# Alessio Gizzi


| | | |
|---|---|---|
| Associate Professor | Phone: | +39 06.22541.9660 |
| Department of Engineering (Dept Engng) | Fax: | +39 06.22541.9609 |
| University Campus Bio-Medico of Rome (UCBM) | Email: | a.gizzi@unicampus.it |
| Nonlinear Physics and Mathematical Modeling Lab | Web: | *www.unicampus.it* |
| via A. Del Portillo 21, I-00128 Rome, Italy | Lab: | *www.multiphysica.it* |
| ORCID | | 0000-0001-5350-8156 |
| Researchgate | | Alessio_Gizzi |


- **POSIZIONE ACCADEMICA**

2021 – to date **Associate Professor, Solid & Structural Mechanics** – ICAR/08, Dept Engng, UCBM.

2022 – 2023 **European Medicines Agency (EMA)**: *Expert panels on medical devices and IVD.*

2020 – to date **Research Council Member:** *Inter-University Center for the Promotion of the 3Rs Principles in Teaching & Research.* (http://www.centro3r.it/en/members)

2013 – 2023 **Alumni Community Member:** UCBM. (https://www.unicampus.it/risorse-e-uffici/alumni)

- **PROPOSTE DI INIZIATIVE IN AMBITO ESB-ITA**

- Proporre una partecipazione attiva di ESB-ITA presso Scuola Avanzate post-dottorali su temi ad ampio spettro concernenti la Biomeccanica.
- Classificare le competenze specifiche, i corsi erogati e gli SSD coinvolti nelle diverse sedi sul territorio nazionale afferenti all'area ESB.
- Utilizzare l'anagrafica al punto precedente per definire percorsi di crescita e punti di raccordo per realtá meno sviluppate in ambito biomeccanico.
- Partecipazione attiva di ESB-ITA nell'organizzazione di minisimposi presso conferenze di altre società scientifiche.
- Partecipazione attiva di ESB-ITA presso corsi di Master e Dottorali sul territorio nazionale.

- **PRECEDENTI ATTIVITA' IN AMBITO ESB-ITA**

2023 $2^{nd}$ *Advanced International School on "Experiments, Modeling and Simulation in Biomechanics & Mechanobiology".* UCBM & Tor Vergata, 20-24 Feb 2023, Rome (IT).

2021 – 2023 **Executive Board ESB-ITA:** *Italian Chapter of the European Society of Biomechanics* (esb-ita.it).

2016 Scientific Committee & Contributed talk ESB-ITA Thematic Symposium, *Frontier Biomechanical Challenges in Cardiovascular Physiopathology*, Palermo.

2017 Scientific Committee ESB-ITA 2017, *Italian Chapter of the European Society of Biomechanics*, Rome. Contributed talk ESB 2017 Seville.

2019 Scientific Committee ESB-ITA 2019, *Italian Chapter of the European Society of Biomechanics*, Bologna (IT). Perspective talk ESB 2019 Vienna.

2020 Organizing Committee Advanced International School on *Imaging, Modeling and Simulation in Biomechanics & Mechanobiology*, Rome.

2021 Contributed talks ESB 2021 Milan.

- **SHORT CV**

Personal Information : Place and Date of birth: Sora (FR), 12 December 1984.

Academic Degrees

19/04/2012 **PhD** in Biomedical Engineering, UCBM.

27/10/2008 **MS** in Biomedical Engineering cum Laude, UCBM (2 years).

25/10/2006 **BS** in Biomedical Engineering cum Laude & Special Mention, UCBM (3 years).

Previous Positions

2015 – 2021 **Assistant Professor (RTD-A&B), Solid & Structural Mechanics** – ICAR/08, UCBM.

2015 – 2018 **Visiting Professor, Solid & Structural Mechanics** – ICAR/08 (2 months/year), IMT School for Advanced Studies Lucca.

Honors, Awards & Institutional Responsibilities (Selected)

2022 – to date **PhD Board Member**, **IMT School for Advanced Studies Lucca**, *Computational Mechanics*.

11/2020 **National Habilitation as Full Professor** in Solid & Structural Mechanics MIUR.

2018 – to date **SIMULIA Research Member**, *The Living Heart Project*, Dassault Systems.

03/2017 **National Habilitation as Associate Professor** in Solid & Structural Mechanics MIUR.

2008 **National Qualification for Engineering Professional Practice**.

2007 – 2019 **20 Invited Seminars** in International Scientific Institutions, among which: BCAM – Bilbao; CNRS – Nice; EMORY – USA; ENEA – IT; Georgia Institute of Technology – Atlanta; IMT School for Advanced Studies – Lucca IT; PUC of Chile; TU Munich – Germany; TU Vienna – Austria; SISSA – IT; UCSB – USA; U. Oxford – UK.

Commissions of Trust (Selected)

2023 **Doctoral Thesis Ext. Examiner**, Simone Borrelli, *Politecnico di Torino* (IT).
**Committee Member**, Post Doctoral Fellow FIS/03, Dept Engng UCBM.
**HFSP Review Committee**, Research Grant awards, Human Frontier Science Program.

2022 **COST External Expert**, European Cooperation in Science & Technology, OC-2022-1.
**Committee Member**, Post Doctoral Fellow FIS/03, Dept Engng UCBM.
**Committee Chair**, Post Doctoral Fellow ICAR/08, IMT Lucca & UCBM.
**Doctoral Thesis Exam. Committee**, Giulio Del Corso, *Gran Sasso Science Institute* (IT).
**Doctoral Thesis Ext. Examiner**, S. Kuruppu, *U. Auckland* & P. Gaziano *U. Tor Vergata*.

