

# INTERNATIONAL WINTER SCHOOL

February 26<sup>th</sup> – March 1<sup>st</sup>, 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

26<sup>th</sup> February – 1<sup>st</sup> 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](mailto:info.dist@unina.it)



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

### *Preliminary announcement*

#### 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** - Universidad Politécnica de Madrid (Spain)

**Alfred Strauss** - Universität für Bodenkultur Wien (Austria)

**Leonardo Todisco** - Universidad Politécnica de Madrid (Spain)

#### On-line participation

**Pablo Fernandez** - Universidad Politécnica de Madrid (Spain)

**Borja Perez** - Universidad Politécnica de Madrid (Spain)

## REGISTRATION

Pre registration: **January 10<sup>th</sup>, 2024**

<https://shorturl.at/duCLO>

Registration confirmation: **January 15<sup>th</sup>, 2024**

Payment deadline: **January 25<sup>th</sup>, 2024**

Registration fees:

- Students/Postdoc: **250 €**
- Industry/Professionals: **400 €**

## VENUE

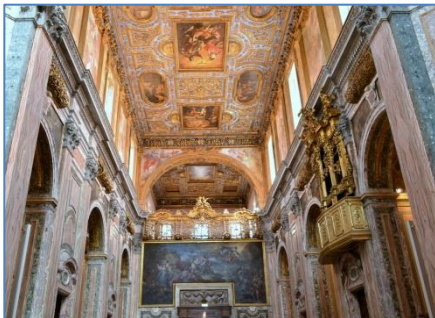
The Winter School will be held in the *Church of Saints Marcellino and Festo* in the historic centre of Naples, Italy.



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.



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.

## 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.

## PRELIMINARY COURSE SCHEDULE

### February 26<sup>th</sup> – *Basic concepts and fundamentals*

- General concepts of bridge maintenance: Content and components.
- Inventory: casuistry and content. Storage of the medical record.
- Main and special inspections
- Reliability and sustainability-driven strategies for the maintenance of existing structures

### February 27<sup>th</sup> - *Diagnosis and prediction*

- Basic concepts on reinforcement corrosion process and other deterioration processes.
- Corrosion/deterioration level and rate.
- Concept of useful life.
- Corrosion/durability limit state.
- Probabilistic analysis.
- Advanced methods of service life calculation.

### February 28<sup>th</sup> - *Life cycle and Structural Health Monitoring*

- 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.
- Diagnosis of the current state. Corrosion indicators. Prediction of the useful life.
- The work of fib commission on existing structures
- Introduction to the technical visits

### February 29<sup>th</sup> - *Structural Health Monitoring and site visit*

- Technical visit
- Structural Health Monitoring
- The service life of structures throughout their.

### March 1<sup>st</sup> - *Bridge Management System and Case Studies*

- Damages in structures made of concrete and other materials.
- Management of bridges.
- Deterioration repair methods: patching, use of inhibitors and cathodic protection.
- Cases study of rehabilitation. The Los Santos and Alcoy bridges
- Cases study of rehabilitation. La Toja bridge and Deba bridge

## DETAILS

Information on the technical visit will be available by the end of January on the webpage

[http://www.dist.unina.it/\\*\\*](http://www.dist.unina.it/**)

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.

## ADMINISTRATIVE STAFF


Dott.ssa Immacolata Diez - [immacolata.diez@unina.it](mailto:immacolata.diez@unina.it)

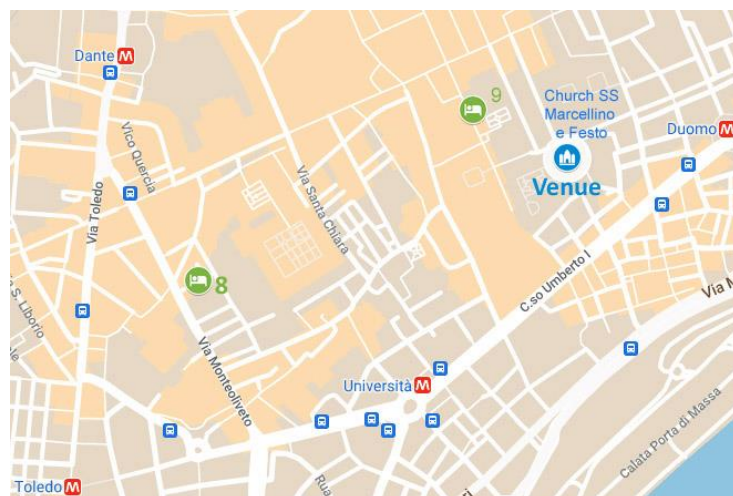
Dott.ssa Valeria Peluso - [valeria.peluso@unina.it](mailto:valeria.peluso@unina.it)




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



-  Metro station
-  Cable train station / bus stop
-  Accommodation