

PERSONAL INFORMATION



Caterina Fattorusso PhD

University of Naples Federico II, Department of Pharmacy, School of Medicine, Via D. Montesano 49

081 678544/ 081678123

caterina.fattorusso@unina.it

<https://www.docenti.unina.it/caterina.fattorusso>

<https://orcid.org/0000-0003-3330-4281>

Sex Female | Date of birth 26/10/1970 | Nationality Italian

Enterprise	University	EPR
☐ Management Level	☒ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☐ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

- 2022-to date Full Professor in Medicinal Chemistry (CHIM/08), leader of computer aided drug design group, Department of Pharmacy, University of Naples Federico II (NeaCADD)
- 2020-to date Member of joint committee; Framework agreement for cultural and scientific collaboration between Department of Pharmacy (University of Naples "Federico II") and The Centre For Environment, Fisheries & Aquaculture Science (Cefas), UK
- 2019-to date Member of joint committee; Framework agreement for cultural and scientific collaboration between Department of Pharmacy (University of Naples "Federico II") and The national center for scientific research "Demokritos" (Athens, Grecia)
- 2015-to date President of Orientation and Tutoring Committee of "Quality Control" degree, Department of Pharmacy, University of Naples Federico II, Italy.
- 2013-to date Member of the Academic Board of the PhD Program in Pharmaceutical Science of the Department of Pharmacy, University of Napoli Federico II, Italy.
- 2012-to date Member of the scientific council (representing University of Napoli Federico II) within the Italian Malaria Network (IMN)
- 2001-2006 Member of the Academic Board of the PhD Program in " Biotechnological Sciences ", Faculty of Biotechnological Sciences, University of Napoli Federico II, Italy.
- 2000- to date Member of the Italian Society of Chemistry

EDUCATION AND TRAINING

Visiting Scientist at:

- Freie Universitat, Berlin – Germany
- Heinrich Heine Universitat of Duesseldorf, Duesseldorf – Germany
- Trinity College, Dublin - Ireland

WORK ACTIVITIES

Awards

- 2015: Editor's Choice (prof. Allen B Reitz) Current Topics in Medicinal Chemistry (Bentham Publisher <http://www.eurekaselect.com/node/615/current-topics-in-medicinal->

chemistry/editorial-choice) with article "From Protein Communication to Drug Discovery" Volume: 15 Issue: 20; pag. 2019-2031 DOI: 10.2174/1568026615666150519102257

- 2009: Front Cover of Cancer Research; CANCER RESEARCH, vol.69, p. 6906-6914, ISSN: 0008-5472, doi:10.1158/0008-5472.CAN-09-0540.

Editorial activity

- Member of the Editorial Board of Scientific Reports .
- Guest Editor of the Special Issue of Current Topics in Medicinal Chemistry entitled "Protein Interfaces as Targets in Drug Discovery" (2015, Volume 15 - Number 20).
- Reviewer of scientific journals such as Journal of the American Chemical Society, Journal of Medicinal Chemistry, Medicinal Chemistry Letters, European Journal of Medicinal Chemistry, The Journal of Physical Chemistry A, Organic & Biomolecular Chemistry, Journal of Molecular Biology, Marine Drugs, Molecular Pharmacology.

Referee Italian and EU Institution:

- Ministero Università e Ricerca: PRIN, VQR, and Programma per Giovani Ricercatori "Rita Levi Montalcini"
- European Science Foundation (ESF).
- Matwin

Invited Presentations

2013: Expert and facilitator at 5th Workshop "Research, Training and Cooperation for Sustainable Malaria Control: Targeting the Vector" (2013 invited by A. Habluetzel, Univ. Camerino).

2014: Invited speaker at the International Joint Summer School: From gene to bioactive products (invited by R. Batel, Marine Research Ruđer Bošković Institute, Rovinj (Croatia))

2018: International Workshop "Malaria and Neglected Parasitic Diseases: Core Science and Perspectives" Accademia delle Scienze dell'Istituto di Bologna (2-3 March 2018). Title: Driving the cytotoxicity of the thioazinoquinone scaffold: rational development of selective antiparasitic agents

Grants

Prof. Fattorusso was responsible of MIUR projects PRIN-2002 (Prot. 2002038554_003), PRIN-2004 (prot. 2004030007_002), and PRIN-2015 (prot. 0154JRJPP), Regione Campania (L.R. N.5 del 28.03.2002) 2006 project, and the EU project (2008; SEVENTH FRAMEWORK PROGRAMME REGPOT-2008-1; n° 29893) and participated to a number of national and EU financed research projects.

