



## **SIMONA SAPONARA**

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**FULL NAME:** Simona Saponara

**POSITION:** Associate Professor of Pharmacology

**AFFILIATION:** Dep of Life Sciences, University of Siena, Italy

### **EDUCATION**

1997 Master Degree in Pharmacy, University of Siena, Italy, 110/110 cum laude

1997 State exam for professional certification as a pharmacist

2001 Ph.D. Molecular Pharmacology and Toxicology, University of Siena

### **PROFESSIONAL POSITIONS**

1998 Research Fellow, University of Siena

1999 Technical assistant, University of Siena

2002-2008 Research Associate of Pharmacology, University of Siena

Dec 2008-Dec 2021 Assistant Professor of Pharmacology, University of Siena

Apr 2017 qualified as Associate Prof of Pharmacology by the Italian National Examination Board

Jan 2022 Associate Professor of Pharmacology

### **RESEARCH EXPERIENCE**

1996-2008 Inst of Pharmacological Sciences, Dep of Biomedical Sciences, Dep of Neurosciences, University of Siena, Italy. Prof. G. Sgaragli's laboratory.

1999 March: Bulgarian Academy of Sciences, Sofia, Bulgaria. Dr Petko Alov's Lab. Study on free-radical-scavenging activity of novel antioxidants

2001 Feb: Dep of Neuroscience, Physiology Section, University of Turin, Italy. Prof. E. Carbone's Lab. Recording single channel  $\text{Ca}^{2+}$  currents in smooth muscle and neuroendocrine cells.

### **RESEARCH TOPICS**

-Cardiovascular effects of polyphenols, food matrices, agrofood waste

-Novel natural and synthetic modulators of vascular and cardiac  $\text{Ca}^{2+}$  and  $\text{K}^+$  currents

-Cardiovascular liabilities of novel anticancer drugs

-Analyses of adverse drug reactions/adverse event following immunization to drugs/vaccines, collected by the Italian National Network of Pharmacovigilance

### **TEACHING ACTIVITY**

1999 Lecturer at the "Recent advances in Neurobiology", University of Siena, Italy (SOCRATES Programme, EU).

1999/2008 Tutor-teaching: Toxicology, Pharmacology and Pharmacotherapy (Degree in Chemistry and Pharmaceutical Technologies, Degree in Pharmacy)

2004 Lecturer at the Training course "Conventional therapy and novel drugs for the treatment of hypertension", Matera, Italy

*As assistant professor*

2009-2010: Pharmacokinetic and drug metabolism, Pharmacogenetic and Pharmacogenomic (Specialty School in Hospital Pharmacy); Pharmacology and Pharmacotherapy II (Degree in Pharmacy)

2011-2012: Toxicology (Degree in Chemistry and Pharmaceutical Technologies)

2013-2014: OTC drugs and Pharmacovigilance (Degree in Pharmacy)

2014-2017: OTC and Pharmacovigilance (Degree in Pharmacy); Pharmacology (Degree in Cardio-Circulatory Physiopathology and Cardiovascular Perfusion Methods)

2017-2023: Pharmacology (Degree in Cardio-Circulatory Physiopathology and Cardiovascular Perfusion Methods); Pharmacology (Speciality School in Anaesthesia, Reanimation, Intensive Care and Pain Management); Pharmacotherapy (Degree in Pharmacy)

#### ***As associate professor***

2021-2024: Pharmacology (Degree in Cardio-Circulatory Physiopathology and Cardiovascular Perfusion Methods); Pharmacology (Speciality School in Anaesthesia, Reanimation, Intensive Care and Pain Management); Pharmacotherapy (Degree in Pharmacy); OTC drugs (Degree in Pharmacy); Food and drug interactions: effects and mechanisms for health and sport performance (Degree in Biology, Specializations: Biology of Nutrition for Health and Sport Activity)

“Experimental models to study the cardiovascular properties of natural and synthetic compounds” (PhD in Life Sciences); “Pediatric drug regulation” (Master in Regulatory medical writer)

2009-present: Supervisor of

-91 Theses (Master Degree in Pharmacy and Chemistry and Pharmaceutical Technologies)

-1 post- Master Degree project

-5 post-doc projects

-2 Visiting Phd Student (Rony Abdi Syahputra, University of Sumatera Utara, Indonesia; 1-10-2021/31-01-2022) (Ghada Trabelsi, University of Monastir, Tunisia, 20/10/2024 - 20/01/2025)

-2 PhD Students in Life Sciences

Alice Panti, XXXVII cycle

Project: Agri-food by-products as sources of nutraceutical compounds: evaluation of their potential pharmacological activity (GREENER)

PhD thesis: Sagrantino vine cv. leaves extracts, micro and nanovesicles: chemical characterization and ex vivo evaluation of vasoactive properties.

