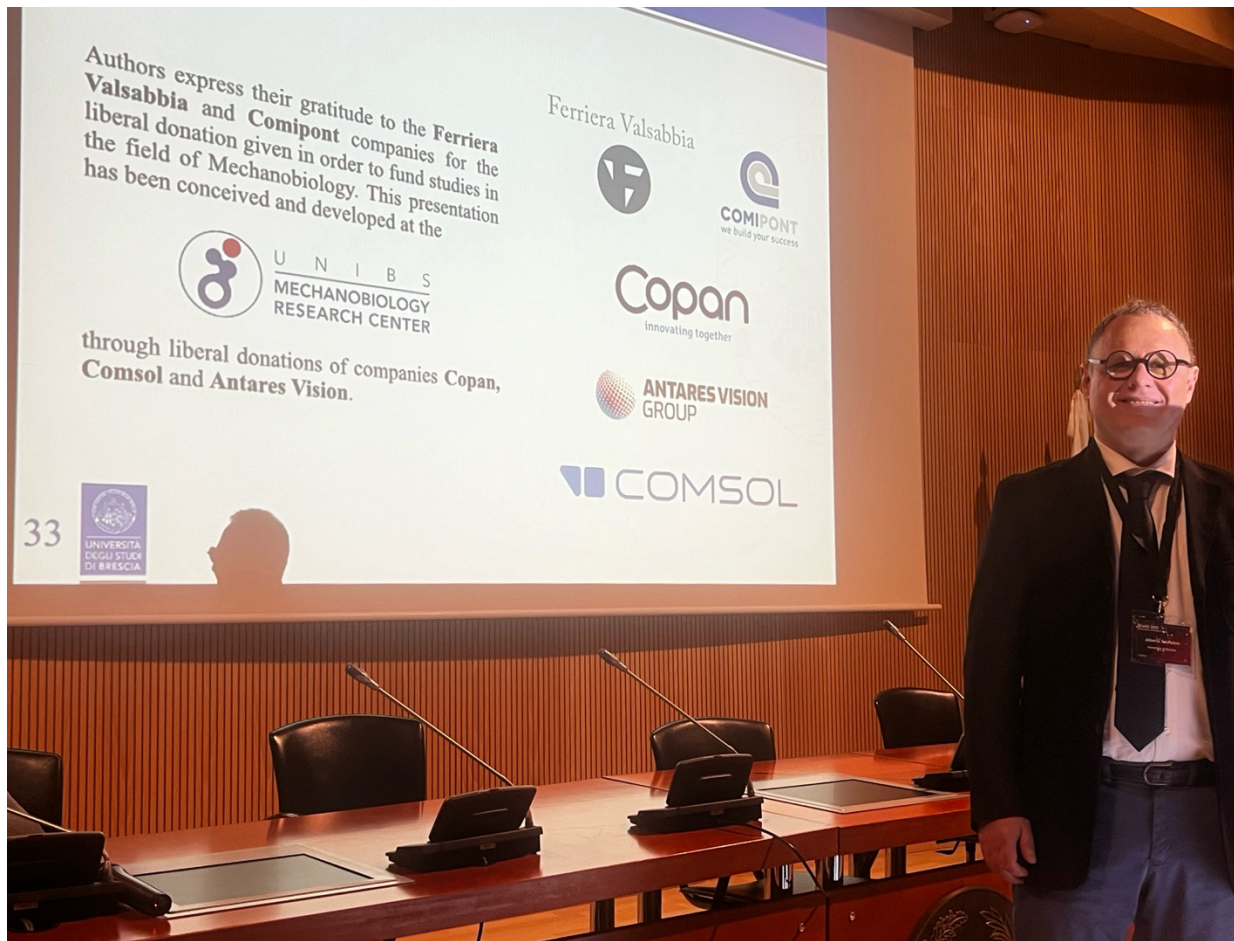


Eventi in cui abbiamo disseminato la donazione di FV e il suo supporto alla ricerca.



