

**Curriculum Vitae - Stefania Pucciarelli**  
**SSD: BIO10 - ERC Panels: Life Sciences LS1-LS2**

**Affiliation:** School of Biosciences and Veterinary  
Medicine, University of Camerino.  
Via Gentile III da Varano  
62032 Camerino (MC)  
Italy

**e-mail:** [stefania.pucciarelli@unicam.it](mailto:stefania.pucciarelli@unicam.it)

**Present position:** Researcher/Lecturer (Ricercatore  
Universitario) in Biochemistry,  
University of Camerino

### **Education**

- January 1999, Ph.D. in Biology, at the University of Camerino, defending a thesis titled: "Thermodynamic characterization of protein folding intermediates: structure and stability of the C85S/C152E mutant of *E. coli* dihydrofolate reductase".
- April 1994, Degree (B.S.) in Chemistry at the University of Camerino (mark 110/110 cum laude).

### **Research Experience**

- November 2003 - October 2008: fixed-term researcher position (RTD) in Biochemistry, at the University of Camerino, Sciences and Technologies Faculty. Aim of the research project: study of nucleotide metabolism in chronic lymphocytic leukemia and other pathologies.
- January 2001- October 2003: postdoctoral fellowship at the Dept. of Molecular, Cellular and Animal Biology of the University of Camerino (tutor: Prof. Evandro Fioretti). Focus of the research activity: to study the recognition mechanisms in biological macromolecules to identify new enzyme inhibitors.
- January 1999 - December 2001: postdoctoral fellowship supported by Fondazione Carima (Banca delle Marche) at the Dept. of Molecular, Cellular and Animal Biology of the University of Camerino. Title of the research project: "Diagnostic markers for Alzheimer disease",
- January 1996- April 1997 research fellow position at Bio-calorimetry Center, The Johns Hopkins University, Baltimore, MD, USA, directed by Prof. Ernesto Freire. Aim of the research activity: to identify and characterize partially folded intermediates of dihydrofolate reductase from *E. coli*.

### **Technical skills and competencies**

- Functional and structural characterization of proteins and of their interactions with ligands, from a thermodynamic and a kinetic point of view. Development of enzymatic assays.

- Development of bioanalytical methods for detection and quantification of metabolites, vitamins, and proteins in biological and food samples.

Techniques: RP-HPLC, ionic exchange chromatography, 2D electrophoresis, Differential scanning calorimetry, Absorption and emission UV-Vis spectroscopy.

### Teaching activity

- academic years 2003/2004 - 2012/2013 appointment as teacher of Applied Biochemistry for the bachelor Degree in Chemistry at the University of Camerino,

- academic years 2003/2004 - 2008/2009 appointment as teacher of Biochemistry for the Master Degree in Biomolecular and Biofunctional Sciences, University of Camerino

- academic years 2009/2010 until now appointment as teacher of Structural Biology and High Performance Bio-Analytical Methods for the Master Degree course in Biological Sciences (in English).

### Publications

1. Proietti, N., Roselli, G., Capitani, D., Pettinari, C., Pucciarelli, S., Basileo, S., Scognamiglio, F. Characterization of Handmade Papers (13th–15th century) from Camerino and Fabriano (Marche, Italy). 2020, *Journal of Cultural Heritage* 42, pp.8
2. Cocci P, Palermo F, Pucciarelli S, Miano A, Cuccioloni M, Angeletti M, Roncarati A, Mosconi G. Identification, partial characterization, and use of grey mullet (*Mugil cephalus*) vitellogenins for the development of ELISA and biosensor immunoassays. 2019 *International Aquatic Research*, 11 (4), pp.389
3. Perinelli DR, Bonacucina G, Cespi M, Bonazza F, Palmieri GF, Pucciarelli S, Polzonetti V, Attarian L, Polidori P, Vincenzetti S. A comparison among  $\beta$ -caseins purified from milk of different species: Self-assembling behaviour and immunogenicity potential. 2019 *Colloids Surf B Biointerfaces*. Jan 1;173:210-216.
4. Vincenzetti S, Pucciarelli S, Huang Y, Ricciutelli M, Lambertucci C, Volpini R, Scuppa G, Soverchia L, Ubaldi M, Polzonetti V. Biomarkers mapping of neuropathic pain in a nerve chronic constriction injury mice model. 2019 *Biochimie*. Mar;158:172-179.
5. Cerquetella M, Rossi G, Spaterna A, Tesei B, Gavazza A, Pengo G, Pucciarelli S, Scortichini L, Sagratini G, Ricciutelli M, Marchegiani A, Vincenzetti S. Fecal Proteomic Analysis in Healthy Dogs and in Dogs Suffering from Food Responsive Diarrhea. 2019 *ScientificWorldJournal*. Jan 3;2019:2742401.
6. Pucciarelli S, Vincenzetti S, Ricciutelli M, Simon OC, Ramadori AT, Luciani L, Galassi R. Studies on the Interaction between Poly-Phosphane Gold(I) Complexes and Dihydrofolate Reductase: An Interplay with Nicotinamide Adenine Dinucleotide Cofactor. 2019 *Int J Mol Sci*. Apr 11; 20(7).

