Allegato B

CECILIA RINALDI
Curriculum Vitae

Rome
20/08/2025

Part I – General Information

Full Name	Cecilia Rinaldi
Date of Birth	
Place of Birth	
Citizenship	
Permanent Address	
Mobile Phone Number	
E-mail	
Spoken Languages	

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2018	Sapienza University of Rome	Master's degree in Civil Engineering, Specialization in Structural Engineering, 107/110, Thesis title: “Modelli multiscala non lineari di nano-strutture”
Post-graduate studies	2018	Harbin Institute of Technology and Qingdao University of Technology, China	Asia-Pacific-Euro Summer School on Smart Structures Technology (APESS 2018)
Post-graduate studies	2019	Sapienza University of Rome	Asia-Pacific-Euro Summer School on Smart Structures Technology (APESS 2019)
PhD	2022	University of L’Aquila	PhD in Civil, Construction-Architecture, Environmental Engineering, Specialization in Structural Engineering, Thesis title: “Image–based structural health monitoring: vibration measurements, structural identification, and damage detection” (SSD CEAR-06/A)

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
July 2018	October 2018	University of L'Aquila, Department of Civil, Construction-Architectural and Environmental Engineering	Research scholarship (Borsa di ricerca) on "Development of new procedures for visual inspection and integration in BIM (Building Information Modeling) environment"
November 2018	January 2022	University of L'Aquila, Department of Civil, Construction-Architectural and Environmental Engineering	Doctoral scholarship (Borsa di dottorato) in Civil, Construction-Architecture, Environmental Engineering, XXXIV cycle
April 2022	March 2023	Sapienza University of Rome, Department of Structural and Geotechnical Engineering	Research fellowship (Assegno di ricerca) on "Data-Driven Structural Health Monitoring and Damage Detection"
April 2023	Present	Sapienza University of Rome, Department of Structural and Geotechnical Engineering	Type A Researcher (Ricercatore a tempo determinato - Tipologia A con regime di impegno a tempo pieno). Maternity leave from May 1 to September 30, 2025.

IIIB – Other Appointments

Start	End	Institution	Position

Part IV – Teaching experience

Year	Institution	Lecture/Course
2018 - 2023	Sapienza University of Rome, Faculty of Civil and Industrial Engineering	Support activities for Solids and Structural Mechanics class (Scienza delle Costruzioni), prof. Vincenzo Gattulli, Bachelor's degree in Energy Engineering, SSD CEAR-06/A
2018 - present	Sapienza University of Rome, Faculty of Architecture and Faculty of Civil and Industrial Engineering	Support activities for Structural Modeling of Architecture class (Modellazione Strutturale dell'Architettura), prof. Vincenzo Gattulli, Master's degree in Project and Construction Management of Building Systems, SSD CEAR-06/A
2022 - 2025	Sapienza University of Rome, Faculty of Civil and Industrial Engineering	Qualification "Cultore della materia" for *Solids and Structural Mechanics* (Scienza

		delle Costruzioni) – SSD CEAR-06/A
2022 – 2025	Sapienza University of Rome, Faculty of Architecture and Faculty of Civil and Industrial Engineering	Qualification "Cultore della materia" for *Structural Modeling of Architecture* (Modellazione Strutturale dell'Architettura) – SSD CEAR-06/A
May 7 2022	Sapienza University of Rome	Lecture on "Image-based structural health monitoring: vibration measurements and damage detection", second level Master "Analisi, diagnostica e monitoraggio di strutture e infrastrutture"
2023 - Present	Sapienza University of Rome, Faculty of Architecture	Lecturer of the Structural Mechanics class (Docente del Corso di Meccanica delle Strutture), Bachelor's degree in Project Management, SSD CEAR-06/A. The course provides basic knowledge of mechanics and structural modeling: principles of mechanics, kinematics and statics of rigid bodies, articulated systems of rigid bodies, the virtual work theorem, one-dimensional beam.

Part V - Society memberberships, Awards and Honors

Year	Title
2019, 2022, 2024	Member of AIMETA – Associazione Italiana di Meccanica Teorica e Applicata
2023	Member of EMI – Engineering Mechanics Institute
2021 - present	Partner of BEST Design s.r.l. – Bim Engineering STartup of Sapienza University of Rome: Co-founder, Research & Development Lead.

