

Cristina Miceli CV

Personal data: born May 13, 1957, Livorno (Italy), married with one child.

Education:

1979, degree in Biological Sciences, University of Pisa. 1979-1983, research fellowship University of Pisa.

Professional history:

1983-1987, Researcher, University of Camerino;

1987-1993, Associate professor of Zoology, University of Camerino;

1993-present, Full professor of Cell Biology, University of Camerino, School of Biosciences and Veterinary Medicine, Dept. of Biosciences and Biotechnology (formerly Department of Molecular, Cellular and Animal biology).

Scientific activities:

Research activities are mainly focused on molecular and cellular biology using eukaryotic microorganisms, as models. The research fields are the following:

-Study of genome organization and control of gene expression;

-Study of molecular and cellular adaptation mechanisms in organisms living in extreme environments;

-Characterization and molecular evolution of cytoskeletal proteins, in particular tubulin and microtubule associated proteins;

-Characterization of bioindicators in environmental monitoring by classical and biotechnological approaches.

Visiting researcher at the University of California, Santa Barbara and Irvine;

Chairman and Invited speaker at several International Congresses of Protozoology, Gordon Conferences and FASEB Meetings on

"Molecular Biology of Ciliates" ;Co-organizer of the 4th European Congress of and

10 European Conference on Ciliate Biology; Co-organizer of the FASEB

Conference on "Molecular Biology of Ciliates"(August 3-8, 2005), also sponsored by EMBO; member of the Scientific Committee of the

XII International Congress of Protozoology (July 10-15 2008, Guangzhou, China);

1990-1994 and 2001-2011, Member of the executive committee of the Italian Society of Protozoology; 1994-1996, Vice-President of the

International Society of Protozoology; member of the Editorial Board of the Journal of Eukaryotic Microbiology;

Principal grant sources of the last years: PRIN from Italian Ministry of education and research(Research programs of national interest) 2004-2006, 2006-2008, 2008-2012;

CNR (applied project on Environmental Biotechnology, finished in 2004);

National Research Project for Antarctica (Genomics and Proteomics of ciliates 2006-2010);

Scientific coordinator of a grant from EU-COST(European cooperation in Science and Technology): COST Action BM1102 Ciliates as model systems to study genome evolution, mechanisms of non-Mendelian inheritance, and their roles in environmental adaptation (2012-2016);

Principal investigator in a research project funded by The Gordon and Betty Moore Foundation to accelerate development of experimental model systems in marine microbial ecology(<https://www.moore.org/newsroom/press-releases>) with title: Development of new tools in genetic manipulation of Euplotes (2016-2018).

Academic activities and responsibilities:

- ProRector for Doctoral Education, implementation of Bologna Process and interaction with the European University Association (EUA) and the International Association of Universities (IAU) from 2008 to 2011;
- Director of the School of Advanced Studies of the University of Camerino, that includes PhD and master programs, from 2005 to December 2014;
- Coordinator of the Doctorate course (Ph.D.) in Environmental Sciences and Public Health from 2004 to December 2014;
- Rector's delegate at the Conference of the Italian University Rectors (CRUI) for the Implementation of the Bologna Process from 2007 to present;
- Responsible for the internationalization of the degree course in Biotechnology from 2005 to 2011 in the former Faculty of Science and Technology and successively in the School of Biosciences and Biotechnology;
- Rector's delegate for the System of Internal Quality Assurance of the University of Camerino from 2000 to 2007;
- Delegate for the University of Camerino in the Quality Culture Project Round III organized by the EUA in 2004-06;
- Coordinator of the activities of the University of Camerino in the national project CampusOne by CRUI from 2001 to 2004.

Selected publications of the last years:

Yang G, Yao H, Mozzicafreddo M, Ballarini P, Pucciarelli S, Miceli C (2017) Rational Engineering of a Cold-Adapted α -Amylase from the Antarctic Ciliate *Euplotes focardii* for Simultaneous Improvement of Thermostability and Catalytic Activity. *Appl Environ Microbiol.* Jun 16;83(13). pii: e00449-17. doi: 10.1128/AEM.00449-17.

Juganson K, Mortimer M, Ivask A, Pucciarelli S, Miceli C, Orupõld K, Kahru A. (2017) Mechanisms of toxic action of silver nanoparticles in the protozoan *Tetrahymena thermophila*: From gene expression to phenotypic events. *Environ Pollut.* Jun;225:481-489. doi: 10.1016/j.envpol.2017.03.013

Mangiagalli M, Bar-Dolev M, Tedesco P, Natalello A, Kaleda A, Brocca S, de Pascale D, Pucciarelli S, Miceli C, Bravslavsky I, Lotti M (2017) Cryo-protective effect of an ice-binding protein derived from Antarctic bacteria. *FEBS J.* Jan;284(1):163-177. doi: 10.1111/febs.13965