7. Gambini, V., Tilio, M., Maina, E.W., Andreani, C., Bartolacci, C., Wang, J., Iezzi, M., Ferraro, S., Ramadori, A.T., Simon, O.C., Pucciarelli, S., Wu, G., Dou, Q.P., Marchini, C., Galassi, R., Amici, A.  
*In vitro* and *in vivo* studies of gold(I) azolate/phosphane complexes for the treatment of basal like breast cancer.  
(2018) Eur. J. Med. Chem.. 2018 Jul 15;155:418-427. doi: 10.1016/j.ejmech.2018.06.002.
8. Carpi, F.M. Cortese M., Orsomando, G., Polzonetti, V., Vincenzetti, S., Moreschini, B., Coleman, M., Magni G., Pucciarelli, S.  
Simultaneous quantification of nicotinamide mononucleotide and related pyridine compounds in mouse tissues by UHPLC-MS/MS.  
(2018) Separation Science Plus. 2017, pp 1–9.
9. Vincenzetti, S., Cecchi, T., Perinelli, D.R., Pucciarelli, S., Polzonetti, V., Bonacucina, G., Ariani, A., Parrocchia, L., Spera, D.M., Ferretti, E., Vallesi, P., Polidori, P.  
Effects of freeze-drying and spray-drying on donkey milk volatile compounds and whey proteins stability.  
(2018) LWT - Food Science and Technology, 88, pp. 189-195.
10. Polidori, P., Pucciarelli, S., Cammertoni, N., Polzonetti, V., Vincenzetti, S.  
The effects of slaughter age on carcass and meat quality of Fabrianese lambs.  
(2017) Small Ruminant Research, 155, pp. 12-15.
11. Perinelli, D.R., Vllasaliu, D., Bonacucina, G., Come, B., Pucciarelli, S., Ricciutelli, M., Cespi, M., Itri, R., Spinozzi, F., Palmieri, G.F., Casettari, L.  
Rhamnolipids as epithelial permeability enhancers for macromolecular therapeutics.  
(2017) European Journal of Pharmaceutics and Biopharmaceutics, 119, pp. 419-425.
12. Perinelli, D.R., Cespi, M., Pucciarelli, S., Vincenzetti, S., Casettari, L., Lam, J.K.W., Logrippo, S., Canala, E., Soliman, M.E., Bonacucina, G., Palmieri, G.F.  
Water-in-oil microemulsions for protein delivery: Loading optimization and stability  
(2017) Current Pharmaceutical Biotechnology, 18 (5), pp. 410-421.
13. Vincenzetti, S., Felici, A., Ciarrocchi, G., Pucciarelli, S., Ricciutelli, M., Ariani, A., Polzonetti, V., Polidori, P.  
Comparative proteomic analysis of two clam species: *Chamelea gallina* and *Tapes philippinarum*.  
(2017) Food Chemistry, 219, pp. 223-229.
14. Maggi, F., Papa, F., Pucciarelli, S., Bramucci, M., Quassinti, L., Barboni, L., Ben, D.D., Ramadori, A.T., Graiff, C., Galassi, R.  
Stabilization of the cyclodecadiene derivative isofuranodiene by silver (I) coordination. Mechanistic and biological aspects.  
(2017) Fitoterapia, 117, pp. 52-60.
15. Vincenzetti, S., Polzonetti, V., Micozzi, D., Pucciarelli, S.  
Enzymology of pyrimidine metabolism and neurodegeneration.  
2016) Current Medicinal Chemistry, 23 (14), pp. 1408-1431.
16. Vincenzetti, S., Nasuti, C., Fedeli, D., Ricciutelli, M., Pucciarelli, S., Gabbianelli, R.

