

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, PhD 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, 2001-2011 and 2018 to present, Member of the executive committee of the Italian Society of Protozoology;

1994-1996, Vice-President of the International Society of Protozoology (ISOP); 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).

Editorial work:

Member of the Editorial Board of the Journal of Eukaryotic Microbiology;
Associate Editor of BMC Genomics in the section on Eukaryote Microbial Genomics.
Reviewer for many international journals.

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.

Teaching and Education Activities at the University of Camerino and abroad:

Teaching course on Cell Biology and Biotechnology in the Bachelor Degree in Biosciences and Biotechnology

Teaching course on Genomics and proteomics in the Master Degree Course In Biological Sciences

Teaching course on General Biology and Histology and Cell Biology and Biotechnology at the Jilin Agricultural University, Changchun, China (double degree with the University of Camerino in Biotechnology)

Supervision of many Doctoral and Master thesis.
PUBLICATIONS OF THE LAST YEARS

Synthesis of Bioactive Silver Nanoparticles by a *Pseudomonas* Strain Associated with the Antarctic Psychrophilic Protozoon *Euplotes focardii*

Maria Sindhura John, Joseph Amruthraj Nagoth, Kesava Priyan Ramasamy, Alessio Mancini, Gabriele Giuli, Antonino Natalello, Patrizia Ballarini, Cristina Miceli, Sandra Pucciarelli
Mar Drugs. 2020 Jan; 18(1): 38. doi: 10.3390/md18010038

Soybean plants expressing the *Bacillus thuringiensis cry8*-like gene show resistance to *Holotrichia parallela*

Di Qin, Xiao-Yi Liu, Cristina Miceli, Qi Zhang, Pi-wu Wang
BMC Biotechnol. 2019; 19: 66. doi: 10.1186/s12896-019-0563-1

Draft Genome Sequence of a New *Pseudomonas* sp. Strain, ef1, Associated with the Psychrophilic Antarctic Ciliate *Euplotes focardii*

Kesava Priyan Ramasamy, Andrea Telatin, Matteo Mozzicafreddo, Cristina Miceli, Sandra Pucciarelli
Microbiol Resour Announc. 2019 Oct; 8(41): e00867-19. doi: 10.1128/MRA.00867-19

Genetic tool development in marine protists: emerging model organisms for experimental cell biology

Drahomíra Faktorová, R. Ellen R. Nisbet, José A. Fernández Robledo, Elena Casacuberta, Lisa Sudek, Andrew E. Allen, Manuel Ares, Jr, Cristina Aresté, Cecilia Balestreri, Adrian C. Barbrook, Patrick Beardslee, Sara Bender, David S. Booth, François-Yves Bouget, Chris Bowler, Susana A. Breglia, Colin Brownlee, Gertraud Burger, Heriberto Cerutti, Rachele Cesaroni, Miguel A. Chiurillo, Thomas Clemente, Duncan B. Coles, Jackie L. Collier, Elizabeth C. Cooney, Kathryn Coyne, Roberto Docampo, Christopher L. Dupont, Virginia Edgcomb, Elin Einarsson, Pía A. Elustondo, Fernan Federici, Veronica Freire-Beneitez, Nastasia J. Freyria, Kodai Fukuda, Paulo A. García, Peter R. Girguis, Fatma Gomaa, Sebastian G. Gornik, Jian Guo, Vladimír Hampl, Yutaka Hanawa, Esteban R. Haro-Contreras, Elisabeth Hehenberger, Andrea Highfield, Yoshihisa Hirakawa, Amanda Hopes, Christopher J. Howe, Ian Hu, Jorge Ibañez, Nicholas A. T. Irwin, Yuu Ishii, Natalia Ewa Janowicz, Adam C. Jones, Ambar Kachale, Konomi Fujimura-Kamada, Binnypreet Kaur, Jonathan Z. Kaye, Eleanna Kazana, Patrick J. Keeling, Nicole King, Lawrence A. Klobutcher, Noelia Lander, Imen Lassadi, Zhuhong Li, Senjie Lin, Jean-Claude Lozano, Fulei Luan, Shinichiro Maruyama, Tamara Matute, Cristina Miceli, Jun Minagawa, Mark Moosburner, Sebastián R. Najle, Deepak Nanjappa, Isabel C. Nimmo, Luke Noble, Anna M. G. Novák Vanclová, Mariusz Nowacki, Isaac Nuñez, Arnab Pain, Angela Piersanti, Sandra Pucciarelli, Jan Pyrih, Joshua S. Rest, Mariana Rius, Deborah Robertson, Albane Ruaud, Iñaki Ruiz-Trillo, Monika A. Sigg, Pamela A. Silver, Claudio H. Slamovits, G. Jason Smith, Brittany N. Sprecher, Rowena Stern, Estienne C. Swart, Anastasios D. Tsaousis, Lev Tsy-pin, Aaron Turkewitz, Jernej Turnšek, Matus Valach, Valérie Vergé, Peter von Dassow, Tobias von der Haar, Ross F. Waller, Lu Wang, Xiaoxue Wen, Glen Wheeler, April Woods, Huan Zhang, Thomas Mock, Alexandra Z. Worden, Julius Lukeš
Nat Methods. 2020; 17(5): 481–494. doi: 10.1038/s41592-020-0828-6

