

PERSONAL INFORMATION **Marco Pingaro**ACADEMIC EMPLOYMENT
HISTORY

-
- December 1 2019 – January 27 2021 (15 months) **Research Fellow, PostDoc position**
Institution Sapienza University of Rome, Rome, Italy
Department Department of Structural And Geotechnical Engineering
Project *"Advanced mechanical models for the analysis of composite media: phenomenological, theoretical, computational aspects"*
Supervisor Prof.ssa Patrizia Trovalusci
- December 1 2018 – November 30 2019 (12 months) **Research Fellow, PostDoc position**
Institution Sapienza University of Rome, Rome, Italy
Department Department of Structural And Geotechnical Engineering
Project *"Advanced mechanical models for the analysis of composite media: phenomenological, theoretical, computational aspects"*
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- December 1 2017 – November 30 2018 (12 months) **Research Fellow, PostDoc position**
Institution Sapienza University of Rome, Rome, Italy
Department Department of Structural And Geotechnical Engineering
Project *"Advanced mechanical models for the analysis of composite media: phenomenological, theoretical, computational aspects"*
Supervisor Prof.ssa Patrizia Trovalusci
- December 1 2016 – November 30 2017 (12 months) **Holder of Scholarship**
Institution Sapienza University of Rome, Rome, Italy
Department Department of Structural And Geotechnical Engineering
Scholarship Title *"Advanced mechanical models for the analysis of composites"*
Supervisor Prof.ssa Patrizia Trovalusci
- April 14 2016 – July 13 2016 (4 months) **Holder of Scholarship/Contratto di collaborazione (Co. Co. Co.)**
Institution University of Pavia, Pavia, Italy
Department Department of Civil Engineering and Architecture
Scholarship Title *"Application of the Virtual Elements Method in Topology Optimization"*
Supervisor Prof. Carlo Cinquini
- November 2012 - May 2016 (36 months) **PhD student: Computational Mechanics and Advanced Materials**
Institution Istituto Universitario di Studi Superiori IUSS (Pavia)
Project *"Isogeometric methods for structural applications"*
Supervisor Prof. Alessandro Reali, Prof. Josef Kiendl, Dr. Pablo Antolin.

- November 1 2015 – February 28 2016 (4 months) **Holder of Scholarship**
Institution University of Pavia, Pavia, Italy
Department Department of Civil Engineering and Architecture
Scholarship Title "*Isogeometric solid shell elements*"
Supervisor Prof. Alessandro Reali
- March 1 2012 – June 30 2012 (4 months) **Holder of Scholarship/Contratto di collaborazione (Co. Co. Co.)**
Institution Sapienza University of Rome, Rome, Italy
Department Department of Structural And Geotechnical Engineering
Scholarship Title "*Studio della implementazione di elementi finiti per solidi a viscoelasticità frazionaria*"
Supervisor Prof. Stefano Vidoli

EDUCATION AND TRAINING

27 May 2016 **PhD - Thesis Title: "Isogeometric methods for structural applications", Doctor of Philosophy (PhD) in Computational Mechanics and Advanced Materials**

Institution Istituto Universitario di Studi Superiori IUSS (Pavia), Italy
Supervisor Prof. Alessandro Reali, Prof. Josef Kiendl, Dr. Pablo Antolin

15 December 2011 **Master Degree in Civil Engineering**

Institution University of Pavia, Pavia, Italy
Title Thesis Formulazione innovativa agli elementi finiti misti per strutture visco-elastiche
Advisor Prof. Paolo Venini
Grade 110/110 cum Laude

17 July 2009 **Bachelor Degree in Civil Engineering**

Institution University of Pavia, Pavia, Italy
Title Thesis Implementation of a Mixed Finite element PEERS for plane elasticity with Lagrangian multipliers technique
Advisor Prof. Paolo Venini
Grade 110/110

September 2000 – July 2005 **Diploma di Maturità Tecnico Professionale (High School Degree)**

Institution Institute "A. Volta", Pavia, Italy,
Grade 100/100

SCHOLARSHIPS AND AWARDS

- *November 2012*: Winner of the PhD scholarship "**Isogeometric method for structural and biomedical applications**", grant by the Department of Civil Engineering and Architecture funding through the 2010 ERC Starting Grant FP7 "Ideas" Programme, European Research Council.
- **Culture della Materia** presso la *Facoltà di Architettura*, Sapienza University of Rome: Scienza delle Costruzioni (CdL: Scienze dell'Architettura), Strutture Murarie di Interesse Storico e Monumentale/Structural Performance of Historical Masonry (CdL: Architettura(Restauro)), Atelier of Structural Masonry (CdL: Architettura(Restauro)), Laboratorio di Approfondimento - Scienza e Tecnica delle Costruzioni(CdL: Architettura(Restauro)).

