structural mechanics and building acoustics, and current research interests include numerical and experimental assessment of sound insulation, signal processing and system identification, and structural health monitoring.
https://perswww.kuleuven.be/edwin_reynders

Advancing Structural Health Monitoring: Embracing a Territorial Perspective

Filippo Ubertini [1,2]

[1] *Department of Civil and Environmental Engineering, University of Perugia, Italy*

[2] *FABRE Consortium, Italy*

Dr. Filippo Ubertini is a Full Professor of Structural Design at the Department of Civil and Environmental Engineering of the University of Perugia, Italy, teaching "Structural Analysis and Design" and "Earthquake Engineering". Dr. Ubertini also serves as the coordinator of the International PhD Program in Civil and Environmental Engineering at the same University.

Having graduated cum laude in Civil Engineering from the University of Perugia in 2005, Dr. Ubertini went on to earn his PhD in Civil Engineering from the University of Pavia in 2009. In 2008, he further enriched his academic experience as a visiting scholar at Columbia University. Throughout his career, he has authored over 150 papers published in highly impactful international journals.

Dr. Ubertini's research primarily revolves around the area of structural health monitoring, focusing particularly on vibration-based methods, smart materials, and their applications in bridge engineering, historic structures, and earthquake engineering. His expertise has led him to serve on the editorial board of renowned journals like Mechanical Systems and Signal Processing, in addition to contributing to various other international journals. He has also been a member of the scientific committees of several prestigious international conferences.

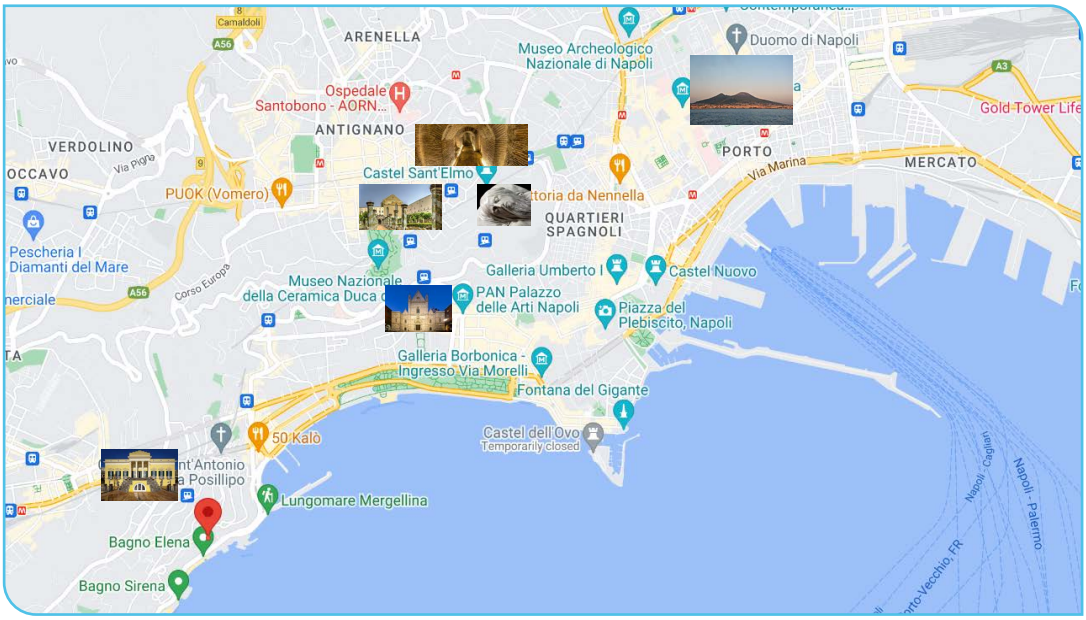
As Vice-President of the Italian "FABRE" Consortium, Dr. Ubertini spearheads national research on multilevel risk classification and monitoring of civil infrastructures. The consortium has secured substantial multimillion funding in recent years under his co-leadership. Dr. Ubertini has served as Principal Investigator for numerous international and national research projects and has been invited as a plenary/semi-plenary/keynote speaker at renowned international conferences, including Eurodyn 2020 and CBPAT 2020. He has received the award of the Italian Association for Wind Engineering in 2010, and Best Paper Awards at EVACES 2011 and IOMAC 2019.

Secretariat and Logistics

Topic	Point of contact	Email
Accommodations	Giuliana Levantino Diana Grillo	reservation_iomac2024@collage-spa.it
Best Paper Award	Giovanni Fabbrocino	giovanni.fabbrocino@unimol.it
Companion Program	Giuliana Levantino Diana Grillo	reservation_iomac2024@collage-spa.it
Company Award	Antonio Occhiuzzi	antonio.occhiuzzi@uniparthenope.it
Exhibition and Sponsorship	Giusy Ventura Matilde Notarangelo	giusy.ventura@collage-spa.it matilde.notarangelo@s2x.it
Final Program	Luigi Cieri	cieri@itc.cnr.it
Invoices	Francesco Serretta	francesco.serretta@collage-spa.it
Keynotes	Fulvio Busatta	fulvio.busatta@polimi.it
Proceedings and Special Issues	Ilenia Rosati	rosati@itc.cnr.it
Registration	Giusy Ventura Giuliana Levantino	registration_iomac2024@collage-spa.it
Scientific Award	Carmelo Gentile	carmelo.gentile@polimi.it
Social Events	Giuliana Levantino Diana Grillo	socialevents_iomac2024@collage-spa.it
Special Sessions	Paolo Borlenghi	paolo.borlenghi@polimi.it
VISA Inquiries and letters	Fulvio Busatta	fulvio.busatta@polimi.it
Website	Antonio Sola	antonio.sola@collage-spa.it
Young Researcher's Best Paper Award	Paolo Borlenghi	paolo.borlenghi@polimi.it

Naples, an enchanting city of sea and culture

Kissed by the sea and the sun, Naples is a city of overwhelming beauty and vibrancy.
The capital of Campania lies in the bay of the same name next to the volcano Vesuvius and offers a spectacular view as far as the islands of Capri, Ischia and Procida. The historical centre has been recognised by UNESCO as a World Heritage Site because of its monuments that best represent European and Mediterranean culture.
The role of Naples as the cradle of Italian culture, including literature, theatre, music and cuisine, should also not be forgotten. The latter is, to all intents and purposes, an art: one of the world's best-loved delicacies, pizza, was born here.
Greco-Roman Naples, founded by the Cumaeans in the 8th Century BC, became one of the most important cities of Magna Graecia, before being conquered by the Romans in 326 BC. At the dawn of the Middle Ages it was conquered by the Byzantines and thanks to local nobility was able to transform itself into the Duchy of Naples, an independent state that ruled for more than five centuries, until the invasion of the Normans in 1139. In 1266, following the victory of Charles I of Anjou over Manfred of Sweden, it became Angevin and in 1282 was elected capital of the Kingdom of Naples, becoming one of the most influential cultural centres in Europe. A status it maintained during its Aragonese period and increased with the arrival of the Borbone (Bourbons) in 1734, who restored its independence, making it a great European city, culturally evolved and highly refined.
Napoleon also arrived in Naples and in 1799 the Parthenopean Republic was established for a few months. With the Restoration, it became the capital of the Kingdom of the Two Sicilies until the Unification of Italy.
Throughout the 1900s Naples heavily suffered during the two world wars, but it was also the birthplace of the first President of the Italian Republic, Enrico De Nicola.



The City Highlights

Naples is a city rich in history and culture, and it boasts numerous remarkable monuments worth visiting. Here are some of the most important ones, but Naples has much more to offer in terms of historical and cultural landmarks.
Exploring the city streets will often reveal hidden gems and unexpected treasures.

1. Naples Cathedral (Duomo di Napoli): This medieval cathedral is dedicated to the Assumption of the Blessed Virgin Mary and is renowned for its stunning architecture, including frescoes and artworks.
2. Royal Palace of Naples (Palazzo Reale di Napoli): A grand palace located in the heart of Naples, it served as the residence for the Bourbon Kings of Naples. Visitors can explore its opulent interiors, including the Royal Apartments and the Court Theater.
3. Castel Nuovo (New Castle): Also known as Maschio Angioino, this medieval castle is one of the most iconic landmarks in Naples. It features impressive architecture and houses a museum with art and artifacts.
4. San Carlo Opera House (Teatro di San Carlo): Founded in the 18th Century, it is one of the oldest and most prestigious opera houses in the world. Its lavish interiors and exceptional acoustics make it a must-visit for music lovers.
5. Galleria Umberto I: This grand shopping arcade is a masterpiece of the19th Century architecture, featuring a stunning glass dome and elegant shops and cafes.
6. National Archaeological Museum of Naples (Museo Archeologico Nazionale di Napoli): Home to one of the most extensive collections of Roman artifacts in the world, including artifacts from Pompeii and Herculaneum.
7. San Domenico Maggiore: This historic church is renowned for its Gothic architecture and houses impressive artworks, including frescoes and sculptures.
8. Certosa di San Martino: Perched atop the Vomero hill, this former monastery offers breathtaking views of Naples and houses a museum with a rich collection of art and artifacts.
9. Piazza del Plebiscito: The main square of Naples, it is surrounded by important buildings such as the Royal Palace, the Church of San Francesco di Paola, and the Salerno Palace.
10. Via San Gregorio Armeno: Famous for its artisan workshops, this street is known for its traditional Neapolitan nativity scenes (presepi).

The Venue

Villa Doria d'Angri is indeed one of the most important Italian neoclassical villas. It stands prominently on a tuffaceous spur of the Posillipo hill and was commissioned by Prince Marcantonio Doria d'Angri, the last prominent figure of the noble Doria family of Genoese origin. The villa was designed to be a dignified leisure residence befitting the prince's prestigious role at the time.

Originally a farmhouse, the Doria property was acquired by the noble family in 1592 through a donation from Vittoria Carafa. Architect Bartolomeo Grasso transformed it into a neoclassical princely residence, completing the construction in 1833.

The villa's conversion was not only a representation of the Dorias' social status but also a nod to their seafaring traditions.

Following Prince Marcantonio's death in 1837, the villa was rented out and subsequently sold in 1857 to English noble Ellinor Giovanna Susanna Maitland. Since 1998, Villa Doria d'Angri has been owned by the University of Naples Partenope. It served as a panoramic villa, providing a serene alternative to city living, while the extensive 18,000-square-meter park surrounding the villa features paths and ramps that ascend the hill.