Horizontal gene transfer and silver nanoparticles production in a new *Marinomonas* strain isolated from the Antarctic psychrophilic ciliate *Euplotes focardii*

Maria Sindhura John, Joseph Amruthraj Nagoth, Kesava Priyan Ramasamy, Patrizia Ballarini, Matteo Mozzicafreddo, Alessio Mancini, Andrea Telatin, Pietro Liò, Gabriele Giuli, Antonino Natalello, Cristina Miceli, Sandra Pucciarelli
Sci Rep. 2020; 10: 10218. doi: 10.1038/s41598-020-66878-x

Antarctic marine ciliates under stress: superoxide dismutases from the psychrophilic *Euplotes focardii* are cold-active yet heat tolerant enzymes

Alessandro Pischedda, Kesava Priyan Ramasamy, Marco Mangiagalli, Federica Chiappori, Luciano Milanese, Cristina Miceli, Sandra Pucciarelli, Marina Lotti
Sci Rep. 2018; 8: 14721. doi: 10.1038/s41598-018-33127-1

- **1 . Cryo-protective effect of an ice-binding protein derived from Antarctic bacteria** Mangiagalli, Marco; Bar-Dolev, Maya; Tedesco, Pietro; Nataello, Antonino; Kaleda, Aleksei; Brocca, Stefania; de Pascale, Donatella; Pucciarelli, Sandra; Miceli, Cristina; Bravslavsky, Ido; Lotti, Marina THE FEBS JOURNAL;2017;Vol. 284;Pages:163-177 - 177
- **2 . Mechanisms of toxic action of silver nanoparticles in the protozoan Tetrahymena thermophila: From gene expression to phenotypic events** Juganson, Katre; Mortimer, Monika; Ivask, Angela; Pucciarelli, Sandra; Miceli, Cristina; Orupõld, Kaja; Kahru, Anne ENVIRONMENTAL POLLUTION;2017;Vol. 225;Pages:481-489 -489
- **3 . Position-dependent termination and widespread obligatory frameshifting in Euplotes translation** Lobanov, Alexei V; Heaphy, Stephen M; Turanov, Anton A; Gerashchenko, Maxim V; Pucciarelli, Sandra; Devaraj, Raghul R; Xie, Fang; Petyuk, Vladislav A; Smith, Richard D; Klobutcher, Lawrence A; Atkins, John F; Miceli, Cristina; Hatfield, Dolph L; Baranov, Pavel V; Gladyshev, Vadim N NATURE STRUCTURAL & MOLECULAR BIOLOGY;2017;Vol. 24;Pages:61-68 - 68
- **4 . Rational engineering of a cold-adapted α -amylase from the Antarctic ciliate Euplotes focardii for simultaneous improvement of thermostability and catalytic activity** Yang, Guang; Yao, Hua; Mozzicafreddo, Matteo; Ballarini, Patrizia; Pucciarelli, Sandra; Miceli, Cristina APPLIED AND ENVIRONMENTAL MICROBIOLOGY;2017;Pages:AEM.00449-17 -
- **5 . Increased mean aliphatic lipid chain length in left ventricular hypertrophy secondary to arterial hypertension: A cross-sectional study** Evaristi, Maria Francesca; Caubère, Céline; Harmancey, Romain; Desmoulin, Franck; Peacock, William Frank; Berry, Matthieu; Turkieh, Annie; Barutaut, Manon; Galinier, Michel; Dambrin, Camille; Polidori, Carlo; Miceli, Cristina; Chamontin, Bernard; Koukoui, François; Roncalli, Jérôme; Massabuau, Pierre; Smih, Fatima; Rouet, Philippe MEDICINE;2016;Vol. 95;Pages:e4965 -
