

NAME Pittalà, Valeria

POSITION TITLE Associate professor Medicinal Chemistry (CHIM/08)

EDUCATION

03/1995 Master degree in Chemistry and Pharmaceutical Technologies, Summa cum Laude
University of Catania

04/1999 PhD in Pharmaceutical Science, Summa cum Laude – University of Catania

EMPLOYMENT

03/2020 – present Associate Professor (CHIM08)
Department of Drug and Health Science, University of Catania, Italy

11/2002 – 02/2020 RTI Medicinal Chemistry (CHIM08)
Department of Drug Science, University of Catania, Italy

11/1998 – 11/2002 Research Scientist. Member of *Combinatorial Chemistry Group* (R&D)
Pharmacia Corporation, 10 Pasteur Road, 20014 Nerviano (MI), Italy

OTHER PROFESSIONAL EXPERIENCE, BOARDS AND COMMITTEE

2024 – present Member of “Commissione Paritetica Dipartimentale”

2022 – 2024 Adjunct Faculty Member of Arabian Gulf University, Manama, Bahrein

2021/2019/2018/2017 Visiting Professor at the Department of Molecular Medicine and Nanomedicine Unit (3–4 weeks/year), Arabian Gulf University, Manama, Bahrein

11/2020 National Scientific Qualification (ASN) for Full Professor 3D1 – CHIM08

2019 – present Journal Topic Board member of *International Journal of Molecular Science* IF 5.92

2018 – present Editorial board member of *Recent Patents on Anti-Cancer Drug Discovery* IF 4.17

2018 – present Editorial board member of *Mini-Reviews in Medicinal Chemistry* IF 3.86

2017 – present Member of the PhD Academic Board in Biotechnology [DOT1708221]

2016 – 2020 Member of “Giunta del Dipartimento di Scienze del Farmaco”

2009 – 2016 Member of the PhD Academic Board in Pharmaceutical Sciences

09/2000 – 11/2000 Visiting Researcher at Pharmacia Corporation, Kalamazoo, MI 49001, United States

05/1998 – 09/1998 Visiting PhD at the Department of Organic Chemistry, University of Granada, Spain

REVIEWER POSITIONS

Journals

ChemMedChem, Mini-Reviews in Medicinal Chemistry, Bioorganic and Medicinal Chemistry, European Journal of Medicinal Chemistry, Current Medicinal Chemistry, Seminars in Cancer Biology, Cells, Inorganica Chimica Acta, Neuroscience and Biobehavioral Reviews

SCIENTIFIC INTERESTS AND RESEARCH EXPERTISE

My early investigations were focused on the development of new methods, validation and analysis in synthesis and production of targeted libraries for different kinases including Aurora and CDK2. I contributed to the

discovery and identification of danusertib (phase I-II clinically investigated) by being co-inventor of bicyclopiprazoles chemical class (US7531531, US7541354, WO2002012242). Selected bicyclopiprazole derivatives are available to the scientific community through various catalogues (more than 60), i.e. danusertib is available from Selleckchem (Cat. No. S1107), Ontario Chemicals, Inc. (Cat. No. D3316), and many others.

My research interests include the synthesis, structure-activity relationship studies, and preliminary pharmacological evaluation of ligands for G-protein Coupled Receptors (GPCRs), including α_1 adrenergic, serotonin 5-HT₇ and 5-HT_{1A} receptors, and σ_1 and σ_2 receptors.

In the last ten years, the main active area of investigation is the rational design and development of modulators of the NRF2/Keap1 axis with a specific focus on heme oxygenase-1 (HO-1) inhibitors. The identification in our research group of a high number of novel, potent and selective HO-1 inhibitors, along with the release of a free internet accessible database collecting all the HO-1 inhibitors known to date, makes us one of the leading groups in field. More recently special focus has been devoted to the development of HO-1 inhibitors with multitarget activity.

More recently another field of interest is the study and development of new formulations (e.g. xanthan gum/guar gum-based 3D-printed scaffolds, and poly(styrene-co-maleic acid), nanoparticle system) based on natural and semi-synthetic products with antitumour and antibacterial activity.

Altogether, these research activities have resulted in the identification of tools to study the pharmacology of these biological systems *in vitro* and *in vivo*.

