NHAZCA SRL
Natural Hazards Control and Assessments

Spin off di
Sapienza
Università di Roma

5th IcGSM

International Course on GEOTECHNICAL and STRUCTURAL MONITORING

22-25 May, 2018 - Rome

21 May, 2018
Master Classes

Extended Schedule

www.geotechnicalmonitoring.eu

Tuesday, May 22

5th IcGSM

Course Schedule

COURSE TOPIC	TIME	SPEAKER
Registration and networking	08:00-09:00	
A.1 Welcome and Introduction	09:00-09:20	Paolo Mazzanti
A.2 Overview of Monitoring - Why do we need to "monitor"? - What do we measure? - Remote vs contact monitoring - Long term vs short term monitoring - Continuous vs periodic monitoring - Monitoring equipment vs monitoring network	09:20-10:00	Paolo Mazzanti
A.3 Introduction of Participants	10:00-10:20	Paolo Mazzanti (moderator)
A.4 Welcome Addresses from Supporters	10:20-10:30	Paolo Mazzanti (moderator)
Coffee Break	10:30-11:00	
A.5 Systematic Approach to Planning Monitoring Programs	11:00-12:00	John Dunnicliff (video)
B.1 Introduction to Contact Systems - Sources of information - What the lectures will cover	12:00-12:15	Giorgio Pezzetti
B.2 Monitoring Pore Water Pressures: Guidelines and Lessons Learned - Application of piezometers - Types of piezometers - Fully grouted method - Case studies and lessons learned	12:15-12:45	Michael Wan
Lunch Break	12:45-14:00	
B.3 Monitoring Displacement: Guidelines and Lessons Learned - Applications - Crackmeters, Jointmeter, Tiltmeters - Extensometers (probe & fixed types) - Settlement systems - Inclinometers (probe & in place types) - Strain gauges	14:00-14:30	Tony Simmonds

Sessions "A": Basic Concepts of Geotechnical and Structural Monitoring

Sessions "B": Contact Monitoring

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Course Schedule

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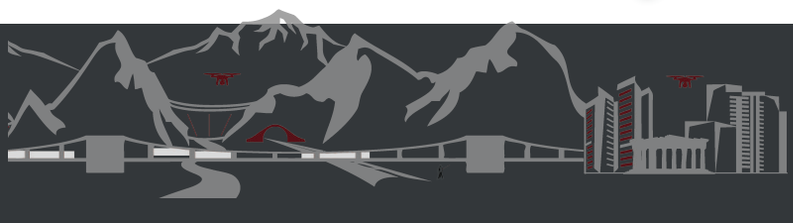
COURSE TOPIC	TIME	SPEAKER
B.4 Fiber Optics - Distributed Strain Sensors and Fiber Bragg Gratings - Introduction to fiber-optic sensing technologies - Point sensors - Distributed sensors - Choice of technology and hardware - Selected projects	14:30-15:00	Michael Iten
B.5 Fiber Optics - Distributed Temperature and Long Gauge Sensors - Distributed fiber optic temperature sensing - Dam, dyke and levee seepage monitoring - Pipeline leak detection - Long-gauge deformation sensors - Monitoring of civil engineering structures	15:00-15:30	Daniele Inaudi
Coffee Break	15.30-16.00	
NT.1 New Trends in Contact Monitoring	16:00-17:00	
- YieldPoint multi-position borehole extensometer (MPBX)		Thomas Weinmann
- Continued advancements in inclinometry with the latest measurand ShapeArray: the SAAV		Matthew Miller
- New system to measure deformation along an optical fiber (DAPHNE)		Franco Robotti
- Channel Tunnel: real-time shape deformation monitoring using fiber-optic sensing systems		Tomáš Šalát
P.1 Presentations by Partners on Contact Methods	17:00-18:00	
Welcome Party	19:30-22:00	

Sessions “B”: Contact Monitoring

Sessions “NT” New Trends in Monitoring

Sessions “P”: Presentations by Partners



Wednesday, May 23

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Course Schedule

COURSE TOPIC	TIME	SPEAKER
C.1 Introduction to Remote Systems - Basic principles and criteria for remote monitoring - Overview of existing remote systems - How to effectively choose a remote system - Sources of information	09:00-09:15	Paolo Mazzanti
C.2 Monitoring of Displacement by Total Station, Laser Scanner and GNSS: Guidelines and Lessons Learned - Achievable accuracies and limitations - Reflectorless measurements vs. standard measurements - Network RTK - Impact of target type - Processing strategies	09:15-10:00	Werner Lienhart
Coffee Break	10:00-10.30	
C.3 Monitoring of Displacement by Satellite and Terrestrial Radar: Guidelines and Lessons Learned - Basic principles of radar systems - Radar Interferometry - Satellite SAR monitoring - Terrestrial SAR and RAR monitoring systems - Examples of application	10:30-11:15	Alfredo Rocca
NT.2 New Trends in Remote Monitoring	11:15-12:15	
- An electromagnetic bi-static method to evaluate displacement (DiPaR).		Franco Robotti
- PhotoMonitoring™: a new effective low-cost tool for geotechnical and structural monitoring		Paolo Caporossi
- Numerical structural identification of a cross-laminated timber slab using 3D laserscanning		Eugenio Serantoni

