

# Gastone Pietro Rosati Papini

Associate Professor, Industrial Engineering Department, University of Trento



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H-index 14-Scholar 12-Scopus

**Executive Summary.** Associate Professor in mechanical engineering at Department of Industrial Engineering of the University of Trento and co-founder of [Cheros s.r.l.](#) a spinout of the University of Pisa. With 10+ years experience in **advanced control systems** and **fullstack programming**.

## Employment History

May 2020 →	<b>Associate Professor</b> in Applied mechanics, <b>University of Trento</b> Teaching: <i>Architectures of intelligent transportation systems, Intelligent vehicles and autonomous driving</i>
May 2020-Apr 2023	<b>Tenure-track Assistant Professor</b> (RTDb) in Applied mechanics, <b>University of Trento</b> Teaching: <i>dynamics and control of vehicles and robots</i>
Dec 2017-Apr 2020	<b>Post-Doc</b> , department of Industrial Engineering, <b>University of Trento</b> <i>Dream-like simulation abilities for automated cars</i>
Dec 2016-Nov 2017	<b>Post-Doc</b> , PERCRO laboratory, <b>Sant'Anna University</b> <i>Design and control of dielectric elastomer generators</i>
Jul 2012-Oct 2012	<b>Fellowship</b> , PERCRO laboratory, <b>Sant'Anna University</b> <i>Development of a teleoperation architecture for a robotic manipulator</i>

## Education

2012-2016	<b>Ph.D.</b> in Emerging Digital Technologies at <b>Sant'Anna University</b> Advance control of <b>electroactive polymers</b> for ocean wave energy and control theory of <b>human-robot interaction</b> Thesis: <i>Dynamic Modelling and Control of Dielectric Elastomer Generators for OWC Wave Energy Converter</i>
Feb-Mar 2015	PhD+ Programme 2015 at <b>University di Pisa</b>
July 2013	SIDRA 2013 - Summer School Systems Biology, Bertinoro, Italy
July 2012	BiHRI 2012 - Summer School Perceptual Robotics and Exoskeleton, Gargonza, Italy
2007-2011	<b>Master's degree</b> in automation engineering at <b>University of Pisa, 110/110 cum laude</b> Thesis: <i>Robust Force Control for Exoskeletons for Human Performance Augmentation</i>
2004 - 2007	<b>Bachelor's degree</b> in Software Engineering at <b>University of Pisa, 110/110</b> Thesis: <i>Problems and solutions of multimedia applications on Internet</i>
Feb 2007	Certificate of attendance Cisco Certified Network Associate at <b>University di Pisa</b>

## Projects

2024 →	Fondo Italiano per la Scienza (FIS 2) <b>Neu4mes</b> - PI <ul style="list-style-type: none"><li>Develop a open-source framework for desing model-structured neural network <b>nnodeply</b>.</li><li>Development of a wiki website that collect the scientific knowledge on the topic.</li></ul>
2021 →	European Project H2020 <b>SUNRISE</b> - Team member <ul style="list-style-type: none"><li>Development of a shared virtual environment testing autonomous vehicles;</li><li>Development of safety assurance framework demonstration instances.</li></ul>
2021-2024	CRF project of MISE (Ministaro dello sviluppo economico) <b>Vedi2025</b> - Team member <ul style="list-style-type: none"><li>Designing of advanced dynamic vehicle models;</li><li>Designing of decision-making, with focus on vehicle collaboration and maneuver negotiation.</li></ul>
2017-2020	European Project H2020 <b>Dreams4Cars</b> - Team member <ul style="list-style-type: none"><li>Design, develop and testing of bio-inspired agent for autonomous driving car</li><li>Modelling &amp; control of vehicle using standard and neural network approaches</li></ul>
2012-2016	European Project FP7-ENERGY <b>PolyWEC</b> ( <i>Polymeric Wave Energy Converter</i> ) - Team member <ul style="list-style-type: none"><li>Modelling &amp; control of dielectric elastomer generator for oscillating water column system (Poly-OWC)</li><li>Test campaigns on prototypes of Poly-OWC systems with a computer vision analysis of the results</li></ul>
2012-2014	European Project FP7-ICT <b>VERITAS</b> ( <i>Virtual and Augmented Environments and Realistic User Interactions To achieve Embedded Accessibility DesignS</i> ) - Team member <ul style="list-style-type: none"><li>Design of control of a haptic interface for stimulation of essential tremor on upper limb</li><li>Analysis of experimental data of Parkinson's patients' hands tremor (using Optitrack system)</li></ul>