BIBLIOMETRY AND SUMMARY OF THE SCIENTIFIC PRODUCTION

- ORCID: 0000-0003-1856-0308
- SCOPUS ID: 6507693975
- Cit. Scopus 6935;
- h-index: 37
- N. 6 International Patent Applications (A1, A2, or B2) – Cit. Scifinder 95
- N. 136 Peer-reviewed publications in journals with impact factor (WOS/Scopus). Among these, around 50 as first, last or corresponding author

RESEARCH SUPPORT – ONGOING

1. PRIN PNRR GIOVANI 2022 cod. P2022F4PTE – CUP E53D23015960001

Title: A double hybrids strategy for cancer treatment by targeting the heme oxygenase system (HO-Hybrid2) — Principal Investigator: Dr. Sebastiano Intagliata

2.

3. Programma Ricerca di Ateneo UNICT 2020–22 linea 2; project number 57722172126 2020–2024

Title: Modulazione dell'Eme ossigenasi nella Terapia Antitumorale (META). Principal Investigator

COMPLETED RESEARCH SUPPORT

4. P.O. FESR Sicilia 2014-2020 n. 08 ME 2110000209

2020–2023

Title: “Validazione di un prodotto terapeutico innovativo per la gestione del dolore cronico primario limitandone l’infiammazione persistente e la neuro infiammazione associate”. Acronym: ProTIDol. CUP G4811801100007

5. PON “Ricerca e Innovazione” 2014-2020 e FSC, di cui all’avviso MIUR D.D. del 13 luglio 2017 n.1735, ammesso alle agevolazioni con D.D. prot. n. 526 del 17/04/2020. ARS01_00693 2020–2023

Title: BONE++ Sviluppo di Micro e Nanotecnologie per la Predittività, la Diagnosi, la Terapia e i Trattamenti Rigenerativi delle Alterazioni Patologiche dell'Osso e Osteo-Articolari – Settore Salute - N. Domanda ARS01_00693. Unit Responsible: RI 4.2 - Sviluppo e Caratterizzazione del Prototipo di Protesi (OR4.2.6 - Sviluppo di Sistemi Avanzati Innovativi per lo Stelo Femorale di Protesi d'Anca)

6. Founder Department of Life Sciences (Arabian Gulf University, Bahrain) 2019–2023

Title: A combined virtual and experimental approach for High Throughput Screening of Protein Disulfide Isomerases inhibitors to identify novel anti-inflammatory agent. Unit responsible (Research Objective #4: Set up a rational drug design strategy based on active compounds identified by the screening and synthesize more potent and specific leads)

7. Piano per la ricerca 2016-2018, linea di intervento 2 – University of Catania 2016–2018

Title: Targeting heme oxygenase-1 to improve cancer therapy

8. Finanziamento delle attività base di ricerca – MIUR 2017–2018

9. PRIN 2015 2015–2017

Title: Early neuroprotective and anti-inflammatory treatment to prevent the development of diabetic retinopathy

10. FIR – University of Catania 2014–2015

Title: Ruolo dello stress ossidativo e dell'HO-1 nelle complicanze del diabete: effetto di sostanze naturali e/o di loro derivati sintetici in un modello sperimentale *in vivo*.

11. PRIN 2003 2003–2005

Sviluppo di ligandi selettivi per i recettori dell'endotelina

TEACHING ACTIVITIES

1. MSc Chemistry and Pharmaceutical Technologies – From 2023 to date
Pharmaceutical and Toxicological Chemistry, part I (9 ECTS, III year)
2. MSc Pharmacy – From 2023 to date
Analysis of Drugs and Health Products, part I (6 ECTS, II year, M-Z course)
3. MSc Pharmacy – From 2011 to 2023
Analysis of Inorganic Substances of Pharmaceutical Interest and Good Practices in the Laboratory (6 ECTS II year, A-L course)
Analysis of Inorganic Substances of Pharmaceutical Interest and Good Practices in the Laboratory (6 ECTS – II year, M-Z course)
4. BSc Applied Pharmaceutical Science – From 2009 to date
Pharmaceutical Biotechnology Applied to Official Plants (6 ECTS, II year)
5. MSc Applied Chemical and Pharmaceutical Technologies – From 2007 to 2011
Analysis of Drugs, part I (4 ECTS, II year)
6. BSc Molecular Medicine (Arabian Gulf University) – From 2022 to date
Drug design, evaluation, development, and Delivery (1 ECTS, I year)