

INTERNATIONAL WINTER SCHOOL

February 26th – March 1st, 2024
Naples - Italy



UNIVERSITY OF NAPLES
FEDERICO II

Department of Structures for
Engineering and Architecture

Within the courses of the PhD
program in *Structural & Geotechnical
Engineering and Seismic Risk*

DATES

26th February – 1st March 2024

24 hours (3 CFU)

LOCATION

Chiesa dei SS Marcellino e Festo
Largo San Marcellino, 10
80138 Naples

CHAIRS

Maria Rosaria Pecce
Università di Napoli Federico II

Antonio Bilotta
Università di Napoli Federico II

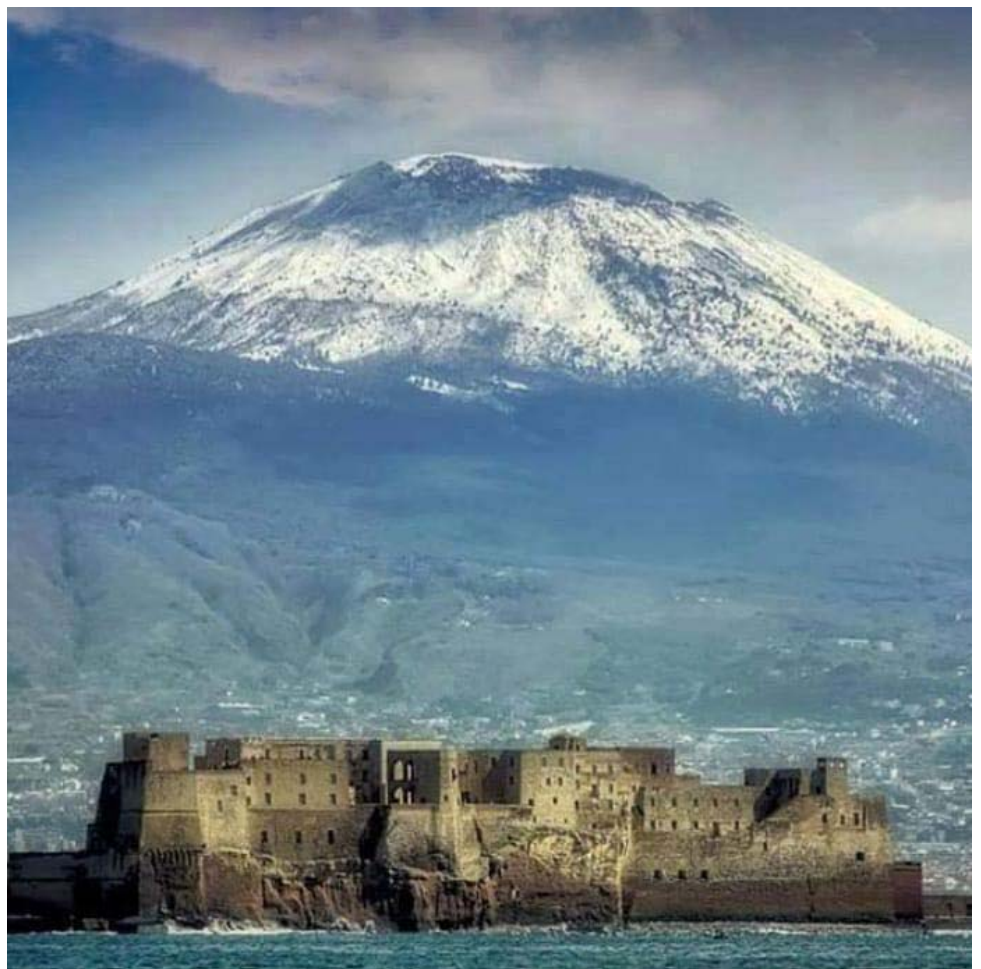
Hugo Corres
Universidad Politécnica de Madrid

ATTENDANTS

PhD students, postdoctoral
researchers, practitioners interested
in research and applications

CONTACTS

info.dist@unina.it



BEHAVIOR, ANALYSIS AND MANAGEMENT OF EXISTING STRUCTURES DURING THE LIFE CYCLE

Final Program

AIM and SCOPE

The course of the Winter School "*Behavior, analysis, and management of existing structures during the life cycle*" presents an opportunity for those looking to deepen their understanding of the behavior, analysis, and management of existing structures throughout their life cycle. Led by distinguished experts, the course provides a comprehensive view of the challenges and strategies involved in managing existing infrastructure.

