

Europass Curriculum Vitae



Personal information

Name / Surname

Pinnola, Francesco Paolo

Personal Email

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Nationality

Italian

Date of birth

19/11/1983

Gender

male

Declaration (Italian)

Dichiarazione sostitutiva di
certificazione
(art. 46 e 47 D.P.R. 445/2000)

Il sottoscritto Francesco Paolo Pinnola, consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 76 del D.P.R. 445/2000, dichiara che le informazioni riportate nel seguente curriculum vitae, corrispondono a verità.

Work experience

Dates

20 September 2022 - today

Occupation or position held

Assistant professor (RTDb)

Main activities and
responsibilities

Research activities concerning non-local mechanics, stochastic dynamics and viscoelastic behavior of real materials. Educational activities in the course Mechanics of Solids-Structural Mechanics for Mechanical Engineering courses. Academic and scientific collaboration with Prof. F. Marotti de Sciarra, Prof. R. Barretta.

Name and address of employer

University of Naples "Federico II", Department of Structures for Engineering and Architecture,

Via Claudio 21, edificio 6

80125 Naples, Italy

Type of business or sector

Academic

Dates

28 December 2018 - 19 September 2022

Occupation or position held

Research fellow (RTDa)

Main activities and
responsibilities

Research activities concerning non-local mechanics, stochastic dynamics and viscoelastic behavior of real materials. Educational activities in the course Mechanics of Solids-Structural Mechanics for Engineering courses. Academic and scientific collaboration with Prof. F. Marotti de Sciarra and Prof. R. Barretta.

Name and address of employer

University of Naples "Federico II", Department of Structures for Engineering and Architecture,

Via Claudio 21, edificio 6

80125 Naples, Italy

Type of business or sector

Academic

Dates

3 February 2017 - 27 December 2018

Occupation or position held Main activities and responsibilities	Research fellow (RTDa) Research activities concerning computational mechanics, stochastic analysis and viscoelastic behavior of real materials. Educational activities in the course Structural Analysis and Design for master degree students. Academic and scientific collaboration with Prof. G. Zavarise, Dr. Rossana Dimitri.
Name and address of employer	University of Salento, Department of Engineering for Innovation, Via per Monteroni, edificio <i>La Stecca</i> 73100 Lecce, Italy
Type of business or sector	Academic
Dates	October 2016 - 2 February 2017
Occupation or position held Main activities and responsibilities	Post-Doc position Academic collaboration with the structural engineering team of the Laboratory of earthquake engineering and dynamic analysis (LEDA) at University of Enna. My theoretical background concerning the modeling of mechanical behavior of real materials has been used to interpret the experimental results of real-scale structures in order to evaluate the structural safety. Educational activities in the course Structural Analysis and Design for architectural students.
Name and address of employer	Kore University of Enna Viale delle Olimpiadi, 1, 94100 90020 Enna, Italy
Type of business or sector	Academic
Dates	August 2015 - September 2016
Occupation or position held Main activities and responsibilities	Professional engineering Professional activities: project and consultancy for the consolidation of a building in Mezzojuso (PA) and a residential villa in Godrano (PA).
Name and address of employer	Freelance
Type of business or sector	Construction business
Dates	March 2015 - August 2015
Occupation or position held Main activities and responsibilities	Scientific consultant Scientific and professional activities in collaboration with the Department of Civil, Environmental, Aerospace and Materials Engineering of University of Palermo for the characterization of mechanical behavior of pultruded materials (European project - Avviso M3/2014)
Name and address of employer	Zetazoo s.r.l. c.da Chiani snc 90020 Vicari (Pa)
Type of business or sector	Construction business
Dates	January 2009 - December 2012
Occupation or position held Main activities and responsibilities	Professional engineering Professional activities: design of reinforced concrete structures for residential buildings and industrial warehouses in Palermo.
Name and address of employer	Freelance
Type of business or sector	Construction business
Education and training	
Dates	January 2012 - December 2014
Title of qualification awarded	Ph.D. in Civil and Environmental Engineering - Structural Engineering
Name and type of organization providing education and training	Department of Civil, Environmental, Aerospace and Materials Engineering, University of Palermo Viale delle Scienze, Ed. 8 90100 - Palermo, Italy

Main activities and responsibilities	Study and research activities carried out at the Department of Civil, Environmental, Aerospace and Materials Engineering of the University of Palermo. The main subjects of the research were the mechanical behavior of viscoelastic materials and the stochastic dynamic analysis. In particular, advanced computational tools have been used to model time-dependent phenomena and random processes. The scientific activities were carried out in collaboration with Prof. A. Pirrotta, Prof. M. Zingales, Prof. G. Failla and Prof A. Valenza.
Supervisors	Prof. Mario Di Paola and Prof. Pol D. Spanos
Thesis title	Stochastic dynamic analysis of structures with fractional viscoelastic constitutive laws
Dates	March 2013 - May 2014
Title of qualification awarded	Visiting Research Scholar
Name and type of organization providing education and training	Department of Civil Engineering, MS 318, Rice University Houston, TX 77005, USA
Supervisors	Prof. Pol D. Spanos
Dates	October 2008 - July 2011
Title of qualification awarded	Master's Degree in Civil Engineering/Construction Engineering Laurea Magistralis - magna cum laude
Name and type of organization providing education and training	University of Palermo Viale delle Scienze, Ed. 8 90100 - Palermo, Italy
Supervisors	Prof. Mario Di Paola
Thesis title	Materiali Viscoelastici nelle Applicazioni Civili: metodologie avanzate di calcolo (Viscoelastic Materials in Civil Applications)

