Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Pinnola, Francesco Paolo**
Telephone(s)	+39 0832 297241
Email(s)	francescopaolopinnola@gmail.com francesco.pinnola@unisalento.it
Nationality(-ies)	Italian
Date of birth	19/11/1983
Gender	male

Work experience

Dates	February 2017 - today
Occupation or position held	**Research fellow**
Main activities and responsibilities	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.
Name and address of employer	University of Salento, Department of Engineering for Innovation, Via per Monteroni, edificio *La Stecca* 73100 Lecce (Le)
Type of business or sector	Academic

Dates	October 2016 - January 2017
Occupation or position held	**Post-Doc position**
Main activities and responsibilities	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 (En)
Type of business or sector	Academic

Dates	March 2015 - August 2015
Occupation or position held	**Scientific consultant**
Main activities and responsibilities	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

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
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

Personal skills and competences

Mothertongue **Italian**

Other language **English**

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

Self-assessment
European level(*)

Italian
English

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

Computer skills and competences

Operating systems: Advanced experience with Mac OS X and Microsoft Windo- ws 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, Un- real Engine, Archicad and Autocad.

Academic Activities

Guest Editor

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)

`https://www.asme.org/shop/journals/administration/call-for-papers`

Scientific Services/Activities

- **Memeber** of the organizing committee of the CMIS - 2018, Santuary of Oropa, Biella (Italy) http://conference.unisalento.it/ocs/index.php/cmis/cmis2018
- **Memeber** of the organizing committee of the ICCCM - 2017, University of Salento, Lecce (Italy) http://conference.unisalento.it/ocs/index.php/icccm/icccm2017
- **Member** of the organizing committee of the SM16, International Conference of Stochastic Mechanics, Capri (Italy) http://www.unipa.it/persone/docenti/p/antonina.pirrotta/congresso-capri/.
- **Chairman** of the session of *Viscoelasticity and materials* of ICFDA '14, International Conference on Fractional Differentiation and its Applications, Catania (Italy), http://www.icfda14.dieei.unict.it/index.html.
- **Member** of the organizing committee of the SM12, International Conference of Stochastic Mechanics, Ustica (Italy).
- **Reviewer** for international journals:
  - 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

Collaboration in the national and international research project

- 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.
- 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.

Congress and Conferences

- September 13th → September 17th, 2015 - Attended the 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 - Attended the 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 - Attended the 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 - Attended the 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- Attended the XX Congress of AIMETA (Italian Association of Theoretical and Applied Mechanics), Bologna (Italy), http://www.lamc.ing.unibo.it/aimeta2011.

Educational Activities

- **Professor** of *Complementi di Scienza delle Costruzioni* (Mechanics of Solids and Structures II) at University of Salento from February 2017.
- **Professor** of *Tecnica delle Costruzioni* (Structural Analysis and Design) at University of Enna Kore from October 2016 to Jenuary 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: 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** of more than 10 Bachelor's Degree (Mechanical Engineering) and Master's Degree Thesis (Aerospace and Mechanical Engineering).

Followed Courses and Symposia

- Boundary layer effects in composite structure, symposium of Prof. Raimondo Luciano, July 2015.
- Non local effects in composite structures, symposium of Prof. Raimondo Luciano, July 2015.
- Fractional Calculus with Emphasis to Engineering Problems, short course of Prof. Mario Di Paola, University of Palermo, April 2014.
- Linear Viscoelasticity, short course of Prof. Mario Di Paola, University of Palermo, April 2014.
- Monte Carlo Methods in Structural Reliability, short course of Prof. Christian Bucher, University of Palermo, October 2014.
- Automatic differentiation and computer methods in non linear solid mechanics, short course of Prof. Stanislaw Stupkiewicz, University of Palermo, October 2014.
- Derivation of Equivalent Linear Properties of Nonlinear Systems for Seismic Response Spectrum Analysis Via Statistical Linearization, symposium of Prof. Pol D. Spanos, University of Palermo, September 2014.
- Nonlinear Random Vibrations of Structural Components Endowed with Fractional Derivatives Elements, symposium of Prof. Pol D. Spanos, University of Palermo, September 2014.
- Fractional Calculus and Its Applications in Probability and Stochastic Processes, symposium of Prof. Mario Di Paola, Rice University, March 2013.
- Vibration, course of Prof. Pol D. Spanos for undergraduate students, Rice University, Houston, March-May 2013.
- Monte Carlo simulation, course of Prof. Pol D. Spanos for PhD students, Rice University, Houston, September-December 2013.
- Differential Stochastic Calculus, short course of Prof. Mario Di Paola, University of Palermo, January 2013.
- Galërkin Method in Mechanics, short course of Prof. Mario Di Paola, University of Palermo, December 2012.