Prof. Fattorusso was Scientific Coordinator in 6 Research Projects financed by pharmaceutical companies:

i) Design of new antipsychotics acting as partial agonists on mGluR5 receptors and as antagonist on D2 receptors (RS_R003701 - D.R.&S./07/C.R./n. 39; 2007); Sigma-Tau Pharmaceuticals Inc.

ii) Molecular modelling studies on HDAC enzymes and preliminary studies on the molecular interaction among PI3K enzyme and compounds able to alter its function (D.R.&S./09/C.R./n. 35; RS_R440100 and RS_R510100; 2009); Sigma-Tau Industrie Farmaceutiche Riunite S.p.A.

iii) Computational studies on the ability of different zinc binding groups (ZBGs) to interact with the catalytic site of HDAC enzyme (D.R.&S./10/C.R./n. 14; RS_R440100; 2010); Sigma-Tau Industrie Farmaceutiche Riunite S.p.A.

iv) Molecular modeling studies for the design of new compounds able to interact with mTOR and PI3K enzymes and to alter their function (STRCH/10/C.R./n. 46; RS_R510100; 2010); Sigma-Tau Research Switzerland S.p.A.

v) Design of new allosteric compounds able to interact with PI3K enzyme through a new computational approach (STRCH/10/C.R./n. 54; RS_R510100; 2011); Sigma-Tau Research Switzerland S.p.A.

vi) Estratti vegetali e Epigenetica (2013); Indena S.p.A.

Patents

1. Preparation of 4-aminoquinoline derivatives as antimalaria drugs WO2008101891

2.Preparation of aryl piperazine derivatives useful for the treatment of neuropsychiatric disorders WO2008043839

3.Pyrimidinedione derivatives as AMPA glutamatergic receptor agonists and their preparation, pharmaceutical compositions and use in the treatment of CNS diseases. WO2008031888

4.Preparation of quinolin-4-ylhydrazines as antimalarials. WO2007104695

5.Preparation of imidazole derivatives as antimalarial agents. WO2007104696

6.Preparation of arylpiperazine derivatives as modulators of dopamine and serotonin receptors for the treatment of neuropsychiatric disorders. WO2006072608

Collaborations

- Prof. Maria Gaczynska (University of Texas, USA)
- Prof. Antonio Doménech-Carbó (University of Valencia, Spain)
- Prof. Modesto Orozco (University of Barcelona, Spain)
- Dr. Cristiano Ferlini (Global Development Lead Oncology Abbvie, New York, USA)
- Prof.ssa Donatella Taramelli (University of Milano)
- Prof. Giuseppe Campiani (University of Siena)
- Dr. Giovina Ruberti (CNR Roma - Istituto di Biochimica e Biologia Cellulare)
- Prof. Roberto Purrello (University of Catania)
- Prof. Massimo Coletta (University of i Roma Tor Vergata)
- Dr. Danilo Milardi (Istituto di Biostrutture e Bioimmagini-UOS CNR Catania)
- Prof.ssa Paola Conti (University of Milano)

Additional Information

Publications

(SCOPUS) total number of publications in peer-review journals **99**
publications in the last 10 years: **37**
total number of citations: **3270**
H index: **36**

Some papers of last 5 years

1. Galbiati A, Bova S, Pacchiana R, Borsari C, Persico M, Zana A, Bruno S, Donadelli M, Fattorusso C, Conti P. Discovery of a spirocyclic 3-bromo-4,5-dihydroisoxazole covalent inhibitor of hGAPDH with antiproliferative activity against pancreatic cancer cells. (2023) Eur J Med Chem.,254, 115286.
2. Galbiati A, Zana A, Borsari C, Persico M, Bova S, Tkachuk O, Corfu AI, Tamborini L, Basilico N, Fattorusso C, Bruno S, Parapini S, Conti P. Role of Stereochemistry on the Biological Activity of Nature-Inspired 3-Br-Acivicin Isomers and Derivatives. (2023) Molecules, 28(7), 3172.
3. Persico, M., Sessa, R., Cesaro, E., Dini, I., Costanzo, P., Ritieni, A., Fattorusso, C., Grosso, M. A multidisciplinary approach disclosing unexplored Aflatoxin B1 roles in severe impairment of vitamin D mechanisms of action (2022) Cell Biology and Toxicology.
4. Magli, E., Fattorusso, C., Persico, M., Corvino, A., Esposito, G., Fiorino, F., Luciano, P., Perissutti, E., Santagada, V., Severino, B., Tedeschi, V., Pannaccione, A., Pignataro, G., Caliendo, G., Annunziato, L., Secondo, A., Frecentese, F. New Insights into the Structure–Activity Relationship and Neuroprotective Profile of Benzodiazepinone Derivatives of