- **Co-organizer** of a Mini-Symposium in the 2023 International Conference of Engineering Mechanics Institute (EMI), Junior MS-06 *Modeling and analysis of advanced materials and structures* with G. Alotta, Palermo (Italy).
- **Co-organizer** of a Mini-Symposium in AIMETA 2022 XXV Conference - The Italian Association of Theoretical and Applied Mechanics, MS-09 *Modeling and Analysis of Nanocomposites and Small-scale Structures* with M.S. Vaccaro, Palermo (Italy).
- **Co-organizer** of a Mini-Symposium in AIMETA 2019 XXIV Conference - The Italian Association of Theoretical and Applied Mechanics, MS-11 *Stochastic Mechanics and Probability in Engineering* with A. Pirrotta and A. Di Matteo, Rome (Italy).
- **Chairman** of one session in AIMETA 2019 XXIV Conference - The Italian Association of Theoretical and Applied Mechanics, MS-11 *Stochastic Mechanics and Probability in Engineering*, Rome (Italy).
- **Co-organizer** of a Mini-Symposium in ICCM 2018 9th International Conference on Computational Methods, MS-055 *Fractional Computational and Mathematical Models for Advanced Material Behavior* with M. Zingales and G. Failla, Rome (Italy).
- **Chairman** of one session in ICFDA'18 - *International Conference on Fractional Differentiation and its Applications*, Amman (Jordan).
- **Member** of the organizing committee of the CMIS 2018 - *Contact Mechanics International Symposium*, Sanctuary of Oropa, Biella (Italy).
- **Chairman** of one session in WMDP 2018 - *Workshop on recent advances in Mechanics, Dynamical systems, Probability theory*, Palermo (Italy).
- **Chairman** of one session of ICOSSAR 2017 XXII *International Conference on Structural Safety & Reliability*, TU Wien, Vienna (Austria).
- **Member** of the organizing committee of the ICCCM 2017, University of Salento, Lecce (Italy).
- **Member** of the organizing committee of the SM16, International Conference of Stochastic Mechanics, Capri (Italy).
- **Chairman** of the session of *Viscoelasticity and materials* of ICFDA '14, International Conference on Fractional Differentiation and its Applications, Catania (Italy).
- **Member** of the organizing committee of the SM12 *International Conference of Stochastic Mechanics*, Ustica (Italy).
- **Reviewer** for international journals:
 - * Meccanica
 - * Applied Mathematical Modelling
 - * Systems & Control Letters
 - * Communications in Nonlinear Sciences and Numerical Simulations
 - * Journal of Engineering Mechanics
 - * Nonlinear Dynamics
 - * Probabilistic Engineering Mechanics
 - * Computers and Mathematics with Applications
 - * International Journal of Non-Linear Mechanics
 - * Mathematical Problems in Engineering
 - * Shock and Vibration
 - * Journal of Statistical Mechanics

National and international research project

- **Member** of the Research Unit of Naples, Italian research project, PRIN 2017: *Multiscale Innovative Materials and Structures*, Scientific Coordinator: Prof. Fernando Fraternali.
- **Member** of the Research Unit of Naples, Italian research agreement, *DPS/DCSTLGP agreement* between the Department of Facilities and the RELUIS consortium regarding activities of the public safety department, Scientific Coordinator: Prof. Andrea Prota.
- **Member** of the Research Unit of Naples, Italian research project, PRIN 2015-2016: *Advanced mechanical modeling of new materials and structures for the solution of 2020 Horizon challenges*, Scientific Coordinator: Prof. Mario Di Paola.
- **FFABR 2017 fund**, admitted to the fund for the basic research activities for Associate Professor and Researchers, as per art. 1, paragraphs 295, Law no. 232 of 11 December 2016.
- **Member** of the Research Unit of Lecce, Italian research project, PRIN 2015-2016: *Advanced mechanical modeling of new materials and structures for the solution of 2020 Horizon challenges*, Scientific Coordinator: Prof. Mario Di Paola.
- **Collaboration** in the scientific activities of the international research project *Sustainable pavements - maximising recycling by minimising the impact on the people and planet*, with Prof. G. Airey, Prof. M. Di Paola, Prof. Di Mino, Dr. D. Lo Presti and Dr. N. Colinas.
- **Collaboration** for the proposal of an Italian research project, PRIN 2015-2016: *Advanced mechanical modeling of new materials and structures for the solution of 2020 Horizon challenges*, Scientific Coordinator: Prof. Mario Di Paola.
- **Member** of the Research Unit of Palermo, Italian research project, PRIN 2010-2011: *Dinamica, Stabilità e Controllo di strutture Flessibili (Dynamics, Stability and Control of Flexible Structures)*, Scientific Coordinator: Prof. Angelo Luongo.
- **Member** of the Research Unit of Palermo, Italian research project, ATE - EX60% (2012): *Il calcolo frazionario nello studio di travi continue a comportamento viscoelastico*, Scientific Coordinator: Prof. Antonina Pirrotta.

