

Curriculum Vitae Giovanni Berselli

- **Work Address:** DIME - Department of mechanics, energetics, management and transportation **University of Genova**, Via all'Opera Pia, 15 - 16145 Genova - Italy.
- **Home Address:** Via Campania 74/A, 41056 Savignano sul Panaro (MO), Italy.
- **Contact details**
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E-mail: giovanni.berselli@unige.it
Personal Web: www.gberselli.info
Faculty Webpage: <http://www.dime.unige.it/it/users/giovanni-berselli>
- **I.D.:** Born on December, 4, 1978 in Modena, Italian Citizen



INTRODUCTORY NOTES

- Giovanni Berselli is *Associate Professor* (with national *habilitation for Full Professorship*) in **Design Methods and Tools for Industrial Engineering** at the **University of Genova**, where he teaches the courses *Design of Automatic Machines*, *Computer Aided Design*, and *Technical Drawings* for the 1st & 2nd level Degrees in Mechanical Engineering, Mechatronic Engineering, and Naval Architecture / Marine Engineering.
- Prof. Berselli has also served as *Visiting Professor* at the **Robotics and Automation Lab** and **Precision Engineering Groups, University of Twente**, The Netherlands (2017) and at the **Medical Devices and Simulation Lab - Harvard Medical School**, US (short visit, 2016). He was previously *Senior Researcher* at the **Universities of Bologna and Modena**, Italy, and Research Associate with the Escuela Superior de Ingenieros de la **Universidad de Navarra**, Spain, and with **Monash University**, Australia.
- He currently coordinates the **Ph.D. Curriculum in Mechanics, Materials and Measurements** within the Doctoral School in **Mechanical, Energy and Management Engineering** at the **University of Genova**.
- Prof. Berselli is editor of one international book and he has authored **43 refereed journal papers**, **21 book chapters**, **53 papers on international conference proceedings**, **18 papers on national conference proceedings**, **12 workshop communications**, and **3 patents** (since the first paper published in 2007). **The bibliometric indexes from Scopus are H-Index: 18 – Citations: 940.**
- Prof. Berselli is **Principal Investigator** for the project “**Cosmet – Compliant Shell-Based Mechanisms for Medical Technologies**”, **Budget: 120 k€** He has been **local coordinator (Work Package Leader)** within the EU project AREUS - *Automation and Robotics for EUropean Sustainable manufacturing* (www.areus-project.eu/, Budget: **5.9M€**, **selected as Success Story**), an EU funded project including several Universities (Chalmers, Riga, DTU) and industries (Kuka Roboter, Daimler-Mercedes, Danfoss). He has also been **Task Leader** within the National Technology Cluster “**Intelligent Factory**” (<http://www.intelligentfactory.it/>, **460 k€**). In 2016, he has been **finalist for an ERC Starting Grant**.
- Among other awards, he has been the recipient of the **ASME Best paper award in Adaptive Systems, Dynamics and Control** and of the **IEEE I-RAS Young Author Best Paper Award 2012** for the best journal paper published on an IEEE-RAS journal in the preceding past two years. He has also been an invited/keynote speaker in about 20 international research institution or universities (including **Harvard Medical School, Yale School of Engineering and Applied Science**, and **Michigan State University**).
- Prof. Berselli is currently the **elected Co-Chair** of the **ASME Technical Committee on Modelling, Dynamics, and Control of Adaptive Systems**. and also a member of: ♦ **IEEE Technical Committee on Sustainable Production Automation**; ♦ **IEEE Technical Committee on Mechanisms and Design**; ♦ **EUROEAP, European Scientific Network for Artificial Muscles**. Since 2011, he is session organizer and symposium or session chair for the **ASME SMASIS Conference on Smart Materials, Adaptive Structures and Intelligent Systems**.
- He has been tutoring or co-tutoring a number of Master and Ph.D. students and he is (or has been) involved in several European projects (*EU-grants*), projects of relevant national interest, and conventions with industries (~**350k€** of actual private collaborations).

RESEARCH STATEMENT

G. Berselli's scientific activity is focused on the development of engineering methods and tools for the conceptual and functional design, the modelling and optimization, and the experimental evaluation of integrated mechatronic systems. Specific examples are:

- ✓ Virtual & Physical Prototyping of **Compliant Mechanisms** and **Compliant Actuators**;
- ✓ **Smart-Material-based Transducers** for Soft Robotics;
- ✓ **Bond-Graph Modelling** of Mechatronic Systems & **CAE-based multi-disciplinary optimization methods**.
- ✓ Digital Manufacturing with explicit expertise in **Eco-Design Methods for Robotic Cells**.

In particular, during his career, Prof. Berselli has proposed:

- ✓ *New methods to enhance/tailor force-displacement curve of compliant actuators to the application requirements*;
- ✓ *A methodology for the shape optimization of selectively compliant structures in the large-displacement domain*;
- ✓ *New routines/models to describe time-dependent phenomena in compliant joints affected by viscoelasticity*;

Specific applications have been developed in the fields of **robotic hands/grippers**, **soft covers mimicking human fingertips**, **variable stiffness and series/parallel elastic actuators**.

Concerning **research in collaboration with industries** (especially with **Daimler-Mercedes**), Prof. Berselli has proposed:

- ✓ *New models and software tools for single/multi-robot energy-flow prediction and optimization*;
- ✓ *Practical methods (plug-ins for Digital Manufacturing tools) for energy optimal path planning & cell layout design*.

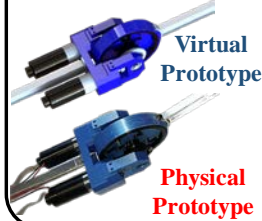
Compliant & Soft Actuators

Berselli, Bilancia, 2018



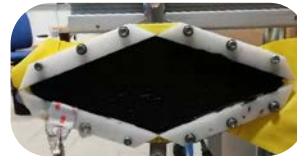
3D-printed Beam-based Compliant Mechanism

Variable Stiffness Actuator



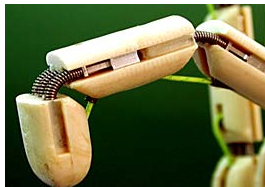
Virtual Prototype
Physical Prototype

Berselli, Vertechy, Fontana 2017
Elastomeric Soft Actuators



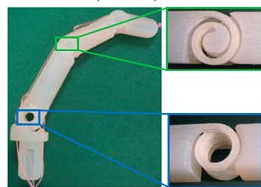
Compliant Robotic Hands & Industrial Grippers

Berselli, Vassura, 2009



Multi-material Finger

Berselli, Palli, 2015



3D-printed Finger

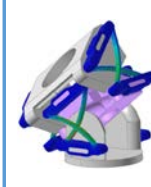
Berselli, Scarcia, 2017



3D printed Finger

Optimized : **no** fatigue failures

Berselli, 2018



Compliant Wrist

Berselli, 2012



Soft Cover



Robotic hand (CAD) developed by Melchiorri, Palli, Berselli, Vassura et al.

