

Date of birth: 30/11/1981 | **Nationality:** Italian | **Gender** Female | (+39) 3381328161 | (+39) 0971205207 |

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Via dell'Ateneo Lucano, 10, 85100, Potenza, Italy

● EDUCATION AND TRAINING

05/12/2014

ASSOCIATE PROFESSOR (SSD ING-IND/13) - NATIONAL ACADEMIC QUALIFICATION

17/01/2011 – 28/01/2011 – Kongens Lyngby, Denmark

WINTER SCHOOL "NANO – TRIBOLOGY" – Technical University of Denmark, Mechanical Engineering Department

02/11/2010 – 04/11/2010 – Bari

COMPLETE COURSE OF TRAINING ON SCANNING PROBE MICROSCOPE - NTEGRA PRIMA – Politecnico di Bari, Facoltà di Ingegneria, Dipartimento di Ingegneria Meccanica e Gestionale

2006 – 2009 – Bari

PHD IN "MECHANICAL AND BIOMECHANICAL DESIGN" – Politecnico di Bari, Facoltà di Ingegneria, Dipartimento di Ingegneria Meccanica e Gestionale

- Topic of the research: "Noise and Mechanical Vibrations in the Design Process of Machines";
- Research group: Applied Mechanics.

20/04/2009 – 24/04/2009 – Orbassano

CANTOR ADVANCED COURSE - NVH IN TRANSPORTATION INDUSTRY – CRF – FIAT Group

15/04/2009 – 17/04/2009 – Turin

TRAINING ON ALTAIR OPTISTRUCT OPTIMIZATION – Altair Engineering Srl

18/09/2008 – 19/09/2008 – Leuven, Belgium

SEMINAR ON ADVANCED TECHNIQUES IN APPLIED AND NUMERICAL ACOUSTICS (ISAAC19) – K.U.Leuven Department of Mechanical Engineering

16/06/2008 – 20/06/2008 – Udine

COURSE ON: ADVANCED NONLINEAR STRATEGIES FOR VIBRATION MITIGATION AND SYSTEM IDENTIFICATION – CISM (International Centre for Mechanical Sciences)

18/09/2007 – 19/09/2007 – Leuven, Belgium

COURSE ON: MODAL ANALYSIS: THEORY AND PRACTISE (ISMA 32) – K.U.Leuven Department of Mechanical Engineering

18/07/2007 – 19/07/2007 – Novara

LMS VIRTUAL.LAB MOTION TRAINING – LMS Italy

19/06/2006 – Ancona

COURSE ON: VIBRATION MEASUREMENTS BY LASER TECHNIQUES – Facoltà di Ingegneria dell'Università Politecnica delle Marche

01/2006

QUALIFICATION AS ENGINEER – Italian Association Engineers

2000 – 2005 – Bari

MSC IN "MECHANICAL ENGINEERING" – Politecnico di Bari, Facoltà di Ingegneria, Corso di Laurea in Ingegneria Meccanica

- Thesis Subject: Mechanical vibrations
- Title: "Study and dynamic characterization of a microelectromechanical system"
- Supervisors: Prof. Ing. Tommaso CONTURSI, DdR. Ing. Giuseppe CARBONE, DdR. Ing. Leonardo SORIA