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Member of the research group for the following projects:

Year	Title	Program
2018	INCIPICT – Innovating City Planning through Information and Communications Technology there is the building of an experimental optical network	Funded by Ministero dello Sviluppo Economico (MiSE). Coordinator: Fabio Graziosi
2018	DESDEMONA – DEtection of Steel Defects by Enhanced MONitoring and Automated procedure for selfinspection and maintenance	Funded by EU Research Fund for Coal and Steel 2017 programme. Coordinator: Vincenzo Gattulli
2020	Metodi basati sulla fusione dei dati e delle informazioni provenienti da tecnologie nuove e tradizionali per il monitoraggio strutturale	Progetto di ricerca nazionale con fondi di ricerca di ateneo dell'Università degli studi di Chieti-Pescara G. D'Annunzio. Coordinator: Francesco Potenza
2020	Monitoraggio, manutenzione ed	Progetto di Ricerca di Interesse di Ateneo

	ispezione dei difetti in strutture metalliche	RIA e.f. Coordinator: Francesco Potenza
2021	Metodi basati sulla fusione dei dati e delle informazioni provenienti da tecnologie nuove e tradizionali per il monitoraggio strutturale	Progetto di ricerca nazionale con fondi di ricerca di ateneo dell'Università degli studi di Chieti-Pescara G. D'Annunzio. Coordinator: Francesco Potenza
2021	IRIS – Inspection and security by Robots interacting with Infrastructure digital twinS	Funded by the Nato Science for Peace and Security Programme. Coordinator: Vincenzo Gattulli
2021	ERIS – Estensimetri nanocaricati collocati da Robot per Il monitoraggio delle Strutture monumentali	Funded by Lazio Innova. Coordinator: Vincenzo Gattulli
2022	SICURA – caSa Intelligente delle teCnologie per la sicURezza – L'Aquila	Funded by Ministero dello Sviluppo Economico (MiSE). Coordinator: Fabio Graziosi
2022	DI-MOSES – DIgital twins and MOdel updating of Structural Elements and Systems exhibiting eminently nonlinear dynamic behavior	Bandi di Ateneo 2022 Sapienza Università di Roma, Progetti di ricerca Medi. Coordinator: Egidio Lofrano
2023	AID-STRU AgeIng and Degradation in the performances of STRUctures: model- and data-driven tools embedded in digital-twins	Progetti di Ricerca di Interesse Nazionale PRIN 2022 Coordinator: Vincenzo Gattulli
2023	MOST – Sustainable Mobility Center, Spoke 7 "CCAM, Connected Networks and Smart Infrastructure" – WP4	Funded by European Union Next-GenerationEU (PNRR) Coordinator: Carcaterra Antonio
2024	TECNODIGIT – TECNOlogie per la creazione di gemelli DIGITali utili alla gestione del costruito	Funded by European Union Next-GenerationEU, Bando a cascata progetto ECS Rome Technopole - Spoke 1 e 6. Coordinator: Marianna Crognale
2024	MONNALISA – MONitoring of dyNAmic behaviour of structures for LIfe cycle assessment enhanced by SAtellite data	Funded by European Union Next-GenerationEU, Bando a Cascata - Ecosistema VITALITY SPOKE 1 Università degli Studi dell'Aquila. Coordinator: Vincenzo Gattulli
2024	DPC_ReLUIS – WP 6 Monitoraggio e dati satellitari	ReLUIS, Rete dei Laboratori Universitari di Ingegneria Sismica e strutturale, DPC, Dipartimento della Protezione Civile. Coordinator: Vincenzo Gattulli

Part VII – Research Activities

Keywords	Brief Description
Structural Health Monitoring Structural identification Damage detection	**Inverse Analysis and Hybrid Models**: Development of inverse problem-solving procedures by integrating physical models with experimental data from traditional and advanced sensors (accelerometers, laser scanners, high-speed cameras, graphene-based strain sensors). **Machine Learning and Digital Twin**: Implementation of data-driven