- **6 . 2015 - Ciliate Molecular Biology Congress** Alimenti, Claudio; Ballarini, Patrizia; Buonanno, Federico; La Terza, Antonietta; Miceli, Cristina; Ortenzi, Claudio; Pucciarelli, Sandra; Ramasamy, Kesava; Vallesi, Adriana; Yao, Hua; Forney, James; Sperling, Linda; Taverna, Sean 2015; [ORGANIZZAZIONE DI EVENTI E PROCEEDINGS]
- ▣ **7 . Cu,Zn Superoxide Dismutases from Tetrahymena thermophila: Molecular Evolution and Gene Expression of the First Line of Antioxidant Defenses** Ferro, D; Bakiu, R; De Pittà, C; Boldrin, F; Cattalini, F; Pucciarelli, Sandra; Miceli, Cristina; Santovito, G. PROTIST;2015;Vol. 166;Pages:131 -145
- ▣ **8 . Microbial Consortium Associated with the Antarctic Marine Ciliate Euplotes focardii: An Investigation from Genomic Sequences.** Pucciarelli S; Devaraj RR; Mancini A; Ballarini P; Castelli M; Schraallhammer M; Petroni G; Miceli C. MICROBIAL ECOLOGY;2015;Pages:484 -497
- **9 . UV Radiation and Visible Light Induce hsp70 Gene Expression in the Antarctic Psychrophilic Ciliate Euplotes focardii** Lorenzo, Fulgentini; Valerio, Passini; Giuliano, Colombetti; Miceli, Cristina; LA TERZA, Antonietta; Roberto, Marangoni MICROBIAL ECOLOGY;2015;Vol. 70;Pages:372 -379
- ▣ **10 . Identification and analysis of two sequences encoding ice-binding proteins obtained from a putative bacterial symbiont of the psychrophilic Antarctic ciliate Euplotes focardii** Sandra Pucciarelli;Federica Chiappori;Raghul Rajan Devaraj;Guang Yang;Ting Yu;Patrizia Ballarini;Cristina

Miceli ANTARCTIC SCIENCE;2014;Vol. FirstView;Pages:1 -11

▣ **11 . Large-scale phylogenomic analysis reveals the phylogenetic position of the problematic taxon *Protocruzia* and unravels the deep phylogenetic affinities of the ciliate lineages** E. Gentekaki;M. Kolisko;V. Boscaro;K.J. Bright;F. Dini;G. Di Giuseppe;Y. Gong;C. Miceli;L. Modeo;R.E. Molestina;G. Petroni;S. Pucciarelli;A.J. Roger;S.L. Strom;D.H. Lynn MOLECULAR PHYLOGENETICS AND EVOLUTION;2014;Vol. Epub ahead of print;Pages:1 -7

▣ **12 . Relationship between genome and epigenome--challenges and requirements for future research.** Almouzni G; Altucci L; Amati B; Ashley N; Baulcombe D; Beaujean N; Bock C; Bongcam-Rudloff E; Bousquet J; Braun S; Bressac-de Paillerets B; Bussemakers M; Clarke L; Conesa A; Estivill X; Fazeli A; Grgurevic N; Gut I; Heijmans BT; Hermouet S; Houwing-Duistermaat J; Iacobucci I; Ilaš J; Kandimalla R; Krauss-Etschmann S; Lasko P; Lehmann S; Lindroth A; Majdic G; Marcotte E; Martinelli G; Martinet N; Meyer E; Miceli C; Mills K; Moreno-Villanueva M; Morvan G; Nickel D; Niesler B; Nowacki M; Nowak J; Ossowski S; Pelizzola M; Pochet R; Potocnik U; Radwanska M; Raes J; Rattray M; Robinson MD; Roelen B; Sauer S; Schinzer D; Slagboom E; Spector T; Stunnenberg HG; Tiligada E; Torres-Padilla ME; Tsonaka R; Van Soom A; Vidakovic M; Widschwendter M. BMC GENOMICS;2014;Vol. 15;Pages:487 -494

