PERSONAL INFORMATION

Name	**MARCO TRONCOSSI**
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Nationality	Italian
Date of birth	13 DECEMBER 1975

WORK EXPERIENCE

• Dates (from – to)	29.07.2019 to date
• Name and address of employer	DIN – Dept. of Industrial Engineering of the University of Bologna Via Fontanelle 40, 47121 Forlì (FC), Italy
• Type of business or sector	Education and Research
• Occupation or position held	Associate Professor
• Main activities and responsibilities	Research in the fields of **Dynamics of Machines** and **Robotics**. Teaching in the fields of **Mechanics of Machines**

• Dates (from – to)	01.04.2005-28.07.2019
• Name and address of employer	DIN – Dept. of Industrial Engineering of the University of Bologna Via Fontanelle 40, 47121 Forlì (FC), Italy
• Type of business or sector	Education and Research
• Occupation or position held	Assistant Professor
• Main activities and responsibilities	Research in the fields of **Dynamics of Machines** and (partially) **Robotics**. Teaching in the fields of **Mechanics of Machines**

EDUCATION AND TRAINING

• Date	2020
• Name and type of organisation providing education and training	Italian Ministry of Research and Education
• Title of qualification awarded	Qualification to Full Professorship
• Level in national classification	Qualification for Academic Progress

• Date	2013
• Name and type of organisation providing education and training	Italian Ministry of Research and Education
• Title of qualification awarded	Qualification to Associate Professorship
• Level in national classification	Qualification for Academic Progress

• Dates (from – to)	01.01.2003-31.12.2005
• Name and type of organisation providing education and training	University of Bologna
• Title of qualification awarded	Ph.D. in Mechanics of Machines; Dissertation: "A Procedure for the Synthesis of Upper Limb Prostheses. A Case of Study: Prototype Manufacturing of a Novel Two-DoF Myoelectric Shoulder" (supervisor: prof. Vincenzo Parenti Castelli).
• Level in national classification	Ph.D.

• Date	July 2003
• Name and type of organisation providing education and training	University of Bologna
• Title of qualification awarded	Professional Engineer Certificate
• Level in national classification	Qualification for professional practice.

• Date	October 2002
• Name and type of organisation providing education and training	University of Bologna
• Title of qualification awarded	Degree in Mechanical Engineering: 94/100; Dissertation: "Analysis on the state-of-art of upper limb prostheses and on the research of new solutions" (in Italian).
• Level in national classification	1st Level Degree (Bachelor equivalent) + 2nd Level Degree (Master equivalent)

LINGUISTIC SKILLS

MOTHER TONGUE	ITALIAN
OTHER LANGUAGES	ENGLISH: CEFR Level C1 (IELTS certification, 2019)

ACADEMIC ACTIVITY

- 2023 to date: lecturer of Module 1 of the teaching "Industrial Robotics" for the 2nd Cycle Degree International Course in Advanced Automotive Engineering (joint degree at the University of Bologna and the University of Modena);
- 2020-2022: instructor in charge of the teaching "Industrial Robotics" for the 2nd Cycle Degree International Course in Advanced Automotive Engineering (joint degree at the University of Bologna and the University of Modena) – lecturer Module 2;
- 2014 to date: instructor in charge of the teaching of "Mechanics of Robots and Automatic Machines" for the 2nd Cycle Degree Course in Mechanical Engineering at the University of Bologna;
- 2011 to date: instructor in charge of the teaching of "Mechanics of Drives" for the 1st Cycle Degree Course in Mechanical Engineering at the University of Bologna;
- 2011-2012: instructor in charge of the teaching of "Foundation of Mechanics I" for the 1st Cycle Degree Course in Automation Engineering at Tongji University (Shanghai, China);
- 2006-2010: instructor in charge of the teaching of "Mechanics of Robots" for the 2nd Cycle Degree Course in Mechanical Engineering at the University of Bologna;
- 2006 to date: supervisor of 26 BSc and 59 MSc theses, and co-supervisor of 2 BSc and 23 MSc theses.
  Four MSc theses were awarded in 2019, 2022, and 2023 (two ones), respectively, by *UCIMU*, the Italian society of machine tool manufacturers.
- 2019 to date: supervisor of 4 Ph.D. candidates (DIMSAI, University of Bologna);
- 2018-2021: supervisor of 2 Ph.D. dissertations;
- 2010-2012: co-supervisor of 1 Ph.D. dissertation.
- 2003-2019: assistant instructor for a number of teachings relative to the fields of Mechanics of Machines for 1st and 2nd Cycle Degree Courses in Mechanical Engineering, Energy Engineering, Industrial and Management Engineering, and Food Industry Engineering at the University of Bologna.

ACADEMIC BOARDS

- 2022 to date: member of the School of Engineering board of the University of Bologna;
- 2021 to date: member of the restricted board ("*Giunta*") of the DIN department (elected as representative of Associate Professors);
- 2020 to date: member of the Academic Board of the PhD program in *Mechanics and Advanced Engineering Sciences* (*DIMSAI*) – University of Bologna, Italy, with role of Delegate for Admission Procedures;
- 2015-2018: member of the restricted board ("*Giunta*") of the DIN department (elected as representative of Assistant Professors);
- 2010 to 2012: member of the Academic Board of the PhD program in *Mechanics and Advanced Engineering Sciences* (*DIMSAI*) – *Curriculum n.3: Mechanics of Machines* (University of Bologna, Italy);
- 2007 to 2010: member of the Academic Board of the PhD program *Mechanics of Machines* (University of Bologna, Italy).

AWARDS AND HONOURS

1. **Best Case Study Award** at the International Conference Surveillance 8, Roanne (France) October 20-21, 2015 ("Experimental vibration analysis of an automatic machine for plastic cap assembly", by A. Martini, M. Troncossi, A. Rivola).
2. **Antonio D'Auria Prize** for projects and prototypes of innovative robotic devices to aid the motor disabled. Milan (Italy) February, 28, 2009.
3. **Masi-Carducci Prize***:* biennal scholarship awarded by the Department of Mechanical, Aeronautic, Nuclear, and Metallurgical Engineering of the University of Bologna to distinguished young researchers in the field of Mechanics of Machines, 2004.
4. **Best Methodological Paper Award** at the IV SIAMOC Congress, Clinical Motion Analysis Italian Society, Catania (Italy) October 23-25, 2003 ("Skin Artifact Evaluation in Humeral Axial Rotation", by Cutti A.G., Paolini G., Troncossi M., Cappello A.).

INVITED TALKS

1. Keynote lecture:
   "Experimental HALTs with Sine-on-Random Synthesized Profiles" – *25th International Conference on Vibroengineering*, May 30–June 1, 2017, Liberec (Czech Republic)
2. "Experimental verification of the FDS-based Mission Synthesis methodology" at *LMS – Siemens Business*, November 5, 2013, Leuven (Belgium).
3. "Patient-oriented design of active upper-limb prostheses" at *BiHRI Summer School – Biomechanics in Human-Robot Interaction,* July 9–14, 2012, Arezzo (Italy).