Cable tension identification	models for digital twin-based Structural Health Monitoring (SHM); integration of physics-based and Machine Learning (ML) models for automated structural identification and long-term monitoring under environmental variability.
Digital image correlation	**Image-Based Monitoring**: Digital image processing for dynamic displacement measurement, modal identification, damage localization and quantification, cable force estimation (global level) and for detection of cracks, spalling, delamination, and corrosion (local level).
Finite Element Model	**Cable Tension Identification**: Development of an analytical method for axial tension estimation in inclined sagged cables using 3D laser-scanned geometry and low-order perturbation of catenary model.
Hybrid Model	**Multi-Sensor Monitoring Strategy for Infrastructures**: Experimental validation of a multi-sensor SHM system combining acoustic emission, displacement transducers, digital image correlation, and piezoelectric accelerometers. Evaluation of sensor performance for material degradation detection and structural assessment and providing high-quality experimental data, algorithms, and recommendations for integrating different technologies into intelligent SHM systems applicable to real infrastructures.
Digital Twin	**Digital Twin for Built Environment**: Integration of IoT (Internet of Things) sensors and BIM models with real-time analytics and ML for intelligent monitoring, inspection, and maintenance in civil and architectural applications.
	Satellite Interferometry: Use of Sentinel-1 (EGMS) and COSMO-SkyMed (CNR/IREA, ASI) datasets for SHM; comparative analysis of their applicability, strengths, and limitations in infrastructure monitoring.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Journal Papers	7	Scopus	2020	Present
Conference Papers	7	Scopus	2020	Present
Books chapter	1	Scopus	2020	Present
Books [teaching]				

Total Impact factor	27.33
Total Citations	151
Average Citations per Product	10.07 (151/15)
Hirsch (H) index	5
Normalized H index*	0.83 (5 Hirsh index/ 6 years)

*H index divided by the academic seniority.

Part IX – Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

***Journal Papers*:**

1. Fusco, D., Rinaldi, C., Addessi, D., Gattulli, V. An Efficient Computational Approach for Generating Synthetic Data to Train Neural Networks in Concrete Bridge Monitoring. Submitted to *Computers and Structures*, first round of peer review completed.
   Journal IF: 4.8 (2024)
   Journal rankings: Q1 (2024)

2. Rinaldi, C., Bendarma, A., Potenza, F., Gattulli, V. Physics-informed computational framework for assessing the seismic behavior of the Prince Moulay Abdellah Dam Submitted to *Results in Engineering*, first round of peer review completed.
   Journal IF: 7.9 (2024)
   Journal rankings: Q1 (2024)

3. Paris, S., Gattulli, V., Bianchi, R., Pennacchia, E., Rinaldi, C., Crognale, M. Digital Twins for the Monitoring and Management of the Built Environment: An Integrated Approach. *TECHNE, Journal of Technology for Architecture and Environment*, in press.
   Journal IF: 0.6 (2024)
   Journal rankings: Q2 (2024)

4. Fortunato, M., Ballam, L.R., Marra, F., Crognale, M., Rinaldi, C., Tamburrano, A. Novel Graphene-based Piezoresistive Strain Gauge Rosettes for Structural Health Monitoring. Submitted to *IEEE Sensors Journal*, second round of peer review in progress.
   Journal IF: 4.5 (2024)
   Journal rankings: Q1 (2024)

5. Karluklu, D., Rinaldi, C., Crognale, M., Figuli, L., & Gattulli, V. (2025). Enhanced image processing and storage for defect evaluation in BIM of inspected steel bridges. *Discover Civil Engineering*, 2(1), 1-21.

6. Rinaldi, C., Talebi, A., D'Alessio, M., Potenza, F., & Gattulli, V. (2024). Identification of Natural and Forcing Frequencies through Noisy Measurements Acquired in Operational Conditions on a Hospital Building. *Advances in Civil Engineering*, 2024(1), 4447739. https://doi.org/10.1155/2024/4447739
   Journal IF: 1.6 (2024)
   Citations: 0
   Journal rankings: Q3 (2024)

7. Crognale, M., Rinaldi, C., Potenza, F., Gattulli, V., Colarieti, A. & Franchi, F. (2024) Developing and Testing High-Performance SHM Sensors Mounting Low-Noise MEMS Accelerometers. *Sensors*, 24(8):2435. https://doi.org/10.3390/s24082435
   Journal IF: 3.5 (2024)
   Citations: 4
   Journal rankings: Q2 (2024)

8. Rinaldi, C., Lepidi, M., Potenza, F. & Gattulli, V. (2023) Identification of Cable Tension Through Physical Models and Non-Contact Measurements. *Mechanical Systems and Signal Processing*, 205, 110867. https://doi.org/10.1016/j.ymssp.2023.110867
   Journal IF: 7.9 (2023), 8.9 (2024)
   Citations: 18
   Journal rankings: Q1 (2023), Q1 (2024)

9. Crognale, M., De Iuliis, M., Rinaldi, C., & Gattulli, V. (2023). Damage detection with image processing: a comparative study. *Earthquake Engineering and Engineering Vibration*, 22(2), 333-345 https://doi.org/10.1007/s11803-023-2172-1