REVIEWER

Meccanica (Springer), Latin American Journal of Solids and Structures, Journal of Optimization Theory and Applications (Springer), Frontiers in Materials

MEMBERSHIP IN SCIENTIFIC ASSOCIATIONS

AIMETA, Euromech, SISCO

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B2	B2	B1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

RESEARCH AND PUBLICATIONS

Main research topics

- a. **Analysis with mixed finite elements (Truly Mixed)**. Implementation of finite element codes using the *Hellinger-Reissner* formulation for the solution challenging of structural problems (**PEERS element** and **Arnold-Winther element**, etc.):in plane elasticity, visco-elasticity, and plasticity.
- b. **Second gradient problems and application**. Characterized materials with internal length scale: porous materials, composites or fractured media.
- c. **Isogeometric analysis**. Numerical analysis technique that exploits the definition of exact geometry of the domain and high regularity. Thanks to these characteristics is used for the solution of fourth order problems such as plates and shells.
- d. **Project GeoPDEs**. Implementation of parts of the code in the program for the isogeometric analysis **GeoPDEs**. In particular, the part relating to the problems of fourth order (see <http://rafavzqz.github.io/geopdes/contributors/>).
- e. **Topology Optimization**. Study and Implementation of codes for topology optimization using mixed finite elements.
- f. **VEM elements**. Study and implementation of codes using Virtual Element Method applied to topology optimization and homogenization of random composite materials. In this project we implement a program in Python (*PyVEM*) for 2-D linear elasticity (isotropic and orthotropic) and enriched continua such as Cosserat continuum.
- g. **Random composite materials**. Study random materials made of matrix and inclusions (particles); examples of such materials are polymer, ceramic, metal matrix composites, but also granular materials, concrete, masonry made of crushed stones casually arranged in the mortar and even porous rocks.

APPROVED RESEARCH PROJECTS

October 15 2019 - October 30 2021
 Position

Fondi Ateneo Sapienza - Avvio alla Ricerca 2019
 Principal Investigator

Project Title "Modelli numerici avanzati per lo studio di Materiali Compositi Microstrutturati (MoNA -MCM)"
Obtained Founding 2.000,00 €

February 12 2019 - today **Fondi Ateneo Sapienza 2018 - Grandi Progetti**

Position Unit Member
Project Title "Advanced computational models for microstructured composite materials: from traditional to modern structural applications (ACM-MCM)"
Obtained Founding 28.000,00 €
Coordinated by Professor Patrizia Trovalusci

November 20 2017 - today **Fondi Ateneo Sapienza 2017 - Progetti Medi**

Position Unit Member
Project Title "New Trends for the Mechanical Modelling of Historical Masonry. An Interdisciplinary Approach"
Obtained Founding 9.000,00 €
Coordinated by Professor Patrizia Trovalusci

September 15 2019 - today **P.R.I.N. 2017**

Position Unit Member
Project Title "Modelling of constitutive laws for traditional and innovative building materials"
Obtained Founding 125.295,00 €
Coordinated by Professor A. Carpinteri (University of Parma)
Coordinator of the Research Unit of Roma-Sapienza Professor Patrizia Trovalusci

November 15 2016 - November 15 2019 **Fondi Ateneo Sapienza 2016 - Progetti Grandi**

Position Unit Member
Project Title "New trends for multiscale/multifield analysis of 'complex' materials and structures. Advanced mechanical modeling and simulation"
Obtained Founding 34.000,00 €
Coordinated by Professor Patrizia Trovalusci

