

CURRICULUM VITAE ET STUDIORUM

Giuseppe Puglisi

(ottobre 2021)

TITLES

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| 2018 | Qualification as Full Professor in Fisica Matematica, Politecnico di Bari |
| 2017 | Abilitazione Scientifica Nazionale (National Scientific Qualification) for Full Professor Costruzioni |
| 2015 | Qualification for an Associate Professor position in Fisica Matematica, Politecnico di Bari |
| 2014 | Abilitazione Scientifica Nazionale (National Scientific Qualification) for Full Professor Fis |
| 2013 | Abilitazione Scientifica Nazionale (National Scientific Qualification) for Associate Prof delle Costruzioni |
| 2013 | Abilitazione Scientifica Nazionale (National Scientific Qualification) for Associate Prof Matematica |
| 2005 Dec. | Confirmation of position of Researcher in Scienza delle Costruzioni at Politecnico di Bari |
| 2002 Dec. | Qualification for a Researcher position in Scienza delle Costruzioni, Politecnico di Bari |
| 1999 July | Temporary Research Associate in “Meccanica dei continui classici e dei materiali nuovi: teorie e sperimentazione” (Continuum Mechanics of classical and new materials: theory and experiments). |
| 2001 Oct. | Confirmation for two years of temporary Research Associate in “Meccanica dei continui materiali nuovi: modellazioni teoriche e sperimentazione” (Continuum Mechanics of new materials: theory and experiments). |
| 1996-1998 | Phd qualification in <i>Ingegneria dei Materiali e delle Strutture (Structural and Materials Engineering)</i> , Trento. Thesis: <i>Equilibrium, stability, and hysteresis for discrete systems with bi-stable elements</i> . Supervisor: Prof. S. Marzano, Politecnico di Bari, Prof. L. Truskinovs, University of Minnesota |
| 1996 Feb. | Qualification to the PhD <i>Ingegneria dei Materiali e delle Strutture</i> , Università degli Studi di Trento |
| 1996 Gen. | Qualification to the PhD <i>Ingegneria delle Strutture</i> , Università degli Studi di Napoli Federico I |
| 1995 Gen. | Qualification to the Register of Engineers |
| 1994 Nov. | Bachelor's degree in Civil Engineering Politecnico di Bari, 110/110, cum laude and honors |

RESEARCH EXPERIENCES

- 2018 Nov. 5-11 Visiting researcher at EPCSI Paris, Prof. L. Truskinovsky
- 2017 Aug. 27 – Sept. 2 Mini-Workshop at Cortona (Scuola Normale di Pisa), IndAM Meeting “Mathematical Physics of Living Systems”
- 2016 Sept 13-24 Scientific Committee for the International school at Fuzhou University Summer School 2016: "Structural Morphology"
- 2013 Dec.15-21 Mini-Workshop: Material Theories, organizers Profs Antonio De Simone, Stephan Luckhaus, Lev Truskinovsky, Palaiseau. *Mathematisches Forschungsinstitut Oberwolfach*, Germany
- 2013 Sept. 1-7 Workshop: The mathematics of Cells and Tissues, *Scuola Normale di Pisa*, Cortona
- 2013 Sept. Visiting researcher at *Università degli Studi di Perugia*, Prof. G. Saccomandi
- 2012 Nov. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2011 June Visiting researcher at *Università degli Studi di Perugia*, Prof. G. Saccomandi
- 2011 May Visiting researcher at *SEAS, Harvard University Massachusetts*, USA, Prof. L. Truskinovsky
- 2009 Feb. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2009 Nov. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2008 Feb. 24 Mar 01 Invited to Mini-Workshop: The Mathematics of Electro-Active Smart Materials. Organizzatoris Profs. Luis Dorfmann, Ray Ogden, Giuseppe Saccomandi. *Mathematisches Forschungsinstitut Oberwolfach*, Germania
- 2005 Nov. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2005 Mar. 13-18 Workshop “Multiscale numerical methods for advanced materials”, *Institute Henri Poincarè, Ecole Polytechnique*, Parigi, France. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2004 July Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2003 Oct. Visiting researcher at *Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex*, France, Prof. L. Truskinovsky
- 2002 Gen. Visiting researcher at *Laboratoire des Propriétés Mécaniques et Thermodynamiques des Matériaux, Université Paris 13*, France, Prof. J. J. Marigo, Prof. J. Frankfort, Prof. L. Truskinovsky