- Neurounina-1 as Modulators of the Na⁺/Ca²⁺ Exchanger Isoforms (2021) Journal of Medicinal Chemistry, 64 (24), pp. 17901-17919.
5. Giordano, F., Corvino, A., Scognamiglio, A., Citi, V., Gorica, E., Fattorusso, C., Persico, M., Caliendo, G., Fiorino, F., Magli, E., Perissutti, E., Santagada, V., Severino, B., Pavese, R.C., Petti, F., Martelli, A., Calderone, V., Frecentese, F. Hybrids between H₂S-donors and betamethasone 17-valerate or triamcinolone acetonide inhibit mast cell degranulation and promote hyperpolarization of bronchial smooth muscle cells (2021) European Journal of Medicinal Chemistry, 221, art. no. 113517.
 6. Santoro, A.M., D'urso, A., Cunsolo, A., Milardi, D., Purrello, R., Sbardella, D., Tundo, G.R., Diana, D., Fattorusso, R., Di Dato, A., Paladino, A., Persico, M., Coletta, M., Fattorusso, C. Cooperative binding of the cationic porphyrin tris-t4 enhances catalytic activity of 20s proteasome unveiling a complex distribution of functional states (2020) International Journal of Molecular Sciences, 21 (19), art. no. 7190, pp. 1-26.
 7. Gimmelli, R., Persico, M., Imperatore, C., Saccoccia, F., Guidi, A., Casertano, M., Luciano, P., Pietrantoni, A., Bertuccini, L., Paladino, A., Papoff, G., Menna, M.*, Fattorusso, C.*, Ruberti, G. * Thiazinoquinones as New Promising Multistage Schistosomicidal Compounds Impacting Schistosoma mansoni and Egg Viability (2020) ACS Infectious Diseases, 6 (1), pp. 124-137.
 8. Imperatore, C., Gimmelli, R., Persico, M., Casertano, M., Guidi, A., Saccoccia, F., Ruberti, G., Luciano, P., Aiello, A., Parapini, S., Avunduk, S., Basilico, N., Fattorusso, C. *, Menna, M.* Investigating the antiparasitic potential of the marine sesquiterpene avarone, its reduced form avarol, and the novel semisynthetic thiazinoquinone analogue thiazoavarone (2020) Marine Drugs, 18 (2), art. no. md18020112.
 9. Imperatore, C., Valadan, M., Tartaglione, L., Persico, M., Ramunno, A., Menna, M., Casertano, M., Dell'avversano, C., Singh, M., Garigliota, M.L.D., Bajardi, F., Morelli, E., Fattorusso, C.,* Altucci, C.,* Varra M.* Exploring the photodynamic properties of two antiproliferative benzodiazopyrrole derivatives (2020) International Journal of Molecular Sciences, 21 (4), art. no. 1246.
 10. Cullia, G., Bruno, S., Parapini, S., Margiotta, M., Tamborini, L., Pinto, A., Galbiati, A., Mozzarelli, A., Persico, M., Paladino, A., Fattorusso, C. *, Taramelli, D., Conti, P. * Covalent Inhibitors of Plasmodium falciparum Glyceraldehyde 3-Phosphate Dehydrogenase with Antimalarial Activity in Vitro (2019) ACS Medicinal Chemistry Letters, 10 (4), pp. 590-595.
 11. Imperatore, C., Persico, M., Senese, M., Aiello, A., Casertano, M., Luciano, P., Basilico, N., Parapini, S., Paladino, A., Fattorusso, C. *, Menna, M.* Exploring the antimalarial potential of the methoxy-thiazinoquinone scaffold: Identification of a new lead candidate (2019) Bioorganic Chemistry, 85, pp. 240-252.

Naples, May 9th 2023

