Curriculum Vitae

Personal information

First name / Surname	**Gianluca Pepe**
Nationality	Italian
Gender	Male

Occupational field

Mechanical engineering research

Dates	2014 - 2017
Title of qualification awarded	Professor under contract of Vehicle Systems Dynamics to the Dep. of Mechanical and Aerospace Engineering at Sapienza University of Rome (2015-2017) Researcher of the Sapienza University of Rome. Winner of "Assegno di Ricerca" in "*Study of innovative systems for sensorization and control of mechanical systems.*" (2014-18) Responsible of the Sapienza laboratory of Vehicle Dynamic and Mechatronics of Cisterna di Latina Conduction of seminars for the Mechatronic Systems and Laboratory of Vehicle Dynamics courses and for the Master Inventive Engineering at Sapienza University of Rome
Principal subjects/occupational skills covered	Researcher activities - Analysis and prototyping of innovative mechatronic control systems: programming and implementation - Development of new optimal control logic for semi-active nonlinear control systems - Design and prototyping of an innovative magneto-rheological suspension car patented - Grip tire detection and analysis patented: developing new experimental setup Activities with private companies in the context of the automotive and robot field: - Accident detection and drive style behaviour by suitable sensors (OCTO Telematics - Company) - Robot sensorization for datafusion and feedback control (ICAP Group)

Education

Dates	2010 – 2013
Title of qualification awarded	PhD student in Theoretical and Applied Mechanics in Mechanical Engineering at "La Sapienza" University of Rome.
Principal subjects/occupational skills covered	Analysis, design and prototyping of an innovative high-speed marine vehicle on the project "SeaLab" http://w3.uniroma1.it/sealab/

SeaLab research lines:

- Architectural design of the new vessel equipped with a smart suspension system
- Semi active suspension system controlled
- Innovative systems for vehicle control and stability
- Anti-shock and vibration control systems
- FBG monitoring and self-diagnosis of structures
- Composite materials based on natural fibres with the embedding of FBG sensors
- Propulsion systems (hydro jets & micro-turbines jets)

Organized conference: SEALAB 2012, Rome, Italy "*High-Tech and new strategies of cooperation between universities and business*" – Coordinator and Author

Dates	2011
Title of qualification awarded	"Esame di Stato". Enabled to the profession of Engineer by passing the Italian State Exam for the industrial sector.
Name and type of organisation	Engineer Register "Ordine degli Ingegneri" of Rome, Section A Industrial
Dates	2006 – 2010
Title of qualification awarded	"Laurea Specialistica" in Mechanical Engineering with specialization in mechanical constructions: Italian degree similar to a master's degree
Name and type of organisation providing education and training	Faculty of Engineering "La Sapienza" University of Rome, 18 via Eudossiana, 00184, Rome
Dates	2001 – 2006
Title of qualification awarded	"Laurea" in Mechanical Engineering: Italian degree similar to a bachelor's degree
Name and type of organisation providing education and training	Faculty of Engineering "La Sapienza" University of Rome, 18 via Eudossiana, 00184, Rome
Dates	1995 – 2001
Title of qualification awarded	"Maturità Scientifica": similar to Leaving Certificate in Scientific Studies.
Name and type of organisation providing education and training	Liceo Scientifico *Istituto Montessori* of Rome

Advanced training courses

Master RED Research enhancement & development SSAS (School for Advanced Studies of Sapienza) on *"Management, development and transfer of research results"* 2013, Rome, Italy

Course for doctoral candidates on: *"Vehicle Dynamics Control",* SIDRA 2013, Bertinoro, Italy

Course for doctoral candidates on: *"Active and Passive Vibration Control of Structures",* CISM 2013, Udine, Italy

Summer school course for doctoral candidates on: *"Applied Research: from university to industry"* Santander, Spain, 2013

Participation to the course RYLA, "The leadership of the newcomer", Project Manager Dott.sa E. Vernoni - Rotary Club of West Rome

Publications and patents

D. Antonelli, N. Roveri, G. Pepe, A. Carcaterra, "Semi-active suspension's control by artificial Neural Network and Variational feedback control features", ASME IDETC2017, 2017

S. Pensalfini, F. Coppo, F. Mezzani, G. Pepe, A. Carcaterra, "Optimal control theory based design of elasto-magnetic metamaterial", Eurodyn, Rome, Italy 2017

F. Coppo, G. Pepe, N. Roveri, A. Carcaterra, "A Multisensing setup for the intelligent tire monitoring", Sensors, 2017

N. Roveri, G. Pepe, F. Coppo and A. Carcaterra, "Rolling Tyre: Real-Time Detection of Patch-Contact and Dissipation", ISMA2016, Leuven, Belgium, 2016