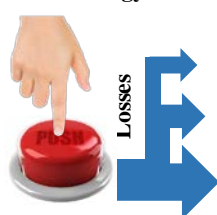


Industrial Research: Digital Tools for Sustainable Manufacturing

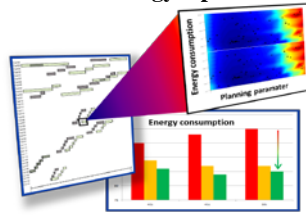


Digital Manufacturing Tools (e.g. Delmia Robotics)

Energy Model



Energy Optimizer



Plug-in for Eco-Design (layout) & Eco-Programming (trajectories)



Energy Optimal Commissioning

POSITION AND FORMATION

- Current position **Associate Professor** in Design Methods and Tool for Industrial Engineering. Mech. Eng. Dept., **University of Genova**, Italy.
- 2018 **National habilitation for Full Professorship.**
- 2017 **Visiting Professor** at the Robotics and Mechatronics Lab & Precision Engineering Lab, **University of Twente**, Netherlands.
- 2015-2017 **Assistant Professor** in Design Methods and Tool for Industrial Engineering. Mech. Eng. Dept., **University of Genova**, Italy.
- 2011-2014 **Senior Researcher / Aggregate Professor** in Design Methods and Tool for Industrial Engineering., Mech. Eng. Dept., **University of Modena and Reggio Emilia**, Italy
- 2009-2010 **Contract Professor** for the *joint bachelor program* in Automation Engineering, **University of Bologna** and **Tongji University**. • **Contract Professor** within the 2nd Level Bachelor in Automation Engineering and Chemical and Biochemical Engineering, **University of Bologna**.
- 01/2009-01/2010 **Post-Doc Researcher** at DIEM, Mechanical Eng. Dept., **University of Bologna**, Italy.
- 01/2009 PhD in Mechanics of Machines, **University of Bologna**.
PhD Thesis: "On Designing Compliant Actuators based on Dielectric Elastomers".
- 02/2005 **Research Assistant** at CEIT, "Centros de Estudios y Investigaciones Tecnica de Gipuzkoa", **Escuela Superior de Ingenieros de la Universidad de Navarra**, Spain.
- 04/2003-05/2004 **Research Assistant** at **Monash University**, Melbourne, Australia.
- 10/2004 M.S. Degree in Mechanical Engineering, **110/110 cum laude**, **University of Modena and Reggio Emilia**, Italy. Master Thesis: "Modelling and Simulation of an Inertia Type IVT".
- 09/2001-09/2002 Erasmus student at University of Limerick, Ireland. **Perfect QCA of 4.0/4.0**.

TEACHING ACTIVITY

- A.Ys. 2015/19 **Lecturer** for 1st and 2nd level Degrees in Mechanical Engineering, Naval Architecture and Marine Engineering, and Nautical Engineering, **University of Genova**, within the courses:
 - **Design of Automatic Machines**
 - **Computer-Aided Design & Technical Drawing**
- A.Y. 2018/2019 **Lecturer** for the courses:
 - **Virtual Prototyping and Architectures of Automatic Machines**, Master Course in **New Technologies for Industry 4.0**, SIIT, Genova.
 - **Methods and Tools for Virtual Prototyping**, ITS, La Spezia.
 - **Computer-Aided Design**, ITS, La Spezia.
- A.Ys. 2011/2014 **Lecturer** for the course **Design of Automatic Machines and Industrial Robots**, 2nd Level Degree in Mechanical Engineering, **University of Modena and Reggio Emilia**
Co-lecturer for the course **Design of Machines**, 2nd Level Degree in Mechanical Engineering, **University of Modena and Reggio Emilia**.
- A.Ys. 2009/2011 **Lecturer** for the courses **Fundamentals of Mechanics of Machines AND Automatic Machines**, 1st Level Degree Course in Automation Engineering, **University of Bologna**.
- A.Y. 2006/2009 **Assistant instructor (co-lecturer)** for the courses: •**Automatic Machines** for the 2nd Level Degree Course in Automation Engineering; •**Design of Automatic Machines and Robots** for the 2nd Level Degree Course in Mechanical Engineering and Chemical Engineering; •**Mechanics of Automatic Machines** for the 2nd Level Degree Course in Automation Engineering, **University of Bologna**.
- A.Y. 2013/2015 **Lecturer** within focused seminars for local industries & post-grad courses:
 - **Fundamentals of Machine Design**, Fincantieri, Genova, Italy
 - **Designing Optimal Trajectory for ServoMotors**, Liam Lab, Modena, Italy
 - **Design Methods for optimal actuator selection**, IMA S.p.a. Bologna, Italy
 - **Energy-Efficient Design and Design for Manufacturing and Assembly** (w. Prof. M. Pellicciari), CNA and DIEF Dept., Modena, Italy
 - **Eco-efficient Design of Automatic Machinery and Robotized Plants**. Acimac & Democenter Foundation, Baggiovara, Italy
 - **Mechanics of Electrical Machines**, GIMA S.p.a., Zola Predosa, Italy
 - **Conceptual Design of Mechatronic Systems**, University of Bologna.
- A.Y. 2009
- A.Y. 2006

INSTITUTIONAL RESPONSIBILITIES

- 01/2019-to date **Delegate for International Relations** for DIME - Department of Mechanical, Energy, Management and Transportation Engineering.
Responsible for academic partnerships with
 - Robotics and Automation Lab., **University of Twente.**
 - Medical Devices and Simulation Lab., **Harvard Medical School**
 - **Glasgow Caledonian University, Scotland**
 - **National University of Ireland, Cork.**
 - **Politechnika Krakowska, Poland.**
- 01/2015-to date **Member** of:
 - Doctoral School Committee in Mechanical, Energy and Management Engineering (IMEG) at the **University of Genoa.****Coordinator** of the PhD Curriculum Mechanics, Materials and Measurement at the University of Genoa.
- 2011 - 13 **Member** of:
 - PhD School in High Mechanics, Automotive Design & Technology at the **University of Modena and Reggio Emilia**
 - Interdepartmental Research Centre InterMech. Mo.Re., **University of Modena and Reggio Emilia**

TUTORING ACTIVITY AND PhD READING COMMITTEE

Tutor for one PhD students (Eng. Pietro Bilancia) at the Universities of Genoa.

Co-tutor for four Ph. D. students at the Universities of Modena and Bologna:

- *M. Gadaleta*. Thesis: Engineering Methods and Tools for Energy-Efficient Industrial Robotics.
- *Q. Meng* (now Assistant Prof. @ University of Shanghai). Thesis: A Design Method for Flexure-Based Compliant Mechanisms on the Basis of Stiffness and Stress Characteristics.
- *F. Parvari Rad* (now post-doc @ University of Bologna). Thesis: Design and Characterization of Curved and Spherical Flexure Hinges for Planar and Spatial Compliant Mechanisms”
- *F. Pasila* (now Assistant Prof. @ Petra University). Thesis: Inverse Static Analysis Of Massive Parallel Arrays Of Three-State Actuators Via Artificial Intelligence”

Member of the Doctoral Evaluation Panel @ Anna-Chennai University, India, Scuola Superiore Sant’Anna, Universities of Modena, Reggio Emilia, Bologna, Brescia. Candidates:

- *L. Daniele*, “Design, manufacturing and testing of dielectric elastomer generators for wave energy conversion”, Scuola Sant’Anna, Pisa, Italy (Panel member).
- *G. Papini Rosati*, “Dynamic Modelling and Control of Dielectric Elastomer Generators for OWC Wave Energy Converter”, Scuola Sant’Anna, Pisa, Italy (Panel member).
- *G. Abbasnejad*, “Displacement Analysis of Under-Constrained Cable-Driven Parallel Robots”, University of Bologna, Italy (Panel member).
- *G. Spagnuolo*, “Design and Development of LIGHTArm, an Exoskeleton for the Upperlimb Neuro-Rehabilitation”, University of Brescia, Italy.
- *L. Leonelli*, “Dynamic analysis of the motorcycle chattering behaviour by means of symbolic multibody modelling.”, University of Bologna, Italy (Panel member).
- *P. Subramaniam*, “Soft Contact Analysis of a Fluid Filled Hyper-Elastic Robot Finger”, Anna-Chennai University, India. (Foreign Examiner).
- *E. Andreoli*, “Fluid dynamic analysis and geometrical optimization of axial fan ventilation systems for agricultural sprayers”, University of Modena e Reggio Emilia (external member).
- *F. Berni*, “Development of a heat transfer model for the estimation of wall heat fluxes in 3D-CFD in-cylinder simulations of current production engines operated over a wide range of conditions”, University of Modena e Reggio Emilia (external member).
- *A. Bianchi*, “Il ritrattamento implanto-protesico”, University di Modena e Reggio Emilia (external member).
- *S. Breda*, “Assessment of the performance of CFD methods to predict cycle resolved knocking events and knock statistics in internal combustion engines”, University of Modena e Reggio Emilia (external member).
- *E. Bursi*, “Development of sustainable technologies for valorization of amorphous silica from waste and by-products for different applications, University of Modena e Reggio Emilia (external member).
- *F.O Falope*, “Analytical Modelling of Contact Problems and Experimental Campaigns of FRCM”, University of Modena e Reggio Emilia (external member).
- *D.R. Farias*, “Valorisation of Agro-Industrial waste in sustainable ceramic materials. Technical and Environmental Analysis”, University of Modena e Reggio Emilia (external member).

- F. Ferrari, "Surrogate formulation and efficient solution methods for topology optimization with eigenvalues", University of Modena e Reggio Emilia (external member).
- C. Ghidini, "Il marchio del suono", University of Modena e Reggio Emilia (external member).
- N. Giovannoni, "Development of a predictive CFD spray modeling approach in internal combustion engine simulation", University of Modena e Reggio Emilia (external member).
- D. Panari, "Development of a cad-based method for the product process design of top car chassis, integrated simulation of: tolerance stack up analysis, welding assembly and robot off-line programming", University of Modena e Reggio Emilia (external member).
- F. Testa, "Un approccio flessibile per l'analisi CFD di motori a due tempi", University of Modena e Reggio Emilia (external member).
- M. Peroni, "Development of a method for archetype-based design for knowledge-based engineering", University of Modena e Reggio Emilia (external member).
- Trinh Duc Cuong, "Geometric Perspective on Kinematics and Singularities of Spatial Mechanisms, University of Genova (internal member).
- Keerthi Sagar Somenedi Nageswara Rao, "Multi-Agent Path Planning for Mobile Robots With Discrete-Step Locomotion, University of Genova (internal member).

Tutor (or **Co-tutor**) for more than 30 Bachelor/M.S. Thesis for the Degree Course in Automation Engineering and Mechanical Engineering.

RELEVANT SCIENTIFIC ACTIVITY AND PROJECT COORDINATION

- **03/2019-to date** **Principal Investigator (PI)** for the project "Cosmet – Compliant Shell-Based Mechanisms for Medical Technologies", **Budget: 120 k€**
- **2018/2019** Part of the **Research Unit** for:
 - **Interreg AMiCE**, Advanced Manufacturing in Central Europe
 - **H2020 SoftPRO** - Synergy-based Open-source Foundations and Technologies for Prosthetics and Rehabilitation (<http://www.softpro.eu/>) @ University of Twente.
 - **H2020 MURAB** - MRI and Ultrasound Robotic Assisted Biopsy (www.murabproject.eu/) @ University of Twente.
- **03/2013–2017** **Work Package leader** (local coordinator) for the **EU project AREUS** "Automation and Robotics for European Sustainable Manufacturing" (FP7-2013-NMP-ICT-FOF- 609391), **Budget: 5.9M€** (www.areus-project.eu/). **Project selected as Success Story from EU commission.**
- **03/2013–2016** **Task Leader** for National Technology Cluster "Intelligent Factory" – project ADAPTIVE, **Budget: 0.46M€**
- **03/2016–2018** **Principal Investigator** within Local Research Project "Integrated Design and Simulation of a low-cost Wave Energy Converter for On-Shore Applications" **Budget: 11.500€**
- **08/2012–2013** **Scientific Supervisor** for the project "Eye-Mech: Integrated Design of a Robotic Eye for Application in Surgical Simulators" in collaboration with **Harvard Medical School**.
- **08/2012–2015** **Researcher** for the Integrated Design and Simulation of Servomechanisms for Automatic Machines. **LIAM, Laboratory of Industrial Automation** for packaging Machines (www.liamlab.it).
- **01/2011–2015** **Co-Responsible** for setting up a virtual reality laboratory within the **Interdepartmental Research Center for Advanced Mechanics, "InterMech"** (www.intermech.unimore.it).
- **22/3/2010** **Research leader** for the work-package *Design, Manufacturing and Control of New Actuators based on Electro-Active Materials* within the project: "New actuators for advanced systems of manipulation and haptic interaction" supported by the Italian Ministry of University and Research (MIUR) via PRIN2008 research grant. Scientific Coordinator: Prof. M. Bergamasco.
- **04/1/2009** **Research leader** in the area of *Dielectric Elastomers as Advanced Materials for Mechatronics*. Mectron Laboratory (<http://www.intermech.unimore.it>). Supervisor: Prof. Eugenio Dragoni.
- **2008/10** **Task Leader** @UNIBO: EU project Dexmart, "DEXterous and autonomous dual-arm/hand robotic manipulation with sSMART sensory-motor skills" (www.dexmart.eu), **Budget: 8.1M€**
- **2006-to date** **Responsible and research leader for several activities of technology transfer in collaboration with industries for a total budget of about 250k€**
- **01/2005-01/2011** Part of the **Research Unit** within:
 - **PRIN Sicura**, "Safe Physical Interaction between Robots and Humans" (www.dis.uniroma1.it/sicura). Scientific coordinator: Prof. Alessandro De Luca.
 - **MedRob project**, "Application of mechatronics/robotics in medicine" (www.lar.deis.unibo.it/medrob).
 - **EU project Humodan**, "An automatic HUMAN MODEL ANimation environment for augmented reality interaction" (www.humodan.com).

RESPONSIBILITIES IN CONFERENCES AND COMMITTEES

Elected Co-chair (previously elected Secretary) of *ASME Technical Committee on Modeling, Dynamics, and Control of Adaptive Systems*, Adaptive Structures and Material Systems (ASMS) branch, Aerospace Division.

Elected Member of:

- *IEEE RAS Technical Committee on Sustainable Production Automation*.
- *IEEE TC on Mechanisms and Design*.
- *ESNAM, European Scientific Network for Artificial Muscles*.

Symposium Chair “Young Professionals Development” - *ASME SMASIS 2019*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Louisville.

Member of the **Technical Program Committee (chair Prof. Antonio Bicchi)** for I-RIM 2019, 1st Italian Conference on Robotics and Intelligent Machines.

Member of the **International Program Committee** for

- Session Organizer for the *ASME SMASIS*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, since 2011.
- Technical Committee for the *Faim 2017*, International Conference on Flexible Automation and Intelligent Manufacturing.

