DAVIDE RICCOBELLI

Born in Brescia (Italy) on 18$^{\text{th}}$ December 1991

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POSITIONS

Fixed Term Researcher (Ricercatore a Tempo Determinato – lett. A)   Jan. 2021 – Present

Politecnico di Milano – MOX, Dipartimento di Matematica
- Position partially funded by NEWMED project (*Innovative methods and materials for precision and personalised medicine*) and PRIN 2022 (*Mathematical models for viscoelastic biological matter*).

Post-doc (assegnista di ricerca)   Nov. 2018 – Jan. 2021

SISSA – Mathlab, Area di Matematica
- Supervisor: A. De Simone
- Position funded by the ERC Advanced Grant project *Micromotility*.

VISITING PERIODS

Delft University of Technology   May 2024 – July 2024

Department of Aerospace Engineering
- Host: B. Giovanardi

University of Trento   Mar. 2024 (1 week)

Department of Civil, Environmental, and Mechanical Engineering
- Host: L. Deseri

Sorbonne Universitè and ESPCI   Feb. 2022 (1 week)

Institut ∂'Alembert and Laboratoire de Physique et Mécanique des Milieux Hétérogènes
- Hosts: C. Maurini, L. Truskinovsky

University of Oxford   July 2018 (3 weeks)

Mathematical Institute
- Host: D. Vella

École Supérieure de Physique et de Chimie Industrielles (ESPCI)   Apr. 2017 – Oct. 2017

Laboratoire de Physique et Mécanique des Milieux Hétérogènes
- Host: L. Truskinovsky

Sorbonne Université   Sep. 2017 – Oct. 2017

Institut Jean Le Rond ∂'Alembert
- Host: C. Maurini

EDUCATION

Ph.D. in Mathematical Models and Methods in Engineering   Nov. 2015 – Oct. 2018

Politecnico di Milano
- Title of the thesis: *Mathematical modelling of soft and active matter*
- Date of the thesis defence: 8$^{\text{th}}$ Feb. 2019
- Advisor: P. Ciarletta

Laurea Magistrale (M.Sc.) in Mathematics   Sep. 2013 – July 2015

Università Cattolica del Sacro Cuore   *110/110 summa cum laude*

Laurea (B.Sc.) in Mathematics   Sep. 2011 – Sep. 2013

Università Cattolica del Sacro Cuore   *110/110 summa cum laude*

QUALIFICATIONS

- Italian national scientific qualification as associate professor (professore di seconda fascia) for the disciplinary fields

    - MAT/07 - Mathematical Physics (valid until 3/10/2033).
    - ICAR/08 - Structural Mechanics (valid until 27/09/2033).

- French qualification for the position of Maître de conférence

    - Section 26 - *Mathématiques appliqués et applications des mathématiques* (Applied mathematics).
    - Section 60 - *Mécanique, génie mécanique, génie civil* (Mechanics, mechanical engineering, civil engineering).

PUBLICATIONS

Journal articles

1. M. Magri and D. Riccobelli. Modelling of initially stressed solids: structure of the energy density in the incompressible limit. *SIAM Journal on Applied Mathematics*, 84(6):2342–2364, 2024

2. D. Riccobelli, P. Ciarletta, G. Vitale, C. Maurini, and L. Truskinovsky. Elastic instability behind brittle fracture. *Physical Review Letters*, 132:248202, 2024

3. N. A. Barnafi, F. Regazzoni, and D. Riccobelli. Reconstructing relaxed configurations in elastic bodies: Mathematical formulation and numerical methods for cardiac modeling. *Computer Methods in Applied Mechanics and Engineering*, 423:116845, 2024

4. D. Riccobelli, H. H. Al-Terke, P. Laaksonen, P. Metrangolo, A. Paananen, R. H. A. Ras, P. Ciarletta, and D. Vella. Flattened and wrinkled encapsulated droplets: Shape-morphing induced by gravity and evaporation. *Physical Review Letters*, 130(21):218202, 2023