110/110 cum laudae

1995 – 2000 – Bari

HIGH SCHOOL DIPLOMA – Di Cagno Abbrescia, Secondary Scientific high school

100/100

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● PUBLICATIONS

International Journals

1. E. Pierro, E. Mucchi, L. Soria, A. Vecchio: "On the vibro-acoustical operational modal analysis of a helicopter cabin"- Mechanical Systems and Signal Processing, Volume 23, Issue 4, May 2009, Pages 1205-1217.
2. L. Soria, E. Pierro, G. Carbone, T. Contursi: "Tuning fork microgyrometers: Narrow gap vs. wide gap design" – Journal of Sound and Vibration, Volume 322, Issues 1-2, 24 April 2009, Pages 78-97.
3. G. Carbone, E. Pierro, S. N. Gorb, "Origin of the superior adhesive performance of mushroom shaped microstructured surfaces", Soft Matter, Volume 7, Issue 12, Pages 5545-5552, 2011.
4. G. Carbone, E. Pierro "Sticky Bio-inspired Micropillars: Finding the Best Shape", Small Volume 8, Issue 9, Pages: 1449-1454, May 7 2012.
5. G. Carbone, E. Pierro, "Effect of interfacial air entrapment on the adhesion of bio-inspired mushroom-shaped micropillars", Soft Matter, Volume 8, Issue 30, Pages 7904-7908, 2012.
6. G. Carbone, E. Pierro, " The Influence of the Fractal Dimension of Rough Surfaces on the Adhesion of Elastic Materials", Journal of Adhesion Science and Technology, 2555-2570, 2012.
7. G. Carbone, Elena Pierro, " A review of adhesion mechanisms of mushroom-shaped microstructured adhesives", Meccanica, 2013.
8. L. Heepe, G. Carbone, E. Pierro, A. E. Kovalev, S. N. Gorb, "Adhesion Tilt-Tolerancy in Bio-Inspired Mushroom-Shaped Adhesive Microstructure", Applied Physics Letters, 104, 011906, 2014.
9. G. Carbone, E. Pierro, G. Recchia, "Loading-unloading hysteresis loop of randomly rough adhesive contacts", Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, Volume 92, Issue 6, 2015.
10. E. Pierro, F. Bottiglione, G. Carbone, "Thermal Fluctuations and Dynamic Modeling of a dAFM Cantilever", Advanced Theory and Simulations, DOI: 10.1002/adts.201900004, 2019.
11. E. Pierro, L. Afferrante, G. Carbone, "On the peeling of elastic tapes from viscoelastic substrates: Designing materials for ultratough peeling", Tribology International, Volume 146, 106060, 2020.
12. E. Pierro, "Damping control in viscoelastic beam dynamics", Journal of Vibration and Control, <https://doi.org/10.1177/1077546320903195>, 2020.
13. E. Pierro, A. D'Angola, G. Carbone, "Road vehicles travelling with time-dependent speed: theoretical study on the directional stability", Vehicle System Dynamics, <https://doi.org/10.1080/00423114.2020.1741654>, 2020.

● WORK EXPERIENCE

03/05/2021 – CURRENT – Potenza, Italy

ASSOCIATE PROFESSOR – UNIVERSITY OF BASILICATA - SCHOOL OF ENGINEERING (SI-UNIBAS)

Associate Professor of Applied Mechanics (SSD ING-IND/13)

Research activities on the topics: contact mechanics, structural vibrations, vehicle dynamics.

23/12/2011 – 02/05/2021

ASSISTANT PROFESSOR – UNIVERSITY OF BASILICATA - SCHOOL OF ENGINEERING (SI-UNIBAS)

Assistant Professor of Applied Mechanics (SSD ING-IND/13)

Research activities on the topics: contact mechanics, structural vibrations, vehicle dynamics.

Potenza

14/06/2011 – 14/12/2011

TEMPORARY RESEARCHER – POLITECNICO DI BARI - FACOLTÀ DI INGEGNERIA, DIPARTIMENTO DI INGEGNERIA MECCANICA E GESTIONALE

Research activity on the project: "Studio teorico-sperimentale della resistenza al peeling e al distacco di adesivi biomimetici micro- e nano- strutturati"

Bari

22/11/2010 – 22/05/2011

TEMPORARY RESEARCHER – POLITECNICO DI BARI - FACOLTÀ DI INGEGNERIA, DIPARTIMENTO DI INGEGNERIA MECCANICA E GESTIONALE

Research activity on the project: "Analisi delle proprietà tribologiche e adesive di superfici micro- e nano- tramite l'utilizzo della seguente strumentazione: sistema di nanoindentazione e microscratch, tribometro e microscopio a forza atomica (AFM)"

Bari

06/09/2010 – 06/09/2011

RESEARCH FELLOW – CONSIGLIO NAZIONALE DELLE RICERCHE (CNR) - ISTITUTO IOM DI TRIESTE

Research activity on the project: "Studio teorico sperimentale dei fenomeni dinamici e di contatto in micro-strutture meccaniche"