Alessia Bichicchi, XXXIX cycle

Project: Cardiovascular targets for novel naturally-occurring and synthetic compounds

#### **INSTITUTIONAL RESPONSABILITIES**

2009-2010: Member of “Doctoral School of Molecular Physiology-Pharmacology-Toxicology ” (DOT0330214)

2014: Member of the examining boards for the qualification to practice as a pharmacist

2018-present: Member of the Board of the Speciality School in Anaesthesia, Reanimation, Intensive Care and Pain Management (University of Siena)

2018-present: Library delegate for Dep of Life Sciences and Member of the Board of the Library of Medical-Biological-Pharmaceutical area (University of Siena)

2022-present: Placement delegate for Dep of Life Sciences (University of Siena)

2022-present: Member of PhD in Life Sciences - DOT1330719

2023: Member of the selection committee for admission to the PhD in Life Sciences "Life Sciences" – 39° cycle (Rector's Decree no. 1489/2023)

13/06/2023-present: Member of the Commission for the Establishment of the Curriculum “Biology of Nutrition for Health and Sports”, Master Degree in Biology

2025-present ERASMUS coordinator for biomedical student mobility for Medical University Sofia (BG)

## **PUBLIC ENGAGEMENT**

27 September 2024 – Participation in Bright-Night: The European Researchers' Night in Tuscany. Research stand “Food Without Borders: A Journey into Wellbeing and Health”, Santa Maria della Scala, Siena.

## **AFFILIATION**

Member of the Italian Pharmacological Society

## **EDITORIAL ACTIVITY**

*-Reviewer for:*

ACS Medicinal Chemistry Letters, Biochemical Pharmacology, Biomedicine & Pharmacotherapy, BioMed Research International, Biomolecules, Bioorganic Chemistry, British Journal of Pharmacology, Canadian Journal Physiology and Pharmacology, Cancers, Cardiovascular Therapeutics, Cellular Oncology, Current Drug Safety, Current Medicinal Chemistry, European Journal of Medicinal Chemistry, European Journal of Pharmacology, Evidence-Based Complementary and Alternative Medicine, Frontiers in Cardiovascular Medicine, Frontiers Pharmacology, Future Pharmacology, Heliyon, Infectious Disorders - Drug Targets, International Journal of Molecular Sciences, Journal of Hazardous Materials, Journal of Cardiovascular Pharmacology, Journal of Integrative Medicine, Journal of Pharmacological and Toxicological Methods, Journal of Pharmacy and Pharmacology, Life Sciences, Medical Principles and Practice, Medicinal Chemistry Research, Metabolites, Mitochondrion, Molecules, Molecular Nutrition and Food Research, Natural Product Communications, Naunyn-Schmiedeberg's Archives of Pharmacology, Planta Medica, Pharmaceuticals, Pharmaceutics, Pharmacoepidemiology and Drug Safety, Pharmacological Reports, Recent Patents On Cardiovascular Drug Discovery, The Journal of Cardiovascular Pharmacology, Vascular Pharmacology

*-Editorial Board Member of*

Cardiovascular Therapeutics (HINDAWI)  
BioMed Research International (HINDAWI)  
Future Pharmacology (MDPI)  
Journal of Pharmacy (SCIREA)

*-Evaluator of:*

SIR Programme 2014 (Scientific Independence of Young Researchers) (Italian Ministry of University and Research);  
Joint Projects 2016 University of Verona. Bando di Ateneo per la realizzazione di progetti congiunti con Imprese ed Enti

*-External examiner*

MSc and PhD Thesis, University of KwaZulu-Natal, Durban, South Africa  
PhD Thesis, University of Florence, Italy

## **RESEARCH PROJECT FOUNDED**

2001: Young researcher PROJECT

PI: SIMONA SAPONARA

Agency: University of Siena, Italy. Funding: 5164,57 euro. Duration: 6/3/2002-6/3/2003.  
Title: Synthetic phenol derivatives as new  $Ca^{2+}$  channel antagonists in smooth muscle cells.  
Potential drugs for the treatment of ischemia/reperfusion injury.  
2004-2006: Projects of major importance in the Scientific and Technological Collaboration Executive Programmes (Italy –Hungary)

PI: Giampietro Sgaragli (University of Siena), Joseph Molnar (University of Szeged)

Agency: Italian Minister of Foreign Affairs. Duration: 02/01/2004-31/12/2006

Title: Novel compounds reverting multidrug resistance

2005-2007: Projects of major importance in the Scientific and Technological Collaboration Executive Programmes (Italy –South Africa)

PI: Fabio Fusi (University of Siena), Dulcie Mulholland (University of KwaZulu-Natal, South Africa).