Editorial Activities

- **Invited Guest Editor** of the Special Issue No. SI017B on *Fractional operators in the analysis of mechanical systems under stochastic agencies*, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B. Mechanical Engineering, (with Prof. Mario Di Paola).
- **Guest Editor** of the Special Issue on *Time and Space Nonlocal Operators in Structural Mechanics, Symmetry*, (with Prof. Raffaele Barretta).
- **Member of the Editorial Board** of the *American Journal of Engineering and Applied Sciences*.
- **Member of the Editorial Board** of the *Journal of Aircraft and Spacecraft Technology*.
- **Language Editor** of the *Journal of Applied and Computational Mechanics*.

- September 4th → September 8th, 2022 - AIMETA 2022 XXV Conference - The Italian Association of Theoretical and Applied Mechanics, Palermo (Italy).
<https://pa22.aimeta.it>
 - * **Chairman** of one session (*Modeling and analysis of nanocomposites and small-scale structures*).
 - * **Author** of two conference papers.
- September 15th → September 19th, 2019 - AIMETA 2019 XXIV Conference - The Italian Association of Theoretical and Applied Mechanics, Roma (Italy).
<http://www.aimeta2019.it>
 - * **Chairman** of one session (*Stochastic Mechanics and Probability in Engineering*).
 - * **Author** of a conference paper.
- September 8th → September 12th, 2019 - PCM-CMM 2019 - 4th Polish Congress of Mechanics and 23rd International Conference on Computer Methods in Mechanics, Kraków (Poland).
<https://pcm-cmm2019.com>
 - * **Author** of two conference papers.
- April 12th → Aprile 13th, 2019 - Nonlocal and Fractional Operators, Roma (Italy).
<https://sites.google.com/view/lfo12-13aprile2019/home>
- September 10th → September 13th, 2018 - IEEE RTSI 2018 - 4th International Forum on Research and Technologies for Society and Industry, Palermo (Italy).
<http://rtsi2018.ieeesezioneitalia.it>
 - * **Author** of a conference paper.
- July 3th → July 5th, 2019 - ICCCM 19 - 4th International Conference on Computational Contact Mechanics, Hannover (Germany).
<https://www.icccm19.uni-hannover.de>
 - * **Author** of a conference paper.
- July 16th → July 19th, 2018 - ICFDA'18 - International Conference on Fractional Differentiation and its Applications, Amman (Jordan).
<http://conferences.ju.edu.jo/en/icfda2018/Home.aspx>
 - * **Chairman** of one session (*Anomalous Diffusion: Theory, Numerical Methods and Applications I*).
 - * **Author** of a conference paper.
- July 2nd → July 6th, 2018 - ESMC 2018 - European Solid Mechanics Conference, Bologna (Italy).
<http://www.esmc2018.org/drupal8/>
 - * **Author** of a conference paper.
- March 5th → March 6th, 2017 - WMDP 2018 - Workshop on recent advances in Mechanics, Dynamical systems, Probability theory, Palermo (Italy).
 - * **Author** of a conference paper.
- September 4th → September 7th, 2017 - AIMETA 2017 XXIII Conference - The Italian Association of Theoretical and Applied Mechanics, Salerno (Italy).
<http://www.aimeta2017.unisa.it>
 - * **Author** of a conference paper.

- August 6th → August 10th, 2017 - ICOSSAR 2017 - XXII International Conference on Structural Safety & Reliability, TU Wien, Vienna (Austria).
<http://icossar2017.conf.tuwien.ac.at/home/>
 - * **Chairman** of one session (*MS03C Stochastic engineering dynamics*).
 - * **Author** of a conference paper.

- September 13th → September 17th, 2015 - AIMETA 2015 XXII Conference - The Italian Association of Theoretical and Applied Mechanics, Genova (Italy).
<http://aimeta2015.dicca.unige.it>
 - * **Author** of a conference paper.

- May 25th → May 27th, 2015 - UNCECOMP 15 - 1st International Conference on Uncertainty Quantification in Computational Sciences and Engineering, Crete Island (Greece).
<http://2015.uncecomp.org>
 - * **Author** of a conference paper.

- June 23rd → June 25th, 2014 - ICFDA '14 International Conference on Fractional Differentiation and its Applications, Catania (Italy).
<http://www.icfda14.dieei.unict.it/index.html>
 - * **Chairman** of one session (*Viscoelasticity and materials*).
 - * **Author** of three conference papers.

- June 7th → June 10th, 2012 - SM12 International Conference of Stochastic Mechanics, Ustica (Italy).
<http://portale.unipa.it/convegni/sm12/home/index.html>
 - * **Author** of two conference papers.

- September 12nd → September 15th, 2011 - AIMETA 2011 XX Conference - The Italian Association of Theoretical and Applied Mechanics, Bologna (Italy).
<http://www.lamc.ing.unibo.it/aimeta2011>