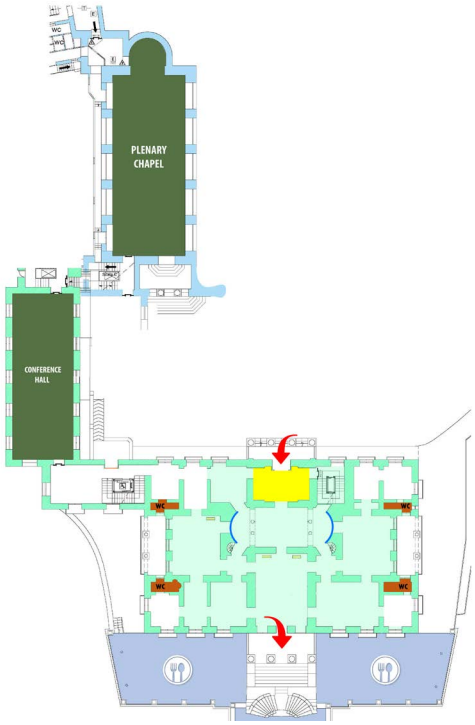
The villa's architectural highlights include a beautiful terrace encompassing the entire structure, two loggias with four Ionic columns each, and side terraces designed as hanging gardens with water features and fountains. A notable addition is the octagonal Chinese pagoda, situated on a circular bastion emerging from a tufaceous rock. This distinctive feature, created by Antonio Francesconi, intentionally contrasts with the architecture of the main villa to draw attention.

In 1880, Villa Doria d'Angri hosted the renowned composer Richard Wagner for several months. During his stay, Wagner continued to work on his final opera, "Parsifal," and wrote his autobiographical book, "My Life." On May 22, 1880, maestro Joseph Rubinstein premiered the first act of "Parsifal" on the piano in the patio facing the Salone della Villa. The room where Wagner stayed, known as the Hall of Mirrors, has since then been referred to as the "Wagner Room."

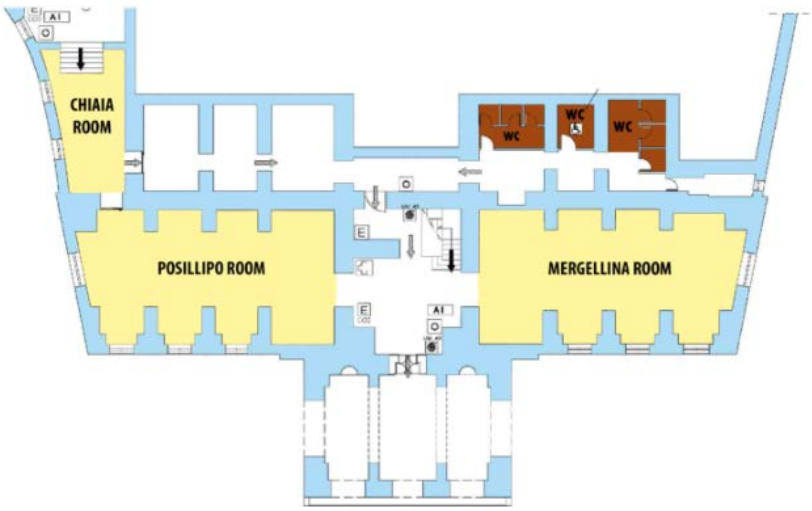
Villa Doria d'Angri is now used for higher education, hosting national and international scientific conferences, and cultural gatherings.

Additionally, the villa houses a valuable collection of static ship models, merchant and military vessel parts, nautical instruments, and equipment, which are preserved in the Naval Museum.

Ground floor



Level -2



General Information

ONSITE REGISTRATION

If you are paying by cash or check as part of your onsite registration, wish to add a social event, or reserve one of the guided tours, visit the IOMAC 2024 Info Point.

REGISTRATION DESKS AND BADGE PICK-UP HOURS

Main Entrance - Villa Doria D'Angri
Tuesday 21 May: from 10 am to 6 pm
Wednesday 22 May: from 8 am to 3 pm
Thursday 23 May: from 8 am to 3 pm
Friday 24 May: from 8 am to 12 pm

FULL REGISTRATION INCLUDES

Conference full kit: backpack, gadgets, pen, notebook, name badge, conference program – Full access to Conference sessions – Free 4-week web access to papers[1] – Welcome Cocktail at Villa Doria D'Angri (Tue 21 May) – Underground City Walking Tour and Street Food Experience at Lanificio 25 (Wed 22 May) – Guided Tour of the Cloister of Santa Chiara, Gala Dinner and Award Ceremony at "Antico Refettorio" of Complesso Monumentale Santa Chiara (Thu 23 May).

STUDENT REGISTRATION INCLUDES

Conference kit: backpack, gadgets, pen, notebook, name badge, conference program – Full access to Conference sessions – Free 4-week web access to papers[1].

ONE DAY REGISTRATION INCLUDES

Conference kit: backpack, gadgets, pen, notebook, name badge, conference program – Conference sessions for the selected day – Free 4-week web access to papers[1].

COMPANION REGISTRATION INCLUDES

Access to: Welcome Cocktail at Villa Doria D'Angri (Tue 21 May) – Underground City Walking Tour and Street Food Experience at Lanificio 25 (Wed 22 May) – Guided Tour of the Cloister of Santa Chiara, Gala Dinner and Award Ceremony at "Antico Refettorio" of Complesso Monumentale Santa Chiara (Thu 23 May).

NAME BADGE AND BADGE CORRECTIONS

The badge must be worn at all times inside the venue and during social events. Badge corrections can be made at the IOMAC Infopoint. Please remove your badge from the holder and mark any changes before approaching the counter.
Lost badges will be replaced against the payment of a handling fee of € 80,00 (local VAT included) and upon proof of original registration.

1 - Access to Conference papers is for private and personal use only and access details must not be disclosed to third parties. Please note that you are not allowed to make the published e-book or parts of it available on the Internet via an institutional repository or private website or in any other way. Any kind of reproduction or dissemination is not permitted.

General Information

RECEIPT AND CERTIFICATE OF ATTENDANCE

Preregistered attendees who did not receive a receipt or attendees who need a Certificate of Attendance may obtain those at the IOMAC 2024 Registration or Badge pick-up desk.

DISABLED ACCESS

The entire venue is accessible to people with disabilities. If you need assistance or have questions, please visit the Registration desk or send an email to registration_iomac2024@collage-spa.it.

FOOD ALLERGIES

If you have any questions about the food served at the conference, please contact the staff at the INFO POINT.

SMOKING POLICIES

The Venue is a non-smoking area, including e-cigarettes. Smoking is only permitted outside.

PERSONAL PROPERTY

Personal belongings should not be left unattended in meeting rooms or public areas. Unattended items may be removed by security. IOMAC 2024 Organization is not responsible for items left unattended.

LUGGAGE STORAGE

From Tuesday 21 May to Friday 24 May luggage can be stored in a dedicated area on the ground floor, close to the registration area.

LOST AND FOUND

Found items will be kept at the full-registration desk until the end of the meeting.

LUNCHES AND COFFEE BREAKS

Refreshments and lunches are served at the Catering Areas located within the Venue at the times indicated in the technical program. Access to the Catering Areas is granted only to those wearing their own badge.

WI-FI ACCESS

IOMAC Conference will provide free WiFi access without any Minimum Guaranteed Bandwidth (MGB).

To access, follow the information below:

Connect to the wireless network named ‘ospiti’
This network is open and does not require any authentication.

General Information

ORAL PRESENTATION POLICY

The time allocated for each technical presentation is 15 minutes, including Q&A.
Per Venue's policy and to keep the sessions in time, the authors are not able to present using their own devices.
All Conference rooms have a laptop, projector, screen and a microphone.
The laptops hold Power Point and Acrobat Reader. The laptops in all rooms run on Windows.
As such, MAC users must convert their presentation in PDF or PPT.
Presenters are encouraged to stop-by the session chair before the start of the session to confirm presence and proper presentation upload.
Rename your presentation as Paper ID_Surname before uploading. Presentations must be upload at the latest 15 minutes before the session starts.
Conference staff is present onsite to provide technical assistance.
They wear black dress and blue/grey badge.

INSTRUCTIONS FOR SESSION CHAIRPERSONS

As session chairperson, you are responsible for the management of the presentations within your session. Please prepare for your role according to the following guidelines.

- Plan to arrive at your session 30 minutes before it starts.
- Verify that all the speakers are in the room and, if needed, invite them to upload their presentation on the PC available in the room.
- Verify that all the presentations are uploaded on the PC available in the room. Per Venue's policy, authors are not able to present using their own devices. All Conference rooms have AV equipment.
- Notify Conference staff (they wear black dress and blue/grey badge) present onsite if you encounter technical problems with the equipment in the room.
- At the beginning of the session, introduce yourself (and your co-chair) to the audience and provide the name of the session.
- Ask people to set their cell phones on mute.
- For each presentation, introduce the name of the speaker and presentation title.
- The time allocated for each technical presentation is 15 minutes, including Q&A. Strictly enforce the time limits. Alert speakers when they are within three minutes of their allotted time. Be diplomatic but firm.
- Solicit questions from the audience. Indicate when a question is the last one.
- Note that time for Q&A is incorporated in the presentation time. Speakers were asked to plan their talks accordingly and to leave 2-3 minutes for questions at the end of their presentations. If a speaker does not leave time for questions, please proceed immediately to the next presentation without Q&A.
- Strictly adhere to the schedule relating to the order of speakers, and the start and end time of each talk.
- In case of a missing speaker, pause the session and re-start at the time allocated for the next presentation in the program.

The IOMAC 2024 organizing committee thanks you for this important contribution to the success of the Conference.

General Information

INFORMATION ABOUT WEATHER & DRESS CODE GUIDELINES FOR MEETING AND SOCIAL EVENTS

The average temperature in Naples, Italy, at the end of May typically ranges from around 18°C (64°F) to 24°C (75°F). However, please note that actual temperatures can vary from year to year due to various factors such as weather patterns and climate change. It's always a good idea to check closer to the time of your visit for more accurate forecasts.

- **SUGGESTED DRESS CODE FOR CONFERENCE**
  Given that all conference rooms are equipped with air conditioning systems, it's suggested to dress in typical summer business-casual attire for comfort during indoor activities.