The course is aimed at MSc and PhD students with both national and international audience. The language of the event is English. The event is organized as part of the activities planned for the Department of Excellence.

INTERNATIONAL LECTURERS

Carmen Andrade - Universidad Politécnica de Madrid (Spain)
Hugo Corres Peiretti - Universidad Politécnica de Madrid (Spain)
Alfred Strauss - Universität für Bodenkultur Wien (Austria)
Leonardo Todisco - Universidad Politécnica de Madrid (Spain)

On-line participation

Pablo Alonso Medina - Universidad Politécnica de Madrid (Spain)
Borja Regulez Pérez - Universidad Politécnica de Madrid (Spain)

REGISTRATION

Registration: <https://shorturl.at/lrBRW>

Registration fees:

- Students/Postdoc: **250 €**
- Industry/Professionals: **400 €**
- **+ 18 €** revenue stamp
(required by Italian Taxation Law)

Payment by **Bank transfer** to:

Dip. di Strutture per l'Ingegneria e l'Architettura - IBAN code:

IT77C0306903497100000046044

SWIFT code: **BCITITMM**

Bank: Intesa Sanpaolo S.p.A.

VENUE

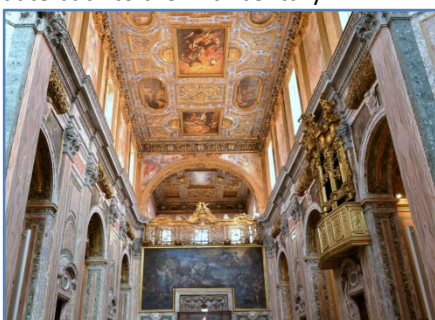
The Winter School will be held in the *Church of Saints Marcellino and Festo* in the historic centre of Naples, Italy.



The building is the result of the union of two neighboring monasteries dating back to the early Middle Ages, one dedicated to Saints Marcellinus and Peter and the other to the cult of Festus and Desiderius. During the following centuries the structure was remodeled many times.



The construction of the Baroque Church and of the Majolica Dome date back to the 17th century.



COURSE OUTLINE

The Winter School covers a wide range of topics, including:

- Deterioration processes
- Diagnosis and prediction
- Bridge management
- Case studies
- Monitoring and site visits

This course represents a remarkable learning opportunity for those involved in the management, maintenance, and extension of the service life of existing infrastructure. The experts and case studies will provide a detailed understanding of best practices to ensure the service life of structures throughout their life cycle.

COURSE SCHEDULE

Monday 26th – Basic concepts and fundamentals

- **9:00-10:45 H. Corres** - General concepts of bridge maintenance: Content and components.
- **11:15-13:00 H. Corres** - Inventory: casuistry and content. Storage of the medical record.
- **13:00-14:00 Lunch**
- **14:00-15:45 H. Corres** - Main and special inspections.
- **16:15-18:00 C. Andrade** - Basic concepts on reinforcement corrosion process and other deterioration processes. Corrosion/deterioration level and rate.

Tuesday 27th - Diagnosis and prediction

- **9:00-10:45 C. Andrade** - Concept of useful life. Corrosion/durability limit state. Probabilistic analysis. Advanced methods of service life calculation.
- **11:15-13:00 C. Andrade** - What the codes say to ensure service life. Coating thicknesses and their quality and advanced models according to MC2020. Methods to measure corrosion on site and in the laboratory, visual inspections, corrosion monitoring.
- **13:00-14:00 Lunch**
- **14:00-18:00 Downtown visit**

Wednesday 28th - Life cycle and Structural Health Monitoring

- **9:00-10:45 M. Pecce/A. Bilotta** - Introduction to technical visits.
- **11:15-13:00 B. Regulez Perez** - Reliability and sustainability-driven strategies for the maintenance of existing structures.
- **13:00-14:00 Lunch**
- **14:00-15:45 C. Andrade** - Diagnosis of the current state. Corrosion indicators. Prediction of the useful life.
- **16:15-18:00 A. Strauss** - The work of *fib* commission on existing structures.