Educational Activities

- **Professor** of *Scienza delle Costruzioni II* (Mechanics of Solids and Structures) at University of Naples “Federico II”, Academic Year 2022-23.
- **Professor** of *Simulazione del Comportamento Strutturale dei Materiali* at University of Naples “Federico II”, Academic Year 2022-23.
- **Professor** of *Continuum Mechanics* at University of Naples “Federico II”, Academic Year 2021-22.
- **Professor** of *Simulazione del Comportamento Strutturale dei Materiali* at University of Naples “Federico II”, Academic Year 2021-22.
- **Professor** of *Continuum Mechanics* at University of Naples “Federico II”, Academic Year 2020-21.
- **Professor** of *Scienza delle Costruzioni II* (Mechanics of Solids and Structures) at University of Naples “Federico II”, Academic Year 2020-21.
- **Professor** of *Scienza delle Costruzioni II* (Mechanics of Solids and Structures) at University of Naples “Federico II”, Academic Year 2019-20.
- **Professor** of *Complementi di Scienza delle Costruzioni* (Mechanics of Solids and Structures II) at University of Salento, Academic Year 2017-18.
- **Professor** of *Complementi di Scienza delle Costruzioni* (Mechanics of Solids and Structures II) at University of Salento, Academic Year 2016-17.
- **Professor** of *Tecnica delle Costruzioni* (Structural Analysis and Design) at University of Enna Kore from October 2016 to January 2017.
- **Cultore** della materia *Scienza delle Costruzioni* (Expert in Mechanics of Solids-Structural Mechanics) from 2015.
- **Cultore** della materia *Tecnica delle Costruzioni* (Expert in Structural Analysis and Design) from 2016.
- **Teaching assistant** and **tutor** of the course of *Scienza delle Costruzioni* (Mechanics of Solids-Structural Mechanics) of Prof. Mario Di Paola, academic year 2015-2016, University of Palermo, Palermo, Italy.
- **Teaching assistant** and **tutor** of the course of *Scienza delle Costruzioni* (Mechanics of Solids-Structural Mechanics) of Prof. Mario Di Paola, academic year 2014-2015, University of Palermo, Palermo, Italy.
- **Lecturer** of a class in the course of Monte Carlo Simulation of Prof. Pol D. Spanos, title: *Fractional Calculus and its Applications in the Stochastic Processes and in Random Variables*, November 21st, 2013, Rice University, Houston, TX-USA.

- **Teaching assistant and tutor** of the course of *Sicurezza strutturale* (Structural Safety) of Prof. Massimiliano Zingales, academic year 2012-2013, University of Palermo, Palermo, Italy.
- **Teaching assistant and tutor** of the course of *Scienza delle Costruzioni* (Mechanics of Solids-Structural Mechanics) of Prof. Mario Di Paola, academic year 2012-2013, University of Palermo, Palermo, Italy.
- **Teaching assistant and tutor** of the course of *Scienza delle Costruzioni* (Mechanics of Solids-Structural Mechanics) of Prof. Massimiliano Zingales, academic year 2012-2013, University of Palermo, Palermo, Italy.
- **Assistant supervisor and supervisor** of more than 15 Bachelor's Degree (Mechanical Engineering) and Master's Degree Thesis (Aerospace and Mechanical Engineering). The topics of such thesis are mechanical model and viscoelasticity, mechanical characterization, deterministic and stochastic mechanics, etc..

Academic Activities

Research Interests

- Non-local elasticity and viscoelasticity
- Stochastic mechanics
- Characterization of random variables and processes
- Structural dynamics and stochastic mechanics
- Constitutive laws and mechanical behavior of real materials
- Fractional calculus and its applications
- Electrical analogy in mechanics
- Mechanical behavior of biological and bio-inspired materials

Followed Courses and Symposia

- *Boundary layer effects in composite structure* by Prof. R. Luciano, July 2015.
- *Non local effects in composite structures* by Prof. R. Luciano, July 2015.
- *Fractional Calculus with Emphasis to Engineering Problems*, short course of Prof. M. Di Paola, University of Palermo, April 2014.
- *Linear Viscoelasticity*, short course of Prof. M. Di Paola, University of Palermo, April 2014.
- *Monte Carlo Methods in Structural Reliability*, short course of Prof. C. Bucher, University of Palermo, October 2014.
- *Automatic differentiation and computer methods in non linear solid mechanics*, short course of Prof. S. Stupkiewicz, University of Palermo, October 2014.
- *Derivation of Equivalent Linear Properties of Nonlinear Systems for Seismic Response Spectrum Analysis Via Statistical Linearization* by Prof. P.D. Spanos, University of Palermo, September 2014.
- *Nonlinear Random Vibrations of Structural Components Endowed with Fractional Derivatives Elements* by Prof. P.D. Spanos, University of Palermo, September 2014.

- *Fractional Calculus and Its Applications in Probability and Stochastic Processes* by Prof. M. Di Paola, Rice University, March 2013.
- *Vibration*, course of Prof. P.D. Spanos for undergraduate students, Rice University, Houston, March-May 2013.
- *Monte Carlo simulation*, course of Prof. P.D. Spanos for PhD students, Rice University, Houston, September-December 2013.
- *Differential Stochastic Calculus*, short course of Prof. M. Di Paola, University of Palermo, January 2013.
- *Galärkin Method in Mechanics*, short course of Prof. M. Di Paola, University of Palermo, December 2012.