Chair for the sessions:

- “*Robotics and Computer Integrated Manufacturing – part I*” *FAIM2017*, 27th International Conference on Flexible Automation and Intelligent Manufacturing, Modena, Italy.
- “*Robotics and Computer Integrated Manufacturing – part II*” *FAIM2017*, 27th International Conference on Flexible Automation and Intelligent Manufacturing, Modena, Italy.
- “*Robots in Added Value Manufacturing*” *FAIM2017*, 27th International Conference on Flexible Automation and Intelligent Manufacturing, Modena, Italy.
- “*Actuator and Mechanism Design*”, *ASME SMASIS 2016*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Stowe Mountain, Vermont.
- “*Virtual Prototyping*”, *ICESTI 2015*, Int. Conference on Electrical Systems, Technology, and Information, Bali, Indonesia.
- “*Electroactive Polymers and Soft Actuators*”, *ASME SMASIS 2014*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Newport, Rhode Island.
- “*Dielectric Elastomers and Soft Actuators*”, *ASME SMASIS 2013*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Snowbird, Utah.
- “*Modeling and Simulation of Mechatronic Systems*”, *IEEE/ASME AIM 2013*, Int. Conference on Advanced Intelligent Mechatronics, Wollongong, Australia.
- “*Modeling and Analysis of Electroactive Actuators*”, *ASME SMASIS 2012*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Stone Mountain, Georgia.
- “*Dielectric/Electroactive polymers*”, *ASME SMASIS 2011*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, September 2011, Phoenix, Arizona.

Delegate for Mectron Lab. in Israel (**Tel-Aviv University** and **Technion, Israel Institute of Technology**). Organizer: ASTER S.CON.S.P.A. Via Gobetti 101 Area Ricerca Bologna.

Delegate for Mectron Lab. at BAUMA 2008, Munich, Germany.

KEYNOTE/PLENARY SPEECH

● **G. Berselli**, “Advances in Computer Aided Methods for Designing Spatial Compliant Mechanisms”, *ICESTI 2019*, Int. Conf. on Electrical Systems, Technology and Information, Bali, Indonesia

● **G. Berselli**, “A Discussion about CAE-based Methods for Analysing and Designing Spatial Compliant Mechanisms”, *ASME SMASIS 2018*, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems, San Antonio, Texas.

● **G. Berselli**, “Towards an Integrated Digital Platform for the Eco-Efficient Design of Robotized Plants”, *ICESTI 2015*, Int. Conf. on Electrical Systems, Technology and Information, Bali, Indonesia

● The research activity led by Dr. Berselli has also been featured on a major international tv channel (RAI-ITALIA) <http://www.areus-project.eu/areus-on-tv/>

INVITED TALKS

I16 G. Berselli, “Virtual Prototyping Tools and Digital Twins for Industry 4.0”, Nulcei Interreg Project, Politechnika Wroclawska, Wroclav, November 2018.

I15 G. Berselli, “Recent Advances in CAE-based methods for designing Compliant Mechanisms and Smart Actuators”, PHM Technology Pty LTD, Australia, June 2018.

- I14 G. Berselli**, “Recent Advances in CAE-based methods for designing Compliant Mechanisms and Smart Actuators”, The University of Melbourne, Australia, June 2018.
- I13 G. Berselli**, “Virtual Prototyping Methods and Tools for Industry 4.0: State of the Art and Future Challenges”, Confindustria, Genova, February 2018.
- I12 G. Berselli**, “Recent Advances in CAE-based methods for designing Compliant Mechanisms and Smart Actuators”, Michigan State University, East Lansing, U.S., September 2017.
- I11 G. Berselli** and R. Vertechy, “Advances in Elastomeric Soft Actuators”, Harvard Medical School, Boston, U.S., September 2016.
- I10 G. Berselli**, “Workshop on Future and Emerging Technologies”, IIT Italian Institute of Technology, Genova, February 2016.
- I9 G. Berselli** and R. Vertechy, “Dielectric Elastomer Actuators and Generators”, Yale University, New Haven, U.S., September 2013.
- I8 G. Berselli** and R. Vertechy, “Dielectric Elastomer Actuators and Generators: Potentials for Biomedical Applications”, Harvard Medical School, Boston, U.S., September 2013.
- I7 G. Berselli** and R. Vertechy, “Dielectric Elastomer Actuators and Generators: Potentials for Biomedical Applications”, Massachusetts General Hospital, Boston, U.S., September 2013.
- I6 G. Berselli**, “Integrated Design Methods for Sustainable Robotics and Green Automation”, Melbourne University, Melbourne, Australia, July 2013.
- I5 G. Berselli**, “Integrated Design Methods for Sustainable Robotics and Green Automation”, RMIT University, Melbourne, Australia, July 2013.
- I4 G. Berselli**, “Integrated Design Methods for Sustainable Robotics and Green Automation”, University of Western Australia, Perth, Australia, July 2013.
- I3 R. Vertechy, G. Berselli, M. Bergamasco, V. Parenti Castelli** "Electro-Elastic Continuum Models for Electrostrictive Elastomers", ASME SMASIS 2011, September 2011, Arizona.
- I2 G. Berselli** and G. Vassura, “Advances in design of a dexterous anthropomorphic hand based on a compliant structure”, SIDRA 2010 Conference, Italy, September 13-15, 2010
- I1 G. Berselli**, et al., “On designing soft robotic hands adopting compliant joints and viscoelastic covers”, SIDRA 2009 Conference, Italy, September 17-19, 2009.

EDITORIAL ACTIVITY

- **Services to Journals**
- **Associate Editor for:**
 - Advances in Materials Science and Engineering, ISSN: 1687-8434 (*ISI/SCOPUS*)
 - Mathematical Problems in Engineering, ISSN: 1563-5147 (*ISI/SCOPUS*)
- **Thematic Editor** for Int. Journal of Advanced Robotic Systems, SAGE, ISSN: 1729-8806 (*ISI/SCOPUS*)
- **Lead Guest Editor:** Special Issue on *Soft Mechatronics: Mechanics and Multi-physics of compliant transducers*, Springer Int. Journal *Meccanica*, ISSN: 0025-6455. **IF=1.747**
- **Guest Editor:** Special Issue on *Algorithms for Computer Aided Design*, MDPI *Algorithms*
- **Editorial Board Member** for:
 - The Open Mechanical Engineering Journal, ISSN: 1874-155X (*SCOPUS*)
 - Int. Journal of Engineering and Industries, ISSN: 2093-5765;
 - Int. Journal of Robots, Education and Art, ISSN: 2233-4572;
- **Reviewer Activity**
- **Reviewer for the journals:**
 - IEEE/ASME Transaction on Mechatronics, ISSN: 1083-4435;
 - IEEE Robotics and Automation Magazine, ISSN: 1070-9932;
 - IEEE Robotics and Automation Letters, ISSN: 2377-3766
 - IEEE Transaction on Robotics, ISSN: 1552-3098;
 - IEEE Transactions on Automation Science and Engineering, ISSN: 1545-5955;
 - IEEE Transactions on Industrial Electronics ISSN: 0278-0046;
 - ASME Journal of Mechanical Design, ISSN: 1050-0472;
 - ASME Journal of Mechanisms and Robotics, ISSN: 1942-4302;
 - IOP Smart Materials and Structures, ISSN: 0964-1726;
 - Sensors and Actuators A. Physical, ISSN: 0924-4247
 - International Journal of Mechanical Sciences, ISSN: 0020-7403
 - IFToMM Mechanism and Machine Theory, Elsevier, ISSN: 0094-114X;
 - SAGE International Journal of Robotic Research, ISSN: 1741-3176;
 - SAGE Journal of Mechanical Engineering Science, ISSN 0954-4062;