Thursday 29th - Structural Health Monitoring and site visit

- **9:00-13:00 Technical visit**
- **13:00-14:00 Lunch**
- **14:00-15:45 A. Strauss** – SHM-theoretical basics in terms of performance concepts and practical use cases (part 1).
- **16:15-18:00 A. Strauss** - SHM-theoretical basics in terms of performance concepts and practical use cases (part 2).
- **20:30 Social dinner**

Friday 1st - Bridge Management System and Case Studies

- **9:00-10:45 L. Todisco** - Damages in structures made of concrete and other materials.
- **11:15-13:00 P.A. Medina** - Management of bridges.
- **13:00-14:00 Lunch**
- **14:00-15:45 C. Andrade** - Deterioration repair methods: patching, use of inhibitors and cathodic protection.
- **16:15-17:00 H. Corres** - Case studies of rehabilitation: Los Santos and Alcoy bridges.
- **17:00-18:00 L. Todisco** - Case studies of rehabilitation: La Toja bridge and Deba bridge.

In 1809 the monastery was suppressed, in 1829 it became a girls' boarding school, while in 1907 a wing of the complex was destined to house some rooms of the University of Naples Federico II, still active in the space occupied by the monumental cloister and the oratory.



Finally, in 1932, the Museum of Paleontology of Naples was established in other rooms of the ex monastery.



Nowadays, the structure belongs to the Congress Center of the University of Naples Federico II.

PARTNER



DETAILS

Information on the technical visit will be available by the end of January on the webpage <http://www.dist.unina.it/-/52330329-behavior-analysis-and-management-of-existing-structures-during-the-life-cycle>

ADMINISTRATIVE STAFF

Dott.ssa Immacolata Diez - immacolata.diez@unina.it

Dott.ssa Valeria Peluso - valeria.peluso@unina.it

Social Event: GUIDED TOUR IN NAPLES

We are pleased to organize and provide all participants with a **Half-day Guided Tour** in downtown Naples (included in your registration fee) on day 2: **Tuesday, February 27th** departing from the Conference Center.

The trip includes:


- Tour of *monuments* in the city of Naples <https://www.naplespass.eu/info-and-tips/things-to-do/5-things-to-do-in-the-historic-centre-of-naples>
- Walking through the *typical streets* in Naples (e.g. San Gregorio Armeno, via Tribunali, via Duomo): <https://www.introducingnaples.com/what-to-see>
- Tour in Naples *Cathedral and Chapel of St. Gennaro's Treasure*: <https://tesorosangennaro.it/en/home-en/>
- Visit the *San Lorenzo Maggiore* complex: <https://www.laneapolissotterrata.it/en/project/san-lorenzo-basilica/>

Costs for the tickets are already covered for all Winter School participants.

SUGGESTED ACCOMODATIONS

The following list includes suggested accommodations in Naples.

Applicants are encouraged to book their accommodation as soon as possible.

B&B/Hotel	Website	Mobile 
At home Lettieri ①	https://bnbathomelettieri.wixsite.com/at-homelettieri	+39.347.6533386
Bed in Naples ②	https://beb.it/bedinnaples/it/	+39.348.7556557
Casetta partenopea ③	https://www.airbnb.com/h/casettapartenopea	+39.389.8842803
Hotel Cimarosa ④	https://www.hotelcimarosa.it/	+39.331.4464424
La Maisonette ⑤	http://www.lamaisonnettebb.it/	+39.329.7483282
Luna Vomere ⑥	https://abnb.me/weSRTh5BiS	+39.329.2948894
Villino Manina ⑦	https://beb.it/villinomanina/it/	+39.335.498412
Casa e Studio Gravina ⑧	https://abnb.me/aXduwgi93Eb	+39.333.4112510
Casa Valparaiso ⑨	https://air.tl/NEGiJWrz	+39.328.1569936
Charming Naples	https://www.charmingnaples.it/	+39.335.5874052