Publications

International Journal Publications

1. Lan, Y., Xu, J., PINNOLA, F. (2024) *Seismic fragility analysis of structures via an Adaptive Gaussian Mixture Model and its application to resilience assessment*, Mechanical Systems and Signal Processing, 212, 111332.
2. PINNOLA F.P. and Vaccaro M.S. (2023) *Stochastic analysis of small-scale beams with internal and external damping*, Probabilistic Engineering Mechanics, 71,10.1016/j.probengmech.2022.103401.
3. PINNOLA F.P., Vaccaro M.S., Barretta R., Marotti de Sciarra F., Ruta, G. (2023) *Elasticity problems of beams on reaction-driven nonlocal foundation*, Archive of Applied Mechanics 93(1):41–71, 10.1007/s00419-022-02161-x.
4. Alotta G., Di Paola M., PINNOLA F.P. (2022) *An unified formulation of strong non-local elasticity with fractional order calculus*, Meccanica 57(4):793–805, 10.1007/s11012-021-01428-x.
5. Barretta R., Marotti de Sciarra F., PINNOLA F.P., Vaccaro M.S. (2022) *On the nonlocal bending problem with fractional hereditariness*, Meccanica 57(4):807-820, 10.1007/s11012-021-01366-8.
6. PINNOLA F.P., Barretta R., Marotti de Sciarra F., Pirrotta A. (2022) *Analytical Solutions of Viscoelastic Nonlocal Timoshenko Beams*, Mathematics 10(3), 477, 10.3390/math10030477.
7. PINNOLA F.P., Vaccaro M.S., Barretta R., Marotti de Sciarra F. (2022) *Finite element method for stress-driven nonlocal beams*, Engineering Analysis with Boundary Elements 134:22–34, 10.1016/j.enganabound.2021.09.009.
8. Vaccaro M.S., PINNOLA F.P., Marotti de Sciarra F., Barretta R. (2021) *Limit behaviour of Eringen's two-phase elastic beams*, European Journal of Mechanics, A/Solids 89, 104315, 10.1016/j.euromechsol.2021.104315.
9. PINNOLA F.P., Vaccaro M.S., Barretta R., Marotti de Sciarra F. (2021) *Random vibrations of stress-driven nonlocal beams with external damping*, Meccanica 56(6):1329–1344, 10.1007/s11012-020-01181-7.
10. Vaccaro M.S., PINNOLA F.P., Marotti de Sciarra F., Barretta R. (2021) *Dynamics of stress-driven two-phase elastic beams*, Nanomaterials 11(5), 1138, 10.3390/nano11051138.
11. Vaccaro M.S., PINNOLA F.P., Marotti de Sciarra F., Barretta R. (2021) *Elastostatics of bernoulli-euler beams resting on displacement-driven nonlocal foundation*, Nanomaterials 11(3):1–27, 573, 10.3390/nano11030573.
12. Vaccaro M.S., PINNOLA F.P., Marotti de Sciarra F., Canadija M., Barretta R. (2021) *Stress-driven two-phase integral elasticity for Timoshenko curved beams*, Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems 235(1-2):52–63, 10.1177/2397791421990514.
13. Barretta R., Faghidian A.S., Marotti de Sciarra F., PINNOLA F.P. (2021) *Timoshenko nonlocal strain gradient nanobeams: Variational consistency, exact solutions and carbon nanotube Young moduli*, Mechanics of Advanced Materials and Structures 28(15):1523–1536, 10.1080/15376494.2019.1683660.
14. Alotta G., Di Paola M., PINNOLA F.P., Zingales M. (2020) *A fractional nonlocal approach to nonlinear blood flow in small-lumen arterial vessels*, Meccanica 55(4):891–906, 10.1007/s11012-020-01144-y.
15. PINNOLA F.P., Faghidian S.A., Barretta R., Marotti de Sciarra F. (2020) *Variationally consistent dynamics of nonlocal gradient elastic beams*, International Journal of Engineering Science 149, 103220, 10.1016/j.ijengsci.2020.103220.
16. Barretta R., Faghidian S.A., Marotti de Sciarra F., Penna R., Pinnola F.P. (2020) *On torsion of nonlocal Lam strain gradient FG elastic beams*, Composite Structures 233, 111550, 10.1016/j.compstruct.2019.111550.

17. Barretta R., Faghidian A.S., Marotti de Sciarra F., PINNOLA F.P. (2020) *On non-local lam strain gradient mechanics of elastic rods*, International Journal for Multiscale Computational Engineering 18(1):67–81, doi:10.1615/IntJMultCompEng.2019030655.
18. PINNOLA F. P., Zavarise G., Del Prete A., Franchi R. (2018) *On the appearance of fractional operators in non-linear stress-strain relation of metals*, International Journal of Non-Linear Mechanics 105:1–8, <https://www.sciencedirect.com/science/article/pii/S0020746218301628?via%3Dihub>.
19. Alotta G., Di Paola M., Failla G., PINNOLA F. P. (2018) *On the dynamics of non-local fractional viscoelastic beams under stochastic agencies*, Composites Part B: Engineering, 137:102–110, doi:10.1016/j.compositesb.2017.10.014.
20. Alotta G., Failla G., PINNOLA F. P. (2017) *Stochastic analysis of a non-local fractional viscoelastic bar forced by Gaussian white noise*, ASCE-ASME Journal of Risk and Uncertainty In Engineering Systems, Part B: Mechanical Engineering 3(3):030904-030904-7, doi:10.1115/1.4036702.
21. Alotta G., Di Paola M., PINNOLA F. P. (2017) *Cross-correlation and cross-power spectral density representation by complex spectral moments*, International Journal of Non-Linear Mechanics 92:20–27, doi:10.1016/j.ijnonlinmec.2017.02.001.
22. Failla G., PINNOLA F. P., Alotta G., (2017) *Exact frequency response of beams with multiple dampers*, Acta Mechanica 228(1):49–68, doi:10.1007/s00707-016-1691-5.
23. PINNOLA F. P. (2016) *Statistical correlation of fractional oscillator response by complex spectral moments and state variable expansion*, Communication in Nonlinear Science and Numerical Simulations 39:343–359, doi:10.1016/j.cnsns.2016.03.013.
24. Di Mino G., Airey G., Di Paola M., PINNOLA F. P., D'Angelo G., Lo Presti D. (2016) *Linear and nonlinear fractional constitutive laws of asphalt mixtures*, Journal of Civil Engineering and Management 22(7):882–889, doi:10.3846/13923730.2014.914104.
25. Colinas Armijo N., Di Paola M., PINNOLA F. P. (2016) *Fractional characteristic times and dissipated energy in fractional linear viscoelasticity*, Communication in Nonlinear Science and Numerical Simulations 37:14–30, doi:10.1016/j.cnsns.2016.01.003.
26. Ala G., Di Paola M., Francomano E., Li Y., PINNOLA F. P. (2014) *Electrical analogous in viscoelasticity*, Communication in Nonlinear Science and Numerical Simulations 19:2513–25273, doi:10.1016/j.cnsns.2013.11.007.
27. Di Paola M., Fiore V., PINNOLA F. P., Valenza A. (2014) *On the influence of the initial ramp for a correct definition of the parameters of the fractional viscoelastic material*, Mechanics of Materials 69:63–70, doi:10.1016/j.mechmat.2013.09.017.
28. Di Lorenzo S., Di Paola M., PINNOLA F. P., Pirrotta A. (2014) *Stochastic response of fractionally damped beams*, Probabilistic Engineering Mechanics 35:37–43, doi:10.1016/j.probengmech.2013.09.008.
29. Di Paola M., PINNOLA F. P. Zingales M. (2013) *Fractional differential equations and related exact mechanical models*. Computers And Mathematics With Applications 66:608–620, doi:10.1016/j.camwa.2013.03.012.
30. Di Paola M., PINNOLA F. P., Zingales M. (2013) *A discrete mechanical model of fractional hereditary materials*, Meccanica: An International Journal of Theoretical and Applied Mechanics 48:1573–1586, doi:10.1007/s11012-012-9685-4.
31. Di Paola M., PINNOLA F. (2012) *Riesz fractional integrals and complex fractional moments for the probabilistic characterization of random variables*, Probabilistic Engineering Mechanics 29:149–156, doi:10.1016/j.probengmech.2011.11.003.