Journal IF: 2.6 (2023), 3.3 (2024)
Citations: 26
Journal rankings: Q2 (2023), Q2 (2024)

10. Rinaldi, C., Ciambella, J., & Gattulli, V. (2022). Image-based operational modal analysis and damage detection validated in an instrumented small-scale steel frame structure. *Mechanical Systems and Signal Processing*, 168, 108640. https://doi.org/10.1016/j.ymssp.2021.108640
    Journal IF: 8.4 (2022), 8.9 (2024)
    Citations: 30
    Journal rankings: Q1 (2022), Q1 (2024)

11. Rinaldi, C., Di Sabatino, U., Potenza, F., & Gattulli, V. (2021). Robotized inspection and health monitoring in the Gran Sasso National Laboratory. *Structural Monitoring and Maintenance*, 8(1) https://doi.org/10.12989/smm.2021.8.1.051
    Journal IF: 1.2 (2022), 0.5 (2024)
    Citations: 7
    Journal rankings: Q3 (2022), Q4 (2024)

12. Potenza, F., Rinaldi, C., Ottaviano, E., & Gattulli, V. (2020). A robotics and computer-aided procedure for defect evaluation in bridge inspection. *Journal of Civil Structural Health Monitoring*, 10, 471-484. https://doi.org/10.1007/s13349-020-00395-3
    Journal IF: 2.13 (2020), 4.3 (2024)
    Citations: 60
    Journal rankings: Q3 (2020), Q1 (2024)

Part X – Other Publications

Conference papers:

1. Karluklu, D., Rinaldi, C., Crognale, M., Alessandria, L., Mancini, B., Gattulli, V. (2025) The use of digital twin in the management of a large lab infrastructure towards GHG emission reduction. *Life-Cycle Performance of Structures and Infrastructure Systems in Diverse Environments*, 368.

2. Fusco, D., Rinaldi, C., Addessi, D., & Gattulli, V. (2024). Advanced Fiber Beam Finite Element Model for Neural Network Training in Vibration-Based Bridge Monitoring. *Procedia Structural Integrity*, 62, 895-902. https://doi.org/10.1016/j.prostr.2024.09.120

3. Rinaldi, C., Crognale, M., Ciambella, J., Potenza, F., Gattulli, V. (2024). Long-Term Vibrational Monitoring of the Exedra of Marcus Aurelius' Hall. In: Rainieri, C., Gentile, C., Aenlle López, M. (eds) *Proceedings of the 10th International Operational Modal Analysis Conference* (IOMAC 2024). IOMAC 2024. Lecture Notes in Civil Engineering, vol 514. Springer, Cham. https://doi.org/10.1007/978-3-031-61421-7_13

4. Rinaldi, C., Talebi, A., D'Alessio, M., Potenza, F., & Gattulli, V. (2024, June). Measured hospital building vibrations induced by air conditioning systems and elevators. In *Journal of Physics: Conference Series* (Vol. 2647, No. 14, p. 142009). IOP Publishing DOI 10.1088/1742-6596/2647/14/142009.

5. Fusco, D., Rinaldi, C., Addessi, D., & Gattulli, V. (2024, June). High-performance beam finite element for predictive response in monitoring existing bridges. In *Journal of Physics: Conference Series* (Vol. 2647, No. 18, p. 182020). IOP Publishing DOI 10.1088/1742-6596/2647/18/182020.

6. Rinaldi, C., Lepidi, M., Potenza, F., Gattulli, V. (2024). Cable-Stayed Bridge Model Updating Through Analytical Formulation, Finite Element Model and Experimental Measurements. In:

Gattulli, V., Lepidi, M., Martinelli, L. (eds) *Dynamics and Aerodynamics of Cables*. ISDAC 2023. Lecture Notes in Civil Engineering, vol 399. Springer, Cham. https://doi.org/10.1007/978-3-031-47152-0_20

7. Rinaldi, C., Potenza, F., Gattulli, V. (2022). On monitoring a cable-stayed pedestrian bridge, *Proceedings of XXVIII Giornate italiana della costruzione in acciao – Collegio dei Tecnici dell'Acciao* (C.T.A), September 29 – October 1, 2022, Francavilla al Mare, Italy

8. Rinaldi, C., Lepidi M., and Gattulli V. Static and dynamic response analysis of stay cables using terrestrial laser scanning and vibration measurements, *Materials Research Proceedings*, Vol. 26, pp 485-490, 2023, https://doi.org/10.21741/9781644902431-79.

