

Last name: Colombo

Name: Sonia

Title: Ph.D.

Present position: Associate professor

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Date of Birth: December 7th, 1963

Nationality: Italian

STUDIES/RESEARCH:

-01/03/2019: Enrolled as Associate professor at the Department of Biotechnology and Biosciences, University of Milano-Bicocca.

- 01/10/1999: Enrolled as a Permanent Researcher at the Department of Biotechnology and Biosciences, University of Milano-Bicocca.

- October 1997-September 1999: Two years contract from the VIB (Vlaams Interuniversitair Instituut voor Biotechnologie). The research was carried out at the Catholic University of Leuven, Belgium, Department of Biology, Laboratory of Molecular Cell Biology. Project title: "Genetic improvement of stress resistance and fermentation capacity in yeast".

- October 1996-September 1997: Post-doc fellow at the Department of Physiology and Biochemistry, Università degli Studi di Milano.

- 1994-1996: Post-doc fellow at the Catholic University of Leuven, Belgium, Department of Biology, Laboratory of Molecular Cell Biology. Project title: "Signal transduction in control of growth and metabolism in yeast".

The project was partially financed by a European Community fellowship under the "Human Capital and Mobility Programme".

- 1994: Ph.D. degree in Biochemistry - Università degli Studi di Milano.

- 1993: Qualification to the profession of biologist.

- 1989: Degree in Biology "cum laude" at Università degli Studi di Milano; the thesis was awarded the prize "Milano Ricerche".

ACADEMIC ACTIVITIES/TEACHING ACTIVITIES:

- Associate professor in Molecular Biology at the Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, Italy.

- Group leader at the Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, Italy.

- Scientific supervisor for Master and PhD students at the Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, Italy.

- For the current academic year, she holds the following courses at the Department of Biotechnology and Biosciences of the University of Milano-Bicocca : Practical course in molecular biology and Molecular and cellular biotechnology.

- 29/11/2016: Member of the jury for the final examination within the PhD course in Biological and Molecular Sciences, Università degli Studi di Milano.

- 2010: Lectures at the Katholieke Hogeschool Leuven, Belgium, 1-4 March 2010 on the following topic: "Characterization of Ras inhibitors" within the "International Miniweek Health and Technology, LLP Erasmus Teaching Staff Mobility Programme".

- 2005: Member of the Commission for the comparative assessment procedure for the coverage of a position as researcher at the Faculty of MMFFN Sciences of the Università degli Studi di Salerno, BIO11 (Molecular Biology)- Supplemento Ordinario alla G.U. della Repubblica Italiana (IV Serie Speciale) n. 103 del 28.12.2004. From 07-11-2005 to 08-11-2005.

- 1998: Teaching in the practical course on basic and advanced molecular biology techniques. The course was organised as part of the "European Mixed Sugar Project" at the Catholic University of Leuven (Belgium), 8-19 June 1998.

RESEARCH ACTIVITY:

The research activity is in the field of Biochemistry and Molecular and Cellular Biology. During her Ph.D. and in the period immediately after that, the scientific interests include studies on protein structure and function, mainly conducted on proteins of biotechnological interest, such as proteins from thermophilic organisms. At present the scientific interests include stress resistance (e.g. oxidative and osmotic stress), apoptosis, aging, cell cycle regulation and molecular mechanisms of signal transduction in eukaryotes, in particular in the budding yeast *Saccharomyces cerevisiae*. Yeast models can play an important role, since the findings in yeast can be interpolated to humans. In particular, the priority line of research concerns the study of the anti-aging properties of the cyanobacterium *Spirulina* (*Arthrospira platensis*). In recent years, marine natural products have become one of the most important sources of new compounds for the treatment of age-related and obesity-associated diseases. The yeast *Saccharomyces cerevisiae* is used as a model organism to understand the anti-aging properties of phycocyanin and possibly other compounds purified from the cyanobacterium *Spirulina*. She is also involved in single cell techniques to study signal transduction pathways (detection of cAMP and PKA activity in single cells using FRET probes). Molecular and cellular biology techniques, flow cytometry assay and fluorescence microscopy are some of the approaches used in her laboratory.

Her research activity is documented by:

- 37 articles on international peer-reviewed journals;
- 2 articles on book;

- more than 60 congress proceedings (some of them indexed).
- She was invited speaker in national and international scientific meetings.

SCIENTIFIC ACTIVITIES-NOT ACADEMIC:

- Grant Reviewer for FWO (Fonds Wetenschappelijk Onderzoek – Vlaanderen – Belgium).
- Reviewer for the following Journals: Oxidative Medicine and Cellular Longevity; FEMS Microbiology Reviews; Microbial Cell Factories; PLOS ONE.
- Editorial Board Member of Journal of Microbiology and Genetics.
- Member of Italian Society of Biochemistry (SIB).
- In 2017 she was a member of the Organizing Committee of the 12th International Meeting on Yeast Apoptosis – Bari, Italy, 14-18 Maggio 2017.

AWARDED GRANTS:

- 2017: awarded with Fondo individuale di ricerca FFABR (Fondo per il finanziamento delle attività base di ricerca).
- 2008-2011 and 2013-2020: scientific coordinator for FAR projects (Fondo di ateneo per la ricerca).
- 2008-2013: scientific coordinator of subunit for the following project: “Eukaryotic unicellular organism biology – systems biology of the control of cell growth and proliferation” (Proposal acronym: UNICELLSYS) under the Seventh Framework Programme. <http://www.unicellsys.eu>.

AWARDS FOR SCIENTIFIC ACTIVITY:

- 2017: awarded by the Ministry of Education, University and Research (MIUR) with the National Scientific Qualification (ASN) as associated professor in Molecular Biology.
- 2017: awarded by the Ministry of Education, University and Research (MIUR) with the National Scientific Qualification (ASN) as associated professor in Applied Biology.
- 2012: winner of una tantum incentive (D.R. n.13898), University of Milano-Bicocca, on the basis of a positive evaluation of the Commission for the didactic and research activities carried out in the three-year period 2009-2011.