- **SUGGESTED DRESS CODE FOR SOCIAL EVENTS**

  1) Tuesday, May 21 - Welcome Cocktail at Villa Doria d'Angri
  Dress code: formal/semi-formal

  2) Wednesday, May 22 - Underground City Walking Tour and Street Food Experience at Lanificio 25
  Dress code: comfortable/dress in layers for underground city tour, dinner and dancing

  Important: For attendees who have purchased tickets for the Sansevero Chapel visit, the pick-up will be from the Conference Venue at 15:30.
  Please note that there will be NO opportunity to return to the hotel before the aforementioned pick-up time. Therefore, it is advisable to wear comfortable dress and shoes suitable for both afternoon and evening activities.

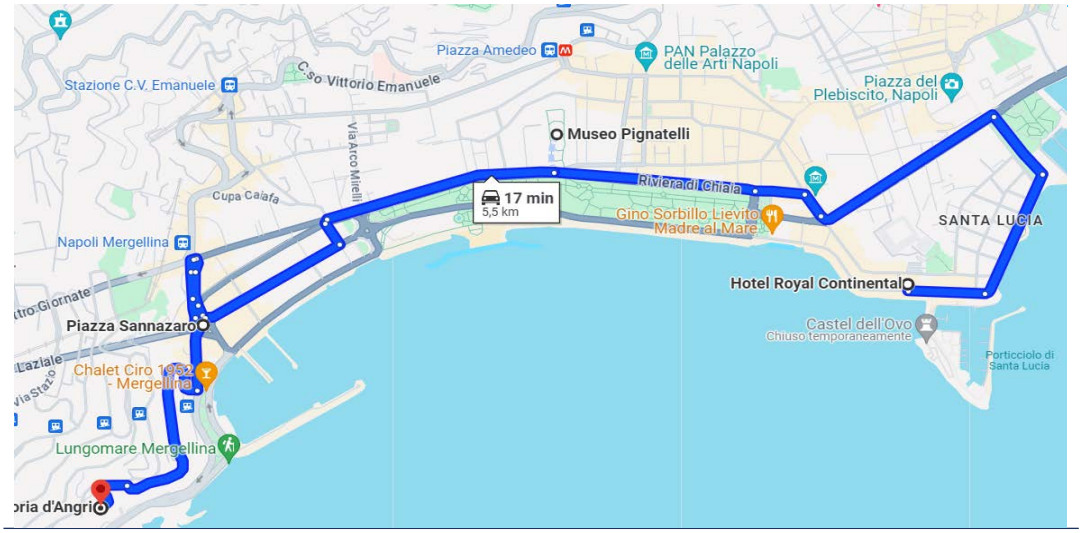
  3) Thursday, May 23 - Gala Dinner at Complesso Monumentale S. Chiara
  Dress code: formal/semi-formal

  Attention: For IOMAC Committee Members, transportation will be provided from the Conference Venue at 16:30, immediately following the conclusion of the IOMAC Committee meeting, to Complesso Monumentale S. Chiara for a guided visit of the Cloister and the Gala Dinner.
  Please be aware that there will be very limited time to return to the hotel after the meeting to freshen up or change attire before the social event. Therefore, we strongly advise dressing appropriately for both the Conference and evening activities, adhering to a semiformal/formal dress code.

CAPTURE AND USE OF A PERSON'S IMAGE

By registering for the event, you grant full permission to the IOMAC 2024 organizers to capture, store, use, and/or reproduce your image or likeness by any audio and/or visual recording technique and create derivative works of these images and recordings in any IOMAC 2024 media now known or later developed, for any legitimate IOMAC 2024 marketing or promotional purpose.
By registering for this event, you waive any right to inspect or approve the use of the images or recordings or of any written copy. You also waive any right to royalties or other compensation arising from or related to the use of the images, recordings, or materials.
By registering, you release, defend, indemnify and hold harmless IOMAC 2024 organizers from and against any claims, damages or liability arising from or related to the use of the images, recordings or materials, including but not limited to claims of defamation, invasion of privacy, or rights of publicity or copyright infringement, or any misuse, distortion, blurring, alteration, optical illusion or use in composite form that may occur or be produced in taking, processing, reduction or production of the finished product, its publication or distribution.

TRASPORTATION



SHUTTLE BUS INFORMATION

Complimentary 54-seat buses transport delegates from various points in the City Center to the Conference Venue. These buses will operate in the morning hours, before the plenary lectures, and in the evening at the conclusion of the technical sessions. Boarding is on a first-come, first-served basis. A staff member holding a sign with the event logo will be stationed at each bus stop to assist with boarding and provide information.

- Royal Continental (PICK-UP POINT 1)
- Villa Pignatelli (PICK-UP POINT 2)
- Piazza Sannazzaro (PICK-UP POINT 3)
- Villa Doria D'Angri (CONFERENCE VENUE)

MAY 21 - to / from VENUE				
	1st BUS	2nd BUS	3rd BUS	
Royal Continental	16:45	17:00	17:00	Departure
Villa Pignatelli	17:00	17:15	17:15	Departure
Piazza Sannazaro	17:15	17:30	17:30	Departure
Villa Doria d'Angri	17:30	17:45	17:45	Arrival
Villa Doria d'Angri	21:15	21:30	21:30	Departure
Piazza Sannazaro	21:25	21:40	21:40	Arrival
Villa Pignatelli	21:40	21:55	21:55	Arrival
Royal Continental	21:50	22:10	22:10	Arrival

MAY 22 - to / from VENUE					
	1st BUS	2nd BUS	3rd BUS	4th BUS	
Royal Continental	07:30	07:45	08:00	08:15	Departure
Villa Pignatelli	07:45	08:00	08:15	08:30	Departure
Piazza Sannazaro	08:00	08:15	08:30	08:45	Departure
Villa Doria d'Angri	08:15	08:30	08:45	08:55	Arrival
Villa Doria d'Angri			15:30	15:30	Departure
Piazza Sannazaro			15:45	15:45	Arrival
Villa Pignatelli			16:00	16:00	Arrival
Royal Continental			16:15	16:15	Arrival
MAY 22 - SANSEVERO CHAPEL					
Villa Doria d'Angri	15:30	15:45			Departure
Piazza Museo Nazionale	16:00	16:15			Arrival
1st BUS - 1st Visit starts at 16:45 / **2nd BUS -** 2nd Visit starts at 17:15					

MAY 22 - UNDERGROUND CITY WALKING TOUR				
	1st BUS	2nd BUS	3rd BUS	
Villa Pignatelli	17:00	17:00		Departure
Piazza Sannazaro	17:15	17:15		Departure
Royal Continental			17:15	Departure
Napoli sotterranea	17:35	17:35	17:35	Arrival
Lanificio 25	23:00	23:15	23:30	Departure
Piazza Sannazaro	23:20	23:25	23:40	Arrival
Villa Pignatelli	23:30	23:35	23:50	Arrival
Royal Continental	23:45	23:50	24:00	Arrival

MAY 23 - to / from VENUE					
	1st BUS	2nd BUS	3rd BUS	4th BUS	
Royal Continental	07:30	07:45	08:00	08:15	Departure
Villa Pignatelli	07:45	08:00	08:15	08:30	Departure
Piazza Sannazaro	08:00	08:15	08:30	08:45	Departure
Villa Doria d'Angri	08:15	08:30	08:45	08:55	Arrival
Villa Doria d'Angri	15:30	15:30	15:30	16:30	Departure
Piazza Sannazaro	15:45	15:45	15:45	16:45	Arrival
Villa Pignatelli	16:00	16:00	16:00	17:00	Arrival
Royal Continental	16:15	16:15	16:15	17:15	Arrival

MAY 23 - COMPLESSO MONUMENTALE SANTA CHIARA					
	1st BUS	2nd BUS	3rd BUS	4th BUS	
Piazza Sannazaro	17:50	17:50	17:50	17:50	Departure
Villa Pignatelli	18:00	18:00	18:00	18:00	Departure
Royal Continental	18:15	18:15	18:15	18:15	Departure
C.M. Santa Chiara	18:40	18:40	18:40	18:40	Arrival
C.M. Santa Chiara	23:00	23:00	23:00	23:00	Departure
Royal Continental	23:20	23:20	23:20	23:20	Arrival
Villa Pignatelli	23:30	23:30	23:30	23:30	Arrival
Piazza Sannazaro	23:45	23:45	23:45	23:45	Arrival

MAY 24 - to / from VENUE				
	1st BUS	2nd BUS	3rd BUS	
Royal Continental	07:45	08:00	08:15	Departure
Villa Pignatelli	08:00	08:15	08:30	Departure
Piazza Sannazaro	08:15	08:30	08:45	Departure
Villa Doria d'Angri	08:30	08:45	09:00	Arrival
Villa Doria d'Angri	15:30	16:00	not available	Departure
Railway Central Station	16.15	16:45	not available	Arrival

Program at a Glance

Day 1: Tuesday, May 21st 2024		
Time	Program	Location
10:00 – 18:00	Registration	Villa Doria d'Angri Main Entrance
18:00 – 18:30	Opening Ceremony	Chapel
18:30 – 19:30	Keynote Lecture	Chapel
19:30 – 21:30	Welcome cocktail	Villa Doria d'Angri
Day 2: Wednesday, May 22nd 2024		
08:30 – 09:00	Registration	Villa Doria d'Angri Main Entrance
09:00 – 10:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
10:30 – 11:00	Coffee Break	Villa Doria d'Angri
11:00 – 12:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
12:30 – 14:00	Lunch	Villa Doria d'Angri
14:00 – 15:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
16:45 – 18:00	Sansevero Chapel guided tour	Sansevero Chapel
18:00 – 19:30	Guided Underground City Walking Tour of Naples	Underground Naples
19:30 – 23:30	Street Food Experience at Lanificio 25	Lanificio 25
Day 3: Thursday, May 23rd 2024		
08:30 – 09:00	Registration	Villa Doria d'Angri Main Entrance
09:00 – 10:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
10:30 – 11:00	Coffee Break	Villa Doria d'Angri
11:00 – 12:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room

Program at a Glance

12:30 – 14:00	Lunch	Villa Doria d'Angri
14:00 – 15:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
15:30 -16:30	IOMAC Committee Meeting	Mergellina Room
19:00 – 20:00	Guided Tour of the Cloister of Santa Chiara	Complesso Monumentale Santa Chiara
20:00 – 23:30	Gala Dinner and Award Ceremony Lecture of Honor	Antico Refettorio at Complesso Monumentale Santa Chiara
Day 4: Friday, May 24th 2024		
8:30 – 9:00	Registration	Villa Doria d'Angri Main Entrance
8:45 – 9:15	Event in memory of Reto Cantieni	Chapel
9:15 – 9:30	Video Advertisements	Chapel
9:30 – 10:30	Keynote Lecture	Chapel
10:30 – 11:00	Coffee Break	Villa Doria d'Angri
11:00 – 12:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room
12:30 – 14:00	Lunch	Villa Doria d'Angri
14:00 – 15:30	Technical parallel sessions	Chapel, Conference Hall, Posillipo Room, Mergellina Room
15:30 – 16:30	Closing Ceremony	Chapel