Research Interests

- Linear and nonlinear viscoelasticity
- Computational mechanics
- Characterization of random variables and processes
- Structural dynamics
- Constitutive laws and mechanical behavior of real materials
- Nonlinear stochastic mechanics
- Fractional calculus and its applications
- Electrical analogy in mechanics
- Mechanical behavior of biological and bio-inspired materials
- Pseudo-dynamics

Publications

International Journal Pubblications

1. Failla G., PINNOLA F. P., Alotta G. (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, *accepted article - in press*.

2. 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, *accepted article - in press*, doi:10.1016/j.ijnonlinmec.2017.02.001.

3. Failla G., PINNOLA F. P., Alotta G., (2017) *Exact frequency response of beams with multiple dampers*, Acta Mechanica, 228 (1), pp. 49-68, doi:10.1007/s00707-016-1691-5.

4. 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, pp. 343-359, doi:10.1016/j.cnsns.2016.03.013.

5. 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), pp. 882-889, doi:10.3846/13923730.2014.914104.

6. 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, pp. 14-30, doi:10.1016/j.cnsns.2016.01.003.

7. 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, pp. 2513-25273, doi:10.1016/j.cnsns.2013.11.007.

8. 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, pp. 63-70, doi:10.1016/j.mechmat.2013.09.017.

9. Di Lorenzo S., Di Paola M., PINNOLA F. P., Pirrotta A. (2014) *Stochastic response of fractionally damped beams*, Probabilistic Engineering Mechanics, 35, pp. 37-43, doi:10.1016/j.probengmech.2013.09.008.

10. Di Paola M., PINNOLA F. P. Zingales M. (2013) *Fractional differential equations and related exact mechanical models*. Computers And Mathematics With Applications, 66, pp. 608-620, doi:10.1016/j.camwa.2013.03.012.

11. 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, pp. 1573-1586, doi:10.1007/s11012-012-9685-4.

12. Di Paola M., PINNOLA F. (2012) *Riesz fractional integrals and complex fractional moments for the probabilistic characterization of random variables*, Probabilistic Engineering Mechanics, 29, pp. 149-156, doi:10.1016/j.probengmech.2011.11.003.

Conference Papers

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. Di Paola M., PINNOLA F. P. (2012) *Cross-power spectral density and cross-correlation representation by using fractional spectral moments*, International Conference of Stochastic Mechanics (SM12), June 7-10th, Ustica (Palermo), Italy, article published in Meccanica dei Materiali e delle Strutture, vol. 3 (2012), no. 2, pp. 9-16, ISSN:2035-679X.

7. Di Lorenzo S., Di Paola M., PINNOLA F. P., Pirrotta A. (2012) *Stochastic response of fractional visco-elastic beams*, International Conference of Stochastic Mechanics (SM12), June 7-10th, Ustica (Palermo), Italy, article published in Meccanica dei Materiali e delle Strutture, vol. 3 (2012), no. q, pp. 9-16, ISSN:2035-679X.

Conference Contributions

1. 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 Settembre, Genova, Italy, ISBN-13: 978-88-97752-52-3.

2. 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.

3. 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), September 17-20th, Torino, Italy.

4. 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.

5. 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.

6. 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), May 14-17th, Hohai University, Nanjing, China.

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

PhD Thesis

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

Presentations

The following works have been presented in person:

1. *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.
2. *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.
3. *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/.
4. *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.

Additional information

Academic Membership

AIMETA: fellow of the Italian Association of Theoretical and Applied Mechanics, 2015.

Professional Membership

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

Lecce 01/04/2017 **Dr. Francesco Paolo Pinnola**