

Eugenio Dellepiane

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📅 29/03/1998



Summary

I have recently obtained my Ph.D. in Mathematics, I am right at the beginning of my scientific career and production with a strong foundation in mathematical analysis. My main interests reside in functional analysis, complex analysis, operator theory and harmonic analysis. I am passionate about teaching and I am experienced in presenting research at international conferences, building strong connections within the global mathematical community.

Education & Research

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| Mar – Aug 2025 | 📖 Postdoctoral scholarship at Politecnico di Torino
I won a five months scholarship to work on the research project titled " <i>Hardy subspaces, their structure and computational analysis</i> " |
| 2021 – 2025 | 📖 Ph.D. in Mathematics at Università di Milano - Statale.
Final evaluation: Excelent, cum laude.
Thesis title: <i>An analysis of de Branges - Rovnyak and Dirichlet spaces.</i> |
| 2019 – 2021 | 📖 M.Sc. in Pure Mathematics at Università di Genova.
Grade: 110/110 cum laude.
Thesis title: <i>Singular integrals and functional calculus for divergence-type operators.</i> |
| 2016 – 2019 | 📖 B.Sc. in Mathematics at Università di Genova.
Grade: 110/110 cum laude.
Thesis title: <i>Haar measures on topological groups and the continuous wavelet transform.</i> |

Research publications

Journal Articles

- 1 C. Bellavita and E. Dellepiane, "Embedding model and de Branges-Rovnyak spaces in Dirichlet spaces," *Complex Variables and Elliptic Equations*, vol. 70, no. 2, pp. 228–246, 2025. 🔗 DOI: 10.1080/17476933.2023.2298837.
- 2 C. Bellavita, E. Dellepiane, and J. Mashregi, "The spectral analysis of the difference quotient operator on model spaces," *Bulletin des Sciences Mathématiques*, vol. 204, 2025. 🔗 DOI: <https://doi.org/10.1016/j.bulsci.2025.103673>.
- 3 E. Dellepiane, M. M. Peloso, and A. Tabacco, "On the equality of de Branges-Rovnyak and Dirichlet spaces," *Complex Analysis and Operator Theory (accepted, to appear)*, 2025.

Preprints

- 1 C. Bellavita, E. Dellepiane, and G. Stylogiannis, "Boundedness, compactness and Schatten class for Rhaly matrices," arXiv preprint, March 2025. 🔗 URL: <https://arxiv.org/abs/2503.21930>.
- 2 E. Dellepiane, J. Mashregi, M. Nasri, and W. Verreault, "The Cesàro operator on local Dirichlet spaces," arXiv preprint, October 2024. 🔗 URL: <https://arxiv.org/abs/2410.00828>.

Conferences & Seminars

Invited speaker

- **International Workshop on Operator Theory and its Applications (IWOTA25)**
UNIVERSITY OF TWENTE, 14 - 18 JULY 2025
I am invited to give a 25 minutes talk, during the special session on operator theory on function spaces in memory of N. Vasilevski, titled "*Boundedness, compactness and Schatten class for Rhaly matrices*".
- **5th Young Researchers in Functional Analysis and Mathematical Physics meeting**
UNIVERSITY OF AVEIRO, 8 - 11 JULY 2025
I am invited to give a 20 minutes talk.
- **Analysis on Complex and Discrete Structures**
UNIVERSITÀ DI MILANO - STATALE, 20 - 21 FEBRUARY 2025
I was invited to give a 1h talk titled "*Orthonormal bases in model spaces*".
- **IV Young Researchers Workshop in Harmonic Analysis**
UNIVERSITÀ DI MILANO - STATALE, 22 - 24 JAN 2025
I was invited to give a 30 minutes talk titled "*Hadamard multipliers and polynomial approximation in Dirichlet spaces*".
- **Séminaire "Analyse fonctionnelle"**
UNIVERSITÉ DE LILLE, 4 OCT 2024
I was invited to give a 1h talk titled "*Difference quotient operators and embeddings between spaces of analytic functions*".
- **III Young Researchers Workshop in Harmonic Analysis**
UNIVERSITÀ DI GENOVA, 10 - 12 JAN 2024
I was invited to give a 30 minutes talk titled "*Embedding model and de Branges-Rovnyak spaces in Dirichlet spaces*".

Contributed talks

- **Advanced Courses in Operator Theory and Complex Analysis (ACOTCA25)**
UNIVERSITÉ CLERMONT AUVERGNE, CLERMONT FERRAND, 16 - 20 JUN 2025
I will give a contributed talk titled " *$H(b)$ spaces that are \mathcal{D}_μ spaces, with infinitely many atoms*".
- **XLIV Convegno Nazionale di Analisi Armonica**
UNIVERSITÀ DI NAPOLI PARTHENOPE, 27 - 30 MAY 2025
I gave a contributed talk titled "*Boundedness, compactness and Schatten class for Rhaly matrices*".
- **Advanced Courses in Operator Theory and Complex Analysis (ACOTCA24)**
UNIVERSIDAD DE LA LAGUNA, TENERIFE, 24 - 28 JUN 2024
I gave a contributed talk titled "*On the difference quotient operator on model spaces*".
- **Spaces of Analytic Functions and their Operators**
SAARLAND UNIVERSITY, SAARBRÜCKEN, 13 - 17 MAY 2024
I gave a contributed talk titled "*Embedding model and de Branges-Rovnyak spaces in Dirichlet spaces*".
- **Symposium in Harmonic and Complex Analysis, Microlocal and Geometrical Analysis**
UNIVERSITÀ DI BOLOGNA, 24 - 26 JAN 2024
I gave a contributed talk titled "*Embedding Model Spaces in Dirichlet spaces*".