Collaborazioni internazionali di ricerca

Salvadori, A. : visiting scholar at Cambridge, Mechanical Engineering Department, in collaboration with Prof. V. Deshpande, August 2025 – Modeling blood clot contraction

Salvadori, A. : visiting scholar at NIH, in collaboration with Prof. A. Doyle, July-August 2024 – Modeling and experiments on cellular motility

Salvadori, A. : visiting scholar at University of California at S. Barbara, May 2022, Invited by Prof. R. McMeeking - Modeling cellular motility

Bonanno, C. : visiting student at UPenn, April-October 2023, Invited by Prof. V. Shenoy - Actin based motility

Organizzazione di congressi:

1. IUTAM Symposium “Cellular Mechanobiology and Morphogenesis”, Galway 2027
2. International Workshop “Mechanobiology of biofilms” , Brescia, 23 September 2025

3. EUROMECH Colloquium “Cellular Mechanobiology and Morphogenesis”, Sirmione, Lake Garda, Italy
21-24 August 2023

Minisimposia a congressi internazionali:

4. XI INTERNATIONAL CONFERENCE ON Computational Bioengineering - ICCB 2025 - ROMA - ITALY / SEPTEMBER 8-10, 2025 - Simposia “Cellular Mechanobiology and Morphogenesis”
5. 1st HICOMP Conference, 19-21 June 2025 in Rhodes Island, Greece “Minisymposium 2: Biomechanics”.

Seminari su invito:

6. Rome - “Insights on the receptor dynamics and the spreading of endothelial cells”, 2 December 2020
7. Lens, Firenze - “Insights on the receptor dynamics and the spreading of endothelial cells”, 19 October 2022
8. Unicampus Rome - Invited seminar: “The rearrangement theory and its application to mechanobiology.”, 25 November 2024

Tesi di dottorato

Mattia Serpelloni: THE RESPONSE OF ENDOTHELIAL CELLS TO ANGIOGENIC STIMULI: EXPERIMENTS, MODELING, AND SIMULATIONS. UNIVERSITA' DI BRESCIA, 2021

Claudia Bonanno: Modeling pathogens and cells actin-based motility. UNIVERSITA' DI BRESCIA, 2024

Pubblicazioni su riviste internazionali:

A. Salvadori, C. Bonanno, M. Serpelloni, R.M. McMeeking, (2024), On the generation of force required for actin-based motility., Scientific Reports, 14:18384, <https://doi.org/10.1038/s41598-024-69422-3>.

M. Serpelloni, M. Arricca, C. Ravelli, E. Grillo, S. Mitola, A. Salvadori (2023), Mechanobiology of the relocation of proteins in advecting cells: modeling, experiments, and simulations, Biomechanics and Modeling in Mechanobiology, 22:1267–1287 <https://doi.org/10.1007/s10237-023-01717-2> (best deal.II-based paper in year 2023)

C. Bonanno, M. Serpelloni, M. Arricca, R.M. McMeeking, A. Salvadori (2023), Actin based motility unveiled: How chemical energy is converted into motion, Journal of the Mechanics and Physics of Solids, Volume 175, June 2023, 105273, <https://doi.org/10.1016/j.jmps.2023.105273>

Serpelloni, M. Arricca, M.; Bonanno, C.; Salvadori, A.; Chemo-transport-mechanics in advecting membranes. International Journal of Engineering Science, Volume 181, 1 December 2022, 103746. <https://doi.org/10.1016/j.ijengsci.2022.103746>

Arricca, M.; Salvadori, A.; Bonanno, C.; Serpelloni, M. Modeling Receptor Motility along Advecting Lipid Membranes. Membranes 2022, 12(7), 652; <https://doi.org/10.3390/membranes12070652>.

Serpelloni M., Arricca M., Bonanno C., Salvadori A. (2021). Modelling cells spreading, motility, and receptors dynamics: a general framework. *Acta Mechanica Sinica* 37(x):1–18, <https://doi.org/10.1007/s10409-021-01088-w>.

Serpelloni M., Arricca M., Damoli V., Ravelli C., Grillo E., Mitola S., Salvadori A. (2020). A Model of Integrin and VEGF Receptors Recruitment on Endothelial Cells. In: *Advanced Structured Materials*. ADVANCED STRUCTURED MATERIALS, vol. 132, p. 163-198, Springer, ISBN: 978-3-030-50463-2, ISSN: 1869- 8433, doi: 10.1007/978-3-030-50464-9_11

Presentazioni a congressi:

A. Salvadori, Experiments to theory (and back) in mechanobiology: applications to cell motility and blood clotting., Invited speaker at the SEMTA – AIMETA colloquium "Mechanics Across Realms: from Experiments to Theory (and back)", Granada, April 23-25, 2025