9. Rinaldi, C., Potenza, F., Ciambella, J., Severa, G., Di Sabatino, U., Gattulli, V. (2021). Modeling of a cable-stayed pedestrian bridge using geometric and vibration data to update cable tensioning, *Proceedings of the second International Symposium on Dynamics and Aerodynamics of Cables* (ISDAC 2021), 16-17 September 2021, Stavanger, Norway.

10. Rinaldi, C., Ciambella, J., Moroni, M., Gattulli, V. (2020). Optical Flow Dynamic Measurements with High-Speed Camera on a Small-Scale Steel Frame Structure. In: Carcaterra, A., Paolone, A., Graziani, G. (eds) Proceedings of XXIV AIMETA Conference 2019. AIMETA 2019. *Lecture Notes in Mechanical Engineering*. Springer, Cham. https://doi.org/10.1007/978-3-030-41057-5_125

11. Rinaldi, C., Di Sabatino, U., Potenza, F., Gattulli, V. (2019). Inspection and monitoring by enhanced mechatronic solutions in the Gran Sasso National Laboratories. Gattulli, Vincenzo, Oreste Bursi, and Daniele Zonta, eds. *ANCRiSST 2019 Procedia*: 14th International Workshop on Advanced Smart Materials and Smart Structures Technology, Rome (Italy), 18-20 July 2019. Vol. 45. Sapienza Università Editrice, 2019.

Chapter Books:

1. De Iuliis, M., Rinaldi, C., Potenza, F., Gattulli, V., Toullier, T., & Dumoulin, J. (2023). Ambient Vibration Prediction of a Cable-Stayed Bridge by an Artificial Neural Network. *Data Driven Methods for Civil Structural Health Monitoring and Resilience: Latest Developments and Applications*, 242

National Journal Papers:

1. Chiaia, B., Ciambella, J., Civera, M., Distante, V., Manuello, A., Oddone, S., Pressi, E., Rinaldi, C., Romeo, F. (2025) Un approccio integrato e robusto per la valutazione del danno, *Strade & Autostrade* 172, n.4/2025, https://www.calameo.com/read/007784916d420cbe7b8e9

2. Gattulli, V., Meluzzi, S., Potenza, F., Rinaldi, C., Severa, G. (2022) Passerella strallata sul Sangone di Beinasco: indagini conoscitive, modellazione e progetto di manutenzione. Cable-stayed pedestrian bridge on Sangone river in Beinasco: surveys, modeling and maintenance project, *Costruzioni Metalliche*, n.2/2022

Part XI – Conference Presentations

1. XXVI Congresso AIMETA, 2-6 settembre 2024, Napoli, "Automated Operational Modal Analysis Using a Large Data Set from Continuous Monitoring", Rinaldi, C., Crognale, M., Ciambella, J., Potenza, F., Gattulli, V.

2. 10th International Operational Modal Analysis Conference (IOMAC 2024), 21-24 maggio 2024, Napoli, "Long-Term Vibrational Monitoring of the Exedra of Marcus Aurelius' Hall", Rinaldi, C., Crognale, M., Ciambella, J., Potenza, F., Gattulli, V.

3. Engineering Mechanics Institute (EMI) 2023 International Conference, 27-30 agosto, Palermo, "Structural identification of a hospital building under unknown excitation induced by air conditioning systems and elevators", Rinaldi C., Talebi A., Potenza F., Gattulli V.

4. XII International Conference on Structural Dynamics (EURODYN 2023), 2-5 luglio 2023, Delft (Paesi Bassi), "Measured hospital building vibrations induced by air conditioning systems and elevators", Rinaldi C., Potenza F., Talebi A., Gattulli V.

5. III International Symposium on Dynamics and Aerodynamics of Cables (ISDAC 2023), 15-17 giugno 2023, Roma, "Cable-stayed bridge model updating through analytical formulation, finite element model and experimental measurements", Rinaldi, C., Lepidi, M., Potenza, F., Gattulli, V.

6. XXVIII Giornate italiana della costruzione in acciaio – Collegio dei Tecnici dell'Acciao (C.T.A), September 29 – October 1, 2022, Francavilla al Mare, Italy, "On monitoring a cable-stayed pedestrian bridge", Rinaldi C., Potenza F., Gattulli V.