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| 2001 Gen. | Visiting researcher at <i>Laboratoire des Propriétés Mécaniques et Thermodynamiques des Matériaux</i> , Université Paris 13, France, Prof. J. J. Marigo, Prof. J. Frankfort, Prof. L. Truskinovsky |
| 2000 June | Visiting researcher at <i>Laboratoire des Propriétés Mécaniques et Thermodynamiques des Matériaux</i> , Université Paris 13, France, Prof. J. J. Marigo, Prof. J. Frankfort, Prof. L. Truskinovsky |
| 1999 Sept. 6-17 | Invited participant at the summer school “Mathematical Developments in Modeling Microstructure and Phase Transformations in Solids”, at <i>Newton Institute for Mathematical Sciences</i> , University of Cambridge, Cambridge, UK |
| 1999 May-June | Visiting researcher at <i>Department of Aerospace Engineering and Mechanics</i> , University of Minnesota, Minneapolis, USA, Prof. L. Truskinovsky, Prof. R. L. Fosdick |
| 1998 June-July | Visiting researcher at <i>Department of Aerospace Engineering and Mechanics</i> , University of Minnesota, Minneapolis, USA, Prof. L. Truskinovsky, Prof. R. L. Fosdick |
| 1996 Sept. - 1997 April | Visiting researcher at <i>Department of Aerospace Engineering and Mechanics</i> , University of Minnesota, Minneapolis, USA, Prof. R. D. James, Prof. R. L. Fosdick, Prof. L. Truskinovsky |

INVITED CONFERENCES

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| 2017 Aug. 27 – Sept. 2 | Key note speaker at Cortona (Scuola Normale di Pisa), IndAM Meeting “Mathematical Physics of Living Systems”. Conference title: A predictive multiscale model for soft materials with unfolding macromolecules: anisotropic damage and residual stretches |
| Sept 5-7 May 2017 | Invited conference at the Dep. Mathematics, University of Pittsburgh “Nonconvexity, Nonlocality and Incompatibility: from materials to biology”. Conference title: “A multiscale model for protein materials: from macromolecules to macroscopic fibers” |
| Sept. 2017 | Invited conference at AIMETA 2017. Conference title: “Fractality in optimal selfsimilar elastic structures” |
| Sept. 2017 | Invited conference at AIMETA 2017. Conference title: A multiscale model for predicting the macroscopic behaviour of protein materials from macromolecular properties. |
| 08-07-2016 | Invited Seminar at Mechanics and Mathematics of (soft) Materials and Structures, University of La Sapienza Roma. Title: "A multiscale approach for material softening and residual strains in soft materials with unfolding domains" |
| 28-31 Aug. 2012 | <i>A multiscale variational approach for fibrillar adhesion in biological and bioinspired materials</i> . International Workshop on Mathematical and Mechanical Modeling for Materials, August 28–31 th, 2012, City University Hong Kong, China. |