PROJECT PARTICIPATION

- The Candidate was **responsible** for the following **granted research projects**:
  1. *"LAboratory of Lightweight Aircrafts COndition Monitoring: integration of multimodal experimental data fusion and digital twin simulations - LA2COM".* Granted by Emilia-Romagna Region (Italy) through the program "PR-FESR Emilia Romagna 2021-2027 - Priorità 1 - Obiettivo specifico 1.1 - Azione 1.1.2 - Bando per progetti di ricerca industriale strategica rivolti agli ambiti prioritari della Strategia di Specializzazione Intelligente 2023-2024". Period: 2024–2026. **Responsible for local unit**.
  2. *"Higher Education School in NVH for Industry 4.0".* Granted by Emilia-Romagna Region (Italy) through the program ""Progetti di alta formazione in ambito tecnologico economico e culturale per una regione della conoscenza europea e attrattiva". Period: 2021–2023. **Responsible for local unit**.
  3. *"C-Voice Mask: evolution of a full-face protection device from functional prototype to certified product".* Granted by Emilia-Romagna Region (Italy) through the program "POR-FESR 2014-2020 - Asse 1 - Azione 1.2.2 - Bando per sostenere progetti di ricerca ed innovazione per lo sviluppo di soluzioni finalizzate al contrasto dell'epidemia da COVID_19". Period: 2020–2021. **Principal Investigator**.
  4. *"Mechatronic solutions for flexible and collaborative automation in indusrty: robotized automatic machines".* PhD grant funded by Emilia-Romagna Region (Italy) through the program ""Alte competenze per la ricerca, il trasferimento tecnologico e l'imprenditorialità. Piano Triennale Integrato Fondo Sociale Europeo, Fondo Europeo di Sviluppo Regionale e Fondo Europeo Agricolo per lo Sviluppo Rurale – Ambito B: Risorse umane per la specializzazione intelligente". Period: 2018–2021. **Principal Investigator**.

- The Candidate was **responsible** for the following **contracts** dealing with research/consulting activities funded by companies/institutions:
  1. *"Measurement equipment investigation and condition monitoring of automatic machines and machine tools" – BUCCI AUTOMATIONS* S.p.A. *(Ravenna, Italy)*
  2. *"Elastodynamic analysis of ultrasonic welding systems" – IL SENTIERO INTERNATIONAL CAMPUS S.r.l. (Modena, Italy)*
  3. *Experimental vibration analysis of an automatic machine for plastic cap assembly" – IMA AUTOMATION division (Bologna, Italy)*
  4. *"Experimental vibration analyses and components optimization of an automatic bar-feeder" – BUCCI AUTOMATIONS* S.p.A. *(Ravenna, Italy)*
  5. *"Design of a robotic cell for the automated assembly of mechanical components" – UNITEC S.p.A. (Ravenna, Italy)*
  6. *"Experimental modal analysis of the Zefhir helicopter"* – CURTI COSTRUZIONI MECCANICHE S.p.A. (Ravenna, Italy)
  7. *"Vibration analysis and components optimization of new automatic machines" – BUCCI AUTOMATIONS* S.p.A. *(Ravenna, Italy)*
  8. *"Experimental determination of the natural frequencies of an ultralight helicopter" – CURTI S.p.A. (Ravenna, Italy)*
  9. *"Vibration behavior analysis and prediction of a machine tool with rotating table" – BUCCI AUTOMATIONS* S.p.A. *(Ravenna, Italy)*

10. *"Vibration measurements analysis and synthesis of test profiles for accelerated qualification testing" – EASTING S.r.l.s. (Trieste, Italy)*
11. *"Vibration qualification testing and measurements of electromechanical devices for aerospace applications" – SITAEL S.p.a. (Bari, Italy)*
12. *"Vibration measurements and analysis of a prototypal device for cell cultures testing" – GRUPPO VILLA MARIA CARE AND RESEARCH MARIA CECILIA HOSPITAL (Ravenna, Italy)*
13. *"Vibration qualification testing of the automotive electronic control board OBI-1" - ALMAAUTOMOTIVE S.r.l. (Bologna, Italy)*
14. *"Comparative analysis of signals acquired by accelerometers and hydrophones for automatic leak detection in water pipes" - HERA S.p.a. (Bologna, Italy)*
15. *"Bench tests of an electromechanical shoulder articulation for upper limb prothesis" - INAIL PROSTHETIC CENTRE (Vigorso di Budrio, BO - Italy)*
16. *"Experimental acquisition of ground transmitted-vibrations of an industrial plant" - ALPI S.p.A. (Modigliana, FC - Italy)*
17. *"Experimental measurements of vibrations on a fitness vibrating footboard" - support to a freelancer for judicial expertise (Cesena, FC - Italy)*

- The Candidate was involved as **investigator** for the following **granted research projects**:
  - *POR-FESR 2014-2020 – "High performance, intelligent and interconnected automation solutions for the Industry 4.0 (SMART AUTOMATION SYSTEMS) - Digital solutions advanced for industrial automation"*
  - *POR-FESR 2014-2020 – "IGMI ECO-T: New sustainable transfer machine featuring high productivity and competitiveness"*
  - *POR-FESR 2014-2020 – "Process innovation for the sustainable supply chain of ceramic tiles (IPERCER)"*
  - *PRIN 2012 – "Intelligent CAble-driven roBOTs (ICABOT): an adaptive approach to robot design and control"*
  - *Project SEED 2009 (Started in February 2010) - "Brain computer interfaces for Robotic enhanced Action in Visuo-motOr tasks (BRAVO)"*
  - *PRRIITT 2008 (Started in August 2009) - "INTERMECH - Laboratory for the Advanced Mechanics. Project: Acoustics and Vibrations (LAV)"*
  - *PRRIITT 2007 (Started in May 2008) - "Automation, Electronics and Bioengineering: Technologies for Manufacturing and People (AER-TECH LAB)"*
  - *Regional Industrial Research Project and Pre-competitive development 2006 (Started in January 2008) - "Consolidation, enhancement and validation of a technology platform for vibration and noise control: VIBRACUSTICA". Approved by the Ministry of Education*
  - *FIRB 2006 (Started in March 2008) - "Definition of an integrated platform for the design of engine components of motorvehicles characterized by a low weight/power ratio and reduced environmental impact, by means of novel modelling methods and by carrying out research on innovative materials and process technologies, also transferable to other vehicle components"*
  - *PRRIITT 2004 (Started in June 2005) - "Strategic Network for Assistive & Rehabilitation Technology in Emilia-Romagna (STARTER)"*