2021 **Natural Sciences & Eng. Research Council, Canada (NSERC)** - Discovery Grant Reviewer.
**University of Parma Consolidating & Scouting Grant** Reviewer.
**Committee Member**, Assistant Professor RTD-A ICAR/08, Brescia & Chieti-Pescara & UCBM.
**Doctoral Thesis Exam. Committee**, S. Brandstaeter, & S. L. Fuchs TU Munich (DE).
**Doctoral Thesis Exam. Committee**, William A. Ramirez, Pontificia Universidád Catolica, Chile.

2019 - 2020 **ERC Starting Grant 2020** Reviewer.
**Committee Member**, Post Doctoral Fellow FIS/02, Dept Engng UCBM.
**Doctoral Thesis Exam. Committee**, Fabian A. Bräu, TU Munich (DE).

2014 – 2015 **MSc Evaluation Committee**, Department of Engineering, Pontificia Universidad Católica de Chile.
**Committee Member**, Post Doctoral Fellow ICAR/08, IMT School for Advanced Studies Lucca.
**Committee Member**, Post Doctoral Fellow CHIM/07, Dept Engng UCBM.

2013 – to date **Reviewer for more than 30 peer reviewed international journals (Selected)**.

Editor - (Sel.) 2023 – 2025: **Guest Editor, Mechanics of Soft Materials, ISSN 2524-5619**.
2022 – 2023: **Guest Editor, Journal of Applied Physics, ISSN 0021-8979**.
2022 – to date: **Associate Editor, Frontiers in Network Physiology**.

Grants & Patents (Selected)

2023 **PATENT Pending**: *Cannula for insuline release.*

2022 – 2027 **HORIZON-CL4-2021:** Research Participant 6.6M€.

2021 **LazioInnova**, Progetti di Gruppi di Ricerca 2020, Green Economy, Co-Leader 68.130 €.

2020 **KA107 Erasmus+**. Universidad Nacional Autónoma de Honduras, 62.364 €, PI.

2018 – to date **PATENT** N°102018000002704: *Medical Device for Optimal Wound Healing.*

2013 – today **GNFM-INdAM**, **Young Researcher Grant**, Research Leader.

Mentoring & Teaching (Selected)

2020 – to date **Lecturer** of *Mechanics of Biological Systems* [6 CFU], MSc in Biomedical Engineering, UCBM.

2016 – 2018 **PhD Lecturer** of *Material Modeling of Excitable Biological Tissues.* IMT School Lucca.

2015 – to date **Lecturer** of *Solid & Structural Mechanics* [9 CFU], BSc in Industrial Engineering, UCBM.

Mentored Students - as of May 17, 2023

| | **BSc** | **MSc** | **Ph.D.** | **PostDoc** | **Ext. Reviewer** |
|---|---|---|---|---|---|
| Advisor & Co-Advisor | 12 | 20 | 6 | 4 | 9 |

Books P. Casini, **A. Gizzi**, and M. Vasta. *Scienza delle Costruzioni per Ingegneria Biomedica*. Cittá Studi, DeAgostini Scuola, EAN: 9788825174434, ISBN: 8825174438 (2023).

Research My research focuses on multi-field and multi-scale biomechanics & nonlinear dynamics of biological media. In particular: i) Theoretical and computational biomechanics, ii) Growth and remodeling in biomechanics & mechanobiology; iii) In silico surgery and innovative design for biomedical devices. **Metrics - as of May 17, 2023**: # of Publications 77, # Citations 1270, h-index 20 (Scopus).

Representative Publications


- B. Patel, **A. Gizzi**, J. Hashemi, Y. Awakeem, H. Gregersen, and G. Kassab. Biomechanical constitutive modeling of gastrointestinal tissues: A systematic review. *Mat. Design* **217**:110576 (2022).
- L. Molinari, M. Zaltieri, A. Massaroni, S. Filippi, **A. Gizzi***, and E. Schena. Multiscale and multiphysics modeling of anisotropic cardiac RFCA: Experimental-based model calibration via multi-point temperature measurements. *Front. Physiol.* **13**: 845896 (2022).
- L. Molinari, L. Geraro-Giorda, and **A. Gizzi***. A transversely isotropic thermo-hyperelastic constitutive model of myocardial tissue with a three-state cell death dynamics for cardiac radiofrequency ablation. *J. Mech. Phys. Sol.* **161**:104810 (2022).
- **A. Gizzi**, M.L. De Bellis, M. Vasta, and A. Pandolfi. Diffusion-based degeneration of the collagen reinforcement in the pathologic human cornea. *J. Eng. Math.* **127**:3 (2021).
- L. Molinari, C. Falcinelli, **A. Gizzi***, and A. Di Martino. Fracture analysis of pedicle screw angles in the human vertebra: A patient-specific computational model. *J. Mech. Behav. Biomed. Mat.* **116**:104359 (2021).
- W.A. Ramirez, **A. Gizzi**, K.L. Sack, J.M. Guccione, and D.E. Hurtado. In-silico study of the cardiac arrhythmogenic potential of biomaterial injection therapy. *Sci. Rep.* **10**:12990 (2020).
- D. Bianchi, E. Monaldo, **A. Gizzi**, M. Marino, S. Filippi, and G. Vairo. A FSI computational framework for vascular physiopathology: A novel flow-tissue multiscale strategy. *Med. Eng. Phys.* **47**:25–37 (2017).


**Rome, May 17, 2023** **Alessio Gizzi**