## Member of Scientific Societies

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2020 → IEEE Member  
2013-2015 IEEE Member

## Awards

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May 2019 | **Best Poster Award**, RL-CONFORM workshop IEEE IROS 2023, Detroit, USA  
*"CTO-SL: Using Sobolev Learning to improve Continuous Actor-Critic with Trajectory Optimization"*

September 2023 | **Best Poster Award**, IEEE Technical Committee "Model-based Optimization for Robotics", Crete, Greece  
*"CTO: Continuous Actor-Critic With Trajectory Optimization—Towards Global Optimality"*

April 2020 | **Best Multimedia Award Winner 2020**, IEEE Access  
*"Agent Architecture for Adaptive Behaviours in Autonomous Driving"*

May 2019 | **Best Student Paper Award**, VEHITS 2019, Crete, Greece  
*"Mental Imagery for Intelligent Vehicles"*

September 2017 | **Honourable Mention for PhD Thesis** by AREA Science Park, Trieste, Italy  
*"Dynamic Modelling and Control of Dielectric Elastomer Generators for OWC Wave Energy Converter"*

August 2013 | **Best Conference Paper Award**, IEEE RO-MAN 2013, Gyeongju, South Korea  
*"Haptic Hand-Tremor Simulation for Enhancing Empathy with Disabled Users"*

## Received Funding

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Mar 2025 → **MUR - Fondo Italiano Scienza FIS 2** Starting Grant 2023 (1,200,112.80 €)  
*Neu4mes - Structured neural network framework for modeling and control of autonomous systems*

Feb 2019-Apr 2020 | **University of Trento Starting Grant** for young researchers 2019 (14,635 €)  
*Deep-learning framework for modelling and control of mechanical systems*

Oct 2017-Jan 2018 | **Wave energy Scotland Projects** Control programme (47,000 £)  
*Control of Dielectric Elastomer Generator PTO*

## PhD Students

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Nov 2024 → **Alireza Jalaliankhakshour** Tutor with Prof. Giacomo Moretti  
**Preveen Muralidharan** Co-tutoring with Prof. Analisa Tirella  
**Cai Qingwei** Co-tutoring with Prof. Francesco Pilati

Nov 2023 → **Federica Tomelleri** Co-tutoring with Prof. Davide Brunelli

Nov 2022 → **Sebastiano Taddei** Co-tutoring with Prof. Francesco Biral

## Teaching Activities

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2023 → **Lecturer**, *Architectures of intelligent transportation systems*, **University of Trento**  
**Lecturer**, *Intelligent vehicles and autonomous driving*, **University of Trento**  
Master Degree - *Intelligent vehicles*

2020 → **Lecturer**, *Maccanica 1*, **ITT Marconi Rovereto**  
Alta Formazione Professionale

2021 - 2022 | **Teaching Assistant**, *Dynamics and control of vehicles and robots*, **University of Trento**  
Master Degree - *Artificial Intelligence Systems*, Professor: Francesco Biral

2020 - 2021 | **Lecturer**, *Vehicle Dynamics, Planning and Control of Robotic cars*, **University of Trento**  
Master Degree - *Autonomous System*

2020 - 2021 | **Teaching Assistant**, *Fondamenti di Informatica e Calcolo Numerico*, **University of Trento**  
Bachelor Degree, Professor: Enrico Bertolazzi