KNOWLEDGE TRANSFER

- October 2023 to date: certified *AcadeMy Partner of Mitsubishi Electric – Factory Automation* (Italian division)
- December 2021 to date: Founding partner and shareholder of *TURTLE S.r.l.*, spin-off of the University of Bologna. https://www.turtlesrl.com/en/

RESEARCH INTERESTS

A. REHABILITATION ROBOTICS

- A1. upper limb powered prostheses
- A2. upper limb exoskeletons

B. ELASTODYNAMIC MODELLING OF MECHANICAL SYSTEMS

- B1. structures
- B2. mechanisms

C. EXPERIMENTAL ANALYSIS OF MECHANICAL VIBRATIONS

- C1. monitoring and diagnostics of mechanical system
- C2. identification of modal parameters
- C3. vibration qualification testing

A. REHABILITATION ROBOTICS In the field of Rehabilitation and Assistive Robotics, the candidate has been performing activities for the development of robotic aids (including synthesis, design, prototyping, and testing) addressed to subjects with impairments at the upper limbs. In particular, the research is focused on powered prostheses for upper limb amputees (A1) and, more recently, on hand and wrist exoskeletons for the rehabilitation of post-stroke patients (A2). The clinical aspects and the technical factors are systematically studied in order to optimize the contrasting requirements of the devices, namely their functional performance on one side and their wearability and easiness of control on the other one.

In particular, for the activity A1, carried out in a strict collaboration with the INAIL Prosthetic Centre (Bologna, Italy), the candidate conceived and implemented an original procedure to optimize the design of upper limb prostheses for amputees with high-level disarticulations. The procedure, which can be considered as a multi-criteria optimization algorithm that consistently treats both clinical and engineering issues, was applied to support the design of new powered joints by determining the optimal architectures of the final prostheses for different amputee's reference profiles.

Based on the technical specifications obtained from the procedure application, a novel shoulder articulation with 2 degrees of freedom (DOFs) and a new powered humeral rotator were designed, manufactured and tested (these devices being commercially unavailable). The prosthesis equipped with the powered shoulder articulation was awarded with a national prize in 2009 (cfr. section "Awards"). In this field the candidate was the principal investigator, being upper limb prosthetics the main topic afforded within his Ph.D. program.

Among the several challenges afforded in this multidisciplinary research, it is worth mentioning a problem arisen in the experimental determination of the reference trajectories to be simulated by different upper limb prosthesis models. The data acquired by means of an optoelectronic system for the human motion analysis can be affected by an error, named "skin artifact", due to the relative motion between the subject's skin (where reflective markers are fixed) and the underlying bones (whose motion must be tracked). A method for the evaluation (and possible compensation) of the error was proposed and particularly appreciated by the Italian Society of Clinical Motion Analysis, which endorsed it with a special award in 2003 (cfr. section "Awards"). In this context, the candidate (being the only mechanical engineering among biomedical and electronic engineers in the research team involved in the activity) proposed and implemented the original algorithms that, based on spatial kinematic analysis of two reference frames properly built, permit to estimate the skin artifact (what is the core of the work).

The activity A2, more recent, was started within the framework of a project (Project SEED 2009: "Brain computer interfaces for Robotic enhanced Action in Visuo-motOr tasks (BRAVO)") funded by the Italian Institute of Technology (Genoa, Italy). The research unit of the candidate was involved in the design of the distal part of an upper limb exoskeleton, i.e. the wrist and the hand. Many efforts were spent to determine the guidelines and the technical specifications for the development of the hand exoskeleton, whose purpose is to assist post-stroke patients in grasping cylindrical objects during rehabilitation exercises. An original solution with two DOFs, based on a modular layout of the finger mechanisms, was selected and developed. In this context, the candidate defined the algorithms for the synthesis of the finger mechanisms and supervised their implementation, participated to the executive design, supervised the prototype manufacturing and bench testing, and finally contributed – in part only – to the preliminary tests in collaboration with the "Perceptual Robotics Laboratory – PERCRO" (Pisa, Italy). For the development of the wrist exoskeleton, the candidate contributed to the executive design, the prototype manufacturing, and the bench testing.

B. ELASTODYNAMIC MODELLING OF MECHANICAL SYSTEMS

The studies in the field of Dynamic of Machines started in 2006, when the candidate, just completed the PhD program, joined the research unit led by prof. Alessandro Rivola, active in this field. The research deals with the study of the dynamic behaviour of high-performance mechanical systems (e.g. automatic machines, machine tools, engine timing systems and cranktrains). Uncontrolled vibrations, due to the inertial effects associated with rapid and non-uniform motions, are known to possibly worsen the actual performance of these systems.

In this context, the purpose of the research activity is to analyze and/or predict the system dynamic behaviours by means of simulations of proper kineto-elastodynamic models. The core of this study consists of the definition and simulation of different models, aiming at defining general procedures suitable for the analysis of the most popular mechanical (sub-)systems. Most of the papers co-authored by the candidate are relative to industrial applications, for which the research activities were carried out in collaboration with companies active in the fields of industrial automation and automotive. Applications are various: analyzing the relationship between the system parameters (geometric and functional parameters) and the system dynamic behaviour, predicting the vibratory behaviour of mechanical systems for the design optimization of components and/or mechanisms, supporting the experiments for vibration testing. Depending on the system and the application of the models (which generally present several non-linearities), different modelling approaches are adopted: lumped-parameters, finite elements, flexible multibody systems. The simulation results of the developed models are often validated by means of experimental data (so that activities B and C are somehow linked).

The contribution of the candidate in this field has been progressively grown from the first applications to the most recent works, when a complete autonomy was acquired in the model development and implementation as well as in the results analysis and interpretation.

C. EXPERIMENTAL ANALYSIS OF MECHANICAL VIBRATIONS

The study of the dynamic behaviour of a mechanical system generally requires experimental data (e.g. for the model validations). A proper signal processing is needed to correctly interpret all the information brought by the experimental data. Many techniques can be used to process the data (typically acquired by means of accelerometers, force sensors, tacho sensors), from the common time domain analysis and frequency domain analysis to the more advanced time-frequency analyses. The experimental study of vibrations involves many fields, and the candidate's activity has been dealing with:

- Measurement of vibration level in machines and structures;
- Experimental Modal Analysis;
- Operational Modal Analysis;
- Updating and validation of numerical models;
- Vibration qualification testing;
- Rotating machinery analysis.

Though this activity is the most recent in the candidate's experience, nowadays he has competencies to autonomously carry out experimental campaigns from the first stage of design of experiment to the test conduction, from the data processing (using advanced commercial software and/or by elaborating self-made algorithms) to the final result interpretation. In particular, the candidate operates with the instrumentation present at the Laboratory of Dynamics and Machine Vibrations of his department, equipped for the measurement and the experimental analysis of machine vibrations, for experimental modal analysis and for vibration qualification testing.