- 12-18 June 2011 *Electromechanical instabilities in electroactive polymeric thin films*. International Congress WASCAM, 12-18 June 2011, Brindisi, Italy.
- 23 Nov 2009 Laboratoire de Mécanique des Solides UMR-CNRS, Ecole Polytechnique Cedex, France. Conference title: "Damage models applied to biological (spider silk) and bio-inspired (nanopolymers) materials".
- 14-15 July 2008 International meeting "Mathematical modeling in Structured Media and Applications" in honor of Professor David R. Owen, 65 th birthday, Università del Molise, Termoli. Conference title: "Localization and stability in a multi-scale model for damageable amorphous solids".
- 25-29 June 2008 3rd Canadian Conference on Nonlinear Solid Mechanics (CanCNSM 2008), Toronto, Canada. Conference title: "Damage evolution in amorphous solids: localized vs diffuse strategies". Mini-Symposium "Microstructures, micromechanics, and structured deformations", scientific organizers Professor Gianpietro Del Piero and Professor David R. Owen.
- 24 Feb.–1 Mar. 2008 Mini-Workshop: The Mathematics of Electro-Active Smart Materials. Presso il Mathematisches Forschungsinstitut Oberwolfach, Germania. Scientific organizers: Profs. Luis Dorfmann, Ray Ogden, Giuseppe Saccomandi. Conference title: "Damage localization and stability in electro-active polymers".
- 29 June - 3 July 2005 International meeting "The Rational Modeling of Materials and Structures", in honor of Gianpietro Del Piero 65 th birthday Reggio Calabria. Conference title: "Thermodynamic of rate independent hysteresis".
- 3-6 Oct. 1999 Laboratoire des Propriétés Mécaniques et Thermodynamiques des Matériaux, Université Paris 13, Paris, France. Conf. title: "Equilibrium, stability, and hysteresis for a discrete system with bistable elements".

NATIONAL AND INTERNATIONAL CONFERENCES

- September 19-25, 2021, INdAM Meeting "Active Materials: from Mechanobiology to Smart Devices", Talk: Models at the micro-scale for thermal effects for decohesion, damage and fracture in biological materials (Cortona, Italy), with G. Florio, G. Puglisi, N.M. Pugno, S. Giordano, M.J. Buehler, D. De Tommasi, L. Bellino, A. Cannizzo“, Cortona, 21 September 2021
- September 19-25, 2021, INdAM Meeting "Active Materials: from Mechanobiology to Smart Devices", Talk: "A multiscale approach for the thermo-hygro-mechanical behavior of spider silks“, with V. Fazio, D. De Tommasi, N.M. Pugno Cortona, 21 September 2021
- 22-27 August 2021 Conference ICTAM 2020+1, 22-27 August 2021, Milano (Online). Talk: "Competition between temperature and interface energy effects in bioinspired materials". Authors: Luca Bellino, Giuseppe Florio, Giuseppe Puglisi, Stefano Giordano
- September 28-30, 2021. Conference Mathematical Modeling and Control for Healthcare and Biomedical Systems (MCHBS) 2021, Virtual workshop, September 28-30, 2021. Talk with title "A Micromechanical-based model for axonal damage". Authors: Luca Bellino, Giuseppe Florio, Giuseppe Puglisi, Alain Goriely