1. PINNOLA F.P., Vaccaro M.S., Barretta R., Marotti de Sciarra F. (2023) *Nonlocal beam analysis based on the stress-driven two-phase theory*, Current Perspectives and New Directions in Mechanics, Modelling and Design of Structural Systems - Proceedings of the 8th International Conference on Structural Engineering, Mechanics and Computation, 2022, pp. 320–323.
2. Vaccaro M., PINNOLA F. P., Barretta R., Marotti de Sciarra F. (2020) *Stress-driven approach for stochastic analysis of noisy nonlocal beam*, Lecture Notes in Mechanical Engineering pp. 1670–1686, AIMETA 2019 - The Italian Association of Theoretical and Applied Mechanics, September 15-19, Roma, Italy.
3. Di Paola M., Pirrotta A., Alotta G., Di Matteo A., PINNOLA F.P. (2019) *Complex fractional moments for the characterization of the probabilistic response of non-linear systems subjected to white noises*, Springer Proceedings in Physics 228, pp. 203–227.
4. Alotta G., PINNOLA F. P., Dimitri R., Zingales M., Zavarise G., Bologna E., Di Giuseppe M. (2018) *A non-local mode-I cohesive model for ascending thoracic aorta dissections (ATAD)*, IEEE RTSI 2018 - 4th International Forum on Research and Technologies for Society and Industry, September 10-13, Palermo, Italy.
5. PINNOLA F. P., Zavarise G. (2018) *A non-linear stress-strain relation endowed with fractional derivative elements*, ICFDA '18 - International Conference on Fractional Differentiation and its Applications, July 16-18, Amman, Jordan.
6. Alotta G., Di Paola M., Failla G., PINNOLA F. P. (2017) *Stochastic analysis of a non-local fractional viscoelastic beam forced by Gaussian white noise*, ICOSSAR 2017 - 12th International Conference on Structural Safety & Reliability, August 6-10, TU Wien, Vienna, Austria.
7. Di Paola M., PINNOLA F. P., Spanos P.D. (2014) *Analysis of multi degree of freedom systems with fractional derivative elements of rational order*, ICFDA '14 International Conference on Fractional Differentiation and its Applications, June 23-25th, Catania, Italy, doi : 10.1109/ICFDA.2014.6967364.
8. Ala G., Di Paola M., Francomano E., Li Y., PINNOLA F. P. (2014) *Viscoelasticity: an electrical point of view*, ICFDA '14 International Conference on Fractional Differentiation and its Applications, June 23-25th, Catania, Italy, doi : 10.1109/ICFDA.2014.6967407.
9. Burlon A., PINNOLA F. P., Zingales M. (2014) *A numerical assessment of the free energy function for fractional-order relaxation*, ICFDA '14 International Conference on Fractional Differentiation and Applications, June 23-25th, Catania, Italy, doi : 10.1109/ICFDA.2014.6967374.
10. Di Paola M., Fiore V., PINNOLA F. P., Valenza A. (2013) *Prestress and experimental tests on fractional viscoelastic materials*, XXI Conference - The Italian Association of Theoretical and Applied Mechanics (AIMETA), 17-20 settembre, Torino (Italia).
11. Di Paola M., PINNOLA F. P., Zingales M. (2012) *Fractional differential equations of multiphase hereditary materials and exact mechanical models*, The 5th Symposium on Fractional Differentiation and Its Applications (FDA 2012), 14-17 maggio, Hohai University, Nanjing (Cina).
12. Di Paola M., PINNOLA F. P., Zingales M. (2012) *Fractional multi-phase hereditary materials: Mellin transform and multi-scale fractances*, ECCOMAS 2012–European Congress on Computational Methods in Applied Sciences and Engineering, e-Book Full Papers, pp. 4735-4745, ISBN:978-395035370-9.
13. Di Lorenzo S., PINNOLA F. P., Pirrotta, A. (2012) *On the dynamics of fractional visco-elastic beams*, ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE) 4 (PARTS A AND B), pp.1273-1281, ISBN: 978-0-7918-4520-2, doi : 10.1115/IMECE2012-86566.