An interesting research deals with the Mission Synthesis (i.e. the definition of test input profiles) for vibration qualification testing (and is partially carried out in collaboration with Siemens Industry Software). Different numerical/experimental activities are conducted aiming (1) at the verification of the Fatigue Damage Spectrum (FDS) method, widely used for the determination of vibratory excitations for accelerated fatigue life testing, (2) at the validation of different methods to control the Kurtosis of both input and response during shaker tests, and (3) at the definition of a Mission Synthesis procedure for Sine-on-Random input profiles.

INTERNATIONAL JOURNAL PAPERS

[J1] FALCETELLI F., MARTINI A., DI SANTE R., TRONCOSSI M., "Strain Modal Testing with Fiber Bragg Gratings for Automotive Applications", Sensors, 2022, **22**(3):946

[J2] TRONCOSSI M., CANELLA G., VINCENZI N., "Identification of polymer concrete damping properties", *Proc Inst Mech Eng C J Mech Eng Sci*, 2022, **236**(21):10657-10666

[J3] VICINI et al., "Overview of different modified full-face snorkelling masks for intraoperative protection", *ACTA OTORHINOLARYNGOLOGICA ITALICA*, 2020, **40**(5):317-324

[J4] TRONCOSSI M., TADDIA S., RIVOLA A., MARTINI A., "Experimental characterization of a high-damping viscoelastic material enclosed in carbon fiber reinforced polymer components", *Applied Science*, 2020, **10**(18):6193

[J5] STEINWOLF A., CORNELIS B., PEETERS B., VAN der AUWERAER H., RIVOLA A., TRONCOSSI M., "On the Use of Kurtosis Control Methods in Shaker Testing for Fatigue Damage", *Journal of Testing and Evaluation*, 2020, **48**(1)

[J6] MARTINI A., TRONCOSSI M., RIVOLA A., "Algorithm for the static balancing of serial and parallel mechanisms combining counterweights and springs: Generation, assessment and ranking of effective design variants", *Mechanism and Machine Theory*, 2019, **137**:336-354

[J7] MARTINI A., RIVOLA A., TRONCOSSI M., "Autocorrelation analysis of vibro-acoustic signals measured in a test field for water leak detection", *Applied Sciences*, 2018, **8**(12), id. 2450, pp. 1-15

[J8] ANGELI A., CORNELIS B., TRONCOSSI M., "Synthesis of Sine-on-Random vibration profiles for accelerated life tests based on Fatigue Damage Spectrum equivalence", *Mechanical Systems and Signal Processing*, 2018, **103**:340-351

[J9] MARTINI A., TRONCOSSI M., VINCENZI N., "Structural and elastodynamic analysis of rotary transfer machines by means of a Finite Element model", *Journal of the Serbian Society for Computational Mechanics*, 2017, **11**(2):1-16

[J10] CAMPIONE I., TRONCOSSI M., MAIELLO C., LUCISANO G., "Geometrical Parameters Optimization of Suction Cups-Based Devices for Large-Sized Ceramic Slabs Handling", *Journal of the Serbian Society for Computational Mechanics,* 2017, **11**(2):80-97

[J11] COCCONCELLI M., TRONCOSSI M., MUCCHI E., AGAZZI A., RIVOLA A., RUBINI R., DALPIAZ G., "Numerical and experimental dynamic analysis of IC engine test beds equipped with highly flexible couplings", *Shock & Vibration*, Vol. **2017**, 5802702, pp. 1-16.

[J12] MARTINI A., TRONCOSSI M., RIVOLA A., "Vibro-Acoustic Measurements for Detecting Water Leaks in Buried Small-Diameter Plastic Pipes", *Pipeline Systems Engineering and Practice*, 2017, **8**(4):04017022

[J13] MARTINI A., TRONCOSSI M., RIVOLA A., "Leak Detection in Water-Filled Small-Diameter Polyethylene Pipes by means of Acoustic Emission Measurements", *Applied Sciences*, 2017, **7**(2), pp. 1-13

[J14] MAZZOTTI C., TRONCOSSI M., PARENTI CASTELLI V., "Dimensional Synthesis of the Optimal RSSR Mechanism for a Set of Variable Design Parameters", *Meccanica*, 2017, **52**(10):2439-2447

[J15] TRONCOSSI M., MOZAFFARI-FOUMASHI M., PARENTI-CASTELLI V., "An Original Classification of Rehabilitation Hand Exoskeletons", *Journal of Robotics and Mechanical Engineering Research*, 2016, **1**(4):17-29

[J16] TRONCOSSI M., DI SANTE R., RIVOLA A., "Response Measurement by Laser Doppler Vibrometry in Vibration Qualification Tests with Non-Gaussian Random Excitation", *Review of Scientific Instruments*, 2016, **87**(102502):1-9

[J17] MARTINI A., TRONCOSSI M., "Upgrade of an Automated Line for Plastic Cap Manufacture Based on Experimental Vibration Analysis", *Case Studies in Mechanical Systems and Signal Processing*, 2016, **3**:28-33

[J18] LEONARDIS D., BARSOTTI M., LOCONSOLE C., SOLAZZI M., TRONCOSSI M., MAZZOTTI C., PARENTI CASTELLI V., PROCOPIO C., LAMOLA G., CHISARI C., BERGAMASCO M., FRISOLI A., "An EMG-Controlled Robotic Hand Exoskeleton for Bilateral Rehabilitation", *IEEE Transaction on Haptics*, 2015, **8**(2):140-151

[J19] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Static balancing of a Parallel Kinematics Machine with *Linear-Delta architecture*: theory, design and numerical investigation", *Mechanism and Machine Theory*, 2015, **90**:128-141

[J20] MARTINI A., TRONCOSSI M., RIVOLA A., "Automatic Leak Detection in Buried Plastic Pipes of Water Supply Networks by Means of Vibration Measurements", *Shock and Vibration* (Hindawi), 2015, Article ID 165304, 13 pages

[J21] RIVOLA A., TRONCOSSI M., "Dynamic analysis of a motorbike engine timing system: Experimental and numerical investigation of the geartrain", *Mechanical Systems and Signal Processing,* 2014, **48**(1-2):325-338

[J22] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Elastodynamic behaviour of balanced closed-loop mechanisms: numerical analysis of a four-bar linkage", *Meccanica*, 2014, **49**(3):601-614

[J23] RIVOLA A., TRONCOSSI M., "Zebra tape identification for the instantaneous angular speed computation and angular resampling of motorbike valve train measurements", *Mechanical Systems and Signal Processing,* 2014, **44**(1-2):5-13

[J24] RICCI S., TRONCOSSI M., RIVOLA A., "Modal Selection Through Effective Interface Mass With Application to Flexible Multibody Cranktrain Dynamics", *ASME Journal of Computational and Nonlinear Dynamics*, 2014, Vol. **9**(1) – art. No. 011002, 10 pages

[J25] MARTINI A., TRONCOSSI M., RIVOLA A., "Elastodynamic Effects Of Mass-Balancing: Experimental Investigation Of A Four-Bar Linkage", *Advances in Mechanical Engineering*, 2013, Article **ID949457**, 10 pages