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| September 28-30, 2021 | "Mathematical Modelling and Control for Healthcare and Biomedical Systems (MCHBS 2021 Virtual Workshop)", Talk: A new coarse-grained approach for the mechanical behaviour of biomacromolecules with G. Florio, N.M. Pugno, M.J. Buehler |
| September 15-19, 2019 | XXIII Congress AIMETA Roma, title: A Statistical Mechanics based approach to study the influence of the device stiffness in single-molecule force experiments |
| September 15-19, 2019 | XXIII Congress AIMETA Roma, title: Fractality in optimal selfsimilar elastic structures. |
| Feb 28 March 2, 2019 | MIMS19 Cetara, Amalfi. Title: A class of metamaterials based on the tensegrity concept. Int. workshop multiscale innovative mat. and struct. |
| September 4-7, 2017 | XXII Aimeta Con. Bologna: Fractality in optimal selfsimilar elastic structures. |
| September 2015 | Genova, sett. 2015 AIMETA. Conference title: "A multiscale model for the mechanical behavior of macromolecular biomaterials." |
| September 2015 | Genova, sett. 2015 AIMETA. Conference title: Hysteresis in electroactive polymer actuators undergoing inhomogeneous deformations" |
| 2013 Sept. | XXII Congresso AIMETA A multiscale model for the mechanical behaviour of macromolecular biomaterials. |
| 9-12 July 2012 | 8th European Solid Mechanics Conference (ESMC 2012) Graz, Austria. Conference title: "Inhomogeneous Pull-in in Dielectric Thin Films" |
| 9-12 July 2012 | 8th European Solid Mechanics Conference (ESMC 2012) Graz, Austria. Conference title: "Damage and Shape Transitions in Spherical Membranes" |
| 9-12 July 2012 | 8th Europ. Sol. Mech. Conference (ESMC 2012) Graz, Austria. Conference title: "An Energetic Model for the Unfolding of Titin Macromolecules" |
| 12-18 June 2011 | International Congress WASCOM, Brindisi. Conference title: "Electromechanical instabilities in electroactive polymeric thin films |
| Sept. 2007 | XVII Congress AIMETA, Brescia. Conference title: "Localization and stability in a damage model for rubberlike materials" |
| 13-16 Aug. 2006 | 43th Annual Technical Meeting of the Soc. of Eng. Science (SES 2006), Penn State Univ., Pennsylvania, U.S.A. Symposium "In Memory of Ronald S. Rivlin". Conference title: " A predictive model for the Mullins effect" |
| 4-8 Sept. 2006 | 35th Solid Mechanics Conference, Krakow, Poland (SolMech 2006). September 4-8, 2006. Conference title: "Nucleations and phase fronts propagation in a multi-stable lattice with weak non-local interactions" |
| 9-12 Sept. 2003 | XVI Congress AIMETA, Ferrara. Conference title: "Un modello di isteresi per fili di lega a memoria di forma " |
| 18-23 May 2003 | Euromech-Mecatmat, 7th European Mechanics of Materials Conference (EMMC7), Frejus, France. Conference title: "A model for the hysteretic behavior of shape memory alloys under repeated loading cycles" |

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| 4-5 Dec. 2003 | Casa di Bressanone University of Padova. Meeting of the Cofin-MURST 2002 scientific group. “Modelli matematici per la scienza dei materiali”. Conference title: “A model for the hysteretic behavior of shape memory wires in the ‘untrained’ regime” |
| July 2003 | Politecnico di Bari. Meeting of the Cofin-MURST 2002 scientific group. “Modelli matematici per la scienza dei materiali”. Conference title: “Hysteresis in shape memory materials” |
| 26-29 Sept. 2001 | XV Congresso AIMETA, Taormina. Conference title: “Hardening and Hysteresis in Transformational Plasticity” |
| 28-30 Feb. 2001 | C.N.R., I.A.C., Roma. Scientific meeting of the Cofin-MURST 2000 scientific group. “Modelli matematici per la scienza dei materiali”. Conference title: “Hysteresis Models for multi-stable materials” |
| 25-28 Nov. 2000 | C.N.R., I.A.C., Raito. Scientific meeting of Cofin-MURST 2000 scientific group. Conf. title: “Quasistatic hysteresis of shape memory alloys” |
| 3-6 Oct. 1999 | XIV Congress AIMETA, Como. Conference title: “Stability of an Elastic Bar with Non-Convex Energy: Discrete vs Continuous” |
| 29 Sept. - 3 Oct. 1997 | XIII Congress AIMETA, Siena. Conference title: “First and second order transitions in a discrete system with bistable elements” |
| 21 Sept. - 24 Sept. 1994 | XXIII Congress AIAS, Rende (Cosenza). Conference title: “Stabilità elastica di appoggi in gomma multistrato” |