Program

May 21	
10.00	Registration
	Plenary - Chapel
18.00	**Opening Ceremony** Chairs: *Rainieri C., Gentile C.* Welcome address by the City Councilor *Prof. Edoardo Cosenza*, the Rector of the Parthenope University *Prof. Antonio Garofalo*, the Chair of the IOMAC Association *Prof. Manuel Lopez Aenlle*
18.30	**Keynote Lecture #1** Chairs: *Rainieri C., Gentile C.* ***Reynders E.:*** Operational modal analysis and structural health monitoring with fiber-optic strain sensors
19.30	Welcome cocktail at Villa Doria d'Angri

May 22			
08.30	Registration		
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
	New methods for SHM (1) Chairs: *Rainieri C., Reynders E.*	**SS3: OMA and dynamic monitoring of monuments and historical constructions (1)** Chairs: *Clementi F., Gentile C.*	**SS5: Vibration-based assessment and monitoring of special structures (1)** Chairs: *Magalhaes F., Pereira S.*
09.00	**#1** *Mattiacci M.:* Structural damage detection on a single-opening masonry wall subjected to differential foundation settlements using modal features: experimental tests and numerical simulations	**#13** *Marin Montanari P.:* Experimental and Numerical Damage Assessment of the Garisenda Tower: Investigation by AE, Thermal, Seismic, and Permanent Strain Analyses	**#217** *Auersch L.:* System and damage identification for cars, floors and roofs, bridges, tracks and foundations by modal analyses, frequency response functions and moving-load responses
09.15	**#84** *Kamali S.:* Comparing Static and Dynamic Regression Models for Temperature Compensation in Vibration-based SHM Systems	**#212** *Girardi M.:* Vibration monitoring of historical towers: New contributions from data science	**#95** *Storti G.:* Enhancing structural health monitoring through automatic modal parameter identification for rotating machinery on flexible foundation structures
09.30	**#205** *Siddiqui M.A.:* A damage detection strategy based on autoregressive parameters	**#26** *Trovatelli F.:* Dynamic identification of complex structures: the case study of "Palazzo dei Priori", Florence, Italy	**#123** *Vella A.D.:* Dynamic characterization of an electric kick scooter through operational modal analysis
09.45	**#57** *Giglioni V.:* A Transfer Learning application for damage identification across a population of experimental bridges	**#233** *Regnier J.:* Empirical Correlation Between Fundamental Resonance Periods and Architectural Characteristics: A Case Study in Nice, France	**#114** *Pereira S.:* Operational modal analysis of moving scaffolding systems for bridge construction
10.00	**#200** *Rainieri C.:* Extreme Value Statistics for alarm threshold setting in data-driven damage detection	**#50** *Mercerat D.:* Dynamic characterization of five historical bell towers in the Mugello basin (Italy)	**#168** *Cimmino M.:* Modal identification methods for a CDW-based structure
10.15		**#240** *Chalhoub M.:* Dynamic identification of the main entrance tower and the historic bridge of the Citadel of Aleppo after the Syria 2023 earthquake	**#253** *Sandoli A.:* OMA-based monitoring of glass partition walls in healthcare facilities
10.30	Coffee Break		

Program

May 22			
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
	SS9: Direct Structural Health Monitoring of Engineering Structures (1) Chairs: *Rizzo P., Ricci F.*	**SS1: Operational Modal Analysis in Aerospace Engineering** Chairs: *Marulo F., Di Lorenzo E.*	**SS7: Key software for real world OMA and vibration based SHM applications** Chairs: *Occhiuzzi A., Fabbrocino G.*
11.00	**#51** *Masnata C.:* An experimental investigation on Sliding Tuned Liquid Column Damper for mitigating vibrations in short-period structural systems	**#28** *Slavic J.:* High-speed Camera Based Methods for Experimental and Operational Modal Analysis	**#21** *Pasca D.:* pyOMA2: an open-source module to perform Operational Modal Analysis with Python
11.15	**#73** *Vanali M.:* Comparison of experimental and operational modal analysis results on long-term monitoring of a laboratory truss girder subjected to environmental variability	**#118** *Salzano C.:* The Use of Dynamic Strain Sensors and Measurements on the Ground Vibration Testing of an F-16 Aircraft	**#49** *Garcia Macias E.:* Incorporating digital twins and artificial intelligence for next-generation SHM software
11.30	**#142** *Kim T.-Y.:* Real-time Site Specific Assessment of Cement Mortar using a Solitary Wave based Deep Learning	**#238** *Soal K.:* Identification of the Flutter Boundary During Flight Testing using Operational Modal Analysis	**#106** *Quarchioni S.:* A novel software tool for the optimal sensor placement in civil engineering structures
11.45	**#256** *Sforza G.:* Monitoring system with a high number of accelerometers: optimization of installation and OMA	**#68** *Zagrai A.:* Structural Health Monitoring of Space Structures using Elastic Waves and Integrated Piezoelectric Sensors	**#247** *Notarangelo M.:* Making vibration data processing an easy task: industrial software solutions for OMA and SHM
12.00	**#87** *Rizzo P.:* Latest Advancements on a Vibration-based Monitoring Approach for Continuous Welded Rails	**#99** *Vettori S.:* Experimental dynamic investigation of a small-scale wind turbine	**#254** *Aguero M.:* KMlBridge: Kinemetrics' Journey to a Comprehensive Bridge Management Platform
12.15	**#94** *Dai W.:* Experimental investigation on structure dynamic stress based on OBMA and FEA	**#116** *Peeters B.:* Operational modal testing of large wind turbine blades	**#182** *Pirrò M.:* DYMOND: a Matlab toolbox for the dynamic monitoring of bridges according to the Lombardia Regional guidelines
12.30	Lunch		
	SS9: Direct Structural Health Monitoring of Engineering Structures (2) Chairs: *Rizzo P., Ricci F.*	**SS6: Vibration-based SHM of bridges (1)** Chairs: *Betti R., García-Macías E.*	**SS10: Vibration serviceability of footbridges** Chairs: *Mulas M.G., Bassoli E.*
14.00	**#122** *Cassese P.:* Scenario-based qualification approach for civil vibration-based SHM systems	**#11** *Garcia Macias E.:* Quasi-Instantaneous Operational Modal Analysis of Bridges through AI-Driven Blind Source Separation	**#45** *Bassoli E.:* Multi-sensor and multi-frequency data fusion for structural health monitoring
14.15	**#175** *Spada A.:* Recent advancements in Global-Local analysis of UGW in plates	**#221** *Ierimonti L.:* Integrating Bayesian Networks into Enhanced Bridge Management: A Data Fusion Approach	**#46** *Ponsi F.:* Dynamic monitoring of a steel footbridge based on computer vision techniques

Program

May 22			
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
14.30	**#187** *Sakellariou J.:* Damage diagnosis in a floating wind turbine lab-scale model under varying wind conditions using vibration-based machine learning methods	**#14** *Garcia Fernandez N.:* Vibration Testing and Finite Element Modelling of a Steel-Concrete Composite Bridge	**#61** *De Angelis M.:* Output-Only Identification of a Footbridge Equipped With Isolators
14.45	**#192** *Giagopoulos D.:* Estimation of numerical data reliability in damage detection tasks	**#16** *Anastasopoulos D.:* Strain-based AOMA of a Vierendeel truss bridge	**#239** *Colmenares D.:* On the dynamic characterization of a two span post-tensioned concrete footbridge
15.00	**#236** *Schmidt T.:* Experiences in Testing Structures with Distributed Fiber-optical Sensing	**#58** *Rillo V.:* A framework to define an effective structural health monitoring (SHM) system using the data from OMA test	**#245** *Mulas M.G.:* OMA-based FE model validation of a lively footbridge
15.15	**#207** *Lopez Z.:* Vertical displacements estimation of a bridge-type structure with triaxial accelerometers and dynamic loading tests	**#251** *Bilotta A.:* Damage identification in PC bridges by operational modal analyses	
15.30	End of Technical Sessions		
16.45	Sansevero Chapel guided tour		
18.00	Guided Underground City Walking Tour of Naples		
20.00	Street Food Experience at Lanificio 25		

May 23			
08.30	Registration		
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
	SS3: OMA and dynamic monitoring of monuments and historical constructions (2) Chairs: *Clementi F., Gentile C.*	**SS8: Physics-based Model Updating in Structural Health Monitoring, Earthquake Engineering and Structural Dynamics (1)** Chairs: *Bernal D., Fabbrocino G.*	**SS5: Vibration-based assessment and monitoring of special structures (2)** Chairs: *Magalhaes F., Pereira S.*
09.00	**#76** *Ivorra S.:* Dynamic identification of an historic railway riveted bridge	**#3** *Marra A.:* Bayesian FE-model updating of a curved approaching span of the Indiano Bridge in Florence	**#206** *Oliveira S.:* Modal based SHM of Cabril dam. Exploring vibration data acquired over the last 15 years
09.15	**#228** *Casarin F.:* OMA and dynamic SHM of the Urbino Cathedral after the 2016 central Italy seismic events	**#74** *Bernal D.:* The Basis Pursuit as a Set Selector	**#208** *Trujano M.A.:* Mexico City soils' dynamic characterization through ambient vibration tests. Importance for the structural design