[J26] RICCI S., TRONCOSSI M., RIVOLA A., "Model reduction of the flexible rotating crankshaft of a motorcycle engine cranktrain", *International Journal of Rotating Machinery*, Vol. **2011**, 2011, Article ID: 143523, 9 pages

[J27] TRONCOSSI M., CAMINATI R., PARENTI-CASTELLI V., "Determination of the Design Specifications of a Powered Humeral Rotator for a Myoelectric Prosthesis", *Proceedings of the Institution of Mechanical Engineers, Part H, Journal of Engineering in Medicine*, 2011, Vol. **225**(5):487-498

[J28] TRONCOSSI M., GRUPPIONI E., CHIOSSI M., CUTTI A.G., DAVALLI A., PARENTI-CASTELLI V., "A Novel Electromechanical Shoulder Articulation for Upper-Limb Prostheses: from the Design to the First Clinical Application", *Journal of Prosthetics and Orthotics*, 2009, Vol. **21**(2):79 – 90

[J29] TRONCOSSI M., BORGHI C., CHIOSSI M., DAVALLI A., PARENTI-CASTELLI V., "Development of a prosthetic shoulder mechanism for upper limb amputees: application of an original design methodology for the kinematic and kinetostatic syntheses", *Medical & Biological Engineering & Computing, Special Issue* (by invitation)*: Shoulder*, 2009, Vol. **47**(5):523–531

[J30] RIVOLA A., TRONCOSSI M., DALPIAZ G., CARLINI A., "Elastodynamic analysis of the desmodromic valve train of a racing motorbike engine by means of a combined lumped/finite element model", *Mechanical Systems and Signal Processing,* 2007, Vol. **21**(2):735-760

[J31] TRONCOSSI M., PARENTI CASTELLI V., DAVALLI A. "Design of Upper Limb Prostheses: a New Subject-oriented Approach", *Journal of Mechanics in Medicine and Biology*, 2005, Vol. **5**(2):383-390

[J32] CUTTI A.G., PAOLINI G., TRONCOSSI M., CAPPELLO A., DAVALLI A., "Soft Tissue Artefact Assessment in Humeral Axial Rotation", *Gait and Posture*, 2005, Vol. **21**:341-349

BOOK

[B1] *Grasping the Future: Advances in Powered Upper Limb Prostetics*, PARENTI CASTELLI V. and TRONCOSSI M. Eds., 2012, Bentham Science Publisher, Sharjah (U.A.E.), ISBN: 978-1-60805-438-1, http://ebooks.benthamscience.com/book/9781608054398

[B2] TRONCOSSI M., *Myoelectric Upper Limb Prostheses for High-Level Amputation. Design Methodology, Prototype, and Test of an Artificial Arm for Shoulder-Disarticulated Patients*. Lambert Academic Publishing, Saarbrucken, Germany, 2010.

BOOK CHAPTERS

[BC1] TRONCOSSI M., PARENTI-CASTELLI V., "Synthesis of prosthesis architectures and design of prosthetic devices for upper limb amputees", in *Rehabilitation Robotics*, I-Tech Education and Publishing, Vienna (Austria), 2007, pp. 555-578.

INTERNATIONAL CONFERENCE PAPERS

[IC1] GIOVITI P., MARTINI A., VINCENZI N., TRONCOSSI M., "Integration of Flexible Multibody Systems Dynamics and Virtual Commissioning Simulations of a Machine Tool", *Proceedings of ECCOMAS Thematic Conference on Multibody Dynamics*, July 24–28, 2023, Lisboa (Portugal)

[IC2] TRONCOSSI M., RIVOLA A., VINCENZI N., MARTINI A., "Vibration response of a machine structure filled with high-damping material", *Proceedings of Survishno 2023*, July 10-13, 2019, Toulouse (France)

[IC3] CASELLI L., RIZZITELLI M., TRONCOSSI M., "Correlation between roughness of turned workpieces and vibration signature of the lathe bed", *Proceedings of ICEM20*, July 2-7, 2019, Oporto (Portugal), pp. 97-102

[IC4] PIRACCINI G., MACRELLI E., BIANCHINI C., TRONCOSSI M., BELLINI A., "Vibration analysis of a motor/generator for flywheel batteries", *Procs. of IEEE ECCE 2022*, Detroit (USA), October 9-13, 2022

[IC5] MARTINI A., ROSA S., TRONCOSSI M., RIVOLA A., "Vibration monitoring for the detection of tool failure in broaching machines", *Procs. of ISMA2022*, September 12-14, 2022, Leuven (Belgium)

[IC6] FALCETELLI F., MARTINI A., RIVOLA A., DI SANTE R., TRONCOSSI M., "Strain Modal Testing with Fiber Bragg Grating Sensors of Composite Components for Automotive Applications", *Procs. of METROAUTOMOTIVE*, July 1-2, 2021, Bologna (Italy), pp. 181-186

[IC7] MONCO G., D'ELIA G., TRONCOSSI M., MUCCHI E., "A Novel Approach for Increasing Test Efficiency and Realism in Multi-Axis Vibration Control Testing", *Procs. of IMAC XXXVIII*, February 10-13, 2020, Houston (USA), abstract

[IC8] CANELLA G., VINCENZI N., TRONCOSSI M., "Experimental investigation on the damping properties of a polymer concrete", *Procs. of M2D 2019*, September 4-6, 2019, Bologna (Italy), pp.329-330

[IC9] TRONCOSSI M., MARTINI A., VINCENZI N., RIVOLA A., "Numerical and experimental analyses to enhance the vibration response of rotary transfer machines", *Procs. of Survishno 2019*, July 8-10, 2019, Lyon (France), abstract

[IC10] PESARESI E., TRONCOSSI M., "Advanced procedures for accelerated vibration-based durability tests", *ESTECH 2019*, April 29-May 2, 2019, Las Vegas (USA), abstract

[IC11] TRONCOSSI M., PESARESI E., "Mission Synthesis of High-Kurtosis Signals for Vibration-based Fatigue Life Testing", *Journal of Physics: Conference Series* (RASD2019, April 15-17, 2019, Lyon France), 2019, **1264**:012039

[IC12] PESARESI E., TRONCOSSI M., "Synthesis of Vibration Signals with Prescribed Power Spectral Density and Kurtosis Value", *Procs. of 28th International Conference on Noise and Vibration Engineering - ISMA2018*, September 17-19, 2018, Leuven (Belgium), pp. 29-40

[IC13] MARTINI A., TRONCOSSI M., VINCENZI N., "Finite Element modelling of rotary transfer machines", *Procs. of ECCOMAS SEECCM 2017 – 4th South-East European Conference on Computational Mechanics*, July 3-5, 2017, Kragujevac (Serbia), pp. 1-10