February 5 2017 - February 5 2020 **P.R.I.N. 2015**

Position Unit Member
Project Title "Advanced mechanical modeling of new materials and structures for the solution of 2020 Horizon challenges"
Obtained Founding 34.187,00 €
Coordinated by Professor Mario Di Paola (University of Palermo)
Coordinator of the Research Unit of Roma-Sapienza Professor Patrizia Trovalusci

LOCAL STAFF AT CONGRESS/ORGANIZATION OF CONFERENCE SESSIONS

Member of the local organizing committee of the conference ICCM 2018 (Roma)
Organizer of the Minisimposium *MS-060 Polygonal, Polyhedral and Virtual Element for advanced applications* within the conference ICCM 2018 (Roma)
Organizer of the Minisimposium *Multiscale analysis and design of random heterogeneous media* within the conference UNCECOM 2021 (Atene)

Scientific/scholarly publications 12 Journal articles
1 Journal Articles (submitted)
5 Conference Proceedings (indexed)
1 Conference Proceedings (not indexed)
11 Communications to International Conferences
10 Communications to National Conferences

- Journal articles
- 1 M. Pepe, **M. Pingaro**, P. Trovalusci. Limit analysis approach for the in-plane collapse of masonry arches, *Proceedings of the Institution of Civil Engineers - Engineering and Computational Mechanics*, pp. 1-16, 2021. DOI: 10.1680/jenm.20.00013.
 - 2 **M. Pingaro**, M. L. De Bellis, P. Trovalusci, R. Masiani. Statistical homogenization of polycrystal composite materials with thin interfaces using virtual element method. *Composite Structures*, **264** 113741, 2021. DOI: 10.1016/j.compstruct.2021.113741
 - 3 **M. Pingaro**, G. Maurelli, P. Venini. Analysis and Damage Identification of a Moderately Thick Cracked Beam Using an Interdependent Locking-Free Element. *Journal of Optimization Theory and Applications*, **187**(3), pp. 800-821, 2020. DOI: 10.1007/s10957-020-01637-6
 - 4 E. Lofrano, **M. Pingaro**, P. Trovalusci, A. Paolone. Optimal Sensors Placement in Dynamic Damage Detection of Beams Using a Statistical Approach, *Journal of Optimization Theory and Applications*, **187**(3), pp. 758-821, 2020. DOI: 10.1007/s10957-020-01761-3
 - 5 P. Antolin, J. Kiendl, **M. Pingaro**, A. Reali. A simple and effective method based on strain projections to alleviate locking in isogeometric solid shells. *Computational Mechanics*, **65**(6), pp. 1621-1631, 2020. DOI: 10.1007/s00466-020-01837-x
 - 6 M. Pepe, M. Sangirardi, E. Reccia, **M. Pingaro**, P. Trovalusci, G. de Felice. Discrete and continuous approaches for the failure analysis of masonry structures subjected to settlements. *Frontiers in Built Environment*, **6**(43), 2020. DOI: 10.3389/fbuilt.2020.00043
 - 7 M. Pepe, **M. Pingaro**, P. Trovalusci, E. Reccia, L. Leonetti. Micromodels for the in-plane failure analysis of masonry walls: Limit Analysis, FEM and FEM/DEM approaches. *Frattura ed Integrità Strutturale*, **14**(51), pp. 504-516, 2020. DOI: 10.3221/IGF-ESIS.51.38