Book Chapters

1. Alotta, G., PINNOLA F.P., Vaccaro, M.S. (2021) *Displacement Based Nonlocal Models for Size Effect Simulation in Nanomechanics*, Springer Tracts in Mechanical Engineering, pp. 123–147.
2. PINNOLA F.P., Faghidian S.A., Vaccaro M.S., Barretta R., Marotti de Sciarra F. (2021) *Nonlocal Gradient Mechanics of Elastic Beams Under Torsion*, Springer Tracts in Mechanical Engineering, pp. 187–204.
3. PINNOLA F. P., Zingales, M. (2019) *Fractional-order constitutive equations in mechanics and thermodynamics*, in Vasily E. Tarasov (Editor), *Applications in Physics, Part A*, pp. 277-304. Berlin, Boston: De Gruyter, doi:10.1515/9783110571707-012.

Editorial

Di Paola, M., PINNOLA, F. P. (2017) *Special section on fractional operators in the analysis of mechanical systems under stochastic agencies*, *ASCE-ASME Journal of Risk and Uncertainty In Engineering Systems, Part B: Mechanical Engineering*, 3(3):030301-030301-1, doi:10.1115/1.4036707.

Conference Contributions

1. PINNOLA F.P., Vaccaro M.S, Barretta R., Marotti de Sciarra F. (2022) *Stochastic vibrations of small-size viscoelastic beams in a viscous environment*, AIMETA '22, XXV Conference - The Italian Association of Theoretical and Applied Mechanics, 4-8 September, Palermo, Italy.
2. Vaccaro M.S, PINNOLA F.P., Barretta R., Marotti de Sciarra F. (2022) *Soft nanocomposite small-scale beams*, AIMETA '22, XXV Conference - The Italian Association of Theoretical and Applied Mechanics, 4-8 September, Palermo, Italy.
3. Alotta G., Dimitri R., PINNOLA F. P., Zavarise G. (2019) *Fractional viscoelastic cohesive zone model with long-range interaction*, ICCCM 19 - 4th International Conference on Computational Contact Mechanics, 3-5 July, Hannover, Germany.
4. Alotta G., Di Paola M., Failla G., PINNOLA F. P., Zavarise G. (2018) *Efficient complex modal analysis for noisy fractional-order systems*, ICCM 2018 9th International Conference on Computational Methods, 6-10 August, Rome, Italy.
5. Alotta G., Dimitri R., PINNOLA F. P., Zavarise G., Zingales M. (2018) *A non-local fractional-order interface mechanical model*, ESMC 2018 - 8th European Solid Mechanics Conference, 2-6 July, Bologna, Italy.
6. Alotta G., Dimitri R., PINNOLA F. P., Zavarise G., Zingales M. (2018) *Non-local interface model based on fractional operators*, CMIS 2018 - Contact Mechanics International Symposium, 16-18 May, Sanctuary of Oropa, Biella, Italy.
7. PINNOLA F. P., Zavarise G., Del Prete A., Franchi R. (2018) *Fractional operators in non-linear stress-strain relations of metals*, WMDP 2018 - Workshop on recent advances in Mechanics, Dynamical systems, Probability theory, Palermo, Italy, 5-6 March 2018.
8. Alotta G., Di Paola M., Failla G., PINNOLA F. P., Zavarise G. (2017) *An efficient way to perform stochastic dynamic analysis in fractional order systems*, AIMETA '17, XXIII Conference - The Italian Association of Theoretical and Applied Mechanics, 4-7 September, Genova, Italy.
9. Como V., Pantelous A., PINNOLA F. P., Pirrotta A. (2015) *Returning the physical meaning in solving higher order linear matrix differential equations with singular mass matrices*, AIMETA '15, XXII Conference - The Italian Association of Theoretical and Applied Mechanics, 14-17 September, Genova, Italy, ISBN-13: 978-88-97752-52-3.

Conference Contributions

10. PINNOLA F. P. (2015) *Correlation function of fractional oscillators by eigenvector expansion and complex spectral moments*, UNCECOMP '15, 1st International Conference on Uncertainty Quantification in Computational Sciences and Engineering, May 25-27th, Crete Island, Greece.
11. Di Paola M., PINNOLA F. P., Zingales M. (2012) *Fractional hereditariness and exact mechanical models: multiphase fractional hereditary materials*, IGF-Workshop 2012: Virtual testing of materials and structures, October 10th, Torino, Italy.
12. Di Paola M., PINNOLA F. P., Zingales M. (2012) *A mechanical description of multiphase fractional-order hereditary materials*, European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012), September 10-14th, Vienna, Austria.

PhD Thesis

PINNOLA F. P. (2014) *Stochastic dynamic analysis of structures with fractional viscoelastic constitutive laws*, University of Palermo, December 2014.

