Prof. Cristina Miceli

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Biosketch

PROFESSIONAL PREPARATION

- 1979, Master degree in Biological Sciences, University of Pisa.
- 1979-1983, Research fellowship University of Pisa (PhD equivalent).

APPOINTMENTS

- 1984-1987 - Researcher in Zoology at the Institute of Zoology, University of Camerino
- 1985-1986 - Postdoctoral Research Fellow at University of California Santa Barbara, USA(Prof.Eduardo Orias Lab) with temporary leave from the University of Camerino
- 1987-1993 - Associate Professor in Zoology at Department of Molecular, Cellular and Animal Biology, University of Camerino
- 1993-to date - Full Professor of Cell Biology at the School of Biosciences and Veterinary Medicine, University of Camerino

LIST OF HONOURS AND AWARDS

- 1990-1994; 2001-2006, and 2018 to date: Member of the executive committee of the Italian Society of Protozoology
- 1994-1996: Vice-President of the International Society of Protozoology (ISOP)
- 2014-2019: Member (by election) of the Steering Committee on "Ciliate Molecular Biology"
- 2003- Co-organizer of the 4th European Congress of Protistology. and. 10th European Conference on Ciliate Biology. August 31 - September 5,. San Benedetto del Tronto (AP), Italy
- 2005-Member of the Scientific Committee of the XII International Congress of Protozoology, Guangzhou, China 10–15 July 2005
- 2005- Co-organizer of the FASEB Conferences on "Molecular Biology of Ciliates"(August 3-8, 2005)also sponsored by EMBO
- 2015- Co-organizer of the Conference on "Molecular Biology of Ciliates" in Camerino, July 11-15

Chairman and Invited speaker at several International Congresses of Protozoology and Gordon Conferences and FASEB Conferences on "Molecular Biology of Ciliates"

Academic nominations at the University of Camerino:

- 2005 to 2014 Director of the School of Advanced Studies (PhD School)

- 2008-2011 Pro-Rector for Doctoral Education
- 2006-2012- Scientific Coordinator of the National Research Project for Antarctica on Genomics and Proteomics of Ciliates
- 2011 to 2016 - Chair of the European Cooperation in Science and Technology (COST) Action on "Ciliates as model systems to study genome evolution, mechanisms of non-Mendelian inheritance, and their roles in environmental adaptation" (in the European H2020 Framework Programme) 2016-2018 - PI of the project on "Genetic tools to manipulate ciliates" in the frame of the Marine Microbiology Initiative funded by Gordon and Betty Moore Foundation

SUMMARY OF PAST AND CURRENT WORK

- Research activities are focused on molecular and cellular biology, and ecology, using eukaryotic microorganisms, as listed below.
- Study of genome organization and gene expression in ciliates: we have characterized genomes and transcriptomes of species of *Euplotes* to study the phenomenon of frameshifting, pervasive in *Euplotes* species.
- Study of molecular and cellular adaptation mechanisms in organisms living in extreme environments: our attention is focused on *Euplotes focardii*, strictly adapted to the cold environment of Antarctica. We characterized different aspects of molecular cold adaptation related to ribosomal proteins, microtubule polymerization, response to temperature and oxidative stresses.
- Characterization and molecular evolution of cytoskeletal proteins: we characterized tubulin isoforms and folding in ciliates, including their cellular localization in *Tetrahymena* by transfection with genes encoding tubulin-GFP fused proteins and beta-tubulin isoforms in relation to environmental adaptation;
- Studies in environmental monitoring by biotechnological approaches: we constructed whole cell biosensors with *Tetrahymena* cell lines expressing GFP and other reporter genes fused to promoters inducible by environmental variations.
- Characterization of the microbiota associated to *E. focardii*: we studied by sequence analysis the bacterial consortium associated to this *Euplotes* and we identified cold adapted bacteria producing antifreeze proteins and other proteins potentially contributing to the ciliate cold adaptation.
- Setting up genetic manipulation in *Euplotes* species: we constructed vectors and tested different transformation systems and we set up a RNAi technique to silence the telomerase gene in *E. focardii* to understand the role of telomerase in the organization of the nanochromosomes of *Euplotes* macronucleus.