Sessions “C”: Remote Monitoring

Sessions “NT” New Trends in Monitoring

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Course Schedule

Wednesday, May 23

COURSE TOPIC	TIME	SPEAKER
D.1 Fundamentals of Vibration Monitoring: Things to Consider - Principles of experimental vibration analysis of structures - Relevant case studies - Future developments	12:15-12:45	Paolo Clemente
Lunch Break	12:45-14:00	
D.2 Fundamental of Web-based Data Management for Instrumentation: Things to Consider	14:00-14:45	Forum with partners and leading experts (moderator Paolo Mazzanti)
NT.3 New Trends in Vibration/Data Management and Transmission Monitoring - Deep learning and Artificial Intelligence in geotechnical data management - Modern monitoring web-based platform	14:45-15:15	Pieter Devolder Johannes Woellner
Coffee Break	15:15-15:45	
P.2 Presentations by Partners on Remote Methods, Vibration/Data, Management and Transmissions	15:45-17:00	Paolo Mazzanti (moderator)

Sessions “D”: Vibration Monitoring, underwater monitoring, data transmission and management

Sessions “NT” New Trends in Monitoring

Sessions “P”: Presentations by Partners

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Course Schedule

Thursday, May 24

COURSE TOPIC	TIME	SPEAKER
E.1 Workshop on Systematic Planning of a Monitoring Program for a Landslide	09:00-10:30	Paolo Mazzanti (moderator)
E.2 Case Histories and Lessons Learned: Learning from Long-Term Structural Health Monitoring of the Streicker Bridge - Strain-based structural health monitoring - Discrete and distributed sensing - Fiber optic sensors - Prestressed concrete structure - Streicker Bridge	10:30-11:00	Branko Glišić
Coffee Break	11:00-11:30	
E.3 Case Histories and Lessons Learned: Presentations by Participants	11:30-12:30	
- Monitoring of railway viaducts and bridges		Gilles Van Staen
- Dynamic identification of ancient bell towers monitored with a wired sensors network		Marco Pellegrino
- Pipe deflection monitoring system for the Penitencia seismic retrofit project		Thomas Weinmann
- Differences between topographic survey and topographic monitoring		Ottavio Tripoli
E.4 Case Histories and Lessons Learned: the Role of Monitoring for the Control of Geotechnical Construction and for the Assurance of Safety and Performance - Monitoring control of the Big Ben Clock Tower during and after compensation grouting - Monitoring control of the Pisa Tower during and after stabilisation by soil extraction - Assurance monitoring of a highly sensitive medical facility during nearby diaphragm wall construction	12:30-13:15	John Burland
Lunch Break	13:15-14:30	

Sessions “E”: Workshop and Case Histories

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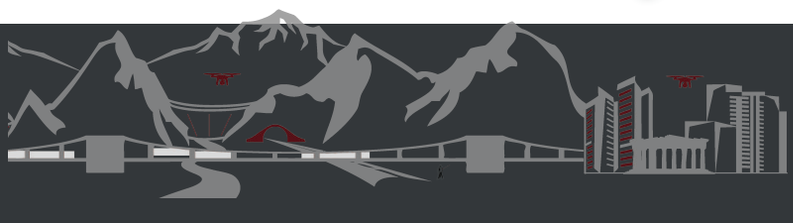
Course Schedule

Thursday, May 24

COURSE TOPIC	TIME	SPEAKER
E.5 Case Histories and Lessons Learned: Presentations by Participants	14:30-15:30	
- Lessons learned from the monitoring of the foundations of a strengthened structure during and after its extension		Nikolay Milev
- Geotechnical remote monitoring of Avlabari metro station and Marneuli Highway Cliff in Tbilisi, Georgia		Shahab Attaie
- Geotechnical monitoring networks of infrastructures affected by landslides		Serena Majetta
E.6 The Observational Approach in Tunneling: Why? How? - Design approach - Observational approach and risk management - Typical instrumentation layout - Monitoring process and interpretation of monitoring results	15:30-16:00	Johann Golser
E.7 Case Histories and Lessons Learned: Monitoring for Geotechnical Assets Management - What is meant by geotechnical asset management - Why is monitoring important - Case histories from the U.S. - Opportunities for the future	16:00-16:30	Scott Anderson
E.8 Case Histories and Lessons Learned: Geotechnical and Structual Monitoring of Metro C line (Rome) - Metro C presentation; - The main characteristics of T3 stretch The methodological approach - An interesting case history of interaction studies: the Basilica of Massenzio	16:30-17:00	Eliano Romani and Giorgio Pezzetti
E.9 Closing Remarks	17:00-17:20	Paolo Mazzanti



EXHIBITION OPENING

Tuesday, May 22	08:00-18:00
Wednesday, May 23	08:00-18:00
Thursday, May 24	08:00-17:00

The lunch and coffee breaks will be set up in the Exhibitors Room.