Lecture Notes

1. Di Paola M., PINNOLA F. P. (2015) *Fractional Calculus with Emphasis to Engineering Problems*, notes of the course on Fractional Calculus with Emphasis to Engineering Problems, short course of Prof. Mario Di Paola, University of Palermo, April 2014.
2. Di Paola M., PINNOLA F. P. (2011) *Calcolo Frazionario & Viscoelasticità*, notes of the symposium on Fractional Calculus and Viscoelasticity, University of Palermo, November 2011. http://www1.unipa.it/fabio.bagarello/didattica/Di%20Paola%20e%20Pinnola_calcolo%20frazionario.pdf

Presentations

The following works have been presented in person:

1. *A non-local mode-I cohesive model for ascending thoracic aorta dissections (ATAD)*, IEEE RTSI 2018 - 4th International Forum on Research and Technologies for Society and Industry, September 10-13, Palermo, Italy.
2. *Efficient complex modal analysis for noisy fractional-order systems*, ICCM 2018 9th International Conference on Computational Methods, 6-10 August, Rome, Italy.
3. *A non-linear stress-strain relation endowed with fractional derivative elements*, ICFDA '18 - International Conference on Fractional Differentiation and its Applications, July 16-18, Amman, Jordan.
4. *A non-local fractional-order interface mechanical model*, ESMC 2018 - 8th European Solid Mechanics Conference, 2-6 July, Bologna, Italy.
5. *Fractional operators in non-linear stress-strain relations of metals*, WMDP 2018 - Workshop on recent advances in Mechanics, Dynamical systems, Probability theory, Palermo, Italy, 5-6 March 2018.
6. *An efficient way to perform stochastic dynamic analysis in fractional order systems*, AIMETA '17, XXIII Conference - The Italian Association of Theoretical and Applied Mechanics, 4-7 September, Genova, Italy, <http://www.aimeta2017.unisa.it/sites/www.aimeta2017.unisa.it/files/Programma>
7. *Stochastic analysis of a non-local fractional viscoelastic beam forced by Gaussian white noise*, ICOSSAR 2017 - 12th International Conference on Structural Safety & Reliability, August 6-10, TU Wien, Vienna, Austria, http://icossar2017.conf.tuwien.ac.at/fileadmin/mediapool-icossar2017/documents/conference_program.pdf.
8. *Returning the physical meaning in solving higher order linear matrix differential equations with singular mass matrices*, AIMETA '15, September 15th, Genova (Italy), http://www.aimeta2015.dicam.unibo.it/sites/www.aimeta2015.dicam.unibo.it/files/programma_finaleAIMETA2015-3.pdf.
9. *Correlation function of fractional oscillators by eigenvector expansion and complex spectral moments*, UNCECOMP '15, May 27th, 2015, Crete Island (Greece), http://2015.uncecomp.org/files/uploads/general/programme_compdyn_uncecomp_2015.pdf.
10. *Analysis of multi degree of freedom systems with fractional derivative elements of rational order*, ICFDA '14 International Conference on Fractional Differentiation and Applications, June 23rd, 2014, Catania (Italy), <http://www.icfda14.dieei.unict.it/>.
11. *Cross-power spectral density and cross-correlation representation by using fractional spectral moments*, International Conference of Stochastic Mechanics (SM12), June 8th, 2012, Ustica (Italy), http://portale.unipa.it/convegni/sm12/home/attachments/Program_and_Map.pdf.

National scientific qualification

Associate Professor
(ASN Abilitazione Scientifica Nazionale)

Italian scientific qualification for associate professor (professore di II fascia) obtained on December 5th 2017 with unanimous judgment by the examination board.

Additional information

Academic Membership

- **AIMETA:** fellow of the Italian Association of Theoretical and Applied Mechanics, from 2015.
- **EUROMECH:** fellow of the European Mechanic Society, from 2017.
- **GNFM - IndAM:** fellow of the Italian Group of Mathematical Physics (Gruppo Nazionale per la Fisica Matematica) of the National Institute of High Mathematic “F. Severi” (Istituto Nazionale di Alta Matematica), form 2019.

Author Indexes

- **SCOPUS:** H-index: **19**, citations: **978**, documents: **45**
- **WoS:** H-index: **17**, citations: **826**, documents: **38**
- **ResearchGate:** H-index: **19**, citations: **1085**, research items: **63**
- **GoogleScholar:** H-index: **20**, citations: **1179**, documents: **64**

Professional Membership

Italian Professional Engineer: member of the Order of Engineer of Palermo, 2008.

Other skills

Mothertongue

Other language

*Self-assessment
European level^(*)*

Italian
English

Italian

English

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2
B2	B2	B2	B2	B2

^(*)Common European Framework of Reference (CEF) level

Computer skills and competences

Operating systems: Advanced experience with Mac OS X and Microsoft Windows and basic knowledge for the use of Linux systems (Ubuntu).

Programming, scripting and mark up languages LATEX, Wolfram Mathematica, Matlab.

Software for Structural analysis and design SAP2000, ProSap.

Productivity suite Open Office, Microsoft Office.

Graphics software, rendering and Computer-Aided Drafting Adobe Photoshop, Illustrator, Corel Draw, Inkskape, Sketchup, 3D Studio Max, Artlantis, Unreal Engine, Archicad and Autocad.

Personal data processing (Italian): Si autorizza il trattamento dei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 *Codice in materia di protezione dei dati personali*.

Naples, September 2024

Dr. Francesco Paolo Pinnola