Lobanov AV, Heaphy SM, Turanov AA, Gerashchenko MV, Pucciarelli S, Devaraj RR, Xie F, Petyuk VA, Smith RD, Klobutcher LA, Atkins JF, Miceli C, Hatfield DL, Baranov PV, Gladyshev VN. (2017) Position-dependent termination and widespread obligatory frameshifting in *Euplotes* translation. *Nat Struct Mol Biol.* Jan;24(1):61-68. doi: 10.1038/nsmb.3330

L. Fulgentini, V. Passini, G. Colombetti, C. Miceli, A. La Terza, R. Marangoni. (2015) UV-radiation and visible light induce *hsp70* genes expression in the Antarctic psychrophilic ciliate *Euplotes focardii*. *Microb Ecol* Aug;70(2):372-9. doi: 10.1007/s00248-015-0566-y

Pucciarelli S., Devaraj RR, Mancini A., Ballarini P., Castelli M., Schrällhammer M., Petroni G., Miceli C. (2015) Microbial consortium associated with the Antarctic marine ciliate *Euplotes focardii*: an investigation from genomic sequences. *Microb Ecol* Aug;70(2):484-97. doi: 10.1007/s00248-015-0568-9

Ferro D., Bakiuc R., De Pittà C., Boldrin F., Cattalini F., Pucciarelli S., Miceli C., and Santovito G. Cu,Zn Superoxide Dismutases from *Tetrahymena thermophila*: Molecular Evolution and Gene Expression of the First Line of Antioxidant Defenses. *Protist* (2014), <http://dx.doi.org/10.1016/j.protis.2014.12.003>

Keeling PJ, Burki F, Wilcox HM et al. The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): illuminating the functional diversity of eukaryotic life in the oceans through transcriptome sequencing *PLoS Biol.* 2014 Jun 24;12(6):e1001889.

Almouzni G, Altucci L, Amati B et al. Relationship between genome and epigenome-- challenges and requirements for future research *BMC Genomics.* 2014 Jun 18;15:487

Gentekaki E, Kolisko M, Boscaro V, Bright KJ, Dini F, Di Giuseppe G, Gong Y, Miceli C, Modeo L, Molestina RE, Petroni G, Pucciarelli S, Roger AJ, Strom SL, Lynn DH. Large-scale phylogenomic analysis reveals the phylogenetic position of the problematic taxon *Protocruzia* and unravels the deep phylogenetic affinities of the ciliate lineages. *Mol Phylogenet Evol.* 2014 Sep;78:36-42

Pucciarelli, S., Chiappori, F., Devaraj, R.R., Ballarini, P., Miceli, C. (2014) Identification and analysis of two sequences encoding ice-binding proteins obtained from a putative bacterial symbiont of the psychrophilic Antarctic ciliate *Euplotes focardii*. *Antarctic Science* 26 (5), pp. 491-501

Pucciarelli, S., Chiappori, F., Sparvoli, D., , Miceli, C., Melki, R. 2013, Tubulin folding: the special case of a beta-tubulin isotype from the Antarctic psychrophilic ciliate *Euplotes focardii*. *Polar Biology* 36(12), pp 1833-1838

Ragno M, Pianese L, Morroni M, Cacchiò G, Manca A, Di Marzio F, Silvestri S, Miceli C, Scarcella M, Onofrj M, Trojano L. CADASIL coma" in an Italian homozygous CADASIL patient: comparison with clinical and MRI findings in age-matched heterozygous patients with the same G528C NOTCH3 mutation. *Neurol Sci.* 2013 Nov;34(11):1947-53. doi: 10.1007/s10072

Yang G, Yang G, Aprile L, Turturo V, Pucciarelli S, Pucciarelli S, Miceli C.(2013) Characterization and comparative analysis of psychrophilic and mesophilic alpha-amylases from *Euplotes* species: a contribution to the understanding of enzyme thermal adaptation. *Biochem Biophys Res Commun.*438(4):715-20. doi: 10.1016

Yang G, De Santi C, de Pascale D, Pucciarelli S, Pucciarelli S, Miceli C.(2013) Characterization of the first eukaryotic cold-adapted patatin-like phospholipase from the psychrophilic *Euplotes focardii*: Identification of putative determinants of thermal-adaptation by comparison with the homologous protein from the mesophilic *Euplotes crassus*. *Biochimie. Sep*;95(9):1795-806.

Pucciarelli S, Ballarini P, Sparvoli D, Barchetta S, Yu T, Detrich HW 3rd, Miceli C. (2012). Distinct functional roles of β -tubulin isotypes in microtubule arrays of *Tetrahymena thermophila*, a model single-celled organism. *PLoSOne.*;7(6):e39694

Chiappori F, Pucciarelli S, Merelli I, Ballarini P, Miceli C, Milanesi L. (2012) Structural thermal adaptation of β -tubulins from the Antarctic psychrophilic protozoan *Euplotes focardii*. *PROTEINS. Apr*;80(4):1154-66

Yu T, Barchetta S, Pucciarelli S, La Terza A, Miceli C. (2012) A novel robust heat-inducible promoter for heterologous gene expression in *Tetrahymena thermophila*. *Protist. Mar*;163(2):284-95