

## CV Luciano Pirone

### Personal information

Date of birth: [REDACTED] | Sex: [REDACTED] | Nationality: [REDACTED]

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### Job position

Researcher at Institute of Biostructure and Bioimaging (CNR), Via Tommaso De Amicis, 95, 80145 Naples (Italy) since 30/09/2019.

### Education and training

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|---------------------|--|
| Nov 1998 – Mar 2004 | Degree in Industrial Biotechnology (vote 110/110) University of Naples Federico II, Faculty of Biotechnological Sciences. Study of genetic systems for the expression of the putative cellulase SsCelS from <i>Sulfolobus solfataricus</i> .   |
| Jun 2005 – Jun 2007 | Master: Institute of Biostructure and Bioimaging (CNR), Via Tommaso De Amicis, 95, 80145 Naples (Italy). STRUIM - Training of specialists in the field of biostructures and bioimaging.  |
| Oct 2006 – Oct 2009 | Doctor of Philosophy (PhD) in Molecular Biotechnology University of Naples Federico II, Faculty of Biotechnological Sciences. PhD thesis title: "Medulloblastoma tumour suppressor factor RENKCTD11: structure and function based design and development of new compounds for therapeutic interest". |
| Sep 2018 – Set 2024 | National Scientific Qualification in Biochemistry (Sector 05/E1 II section).   |

### Macrosectors

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|-------|---|
| LS    | Macrosector   |
| LS1   | Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics                                |
| LS1_1 | Macromolecular complexes including interactions involving nucleic acids, proteins, lipids and carbohydrates |
| LS1_2 | Biochemistry  |
| LS1_8 | Structural biology  |

### Bibliometric indicators

(data source Scopus)

Total publications:	59
Total Citations:	752
H-index:	17

Guest editor for a special issue entitled "Structure-Function relationship in proteins correlated with the insurgence of diseases" on Section Macromolecules on International Journal of Molecular Sciences on July 2020. Deadline March 2022. (<https://www.mdpi.com/journal/ijms/sections/macromolecules>).

Reviewer for the following international journals: International Journal of Molecular Sciences, COVID19, Biomolecules, J. Biotechnology, Healthcare.

### **Participation in national and international scientific projects**

- 06/12/2007 He participated as a member of research unit in the financed project L.R. N.5 Regione Campania” coordinated by Dr Emilia Pedone with a title “Antioxidant systems of the peroxiredoxins thermophilic microorganisms and their applications”.
- 20/08/2014 He participated as a member of research unit in the financed project FFC#20/2014 coordinated by Prof. Eliodoro Pizzo with a title “Identification and characterization of LPS-neutralizing human peptides: potential tools to control inflammation in cystic fibrosis lung disease”.
- 22/02/2012 - 22/02/2016 He participated in the financed project RBAP114AMK coordinated by Dr Michele Saviano with the title “Rete integrata per la Nano Medicina (RINAME)”.
- 01/01/2018 - 28/02/2022 He engaged as a participant in “Ciro – Campania Imaging Infrastructure for Research in Oncology”.

### **Personal skills**

Pirone’s research is strongly focused on the structure-activity-function relationship in proteins relevant to biomedicine and biotechnology, aiming at the understanding of the molecular determinants underlying their biological activities. He has gained knowledge of structural and molecular biology methodologies. He has acquired the expertise in several techniques useful for the study of the macromolecular structures: such as static and dynamic light scattering, circular dichroism and spectrofluorimetry. Structural studies are generally associated with a biophysical and functional characterization of the samples under study; in doing this he has exploited techniques such as UV-VIS spectroscopy, fluorimetry, isothermal titration calorimetry and microscale thermophoresis. Furthermore, he has gained the know how also in advanced methodologies of molecular biology in order to prepare ad-hoc point mutants to gain further insights into the protein biological functions.