5. Y. Su, D. Riccobelli, Y. Chen, W. Chen, and P. Ciarletta. Tunable morphing of electroactive dielectric-elastomer balloons. *Proceedings of the Royal Society A*, 479(2276):20230358, 2023

6. P. Ciarletta, G. Pozzi, and D. Riccobelli. The Föppl–von Kármán equations of elastic plates with initial stress. *Royal Society Open Science*, 9(5):220421, 2022

7. D. Andrini, V. Balbi, G. Bevilacqua, G. Lucci, G. Pozzi, and D. Riccobelli. Mathematical modelling of axonal cortex contractility. *Brain Multiphysics*, 3:100060, 2022

8. D. Riccobelli. Active elasticity drives the formation of periodic beading in damaged axons. *Physical Review E*, 104(2):024417, 2021

9. D. Riccobelli, G. Noselli, and A. DeSimone. Rods coiling about a rigid constraint: Helices and perversions. *Proceedings of the Royal Society A*, 477(2246):20200817, 2021

10. D. Riccobelli and G. Bevilacqua. Surface tension controls the onset of gyrification in brain organoids. *Journal of the Mechanics and Physics of Solids*, 134:103745, 2020

11. D. Riccobelli, G. Noselli, M. Arroyo, and A. DeSimone. Mechanics of axisymmetric sheets of interlocking and slidable rods. *Journal of the Mechanics and Physics of Solids*, 141:103969, 2020

12. D. Riccobelli and D. Ambrosi. Activation of a muscle as a mapping of stress–strain curves. *Extreme Mechanics Letters*, 28:37–42, 2019

13. D. Riccobelli, A. Agosti, and P. Ciarletta. On the existence of elastic minimizers for initially stressed materials. *Philosophical Transactions of the Royal Society A*, 377(2144):20180074, 2019

14. G. Giantesio, A. Musesti, and D. Riccobelli. A comparison between active strain and active stress in transversely isotropic hyperelastic materials. *Journal of Elasticity*, 137(1):63–82, 2019

15. D. Riccobelli and P. Ciarletta. Shape transitions in a soft incompressible sphere with residual stresses. *Mathematics and Mechanics of Solids*, 23(12):1507–1524, 2018

16. D. Riccobelli and P. Ciarletta. Morpho-elastic model of the tortuous tumour vessels. *International Journal of Non-Linear Mechanics*, 107:1–9, 2018

17. D. Riccobelli and P. Ciarletta. Rayleigh–Taylor instability in soft elastic layers. *Philosophical Transactions of the Royal Society A*, 375(2093):20160421, 2017

18. D. Ambrosi, S. Pezzuto, D. Riccobelli, T. Stylianopoulos, and P. Ciarletta. Solid tumors are poroelastic solids with a chemo-mechanical feedback on growth. *Journal of Elasticity*, 129(1-2):107–124, 2017

Conference proceedings

19. D. Riccobelli. Buckling behind brittle fracture in soft solids. In P. Diehl, R. Lipton, A. Pandolfi, and T. Wick, editors, *Fracture as an Emergent Phenomenon*, volume 2024, 1 of *Oberwolfach Workshop Report*, pages 22–23, Oberwolfach (GE), 2024. Mathematisches Forschungsinstitut Oberwolfach

Ph.D. Thesis

20. D. Riccobelli. *Mathematical modelling of soft and active matter*. PhD thesis, Politecnico di Milano, 2019

Preprints

21. V. Pederzoli, M. Corti, D. Riccobelli, and P. F. Antonietti. A coupled mathematical and numerical model for protein spreading and tissue atrophy applied to alzheimer's disease. *arXiv preprint arXiv:2412.19661*, 2024

22. D. Cerrone, D. Riccobelli, P. Vitullo, F. Ballarin, J. Falco, F. Acerbi, A. Manzoni, P. Zunino, and P. Ciarletta. Patient-specific prediction of glioblastoma growth via reduced order modeling and neural networks. *arXiv preprint arXiv:2412.05330*, 2024

