PERSONAL INFORMATION

Antonella Forlino

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WORK EXPERIENCE

02/2021-present
Full Professor of Biochemistry
Department of Molecular Medicine, Biochemistry Unit
University of Pavia, Pavia, Italy

12/2010 – 01/2021
Associate Professor of Biochemistry
Department of Molecular Medicine, Biochemistry Unit
University of Pavia, Pavia, Italy

10/2019- present
Pro-Rector for Internationalization
University of Pavia

2015-2018
Member of Academic Senate
at the University of Pavia, Pavia, Italy

01/2001-11/2010
Researcher
Department of Molecular Medicine, Biochemistry Unit, former Department of Biochemistry
Section of Medicine
University of Pavia, Pavia, Italy

01/1995-12/1999
Post Doctoral Fellowship
Nationa Institute of Health, NICHD, Bethesda, MD, USA

EDUCATION AND TRAINING

1994-1997	**Speciality School in Genetics** Department of Genetics and Microbiology, University of Pavia, Pavia, Italy
02/1994-03/1994	**Training at the Institute of Biology and Genetics** University of Verona, Verona, Italy
1992	**National exam for Biologist**
02/1992-04/1993	**Training at the Institute of Biology and genetics,** University of Genova, Genova, Italy
1991-1994	**PhD in Biochemistry** University of Pavia, Pavia, Italy
1988-1991	**Degree in Biology** University of Pavia, Italy

PERSONAL SKILLS

Mother tongue(s): Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	PROFICIENT USER	PROFICIENT USER	PROFICIENT USER	PROFICIENT USER	PROFICIENT USER
	Replace with name of language certificate. Enter level if known.				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills: Excellent communication skills gained through my experience as teacher and as laboratory team leader, participation to international conferences as invited speakers and public involvement in patients associations

Job-related skills

My research activity had been focused on the molecular, biochemical, and functional study of genetic diseases of the connective tissue, in particularly Osteogenesis Imperfecta (OI), Diastrophic Dysplasia (DTD) and Prolidase Deficiency (PD).
From 1991 to 1994 at the Department of Biochemistry of the University of Pavia as Doctoral Fellow I investigated the expression, the structure, the secretion, the maturation and the function of the mutated collagens produced by cultured fibroblasts and osteoblasts obtained from OI patients. I studied the effects of the mutated collagens on other extracellular matrix proteins. I characterized the molecular defect in some OI patients.
From 1995 to 1999 I had a fellowship at the National Institute of Health, Bethesda, MD, USA, in Dr. Marini's laboratory. As Postdoctoral fellow I characterized the molecular defect in some OI patients contributing to the hypothesis of a regional model to explain the genotype/phenotype relationship in OI. In Dr. Marini's lab I also generated and characterized the first knock-in murine model for OI, BrtlIV and contributed to develop a new therapeutical trial for OI using hammerhead ribozymes.
In January 2001 I became Researcher at the Department of Biochemistry of the University of Pavia. As researcher I started a study to better understand the phenotypic variability characteristic of OI by using microarray and proteomic approaches and the Knock in murine model BrtlIV. I developed an in utero treatment for the model BrtlIV and I identified a compromised differentiation of the mutant Brtl mesenchymal stem cells to osteoblasts lineage. I also developed a gene/cellular therapeutic approach for classical dominant OI using Brtl mice.
Recently, my research group identified in ER stress a novel target for OI treatment proving the activation of unfolded protein response, autophagy and apoptosis as consequence of mutant collagen retention in dominant and recessive OI. Treatment with the chemical chaperone 4PBA ameliorates cell homeostasis.
I contributed to generate the first knock in murine models for Diastrophic Dysplasia (DTD) and Desbuquois dysplasia 1 (CANT1) and to their characterization. I recently contributed to identify a possible drug therapeutic approach for DTD treatment using the murine model.
I characterized some new mutations in PD patients. I generated two expression systems, eukaryotic and prokaryotic, respectively, to obtain human recombinant prolidase to better characterize the function and structure of this protein and to develop an enzyme replacement therapy for prolidase deficiency.
In collaboration with Dr Phang, NCI, NIH, Frederick, MD, USA and with Teresa Gunn, Associate Professor at McLaughlin Research Institute, Great Falls, MT, I characterized a knock-out murine model for Prolidase Deficiency identifying a bone outcome also present in human patients. More recently in collaboration with Dr Best I identify a relevant role of the prolidase enzyme as a central regulator of IFN-I responses.
In collaboration with Dr Stratakis, NICHD, NIH, Betrhesda I contributed to dentify PRKACB mutation as causative for Carney Syndrome, thus adding a new piece in the understanding of this human disease.
In summer 2012 I set up the first zebrafish facility at the University of Pavia and I am actively running and using it for my research. I recently performed a deep molecular and biochemical characterization of zebrafish type I collagen and characterized its composition in bone, scales and skin. I validated the zebrafish Chihuahua carrying a mutation in the α chain of collagen type I as model for osteogenesis imperfect and demonstrated the efficacy of chemical chaperone treatment in ameliorating in vivo bone phenotype. Using the CRISPR/Cas9 as gene targeting approach I generated zebrafish model for OI tyoe VII and VIII with loss-of-function mutations in Crtap and P3h1 gene respectively

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
- Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

Replace with name of ICT-certificate(s)

good command of office suite (word processor, spread sheet, presentation software)
good command of photo editing software

Driving licence Driving Licence type B