

CURRICULUM VITAE
Alessandra Brambati, Ph.D.

PROFESSIONAL POSITION/ADDRESS

Assistant Professor

Department of Pharmacology

University of Colorado Anschutz Medical Campus

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EDUCATION

2011-2015 Ph.D. in Genetics and Biomolecular Sciences

University of Pavia, Italy. Thesis: *“transcription is a source of replication stress in Senataxin-deficient cells”*. Advisor: Giordano Liberi, Ph.D.

2009-2011 M.S. in Molecular and Cellular Biology

University of Milan, Italy. Thesis: *“Yeast Senataxin prevents replication fork arrest at RNA Polymerase II genes”*. Advisor: Marco Foiani, Ph.D. 110/110 cum laude

2005-2009 B.S. in Biology

University of Milan, Italy. 102/110

PROFESSIONAL POSITIONS/ACADEMIC APPOINTMENTS

2024-present Assistant Professor

Department of Pharmacology

University of Colorado Anschutz Medical Campus

2025-present Training Faculty Member

Pharmacology Graduate Program

Biomedical Sciences Graduate Program

Molecular Biology Graduate Program

University of Colorado Anschutz Medical Campus

2018-2024 Postdoctoral Research Scientist

Skirball Institute, NYU Grossman School of Medicine, New York, NY

SKI Institute, Memorial Sloan Kettering Cancer Center, New York, NY.

Advisor: Agnel Sfeir, Ph.D.

2015-2018 Postdoctoral Fellow

CNR, Pavia, Italy.

Advisor: Giordano Liberi, Ph.D.

HONORS AND AWARDS

2024 Tri-Institutional Breakout Prize for Junior Investigators

Memorial Sloan Kettering Cancer Center, Rockefeller University, Weill Cornell Medicine

2023 Society Scholars Prize, The Society of Memorial Sloan Kettering

2023 Prize: Best poster presentation, MSK Postdoc Research Symposium

2022 Travel grant: Marie-Josée Kravis Women in Science Endeavor, Travel grant

MAJOR COMMITTEE AND SERVICE RESPONSIBILITIES

Thesis Committees

Internal (Current)

2025-present Emilia Smith - CU Anschutz - Pharmacology Program

2025-present Ana Leon Gonzalez - CU Boulder

External (Current)

2026-present Emma Frennbor - Thomas Jefferson University

Journal Reviewing (Ad hoc)

Nature Communications, Science Advances, Frontiers in Oncology, Guest Editor - Journal of Visualized Experiments (JoVE)

Grant Review

2025 Study Section Reviewer, Golfers Against Cancer

2025 Reviewer, Milheim Foundation Grant

2025 Primary Reviewer, F31 fellowship application, Alex Vickers (Colorado State University)

2025 Primary Reviewer, F32 fellowship application, Molly Zych (CU Anschutz)

2025-present T32 Research Advisory Committee, Remington Hoerr (CU Anschutz)

University Service

2024-present PharMM admission committee, Pharmacology Program

2025-present Research Service Professional Awards – Dept of Pharmacology

Graduate and undergraduate

2005-2007 Student Representative in the Department of Biology, University of Milan

2007-2010 President of the Student's Union, University of Milan

2007-2010 Student Representative in the Academic Senate, University of Milan

2012-2015 President of the PhD student Union, University of Pavia

2014 Student Representative in the Academic Senate, University of Pavia

INVITED LECTURES AND PRESENTATIONS

International

2025 2nd Annual Bellairs meeting on Genome engineering and repair, Barbados

2025 Pathology Department, University of Otago, New Zealand (virtual)

2025 Department of Bioscience - University of Milano-Milano, Italy

2025 Institute of Molecular Genetics, IGM-CNR-Pavia, Italy

2025 Genome Integrity Italian Network GiIN seminar, Italy, (virtual)

2026 Fusion conference - 2nd Genome Regulation through RNA, Mexico

National

2025 Selected for a talk – Gordon Conference DNA repair in mammalian cells

2025 School of Medicine Pharmacology, Wayne State University, MI

2026 Department of Biochemistry & Molecular Genetics, University of Illinois at Chicago

Selected Talks (Postdoctoral and Graduate Work)