□ **13 . The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): illuminating the functional diversity of eukaryotic life in the oceans through transcriptome sequencing.** Keeling PJ; Burki F; Wilcox HM; Allam B; Allen EE; Amaral-Zettler LA; Armbrust EV; Archibald JM; Bharti AK; Bell CJ; Beszteri B; Bidle KD; Cameron CT; Campbell L; Caron DA; Cattolico RA; Collier JL; Coyne K; Davy SK; Deschamps P; Dyhrman ST; Edvardsen B; Gates RD; Gobler CJ; Greenwood SJ; Guida SM; Jacobi JL; Jakobsen KS; James ER; Jenkins B; John U; Johnson MD; Juhl AR; Kamp A; Katz LA; Kiene R; Kudryavtsev A; Leander BS; Lin S; Lovejoy C; Lynn D; Marchetti A; McManus G; Nedelcu AM; Menden-Deuer S; Miceli C; Mock T; Montresor M; Moran MA; Murray S; Nadathur G; Nagai S; Ngam PB; Palenik B; Pawlowski J; Petroni G; Piganeau G; Posewitz MC; Rengefors K; Romano G; Rumpho ME; Rynearson T; Schilling KB; Schroeder DC; Simpson AG; Slamovits CH; Smith DR; Smith GJ; Smith SR; Sosik HM; Stief P; Theriot E; Twary SN; Umale PE; Vaultot D; Wawrik B; Wheeler GL; Wilson WH; Xu Y; Zingone A; Worden AZ PLOS BIOLOGY;2014;Vol. 12;Pages:e1001889 -e1001889

▣ **14 . "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** Ragno M.; Pianese L.; Morroni M.; Cacchiò G.; Manca A.; Di Marzio F.; Silvestri S.; Miceli C.; Scarcella M.; Onofri M.; Trojano L. NEUROLOGICAL SCIENCES;2013;Vol. 34;Pages:1947 -1953

□ **15 . Characterization and comparative analysis of psychrophilic and mesophilic alpha-amylases from *Euplotes* species: A contribution to the understanding of enzyme thermal adaptation** Guang Yang;Guang Yang;Lino Aprile;Vincenzo Turturo;Sandra Pucciarelli; Stefania Pucciarelli;Cristina Miceli BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS;2013;Vol. 438;Pages:715 -720

□ **16 . 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*** Guang Yang;Concetta De Santi;Donatella de Pascale;Sandra Pucciarelli;Stefania Pucciarelli;Cristina Miceli BIOCHIMIE;2013;Vol. 95;Pages:1795 -1806

□ **17 . Tubulin folding: the special case of a beta-tubulin isotype from the Antarctic psychrophilic ciliate *Euplotes focardii*** Sandra Pucciarelli;Federica Chiappori;Daniela Sparvoli;Luciano Milanese;Cristina Miceli;Ronald Melki POLAR BIOLOGY;2013;Vol. 36;Pages:1833 -1838

□ **18 . A Novel Robust Heat-inducible Promoter for Heterologous Gene Expression in *Tetrahymena thermophila*** Yu, Ting; Barchetta, Sabrina; Pucciarelli, Sandra; LA TERZA, Antonietta; Miceli, Cristina PROTIST;2012;Vol. 163;Pages:284 -295