### **Main scientific publications**

1. Ibarra L E, Camorani S, Agnello L, Pedone E, **Pirone L**, Chesta C A, Palacios R E, Fedele M and Cerchia L. Selective Photo-Assisted Eradication of Triple-Negative Breast Cancer Cells through Aptamer Decoration of Doped Conjugated Polymer Nanoparticles. *Pharmaceutics* 2022, 14(3), 626; doi: 10.3390/pharmaceutics14030626.
2. Di Gaetano S\*, **Pirone L**\*, Galdadas I, Traboni S, Iadonisi A, Pedone E, Saviano M, Gervasio F L and Capasso D. Design, Synthesis, and Anticancer Activity of a Selenium-Containing Galectin-3 and Galectin-9N Inhibitor. *Int J Mol Sci.* 2022 Feb 25; 23(5):2581. doi: 10.3390/ijms23052581. \* These authors equally contributed.
3. **Farina B\***, **Pirone L\***, D’Abrosca G, Della Valle M, Russo L, Isernia C, Sassano M, Del Gatto A, Di Gaetano S, Zaccaro L, Malgieri G, Pedone EM, and Fattorusso R. Screening a Molecular Fragment Library to Modulate the PED/PEA15-Phospholipase D1 Interaction in Cellular Lysate Environments. *ACS Chem Biol.* 2021 Dec 17; 16(12):2798-2807. doi: 10.1021/acscchembio.1c00688. \* These authors equally contributed.
4. Tito A, Colantuono A, **Pirone L**, Pedone E, Intartaglia D, Giamundo G, Conte I, Vitaglione P, Apone F. Pomegranate Peel Extract as an Inhibitor of SARS-CoV-2 Spike Binding to Human ACE2 Receptor (in vitro): A Promising Source of Novel Antiviral Drugs. *Front Chem.* 2021 Apr 28; 9:638187. doi: 10.3389/fchem.2021.638187.
5. Senatore E, Chiuso F, Rinaldi L, Intartaglia D, Delle Donne R, Pedone E, Catalanotti B, **Pirone L**, Fiorillo B, Moraca F, Giamundo G, Scala G, Raffener A, Torres-Quesada O, Stefan E, Kwiatkowski M, van Pijkeren A, Morleo M, Franco B, Garbi C, Conte I, Feliciello A. The TBC1D31/praja2 complex controls primary ciliogenesis through PKA-directed OFD1 ubiquitylation. *EMBO J.* 2021 May 17;40(10): e106503. doi: 10.15252/embj.2020106503.
6. **Pirone L**, Del Gatto A, Di Gaetano S, Saviano M, Capasso D, Zaccaro L, Pedone E. A Multi-Targeting Approach to Fight SARS-CoV-2 Attachment. *Front Mol Biosci.* 2020 Aug 3; 7:186. doi: 10.3389/fmolb.2020.00186.
7. Montanari R, Capelli D, Yamamoto K, Awaishima H, Nishikata K, Barendregt A, Heck AJR, Liodice F, Altieri F, Paiardini A, Grottesi A, **Pirone L**, Pedone E, Peiretti F, Brunel JM, Itoh T, Pochetti G. Insights into PPAR $\gamma$  Phosphorylation and Its Inhibition Mechanism. *J Med Chem.* 2020 May 14;63(9):4811-4823. doi: 10.1021/acsjmedchem.0c00048.