 - 8 **M. Pingaro**, E. Reccia, P. Trovalusci. Homogenization of Random Porous Materials With Low-Order Virtual Elements. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*, **5**(3), 2019. DOI: 10.1115/1.4043475
 - 9 **M. Pingaro**, E. Reccia, P. Trovalusci, R. Masiani. Fast Statistical Homogenization Procedure (FSHP) for particle random composite using Virtual Element Method. *Computational Mechanics*, **64**(1) pp. 197-210, 2019. DOI: 10.1007/s00466-018-1665-7
 - 10 P. Venini, **M. Pingaro**. An innovative H_∞ -norm based worst case scenario approach for dynamic compliance optimization with applications to viscoelastic beams. *Structural and Multidisciplinary Optimization*, **55**(5) pp. 1685-1710, 2017. DOI: 10.1007/s00158-016-1605-0
 - 11 P. Venini, **M. Pingaro**. A new approach to optimization of viscoelastic beams: minimization of the input/output transfer function H_∞ -norm. *Structural and Multidisciplinary Optimization*, **55**(5) pp. 1559-1573, 2017. DOI: 10.1007/s00158-016-1600-5
 - 12 **M. Pingaro**, P. Venini. A fast approach to analysis and optimization of viscoelastic beams. *Computers and Structures*, **168** pp. 46-55, 2016. DOI: 10.1016/j.compstruc.2016.02.010
- Journal articles (submitted)
- 1 A.J. Rios, **M. Pingaro**, E. Reccia, P. Trovalusci, Statistical Assessment of in-plane masonry panels using Non-Standard Limit Analysis. Submitted to *ASCE Journal of Engineering Mechanics*.
- Conference Proceedings (indexed)
- 1 E. Lofrano, A. Paolone, **M. Pingaro** and P. Trovalusci. Optimal Sensors Placement for Damage Detection of Beam Structures. *Lecture Notes in Mechanical Engineering. In: Carcaterra A., Paolone A., Graziani G. (eds) Proceedings of XXIV AIMETA Conference 2019. AIMETA 2019*. Springer, Cham, pp. 1498-1511, 2020. DOI: 10.1007/978-3-030-41057-5_121
 - 2 M. Pepe, **M. Pingaro**, E. Reccia and P. Trovalusci. Micromodels for the In-Plane Failure Analysis of Masonry Walls with Friction: Limit Analysis and DEM-FEM/DEM Approaches. *Lecture Notes in Mechanical Engineering. In: Carcaterra A., Paolone A., Graziani G. (eds) Proceedings of XXIV AIMETA Conference 2019. AIMETA 2019*. Springer, Cham, pp. 1883-1895, 2020. DOI: 10.1007/978-3-030-41057-5_151
 - 3 **M. Pingaro**, M. L. De Bellis, P. Trovalusci. A Virtual Element Approach for Micropolar Continua. *COMPLAS XV International Conference on Computational Plasticity. Fundamentals and Applications*, 2019. Available on website
 - 4 **M. Pingaro**, E. Reccia, P. Trovalusci, M. L. De Bellis. Statistical Homogenization of Random Porous Media. *Proceedings of the 3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering*, UNCECOMP 2019, pp. 590-599, 2019. DOI: 10.7712/120219.6362.18857
 - 5 P. Venini, **M. Pingaro**, C. Cinquini. Designing manufacturable viscoelastic devices using a topology optimization approach within a truly-mixed fem framework. *ECCOMAS Congress 2016 - Proceedings of the 7th European Congress on Computational Methods in Applied Sciences and Engineering*, **2**, pp. 3724-3738, 2016. DOI: 10.7712/100016.2068.8473