RESEARCH GRANTS

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| 2019-21 | Principal Investigator of the Italian Ministry MIURPRIN project “Mathematics of active materials: From mechanobiology to smart devices”, Unity of Politecnico di Bari and Università degli Studi di Lecce |
| 2017 | Key note speaker at Cortona (Scuola Normale di Pisa), IndAM Meeting “Mathematical Physics of Living Systems” Aug. 27 – Sept. 2 2017 |
| 2016 | Invited speaker and component at the Fuzhou University Summer School 2016: "Structural Morphology". 13-24 sept 2016 |
| 2015 | Investigator of the Prin Research Project 2015 Advanced mechanical modeling of new materials and structures |
| 2014 | Principal investigator of the research grant “Fondi di Ricerca di Ateneo”. Project title: “ <i>Modelli multiscala per il comportamento meccanico di materiali soffici</i> ” |
| 2011-2013 | Investigator of the PRIN research grant: <i>Dinamica, stabilità e controllo di strutture flessibili</i> |
| 2009-2011 | Investigator of the PRIN research grant: <i>Strutture leggere in materiale multiscala nell'ingegneria civile: rigidità e resistenza, assemblaggio e replicabilità industriale</i> |
| 2009-2010 | Principal investigator of the “Gruppo Nazionale di Fisica Matematica”, GNFM research grant “ <i>Modelli multiscala per materiali biologici</i> ” |

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| 2006-2009 | Investigator of the Progetto Strategico Regionale, Regione Puglia research grant: <i>Metodologie innovative per la modellazione e la sperimentazione sui materiali e sulle strutture, finalizzate all'avanzamento dei sistemi produttivi nel settore dell'Ingegneria Civile.</i> |
| 2006-2009 | Investigator of the 2006-2009 Progetto Strategico Regionale, Regione Puglia research grant. <i>Ricerca e sviluppo di metodologie per la meccanica sperimentale e la diagnostica strutturale.</i> |
| 2006 | Investigator of the Progetto Esplorativo Regionale, Regione Puglia, research grant: <i>Ottimizzazione delle prestazioni meccaniche e termiche di laterizi rettificati.</i> |
| 2006 | Investigator of the GNAMPA (Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni) research grant: <i>Modelli variazionali per strutture sottili e fenomeni di adesione.</i> |
| 2005-2006 | Investigator of the PRIN research grant: <i>Strutture in materiali con microstruttura. Una sfida per la moderna ingegneria civile</i> |
| 2004-2005 | Investigator of the GNFM (Gruppo Nazionale di Fisica Matematica); research grant: <i>Matematica e Meccanica della Fenomenologia Mesoscopica dei Materiali Elastomerici</i> |
| 2002- 2004 | Principal investigator of the Progetto di Ricerca di Rilevanza Nazionale "Giovani Ricercatori" research grant: <i>"Modelli di isteresi discreti con energie non convesse"</i> |
| 2002 – 2004 | Investigator of the Progetto PON ricerca – Beni Culturali, S.I.D.ART. (Sistema Integrato per la Diagnostica dei beni ARTistici) research grant. |
| 2001 – 2004 | Investigator of the Piano di Potenziamento delle Reti di Ricerca Scientifica e Tecnologica – M.I.R.U.S.T.; Cluster Materiali research grant: <i>Modellazione, sperimentazione e diagnostica di strutture in materiali innovativi</i> |
| 1998-2000 | Investigator of the Cofin-Murst 2000, research grant <i>Modelli matematici per la scienza dei materiali</i> |
| 1996-1998 | Investigator of the Cofin-Murst '98 research grant, <i>Termomeccanica dei continui classici e dei materiali nuovi</i> |