A. Carcaterra, G. Pepe and N. Roveri, " Energy Exchange between Nonlinear Oscillators: An Entropy Foundation", ISMA2016, Leuven, Belgium, 2016

G. Pepe, N. Roveri and A. Carcaterra, " Prototyping a new car semi-active suspension by Variational Feedback Controller", ISMA2016, Leuven, Belgium, 2016

G. Pepe and A. Carcaterra, "VFC – Variational Feedback Controller and its application to semi-active suspensions," *Mechanical Systems and Signal Processing,* 2016

A. Carcaterra and G. Pepe, "Variational Control Approach to Energy Extraction from a Fluid Flow " presented at the Offshore Wind and other marine renewable Energies in Mediterranean and European Seas- OWEMES 8th Ed, 2015

N. Roveri, G. Pepe, and A. Carcaterra, "OPTYRE – A new technology for tire monitoring: Evidence of contact patch phenomena," Mechanical Systems and Signal Processing, 2015

G. Pepe, I. Giorgio, A. Carcaterra, D. Del Vescovo, and A. Sestieri, " Semiactive vibration control via VFC-Variational Feedback by piezoelectric actuation," in *NOVEM2015*, 2015

G. Pepe and A. Carcaterra, "VFC - Variational Feedback Control applied to semi-active car suspensions," in *NOVEM2015*, 2015

G. Pepe and A. Carcaterra, "A new semi-active variational based damping control," in *MESA 2014 - 10th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, Conference Proceedings*, 2014

G. Pepe, A. Carcaterra, I. Giorgio, and D. Del Vescovo, "Variational Feedback Control for a nonlinear beam under an earthquake excitation," *Mathematics and Mechanics of Solids,* 2014

A. Carcaterra, N. Roveri, G. Pepe, *"Fractional dissipation generated by hidden wave-fields"* Mathematics and Mechanics of Solids, 2014

G. Pepe, R. Rojas, A. Carcaterra, "*Semi-active damping by variational control algorithms and energy rate inequalities"* Eurodyn, Porto, Portugal 2014

N. Roveri, G. Pepe, A. Carcaterra, *"Hilbert-Huang analysis of semi-active controllers",* Eurodyn, Porto, Portugal 2014

G. Pepe, A. Carcaterra *"Experimental results of real car suspensions using new damper controllers",* Eurodyn, Porto, Portugal 2014

A. Carcaterra, G. Pepe, "Architecture of a new semi-active suspension system and associated control logic" Patent number: RM2014A000040, 2014

A. Calabria, R. Capata, M. Di Veroli, G. Pepe, *"Testing of the ultra-micro gas turbine devices (1 – 10 kw) for portable power generation at UDR1: the test bench facility and first tests results"*, Scientific Research, Engineering, 2013

G. Pepe, A. Carcaterra, *"High speed fluttering skids with elastic suspensions"*, NAV2012, Napoli, Italy, 2012

G. Pepe, A. Carcaterra, *"Fluttering skid phenomena in high speed marine vehicles"*, ISMA2012, Leuven, Belgium, 2012

A. Carcaterra, A. Scorrano, G. Pepe, A. Sestieri, *"SEALAB: Aero-hydro mechanics of an extreme-speed marine vehicle"*, AIMETA, Bologna, Italy, 2011

G. Pepe, A. Carcaterra, A. Scorrano, A. Sestieri, *"Stability analysis of a three-wings high-speed craft"*, AIMETA, Bologna, Italy, 2011

A. Carcaterra, A. Scorrano, G. Pepe , *"SEALAB: Aero-hydro mechanics of a three-wings jumping vehicle"*, International Symposium on High Speed Marine Vehicles, Napoli, Italy, 2011

Personal skills and competence

Self-assessment

European level

Language

Understanding				**Speaking**				**Writing**	
Listening		Reading		Spoken interaction		Spoken production			
B2	English	B2	English	B2	English	B2	English	B2	English

Social skills and competences

Good teamwork and good communication skills

Good attitude to the management of projects

Computer skills and competences	Good knowledge of programming languages: Matlab™, Mathematica™, Arduino™, Pascal™, Visual Basic™ Good knowledge of the following programs of design: Rhinoceros™, Vray™, AutoCAD™, SolidWorks™, Good knowledge of FEM analysis: ANSYS™ Excellent knowledge of Office™ tools (Word ™, Excel ™ and PowerPoint ™) Good knowledge of graphic design software PhotoShop ™
Artistic skills and competences	Photography, Classical guitar
Other skills and competences	Model aircraft and drones; Electronic prototyping with Arduino™; Sports: sailing and free climbing
Driving licence	Driving license A and B; Boat license without limits

Date 02/03/2017