2024 Transcription and Genome Maintenance Meeting, Roscoff, France

2023 ASCB|EMBO Meeting - Cell Bio 2023, Boston, MA

2023 IGM-CNR Alumni Talk (invited), Virtual

2022 Tri-Institutional RNA Club Mini Symposium, Rockefeller University, New York, NY

2022 Genome Integrity Discussion Group, Rockefeller University, New York, NY

2021 MSK Postdoctoral Research Symposium, New York, NY

2020 NYSTEM Annual Meetings, New York, NY

2019 NYSTEM Annual Meetings, New York, NY
 2018 NYSTEM Annual Meetings, New York, NY
 2017 Joint Annual Symposium, Departments of Biology, Biotechnology, and Molecular Medicine, Pavia, Italy
 2016 Gordon-Kenan Research Seminar: DNA Damage, Mutation & Cancer, Ventura, CA
 2014 IGM Meeting, Pavia, Italy

TEACHING AND MENTORING RECORD

CU Anschutz Teaching

2026 Guest Lecturer, Receptors and Cell Signaling | PHCL 7606,
 "DNA Repair Signaling", PharMM Graduate Student Teaching
 University of Colorado Anschutz Medical Campus

Postdoctoral Teaching (Previous Institution)

2020-2021 Lecturer, "Fundamental Discoveries in Biology", New York University
 Co-taught with Prof. Smith, discussed seminal papers in DNA replication

Undergraduate Teaching (Previous Institution)

2014 Teaching Assistant, "Genetics", University of Pavia
 Led theory lectures and practical exercises on mitosis and meiosis (one semester)

CU Anschutz Mentoring

2025 Abigail Russell, Ph.D. rotation student, Pharmacology Program
 2025-present Sarah di Domenico, Postdoc, (Current)
 2025-present James Cope, Professional Research Assistant (Current)

Postdoctoral Mentoring (Previous Institution)

2023 Ahmet Doymaz, MD/PhD rotation student, Memorial Sloan Kettering Cancer Center
 2023 Monica Selvaraj, Ph.D. rotation student, Memorial Sloan Kettering Cancer Center
 2022 Hina Shah, Ph.D. rotation student, Weill Cornell
 2021-2023 Olivia Sacco, Research Technician, Memorial Sloan Kettering Cancer Center
 2022-2024 Hina Shah, Ph.D. graduate student, Weill Cornell
 2022 Jessica Das, Summer Intern, Memorial Sloan Kettering Cancer Center
 2019-2021 Julius Wu, Undergraduate Intern, New York University
 2016-2018 Erika Valeri, Master's student (2 years), University of Pavia
 2015-2017 Lorenzo Galanti, Master's student (2 years), University of Pavia
 2014-2016 Luca Zardoni, Master's student (2 years), University of Pavia

Graduate School Mentoring (Previous Institution)

2013-2015 Federica Loperfido, Master's student (2 years), University of Pavia
 2012-2014 Michela Piras, Master's student (2 years), University of Pavia
 2011-2013 Federica Evangelista, Master's student (2 years), University of Pavia

PUBLICATIONS

* Equally contributed as first author
 # Equally contributed as corresponding author

Postdoctoral and Graduate work (Previous Institution)

1. Jalan M*, **Brambati A***, Shah H*, McDermott N*, Patel J, Zhu Y, Doymaz A, Wu J, Anderson KS, Gazzo A, Pareja F, Yamaguchi TN, Vougiouklakis T, Ahmed-Seghir S, Steinberg P, Neiman-Golden A, Azeroglu B, Gomez-Aguilar J, da Silva EM, Hussain S, Higginson D, Boutros PC, Riaz N, Reis-Filho JS, Powell SN, Sfeir A. RNA transcripts

serve as a template for double-strand break repair in human cells. *Nat Commun.* 2025 May 10;16(1):4349. doi: 10.1038/s41467-025-59510-x. PMID: 40348775; PMCID: PMC12065846.