[IC14] TRONCOSSI M., RIVOLA A., "Experimental HALTs with Sine-on-Random Synthesized Profiles", *Vibroengineering Procedia,* May 2017, Vol. **1**, pp. 34-39

[IC15] MARTINI A., TRONCOSSI M., RIVOLA A., VINCENZI N., "Experimental vibration analysis of a rotary transfer machine for the manufacture of lock components", *Procs. of SURVEILLANCE 9*, May 22-24, 2017, Fes (Morocco), 9 pages

[IC16] MARTINI A., TRONCOSSI M., RIVOLA A., "Investigation on the Detection of Water Leaks in Small-Diameter Polyethylene Pipes Using Acoustic Emission Signals", *WSEAS Transactions on Fluid Mechanics*, 2016, Volume **11**, Art.13, pp. 106-111

[IC17] TRONCOSSI M., ANGELI A., CORNELIS B., "Mission Synthesis of Sine-on-Random Excitations for durability tests", *Procs. of 27th International Conference on Noise and Vibration Engineering - ISMA2016*, September 21-23, 2016, Leuven (Belgium)

[IC18] ANGELI A., CORNELIS B., TRONCOSSI M., "Fatigue Damage Spectrum calculations in a Mission Synthesis procedure for Sine-on-Random excitations", *Journal of Physics: Conference Series*, 2016, **744**(012089):1-11

[IC19] MAZZOTTI C., TRONCOSSI M., PARENTI CASTELLI V., "A New Powered Humeral Rotator for Upper Limb Myoelectric Prostheses", *Procs. of 14th World Congress in Mechanism and Machine Science (IFTOMM)*, October 25-30, 2015, Taiwan, pp. 307-312

[IC20] MARTINI A., TRONCOSSI M., RIVOLA A., "Experimental vibration analysis of an automatic machine for plastic cap assembly", *Procs. of SURVEILLANCE 8*, October 20-21, 2015, Roanne (France), 8 pages

[IC21] CORNELIS B., STEINWOLF A., TRONCOSSI M., RIVOLA A., "Shaker testing simulation of non-Gaussian random excitations with the fatigue damage spectrum as a criterion of mission signal synthesis", *Procs. of International Conference on Engineering Vibration*, Ljubljana (Slovenia), September 7-10, 2015, pp. 763 - 772

[IC22] CARRABOTTA R., MARTINI A., TRONCOSSI M., RIVOLA A., "Optimal static balancing of a spatial palletizing robot", *Procs. of ECCOMAS Thematic Conference on Multibody Dynamics*, June 29 - July 2, 2015, Barcelona (Spain), pp. 817-827

[IC23] MARTINI A., TRONCOSSI M., NASCETTI D., MANGIFESTA P., "Automatic leak detection in water distribution networks", *Procs. of Water IDEAS 2014 Conference*, October 22-24, 2014, Bologna (Italy), 4 pages

[IC24] TRONCOSSI M., MUCCHI E., RIVOLA A., "Torsional Vibration Analysis of a Test Rig Driveline Equipped with a Flexible Coupling", *Procs. of the 5th European Conference of Mechanical Engineering (ECME '14)*, November 22-24, 2014, Florence (Italy), pp. 198-206

[IC25] TRONCOSSI M., RIVOLA A., "Response analysis of specimens excited with non-Gaussian acceleration profiles", *Procs. of the 26th International Conference on Noise and Vibration Engineering (ISMA2014)*, Sept. 15-17, 2014, Leuven (Belgium), pp. 799-808

[IC26] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Multibody model and simulation of a statically balanced Parallel Kinematics Machine", *Procs. of the 3rd Joint International Conference on Multibody System Dynamics – IMSD2014*, June 30-July 3, 2014, BEXCO, Busan (Korea), 10 pages

[IC27] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Static Balancing of a Parallel Kinematics Machine with Linear-Delta Architecture", *Procs. of the ASME 2014 12th Biennial Conference on Engineering Systems Design and Analysis - ESDA2014*, June 25-27, 2014, Copenhagen (Denmark), 8 pages

[IC28] TRONCOSSI M., DI SANTE R., RIVOLA A., "Displacement Measurement on Specimens Subjected to Non-Gaussian Random Vibrations in Fatigue Life Tests", in: *AIP Conf. Proc. 1600, 11th Int. Conf. AIVELA*, June 25-27, 2014, Ancona (Italy), pp. 74-82

[IC29] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Statically Balanced Parallel Kinematics Machines: a Case Study", *European Workshop on Applications of Parallel and Cable-driven Robots*, March 19, 2014, Lyon(France), 2 pages

[IC30] MARTINI A., TRONCOSSI M., RIVOLA A., "Vibration Monitoring as a Tool for Leak Detection in Water Distribution Networks", *Procs. of Surveillance 7*, Chartres (France), October 29-30, 2013, pp. 1-9

[IC31] TRONCOSSI M., CIPOLLINI R., RIVOLA A., "Experimental Evaluation of the FDS-based Equivalence Approach for the Mission Synthesis in Accelerated Life Tests", *Procs. of ICSV 20 - International Conf. on Sound & Vibration*, July 7-11, 2013, Bangkok (Thailand), pp. 1-8

[IC32] MARTINI A., TRONCOSSI M., RIVOLA A., "Preliminary investigations on automatic detection of leaks in water distribution networks by means of vibration monitoring", *Advances in Condition Monitoring of Machinery in Non-Stationary Operations – Procs. of the third International Conference on Condition Monitoring of Machinery in Non-Stationary Operations CMMNO2013*, May 8–10, 2013, Ferrara (Italy), Springer, pp. 535–544

[IC33] LOCONSOLE C., LEONARDIS D., BARSOTTI M., FRISOLI A., SOLAZZI M., BERGAMASCO M., TRONCOSSI M., MOZAFFARI FOUMASHI M., MAZZOTTI C., PARENTI CASTELLI V., "EMG-based robotic-assisted system for bilateral hand training of grasping", *Procs of IEEE World Haptics Conference 2013*, April 14-17, 2013, Daejeon (Korea), pp. 537–542

[IC34] TRONCOSSI M., MOZAFFARI FOUMASHI M., MAZZOTTI C., ZANNOLI D., PARENTI CASTELLI V., "Hand-and-wrist exoskeleton device for the rehabilitation of grasping function", *Procs. of ISPO 2013 World Congress - International Society of Prosthetics and Orthotics*, February 4-7, 2013, Hyderabad (India), p. 64

[IC35] TRONCOSSI M., GRUPPIONI E., CHIOSSI M., MAZZOTTI C., PARENTI CASTELLI V., "ProMAS-6: a modular upper limb prosthesis for shoulder disarticulated patients", *Procs. of ISPO 2013 World Congress - International Society of Prosthetics and Orthotics*, Hyderabad (India), February 4-7, 2013, p. 394