Conference Proceedings
(not indexed)

- 1 E. Lofrano, A. Paolone, **M. Pingaro** and P. Trovalusci. Statistically based method for the selection of sensors networks in dynamic damage detection of beams. *14th International Workshop on Advanced Smart Materials and Smart Structures Technology*, Roma, 2019.

Communications to International
Conferences

- 1 A. Pau, P. Trovalusci, **M. Pingaro**. A multifield continuum model for the description of wave propagation in microcracked composite-material plate waveguides *Nodycon 2021 (Second International Nonlinear Dynamics Conference)*, Rome, Italy, 16-19 February , 2021 (submitted).
- 2 P. Venini, **M. Pingaro**. Using reduced order models in dynamic topology optimization *Nodycon 2021 (Second International Nonlinear Dynamics Conference)*, Rome, Italy, 16-19 February , 2021 (submitted).
- 3 **M. Pingaro** (Presenting Author), M. L. De Bellis, E. Reccia, P. Trovalusci, T. Sadowski. Application of fast statistical homogenization procedure for estimation of effective properties of ceramic matrix composites having random microstructure. *ICCS23 - 23rd International Conference on Composite Structures & MECHCOMP6 - 6th International Conference on Mechanics of Composites*, Porto, Portugal, 1-4 September 2020. (Postponed case COVID-19)
- 4 E. Lofrano (Presenting Author), A. Paolone, **M. Pingaro**, P. Trovalusci. A statistically based method for the selection of sensors networks in dynamic damage detection of beams. *Asian-Pacific Network of Centres for Resarch in Smart Structures Technology ANCRiSST 2019*, Roma, Italy, 18-21 July 2019.
- 5 **M. Pingaro** (Presenting Author), M. L. De Bellis, P. Trovalusci. A Virtual Element Approach for Micropolar Continua. *International Conference on Computational Plasticity. Fundamentals and Applications - COMPLAS XV Barcelona*, Spain, 3-5 September 2019.
- 6 **M. Pingaro**, E. Reccia (Presenting Author), P. Trovalusci, M. L. De Bellis. Statistical Homogenization of Random Porous Media. *3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering - UNCECOMP 2019*, Crete, Greece, 24-26 June 2019.
- 7 **M. Pingaro** (Presenting Author), M. L. De Bellis, P. Trovalusci. Virtual Element Method in Plane Cosserat Elasticity. *International Conference on Nonlinear Solid Mechanics - ICoN-SoM 2019 Rome*, Italy, 16-19 June 2019.
- 8 **M. Pingaro** (Presenting Author), E. Reccia, P. Trovalusci. Fast Statistical Homogenization Procedure (FSHP) for Particle Random Composite. *9th International Conference on Computational Methods - ICCM 2018 Rome*, Italy, 06-10 August 2018.
- 9 P. Trovalusci, **M. Pingaro**, M.L. De Bellis (Presenting Author), E. Reccia. A Fast Statistical Homogenization Procedure (FSHP) for random composite. *XIII Congress - World Congress in Computational Mechanics - WCCM 2018 New York*, 22-27 Luglio 2018.
- 10 F. Auricchio, **M. Pingaro** (Presenting Author), A.Reali, G. Sciarra, P.Venini, S. Vidoli. Isogeometric analysis for anti-plane fracture problems. *Second ECCOMAS Young Investigators Conference*, Bordeaux, France, 2013.
- 11 Carlo Cinquini, Matteo Bruggi, **Marco Pingaro**, Paolo Venini. An optimal displacement-recovery approach for truly-mixed elastic and viscoelastic 2D continua. *Euromech 2011*.

Communications to National Conferences

- 1 **M. Pingaro**, M. L. De Bellis, E. Reccia (Presenting Author), P. Trovalusci. Homogenization of composites polycrystalline with thin interfaces using a FSHP. *AIMETA 2019: XXIV Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Roma, 15-19 Settembre 2019.
- 2 M. Pepe (Presenting Author), **M. Pingaro**, E. Reccia and P. Trovalusci. Micromodels for the in-plane failure analysis of masonry walls with friction: Limit Analysis and DEM-FEM/DEM approaches. *AIMETA 2019: XXIV Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Roma, 15-19 Settembre 2019.
- 3 **M. Pingaro** (Presenting Author), M. L. De Bellis, P. Trovalusci. A Virtual Element approach for in plane Cosserat elasticity. *AIMETA 2019: XXIV Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Roma, 15-19 Settembre 2019.
- 4 **M. Pingaro** (Presenting Author), M. L. De Bellis, P. Trovalusci. An Efficient Virtual Element Method (VEM) Approach for Bimaterial Systems. *XXII Convegno Italiano di Meccanica Computazionale e IX Riunione del Gruppo Materiali AIMETA - GIMC GMA 2018 Ferrara*, 13-14 Settembre 2018.
- 5 **M. Pingaro** (Presenting Author), E. Reccia, P. Trovalusci, R. Masiani. Homogenization of particle random composite: a Fast Statistical Procedure (FSHP) using Virtual Element Method. *Workshop on Recent Advances in Mechanics, Dynamics and Probability theory WMDP 2018 Palermo*, 05-06 Marzo 2018.
- 6 **M. Pingaro** (Presenting Author), P. Trovalusci, E. Reccia. Integrated Procedure for Homogenization of Particle Random Composites Using Virtual Element Method. *AIMETA 2017: XXIII Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Salerno, 04-07 Settembre 2017.
- 7 P. Venini, **M. Pingaro** (Presenting Author). A new paradigm for dynamics topology optimization: shaping the transfer function H_{inf} norm. *AIMETA 2015: XXII Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Genova, 14-17 Settembre 2015.
- 8 P. Venini, **M. Pingaro** (Presenting Author), C. Cinquini. An energy-based approach to topology optimization using the Hu-Washizu variational principle. *AIMETA 2015: XXII Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Genova, 14-17 Settembre 2015.
- 9 Paolo Calvi, **Marco Pingaro**, Paolo Venini. Truly-mixed finite elements for the analysis of viscoelastic devices. *AIMETA 2011: XX Congresso - Associazione Italiana di Meccanica Teorica e Applicata*, Bologna, 12-15 Settembre 2011.
- 10 M. Bruggi, **M. Pingaro**, P. Venini. A mixed approach to viscoelasticity using the Arnold-Winther finite element. *XVIII Convegno Italiano di Meccanica Computazionale - GIMC 2010*, Siracusa, 21-24 settembre 2010.