- SAGE Journal of Applied Polymer Science, ISSN: 1097-4628;
- SAGE Journal of Engineering Tribology, ISSN 1350-6501
- IFAC Mechatronics, Elsevier, ISSN: 0957-4158;
- IAS Robotics and Autonomous Systems, Elsevier ISSN: 0921-8890;
- IMEKO Measurement, Elsevier, ISSN: 0263-2241
- Precision Engineering, Elsevier, ISSN: 0141-6359;
- International Journal of Solids and Structures, Elsevier, ISSN: 0020-7683
- Meccanica, Springer, ISSN: 0025-6455;
- International Journal of Intelligent Robotics and Applications, Springer, ISSN: 2366-5971;
- International Journal of Sustainable Engineering, Taylor and Francis, ISSN: 1939-7038;
- International Journal of Advanced Robotic Systems, INTECH, ISSN: 1729-8806;
- Robomech Journal, Springer, ISSN: 2197-4225;
- Helyon Journal, Elsevier; ISSN: 2405-8440;
- The Open Mechanical Engineering Journal, Bentham, ISSN: 1874-155X;
- ACTA International Journal of Robotics and Automation, ISSN: 0826-8185
- IMECE Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, ISSN: 0954-4070;
- AICIT International Journal of Engineering and Industries, ISSN: 2093-5765;
- MDPI Sensors, ISSN 1424-8220;
- MDPI Actuators, ISSN 2076-0825;
- MDPI Algorithms, ISSN 1999-4893;
- MDPI Polymers, ISSN 2073-4360;
- MDPI Applied Sciences, ISSN 2076-3417;
- International Journal of Agile Systems and Management, Inderscience, ISSN: 1741-9174

Reviewer for the conferences (for several years):

- JCM International Joint Conference on Mechanics, Design Engineering & Advanced Manufacturing
- ARK Advances in Robot Kinematics;
- IEEE AIM International Conference on Advanced Intelligent Mechatronics;
- IEEE ICRA International Conference on Robotics and Automation;
- IEEE ICAR International Conference on Advanced Robotics;
- IEEE BioROB International Conference on Biomedical Robotics and Biomechanics;
- IEEE/RSJ IROS International Conference on Intelligent Robots and Systems;
- IEEE CASE International Conference on Automation Science and Engineering;
- IEEE ACC American Control Conference;
- ASME IDETC International Design Engineering Technical Conference;
- ASME IMECE International Mechanical Engineering Congress & Exposition
- IDMME Joint Conf. on Mechanical, Design Engineering & Advanced Manufacturing;
- ICROM International Conference on Robotics and Mechatronics;
- IFTOMM International Conference on Robotics and Mechatronics;
- Faim 2017, International Conference on Flexible Automation and Intelligent Manufacturing.
- RAAD 2017, International Conference on Robotics in Alpe-Adria-Danube Region.

External evaluator for the research programs:

- JSC "National Centre of Science and Technology Evaluation", Kazakhstan.
- High-tech program for STW Technology Foundation, (<http://www.stw.nl/>), Nederland.
- "ECHORD" *European Clearing House for Open Robotics Development*, an EU-funded project within the Seventh Framework Program (<http://www.echord.info/>)
- Projects of relevant national interest promoted by Greek Minister for Education, Life Long Learning and Religious Affairs:
 - o "Archimedes III" project
 - o "Thalis" project
 - o "Morc" project
- *Best student paper competition*, within ASME SMASIS, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems since 2012.
- *Best hardware competition*, within ASME SMASIS, Int. Conference on Smart Materials, Adaptive Structures and Intelligent Systems since 2012.

Peer Evaluator for research quality in Italian Academia (VQR), "Research programs of relevant national interest (PRIN)", and "Future in Research programs (FIRB)".

HONOURS AND AWARDS

- **2018** **ASME Best paper award in Adaptive Systems, Dynamics and Control** for the article: P. Bilancia, **G. Berselli**, et al., “*Design of a Beam-Based Variable Stiffness Actuator via Shape Optimization in a CAD/CAE Environment*”
- **2016** **Best paper award** for the article L. Bruzzone, D. Bonatti, G. Berselli, P. Fanghella, “Analytical and Multibody Modelling of a Quick-Release Hook Mechanism”, IFIT, Int. Conference of IFTomm, 2016.
- **2016** **Finalist** (admitted to interview @ ERCEA) for an **ERC Starting Grant**.
- **2016** **Selected** for national funding (based on scientific achievement) for basic research in engineering science (FFABR).
- **2016 & 2017** **Selected** for funding devoted to the internationalization of didactic activities at the University of Genoa (for agreements signed with SIM Group, **Harvard University e Massachusetts General Hospital**, Boston, US) and for invited lectures @ **Michigan State University**.
- **2013** Official mention for high distinction in international research at **University of Modena**.
- **2012** **IEEE I-RAS Young Author Best Paper Award** for the paper G. Berselli, et al. Engineering design of fluid-filled soft covers for robotic contact interfaces: Guidelines, nonlinear modelling, and experimental validation, *IEEE Transactions on Robotics*, 27(3), pp.436-449, 2011.
- **01/2005** **Leonardo da Vinci Fellowship** sponsored by Carpiformazione, Via Nuova Ponente 22/b, 41012, Carpi (MO), Italy.
- **2002** Official mention for exceptional QCA at **University of Limerick**.
- **2015** Award to Advisee (for work supervised by G. Berselli):
 - Mussini Award 2015 for best Master Thesis awarded to V. Fontana
 - Best Symposium Student Paper @ ASME SMASIS (USA) to P. Bilancia
 - Best Symposium Hardware Paper @ ASME SMASIS (USA) to P. Bilancia

ACTIVITY OF TECHNOLOGY TRANSFER

- **01/03/2017** **Scientific Coordinator** for the project “*Flexible Multibody Modelling of the performance of a special machine for paper rolling*”, funded by G.D Sp.a., Via Battindarno, 91, 40133 Bologna, Italia
- **01/03/2014** **Research leader** for the project “*Integrated Design and Simulation of High-Dynamics Servomechanisms for Automatic Machines*” funded with a grant by **Borghi S.p.a.**, Via Via Cristoforo Colombo, 12, 41013 Castelfranco Emilia (MO) Italy.
- **2010-to date** **Research Consultant** for:
 - **EJ Europe s.r.l.**, Via Cesare Costa, 19/D, 41123 Modena (MO), IT.
 - **Top Campionature s.r.l.**, Via Lingualunga 21, 41014 Solignano (MO), IT.
 - **Samples System Service s.p.a.**, Via S. Anna 1, 41056, Savignano s. P. (MO), IT.
- **A.Y. 2009/2010** **Research leader** for the project “*Development of an automatic machine for the assembly of safety fasteners in hi-tech suitcases*” funded by **GT Line s.r.l.**, Via Del Lavoro 50/52, 40056 Crespellano (BO),
- **A.Y. 2010/2011** Part of the **Research Unit** for the projects:
 - “*Development of a variable-geometry medical chair*” funded by **Ergotek S.r.l.** - via delle Industrie 58/2 - 33050 Lauzacco Pavia di Udine (UD) , IT.
 - “*Development of novel methods for automatic bending and glueing of carton packages*” funded by **Emmeci S.P.A.** - 9, Via 8 Marzo - Pieve A Ripoli (FI), IT.
 - “*Robotized system for the deposit of polyurethane topping over the of hi-tech suitcases*” funded by **GT Line s.r.l.**, Via Del Lavoro 50/52, 40056 Crespellano, IT.
 - “*Development of an automatic assembly system for a pressure valve to be applied in the automotive industry*” funded by **Laserline Safety and Security Systems s.r.l.**, Via Don Locatelli 51, 20040 Roncello (Mi), IT.
- **A.Y. 2006/2007** **Research leader** for the project “*Trajectory optimization in automatic machines for plastic film winding*” funded by **Sotemapack s.r.l.**, Via Calari, 11 - 40011 Anzola dell'Emilia (BO), IT.
 - Collaborates on the project “*Analysis of thermic welding issues on plastic cases*” funded by **GIMA s.r.l.**, Via 2 Giugno 10, 40011 Anzola dell'Emilia (BO), IT.
- **A.Y. 2006/2007** **Research leader** for the project “*Application of new-generation linear electric motors as an alternative to traditional actuation based on rotary brushless motors*” funded by **TMC s.r.l.**, Via Cadriano 19, 40057 Cadriano (BO), IT.