7. XXV AIMETA Conference, September 4-8, 2022, Palermo, Italy, "Static and dynamic response analysis of stay cables using terrestrial laser scanning and vibration measurements", Rinaldi C., Lepidi M., and Gattulli V.

8. XXIV AIMETA Conference, September 15-19, 2019, Rome, Italy, "Optical Flow Dynamic Measurements with High-Speed Camera on a Small-Scale Steel Frame Structure", Rinaldi C., Ciambella J., Moroni M., Gattulli V.

9. ANCRISST 2019, July 18-20, 2019, Rome, Italy, "Inspection and monitoring by enhanced mechatronic solutions in the Gran Sasso National Laboratories", Rinaldi C., Di Sabatino U., Potenza F.

Part XII – Workshops and Seminars Delivered

1. Workshop "DIGITAL INNOVATION IN ARCHITECTURE AND ENGINEERING - Open talks on the impact of digitalization, hybrid realities, automation and communication technologies on civil engineering and architecture", Sapienza Università di Roma, Facoltà di Architettura, October 15, 2024, "The behaviour of dam Prince Moulay Abdellah during seismic events", Rinaldi C., Bendarma A.
2. Workshop as part of the project IRIS - Inspection and security by Robots interacting with Infrastructure digital twinS, October 16-20, 2023, University of Zilina (Slovakia), "Developing of physical and data driven models", Rinaldi C.

3. Seminar "Il monitoraggio strutturale basato sull'elaborazione delle immagini digitali", Rinaldi C., Dipartimento Politecnico di Ingegneria e Architettura, Università degli Studi di Udine, May 11, 2023.

4. DESDEMONA Final Conference, February 17-18, 2022, Rome, Italy, "Integrated vibration-image procedures for Structural Health Monitoring: Image-based operational modal analysis and damage detection", Rinaldi C.

5. Digital innovation in Architecture and Engineering, November 24-25, 2021, Rome, Italy, "Structural Health Monitoring integrated in BIM towards Digital Twins", Rinaldi C.

Part XIII – Organization of Congresses and Special Sessions

1. Organizer of mini symposium for EMI 2023 International Conference, 27-30 agosto, Palermo: Junior MS07 - New trends in structural health monitoring and retrofitting for sustainable maintenance of structures and infrastructures", Crognale M., De Iuliis M., Rinaldi C.

2. Local staff of APESS 2019: Asia-Pacific-Euro Summer School on Smart Structures Technology Summer school, July 15 – August 3, 2019, Sapienza University of Rome;
3. Local staff of ANCRiSST 2019: 14th International Workshop on Advanced Smart Materials and Smart Structures Technology, July 18-20, 2019, Sapienza University of Rome;
4. Local staff of XXIV AIMETA Conference, September 15-19, 2019, Sapienza University of Rome;
5. Local staff of Digital innovation in Architecture and Engineering, November 24-25, 2021, Sapienza University of Rome;
6. Local staff of DESDEMONA Final Conference, February 17-18, 2022, Sapienza University of Rome;
7. Local staff of ISDAC 2023: International Symposium on Dynamics and Aerodynamics of Cables, June 15-17, 2023, Sapienza University of Rome;
8. Local staff of Digital innovation in Architecture and Engineering, October 15, 2024, Sapienza University of Rome.

Part XIV – Editorial Activities

Guest Editor of the Special Collection on "Hybrid Physical and Data-Driven Approaches for SHM and Digital Twins", *Journal of Low Frequency Noise, Vibration and Active Control*.
Lead Guest Editor: Vincenzo Gattulli, Co-Guest Editors: Cecilia Rinaldi, Marianna Crognale.

Part XV – Activity of Reviewer for International Journals

1. Journal of Vibration and Control
2. Frontiers in Built Environment - Earthquake Engineering
3. Mechanical Systems and Signal Processing
4. Discover Civil Engineering - Data Analytics and Modeling in Civil Engineering Collection

Part XVI – Co-supervisor of degree thesis

Co-supervisor of the following Master's degree thesis in Construction Engineering at University "G. d'Annunzio" of Chieti-Pescara:

1. *Analisi sismica di una diga ad arco in calcestruzzo situata ad Agadir (Marocco)*, Lisa Caroso, supervisor Francesco Potenza, AA 2024-2025.