Mattia Serpelloni, Alberto Salvadori, Modeling and simulations in cell motility and blood clotting, *Advances in Mechanobiology*, From mechanical sensing to cell and tissue response, April 27-30, 2025, Napoli, Italy

Mattia Serpelloni, Alberto Salvadori, Virginia Maini and Emanuela Jacchetti, The Mechanobiology of cells migration, ECCOMAS Young Investigators Conference 2025 17-19 September 2025, Pescara, Italy

A. Salvadori, M. Serpelloni, R. M. McMeeking, A rearrangement theory with two applications in mechanobiology. ICCB 2025 - XI International Conference on Computational Bioengineering - Rome, September 10-13, 2025

A. Salvadori, M. Serpelloni, A model of cellular motility and blood clotting, 1st Hellenic-Italian Conference on Computational Mechanics, Biomechanics and Mechanics of Materials, 19-21 June 2025, Rhodes Island, Greece

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, E. Jacchetti, M.T. Raimondi, Actin based motility unveiled: how chemical energy is converted into motion, 57th MEETING OF THE SOCIETY FOR NATURAL PHILOSOPHY, Paris, 16-18/10/2023

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, Continuum multi-physics modeling of cellular and bacteria motility, SIAM Conference on the Life Sciences (LS24), June 10 - 13, 2024, Hilton Portland Downtown | Portland, Oregon, U.S.

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, Modeling protrusion in cellular and bacteria motility, 19th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, 30 July - 1 August 2024, Vancouver, Canada

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, Modeling protrusion in cellular and bacteria motility, *Mechanobiology across scales: from the molecule to organism and back*, April 2-5, 2024, Nice, France

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, Continuum multi-physics modeling of cell and bacteria motility. EMMC19 (19th European Mechanics of Materials Conference), Madrid, May 29-31 2024

A. Salvadori, C. Bonanno, M. Serpelloni, R. M. McMeeking, Actin based motility unveiled: how chemical energy is converted into motion, Euromech Colloquium “CELLULAR MECHANOBIOLOGY AND MORPHOGENESIS”, Sirmione, Lake Garda, Italy on 21 August – 24 August 2023

A. Salvadori, C. Bonanno, M. Serpelloni, M. Arricca, R. M. McMeeking, Actin based motility unveiled: how chemical energy is converted into motion, ICCB 2023 X International Conference on Computational Bioengineering, Vienna, 20-22 September 2023

A. Salvadori, M. Serpelloni, M. Arricca, C. Bonanno, E. Grillo, C. Ravelli, M. Corsini, S. Mitola, Modeling cell motility and receptor dynamics, 18th European Mechanics of Materials Conference (EMMC18), April 4 - 6, 2022, Oxford, UK

M. Arricca, M. Serpelloni, C. Bonanno and A. Salvadori, A THEORETICAL FRAMEWORK FOR CYTOSKELETAL POLYMER NETWORKS REMODELING IN CELL MOTILITY, The 8th European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS Congress 2022, 5 – 9 June 2022, Oslo, Norway

M. Serpelloni, M. Arricca, C. Bonanno, C. Ravelli, E. Grillo, S. Mitola and A. Salvadori, Relocation of VEGFR2 and integrin during adhesion and spreading of endothelial cells, The 8th European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS Congress 2022, 5 – 9 June 2022, Oslo, Norway

M. Serpelloni, M. Arricca, E. Grillo, C. Ravelli, S. Mitola, A. Salvadori, THE VASCULAR ENDOTHELIAL GROWTH FACTOR RECEPTOR DYNAMICS DURING THE SPREADING OF ENDOTHELIAL CELLS: EXPERIMENTAL AND COMPUTATIONAL INVESTIGATIONS, ICTAM, 22-27 August 2021, Milan, Italy 24 Agosto 2021

M. Arricca, M. Serpelloni, C. Bonanno, E. Grillo, C. Ravelli, S. Mitola, A. Salvadori, Receptor dynamics during adhesion and spreading of endothelial cells , 44th Annual Meeting - The Adhesion Society (February 22-25, 2021)

M. Serpelloni, M. Arricca, C. Bonanno, E. Grillo, C. Ravelli, S. Mitola, A. Salvadori, In vitro and in silico models unveil receptors diffusion and recruitment, GMBA, 04/03/2021