INTERNATIONAL COLLABORATIONS

- Robotics and Mechatronics Lab., **University of Twente, The Netherlands.**
- The Sim Group, **Massachusetts General Hospital** and **Harvard Medical School** (<http://www.medicalsim.org>).
- Dept. of Automation, Biocybernetics, and Robotics, **Jožef Stefan Institute**, Ljubljana, Slovenia.
- Dept. of Mech. Eng., **Monash University**, Melbourne, Australia & PHM technology- <http://phmtechnology.com/>).
- Dept. of Mech. Eng., **University of Western Australia**, Perth, Australia.
- Dept. of Signals and Systems, **Chalmers University of Technology**, Gothenburg, Sweden.
- Daimler AG** & Dept. Of Electrical Eng., **Riga Technical University**, Riga, Latvia.
- Dept. of Applied Mechanics, CEIT, Centros de Estudios y Investigaciones Tecnica de Gipuzkoa;
- Dept. of Management Engineering Mechanics, Technical University of Denmark, Lyngby, Denmark.

SCHOLARSHIPS

- A.Ys. 2005-2008 Three years Ph. D. Scholarship granted by MIUR in Mechanics of Machines at University of Bologna, IT (ranked 1st).
- A.Y. 2003/2004 Four months Leonardo da Vinci Training Site Fellowship at Ceit, Universidad de Navarra, Spain, sponsored by , Via Nuova Ponente 22/b, 41012, Carpi (MO), IT.
- A.Y. 2001/2002 One Year Socrates Erasmus Scholarship at University of Limerick, Ireland, sponsored by University of Modena and Reggio Emilia.

PERSONAL SKILLS

- **Languages**
 1. **Italian:** Mother tongue
 2. **Spanish:** Speak and read/write with good competence.
 3. **English:** Speak fluently and read/write with proficiency.

COMPETENCES

- Advanced knowledge of several 3D Cad Environments: **Creo 2.0 package (Creo Parametric, Mechanisms and Simulate)**, **Solidworks package (CosmosWork and CosmosMotion)**, **SolidEdge**, **AutoCAD**, **Rhinoceros**, **Alias Automotive**.
- Advanced knowledge of some simulations packages: **Matlab/Simulink** and **Vissim**.
- Advanced knowledge of **Msc Visual Nastran 4D** and **Recurdyn**.
- Good knowledge of **Mathematica** and **Maple**.
- Good knowledge of some finite element analysis programs: **Ansys**, **Comsol Multiphysic**, **Marc**.
- Good knowledge of some Computational Fluid Dynamics software: **Fluent/Gambit**.
- Good knowledge of ANSI C, C++, Fortran, Access, Windows, Office and LATEX .

PERSONAL INTERESTS

- **Active Member of Lions Club International.**
- Private Pilot Licence since 2015, hang-glider pilot since 2003, non-professional skydiver since 1996.
- Scuba diving 1st level instructor (divemaster) for the International Scuba diving School (SSI).
- Black belt in Kung-Fu martial arts, Kickboxing Italian champion in 1997 - Kung-Fu Italian champion in 1996.

PUBLICATIONS

Journal Papers

- J43 M. Gadaleta, M. Pellicciari, **G. Berselli**, “*Optimization of the Energy Consumption of Industrial Robots with Automatic Code Generation*”. *Robotics and Computer-Integrated Manufacturing*, vol. 57, pp. 452-464, 2019. **Impact Factor = 3.464.**
- J42 P. Bilancia, **G. Berselli**, L. Bruzzone, P. Fanghella “*A CAD/CAE Integration Framework for Analyzing and Designing Spatial Compliant Mechanisms*”. *Robotics and Computer-Integrated Manufacturing*, vol. 56, pp. 287-302, 2019. **Impact Factor = 3.464.**
- J41 **G. Berselli**, G. Bigi, M. Pellicciari, R. Razzoli “*Design Optimization of Cutting Parameters for a Class of Radially-Compliant Spindles via Virtual Prototyping Tools,*” *International Journal of Computer-Aided Engineering and Technology*, vol. 11, pp. 232-252, 2019. **Impact Factor = 0.424.**
- J40 M. Martelli, N. Faggioni, **G. Berselli**, “*Fuel saving in a marine propulsion plant by using a continuously variable transmission*”. Proceedings of the Institution of Mechanical Engineers, *Part M: Journal of Engineering for the Maritime Environment (available online)*.