23. D. Riccobelli. Elastocapillarity-driven surface growth in tumour spheroids. *arXiv preprint arXiv:2410.03344*, 2024

Research grants (PI or local coordinator)

INdAM Starting Grant
- Title of the project: *MATH-FRAC: MATHematical modelling of FRACture in nonlinear elastic materials*.
- Role: PI
- Amount: 30 k€

IDEA League Fellowship
- Title of the project: *Mathematical and computational modelling of fracture propagation in soft matter*.
- Role: PI
- Amount: 15 k€

PRIN 2022
- Title of the project: *Mathematical models for viscoelastic biological matter*.
- Role: local coordinator
- PI: G. G. Giusteri
- Amount: 187 k€

INdAM – GNFM project 2021
- Title of the project: *Transizioni di forma nella materia biologica e attiva* (Shape transitions in biological and active matter).
- Role: PI
- Amount: 4 k€

Participation to research projects

INdAM – GNFM project 2023
- Title of the project: *Rimodellamento in materiali anisotropi e attivi* (Remodelling in anisotropic and active materials).
- Role: member
- PI: G. Lucci
- Amount: 2.5 k€

CNRS project
- Title of the project: *Modelling cell and tissue biomechanics (MOCETIBI)*.
- Role: member
- PI: L. Almeida
- Amount: 40 k€

PRIN 2020
- Title of the project: *Mathematics for Industry 4.0*.
- Role: member
- PI: P. Ciarletta
- Amount: 480 k€

Regione Lombardia – Call Hub Ricerca e Innovazione
- Title of the project: *NEWMED project: Materials and methods for personalized and precision medicine*.
- Role: member
- PI: D. Polli
- Amount: 3.3 M€

ERC Advanced Grant
- Title of the project: *MicroMotility – Multiscale modeling and simulation of biological and artificial locomotion at the micron scale*.
- Role: member
- PI: A. De Simone
- Amount: 1.3 M€

PRIN 2017
- Title of the project: *Mathematics of active materials: from mechanobiology to smart device*.
- Role: member
- PI: L. Preziosi
- Amount: 420 k€

INdAM – GNFM project 2017
- Title of the project: *Evoluzione e Controllo della Forma nei Materiali Attivi* (Shape control in active material).
- Role: member
- PI: A. Lucantonio
- Amount: 2.5 k€

INdAM – GNFM project 2016
- Title of the project: *Fenomeni di frattura e instabilità nei Materiali Soffici Attivi* (Fracture and instability phenomena in soft active materials).
- Role: member
- PI: G. Noselli
- Amount: 5 k€

1. *AIMETA Junior Prize* 2024 in General Mechanics, awarded by the Associazione Italiana di Meccanica Teorica e Applicata (AIMETA) for outstanding contributions in the field of Theoretical and Applied Mechanics.

2. *Research Highlights* on the paper "D. Riccobelli, H. H. Al-Terke, P. Laaksonen, P. Metrangolo, A. Paananen, R. H. A. Ras, P. Ciarletta, and D. Vella. Flattened and wrinkled encapsulated droplets: Shape-morphing induced by gravity and evaporation. *Physical Review Letters*, 130(21):218202, 2023" have been published on *Nature Reviews Physics* and *Physics*:

   - Z. Budrikis. Crumpling and wrinkling droplets. *Nature Reviews Physics*, 5(7):374-374, 2023
   - R. Berkowitz. Gravity Alters the Shape of an Evaporating Droplet. *Physics*, 16:s69, 2023.

3. The paper "D. Riccobelli, H. H. Al-Terke, P. Laaksonen, P. Metrangolo, A. Paananen, R. H. A. Ras, P. Ciarletta, and D. Vella. Flattened and wrinkled encapsulated droplets: Shape-morphing induced by gravity and evaporation. *Physical Review Letters*, 130(21):218202, 2023" has been selected as *Editors' Suggestion* by the editorial board of *Physical Review Letters*.