- Proteomic analysis for early neurodegenerative biomarker detection in an animal model.  
(2016) *Biochimie*, 121, pp. 79-86.
17. Polidori, P., Pucciarelli, S., Ariani, A., Polzonetti, V., Vincenzetti, S.  
A comparison of the carcass and meat quality of Martina Franca donkey foals aged 8 or 12 months. (2015) *Meat Science*, 106, pp. 6-10.
  18. Di Stefano, M., Nascimento-Ferreira, I., Orsomando, G., Mori, V., Gilley, J., Brown, R., Janeckova, L., Vargas, M.E., Worrell, L.A., Loreto, A., Tickle, J., Patrick, J., Webster, J.R.M., Marangoni, M., Carpi, F.M., Pucciarelli, S., Rossi, F., Meng, W., Sagasti, A., Ribchester, R.R., Magni, G., Coleman, M.P., Conforti, L.  
A rise in NAD precursor nicotinamide mononucleotide (NMN) after injury promotes axon degeneration. (2015) *Cell Death and Differentiation*, 22 (5), pp. 731-742.
  19. Galassi, R., Oumarou, C.S., Burini, A., Dolmella, A., Micozzi, D., Vincenzetti, S., Pucciarelli, S.  
A study on the inhibition of dihydrofolate reductase (DHFR) from *Escherichia coli* by gold(i) phosphane compounds. X-ray crystal structures of (4,5-dichloro-1H-imidazole-1-yl)-triphenylphosphane-gold(i) and (4,5-dicyano-1H-imidazole-1-yl)-triphenylphosphane-gold(i). (2015) *Dalton Transactions*, 44 (7), pp. 3043-3056.
  20. Perinelli, D.R., Bonacucina, G., Pucciarelli, S., Cespi, M., Casettari, L., Polzonetti, V., Carpi, F.M., Palmieri, G.F.  
Could albumin affect the self-assembling properties of a block Co-polymer system and drug release? An in-vitro study.  
(2015) *Pharmaceutical Research*, 32 (3), pp. 1094-1104.
  21. Anderson, J.G., Ramadori, G., Ioris, R.M., Galiè, M., Berglund, E.D., Coate, K.C., Fujikawa, T., Pucciarelli, S., Moreschini, B., Amici, A., Andreani, C., Coppari, R.  
Enhanced insulin sensitivity in skeletal muscle and liver by physiological overexpression of SIRT6.  
(2015) *Molecular Metabolism*, 4 (11), pp. 846-856.
  22. Vincenzetti, S., Pucciarelli, S., Nucci, C., Polzonetti, V., Cammertoni, N., Polidori, P.  
Profile of Nucleosides and Nucleotides in Donkey's Milk.  
(2014) *Nucleosides, Nucleotides and Nucleic Acids*, 33 (10), pp. 656-667.
  23. Kalogris, C., Garulli, C., Pietrella, L., Gambini, V., Pucciarelli, S., Lucci, C., Tilio, M., Zabaleta, M.E., Bartolacci, C., Andreani, C., Giangrossi, M., Iezzi, M., Belletti, B., Marchini, C., Amici, A.  
Sanguinarine suppresses basal-like breast cancer growth through dihydrofolate reductase inhibition.  
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  24. Vincenzetti, S., Foghini, L., Pucciarelli, S., Polzonetti, V., Cammertoni, N., Beghelli, D., Polidori, P.  
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(2014) *Veterinaria Italiana*, 50 (2), pp. 99-107.
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- Human cytidine deaminase: A biochemical characterization of its naturally occurring variants. (2014) *International Journal of Biological Macromolecules*, 63, pp. 64-74.
26. Cespi, M., Bonacucina, G., Pucciarelli, S., Cocci, P., Perinelli, D.R., Casettari, L., Illum, L., Palmieri, G.F., Palermo, F.A., Mosconi, G.  
Evaluation of thermosensitive poloxamer 407 gel systems for the sustained release of estradiol in a fish model. (2014) *European Journal of Pharmaceutics and Biopharmaceutics*, 88 (3), pp. 954-961.
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  28. Yang, G., Yang, G., Aprile, L., Turturo, V., Pucciarelli, S., Pucciarelli, S., Miceli, C.  
Characterization and comparative analysis of psychrophilic and mesophilic alpha-amylases from *Euplotes* species: A contribution to the understanding of enzyme thermal adaptation. (2013) *Biochemical and Biophysical Research Communications*, 438 (4), pp. 715-720.
  29. Perinelli, D.R., Cespi, M., Pucciarelli, S., Casettari, L., Palmieri, G.F., Bonacucina, G.  
Effect of phosphate buffer on the micellisation process of Poloxamer 407: Microcalorimetry, acoustic spectroscopy and dynamic light scattering (DLS) studies. (2013) *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 436, pp. 123-129.
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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*. (2013) *Biochimie*, 95 (9), pp. 1795-1806.
  31. Bucci, E., Pucciarelli, S., Angeletti, M.  
Free energy changes and components implicit in the MWC allosteric model for the cooperative oxygen binding of hemoglobin. (2013) *Biochemistry*, 52 (24), pp. 4149-4156.
  32. Carpi, F.M., Vincenzetti, S., Ubaldi, J., Pucciarelli, S., Polzonetti, V., Micozzi, D., Mignini, F., Napolioni, V.  
CDA gene polymorphisms and enzyme activity: Genotype-phenotype relationship in an Italian-Caucasian population. (2013) *Pharmacogenomics*, 14 (7), pp. 769-781.
  33. Vincenzetti, S., Pucciarelli, S., Carpi, F.M., Micozzi, D., Polzonetti, V., Natalini, P., Santarelli, I., Polidori, P., Vita, A.  
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  35. Pucciarelli, S., Bonacucina, G., Bernabucci, F., Cespi, M., Mencarelli, G., De Fronzo, G.S., Natalini, P., Palmieri, G.F.