2019 | **Lecturer**, *Sensorimotor architecture - hands on*, **University of Trento**  
*ADBoT Autonomous Driving and enaBling technologies*  
Master of II level organised by UniTN, UniMore with FCA | CRF and FBK

2015 | **Teaching Assistant**, *Mechanics of Robots*, **Sant'Anna University**  
Master Degree, Professor: Marco Fontana

## Conference Attendace

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- Jun 2024 | **17th IFAC Symposium on Control in Transportation Systems (CTS) 2024**  
"A Subsumption Scheme for Emergent Collaboration of Self-Driving Vehicles in Intersections", Antonello Cherubini, Gastone Pietro Rosati Papini, Alice Plebe, Angela Giugliano, Mirko Muro, Mauro Da Lio.  
Ayia Napa, Cipro
- Jun 2023 | **IEEE Intelligent Vehicles Symposium (IV) 2023**  
"Energy Costs of Safe Speed Policies in a Pedestrian-crossing Scenario", Cherubini, Gastone Pietro Rosati Papini, Alice Plebe, Mauro Da Lio.  
Anchorage, USA
- Oct 2022 | **Conferenza Italiana di Robotica e Macchine Intelligenti (I-RIM) 2022**  
"Agent Architecture for Adaptive Behaviors in Autonomous Driving", Gastone Pietro Papini Rosati, Alice Plebe, Antonello Cherubini, Mauro Da Lio.  
On-line
- May 2021 | **IEEE International Conference on Robotics and Automation (ICRA) 2021**  
"The Biasing of Action Selection Produces Emergent Human-Robot Interactions in Autonomous Driving", Mauro Da Lio, Riccardo Dona, Gastone Pietro Papini Rosati, Alice Plebe.  
Philadelphia, USA
- Dec 2020 | **Conferenza Italiana di Robotica e Macchine Intelligenti (I-RIM) 2020**  
"MSPRT action selection model for bio-inspired autonomous driving", Gastone Pietro Papini Rosati, Giammarco Valenti, Alice Plebe, Mauro Da Lio.  
On-line
- Nov 2019 | **IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2019**  
"MSPRT action selection model for bio-inspired autonomous driving and intention prediction", Riccardo Dona, Gastone Pietro Papini Rosati, Giammarco Valenti.  
Macau, China
- Feb 2019 | **Intelligent Human Systems Integration (IHSI) 2019**  
"Dreaming Mechanism for Training Bio-inspired Driving Agents", Alice Plebe, Gastone Pietro Papini Rosati, Riccardo Dona, Mauro Da Lio.  
San Diego, USA
- Mar 2018 | **Vehicle Technology and Intelligent Transport Systems (VEHITS) 2018**  
"Autonomous Vehicle Architecture Inspired by the Neurocognition of Human Driving Dreaming Mechanism for Training Bio-inspired Driving Agents", Mauro Da Lio, Alice Plebe, Daniele Bortoluzzi, Gastone Pietro Papini Rosati, Riccardo Dona.  
Philadelphia, USA

## My Spinoff Activities [Cheros s.r.l.](#)

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- 2014 → | [QatHome](#) web queue manager system  
    > Manager and fullstack developer
- 2014-2017 | Wave energy Scotland Projects  
    > Control of WECs based on Dielectric Elastomer Generators  
    > Inflatable Dielectric Elastomer Generator power take-off

## Languages

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Italian ● ● ● ● ●

English ● ● ● ● ○

## Personal Project

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- 2021 → | **PyDrivingSim**. A [Python](#) simulation environment for autonomous driving.
- 2017 → | **Demodé**. New table game ([Premio Archimede 2018](#))
- 2011-2015 | **antruling.com**. A social website very exclusive in [Django](#) & [jQuery](#).
- 2013 | **wall2me.com**. A web application in [Node.js](#) & [HTML5 Canvas](#).