4. The paper "D. Riccobelli. Active elasticity drives the formation of periodic beading in damaged axons. *Physical Review E*, 104(2):024417, 2021" has been selected as *Editors' Suggestion* by the editorial board of *Physical Review E*.

5. Winner of the *GADeS award 2023* for the best Ph.D. thesis in the fields of dynamics and stability defended the thesis in the period 2018-2023. The prize is awarded by the GADeS group of the Italian Association of Theoretical and Applied Mechanics (AIMETA).

6. Winner of a travel grant for a visiting period to the Universidad de Chile, Center of Mathematical Modeling (1 month, Feb. 2025) awarded by the National Institute of Higher Mathematics.

7. Travel grant to participate to the *IUTAM Symposium on Capillarity and Elastocapillarity in Biology* (2024).

8. *Young Scientist Support Grant*, to participate to the *International Congress on Theoretical and Applied Mechanics 2024* awarded by *ICTAM*.

9. *Oberwolfach Leibniz Graduate Students*, travel grant to participate to a workshop at the Mathematisches Forschungsinstitut Oberwolfach (2018).

10. Travel grants to participate to the INdAM Summer Schools on Mathematical Physics (2015, 2016, 2018, 2020).

Invited presentations at international conferences and workshops

1. 26 Aug. 2024: *Elastic precursors of brittle fracture in soft solids*, International Conference of Theoretical and Applied Mechanics, Daegu.
2. 4 June 2024: *Mathematical modeling of axonal morphoelasticity: Cytoskeletal disruption and active elasticity in neurological disorders*, 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Lisbon.
3. 8 Jan. 2024: *Buckling behind brittle fracture in soft solids*, workshop "Fracture as an Emergent Phenomenon", Mathematisches Forschungsinstitut Oberwolfach.
4. 20 June 2023: *Mathematical and numerical modeling of axonal beading*, ECCOMAS Young Investigators Conference, University of Porto.
5. 4 Apr. 2023: *Mechanotransduction in axons: Remodelling of the actin cortex*, British Applied Mathematics Colloquium, Bristol.
6. 12 Oct. 2022: *Nucleation of cracks as an elastic instability*, workshop "Modelling Cell and Tissue Biomechanics", Laboratoire Jacques-Louis Lions, Sorbonne Université, Paris.

7. 4 July 2022: *From coronavirus infections to Alzheimer's disease: Buckling of damaged axons*, 11$^{\text{th}}$ European Solid Mechanics Conference, University of Galway.

8. 7 Apr. 2021: *Role of tissue surface tension in brain organoid morphogenesis*, British Applied Mathematics Colloquium, Glasgow.

9. 26 Feb. 2018: *On the modeling of muscle contraction*, workshop "The Mathematics of Mechanobiology and Cell Signaling", Mathematisches Forschungsinstitut Oberwolfach.

Invited presentations at national conferences and workshops

1. 5 Sep. 2024: *Shape morphing of self-encapsulating droplets*, XXIV AIMETA Conference, University of Naples Federico II.

2. 5 Sep. 2024: *AIMETA Prize talk: Nonlinear mechanics of soft matter*, XXIV AIMETA Conference, University of Naples Federico II.

3. 15 Mar. 2024: *The shape of the heart*, workshop "Heart beats in continuum mechanics", Politecnico di Torino.

4. 11 Sep. 2023: *Mathematical modelling of soft and active matter: GADeS award 2023*, GADeS – AIMETA Meeting, University of L'Aquila.

5. 11 May 2023: *Active elasticity in axons*, workshop "Applications of Linear and nonlinear Elasticity", Catholic University of Sacred Heart, Brescia.

6. 30 Sep. 2021: *Mathematical modeling of axonal beading: From coronavirus infections to Alzheimer's disease*, workshop "Recent Advances in Mechanics and Mathematics of Materials", Università la Sapienza, Rome.

7. 23 Sep. 2021: *Shape transitions in damaged axons*, INdAM Meeting: "Active Materials: from Mechanobiology to Smart Devices", Cortona.