PROGRAM

May 23			
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
09.30	**#218** *Liu W.:* Identification of dynamic characteristics of a heritage building - Yingxian wooden pagoda	**#90** *Rosati I.:* OMA test and model refinement of a reinforced concrete arch bridge	**#54** *Li J.:* A Robust Operational Modal Analysis Method and Its Application to a Concrete Arch-gravity Dam
09.45	**#146** *Avramova A.:* Long-term dynamic monitoring of a large cathedral: environmental effects and seismic performance	**#170** *Gres S.:* Data-driven identification of noise covariance in Kalman filtering for virtual sensing applications	**#107** *Pirrò M.:* Assessment of structures using dynamic monitoring and autoencoders: application to Baixo Sabor dam
10.00	**#64** *Pirrotta A.:* Vibration based Structural Health Monitoring: A real case study framed into Cultural Heritage	**#215** *Hurtado O.D.:* Bayesian Model-Updating Implementation in a Five-Story Building	**#250** *Janeliukstis R. (presentation only):* Structural health monitoring of a TV tower
10.15	**#152** *Clementi F.:* Continuous dynamic monitoring to enhance the knowledge of a historic civic bell-tower	**#32** *Mevel L.:* A novel lagged estimation framework for sparsely observed systems supplemented with virtual measurements	**#201** *Betti M.:* Long-term structural health monitoring of a steel offshore platform. Optimal sensors position and implications for maintenance
10.30	Coffee Break		
	SS2: Output-only Methods for Bridge Identification and Structural Health Monitoring (1) Chairs: *Malekjafarian A., Foti D.*	**SS4: Vibration-based Assessment & Monitoring for Wind Energy Structures (1)** Chairs: *Caetano E., Haywood-Alexander M.*	**New methods for OMA (1)** Chairs: *Fabbrocino G., Dohler M.*
11.00	**#29** *Centrone P. A.:* Transforming Infrastructure Management in a Networked World: OMA strategies empowering SHM Diagnostics	**#104** *Cara F.J.:* Operational modal analysis of wind turbine structures: a maximum likelihood approach	**#145** *Dessi D.:* Hybrid uncertainty analysis of damage indexes based on modal strain energy
11.15	**#53** *Marasco G.:* Bridge Modal Identification Using Crowdsourced Vibration Data from Passing Vehicles	**#113** *Magalhaes F.:* Operational modal analysis of wind turbines: onshore and offshore floating	**#136** *Gres S.:* Modal mass estimation from state-space models and frequency response functions
11.30	**#71** *Civera M.:* Validation and comparison of two AOMA approaches for the Ambient Vibration Testing of long suspension bridges under strong wind loads	**#117** *Iriarte X.:* Modal Frequency and Damping Estimation of Wind Turbines: Analysis of a Wind Farm	**#135** *Dohler M.:* Automated uncertainty-based clustering and tracking of modal parameters under strong variations
11.45	**#248** *Malekjafarian A.:* Output-only modal analysis of Malahide viaduct bridge	**#213** *Brealy S.:* On Additive Gaussian Processes for Wind Farm Power Prediction	**#47** *Tomassini E.:* ML-driven Operational Modal Analysis of road bridges: Preliminary results
12.00	**#112** *Foti D.:* Dynamic characterization of a squat historical bridge by considering vehicle-bridge interaction	**#41** *Gnebner K.:* Operational modal analysis of the idling CART3 research wind turbine using Blade Vision data	**#31** *O'Connell B.J.:* On improving the efficiency of Bayesian stochastic subspace identification
12.15	**#189** *Somaschini C.:* OMA applied to a reinforced concrete railway bridge through a reduced measurement set-up	**#72** *Georgiou I. (presentation only):* Global and Local Proper Orthogonal Modes of Waves-Vibration in Physical Wing-Blade Structures: Towards an Unbiased OMA-EMA Like Nonlinear Analysis and Zero Ground Machine Learning	
12.30	Lunch		

Program

May 23			
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
	SS6: Vibration-based SHM of bridges (2) Chairs: *Betti R., García-Macías E.*	**SS3: OMA and dynamic monitoring of monuments and historical constructions (3)** Chairs: *Clementi F., Gentile C.*	**Buildings** Chairs: *Ivorra S., Tronci E.M.*
14.00	**#80** *Miano A.:* Structural health monitoring of road systems: from the network analysis to the single bridge assessment	**#162** *Rinaldi C.:* Long-term vibrational monitoring of the Marcus Aurelius Exedra	**#88** *Ziccardi M.:* Operational Modal Analysis of a tower with mixed structure under construction in Cali, Colombia
14.15	**#91** *Busatta F.:* Investigating the performance of a wide-deck bridge	**#181** *Borlenghi P.:* Vibration testing and monitoring of historical towers	**#39** *Marano G.C.:* Intelligent Automatic Operational Modal Analysis: application to a tall building
14.30	**#109** *Stagi L.:* An unsupervised damage detection strategy for recognizing unseen structural conditions in monitoring of bridges	**#184** *De Matteis G.:* Operational Modal Analysis and structural identification of a masonry arch bridge	**#222** *Ventura C.E.:* Ambient Vibration Testing of Canada's Tallest Wood Frame Building
14.45	**#111** *Hidalgo Fort E. (presentation only):* Distributed Edge Computing Application to Low Power IoT-SHM System	**#186** *Chacara C.:* Operational Modal Analysis on an Emblematic Brick Masonry Historical Building in Latin America: The Case of the Lima Metropolitan Cathedral	**#9** *Aloisio A.:* One-year dynamic monitoring of an eight story CLT building
15.00	**#120** *Pettinari A.:* Use of Ground-Based Interferometric Radars (GB-InRa) for remote real-time Structural Health Monitoring of bridges	**#244** *Cieri L..:* Analysis of environmental effects on the natural frequencies of the Civitacampomarano's belfry	**#105** *Nicoletti V.:* Operational modal analysis of complex buildings with and without structural joints
15.15	**#124** *Severa L..:* An integrated PCA-ICA approach for early-stage damage detection	**#252** *Hofer L..:* Structural health monitoring of a historical church in Italy	**#2** *Riascos C.:* Modal Parameter monitoring of a Set of Twin High-Rise Buildings
15.30	End of Technical Sessions		
	IOMAC Committee Meeting		
19.00	Guided Tour of the Cloister of Santa Chiara		
20.00	Gala Dinner and Award Ceremony at "Antico Refettorio" of Complesso Monumentale Santa Chiara **Lecture of honor** Chairs: *Rainieri C., Gentile C.* *Caetano E.:* Vibration Testing Avenues: from ground to roof		

PROGRAM

May 24			
08.30	Registration		
	Plenary - Chapel		
08.45	**Event in memory of Reto Cantieni** CHAIR: *Aenlle Lopez M.*		
09.15	**Video Advertisements**		
09.30	**Keynote Lecture #2** CHAIRS: *Rainieri C., Gentile C.* *Ubertini F.:* Advancing Structural Health Monitoring: Embracing a Territorial Perspective		
10.30	Coffee Break		
	Plenary - Chapel	**Conference Hall**	**Posillipo Room**
	New methods for OMA (2) CHAIRS: *Aenlle Lopez M., Coppotelli G.*	**SS2: Output-only Methods for Bridge Identification and Structural Health Monitoring (2)** CHAIRS: *Malekjafarian A., Busatta F.*	**SS4: Vibration-based Assessment & Monitoring for Wind Energy Structures (2)** CHAIRS: *Tronci E.M., Tcherniak D.*
11.00	**#98** *Sbarra R.G.:* DBSCAN-Based approach for the automatic estimate of the modal parameters	**#103** *Giordano P.F.:* Output-only modal analysis and system identification for indirect bridge health monitoring: needs, requirements, and limitations	**#36** *Sorge E.:* Extreme and fatigue load reduction of Wind Turbines Towers: Optimal Design of a Hinge-Spring-Friction Device
11.15	**#89** *Coppotelli G.:* Stochastic Modal Appropriation method: time domain extension for MDOF systems	**#92** *Busatta F.:* Operational modal analysis of periodic structures with application to the Olifants River Viaduct	**#177** *Tavares A.:* Monitoring damage progression on a wind turbine blade under fatigue testing based on acceleration measurements
11.30	**#44** *Haywood-Alexander M.:* On the Application of Physics-Informed Neural-Networks for Identification and Prediction of Vibrating Structures	**#144** *Stochino F.:* Advancing Structural Health Monitoring: Case Studies in Operational Modal Analysis for Existing Structures	**#86** *Chaar M.:* Scaling Operational Modal Analysis through Delayed DBSCAN Tracking: Lessons from Widespread Offshore Wind Turbine MonitoringScaling Operational Modal Analysis through Delayed DBSCAN Tracking: Lessons from Widespread shore Wind Turbine Monitoring
11.45	**#159** *Gaile L.:* Multi-dataset OMA of a Sightseeing Tower with the New SpCF Method	**#167** *Nyoni B.R.:* Towards a digital twin of a new concrete tied-arch bridge: material characterisation and model validation	**#55** *Tcherniak D.:* Optimal Sensor Placement to improve the Virtual Sensing precision
12.00	**#220** *Aenlle Lopez M.:* Local Sensitivity Analysis in Structural Dynamics Using Structural Dynamic Modification	**#149** *Argentino A.:* Automated OMA through SSI-COV algorithm of a Warren truss railway bridge exploiting free decay response	**#257** *Tronci E.M. (presentation only):* Digital twinning of offshore wind turbines integrated with data for predicting strain measurements
12.15	**#153** *Amador S.:* On the Initial Assessment of a New Complex Frequency Domain Decomposition (C-FDD) Technique Formulated in Modal Model	**#211** *Pozzi A.M.:* Operational modal analysis and structural identification of a concrete box girder bridge	
12.30	Lunch		

May 24		
	Plenary - Chapel	**Conference Hall**
	SS6: Vibration-based SHM of bridges (3) Chairs: *Betti R., García-Macías E.*	**Sensors** Chairs: *Ubertini F., Foti D.*
14.00	**#255** *Imposa G.:* A robust end-to end framework for automated modal identification for infrastructure monitoring	**#246** *Castellaro S.:* Optical detection of mechanical vibration
14.15	**#258** *Pagot R. (presentation only):* A cloud-based SHM solution for the CAV bridges	**#243** *Patané D.:* MonVia Project, development and application of a new sensor box
14.30	**#196** *Gargaro D.:* Operational Modal Analysis of a bridge subjected to perceptible vibrations	**#125** *Luo Z.:* Vision-based operational modal analysis robust to complex environmental conditions
14.45	**#223** *Kvale K.A.:* Operational modal analysis of the Grenland Bridge using wireless accelerometers and one day of measurement data	**#160** *Meoni A.:* Last advancements in the diffuse structural health monitoring of masonry buildings from the experimental testing of a full-scale case study structure subjected to controlled damage
15.00	**#134** *Rota L.:* Operational modal analysis of a RC arch bridge	**#151** *Orlando A.:* Compressive Sensing for Operational Modal Analysis of a prestressed concrete bridge
15.15	**#155** *Gupta V.:* Bridge Condition Monitoring Using Frequency Domain Decomposition Method	
	Plenary - Chapel	
15.30	**Closing Ceremony** Chairs: *Rainieri C., Gentile C.*	