- ▣ **19 . Distinct Functional Roles of beta-Tubulin Isoforms in Microtubule Arrays of *Tetrahymena thermophila*, a Model Single-Celled Organism** Sandra Pucciarelli; Patrizia Ballarini; Daniela Sparvoli; Sabrina Barchetta; Ting Yu; H. William Detrich III; Cristina Miceli PLOS ONE;2012;Vol. 7;Pages:e39694 -e39694
- ▣ **20 . Structural thermal adaptation of β -tubulins from the Antarctic psychrophilic protozoan *Euplotes focardii*** Federica Chiappori; Sandra Pucciarelli; Ivan Merelli; Patrizia Ballarini; Cristina Miceli; Luciano Milanese PROTEINS;2012;Vol. 80;Pages:1154 -1166
- ▣ **21 . Molecular Cold-Adaptation of Protein Function and Gene Regulation: The Case for Comparative Genomic Analyses in Marine Ciliated Protozoa** Pucciarelli, Sandra; LA TERZA, Antonietta; Ballarini, Patrizia; Barchetta, S; Ting, Yu; Marziale, F; Passini, V; Methe, B; DIETRICH H., W; Miceli, Cristina MARINE GENOMICS;2009;Vol. 2;Pages:57 -66
- ▣ **22 . Biomonitoring of Lake Garda: Identification of ciliate species and symbiotic algae responsible for the "black-spot" bloom during the summer of 2004.** PUCCIARELLI S; BUONANNO F; PELLEGRINI G; POZZI S; BALLARINI P; MICELI C ENVIRONMENTAL RESEARCH;2008;Vol. 107;Pages:194 -200
- ▣ **23 . Combination of two regulatory elements in the *Tetrahymena thermophila* HSP70-1 gene controls heat shock activation** Barchetta, Sabrina; LA TERZA, Antonietta; Ballarini, Patrizia; Pucciarelli, Sandra; Miceli, Cristina EUKARYOTIC CELL;2008;Vol. 7;Pages:379 -386
- ▣ **24 . Different roles of two gamma-tubulin isoforms in the cytoskeleton of the Antarctic ciliate *Euplotes focardii*: remodelling of interaction surfaces may enhance microtubule nucleation at low temperature** MARZIALE F; PUCCIARELLI S; BALLARINI P; MELKI R; UZUN A; ILYIN VA; DETRICH HW; MICELI C THE FEBS JOURNAL;2008;Vol. 275;Pages:5367 -5382
- ▣ **25 . The protozoan ciliate *Tetrahymena thermophila* as biosensor of sublethal levels of toxicants in the soil** LA TERZA, Antonietta; Barchetta, Sabrina; Buonanno, F; Ballarini, Patrizia; Miceli, Cristina FRESENIUS ENVIRONMENTAL BULLETIN;2008;Vol. 17;Pages:1144 -1150
- ▣ **26 . Cell cycle-dependent expression of gamma-tubulin in the amiconuclear ciliate *Tetrahymena pyriformis*** JOACHIMIAK E; PUCCIARELLI S; BARCHETTA S; BALLARINI P; KACZANOWSKA J; MICELI C PROTIST;2007;Vol. 158;Pages:39 -50
- ▣ **27 . Development and application of whole cell biosensors based on recombinant cell lines of the ciliated protozoan *Tetrahymena thermophila* for ecotoxicity screening** LA TERZA, Antonietta; Ballarini, Patrizia; Miceli, Cristina; Buonanno, F.; Barchetta, S. 2006;Vol. EUR 22245 EN;Pages:68 -78 [Contributo in volume (capitolo o saggio)]
- ▣ **28 . Modeling of the eukaryotic heat-shock response with probabilistic timed automata** CORRADINI F.; MICELI C.; MERELLI E.; LA TERZA A.; CANNATA N. 2006;Vol. 3;Pages:27 -28
- ▣ **29 . Ribosomal cold-adaptation: characterization of the genes encoding the acidic ribosomal P0 and P2 proteins from the Antarctic ciliate *Euplotes focardii*.** PUCCIARELLI S; MARZIALE F; DI GIUSEPPE G; BARCHETTA S; C. MICELI GENE;2006;Vol. 360(2);Pages:103 -110
- ▣ **30 . Autocrine, mitogenic pheromone receptor loop of the ciliate *Euplotes raikovi*: pheromone-induced receptor internalization** VALLESI A.; BALLARINI P; DI PRETORO B.; ALIMENTI C.; MICELI C; LUPORINI P EUKARYOTIC CELL;2005;Vol. 4;Pages:1221 -1227