8. 17 June 2020: *Mechanics of axisymmetric sheets of interlocking and slidable rods*, Giornate Signorini, Università degli Studi di Perugia.

9. 17 Sep. 2019: *Spatially constrained growth triggers tumour vessel tortuosity*, XXIV AIMETA Conference, Università la Sapienza, Rome.

10. 3 Sep. 2019: *Influence of mechanical stress on solid tumor growth*, workshop "The Mechanics of Cell Aggregates: Experiments and Models", Politecnico di Torino.

11. 7 June 2019: *Role of tissue surface tension in the morphogenesis of brain organoids*, workshop "Maths from the Body II", organized by the Catholic University of Sacred Heart, Venice.

12. 31 Aug. 2017: *Chemo–mechanical feedback in solid tumor growth*, INdAM Meeting: "Mathematical Physics of Living Systems", Cortona.

Invited seminars

1. 19 Mar. 2024: *Fracture nucleation as an elastic instability in soft solids*, seminar at the Department of Civil, Environmental, and Mechanical Engineering of the University of Trento.

2. 24 Oct. 2023: *Neurological diseases and brain mechanics: A mathematical perspective*, seminar at International School for Advanced Studies (SISSA), Trieste.

3. 17 May 2023: *Mathematical modelling of axon mechanics*, seminar in Mathematical Physics, Università degli Studi di Padova.

4. 2 Dec. 2021: *Mechanical instabilities in slender structures*, Industrial and Applied Mathematics Seminar, University of Oxford.

5. 14 May 2020: *Morphoelasticity of solid tumours*, webinar organized by the Univeristy of Glasgow.

6. 28 Jan. 2020: *Morphogenesis of sulci in brain organoids*, seminar at the Institut Jean Le Rond ∂'Alembert, Sorbonne Université, Paris.

7. 23 Oct. 2017: *Rayleigh-Taylor instability in elastic bilayers*, seminar at the Institut Jean Le Rond ∂'Alembert, Sorbonne Université.

Other presentations

1. 8 Nov. 2024: *Mathematics and mechanics of tumor growth*, Workshop "Mathematics for our Health", Politecnico di Milano.

2. 22 Aug. 2024: *Role of tissue surface tension and elasticity in brain organoid morphogenesis (poster)*, IUTAM Symposium on Capillarity and Elastocapillarity in Biology, Seoul National University.

3. 9 July 2024: *Metamaterial structures inspired by microorganism motility*, seminar at the Faculty of Science, University of Amsterdam.

4. 4 July 2024: *The shape of the heart*, seminar at the Faculty of Mechanical Engineering, TU Delft.

5. 18 June 2024: *Fracture nucleation in soft matter as an elastic instability*, seminar at the Lorentz Institute, Leiden University.

6. 18 Jan. 2024: *Mathematical modelling of brain tumour growth: model order reduction and patient-specific parameter estimation*, workshop "Mathematics for Artificial Intelligence and Machine Learning", Università Bocconi, Milano.

7. 28 Aug. 2023: *Mathematical modelling of brain tumour growth: reduced order modelling and parameter estimation*, Congress of the Italian Society of Applied and Industrial Mathematics (SIMAI), University of Basilicata.

8. 6 June 2023: *Tunable buckling of dielectric-elastomer spherical shells*, XXII International Conference on Waves and Stability in Continuous Media (WASCOM), Bari.

9. 17 June 2022: *Mathematical modelling of initially stressed materials*, XXIII Symposium on Trends in Applications of Mathematics to Mechanics, Catholic University of Sacred Heart, Brescia.

10. 2 Sep. 2021: *From coronavirus infections to Alzheimer's disease: Pearling of damaged axons*, Congress of the Italian Society of Applied and Industrial Mathematics (SIMAI), University of Parma.

11. 1 Sep. 2020: *Innovative structures inspired by microorganism motility*, XLV Summer School on Mathematical Physics (GNFM – INdAM), Ravello.