[IC36] TRONCOSSI M., GRUPPIONI E., RIVOLA A., "Assessment of Efficiency and Vibro-Acoustic Behaviour of Prosthesis Prototypes", *Procs. of ICEM 2012 – 15th International Conference on Experimental Mechanics*, July 22-27, 2012, Porto (Portugal), pp. 425-426

[IC37] TRONCOSSI M., MOZAFFARI FOUMASHI M., CARRICATO M., PARENTI CASTELLI V., "Feasibility Study of a Hand Exoskeleton for Rehabilitation of Post-Stroke Patients", *Procs. of ESDA 2012 - 11th Biennial ASME Conference on Engineering Systems Design and Analysis*, July 2-4, 2012, Nantes (France), Vol. 3, pp. 137-146

[IC38] MOZAFFARI FOUMASHI M., TRONCOSSI M., PARENTI CASTELLI V., "Design of a New Hand Exoskeleton for Rehabilitation of Post-Stroke Patients", *Procs. of Romansy 19 – Robot Design, Dynamics and Control*, June 12-15, 2012, Paris (France), Series: CISM International Centre for Mechanical Sciences, 2013, Vol. 544, pp. 159-166

[IC39] RIVOLA A., TRONCOSSI M., "A practical procedure for angular resampling applied to motion measurements on a motorbike valvetrain", *Procs. of Surveillance*, 25–26 October, 2011, Compiègne (France)

[IC40] MARTINI A., TRONCOSSI M., RIVOLA A., "Experimental and Numerical Analyses of a Mass-Balanced Four-Bar Linkage", *Procs. of ECCOMAS – Multibody Dynamics 2011*, July 4–7, 2011, Brussels (Belgium), pp. 1-17

[IC41] BERGAMASCO M., FRISOLI A., FONTANA M., LOCONSOLE C., LEONARDIS D., TRONCOSSI M., MOZAFFARI-FOUMASHI M., PARENTI-CASTELLI V., "Preliminary Results of BRAVO Project - Brain Computer Interface for Robotic Enhanced Rehabilitation", *Procs. of ICORR 2011, IEEE 12th International Conference on Rehabilitation Robotics*, June 29 – July 1, 2011, Zurich (Switzerland), pp. 364-370

[IC42] RICCI S., TRONCOSSI M., RIVOLA A., "Component mode selection in flexible multibody dynamics with application to cranktrain modelling", *Procs. of ISMA 2010 – International Conference on Modal Analysis Noise and Vibration Engineering*, September 20-22, 2010, Leuven (Belgium), pp. 3047 – 3060

[IC43] RICCI R., TRONCOSSI M., RIVOLA A., "Flexible Multibody Modeling of a Racing Motorcycle Cranktrain: Model Reduction Issues", *Procs. IMSD 2010 –1st Joint International Conference on Multibody System Dynamics*, May 25-27, 2010, Lappeenranta (Finland)

[IC44] TRONCOSSI M., CAMINATI R., DAVALLI A., PARENTI-CASTELLI V., "Conceptual Design of a Powered Humeral Rotator for Upper Limb Prostheses", *Procs. of ISPO 2010, 13th World Congress of the International Society for Prosthetics and Orthotics,* May 10 – May 15, 2010, Leipzig (Germany), pp. 396-397

[IC45] CAMINATI R., TRONCOSSI M., PARENTI-CASTELLI V., "Design Methodology for the Development of a New Powered Humeral Rotator for High-Functionality Myoelectric

Prostheses", *Procs. of ECCOMAS – Multibody Dynamics 2009*, June 29 – July 2, 2009, Warsaw (Poland), pp. 1-12

[IC46] MARTINI A., TRONCOSSI M., CARRICATO M., RIVOLA A., "Modal and Kineto-Elastodynamic Analyses of Balanced Four-Bar Linkages", *Procs. of ECCOMAS – Multibody Dynamics 2009*, June 29 – July 2, 2009, Warsaw (Poland), pp. 1-20

[IC47] CAMINATI R., TRONCOSSI M., DAVALLI A., PARENTI-CASTELLI V., "Feasibility Study of a New Powered Humeral Rotator for Upper Limb Myoelectric Prostheses", *Procs. of ICORR 2009*, *IEEE 11th International Conference on Rehabilitation Robotics,* June 23–26, 2009, Kyoto (Japan), pp. 669–674

[IC48] MARTINI A., TRONCOSSI M., RIVOLA A., "Modal and Kineto-elastodynamic Analyses of Flexible-body Mechanisms by Using MD Patran, MD Nastran and MD Adams", *MSC.Software 2009 Virtual Product Development Conference*, May 12–13, 2009, Munich

[IC49] TRONCOSSI M., RIVOLA A., "Modal Parameter Estimation of a PVC-product Cleaning Machine by means of Operational Modal Analysis", *Procs. of IOMAC 2009*, *3rd International Operational Modal Analysis Conference*, May 4–6, 2009, Porto Novo (Italy), pp. 103 – 110

[IC50] GRUPPIONI E., CHIOSSI M., TRONCOSSI M., CUTTI A.G., DAVALLI A., PARENTI-CASTELLI V., "A New Active Shoulder Prosthesis: from the Design to the First Clinical Application", *Procs. of MEC'08* , *Myoelectric Control Symposium,* August 13 – 15, 2008, New Brunswick (Canada), pp. 1–4

[IC51] TRONCOSSI M., BORGHI C., CHIOSSI M., DAVALLI A., PARENTI-CASTELLI V., "Kinematic and Kinetostatic Synthesis of a Prosthetic Shoulder Mechanism for Upper Limb Amputees", *Procs. of ISG 2008*, *International Shoulder Group Congress,* July 10 – 13, 2008, Bologna (Italy), pp. 31-32

[IC52] TRONCOSSI M., BORGHI C., DAVALLI A., PARENTI-CASTELLI V., "Selection of Significant Activities of Daily Living for the Simulation of Prosthetic Shoulder Articulations", *Procs. of ISG 2008*, *Int. Shoulder Group Congress,* 2008, Bologna (Italy), pp. 48-49.

[IC53] TRONCOSSI M., TROIANI E., RIVOLA A., "Design Optimization of a Laser Cutting Machine by Elastodynamic Modeling", *Procs. of 9th Biennial ASME Conf. on Engineering Systems Design and Analysis - ESDA2008,* July 7-9, 2008, Haifa (Israel), pp.1-9.