Others

- **Workshop on Operator Theory, Complex Analysis and Applications (WOTCA25)**
UNIVERSITY OF AVEIRO, 7 - 11 JULY 2025
- **Hilbert Function Spaces 2025**
VILLA MONDRAGONE (FRASCATI), 30 JUN - 4 JULY 2025



Conferences & Seminars (continued)

- **Operators on analytic function spaces**
CIRM - LUMINY (MARSEILLE), 2 – 6 DEC 2024
- **Advanced Courses in Operator Theory and Complex Analysis (ACOTCA23)**
ARISTOTLE UNIVERSITY, THESSALONIKI, 26 – 30 JUN 2023
- **XLII Convegno Nazionale di Analisi Armonica**
UNIVERSITÀ DI MILANO - BICOCCA, 29 – 31 MAY 2023
- **Young Researchers Workshop in Harmonic Analysis**
POLITECNICO DI TORINO, 19 – 20 JAN 2023
- **(New trends in) complex and Fourier analysis, and operator theory**
WORKSHOP INDAM IN ROME, ITALY, 12 – 16 SEP 2022
- **11th International Conference on Harmonic Analysis and Partial Differential Equations**
ICMAT CONFERENCE AT EL ESCORIAL, MADRID, 6 – 10 JUN 2022
- **Geometric Aspects of Complex and Harmonic Analysis**
UNIVERSITÀ DI BOLOGNA, 17 – 18 JAN 2022
- **8th European Congress of Mathematics**
PORTOROŽ, SLOVENIA, 19 – 25 JUN 2021

Teaching




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| Sep 2024 – Feb 2025 | ■ University Tutor
UNIVERSITÀ DI MILANO - STATALE
Assisted with exercises for the course "Functional Analysis" in the Master degree in Mathematics. |
| Sep 2023 – Feb 2024 | ■ University Tutor
UNIVERSITÀ DI MILANO - STATALE
Assisted with exercises for the course "Analisi Matematica 3" in the undergraduate degree in Mathematics. |
| | ■ University Tutor
UNIVERSITÀ DI MILANO - STATALE
Assisted with exercises for the course "Analisi Matematica 1" in the undergraduate degree in Physics. |
| Feb 2024 – Jun 2024 | ■ University Tutor
UNIVERSITÀ DI MILANO - STATALE
Assisted with exercises for the course "Analisi Matematica 2" in the undergraduate degree in Physics. |
| Sep 2022 – Feb 2023 | ■ Teaching assistant
POLITECNICO DI MILANO
Prepared and taught exercise classes for "Analisi Matematica 1" in the undergraduate degree in Mechanical Engineering. |

Teaching (continued)





- Feb 2022 – Jun 2022  **University Tutor**
POLITECNICO DI MILANO
Assisted with exercises for the course "Analisi Matematica 2" in the undergraduate degree in Electrical Engineering.
- Mar 2021 – Jul 2021  **University Tutor**
UNIVERSITÀ DI GENOVA
Assisted students with exercises and mock exams for the course "Matematica generale" in the undergraduate degree in Natural Sciences.

Miscellaneous




Periods abroad

- Apr – Jun 2024  **Visiting period (Ph.D.).** I spent three months in Université Laval in Québec City (CA), working with Javad Mashreghi.
- Sep 2020 – Feb 2021  **Erasmus (Master).** I spent a semester in Universidad Complutense de Madrid, where I passed 4/4 exams in Spanish language.
- Jan – Jun 2019  **Erasmus (Bachelor).** I spent a semester in Universidad Complutense de Madrid, where I passed 4/4 exams in Spanish language.

Languages

-  ITALIAN C2 (native language)
-  SPANISH C1
-  ENGLISH C1
-  FRENCH B2

Ph.D. courses and summer schools

- Mar 2025  **Bounded and unbounded operators on Hilbert spaces**
25 hours Ph.D. course held at Politecnico di Torino by Alessio Martini on spectral theory for bounded and unbounded operators on Hilbert spaces, including the theory of commutative C^* -algebras.
- Nov 2024  **Modern singular integral theory: sparse domination**
12 hours Ph.D. course held at Politecnico di Torino by José Conde Alonso (Universidad Autónoma, Madrid).
- May 2023  **Function spaces on the disk and the plane: Model and de Branges spaces, recent results, extensions, and applications**
Two weeks of advanced courses in Cortona, Tuscany, at the Palazzone of the Scuola Normale Superiore. Classes held by William T. Ross and Marco M. Peloso.