CONGRESS AND INTERNATIONAL SCHOOLS ORGANIZATION

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| 2005 | Organizing Committee for the congress "Theories of microstructures and defects", meeting of the Society for Natural Philosophy, Polignano a Mare (BA), 08-10 Oct. 2005 |
| 2016 | Scientific Committee for the International school at Fuzhou University Summer School 2016: "Structural Morphology". 13-24 sept 2016 |
| 2019 | "III-One Day Workshop on Applied Mathematics", Bari, 06 Giugno 2019 |
| 2019 | Indam (Istituto Nazionale di Alta Matematica, "Francesco Severi") Day, Bari 3-th June 2019 |
| 2020 | Active soft matters: from mechanobiology to smart devices, Cortona, Indam meeting, September, 21 - 25, 2020 |

EDITORIAL ACTIVITY

Review Editor for Frontiers: Mechanics of Materials

Review Editor for Frontiers: Soft Matter

Guest Editor of the Special issue: "Soft Matter: a nonlinear continuum mechanics perspective". International Journal of Nonlinear Mechanics. Elsevier. Vol. 56, Nov. 2013. ISSN: 0020-7462.

RECOGNITIONS

Invited Review of the ROYAL SOCIETY OF LONDON of the scientific activity (joint with G. SACCOMANDI)

– REFEREE ACTIVITY

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– Referee for Scientific Projects of Univ. La Sapienza Roma

– Referee for Miur Prin Projects

– Referee for Italian National Agency for the evaluation of universities and research institutes

– Referee for the Israelian Science Foundation

– Referee for the Doctoral Program in Mathematical Models and Methods in Engineering, Université Blaise Pascal Clermont Ferrand and Politecnico di Milano

– Referee For The Following Journal: **Journal of the Mechanics and Physics of Solids; Proceedings of the Royal Society A; Proceedings of the Royal Society Interfaces; European Polymer Journal; Journal of Elasticity; International Journal of Engineering Science; IOP Smart Materials and Structures; IOP Physics D; Phyl Transaction of the Royal Society of London A ; International Journal of Nonlinear Mechanics; ESAIM: Control, Optimization and Calculus of Variations; Composite part B; Mathematical Review Meccanica; Frontiers: Mechanics of Materials; Frontiers Robotics and AI; J ournal of Micromechanics and Microengineering; Physics Letters A; Journal of Biomechanical Engineering; Journal of Physics Communications (IOP); Experimental Techniques**

SCIENTIFIC SOCIETIES AFFILIATIONS

Society of Natural Philosophy, since 2005

Gruppo Nazionale di Fisica Matematica (GNFM), since 2004

International Society for the Interaction of Mechanics and Mathematics (ISIMM), since 2017

GNAMPA (Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni), 2006

TEACHING

DOTTORATO

2004-2009 Member of the PhD committee in “Progettazione Meccanica e Biomeccanica”

2015-today Member of the PhD committee in “Conoscenza e innovazione nel progetto per il patrimonio (Design for heritage: knowledge and innovation ph.d.)”

INTERNATIONAL SCHOOLS

2016 Invited speaker and component at the Fuzhou University Summer School 2016: "Structural Morphology". 13-24 sept 2016

MASTER

2007-2008 Strutture in materiali innovativi, Master in Innovazione Tecnologica nella Meccatronica, Politecnico di Bari

2007-2008 Meccanica delle strutture micro, Master in Innovazione Tecnologica nella Meccatronica, Politecnico di Bari

DOCENZE E SUPPLENZE

2015-2022 *Meccanica Razionale*, Civil Engineering, Politecnico di Bari

2015-2022 *Meccanica Razionale*, Landscape Engineering, Politecnico di Bari

2015-2022 *Meccanica Razionale*, Civil Engineering, Politecnico di Bari

2015-2016 *Meccanica Razionale*, Architecture and Building Eng., Politecnico di Bari

2014-2015 *Scienza delle costruzioni*, Mechanical Engineering, Politecnico di Bari

2013-2014 *Scienza delle costruzioni*, Mechanical Engineering, Politecnico di Bari