Post-lauream courses

- *Costruzioni esistenti in muratura "Marcello Ciampoli"* (13-29 May 2020, 10 days)
Speakers: Franco Bontempi (Sapienza University of Rome), Patrizia Trovalusci (Sapienza University of Rome), Luigi Sorrentino (Sapienza University of Rome), Daniela Addressi (Sapienza University of Rome), Francesco Petrini (Sapienza University of Rome). **Department of Structural And Geotechnical Engineering. Sapienza University of Rome (Italy).**
- *Iso-Geometric Methods for Numerical Simulation* (20-24 May 2013, 5 days)
Speakers: Yuri Bazilevs (University of California, San Diego, La Jolla, CA, USA), Gernot Beer (Technical Univ. of Graz, Graz, Austria), Stéphane P.A. Bordas (Cardiff University, Cardiff, Great Britain), Bert Juettler (Johannes Kepler University, Linz, Austria), Alessandro Reali (University of Pavia, Pavia, Italy), Michael A. Scott (Brigham Young University, Provo UT, USA). **International Centre for Mechanical Sciences. Udine (Italy).**
- *Corso Isogeometric Analysis* (8-12 April 2013, 5 days)
Speakers: Alessandro Reali (University of Pavia, Pavia, Italy), Rafael Vázquez (IMATI 'Enrico Magenes', Pavia, Italy). **Department of Civil Engineering and Architecture, Pavia (Italy).**
- *Elements of Spline Theory* (19-21 February 2013, 3 days)
Speakers: Tom Lyche (Professor of Computer Science, University of Oslo, Norvegia). **IMATI CNR "Enrico Magenes", Pavia (Italy).**
- *MUMOLADE: Multiscale Modelling Of Landslides and Debris Flows* (19-23 January 2015, 5 days)
Speakers: D. Gawin (Lodz University of Technology, Poland), L. Savania (University of Padova, Italy), B. Schrefler (University of Padova, Italy), R. Genevois (University of Padova, Italy), M. Ferronato (University of Padova, Italy), M. Putti (University of Padova, Italy), A. Reali (University of Pavia, Italy). **University of Padova, Padova (Italy).**
- *Python Programming for Machine Learning* (18-20 February 2015, 3 days)
Speakers: Blaž Zupan, Marinka Žitnik (University of Ljubljana). **Dottorato di Ricerca in bioingegneria e bioinformatica, University of Pavia, Pavia (Italy).**