8. **Pirone L**, Smaldone G, Spinelli R, Barberisi M, Beguinot F, Vitagliano L, Miele C, Di Gaetano S, Raciti GA, Pedone E. KCTD1: A novel modulator of adipogenesis through the interaction with the transcription factor AP2 $\alpha$ . *Biochim Biophys Acta Mol Cell Biol Lipids*. 2019 Dec; 1864(12):158514.
9. **Pirone L**, Caldinelli L, Di Lascio S, Di Girolamo R, Di Gaetano S, Fornasari D, Pollegioni L, Benfante R, Pedone E. Molecular insights into the role of the polyalanine region in mediating PHOX2B aggregation. *FEBS J*. 2019. Apr 7. doi: 10.1111/febs.14841.
10. Bellia F, Lanza V, Garcia-Viñuales S, Ahmed IMM, Pietropaolo A, Iacobucci C, Malgieri G, D'Abrosca G, Fattorusso R, Nicoletti VG, Sbardella D, Tundo GR, Coletta M, **Pirone L**, Pedone E, Calcagno D, Grasso G\* and Milardi D\*. Ubiquitin binds the amyloid b peptide and interferes with its clearance pathways. *Chem Sci*. 2019. Jan. doi: 10.1039/c8sc03394c.
11. **Pirone L**, Pitzer JE, D'Abrosca G, Fattorusso R, Malgieri G, Pedone EM, Pedone PV, Roop RM 2nd, Baglivo I. Identifying the region responsible for *Brucella abortus* MucR higher-order oligomer formation and examining its role in gene regulation. *Sci Rep*. 2018 Nov 22; 8(1):17238. doi: 10.1038/s41598-018-35432-1.
12. Smaldone G\*, **Pirone L\***, Capolupo A, Vitagliano L, Monti MC, Di Gaetano S, Pedone E. The essential player in adipogenesis GRP78 is a novel KCTD15 interactor. *Int J Biol Macromol*. 2018 Aug; 115:469-475. doi: 10.1016/j.ijbiomac.2018.04.078. \* These authors equally contributed.
13. Malgieri G, D'Abrosca G, **Pirone L**, Toto A, Palmieri M, Russo L, Sciacca MFM, Tatè R, Sivo v, Baglivo I, Majewska R, Coletta M, Pedone PV, Isernia C, De Stefano M, Gianni S, Pedone EM, Milardi D and Fattorusso R. Folding mechanisms steer the amyloid fibril formation propensity of highly homologous Proteins. *Chem Sci*. 2018 Mar 1;9(13):3290-3298. doi: 10.1039/c8sc00166a.
14. Gaglione R\*, **Pirone L\***, Farina B\*, Fusco S\*, Smaldone G, Aulitto M, Dell'Olmo E, Roschetto E, Del Gatto A, Fattorusso R, Notomista E, Zaccaro L, Arciello A, Pedone E, Contursi P. Insights into the anticancer properties of the first antimicrobial peptide from Archaea. *Biochim Biophys Acta*. 2017 Sep; 1861(9):2155-2164. doi: 10.1016/j.bbagen.2017.06.009. \* These authors equally contributed.
15. **Pirone L**, Ripoll-Rozada J, Leone M, Ronca R, Lombardo F, Fiorentino G, Andersen JF, Pereira PJB, Arcà B, Pedone E. Functional analyses yield detailed insight into the mechanism of thrombin inhibition by the antihemostatic salivary protein cE5 from *Anopheles gambiae*. *J Biol Chem*. 2017 Jul 28; 292(30):12632-12642. doi: 10.1074/jbc.M117.788042.
16. Bosso A\*, **Pirone L\***, Gaglione R, Pane K, Del Gatto A, Zaccaro L, Di Gaetano S, Diana D, Fattorusso R, Pedone E, Cafaro V, Haagsman HP, van Dijk A, Scheenstra MR, Zanfardino A, Crescenzi O, Arciello A, Varcamonti M, Veldhuizen EJA, Di Donato A, Notomista E, Pizzo E. A new cryptic host defense peptide identified in human 11-hydroxysteroid dehydrogenase-1  $\beta$ -like: from in silico identification to experimental evidence. *Biochim Biophys Acta*. 2017. Sep; 1861(9):2342-2353. doi: 10.1016/j.bbagen.2017.04.009. \* These authors equally contributed.
17. Contursi P\*, Farina B\*, **Pirone L\***, Fusco S, Russo L, Bartolucci S, Fattorusso R, Pedone E. Structural and functional studies of Stf76 from the *Sulfolobus islandicus* plasmid-virus pSSVx: a novel peculiar member of the winged helix–turn–helix transcription factor family. *Nucleic Acids Res*. Accepted 28 Feb. 2014. doi: 10.1093/nar/gku215. \* These authors equally contributed.
18. Diana D, Smaldone G, De Antonellis P, **Pirone L**, Carotenuto M, Alonzi A, Di Gaetano S, Zollo M, Pedone EM, Fattorusso R. Mapping functional interaction sites of human prune C-terminal domain by NMR spectroscopy in human cell lysates. *Chemistry*. 2013 Sep 9;19(37):12217-20. doi: 10.1002/chem.201302168.
19. Carotenuto M, Pedone E, Diana D, de Antonellis P, Džeroski S, Marino N, Navas L, Di Dato V, Scoppettuolo MN, Cimmino F, Correale S, **Pirone L**, Monti SM, Bruder E, Zenko B, Slavkov I, Pastorino F, Ponzoni M, Schulte JH, Schramm A, Eggert A, Westermann F, Arrigoni G, Accordi B, Basso G, Saviano M, Fattorusso R, Zollo M. Neuroblastoma tumorigenesis is regulated through the Nm23-H1/h-Prune C-terminal interaction. *Sci Rep*. 2013; 3:1351. doi: 10.1038/srep01351.
20. Correale S\*, **Pirone L\***, Di Marcotullio L, De Smaele E, Greco A, Mazzà D, Moretti M, Alterio V, Vitagliano L, Di Gaetano S, Gulino A, Pedone EM. Molecular organization of the cullin E3 ligase adaptor KCTD11. *Biochimie*. 2011. Apr; 93(4):715-24. doi: 10.1016/j.biochi.2010.12.014. \* These authors equally contributed.

Date: Napoli, 11/05/2022

Signature