May 24		
	Posillipo Room	**Mergellina Room**
	New methods for SHM (2) Chairs: *Peeters B., Dohler M.*	**SS8: Physics-based Model Updating in Structural Health Monitoring, Earthquake Engineering and Structural Dynamics (2)** Chairs: *Reynders E., Rosati I.*
14.00	**#179** *Gomez S.:* Practical Clustering Approaches for SHM	**#174** *Ditommaso R. :* Using a calibrated numerical model to analyse the vertical displacement of a bridge produced by air temperature variations
14.15	**#60** *Comella M.C.:* Damage Detection through Modal Parameters and Cepstral Coefficients	**#17** *Sivori D.:* Isospectral stiffness matrix identification for the Equivalent Frame modeling of buildings
14.30	**#82** *Fernandez P.:* Real Time FatigueMonitoring using OMA	**#209** *Olvera Garcia I.:* Mathematical models calibration of bridge-type structures by means of natural period and ambient vibration
14.45	**#100** *Kullaa J.:* Damage Detection with Closely Spaced Modes Using Autocovariance Functions	**#249** *Yaya N.:* Vibration Mitigation and Finite Element Model Calibration in Coal Preparation Plants Using Bayesian Model Updating
15.00	**#126** *Mendler A.:* Normalization of environmental effects in modal parameter tracking	**#224** *Bienert J.:* Extension of linear systems by fractional derivatives
15.15	**#150** *Sepe V.:* Classification algorithms for damage identification in framed structures by means of natural frequencies	
	Plenary - Chapel	
15.30	**Closing Ceremony** Chairs: *Rainieri C., Gentile C.*	

Social Events

Dive into Naples' peak season, where every moment is pure magic!

SOCIAL PROGRAM

Social events are scheduled for the evenings of Day 1, Day 2, and Day 3. Attendance is open to those with full registration as well as participants who have purchased the companion registration program.

Others who wish to attend one or more events can purchase individual tickets online or onsite, subject to availability.

Get ready for three memorable evenings of fun and cultural immersion!

TUESDAY, MAY 21

WELCOME COCKTAIL AT VILLA DORIA D'ANGRI

Join us for a welcome cocktail at the Conference Venue on the first night after the Opening Ceremony. There you can network with other colleagues while attending a unique open air music show under the sea breeze and a wonderful scenery.

WEDNESDAY, MAY 22

UNDERGROUND CITY WALKING TOUR AND STREET FOOD EXPERIENCE AT LANIFICIO 25

On the second night, embark on a captivating city tour and explore the vibrant streets of Naples, ending up at an ancient Woolen Mill factory (Lanificio 25) for a Street Food experience while immersing yourself in its rich heritage.

THURSDAY, MAY 23

GUIDED TOUR OF THE CLOISTER OF SANTA CHIARA, GALA DINNER AND AWARD CEREMONY AT "ANTICO REFETTORIO" OF COMPLESSO MONUMENTALE SANTA CHIARA

On our final evening, experience the grandeur of a gala dinner in the historic setting of the ancient St. Chiara's Monastery (Complesso Monumentale Santa Chiara) in the historical city center. Before dining, take a moment to wander through the monastery's cloister and admire its timeless beauty.

Social Events

TUESDAY, MAY 21

WELCOME COCKTAIL AT VILLA DORIA D'ANGRI

Villa Doria d'Angri is one of the most important Italian neoclassical villas. It stands prominently on a tuffaceous spur of the Posillipo hill and was commissioned by Prince Marcantonio Doria d'Angri, the last prominent figure of the noble Doria family of Genoese origin. The villa was designed to be a dignified leisure residence befitting the prince's prestigious role at the time.
Originally a farmhouse, the Doria property was acquired by the noble family in 1592 through a donation from Vittoria Carafa. Architect Bartolomeo Grasso transformed it into a neoclassical princely residence, completing the construction in 1833.

The Welcome Cocktail event, held on the terrace of Villa Doria d'Angri, offers a stunning view of the Gulf of Naples dominated by Mount Vesuvius.

The event will feature a curated selection of wines, prosecco, and light spirits (aperitifs), accompanied by a unique musical experience.

DRESS CODE:

Formal/semi-formal

TRANSPORTATION:

Participants can reach Villa Doria d'Angri via a bus service from three different pick-up points in the City Center, with services starting at 16:45
(please refer to transportation pages of this book).

Social Events

WEDNESDAY, MAY 22

UNDERGROUND CITY WALKING TOUR AND STREET FOOD EXPERIENCE AT LANIFICIO 25

Street Food Experience followed by Neapolitan folk and disco music, where everyone can enjoy the rhythm and groove at Lanificio 25.

DRESS CODE:

Comfortable/dress in layers for underground city tour, dinner and dancing.

Please read: For attendees who have purchased tickets for the Sansevero Chapel visit, the pick-up will be from the Conference Venue at 15:30.
Please note that there will be NO opportunity to return to the hotel before the aforementioned pick-up time. Therefore, it is advisable to wear comfortable dress and shoes suitable for both afternoon and evening activities.

The Event includes: Guided Underground City Walking Tour of Naples, Street Food Dinner (Typical Neapolitan dishes), Open bar consumption, Entertainment (Neapolitan folk Music and Disco Music).

TRANSPORTATION:

Participants can reach the Underground City Walking tour via a bus service from three different pick-up points in the City Center, with services starting at 17:00 (please refer to transportation pages of this book).

LANIFICIO 25

Porta Capuana is one of the ancient neighborhoods of Naples with strong productive traditions, its typical cuisine, its ethnic restaurants, and the large number of unused premises – such as Castel Capuano, the former Lanificio (wool factory), etc. – which are increasingly attracting tourists as well as young artists and musicians.

Social Events

It serves as a widespread museum of art, architecture, cuisine, and good living, which can represent the true engine of the area's regeneration. Castel Capuano (12th Century), San Giovanni a Carbonara (14th Century), and Porta Capuana itself (15th Century) are just a part of the cultural, artistic and historical heritage that this part of the city has to offer. Yet, to this day, they remain outside the tourist circuits that often favor better-known but less valuable areas.

The Porta Capuana area marked the historic Eastern boundary of Naples, bustling for centuries as a vibrant crossroads where city life intersected with the surrounding villages beyond the city walls.

Porta Capuana is also one of the ancient gates of Naples. It is located in the eastern part of the city and is part of the historic city walls. Porta Capuana was built in the 15th Century during the Aragonese rule of Naples. Over the centuries, Porta Capuana has undergone various renovations and restorations to preserve its historical significance.

Porta Capuana is within walking distance of other landmarks such as Piazza Garibaldi and the Naples Central Train Station, the Church of Santa Caterina a Formiello, the Statue of San Gaetano, the G. Bovio school, the Cavity (the underground ancient City), etc…

Social Events

THURSDAY, MAY 23

GALA DINNER AT COMPLESSO MONUMENTALE S. CHIARA

The Social Event includes:

- Guided Tour of the Cloister of Santa Chiara
- Gala Dinner
- Award Ceremony at “Antico Refettorio” of Complesso Monumentale Santa Chiara

DRESS CODE:

Formal/semi-formal

TRANSPORTATION:

Participants can reach the Cloister guided Tour via a bus service from three different pick-up points in the City Center, with services starting at 17:50 (please refer to transportation pages of this book).

COMPLESSO MONUMENTALE SANTA CHIARA

THE HISTORY

1310: The construction of the complex was commissioned by King Robert of Anjou and his second wife, Sancia of Majorca.

The construction of the complex was commissioned by King Robert of Anjou and his second wife, Sancia of Majorca. The works were carried out under the direction of Gagliardo Primario initially, and then under Lionardo di Vito. In 1340, the church was opened for worship. The Franciscan citadel was constructed by building two adjacent but separate convents: one for women, intended to accommodate the Clarisses, and the other for men, housing the Franciscan friars.

1742: Vaccaro and the modernization

The project was entrusted to the Neapolitan architect Domenico Antonio Vaccaro. Lavish decorations gave it a Baroque appearance: the interior was covered with polychrome marbles, stuccoes, and gilded frames; the truss roof was concealed by a vault decorated by great painters of the time.

1943 – The War

During the Second World War, the church was almost completely destroyed by an air raid.

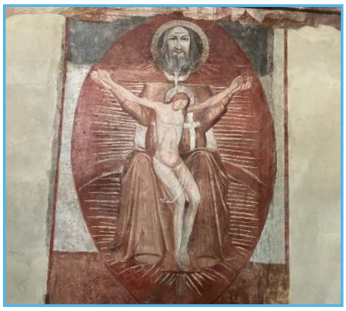
1953 – POST FATA RESURGO (THE RESURRECTION AFTER DEATH)

It was rebuilt and restored in the original Gothic style, and exactly ten years later, it was reopened for worship. Today, it features a facade with a broad pinnacle, on which the ancient pierced rose window is set.

THE CLOISTER

THE CHURCH

The church was opened for worship in 1340.
The church today retains its original Provençal Gothic forms, with a façade featuring a large pinnacle, in which the ancient pierced rose window is set, along with the porch adorned with pointed arches.



Awards

The Award Ceremony, organized in the context of the Gala Dinner, will assign the following Awards to distinguished members of the IOMAC Community.

The **Scientific Award** will be assigned by the IOMAC Association and its Chair to a distinguished researcher in the field of OMA. Such an Award is also supported by Infrastructures and Buildings. Previously awarded researchers are not eligible for this Award.