12. 13 Sep. 2018: *On the mathematical modelling of muscle contraction*, XLIII Summer School on Mathematical Physics (GNFM – INdAM), Ravello.

13. 5 July 2018: *On the stability of soft incompressible spheres with residual stresses*, 10th European Solid Mechanics Conference, Bologona.

14. 29 June 2017: *Rayleigh–Taylor instability in soft elastic layers*, International Workshop on Modelling of Nonlinear Continua, Castro Urdiales.

15. 12 Sep. 2016: *Chemo–mechanical feedback in solid tumor growth*, XLI Summer School on Mathematical Physics (GNFM – INdAM), Ravello.

16. 1 Sep. 2016: *Chemo–mechanical feedback in solid tumor growth*, workshop "Constitutive behaviour of soft tissues: connecting experimental and modelling perspectives", University of Manchester.

17. 23 Sep. 2015: *A mathematical model of skeletal muscle tissue with damage due to aging*, XL Summer School on Mathematical Physics (GNFM – INdAM), Ravello.

ORGANIZING ACTIVITY

- Member of the organizing committee of the workshop *Mathematics for our Health (M4H)*, https://www.mate.polimi.it/events/M4H24/.

- Co-organizer (together with C. Giverso, G. Lucci, G. Pozzi) of the mini-symposium *Mathematical modelling in biology* at the congress of the *Italian Society of Applied and Industrial Mathematics* 2023, held at the University of Basilicata (28/8/2023 – 1/9/2023)

- Member of the organizing committee of the conference *MOX 20* for the twentieth anniversary of the founding of MOX Laboratory, https://mox.polimi.it/mox20/.

- Co-organizer (together with V. Balbi) of the mini-symposium *Soft tissue biomechanics: From experiments to mathematical modelling* at the congress of the *Italian Society of Applied and Industrial Mathematics* 2020-21 held at the University of Parma (30/8/2021 – 3/9/2021)

REVIEWING ACTIVITY

Reviewer for the following journals
- *Bulletin of Mathematical Biology*
- *Computer Methods and Programs in Biomedicine*
- *Continuum Mechanics and Thermodynamics*
- *Extreme Mechanics Letters*
- *International Journal of Engineering Science*
- *International Journal of Non-Linear Mechanics*
- *International Journal of Solids and Structures*
- *Journal of Applied Mechanics*
- *Journal of Elasticity*
- *Journal of Engineering Mathematics*
- *Journal of Mechanics of Materials and Structures*
- *Journal of the Mechanics and Physics of Solids*
- *Mathematics and Mechanics of Solids*

- *Mathematics in Engineering*
- *Meccanica*
- *Physical Review E*
- *Physical Review Letters*
- *Proceedings of the Royal Society A*
- *Soft Matter*
- *ZAMM - Journal of Applied Mathematics and Mechanics*

for a total of 54 reviews.

Reviewer for the following funding agencies
- *European Research Council* (Starting Grant)
- *Human Frontier Science Program* (Research Grants)

Reviewer for Mathematical Reviews

SUPERVISED STUDENTS

Supervised master's students

L. Le Saux | 2024
- Programme: *Master 1 in Mathématiques Appliquées*
- University: *Insitut Polytechnique de Paris, ENSTA*
- Title of the thesis: *A thermodynamically consistent mathematical model of cardiac contractility*

F. Magni | 2024
- Programme: *Laurea Magistrale in Ingegneria Matematica*
- University: *Politecnico di Milano*
- Title of the thesis: *A mathematical model of axonal beading based on the theory of active material surfaces*
- Currently Ph.D. student in Mathematical Analysis, Modelling, and Applications at SISSA

A. Conti | 2024
- Programme: *Laurea Magistrale in Ingegneria Informatica*
- University: *Politecnico di Milano*
- Title of the thesis: *Improving mathematical models of cancer by including resistance: A study on bladder cancer*