[IC54] CHIOSSI M., TRONCOSSI M., PARENTI-CASTELLI V., DAVALLI A., "Experimental Evaluation of the Mechanical Efficiency of One-Degree of Freedom Mechanisms by a Low-cost Test Bench", *Procs. of YSESM 2007, 6th Youth Symposium on Experimental Solid Mechanics*, May 9 – 12, 2007, Vrnjacka Banja (Serbia), pp. 247-250

[IC55] TRONCOSSI M., CHIOSSI M., PARENTI-CASTELLI V., DAVALLI A., "Prototype manufacturing of upper limb prosthesis with five active joints for shoulder disarticulated amputees", *Procs. of ISPO 2007, 12th World Congress of the International Society for Prosthetics and Orthotics,* July 29 – August 3, 2007, Vancouver (Canada)

[IC56] TRONCOSSI M., PARENTI-CASTELLI V., DAVALLI A. "Mechanical Design of a Prosthetic Shoulder Mechanism for Upper Limb Amputees", *Procs. of ICORR 2005, 9th Int. Conf. on Rehabilitation Robotics,* 28 June –1 July, 2005, Chicago (USA), pp. 287-290

[IC57] PARENTI-CASTELLI V., TRONCOSSI M., SACCHETTI R., "A Procedure for the Determination of the Optimal Upper Limb Prosthesis Architecture", *Procs. of RAAD'04, 13th International Workshop on Robotics in Alpe-Adria-Danube Region*, June 2-5, 2004, Brno (Czech Republic), pp. 134-139

[IC58] CUTTI A.G., PAOLINI G., TRONCOSSI M., CAPPELLO A., "Evaluation of the skin artefact at the upper arm and its compensation: preliminary results", *ESB 2004*, July 4-7, 2004, 's-Hertogenbosch, The Netherlands, 1 page

NATIONAL CONFERENCE PAPERS

[NC1] GIOVITI P., RIVOLA A., TRONCOSSI M., "Integration of flexible multibody dynamics and virtual commissioning simulations of a machine tool", *Proceedings of XXV Congress of the Italian Association of Theoretic and Applied Mechanics* (*AIMETA*), September 4-8, 2022, Palermo (Italy)

[NC2] MARTINI A., TRONCOSSI M., "Analysis and prediction of the elastodynamic behavior of an automatic machine for plastic cap assembly by means of vibration measurements", *Procs. of XXII Congress of the Italian Association of Theoretic and Applied Mechanics (AIMETA)*, September 14-17, 2015, Genoa (Italy), pp. 170 – 179

[NC3] MAZZOTTI C., TRONCOSSI M., PARENTI CASTELLI V., "Synthesis of the Optimal RSSR Mechanism for the Transmission Between Skew Axes with Variable Pose", *Procs. of AIMETA 2013, XXI Congress of the Italian Association of Theoretic and Applied Mechanics*, Turin (Italy), September 17-20, 2013, pp. 1-9

[NC4] TRONCOSSI M., GRUPPIONI E., DAVALLI A., PARENTI-CASTELLI V., "ProMAS-5: an upper limb myoelectric prosthesis for Shoulder disarticulated amputees", *Procs. of CORNER Workshop*, 14-15 December 2009, Genova (Italy)

[NC5] PARENTI-CASTELLI V., BERGAMASCO M., FRISOLI A., VERTECHY R., FONTANA M., TRONCOSSI M., "Assistive Exoskeleton-Active Orthosis-based System for Motor

Impaired Users to Perform Complex Visuomotor Tasks", *Procs. of CORNER Workshop*, 14-15 December 2009, Genova (Italy)

[NC6] BORGHI C., TRONCOSSI M., PARENTI-CASTELLI V., CUTTI A. G., "A new protocol for experimental determination of human hand reference trajectories for the synthesis of upper limb prostheses", *Procs. of AIMETA 2007 , XVIII Congresso Associazione Italiana di Meccanica Teorica e Applicata*, September 11-14 2007, Brescia (Italy), pp. 1-12.

[NC7] TRONCOSSI M., PARENTI-CASTELLI V., CHIOSSI M., DAVALLI A., "Experimental characterization of prosthetic mechanisms with one-degree of freedom", *Procs. of AIMETA 2007, XVIII Congresso Associazione Italiana di Meccanica Teorica e Applicata*, September 11-14 2007, Brescia (Italy), pp. 1-12.

[NC8] TRONCOSSI M., CUTTI A.G., PAOLINI G., PARENTI-CASTELLI V., "Influence of Elbow Flexion on Upper Arm Skin Artifact", *SIAMOC 2003: IV Congresso Nazionale,* October 23-25, 2003, Catania, Italia, 1 page

[NC9] CUTTI A.G., PAOLINI G., TRONCOSSI M., CAPPELLO A., "Skin Artifact Evaluation in Humeral Axial Rotation", *SIAMOC 2003: IV Congresso Nazionale,* October 23-25, 2003, Catania (Italia), 1 page

EDITORIAL ACTIVITY

1. 2022: Guest Editor of the Special Issue entitled "Alternative Techniques in Vibration Measurement and Analysis" of the journal *MDPI – Applied Sciences* (ISSN: 2076-3417)
2. 2021 to date: member of the Editorial Board (section: *Acoustics and Vibrations*) of *Applied Sciences* (MDPI – Basel, Switzerland);
3. 2019 to date: member of the Editorial Board of the *Probe-Research Journal of Mechanical Engineering* (Universe Scientific Publishing Pte. Ltd);
4. 2016 to date: member of the Editorial Board of the *Journal of Robotics and Mechanical Engineering Research* (Verizona Publisher - ISSN: 2059-4909);
5. 2012 to 2016: member of the Editorial Advisory Board of *VERSITA – Emerging Science Publishers (publishing program in: Engineering, Industry and Transportation)*;
6. Co-Editor of "Grasping the Future: Advances in Powered Upper Limb Prosthetics", 2012, Bentham Science Publisher (London, UK), ISBN: 978-1-60805-438-1;
7. Peer-reviewer for international journals*:*
   - Advances in Mechanical Engineering (ISSN: 1687-8140)
   - Advanced Robotics (ISSN: 1568-5535)
   - Applied Sciences (ISSN: 2076-3417)
   - Frontiers of Information Technology & Electronic Engineering (ISSN 2095-9184)
   - IEEE Robotics and Automation Magazine (ISSN: 1070-9932)
   - IEEE ROBOTICS AND AUTOMATION LETTERS (RA-L).
   - IEEE Transaction on Robotics (ISSN: 1552-3098)
   - IEEE Transactions on Neural Systems & Rehabilitation Engineering (ISSN:1534-4320)
   - International Journal of Fatigue (ISSN: 0142-1123)
   - Journal of Robotics and Mechanical Engineering Research (ISSN: 2059-4909)
   - Meccanica (ISSN: 1572-9648)
   - Mechanical Systems and Signal Processing (ISSN: 0888-3270)
   - Mechanism and Machine Theory (ISSN: 0094-114X)
   - Medical & Biological Engineering & Computing (ISSN: 0140-0118)
   - Proceedings of the Institution of Mechanical Engineering, Part H, Journal of Engineering in Medicine (ISSN: 0954-4119)
   - Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (ISSN: 0954-4062)
   - Scientia Iranica – International Journal of Science and Technology (ISSN: 1026-3098)
   - Shock and Vibration (ISSN: 1875-9203)