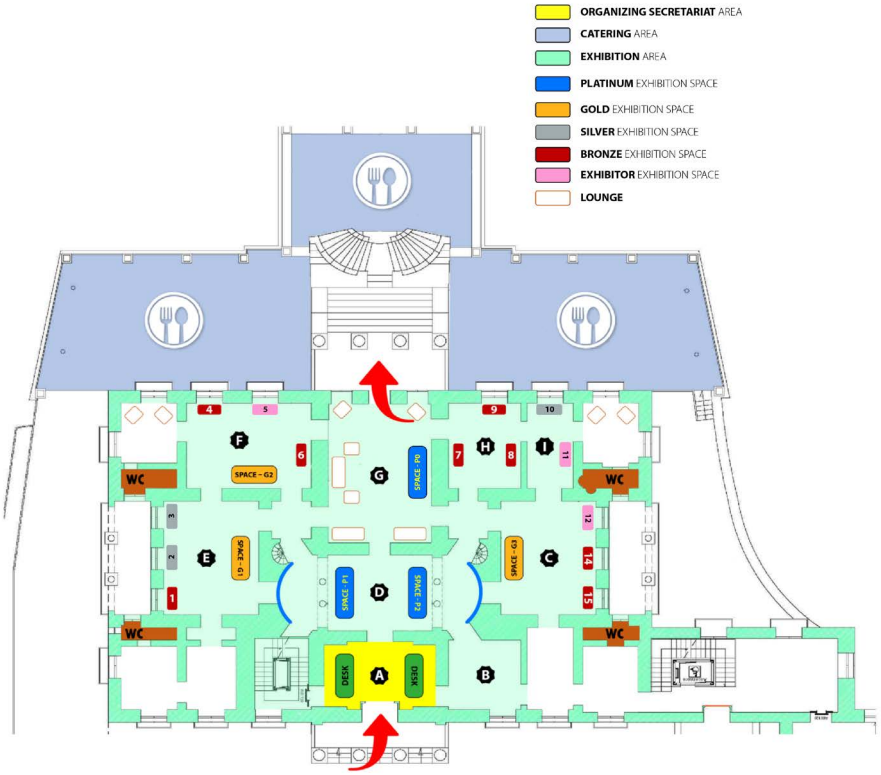
The **Best Paper Award** will be assigned to a paper selected among all those orally presented at IOMAC 2024.

The **Young Researcher's Best Paper Award** will be assigned to a young researcher under the age of 35 and currently enrolled as a Ph.D. student or within 5 years from obtaining the Ph.D. degree, orally presenting as first author a paper at IOMAC 2024. With the support of Infrastructures and Buildings, the recipient will receive a 500 CHF honorarium.

The **Company Award** will be assigned to one of the Sponsors of IOMAC 2024 based on their contribution to IOMAC 2024, including technical papers, the significance of their products in the context of OMA, and the quality of their exhibition. Previously awarded companies are not eligible for this Award.

The recipients of the Awards will be officially announced at the IOMAC Conference during the Award Ceremony on May 23rd, 2024.

The Exhibition Area



HALL C

Space – G3: NPLUS

Space – 12: MOTION SCOPE

HALL D

Space – P1: DEWESOFT

Space – P2: BOVIAR

HALL E

Space – G1: HOTTINGER BRUEL & KJAER

Space – 1: ASDEA HARDWARE S.R.L.

Space – 2/3: KISTLER

HALL F

Space – 4: OMMATIDIA

Space – 5: Dynamic Design Solutions (DDS) NV

Space – 6: Structural Vibration Solutions (SVS)

Space – G2: ALMAVIVA

HALL G

Space – P0: S2X srl

HALL H

Space – 7: SIEMENS

Space – 8: POLYTEC_BPS

HALL I

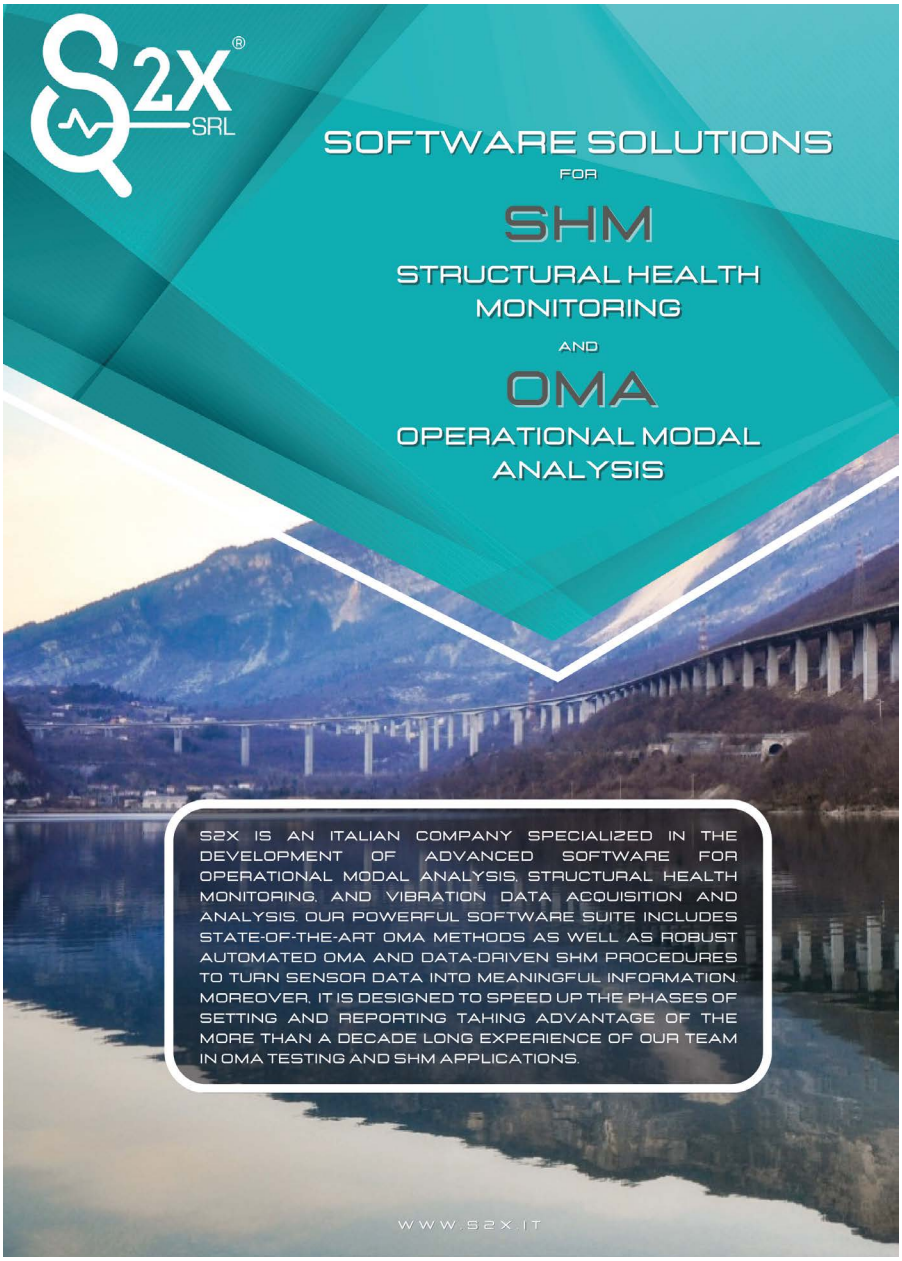
Space – 10: KINEMETRICS

Space – 11: SINT TECHNOLOGY

SPONSOR

ACKNOWLEDGMENTS

PLATINUM SPONSOR



ACKNOWLEDGMENTS

PLATINUM SPONSOR

ACKNOWLEDGMENTS

PLATINUM SPONSOR

ACKNOWLEDGMENTS

PLATINUM SPONSOR

DEWESoft® SUCCESS STORIES

ITALY
More than 10.000 accelerometers installed on 300+ reinforced concrete bridges and overpasses to perform OMA

NORWAY
Timber bridge dynamic monitoring with 50+ sensors including 3-axial accelerometers, strain gauges, temperature sensors and weather station

INDIA
A 4km steel rail-road bridge - EMI a critical requirement 100 accelerometers + 900 static sensors installed

DEWESOFT SOLUTION MAIN BENEFITS

TOTAL TURNKEY SOLUTION from Sensor, Data acquisition to Software	**DISTRIBUTED SYSTEM** 100m device to device distance without additional HW	**EASY TO INSTALL SYSTEM** one single inexpensive CAT6 cable for power, sync and data for the whole structure	**PERFECT SYNCHRONISATION** down to 1µs synchronisation between all the devices in a chain
ANY SENSOR possibility to integrate almost any sensor (voltage, current, digital, VW)	**POWERFUL ANALYSIS SOFTWARE** OMA, EMA, FFT, statistics, triggering and more	**DEWESOFT HISTORIAN** time series database for long term data storage	**REMOTE ACCESS** through Grafana interface or integration in 3rd party software
GRAVITY AUTO ALIGNMENT feature to avoid leveling and usage of brackets	**TRIGGERING** on custom algorithms	**EXPORTING DATA** in any format	**40% FASTER INSTALLATION** compared to traditional architectures helps to keep low overall system costs

dewesoft.com/applications/monitoring | **sales@dewesoft.com**

ACKNOWLEDGMENTS

PLATINUM SPONSOR

ACKNOWLEDGMENTS

PLATINUM SPONSOR

ACKNOWLEDGMENTS

GOLD SPONSOR

AlmavivA

MOOVA SHM platform_

Almaviva's **MOOVA SHM** platform integrates and applies Structural Health Monitoring methodologies and best practices to support the continuous and long-term monitoring of infrastructure assets. This process, which **MOOVA SHM** makes particularly intuitive and effective, leads to obtaining essential information to determine the health status of individual assets at every moment of their life and provide a broader overview of the state of the entire infrastructure network.

The structural monitoring process of an extensive infrastructure network requires a series of sequential and interconnected phases, which start from the collection and storage of measurements continuously acquired on the infrastructure and passing through the analysis of time series through complex OMA algorithms, arrive at delineating the health status of the asset and to report it conveniently to the user. **MOOVA SHM** is designed to be the nerve centre of this process, a unique tool that leads to the correct perception of the infrastructure network. Thanks to the possibility of integrating data from exogenous and endogenous sources into the monitoring framework, the platform can provide the user with clear and precise information, which constitutes the ideal basis of awareness on which to plan interventions.

In the scenario of structural health monitoring management, the **MOOVA SHM** platform play a central role: its Front End constitutes a single access point for dealing with multiple ordinary and extraordinary situations, by taking actions in real time, monitoring services and processes, collecting documentation, carrying out analyses and managing any malfunctions, interruptions and alarms, both structural and plant.

MOOVA
ABSOLUTE MOBILITY

External data sources relating to phenomena connected with the management of an infrastructure network (environmental, geological, hydrogeological, seismic and others) are appropriately integrated on the **MOOVA SHM** platform. The platform also allows integration with third-party video surveillance systems and dynamic weighing systems by associating them with any alarms and stresses detected by the sensors, correlating cause and effect.