Trieste

08/06/2010 – 08/09/2010

TEMPORARY RESEARCHER – POLITECNICO DI BARI - FACOLTÀ DI INGEGNERIA, DIPARTIMENTO DI INGEGNERIA MECCANICA E GESTIONALE

Research activity on the project: "Analisi dinamico-vibrazionale di cantilever per microscopio a forza atomica (AFM) in presenza di contatto intermittente e/o interazioni non lineari con il substrato"

Bari

06/10/2008 – 28/05/2010

EMPLOYED – 6° LEVEL (OPEN-ENDED CONTRACT) – IVECO S.P.A. (FIAT GROUP) TRUCKS AND COMMERCIAL VEHICLES

Main activities: Structural calculations, NVH, durability in light commercial vehicles (Innovation & Advanced Development - Computations & Statistics – LCV)

Turin

27/03/2008 – 07/06/2008

TEACHER FOR SENIOR HIGH SCHOOL – ISTITUTO TECNICO INDUSTRIALE "GUGLIELMO MARCONI"

Teacher of the Course: "Mechanical Systems"

Bari

10/09/2007 – 07/03/2008

Research Projects:

- Modal testing, through LMS Test.Lab 8A, on a fuselage panel made of composite material: comparison of the effects of different measure techniques on the data quality (European Project: UNVICO-2);
- Vibro-acoustic modal analysis of the helicopter EUROCOPTER EC-135, through LMS Test.Lab 8A (European Project: FRIENDCOPTER)

Leuven, Belgium

● SCIENTIFIC PRODUCTION INDICES

Scientific Production Indices

SCOPUS:

- documents=28
- total citations=338
- h-index=9

ISI WOS:

- documents=21
- total citations=303
- h-index=8

● ACADEMIC SERVICE

Academic Teaching

Teacher of the Courses:

- Applied Mechanics (9CFU), for the academic years: 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019;
- Applied Mechanics (6CFU), for the academic years: 2019-2020;
- Advanced Methods for Mechanical System Modeling (6 of 9 CFU), for the academic years: 2017-2018, 2018-2019, 2019-2020;

Participation in Evaluation Commissions

- Public Evaluation for 1 RTDA position (Temporary Assistant Professor) in Applied Mechanics - Università degli Studi di Napoli Federico II (2017)
- Public Evaluation for 1 RTDA position (Temporary Assistant Professor) in Applied Mechanics - Università degli Studi di Napoli Federico II (2019)
- Public Evaluation for of 1 RTDA position extension (Temporary Assistant Professor) in Applied Mechanics - Università degli Studi di Napoli Federico II (2020)

● EDITORIAL ACTIVITIES

Reviewer of the Scientific Journals

- Beilstein Journal of Nanotechnology
- Journal of Applied Physics
- Mechanical Systems and Signal Processing
- Journal of Mechanical Science and Technology
- Shock and Vibration
- Meccanica
- Materials and Design

Guest Editor of the Scientific Journals

- Biomimetics
- Frontiers in Mechanical Engineering

● FUNDED PROJECTS

Reviewer of Proposals to Funded Projects

- "Futuro in Ricerca" - MIUR - 2013;
- "FONDECYT - National Fund for Scientific and Technological Development" - Chilean National Commission for Scientific and Technological Research (CONICYT) - 2019;

Participation in Funded Projects

- Scientific Manager of the Project "Alleggerimento e Ottimizzazione di un Telaio di Semirimorchio SCAF" - RIB-LIGHT - 2014-2015 (signed with "AREA di ricerca scientifica e tecnologica di Trieste");
- PON - Programma Operativo Nazionale 2014-2020: "Sistemi Integrati e Collaborativi per la Fabbrica Intelligente" - ICOSAF - ARS01_00861;
- PON - Programma Operativo Nazionale 2014-2020: "Piattaforma decisionale manutenzione processo e prodotto" - PROMPT - ARS01_01046;
- Project "Sistemi Innovativi per Motori a Pistoni Aeronautici" - SIMPA, 2017-2020 (signed with "C.M.D. (Costruzioni Motori Diesel) SPA").