Co-supervisor of the following Master's degree thesis in Project and Construction Management for Building Systems at Sapienza University of Rome:

1. *La valutazione delle prestazioni strutturali di un edificio storico attraverso tecniche di acquisizione dati e modelli numerici: Ex Convitto Vittorio Locchi in Roma*, Valeria Parisse, Angela Pignatelli, supervisor Vincenzo Gattulli, AA 2023-2024.
2. *Modelli digitali per la descrizione e la riproduzione del comportamento meccanico del monumento equestre di Marco Aurelio*, Luana Pinnetti, supervisor Vincenzo Gattulli, AA 2023-2024.
3. *Metodologie per l'integrazione e la gestione dei dati in ambiente BIM*, Beatrice Mancini, Elisa De Romanis, supervisors Spartaco Paris and Vincenzo Gattulli, AA 2023-2024.
4. *Metodologie per la valutazione della sicurezza strutturale integrata nelle tecniche di descrizione digitale*, Chiara Venanzi, supervisor Vincenzo Gattulli, AA 2023-2024.
5. *Analisi dinamica e risposta sismica di strutture esistenti attraverso modelli fisici e algoritmi di machine learning*, Luca Pucci, supervisor Vincenzo Gattulli, AA 2022-2023.
6. *Integrazione BIM/FEM per modelli strutturali di dighe in calcestruzzo. Il caso Moulay Abdellah, Agadir (Marocco),* Cecilia Mastroiacovo, supervisor Vincenzo Gattulli, AA 2022-2023.
7. *Modelli digitali per la gestione e la valutazione della sicurezza strutturale dell'Esedra dei Musei Capitolini*, Francesco Di Benedetto, supervisor Vincenzo Gattulli, AA 2021-2022.

8. *Simulazione e acquisizione dati per la progettazione di interventi di miglioramento sismico ed energetico per una palazzina di civile abitazione*, Valerio De Vita, supervisor Vincenzo Gattulli, AA 2020-2021.
9. *Interoperabilità tra BIM e FEM*, Georgiana Carmen Magadan, supervisor Vincenzo Gattulli, AA 2019-2020.

Part XVII – Third Mission Activities

Participation in the following initiatives:

1. Management of Artistic and Cultural Heritage: Agreement for research activities in collaboration between the Capitoline Superintendency and the Department of Structural and Geotechnical Engineering for monitoring the structure of the Exedra of the Capitoline Museums, the reconstruction of the digital model of the equestrian statue of Marcus Aurelius, and the creation of a volume dedicated to the research, with a particular focus on the development of the Digital Twin and its potential for structural monitoring and, more generally, for monitoring buildings of cultural interest. Responsible: Vincenzo Gattulli.

2. Lifelong Learning and Open Education: "La filiera formativa della Gestione del processo edilizio. Prospettive e opportunità nella transizione ecologica e digitale." Study day, Rome, Faculty of Architecture, May 16, 2024. Responsible: Spartaco Paris.

3. Presentation of the startup BEST Design srl (BIM Engineering Startup) as a case study for knowledge enhancement, submitted to the Interdisciplinary GEV for VQR 2020-2024:

    - Thematic Area and Fields of Action: Technology Transfer and Academic Entrepreneurship
    - Department: Department of Structural and Geotechnical Engineering
    - Scientific Area of the Case Study: Area 8a Architecture | Area 8b Civil Engineering
    - Academic Staff: Spartaco Paris, Vincenzo Gattulli, Elisa Pennacchia, Cecilia Rinaldi
    - Keywords: Process Development, Built Environment Management, Asset Management, Cultural Heritage, Digital Twin, Building Information

Part XVIII – Professional qualifications and experiences

1. Qualification for the profession of Civil and Environmental Engineer obtained on 12/10/2020 at Sapienza University of Rome.

2. Occasional collaboration, BEST Design s.r.l., 2021:
   Experimental dynamic testing, operational modal analysis and model updating of the cable-stayed pedestrian bridge on the Sangone river in Beinasco (Torino). Project Owner: CMC Studio Associato, Torino.

3. Occasional collaboration, BEST Design s.r.l., 2022:
   Experimental dynamic testing and operational modal analysis of Cardinal Massaia hospital buildings in Asti. Project Owner: Azienda Sanitaria Locale di Asti.

4. Occasional collaboration, BEST Design s.r.l., Rome, 2023:
   Technical activities related to the drafting of the Final and Executive Design concerning the extraordinary maintenance works of the Tiburtino Sud neighborhood market in Viale Sacco e Vanzetti in Rome. Project Owner: Roma Capitale - Municipio Roma IV.