M. Arricca, M. Serpelloni, E. Grillo, C. Ravelli, S. Mitola, A. Salvadori, MODELING THE RECEPTOR DYNAMICS DURING THE SPREADING OF ENDOTHELIAL CELLS, 14th World Congress on Computational Mechanics (WCCM) ECCOMAS Congress 2020 19–24 July 2020, Paris, France

Alberto Salvadori, Robert McMeeking, A coupled model of transport-reaction-thermo-mechanics with trapping, AIMETA 2019 (Rome, September 15-19, 2019)

Arricca M., Salvadori A., Serpelloni M., Ravelli C., Grillo E., Mitola S., Insights on the receptor dynamics and the spreading of cells, AIMETA 2019 (Rome, September 15-19, 2019)

Serpelloni M., Arricca M., Salvadori A., Ravelli C., Grillo E., Mitola S., Multi-physical interactions drive VEGFR2 and integrin relocation on endothelial cells, AIMETA 2019 (Rome, September 15-19, 2019)

M. Serpelloni, M. Arricca, C. Bonanno, E. Grillo, C. Ravelli, S. Mitola, A. Salvadori, Co-designed experiments, modeling and simulation of receptors recruitment on endothelial cells, ICoNSoM 18/06/2019

Presentazioni in istituzioni internazionali

Granada, April 23-25, 2025 - A. Salvadori, Experiments to theory (and back) in mechanobiology: applications to cell motility and blood clotting., Invited speaker at the SEMTA – AIMETA colloquium "Mechanics Across Realms: from Experiments to Theory (and back)".

A. Salvadori, M. Serpelloni, R. M. McMeeking, Modeling the Chemo-Mechanics of Cell Motility and Blood Clotting, IUTAM Symposium on Chemo-Mechanics, June 29 July 2 (2025)
<https://chemomechanics.web.ox.ac.uk/>

Salvadori A., Serpelloni M., Arricca M., Ravelli C., Grillo E., Mitola S., Insights on the receptor dynamics and the spreading of endothelial cells, Lezione presso The Francis Crick Institute - Cellular Adaptive Behaviour Lab (October 17, 2019)

Disseminazione a eventi nazionali e sul territorio

LUBES (Libera Università dei Santi Benedetto e Scolastica), Asola, 6 May 2026 - Conference: The grace of disorder: a tribute to mechanics.

LUBES (Libera Università dei Santi Benedetto e Scolastica), Leno, 15 April 2026 - Conference: The grace of disorder: a tribute to mechanics.

La Notte dei ricercatori 26 Settembre 2025, Monastero di Santa Giulia Brescia. Talk: La vita al confine fra meccanica e biologia.

LUBES (Libera Università dei Santi Benedetto e Scolastica), Asola, 14 May 2025 - Conference: The ubiquity of mechanics.

LUBES (Libera Università dei Santi Benedetto e Scolastica), Leno, 30 April 2025 - Conference: The ubiquity of mechanics.

Evento Futura, Brescia, 9 March 2025 - Conference: Voglia di futuro, prospettive della mechanobiology.

Ateneo di Brescia, Brescia. 24 Jan. 2025 - Conference: The ubiquity of mechanics.

La Notte dei ricercatori 29 Settembre 2024 MO.CA. Brescia: Un viaggio nella mechanobiology

La Notte dei ricercatori 29 Settembre 2023 Broletto Brescia: Anche le cellule fanno stretching: interazioni meccaniche e molecolari tra citoscheletro e matrice extracellulare nelle patologie umane

La Notte dei ricercatori 30 Settembre 2022 Museo Diocesano Brescia : L'unione fa la forza: interazioni molecolari e azioni meccaniche

Salvadori A., Serpelloni M., Arricca M., Ravelli C., Grillo E., Mitola S., Insights on the receptor dynamics and the spreading of endothelial cells, Lezione presso UNICAMPUS ROMA, 2 dicembre 2020

M. Serpelloni, Ateneo di Brescia - Accademia di Scienze, Lettere ed Arti - 16 Dicembre 2020: La Meccanobiologia applicata alla ricerca sul cancro

M. Arricca, Ateneo di Brescia - Accademia di Scienze, Lettere ed Arti - 6 Ottobre 2021: La Meccanobiologia applicata alla ricerca sul cancro

CSMT - PHD TALENT DAY, 17 Marzo 2021: La meccanobiologia applicata alla ricerca sull'angiogenesi