Teaching Experience

- *October 2020 - today: Teaching assistant in Structural Performance of Historical Masonry, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2020 - today: Teaching assistant in Strutture Murarie di Interesse Storico Monumentale, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2020 - today: Teaching assistant in Scienza delle Costruzioni, 3rd year course, Bachelor Degree in Architecture/Scienze dell'Architettura, Sapienza University of Rome.*
- *September 2019 - November 2020: Teacher in Comportamento Meccanico dei Materiali, 3rd year course, Bachelor Degree in Design, Sapienza University of Rome.*
- *September 2019 - September 2020: Teaching assistant in Scienza delle Costruzioni, 3rd year course, Bachelor Degree in Architecture/Scienze dell'Architettura, Sapienza University of Rome.*
- *October 2019 - July 2020: Teaching assistant in Atelier of Structural Masonry, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2019 - July 2020: Teaching assistant in Laboratorio di Approfondimento – Scienza e Tecnica delle Costruzioni, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2019 - July 2020: Teaching assistant in Structural Performance of Historical Masonry, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2019 - July 2020: Teaching assistant in Strutture Murarie di Interesse Storico Monumentale, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2018 - July 2019: Teaching assistant in Meccanica delle Strutture Murarie di Interesse Storico e Monumentale, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2018 - July 2019: Teaching assistant in Structural Performance of Historical Masonry, 2nd year course, Master Degree in Architecture/Architettura (Restauro), Sapienza University of Rome.*
- *October 2018 - July 2019: Teaching assistant (Tutor) in Scienza delle Costruzioni, 3rd year course, Bachelor Degree in Architecture/Scienze dell'Architettura, Sapienza University of Rome.*
- *October 2017 - July 2018: Teaching assistant (Tutor) in Scienza delle Costruzioni, 3rd year course, Bachelor Degree in Architecture/Scienze dell'Architettura, Sapienza University of Rome.*
- *October 2016 - July 2017: Teaching assistant (Tutor) in Fisica, 1st year course, Bachelor Degree in Civil Engineering, University of Pavia.*
- *October 2016 - July 2017: Teaching assistant (Tutor) in Scienza delle Costruzioni, 2nd year course, Bachelor Degree in Civil Engineering, University of Pavia.*
- *October 2012 - July 2013: Teaching assistant (Tutor) in Scienza delle Costruzioni, 3rd year course, Master Degree in Construction Engineering and Architecture, University of Pavia.*
- *October 2011 - July 2012: Teaching assistant (Tutor) in Scienza delle Costruzioni, 3rd year course, Master Degree in Construction Engineering and Architecture, University of Pavia. Teaching assistant (Tutor) in Scienza delle Costruzioni C, 3rd year course, Bachelor Degree in Civil Engineering, University of Pavia.*

- *March 2011 - July 2011: Teacher in Structural Engineering*, 4th year course, Master Degree in Construction Engineering and Architecture (Chinese curriculum), University of Pavia.
- *March - July 2011: Teaching assistant (Tutor) in Meccanica C*, 3rd year course, Bachelor Degree in Mechanics Engineering, University of Pavia.
- *October 2010- July 2011: Teaching assistant (Tutor) in Scienza delle Costruzioni*, 3rd year course, Master Degree in Construction Engineering and Architecture, University of Pavia.
- *March - July 2010: Teaching assistant (Tutor) in Meccanica C*, 3rd year course, Bachelor Degree in Mechanics Engineering, University of Pavia.
- *October 2009 - February 2010: Teaching assistant (Tutor) in Teoria delle Strutture*, 3rd year course, Bachelor Degree in Civil Engineering, University of Pavia.

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Proficient user	Independent user	Proficient user

[Digital competences - Self-assessment grid](#)

PROFESSIONAL EMPLOYMENT EXPERIENCE

Consulting and collaborations

- *November 2012 - December 2013*: Analysis (static and dynamics) and structural assessment for systems of transformers on behalf of "Tamini Trasformatori s.r.l." (Legnano, MI)
Work with Ing. Giacomo Maurelli and Prof. Ing. Paolo Venini
- *December 2016 - December 2018*: Code Development and Programming in Python: Consultant for "Studio Calvi s.r.l." (Pavia, PV)
- *February 2013*: **italian engineering professional license** in Civil engineering with valuation 250/260
 - written test (subjects typical of the area) : 60/60;
 - written test (subjects typical graduating class) : 60/60;
 - oral examination : 50/60;
 - practice test (project) : 60/60.
- *Dicember 2015 - January 2021*: Coordinatore per la Sicurezza nei Cantieri in fase di Progettazione ed Esecuzione, Pavia.

Computer skills

- *Operative systems*: Linux (ArchLinux), MacOS, Windows.
- *Programming languages*: MATLAB/Octave, C/C++, Python.
- *Programs*: L^AT_EX, MS Office, AutoDesk Autocad, Finite Element Programs (SAP2000, STRAUS7, PROSAP, etc.), Fenics.

Driving licence B

Firma

Date: April 15, 2021