2012-2013 *Scienza delle costruzioni* Ingegneria Edile Politecnico di Bari

2011-2012 *Scienza delle costruzioni* Ingegneria Edile Politecnico di Bari

2010-2011 *Scienza delle costruzioni 1* Ingegneria Meccanica Politecnico di Bari

2010-2011 *Scienza delle costruzioni 2*, Ingegneria Meccanica, Politecnico di Bari

2010-2011 *Modelli Meccanici per i Materiali*, Ingegneria Meccanica, Politecnico di Bari

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| 2009-2010 | <i>Scienza delle costruzioni</i> , Ing. Meccanica and Gestionale, Politecnico di Bari |
| 2009-2010 | <i>Scienza delle costruzioni 2</i> , Ingegneria Meccanica, Politecnico di Bari |
| 2008-2009 | <i>Meccanica Razionale</i> , Ingegneria Edile e Architettura, Politecnico di Bari |
| 2003-2009 | <i>Scienza delle costruzioni</i> , Ing. Meccanica and Gestionale, Politecnico di Bari |
| 2006-2007 | <i>Modelli meccanici per i materiali</i> , Ingegneria meccanica, Politecnico di Bari |
| 2004-2009 | Member of the PhD committee in “Progettazione Meccanica e Biomeccanica” |
| 2004-2009 | <i>Scienza delle costruzioni II</i> , Ingegneria Civile, Politecnico di Bari, support |
| 2004-2009 | <i>Scienza delle costruzioni</i> , Ingegneria Civile, Politecnico di Bari, support |
| 2002-2009 | <i>Scienza delle costruzioni</i> , Ingegneria Meccanica and Ingegneria Gestionale, Politecnico di Bari, support |
| 1994-2009 | <i>Scienza delle costruzioni</i> , Ingegneria Meccanica and Ingegneria Gestionale, Politecnico di Bari, support |
| 1994-2009 | <i>Scienza delle costruzioni</i> , Architettura del Politecnico di Bari, support |
| 1994-2009 | <i>Statica</i> , Architettura, Politecnico di Bari, support |

ACADEMIC ACTIVITY

Dean Deputy of the Giuseppe Puglisi, Department of Civil, Environmental, Land, Building Engineering and Chemistry (DICATECh)

Delegate of the Rector for research and technological transfer,
since 2013

Member of the Department Committee since 2017

Member of the Faculty Committee 2006-2009

Member of the Faculty Committee 2003-2006

Member of the scientific committee of the library of the Dipartimento di Ingegneria Civile e Ambientale

SCIENTIFIC PUBLICATIONS

1) De Tommasi, G. Puglisi. S. Marzano, R. Peluso, *Stabilità elastica di appoggi in gomma multistrato*. XXIII Congress AIAS, Rende (CS), 21-24 Sept. 1994

2) G. Puglisi, L. Truskinovsky. *First and second order transitions in a discrete system with bistable elements*. XIII Congress AIMETA, Siena, 29 Sept. – 3 Oct. 1997

