

**Prof. Pietro Pucci**

### **Brief Curriculum Vitae**

Prof. Piero Pucci got his degree in Chemistry at the University of Naples in 1978. From 1979 to 1981 worked as Post-doctoral fellow at the University of Naples. 1982 - 1988 Assistant Professor of Biochemistry at the Department of Organic and Biological Chemistry, Faculty of Science, University of Napoli. 1983 – 1984 post doctoral training and Visiting Associate (1987) at the Biochemical Department of the Imperial College of Science, Technology and Medicine in London, U. K. 1988 - 1991 Associate Professor of Biochemistry, Department of Chemistry, Faculty of Science, University of Basilicata. 1991 - 1999 Associate Professor of Biochemistry, Department of Organic and Biological Chemistry, Faculty of Science, University of Napoli. In February 2000 he was appointed Full Professor of Biochemistry at the University of Napoli, Faculty of Science. Prof Pucci is the Head of the Proteomic Laboratory at the CEINGE Biotecnologie Avanzate.

Prof. Pucci is Member of the Director Board and the Executive Committee of the INBB Consortium, Member of the Scientific Committee of the VIMM Biomedical Foundation and Member of the Scientific Committee of the Italian Global Animal Health (ITPGAH). He was a former Member of the World Council of the Human Proteome Organization (HUPO), President of the Italian Human Proteome Organization (IHUPO), Member of the Council of the Italian Proteomic Association (ItPA) and Coordinator of the Protein Group of the Italian Society of Biochemistry and Molecular Biology (SIBBM). At present, Prof. Pucci is responsible of both the Proteomic Laboratory and the Proteomic Facility at CEINGE Biotecnologie Avanzate.

Prof. Pucci delivered lectures to National and International Meetings and he has published more than **220 refereed papers** on international journals with an **H-Factor of 41**.

Prof. Pucci has been, and is at present, recipient of several Research Grants from both National and International Institutions (MIUR, CNR, CE, Minister of Health, etc.) and from private Charity Foundations (Fondazione Fibrosi Cistica, CARIPL0, etc.). He was, and at present is, Consultant and Collaborator of several public and private Enterprises in the biotechnological and pharmaceutical field (IRBM-Merck, Menarini, Serono, Sigma-Tau, Pharmacia&Upjohn, Mario Negri Sud).

Prof. Pucci is currently Referee for several International Journal including Proteomics; Journal Proteomics Research; Molecular Cellular Proteomics; Journal Molecular Biology; European Journal of Biochemistry; Electrophoresis; Journal of Chromatography; FEMS Microbiology Letters; Rapid Communication in Mass Spectrometry; Journal Mass Spectrometry; Glycoconjugate Journal; Hemoglobin; J

Endocrinol Investigation; Bioinformatics; Journal of Rheumatology; Journal of Pediatric Gastroenterology and Nutrition; GENE; STRESS.

Prof. Pucci is currently Referee for Research Projects for several Institutions including The Wellcome Trust, UK; MIUR, Università di Udine; Regione Lombardia; Ministero della Salute; Università del Piemonte Orientale.

The scientific activity of Prof. Piero Pucci has been initially devoted to the structural characterization of both native and recombinant proteins and glycoproteins. These studies have been carried out by developing integrated strategies based on classical biochemical methodologies combined with biomolecular mass spectrometric procedures. Furthermore, the folding process of proteins has been investigated paying particular attention to the structural characterization of intermediates accumulating during the oxidative folding of disulphide-containing proteins.

A new strategy for the investigation of the surface topology and the analysis of conformational changes in proteins has been developed. This approach consists in the application of limited proteolysis experiments combined with advanced mass spectrometric methodologies. This procedure was then extended to the analysis of conformational changes occurring during protein complexes formation with the aim to describe protein-protein and protein-DNA interactions and to the characterization of amyloidogenic proteins to investigate amyloidogenic intermediates.

In the last years, Prof. Pucci's scientific interest was addressed to functional proteomics studies for the elucidation of the molecular mechanisms underlying complex physio-pathological processes. These studies aim at identifying specific proteins involved in biological mechanisms by isolation of functional complexes using affinity chromatography or immunoprecipitation procedures followed by identification of protein partners by advanced mass spectrometry methodologies. The association of an unknown protein with partners belonging to a specific protein complex involved in a particular mechanism would then be strongly suggestive of its biological function. Furthermore, a detailed description of the cellular signalling pathways might greatly benefit from the elucidation of protein-protein interactions in vivo.

### **Most Relevant Publications**

E.V. Polishchuk, M. Concilli, S. Iacobacci, G. Chesi, N. Pastore, P. Piccolo, S. Paladino, D. Baldantoni, S.C. van IJzendoorn, J. Chan, C.J. Chang, A. Amoresano, F. Pane, P. Pucci, A. Tarallo, G. Parenti, N. Brunetti-Pierri, C. Settembre, A. Ballabio and R.S. Polishchuk.

Wilson Disease Protein ATP7B Utilizes Lysosomal Exocytosis to Maintain Copper Homeostasis.

*Dev Cell.* 29 (2014) 686-700.

C. Quintavalle, S. Costanzo, C. Zanca, I. Tasset, A. Fraldi, M. Incoronato, P. Mirabelli, M. Monti, A. Ballabio, P. Pucci, A.M. Cuervo and A. Condorelli.

Phosphorylation-Regulated Degradation of the Tumor-Suppressor Form of PED by Chaperone-Mediated Autophagy in Lung Cancer Cells.

*J Cell Physiol.* 229 (2014) 1359-1368.