- A study on the stability and enzymatic activity of yeast alcohol dehydrogenase in presence of the self-assembling block copolymer poloxamer 407. (2012) *Applied Biochemistry and Biotechnology*, 167 (2), pp. 298-313.
36. Polzonetti, V., Carpi, F.M., Micozzi, D., Pucciarelli, S., Vincenzetti, S., Napolioni, V. Population variability in CD38 activity: Correlation with age and significant effect of TNF- $\alpha$ -308G>A and CD38 184C>G SNPs. (2012) *Molecular Genetics and Metabolism*, 105 (3), pp. 502-507.
  37. Polzonetti, V., Natalini, P., Vincenzetti, S., Vita, A., Pucciarelli, S. Modulatory Effect of Oleuropein on Digestive Enzymes. (2010) *Olives and Olive Oil in Health and Disease Prevention*, pp. 1327-1333.
  38. Micozzi, D., Pucciarelli, S., Carpi, F.M., Costanzi, S., De Sanctis, G., Polzonetti, V., Natalini, P., Santarelli, I.F., Vita, A., Vincenzetti, S. Role of tyrosine 33 residue for the stabilization of the tetrameric structure of human cytidine deaminase. (2010) *International Journal of Biological Macromolecules*, 47 (4), pp. 471-482.
  39. Cespi, M., Bonacucina, G., Mencarelli, G., Pucciarelli, S., Giorgioni, G., Palmieri, G.F. Monitoring the aggregation behaviour of self-assembling polymers through high-resolution ultrasonic spectroscopy. (2010) *International Journal of Pharmaceutics*, 388 (1-2), pp. 274-279.
  40. Polzonetti, V., Pucciarelli, S., Vita, A., Vincenzetti, S., Natalini, P. CD38 in Bovine Lung: A multicatalytic NADase. (2009) *Journal of Membrane Biology*, 227 (3), pp. 105-110.
  41. Spina, M., Cuccioloni, M., Mozzicafreddo, M., Montecchia, F., Pucciarelli, S., Eleuteri, A.M., Fioretti, E., Angeletti, M. Mechanism of inhibition of wt-dihydrofolate reductase from *E. coli* by tea epigallocatechin-gallate. (2008) *Proteins: Structure, Function and Genetics*, 72 (1), pp. 240-251.
  42. Vincenzetti, S., Quadrini, B., Mariani, P., De Sanctis, G., Cammertoni, N., Polzonetti, V., Pucciarelli, S., Natalini, P., Vita, A. Modulation of human cytidine deaminase by specific aminoacids involved in the intersubunit interactions. (2008) *Proteins: Structure, Function and Genetics*, 70 (1), pp. 144-156.
  43. Bonacucina, G., Spina, M., Misici-Falzi, M., Cespi, M., Pucciarelli, S., Angeletti, M., Palmieri, G.F. Effect of hydroxypropyl  $\beta$ -cyclodextrin on the self-assembling and thermogelation properties of Poloxamer 407. (2007) *European Journal of Pharmaceutical Sciences*, 32 (2), pp. 115-122.
  44. Vincenzetti, S., Pucciarelli, S., Mariani, P., De Sanctis, G., Polzonetti, V., Natalini, P., Vita, A. Studies on thermal stability of human cytidine deaminase. (2007) *Nucleosides, Nucleotides and Nucleic Acids*, 26 (8-9), pp. 1037-1042.
  45. D'Ercole, S., Priori, A.M., Pucciarelli, S., Fioretti, E., Tacconi, R., Angeletti, M., Eleuteri, A.M., Pucci, E.

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47. Polzonetti, V., Pucciarelli, S., Signorello, L., Vita, A., Vincenzetti, S., Natalini, P.  
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