Information relating to single asset is made available and easily consultable on interactive 2D/3D representations. The features of the platform allow to select the sensors, change their configuration, turn them off, change the sampling frequency, update the firmware and view the collected data. This monitoring data can be analyzed within a specific module of the platform, dedicated to the configuration of the static and dynamic monitoring process and the extraction of diagnostic information. Advanced preprocessing, dynamic identification, modal parameter tracking, statistical pattern recognition and anomaly detection algorithms are implemented in it, within a data driven monitoring approach. The platform makes the results of this process available and notifies any alarms if anomalies in the structure's behavior are detected.

MOOVA SHM also includes an Advanced Analytics module that allows you to discover and analyze data, develop and train analytical models by applying data quality functions. This module integrates and applies artificial intelligence and machine learning techniques to measurements, enabling management of the entire IoT data analysis lifecycle.

LET'S_MOOVA_
ON_TOGETHER.

ACKNOWLEDGMENTS

GOLD SPONSOR

HBK
HOTTINGER BRÜEL & KJÆR

STRUCTURAL DYNAMICS

SOLUTIONS

Application software
Data acquisition hardware
Modal exciter systems
Impact hammers
Sensors

ACKNOWLEDGMENTS

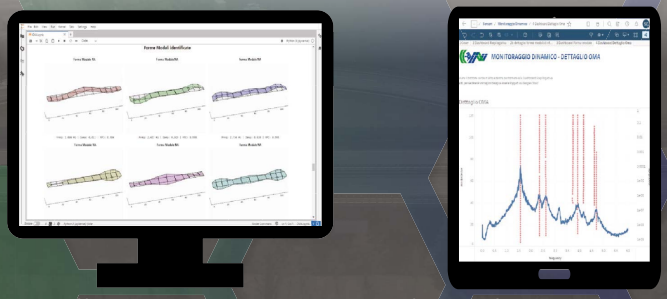
GOLD SPONSOR

ACKNOWLEDGMENTS

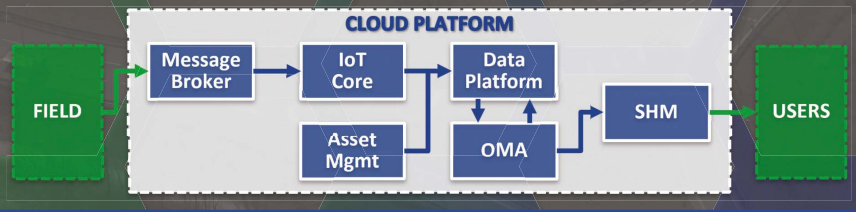
GOLD SPONSOR

A cloud-based SHM solution

Enhancing infrastructure management and observability with cloud-based Structural Health Monitoring (SHM)



The solution offers a comprehensive suite of tools for data exploration and near-real-time data analysis, empowering operators with thorough insights and proactive decision-making capabilities. With a multi-layered Data Platform, our innovative approach ensures a seamless integration of data, fueling continuous advancements and paving the way for future machine learning applications.



IoT Core

Raw data acquisition
Data validation
Data cleaning
Spike detection and removal
Data enrichment

OMA Explore

Advanced data exploration tool
Modal params tuning
Reference modal shapes extraction
Anomalous channel management

OMA Flow

REST APIs based
Fully Automated OMA process
Multi trigger system: scheduled on-demand
Time series analysis

May 24 - plenary A Chapel - 14.15

The solution has been developed by

CONCESSIONI AUTOSTRADALI VENETE
https://www.cavspa.it

NTT DATA
https://it.nttdata.com

In collaboration with

Abdata
https://www.abdata.it

ACKNOWLEDGMENTS

SILVER SPONSORS

KINEMETRICS
Advancement through Innovation

www.kinemetrics.com

For over 50 years, Kinemetrics has developed technologies, products, and solutions for monitoring earthquakes and their effects on people and structures. Kinemetrics products provide real-time actionable information, structural assessments, rapid impact alerts, state of health reports, and they address the vital needs of infrastructure sectors by leveraging a combination of smart sensing technology and predictive engineering computations, such as Kinemetrics Infrastructure Management Platform. Decades of delivering the highest quality solutions for structural health and seismic monitoring of bridges and other large structures have made Kinemetrics a globally trusted technology and operations partner for organizations responsible for the world's most critical systems. Kinemetrics has established itself as the market leaders for seismic instrumentation and solutions. Our products, including KMIBridge, the Complete Bridge Seismic Management Platform, are the de facto world standards.

Da oltre 50 anni Kinemetrics sviluppa tecnologie, prodotti e soluzioni per il monitoraggio dei terremoti e dei loro effetti su persone e strutture. I prodotti Kinemetrics forniscono informazioni fruibili in tempo reale, valutazioni strutturali, avvisi di impatto rapido, rapporti sullo stato di salute e rispondono alle esigenze vitali dei settori infrastrutturali sfruttando una combinazione di tecnologia di rilevamento intelligente e calcoli di ingegneria predittiva, come la piattaforma di gestione delle infrastrutture Kinemetrics. Decenni di esperienza nella fornitura di soluzioni della massima qualità per il monitoraggio strutturale e sismico di ponti e altre grandi strutture hanno reso Kinemetrics un partner tecnologico e operativo affidabile a livello globale per le organizzazioni responsabili dei sistemi più critici del mondo. Kinemetrics si è affermata come leader di mercato per la strumentazione e le soluzioni sismiche. I nostri prodotti, incluso KMIBridge, la Piattaforma Completa di Gestione Sismica dei Ponti, rappresentano de facto gli standard mondiali.

KISTLER
measure. analyze. innovate

www.kistler.com

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology.

For decades, our measurement solutions for transportation and traffic engineering – such as Weigh In Motion (WIM) and Structural Health Monitoring systems – have kept vehicles moving safely on roads, bridges and railways across the globe.

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

ACKNOWLEDGMENTS

BRONZE SPONSORS

ACKNOWLEDGMENTS

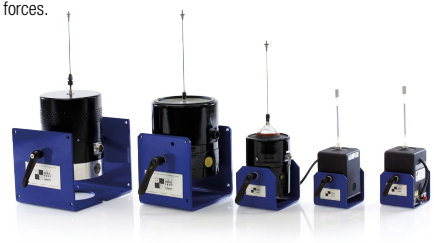
BRONZE SPONSORS

PCB PIEZOTRONICS
AN AMPHENOL COMPANY

www.pcb.com

PCB manufactures vibration, pressure, force and strain, shock, and acoustic sensors used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements. Our sensors support testing in aerospace and defense, automotive, transportation, civil engineering, and general R&D industries. Primary sensing technologies include piezoelectric (ICP®), piezoresistive, and capacitive MEMS. With a worldwide customer support team, 24-hour SensorLine, and a global distribution network, PCB is committed to Total Customer Satisfaction. PCB Piezotronics is a wholly-owned subsidiary of Amphenol Corporation.

PCB Piezotronics offers many sensors for use in Modal testing. These include both single and triaxial high sensitivity TEDS ICP® accelerometers, DC-MEMS, cable assemblies, patch panels, and the necessary signal conditioning. In addition, PCB and The Modal Shop offer Modal Shakers and Modally Tuned Impulse hammers for exciting the object under test. TEDS equipped Impedance Heads and Force Sensors can be used to measure the input forces.



Polytec BPS

www.bpsweb.it

Polytec GmbH is the internationally acknowledged leader and gold-standard for non-contact vibration measurement through Laser Doppler Vibrometers: with the help of these instruments, you can perform modal analysis on samples of different size, from entire car bodies and large aerospace parts to micron-sized MEMS without any mass loading effect. BPS is the official distributor in Italy for Polytec instruments.

Additionally, Polytec and BPS can assist you in modal parameter estimation and system excitation, as we provide:

- Polywave Post Processing Suite to extract modal parameters handling large and complex data with ease.
- Automatic modal hammers for repetitive and controlled impulse excitation.
- Lightweight modal exciters with through hole from TIRA GmbH, a top-class German producer.

ACKNOWLEDGMENTS

BRONZE SPONSORS

SIEMENS

www.plm.sw.siemens.com

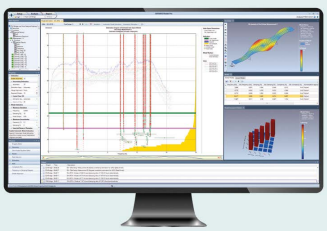
Siemens Industry Software (formerly LMS International) (SISW) is a leading provider of engineering innovation and software/services in functional performance engineering of mechanical structures (vehicles, aircraft, machinery, wind turbines…) and has an extensive methodology and toolset development track record in a wide range of relevant mechanical attributes, with over 25 years of experience in NVH/Acoustics, over 20 years in durability/fatigue methods development and 10 years in multi-attribute structural analysis process solutions in automotive sector including crashworthiness and passive safety.

The company has 30 years of experience in professional software development, an accredited (ISO 9000) quality assurance process and organization, usability expertise, etc. This guarantees that SISW can make the transformation of the research results into a successful commercial software product offering. The software development process has been entirely professionalized, with well-defined gates for the definition, implementation, validation, testing and launch of the products and product releases. Since 2013, SISW is part of Siemens constituting the Simulation and Test Business Segment of Siemens PLM Software Business Unit.

Structural Vibration Solutions

www.svibs.com

Structural Vibration Solutions A/S has been providing software solutions for Operational Modal Analysis for the last 25 years. On March 1st, 1999, Structural Vibration Solutions was founded as a spin-off from Aalborg University in Denmark. Our first software release, ARTeMIS Extractor, was made in year 2000 and included the two patented Frequency Domain Decomposition methods FDD and EFDD as well as three versions of the Stochastic Subspace Identification (SSI) methods. ARTeMIS Extractor has been succeeded by the more powerful ARTeMIS Modal that has a new look and feel. However, the philosophy is the same as it was back when we started. The user should have different methods available for analysis of the measurements to enable a validation of the modal results. Today, our software is used by more than 1000 users. The users are e.g., mechanical engineers performing modal analysis of operating machinery and components, and civil engineers for ambient vibration testing and analysis of large structures like bridges and buildings.



ACKNOWLEDGMENTS

OTHER SPONSORS

infrastructures

buildings

Abdata

FIELD
MONITORING SYSTEM ENGINEERING

ACKNOWLEDGMENTS

EXHIBITORS

Dynamic Design Solutions

MotionScope
Visualizing the invisible

SINT Technology
TÜV AUSTRIA Group

NOTE

NOTE

STAY UPDATED

follow us on

iomac2024.com

Organizing Secretariat

1993 30 ANNI 2023 COLLAGE S.p.A.

Via U. Giordano, 55 - 90144 Palermo
web: www.collage-spa.it