Co-supervised master's students

V. Pederzoli | 2024
- Programme: *Laurea Magistrale in Ingegneria Matematica*
- University: *Politecnico di Milano*
- Title of the thesis: *A mathematical model of brain atrophy in Alzheimer's disease*
- Supervisor: *P. F. Antonietti*
- Currently Ph.D. student in Mathematical Models and Methods in Engineering at Politecnico di Milano

D. Cerrone | 2023
- Programme: *Laurea Magistrale in Ingegneria Matematica*
- University: *Politecnico di Milano*
- Title of the thesis: *A Neural Network approach to Reduced Order Model of Glioblastoma Growth and its Neuroimaging-informed Estimation of Patient-Specific Parameters*
- Supervisor: *P. Ciarletta*

G. Ewald | 2022
- Programme: *Master 2, Génie Mécanique et Matériaux*
- University: *Ècole des Ponts ParisTech*
- Title of the thesis: *Mechanical instabilities in materials with softening*
- Supervisor: *P. Ciarletta*

Teaching experience

Lecturer

Rational mechanics
- *University and degree programme*: Bachelor's degree in Civil Engineering, Politecnico di Milano.
- *Academic year*: 2021–2022, 2022-2023, 2023-24, 2024-25.
- *Number of students*: ~40.
- *Language*: English.

Teaching Assistant

Rational mechanics
- *University and degree programme*: Bachelor's Degree in Biomedical Engineering and Telecommunication Engineering, Politecnico di Milano.
- *Academic year*: 2020–2021 (**2 courses**).
- *Number of students*: ~150.
- *Language*: Italian.

Calculus II
- *University and degree programme*: Bachelor's Degree in Electronic and Computer Engineering, Università di Trieste.
- *Academic year*: 2019–2020.
- *Number of students*: ~100.
- *Language*: Italian.

Linear algebra and geometry
- *University and degree programme*: Bachelor's Degree in Naval Architecture and Marine Engineering, Università di Trieste.
- *Academic year*: 2019–2020.
- *Number of students*: ~100.
- *Language*: Italian.

Mathematical and physical modeling in engineering
- *University and degree programme*: Master's Degree in Mathematical Engineering, Politecnico di Milano.
- *Academic year*: 2015-2016, 2016-2017, 2017-2018.
- *Number of students*: ~25.
- *Language*: English.

Calculus I
- *University and degree programme*: Bachelor's degree in Civil Engineering, Politecnico di Milano.
- *Academic year*: 2016-2017.
- *Number of students*: ~150.
- *Language*: Italian.

Institutional activity

- Since Sep. 2021: member of the Programme Board of Civil Engineering at the Politecnico di Milano.

Recruitment

- Feb 2024: participation to the committee for the selection of teaching assistants for the courses of Mathematical Physics at the Politecnico di Milano.

- Oct 2022: participation to the committee for the selection of a postdoc in Mathematical Physics at the Politecnico di Milano.

- Sept 2022: participation to the committee for the selection of tutors for the bachelor's degree in Civil Engineering at the Politecnico di Milano.

- Jan 2022: participation to the committee for the selection of teaching assistants for the courses of Mathematical Physics at the Politecnico di Milano.

- Oct 2021: participation to the committee for the selection of a postdoc in Mathematical Physics at the Politecnico di Milano.

Memberships

- 2016–present: member of the *Gruppo Nazionale di Fisica Matematica* of the *Istituto Nazionale di Alta Matematica* (National Institute of Higher Mathematics).

- 2019–present: member of the *Italian Association of Theoretical and Applied Mechanics* (AIMETA)

- 2021–present: member of the *Italian Society of Applied and Industrial Mathematics* (SIMAI).

Popularization – articles

- D. Riccobelli. Un'introduzione ai modelli matematici. *Nuova Secondaria*, 9, 2016

Popularization – other activities

- Participation to the "SISSA for schools" program (2019).

- Participation to the "Meet me tonight – Incontri con la scienza" (2017–2018).

- Tutor for high school students in preparation for the Italian Mathematical Olympiad (2014–2018).

Milan, December 30, 2024