

Elena Zocchi

Full professor

✉ ezocchi@unige.it

☎ +39 010 353 8161

Education and training

1989

PhD in Biochemistry

University of Pavia - Pavia - IT

1983

Medical Doctor (MD)

110/110 cum laude

University of Genova - Genova - IT

Academic experience

2004 - ONGOING

Full Professor of Biochemistry

University of Genova Medical School - Genova - IT

Research and teaching

2000 - 2003

Associate Professor of Biochemistry

University of Genova Medical School - Genova - IT

Research and teaching

1992 - 1999

Research fellow

University of Genova Medical School - Genova - IT

Research and teaching

Language skills

English

Proficient

German

Independent

German School of

Genova vom

Kindergarten bis

zum Abitur

Teaching activity

Since 1982 (as a Research fellow) Elena Zocchi has held annual courses at the University of Genova, Faculties of Pharmacy and of Medicine, on Applied

Biochemistry and Biochemistry. Since 2000 (as Assistant Professor) she has tutored 21 graduate students (in Pharmacy, Medicine, Chemistry and Pharmaceutical Technologies) and 18 post-graduate (Ph.D.) students for their experimental theses. Since 2001, she has held annual courses on Applied Biochemistry for Master students at the University of Manado, Indonesia: Professor of Applied Biochemistry at the Master in “Knowledge and Management of the Bio-diversity in Indonesian coral reefs” (three consecutive Master courses, 2001-03); Professor of Applied Biochemistry at the Master in “Marine Tropical Biodiversity and Bioactive Molecules” (2004-05).

Since 2007 (as Full Professor) she teaches in the courses of Chemistry and Introduction to Biochemistry, Biochemistry and Clinical Biochemistry for students of Medicine, Chemistry and Biochemistry for students of all Medical Professions, Clinical Biochemistry for students of Natural Sciences, medical course.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

Since 2000, Prof. Zocchi has been supervisor of 12 PhD students and 10 post-doc young researchers.

PhD committees membership

Prof. Zocchi is a member of the college of teachers of the Doctorate School of Experimental Medicine, University of Genova.

Postgraduate (PhD) teaching activity

Prof. Zocchi has a teaching position in the Doctorate School of Experimental Medicine, University of Genova

Research interests

Elena Zocchi has a long-term interest in molecular mechanisms of signal transduction, particularly regarding the biochemistry of the ADP-ribosyl cyclase (ARC)/cyclic ADP-ribose (cADPR) system in Metazoa. She has significantly contributed to the present understanding of the role of ARCs, the enzymes responsible for synthesis of cADPR, a universal calcium mobilising second messenger, in the regulation of pivotal calcium-controlled cell functions in lower and higher Metazoa (from marine sponges and hydroids to mammalian cells). She was coordinator of the project 'Effects of thermal stress on the ADP-ribosyl cyclase of Porifera' during the XVIII Italian Antarctic Expedition (December 2002-January 2003).

Her research on the role of the ARC/cADPR system in human hemopoietic progenitors has led to the discovery of cADPR as a novel hemopoietic growth factor. Her studies on the role of the plant hormone abscisic acid (ABA) in the physiology of lower Metazoa (sponges and hydroids) have been

instrumental in her discovery that ABA is a new endogenous hormone in humans and in the identification of its receptor and of its signalling pathway (through ARC/cADPR). ABA is uniquely endowed with the ability to stimulate several functional activities of cells of the innate and adaptive immune response and also to stimulate insulin release from pancreatic beta cells and glucose uptake by adipose and muscle cells. The most recent results obtained by the Zocchi group in vivo on rodents and on humans indicate that ABA is a key mammalian hormone responsible for glycaemic homeostasis. ABA is the first example of conservation of a hormone, of its role as a stress signal and of its transduction pathway from plants to mammals. This discovery will likely lead to the development of new therapeutic strategies for inflammatory diseases and type 2 diabetes and the metabolic syndrome.

The results of her research activity are summarized in 109 publications in refereed international journals and in three ABA-related international patents.

Grants

2011 - 2014

FP7 Special

EU

Participant

2011 - 2014

PRIN2010MCLBCZ004

MIUR - IT

Participant

2012 - 2014

Abscisic acid a new human hormone modulating insulin release and glucose uptake.

Compagnia di San Paolo - IT

Principal investigator

2010 - 2012

Vigoni/DAAD exchange program

DAAD - DE

Principal investigator

2008 - 2010

RF-LIG-2007-647513

Ministero della Salute - IT

Participant

2007 - 2010

FIRB RBIP06LSS2002

MIUR - IT

Participant

2007 - 2009

PRIN2007BZ4RX3005

MIUR - IT

Participant

2008 - 2010

Progetto Limonte

Regione Liguria - IT

Principal investigator

2004 - 2007

Italian-Indonesian research and development project

MIUR - IT

Principal investigator

2005 - 2007

PRIN2005059350

MIUR - IT

Principal investigator

2003 - 2005

PRIN2003059297

MIUR - IT

Principal investigator

2000 - 2002

PF01.00364.49 PF99.00518.49

MIUR - IT

Principal investigator

1998 - 2000

PRIN9805634227

MIUR - IT

Principal investigator

Assignments abroad

Since 2001, Prof. Zocchi has held annual courses on Applied Biochemistry for Master students at the University of Manado, Indonesia: Professor of Applied Biochemistry at the Master in "Knowledge and Management of the Bio-diversity in Indonesian coral reefs" (three consecutive Master courses, 2001-03); Professor of Applied Biochemistry at the Master in "Marine Tropical Biodiversity and Bioactive Molecules" (2004-05).

Other professional activities

Prof. Zocchi participates in a University spin-off with the mission of developing new nutraceutical products containing abscisic acid for the prevention and treatment of glucose intolerance.