

BIOGRAPHICAL SKETCH

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NAME: LUCA MOLOGNI

eRA COMMONS USER NAME (credential, e.g., agency login): LMOLOGNI

POSITION TITLE: Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
University of Milan	Master of Science	11/1990	03/1996	Molecular Biology
University of Milan	Professional License	05/1996	06/1997	Molecular Biology
University of Helsinki	PhD	10/1998	10/2002	Medicine

A. Personal Statement

My expertise and background are mainly in biochemistry, molecular and cellular biology, and Next Generation Sequencing. I got my PhD in muscular dystrophy research, developing a mouse model of disease. I subsequently gained extensive experience in the field of molecular oncology, in particular the identification, validation and rational targeting of driver oncogenes. I have been involved for several years in the elucidation of drug resistance mechanisms in various solid and hematological tumors. Moreover, I gained experience in animal studies, particularly in pharmacology and transgenic mouse models of disease. I am a lecturer at the Medical Faculty of the University of Milano-Bicocca, Italy and have supervised several graduate and PhD students.

B. Positions, Scientific Appointments and Honors

2021-today: University of Milano-Bicocca, Monza; Associate Professor of Experimental Biology

2018-2021: University of Milano-Bicocca, Monza; Assistant Professor of Experimental Biology

2004-2018: University of Milano-Bicocca, Monza; Senior Research Fellow

2002-2003: National Cancer Institute, Milan; Junior Research Fellow

1998-2002: University of Helsinki, Helsinki, Finland; PhD Student

1998: National Cancer Institute, Milan; Junior Research Fellow

1996-1997: Mario Negri Institute for Pharmacological Research, Milan; Visiting Fellow

1993-1996: National Cancer Institute, Milan; Undergraduate Intern

2023 – Principal Investigator, “Targeting AML by Liposome encapsulated Kinase inhibitors (TALK)”; 21,000€; University grant

2023 – Co-Principal Investigator, “Overcoming treatment resistance mechanisms in ALK-driven cancers”; 199,668€/2 years; PRIN 2022-Italian Ministry of Research

2022 – Partner, “FANTOM - Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance”; 259,000€/3 years; European Commission, Horizon Europe

2021 – Editorial board member of the journal: Frontiers in Oncology - Molecular and Cellular Oncology

2020 – Principal Investigator, “Investigation of the co-mutational landscape of naïve and drug-resistant ALK+ tumors: prognostic and therapeutic value”. 697,000€/5 years - Italian Association for Cancer Research

2020 – Co-Principal Investigator, “REACT: a reversible knock-out mouse model to explore treatment strategies for the SETBP1 haploinsufficiency disease”, Orphan Disease Center 2019 Million Dollar Bike Ride

2018 – Habilitation as Associate Professor in Applied Medical Technology (06/N1)

2017 – Habilitation as Associate Professor in Hematology (06/D3)

2017 – Habilitation as Associate Professor in Experimental Biology (05/F1)

2015 – Co-Investigator, “Development of selective inhibitors of crizotinib-resistant oncogenic ALK kinase”; Italian Ministry of Health
 2015 – Partner, “ALK Activation as a target of TRANSLATIONAL Science (ALKATRAS): Break free from cancer”; European Commission H2020 Program
 2015 – Editorial board member of the World Journal of Clinical Oncology
 2014 – Habilitation as Associate Professor in Molecular Biology (05/E2)
 2013 – Principal Investigator, “Selective inhibitors of oncogenic ALK kinase”; Italian Ministry of Research
 2009 – Junior Research grant, A-type, University of Milano-Bicocca, 4 years
 2005 – Junior Research grant, A-type, University of Milano-Bicocca, 4 years
 2002 – Research Fellowship, “Italian Foundation for Cancer Research (FIRC)”, 3 years
 1998 – Research Fellowship, “Istituto Superiore di Sanità”, 1 year

C. Contributions to Science

Publications: <https://pubmed.ncbi.nlm.nih.gov/?term=mologni+l&sort=date>

Total citations = 5,191

h-index = 40

Field-Weighted Citation Impact = 1.50

I contributed to foster the concept of **targeted cancer therapy**, since early pivotal studies with imatinib (Blood Cells Mol Dis 1997,23:380-394, cited by 302; J Natl Cancer Inst. 1999,91:163-8, cited by 333), sorafenib (J Biol Chem. 2007,282:29230-40, cited by 92) and vemurafenib (Mol Cancer Res. 2008;6:751-9; cited by 172) to more recent work with crizotinib (J Natl Cancer Inst. 2014;106:djt378; cited by 215), ponatinib (Mol Cell Endocrinol. 2013,377:1-6, cited by 77), entrectinib (Mol Cancer Ther. 2016,15:628-39, cited by 253) and pexmetinib (Leukemia 2024, 38:1843).

I helped elucidate **drug resistance mechanisms** in different diseases (Blood. 2000,95:1758-66; Mol Cancer Res. 2013,11:122-32; Mol Cancer Res. 2015,13:775-83; Cancer Med. 2015,4:953-65; Oncotarget 2015,20;6:5720-34; Oncogene 2016,35:3854-3865; Neoplasia 2018,20:467-477; Cancer Res. 2018,78:6866-6880; J Thorac Oncol 2019,14:e257-e259; Blood 2020,136:1657-1669; Blood 2022, blood.2020008136; Sci Transl Med. 2023,15:eabo3826; NPJ Precis Oncol., 2024,8:29.

As a natural step forward from drug resistance to improved therapeutic strategies, I investigated in different tumors how **drug combinations** can increase the chances of cure (Int J Cancer 2009,124:1990-6; Cancer Res. 2010,70:7253-63; PLoS One 2012,7:e51449; Oncotarget 2016,7:72886-97; J Cancer 2017,8:140-5; Eur J Cancer 2018,104:231-2; Cancer Res. 2018,78:6866-80; Nat Med 2019,25:130-140; Cancers 2021,13:4422.

Finally, I investigated the role of **SETBP1** in human disease (Nat Genet. 2013, 45(1):18-27; Nat Comm. 2021, 12(1):4050; Nat Comm. 2023, 14(1):3212; Blood 2024,143(14):1399-1413.

I have filed several international patents dealing with selective cancer treatment: WO2004079326; WO2009108755; WO2010025872; WO2013167730; WO2015001024

I contributed two chapters in edited books:

- “Peptide Nucleic Acids, Morpholinos and Related Antisense Biomolecules” (ed. by During M. and Janson C. Landes Series: Medical Intelligence Unit, Landes Bioscience/Eurekah.com, 2006. ISBN 0-306-48230-4).
- “Therapeutic strategies to overcome ALK resistance in cancer” (ed. by Luc Friboulet. Series entitled Cancer Sensitizing Agents For Chemotherapy, Elsevier Inc., 2021. ISBN: 9780128217740.

I published educational articles for a general audience on Science Trends (<https://sciencetrends.com/>).

I am/have been part of large European research projects:

- **Pro-Kinase** [The Protein Kinase Research Consortium]
- **ERIA** [European Research Initiative on Anaplastic Lymphoma Kinase-related malignancies]
- **ALKATRAS** [ALK Activation as a target of TRANSLATIONAL Science] – PhD training network
- **FANTOM** [Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance] – PhD training network