- J39 F. Parvari Rad, R. Vertechy, **G. Berselli**, V. Parenti Castelli, “Design and Stiffness Evaluation of a Compliant Joint with Parallel Architecture Realizing an Approximately Spherical Motion”. *Actuators*, vol.7, n. 20, pp.1-18, 2018 (available online).
- J38 M. Gadaleta, **G. Berselli**, M. Pellicciari, “Energy-Optimal Layout Design of Robotic Work Cells: Potential Assessment on an Industrial Case Study”. *Robotics and Computer-Integrated Manufacturing*, DOI: 10.1016/j.rcim.2016.10.002, vol. 47, pp. 102-111, 2017. **Impact Factor = 3.464.**
- J37 M. Gadaleta, **G. Berselli**, M. Pellicciari, M. Sposato, “A Simulation Tool for Computing Energy Optimal Motion Parameters of Industrial Robots” *Procedia Manufacturing*, DOI: 10.1016/j.promfg.2017.07.114, vol. 11, pp. 319-328, 2017. **Impact Factor (scimago) = 0.105.**
- J36 V. Vaschieri, M. Gadaleta, P. Bilancia, **G. Berselli**, R. Razzoli, “Virtual Prototyping of a Flexure-based RCC Device for Automated Assembly” *Procedia Manufacturing*, DOI: 10.1016/j.promfg.2017.07.121, vol. 11, pp. 380-388, 2017. **Impact Factor (scimago) = 0.105.**
- J35 P. Bilancia, G. Berselli, L. Bruzzone, P. Fanghella “A Practical Method for Determining the Pseudo-Rigid-Body Parameters of Spatial Compliant Mechanisms via CAE Tool” *Procedia Manufacturing*, DOI: 10.1016/j.promfg.2017.07.374, vol. 11, pp. 1709-1717, 2017. **Impact Factor (scimago) = 0.105.**
- J34 A. Vergnano, **G. Berselli**, M. Pellicciari, “Parametric virtual concepts in the early design of mechanical systems: a case study application”, *Springer International Journal of Interactive Design and Manufacturing*, DOI: 10.1007/s12008-015-0295-y, vol. 12(2), pp. 331-340, 2017. **Impact Factor (scimago) = 1.280.**
- J33 A. Vergnano, **G. Berselli**, M. Pellicciari, “Interactive simulation-based-training tools for manufacturing systems operators: an industrial case study,” *Springer International Journal of Interactive Design and Manufacturing*, DOI: 10.1007/s12008-016-0367-7, pp.1-13, 2017 (in press, available online). **Impact Factor = 1.280.**
- J32 F. Parvari Rad, **G. Berselli**, R. Vertechy, V. Parenti Castelli, “Design and Stiffness Analysis of a Compliant Spherical Chain with Three Degrees of Freedom”. *Precision Engineering*, DOI: 10.1016/j.precisioneng.2016.06.011, vol. 47, pp. 1-9, 2017. **Impact Factor = 2.237.**
- J31 **G. Berselli**, F. Balugani, M. Pellicciari, M. Gadaleta, “Energy-optimal motions for Servo-Systems: A comparison of spline interpolants and performance indexes using a CAD-based approach,” *Robotics and Computer Integrated Manufacturing*, DOI: 10.1016/j.rcim.2016.01.003, vol. 40, pp. 55–65, 2016. **Impact Factor = 3.464.**
- J30 F. Parvari Rad, R. Vertechy, **G. Berselli**, V. Parenti Castelli, “Analytical compliance analysis and finite element verification of spherical flexure hinges for spatial compliant mechanisms”. *Mechanism and Machine Theory*, DOI: 10.1016/j.mechmachtheory.2016.01.010, vol. 101, pp. 168-180, 2016. **Impact Factor = 2.577.**
- J29 F. Leali, A. Vergnano, F. Pini, M. Pellicciari, **G. Berselli**. “A Workcell Calibration Method for Enhancing Accuracy in Robot Machining of Aerospace Parts”, *International Journal of Advanced Manufacturing Technology*, DOI: 10.1007/s00170-014-6025-y, 2014, vol. 85(4), pp. 47-55, 2016, (invited paper). **Impact Factor = 2.209.**
- J28 **G. Berselli**, Q. Meng, R. Vertechy, V. Parenti Castelli. “An improved design method for the dimensional synthesis of flexure-based compliant mechanisms: optimization procedure and experimental validation”. *Springer Meccanica*, DOI: 10.1007/s11012-015-0276-z, vol. 51(5), pp. 1209-1225, 2016. **Impact Factor = 2.196.**
- J27 E. Oliva, **G. Berselli**, M. Pellicciari. A.O. Andrisano “An Engineering Method for the Power flow Assessment in servo-actuated automated machinery: mechatronic modelling and experimental evaluation” *Robotics and Computer Integrated Manufacturing*, DOI: 10.1016/j.rcim.2015.09.013, vol. 38, pp. 31-41, 2016. **Impact Factor = 3.464.**
- J26 **G. Berselli**, X. Tan, R. Vertechy, “Soft mechatronics: an emerging design paradigm for the conception of intrinsically compliant electro-mechanical systems”. *Springer Meccanica*, DOI:10.1007/s11012-015-0307-9, Vol. 50(11), pp. 2261-2262, 2015 (editorial). **Impact Factor = 2.196.**
- J25 M. Pellicciari, **G. Berselli**, F. Balugani. “On Designing Optimal Trajectories for Servo-Actuated Mechanisms: Detailed Virtual Prototyping and Experimental Evaluation”, *IEEE/ASME Transactions on Mechatronics*, DOI: 10.1109/TMECH.2014.2361759, 20(5), pp.2039-2052, 2015. **Impact Factor = 4.357.**
- J24 **G. Berselli**, G. Scirè Mammano, E. Dragoni. “Design Of A Dielectric Elastomer Cylindrical Actuator With Quasi-Constant Available Thrust: Modelling Procedure and Experimental Validation”. *ASME Transactions, Journal of Mechanical Design*, DOI: 10.1115/1.4028277, 136(12), 125001, 2014. **Impact Factor = 2.565.**
- J23 D. Meike, M. Pellicciari, **G. Berselli**, “Energy Efficient Use of Multi-Robot Production Lines in the Automotive Industry: Detailed System Modeling and Optimization”, *IEEE Transaction on Automation Science and Engineering*, DOI:10.1109/TASE.2013.2285813, vol. 11, no.3, pp. 798–809, 2014. **Impact Factor = 3.502.**
- J22 **G. Berselli**, A. Guerra, G. Vassura. A.O. Andrisano “An Engineering Method for Comparing Selectively Compliant Joints in Robotic Structures”. *IEEE/ASME Transactions on Mechatronics*, DOI: 0.1109/TMECH.2014.2315508, Vol. 19, No. 6, pp. 1882-1895, 2014. **Impact Factor = 4.357.**
- J21 G. Palli, C. Melchiorri, G. Vassura, U. Scarcia, **G. Berselli**, A. Cavallo, G. De Maria, C. Natale, S. Pirozzi, C. May, F. Ficuciello, B. Siciliano. “The DEXMART Hand: Mechatronic Design and Experimental Evaluation of Synergy-Based Control for Human-Like grasping”. *SAGE International Journal of Robotic Research*, DOI: 10.1177/0278364913519897, Vol. 33, No. 5, pp 799-824, 2014. **Impact Factor = 5.301.**