- 2. **Brambati A[#]**, Sacco O*, Porcella S*, Heyza J, Karem M, Schmidt J, Sfeir A[#]. RHINO directs MMEJ to repair DNA breaks in mitosis. *Science*. DOI: 10.1126/science.adh3694. PMID: 37440612
- 1. Zardoni L, Nardini E, **Brambati A**, Lucca C, Choudhary R, Loperfido F, Sabbioneda S, Liberi G. Elongating RNA polymerase II and RNA:DNA hybrids hinder fork progression and gene expression at sites of head-on replication-transcription collisions. *Nucleic Acids Resource*. 2021 Dec 16;49(22):12769-12784. doi: 10.1093/nar/gkab1146. PMID: 34878142.
- 2. Chandramouly G, Zhao J, McDevitt S, Rusanov T, Hoang T, Borisonnik N, Treddinick T, Lopezcolorado FW, Kent T, Siddique LA, Mallon J, Huhn J, Shoda Z, Kashkina E, **Brambati A**, Stark JM, Chen XS, Pomerantz RT. Polθ reverse transcribes RNA and promotes RNA-templated DNA repair. *Science Advances*. 2021 Jun 11;7(24):eabf1771. doi: 10.1126/sciadv.abf1771. PMID: 34117057.
- 3. Rawal CC, Zardoni L, Di Terlizzi M, Galati E, **Brambati A**, Lazzaro F, Liberi G, Pellicioli A. Senataxin Ortholog Sen1 Limits DNA:RNA Hybrid Accumulation at DNA Double-Strand Breaks to Control End Resection and Repair Fidelity. *Cell Reports*. 2020 May 5;31(5):107603. doi: 10.1016/j.celrep.2020.107603. PMID: 32375052.
- 4. **Brambati A**, Zardoni L, Nardini E, Pellicioli A, Liberi G. The dark side of RNA:DNA hybrids. *Mutation Research/Reviews in Mutation Research*. 2020 Apr-Jun;784:108300. doi: 10.1016/j.mrrev.2020.108300. Epub 2020 Feb 29. PMID: 32430097. Review
- 5. **Brambati A**, Barry RM, Sfeir A. DNA polymerase theta (Polθ) - an error-prone polymerase necessary for genome stability. *Current Opinion in Genetics & Development*. 2020 Feb;60:119-126. doi: 10.1016/j.gde.2020.02.017. Epub 2020 Apr 14. PMID: 32302896. Review
- 6. **Brambati A**, Zardoni L, Achar YJ, Piccini D, Galanti L, Colosio A, Foiani M, Liberi G. Dormant origins and fork protection mechanisms rescue sister forks arrested by transcription. *Nucleic Acids Resource*. 2018 Feb 16;46(3):1227-1239. doi: 10.1093/nar/gkx945. PMID: 29059325. *This paper was selected for the journal cover.*
- 7. **Brambati A**, Colosio A, Zardoni L, Galanti L, Liberi G. Replication and transcription on a collision course: eukaryotic regulation mechanisms and implications for DNA stability. *Frontiers in Genetics*. 2015 Apr 28;6:166. doi: 10.3389/fgene.2015.00166. PMID: 25972894. Review
- 8. Alzu A, Bermejo R, Begnis M, Lucca C, Piccini D, Carotenuto W, Saponaro M, **Brambati A**, Cocco A, Foiani M, Liberi G. Senataxin associates with replication forks to protect fork integrity across RNA-polymerase-II-transcribed genes. *Cell*. 2012 Nov 9;151(4):835-846. doi: 10.1016/j.cell.2012.09.041. PMID: 23141540.