P.P. Mangione, R. Porcari, J.D. Gillmore, **P. Pucci**, M. Monti, M. Porcari, S. Giorgetti, L. Marchese, S. Raimondi, L.C. Serpell, W. Chen, A. Relini, J. Marcoux, I.R. Clatworthy, G.W. Taylor, G.A. Tennent, C.V. Robinson, P.N. Hawkins, M. Stoppini, S.P. Wood, M.B. Pepys and V. Bellotti.

Proteolytic cleavage of Ser52Pro variant transthyretin triggers its amyloid fibrillogenesis.

*Proc Natl Acad Sci U S A.* 111 (2014) 1539-1544.

G. D'Angelo, T. Uemura, C.C. Chuang, E. Polishchuk, M. Santoro, H. Ohvo-Rekilä, T. Sato, G. Di Tullio, A. Varriale, S. D'Auria, T. Daniele, F. Capuani, L. Johannes, P. Mattjus, M. Monti, **P. Pucci**, R.L. Williams, J.E. Burke, F.M. Platt, A. Harada and M.A. De Matteis.

Vesicular and non-vesicular transport feed distinct glycosylation pathways in the Golgi.

*Nature.* 501 (2013) 116-120.

S. Marchiò, M. Soster, S. Cardaci, A. Muratore, A. Bartolini, V. Barone, D. Ribero, M. Monti, P. Bovino, J. Sun, R. Giavazzi, S. Asioli, P. Cassoni, L. Capussotti, **P. Pucci**, A. Bugatti, M. Rusnati, R. Pasqualini, W. Arap and F. Bussolino.

A complex of  $\alpha(6)$  integrin and E-cadherin drives liver metastasis of colorectal cancer cells through hepatic angiopoietin-like 6.

*EMBO Mol Med.* 4 (2012) 1156-1175.

G. Leo, I. Bonaduce, A. Andreotti, G. Marino, **P. Pucci**, M.P. Colombini and L. Birolo. Deamidation at Asparagine and Glutamine As a Major Modification upon Deterioration/ Aging of Proteinaceous Binders in Mural Paintings.

*Anal Chem.* 83 (2011) 2056-2064.

M. Landriscina, G. Laudiero, F. Maddalena, M.R. Amoroso, A. Piscazzi, F. Cozzolino, M. Monti, C. Garbi, A. Fersini, **P. Pucci** and F. Esposito.

Mitochondrial chaperone Trap1 and the calcium binding protein Sorcin interact and protect cells against apoptosis induced by antiproliferative agents.

*Cancer Res.* 70 (2010) 6577-6586.

A. Federico, P. Pallante, M. Bianco, A. Ferraro, F. Esposito, M. Monti, M. Cozzolino, S. Keller, M. Fedele, V. Leone, G. Troncone, L. Chiariotti, **P. Pucci**, and A. Fusco.

Chromobox protein homologue 7 protein, with decreased expression in human carcinomas, positively regulates E-cadherin expression by interacting with the histone deacetylase 2 protein.

*Cancer Res.* 69 (2009) 7079-7087.

F. Magherini, A. Carpentieri, A. Amoresano, T. Gamberi, C. De Filippo, L. Rizzetto, M. Biagini, **P. Pucci** and A. Modesti.

Different carbon sources affect lifespan and protein redox state during *Saccharomyces cerevisiae* chronological ageing.

*Cell Mol Life Sci.* **66** (2009) 933-947.

A. Fraldi, E. Zito, F. Annunziata, A. Lombardi, M. Cozzolino, M. Monti, C. Spampanato, A. Ballabio, **P. Pucci**, R. Sitia and M.P. Cosma.

Multistep, sequential control of the trafficking and function of the Multiple Sulfatase Deficiency gene product, SUMF1 by PDI, ERGIC-53 and ERp44.

*Hum Mol Genet.* **17** (2008) 2610-2621.

E. Zito, M. Buono, S. Pepe, C. Settembre, I. Annunziata, E.M. Surace, T. Dierks, M. Monti, M. Cozzolino, **P. Pucci**, A. Ballabio and M.P. Cosma.

Sulfatase modifying factor 1 trafficking through the cells: from endoplasmic reticulum to the endoplasmic reticulum.

*EMBO J.* **26** (2007) 2443-2453.

A. Amoresano, G. Chiappetta, **P. Pucci**, M. D'Ischia and G. Marino.

Bidimensional Tandem Mass Spectrometry for Selective Identification of Nitration Sites in Proteins.

*Anal. Chem.* **79** (2007) 2109-2117.

G. Plakoutsi, F. Bemporad, M. Monti, D. Pagnozzi, **P. Pucci** and F. Chiti.

Exploring the Mechanism of Formation of Native-like and Precursor Amyloid Oligomers for the Native Acylphosphatase from *Sulfolobus solfataricus*.

*Structure* **14** (2006) 993-1001.

M. Monti, B.L. Garolla di Bard, G. Calloni, F. Chiti, A. Amoresano, G. Ramponi, and **P. Pucci**.

The regions of the sequence most exposed to the solvent within the amyloidogenic state of a protein initiate the aggregation process.

*J Mol Biol.* **336** (2004) 253-262.

P. Licciardo, S. Amente, L. Ruggiero, M. Monti, **P. Pucci**, L. Lania and B. Majello.

The FCP1 phosphatase interacts with RNA polymerase II and with MEP50 a component of the methylosome complex involved in the assembly of snRNP.

*Nucleic Acids Res.* **31** (2003) 999-1005.

M.C. Silvestrini, F. Cardone, B. Maras, **P. Pucci**, D. Barra, M. Brunori and M. Pocchiari.

Identification of the prion protein allotypes which accumulate in the brain of sporadic and familial Creutzfeldt-Jakob disease patients.

*Nature Med.* **3** (1997) 521-525.