- J20 C. Melchiorri, G. Palli, **G. Berselli**, G. Vassura. "Development of the UB-Hand IV: Overview of Design Solutions and Enabling Technologies". *IEEE Robotics and Automation Magazine*, DOI: 10.1109/MRA.2012.2225471, Vol. 20, No. 3, art. No. 6523131, pp.72-81, 2013. **Impact Factor = 3.276.**
- J19 M. Pellicciari, **G. Berselli**, F. Leali, A. Vergnano. "A Method for Reducing the Energy Consumption of Pick-and-place Industrial Robots". *IFAC, Mechatronics*, DOI: 10.1016/j.mechatronics.2013.01.013, Vol. 23, No. 3, pp.326-334, 2013. **Impact Factor = 2.496.**
- J18 **G. Berselli**, R. Vertechy, M. Babic, V. Parenti Castelli. "Dynamic Modeling and Experimental Evaluation of a Constant-force Dielectric Elastomer Actuator". *SAGE Journal of Intelligent Material Systems and Structures*, DOI: 10.1177/1045389X12457251, Vol. 24, No. 6, pp.779-791, 2013. **Impact Factor = 2.255.**
- J17 R. Vertechy, **G. Berselli**, M. Bergamasco, V. Parenti Castelli. "Continuum Thermo-Electro-Mechanical Model for Electrostrictive Elastomers". *SAGE Journal of Intelligent Material Systems and Structures*, DOI: 10.1177/1045389X12455855, Vol. 24, No. 6, pp. 761-778, 2013. **Impact Factor = 2.255.**
- J16 M. Pellicciari, C. Renzi, F. Leali, A.O. Andrisano, **G. Berselli**. "Selecting Alternatives in the Conceptual Design Phase: Application of Fuzzy-AHP and Pugh's Controlled Convergence". *International Journal of Interactive Design and Manufacturing*, DOI: 10.1007/s12008-013-0187-y, vol. 9(1), pp.1-17, 2013. **Impact Factor = 1.280.**
- J15 R. Vertechy, M. Bergamasco, **G. Berselli**, G. Vassura, V. Parenti Castelli. "Compliant Actuation Based on Dielectric Elastomers for a Force-Feedback Device: Modeling and Experimental Evaluation". *Fracture and Structural Integrity*, DOI: 10.3221/IGF-ESIS.23.05, Vol. 23, pp. 47-56, 2013. **Impact Factor = 2.229.**
- J14 G. Palli, C. Melchiorri, G. Vassura, **G. Berselli**, S. Pirozzi, C. Natale, G. De Maria, C. May, "Innovative Technologies for the Next Generation of Robotic Hands". *Springer Tracts in Advanced Robotics*, DOI: 10.1007/978-3-642-29041-1_4, Vol. 80, pp. 173-218, 2012. **Impact Factor = 0.774.**
- J13 G. Palli, **G. Berselli**, C. Melchiorri, G. Vassura. "Design of a Variable Stiffness Actuator Based on Flexures". *ASME Transactions, Journal of Mechanisms and Robotics*, DOI: 10.1115/1.4004228, Vol. 3, No. 3, pp. 034501(5), 2011. **Impact Factor = 2.371.**
- J12 **G. Berselli**, M. Piccinini, G. Palli G. Vassura. "Engineering Design of Fluid-filled Soft Covers for Robotic Contact Interfaces: Guidelines, Nonlinear Modeling, and Experimental Validation". *IEEE Transactions on Robotics*, DOI: 10.1109/TRO.2011.2132970, Vol. 27, No. 3, pp. 436-449, 2011. **IF = 4.036. Recipient of IEEE I-RAS Young Author Best Paper Award 2012.**
- J11 **G. Berselli**, R. Vertechy, G. Vassura, V. Parenti Castelli. "Optimal Synthesis of Conically-Shaped Dielectric Elastomer Actuators: Design Methodology and Experimental Validation". *IEEE/ASME Transaction on Mechatronics*, DOI: 10.1109/TMECH.2010.2090664, Vol. 16, No. 1, pp. 67-79, 2011. **Impact Factor = 4.357.**
- J10 **G. Berselli**. "Modeling and Simulation of an Inertia-type Infinitely Variable Transmission." *ASME Transactions, Journal of Mechanical Design.*, DOI: 10.1115/1.4000454, Vol. 132, No. 3, pp. 0345041-0345045, 2010. **Impact Factor =2.565.**
- J9 R. Vertechy, **G. Berselli**, V. Parenti Castelli, G. Vassura. "Optimal Design of Lozenge-shaped Dielectric Elastomer Linear Actuators: Mathematical Procedure and Experimental Validation". *SAGE, Journal of Intelligent Material Systems and Structures*, DOI: 10.1177/1045389X09356608, Vol. 21, pp. 503-515, 2010. **Impact Factor = 2.255.**
- J8 M. Babic, R. Vertechy, **G. Berselli**, V. Parenti Castelli, J. Lenarcic G. Vassura. "An Electronic Driver for Improving the Open and Closed Loop Electromechanical Response of Dielectric Elastomer Actuators". *IFAC, Mechatronics*, DOI: 10.1016/j.mechatronics.2009.11.006, Vol. 20, No. 2, pp. 201-212, 2010. **Impact Factor = 2.496.**
- J7 **G. Berselli**, R. Vertechy, G. Vassura, V. Parenti Castelli. "Design of a Single-Acting Constant-Force Actuator Vased on Dielectric Elastomers". *ASME Transactions, Journal of Mechanisms and Robotics*. DOI: 10.1115/1.3147182, Vol. 1, No. 3, pp. 031-038, 2009. **Impact Factor = 2.371.**
- J6 A. Albert, **G. Berselli**, L. Bruzzone, P. Fanghella, "Mechanical Design and Simulation of an Onshore Four-Bar Wave Energy Converter," *Renewable Energies*, 2017. **IF= 2.203.**
- J5 G. Berselli, P. Bilancia, L. Bruzzone, P. Fanghella "Re-Design of a Packaging Machine Employing Linear Servomotors: a Description of Modelling Methods and Engineering Tools" *Procedia Manufacturing*, 2019. **Impact Factor (scimago) = 0.105.**
- J4 P. Bilancia, **G. Berselli**, G. Palli. "Virtual and Physical Prototyping of a Beam-Based Variable Stiffness Actuator for Safe Human-Machine Interaction". *Robotics and Computer Integrated Manufacturing*, (submitted), 2019. **Impact Factor = 3.464.**
- J3 P. Bilancia, **G. Berselli**, S. Magleby, L. Howell. "On the Modeling of a Contact-Aided Cross Axis Flexural Pivot" *ASME Transactions, Journal of Mechanical Design* (under review).
- J2 P. Bilancia, **G. Berselli**. "Design and Testing of a Monolithic Compliant Constant Force Mechanism". *Smart Materials and Structures*, (submitted), 2019. **Impact Factor = 3.543.**
- J1 P. Bilancia, **G. Berselli**, L. Bruzzone, P. Fanghella "Design Of A Bio-Inspired Contact-Aided Compliant Joint Via Cad/Cae Tools Integration" *IEEE/ASME Transactions on Mechatronics* (under review).

Book (Edited)

BE1 **G. Berselli**, R. Vertechy, G. Vassura, “*Smart actuation and sensing systems - recent advances and future challenges*”. InTech, ISBN 978-953-51-0798-9, DOI: 10.5772/2760 Hard cover, 716 pages, 2012.

Book Chapters

- B21 L. Bruzzone, G. Berselli, F. Crenna, P. Fanghella, “*An Experimental Setup for the Introduction of High School and Undergraduate Students to Vibration and Mechatronics Topics*”. Springer, *Advances in Mechanism and Machine Science. IFToMM WC 2019. Mechanisms and Machine Science*, ISBN: 978-3-030-20130-2, vol. 73, pp. 795–804, 2019.
- B20 L. Bruzzone, **G. Berselli**, P. Bilancia, P. Fanghella. “*Design Issues for Tracked Boat Transporter Vehicles*”. Springer, *Advances in Mechanism and Machine Science. IFToMM WC 2019. Mechanisms and Machine Science*, ISBN: 978-3-030-20130-2, vol. 73, pp. 3671–3679, 2019.
- B19 P. Fanghella, G. Berselli, L. Bruzzone. “*Analytical or computer-aided graphical methods for introductory teaching of mechanism kinematics?*”. Springer, *New Trends in Educational Activity in the Field of Mechanism and Machine Theory - Mechanisms and Machine Science*, ISBN: 978-3-030-00107-0, vol. 66, pp. 149–156, 2019.
- B18 L. Bruzzone, P. Fanghella, **G. Berselli**, P. Bilancia. “*Additive Manufacturing-Oriented Redesign of Mantis 3.0 Hybrid Robot*”, Springer, *Advances in Service and Industrial Robotics - Mechanisms and Machine Science*, ISBN: 978-3-030-00231-2, vol. 67, pp. 272–280, 2019.
- B17 **G. Berselli**, M. Gadaleta, A. Genovesi, M. Pellicciari, M. Peruzzini, R. Razzoli, “*Engineering Methods and Tools Enabling Reconfigurable and Adaptive Robotic Deburring*”, Springer, *Lecture Notes in Mechanical Engineering*, pp. 1-8, 2016 (in press).
- B16 **G. Berselli**, M. Pellicciari, G. Bigi, A.O. Andrisano, “*Virtual prototyping of a compliant spindle for robotic deburring*,” Springer, *Lecture Notes in Electrical Engineering*, ISBN: 978-981287986-8, vol. 365, pp. 17–30, 2016.
- B15 F. Parvari Rad, R. Vertechy, **G. Berselli**, V. Parenti Castelli. “*Compliant Serial 3R Chain with Spherical Flexures*”. Springer, *Advances in Robot Kinematic*, 2016 (in press).
- B14 F. Parvari Rad, **G. Berselli**, R. Vertechy, V. Parenti Castelli. “*Compliance based characterization of spherical flexure hinges for spatial compliant mechanisms*”. Springer, *Advances on Theory and Practice of Robots and Manipulators - Mechanisms and Machine Science*, ISBN: 978-33-190-7057-5, vol. 22, pp. 401–409, 2014.
- B13 F. Parvari Rad, **G. Berselli**, R. Vertechy, V. Parenti Castelli. “*Evaluating the Spatial Compliance of Circularly Curved-Beam Flexures*”. Springer, *Computational Kinematics*, ISBN: 978-94-007-7213-7, Vol. 15, pp. 377-386, 2014.
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- PA2. **G. Berselli**: “Imballaggio Sovrapponibile”. MO2007A000084, Issued for Samples System Service S.p.a., 2007
- PA3. G. C. Modugno, G. Vassura, **G. Berselli**: “Dispositivo per la Movimentazione di Pazienti”. RM2007A000252, patent issued for Università di Bologna, 2007.

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