Part XIX – Selection Committees

Member of the following Evaluation Committees established at the Department of Structural and Geotechnical Engineering, Sapienza University of Rome:

1. Procedure AR-B 4/2023 for the assignment of 1 research activity of category B, Type II (Scientific Coordinator: Prof. Vincenzo Gattulli) for 12 months in the scientific-disciplinary sector ICAR/08, related to the following research project: Data-driven damage detection techniques.
2. Procedure AR-B 5/2023 for the assignment of 1 research activity of category B, Type I (Scientific Coordinator: Prof. Vincenzo Gattulli) for 12 months in the scientific-disciplinary sector ICAR/08, related to the following research project: Data-driven structural health monitoring.
3. Procedure AR-B 15/2023 for the assignment of 1 research activity of category B, Type II (Scientific Coordinator: Prof. Vincenzo Gattulli) for 12 months in the scientific-disciplinary sector ICAR/08, related to the following research project: Modeling and monitoring of degraded and/or damaged structures.
4. Procedure AR-B 17/2024 for the assignment of 1 research activity of category B, Type I (Scientific Coordinator: Prof. Spartaco Paris) for 12 months in the scientific-disciplinary sector CEAR-08/C, related to the following research project: *Development, processing, and experimentation of digital models of systems and technological components related to modern architectural heritage*.
5. Procedure BS-J 6/2023 related to the research activity titled The Exedra of Marcus Aurelius and its digital twin (Scientific Coordinator: Prof. Vincenzo Gattulli), for the assignment of 1 Junior scholarship for 3 months.
6. Procedure BS-J 10/2023 related to the research activity titled FEM modeling of the equestrian monument of Marcus Aurelius (Scientific Coordinator: Prof. Vincenzo Gattulli), for the assignment of 1 Junior scholarship for 3 months.
7. Procedure BS-J 11/2023 related to the research activity titled Equestrian monument of Marcus Aurelius: comparison of digitization techniques (Scientific Coordinator: Prof. Vincenzo Gattulli), for the assignment of 1 Junior scholarship for 3 months.
8. Procedure BS-J 3/2024 related to the research activity titled *The Digital Twin in the management and enhancement of cultural heritage* (Scientific Coordinator: Prof. Vincenzo Gattulli), for the assignment of 1 Junior scholarship for 3 months.

Member of the following Degree Committees at Sapienza University of Rome:

1. Master's in Civil Engineering, Faculty of Civil and Industrial Engineering
    - January 22, 2024

2. Master's in Project Management and Construction of Building Systems, Faculty of Architecture and Civil and Industrial Engineering
    - May 24, 2023
    - July 17, 2023
    - March 14, 2024
    - May 21, 2024
    - July 17, 2024
    - December 12, 2024

3. Bachelor's in *Project Management*, Faculty of Architecture
    - October 23, 2024.

Part XX – Ongoing Projects

Textbook in Progress

1. Title: "Analisi Strutturale con il Metodo degli Elementi Finiti"
   Authors: Vincenzo Gattulli, Luana Pinnetti, Cecilia Rinaldi.

Description: Writing a textbook focused on structural analysis with the finite element method, tailored for students in both engineering and architecture.

2. Title: “Marco Aurelio nell’Era Digitale”
   Description: Multidisciplinary publication focused on the application of digital technologies in the conservation and structural monitoring of cultural heritage.
   Contributions:
   - “Il modello digitale e meccanico della statua equestre”, Authors: Luana Pinnetti, Cecilia Rinaldi, Vincenzo Gattulli
   - “Il monitoraggio continuo delle strutture dell’Esedra”, Authors: Marianna Crognale, Cecilia Rinaldi, Vincenzo Gattulli
   - “L’Esedra e le tecnologie digitali nella conservazione del patrimonio culturale: un approccio resiliente ai cambiamenti climatici”, Authors: Cecilia Rinaldi, Marianna Crognale, Francesco Potenza

MOOC Massive Open Online Course
Title: Il monitoraggio delle infrastrutture: un approccio alla sicurezza e alla resilienza
Description: Presentation of state-of-the-art techniques for predictive maintenance of infrastructures. Topics include Acoustic Emission-based monitoring, comparison of monitoring systems and laboratory testing for system validation prior to field application.
Contribution: Video lecture “Prove in laboratorio per testare i sistemi di monitoraggio strutturale”, Francesco Romeo and Cecilia Rinaldi.

Si autorizza il trattamento dei dati ai sensi del D. Lgs. 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali”.

Rome, August 20, 2025

Cecilia Rinaldi