

Mario Baggetta



WORK EXPERIENCE

Nov. 2020 – present

Research Assistant - PhD candidate

University of Genova, DIME, Genova, Italy

- Research Topics:

- Underactuated robotic hands
- Analysis/design/optimization of compliant mechanisms and flexible components
- Structural optimizations
- Applications: human-like compliant joints, variable stiffness actuators

- Teaching Activity:

- Assistant Instructor in the course "Design of Automatic Machinery" (MSc in Mechanical Engineering)
- Assistant Instructor in the course "Technical Drawing" (BSc in Nautical Engineering)
- Member of the examination board for "Design of Automatic Machinery" (MSc in Mechanical Engineering), "Mechanics of Machines" (BSc in Mechanical Engineering) and "Technical Drawing" (BSc in Naval Architecture and Marine Engineering, BSc in Nautical Engineering)

Jun. 2019 – Oct. 2020

Research Fellow

University of Genova, DIME, Genova, Italy

- Research Topics:

- Multi-Flexible body dynamics
- Non-linear FEA
- Mechatronics Systems control

- Consulting Activity for Ansaldo Energia:

- Factory 4.0
- Advanced simulation of assembly operations
- FEA simulation of heavy lifting operations

EDUCATION

Nov. 2020 – present

PhD in Mechanical Engineering

University of Genova, DIME, Genova, Italy

- Supervisors: Prof. Giovanni Berselli

Sept. 2016 – Mar. 2019

MSc in Mechanical Engineering

University of Genova, DIME, Genova, Italy

- Scored: 109/110

Sept. 2011 – Dec. 2016

BSc in Mechanical Engineering

University of Genova, DIME, Genova, Italy

- Scored: 90/110

PERSONAL SKILLS

Languages

- Italian: Mother tongue
- English: Professional Knowledge

TECHNICAL SKILLS

Operating System

- Windows: Office Package, Adobe Illustrator, Latex

Programming Languages

- Matlab/Simulink
- Labview

Computer Aided Design

- PTC Creo
- Solidworks (Certified Associate - C-8KSNEK4ETG)
- SiemensNX

Multibody Dynamics

- RecurDyn
- Simulink

Finite Element Analysis

- ANSYS Workbench

PROJECTS

Jun. 2019 – present

Lighthouse Plant

Ansaldo Energia, Genova, Italy

- Main activities: Advanced simulation of assembly and manipulation operations in Factory 4.0.
- Budget: 14 m€

REVIEWER ACTIVITY

Reviewer for the journals:

- Transactions on Mechatronics (IEEE)

Reviewer for the conferences:

- IEEE BioRob - International Conference on Biomedical Robotics and Biomechatronics
- IEEE IROS - International Conference on Intelligent Robots and Systems

PUBLICATIONS

Journal Papers:

- J1:** Verotti, M., Berselli, G., Bruzzone, L., **Baggetta, M.**, Fanghella, P. "Design, Simulation and Testing of an Isotropic Compliant Mechanism". Precision Engineering. (UNDER REVIEW)
- J2:** Bilancia, P., **Baggetta, M.**, Hao, G., Berselli, G. "A variable section beams based Bi-BCM formulation for the kinetostatic analysis of cross-axis flexural pivots". International Journal of Mechanical Sciences. (UNDER REVIEW)
- J3:** Bruzzone, L., **Baggetta, M.**, Fanghella, P. "Fractional-Order PII1/2DD1/2 Control: Theoretical Aspects and Application to a Mechatronic Axis". Applied Sciences, 2021, 11(8), 3631.
- J4:** Bilancia, P., **Baggetta, M.**, Berselli, G., Bruzzone, L., Fanghella, P. "Design of a Bio-Inspired Contact-Aided Compliant Wrist". Robotics and Computer-Integrated Manufacturing, 2021, 67, 102028.
- J5:** Bruzzone, L., **Baggetta, M.**, Nodehi, S.E., Bilancia, P., Fanghella, P. "Functional design of a hybrid leg-wheel-track ground mobile robot". Machines, 2021, 9(1), pp.1-11, 10.
- J6:** Bruzzone, L., Fanghella, P., **Baggetta, M.**. "Experimental assesment of fractional-order pdd1/2 control of a brushless motor with inertial load". Actuators, 2020, 9(1), 13.

Posters & Workshops:

PW1: Baggetta, M., Bilancia, P., Berselli, G., Bruzzone, L., Fanghella, P. "CAE-based design of a cable driven human-like robotic wrist. International CAE Conference". 2020.

AUTORIZZAZIONE DATI PERSONALI

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).