- 3) F. Maddalena, S. Marzano, G. Puglisi. Sulla modellazione delle trasformazioni di fase in solidi elastici a struttura cristallina. *Journal of the Dipartimento di Ingegneria Strutturale, Politecnico di Bari*, **247**, 1998
- 4) G. Puglisi. PhD thesis: *Equilibrium, stability, and hysteresis for discrete systems with bi-stable elements*, 1999. Relatori: G. Del Piero, S. Marzano, L. Truskinovsky
- 5) D. De Tommasi, P. Foti, S. Marzano, M.D. Piccioni, G. Puglisi. *A note on the uniaxial tension of elastic bodies with non-convex energies*. ASME Congress, 27-30 June 1999, Blacksburg, Virginia
- 6) S. Marzano, G. Puglisi, L. Truskinovsky. *Stability of an elastic bar with non-convex energy: discrete vs continuous*. XIV Congress AIMETA, Como, 1999
- 7) G. Puglisi, L. Truskinovsky. Mechanics of a discrete chain with bi-stable elements. **Journal of the Mechanics and Physics of Solids**, **48**, 1-27, 2000
- 8) G. Puglisi, L. Truskinovsky. *Hardening and hysteresis in transformational plasticity*. XV Congresso AIMETA, Taormina, 2001
- 9) G. Puglisi, L. Truskinovsky. Rate Independent Hysteresis in a Bi-stable chain. **Journal of the Mechanics and Physics of Solids**, **50**, 165-187, 2002
- 10) G. Puglisi, L. Truskinovsky. A mechanism of transformational plasticity. **Continuum Mechanics and Thermodynamics**, **14**, n. 5, 437-457, 2002
- 11) G. Puglisi, L. Truskinovsky. *A generalization of the Müller-Villaggio model for crystal plasticity*. 14th U.S. Congress of Applied Mechanics, Blacksburg, 23-28 June, 2002
- 12) P. D'Ambrosio, M.D. Piccioni, S. Marzano, G. Puglisi. *A Model for Cyclic Deformations of Shape Memory Alloys*. 5th European Solid Mechanics Conference (ESMC5), 17-22 August 2003, Thessaloniki, Grecia
- 13) P. D'Ambrosio, M.D. Piccioni, S. Marzano, G. Puglisi. A Model for the Hysteretic behavior of Shape Memory Alloys under Repeated Loadings. **Journal de Physique IV**, **115**, 163-171, 2004. Presented at 7th European Mechanics of Materials Conference (EMMC7), Frejus, Francia, 2003
- 14) S. Marzano, M. D. Piccioni, G. Puglisi. *Un Modello di Isteresi per Fili di Leghe a Memoria di Forma*. XVI Congresso AIMETA, Ferrara, 9-13 Sept. 2003
- 15) S. Marzano, M. D. Piccioni, G. Puglisi. *A damage model for the hysteresis of shape memory materials*. VII Internazionale Congress of the Società Italiana di Matematica Applicata e Industriale, SIMAI, Venezia 20-24 Sept. 2004
- 16) S. Marzano, M. D. Piccioni, G. Puglisi. *A model for the hysteresis of shape memory wires under repeated loading cycles*. International Congress of Theoretical and Applied Mechanics (ICTAM04), Varsavia Polonia, 19-21 Aug. 2004
- 17) G. Puglisi. *L'effetto Mullins*. Workshop "Dna, Matematica e Meccanica", Lecce 26-28 May 2005
- 18) G. Puglisi, L. Truskinovsky. Thermodynamics of rate independent plasticity. **Journal of the Mechanics and Physics of Solids**, **53**, 3, 655, 2005
- 19) G. Puglisi. Hysteresis in multi-stable lattices with non-local interactions. **Journal of the Mechanics and Physics of Solids**, **54**, 2060-2088, 2006

- 20) D. De Tommasi, G. Puglisi, G. Saccomandi. A Micromechanics Based Model for the Mullins Effect. **Journal of Rheology**, **50**, 50, 495-512, 2006
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RESEARCH FIELDS

Tensegrity structures

Material parameters identifications and optimization algorithms

Phase transitions - shape memory alloys: non convex energy models

Polymeric materials: multiscale and microstructure inspired approaches

Electroactive Polymers: stability and failure

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Biological and bioinspired materials: multiscale and microstructure inspired approaches

Multiscale models based on Statistical Mechanics approaches for polymeric and biological materials

DNA mechanics and denaturation

Viscothermoelasticity of soft matter

Damage models for amorphous materials: variational approaches, multiscale models

Discrete hysteretic models with non convex energies: multistable materials

Damage membrane theories: scaling models

Elastoplasticity: discrete models, continuum limits, Thermodynamics

Null Lagrangean, Cauchy relations, Unicity: Linear Elastostatics

Rubber bearings for Seismic Isolation: non linear elasticity with internal constraints

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