Agency: Italian Minister of Foreign Affairs. Duration: 01/01/2005-31/12/2007

Title: Investigations of isolates from the Hyacinthaceae family for cardiovascular activity

2008-2009

PI: Giampietro Sgaragli (University of Siena).

Agency: Monte dei Paschi Foundation. Duration: 01/01/2008-01/01/2009

Title: Targeted release of MDR1/P-gp inhibitors to multidrug resistant human cancer cell using nanocarriers—NANODART

2009-2011: Projects of major importance in the Scientific and Technological Collaboration Executive Programmes (Italy –Vietnam)

PI: Fabio Fusi (Università di Siena), Nguyen Manh Cuong (University of Hanoi, Vietnam)

Agency: Italian Minister of Foreign Affairs. Duration: 01/01/2009-31/12/2011

Title: Discovery of novel cardiovascular active agents from selected Vietnamese medicinal plants

2010-2013

PI: Giampietro Sgaragli (University of Siena). Duration: 11/01/2010-15/06/2013

Agency: Tuscan Tumour Institute

Title: Targeting multidrug-resistant tumour cells with nanocarriers loaded with MultiDrugResistance (MDR) reverters

2012: FUTURO IN RICERCA 2012 (RBFR12SOQ1)

Agency: Italian Ministry of Education, University and Research

PI: SIMONA SAPONARA

Co-Investigator: University of Florence (Lorenzo Cinci), University of Bari (Maria G Perrone), University of Turin (Chiara Riganti)

Title: Optimization of oncology therapy: novel drugs affecting multi drug resistance

Funding: 989.437,00 euro. Duration: 21/03/2013-21/11/2016

2015: INVESTIGATOR GRANT

Agency: Associazione Italiana per la Ricerca sul Cancro (AIRC)

Title: Dissecting the endoplasmic reticulum-mitochondria network to reverse chemo-immunoresistance of cancer cells (IG2014.15232)

Duration: 01/01/2015-31/12/2018

PI: Chiara Riganti (University of Turin)

Collaborators: Silvia Arpicco and Massimo Massaia (University of Turin); Angela Maria Rizzo (University of Milan); Simona Saponara (University of Siena)

2018-2022: COST ACTION CA17104

Title: New diagnostic and therapeutic tools against multidrug resistant tumors

SIMONA SAPONARA: Leader of the Working Group 4 “Pharmacokinetic and ADME/toxicology of new therapeutic tools; safety of therapeutic targets” and Management Committee member from Italy

2020-2021: Contract for research project with Landcare Research New Zealand Limited.  
Title: “From fruit fly to pest control”. € 12.000.

2020-2024: COST ACTION CA19144  
Title “European Venom Network”, EUVEN  
SIMONA SAPONARA: Management Committee substitute from Italy and member of Working Group 1 “Novel targets in venom research”

2022-2023: COST INNOVATOR GRANT (CIG)  
Title: “IG17104 - Pan-European Educational Platform on Multidrug Resistant Tumours and Personalised Cancer Treatment”, PANDORA  
SIMONA SAPONARA: member of the CIG Team

2022-2025: PROJECT National Recovery and Resilience Plan (PNRR) THE Tuscany Health Ecosystem” (cod ECS00000017)- Spoke2 – CUP B63C22000680007  
Title “Chronic faecal microbial transplant to prevent aging-related pathologies and cognitive Decline”  
Agency: Ministry of University and Research (MUR) Decree MUR 1050 23/06/2022 – PI Prof. Eugenio Bertelli  
Duration: 01/12/2022 - 30/11/2025

2022-2027: 2022 ENDEAVOUR FUND  
Agency: Ministry of Business, Innovation and Employment (“MBIE”), New Zealand  
Title: “Precision Pest Eradication – pest-selective control tools” (MBIE C09X2208)  
Duration: 01/12/2022-31/03/2028  
SIMONA SAPONARA: Local coordinator Unisi

2023-2027: COST ACTION CA22134  
Title “Sustainable Network for agrofood loss and waste prevention, management, quantification and valorisation”, FoodWaStop  
SIMONA SAPONARA: Member of Working Group 4 “Valorisation of agrofood waste and a circular bio-economy”

2025: BLENDED INTENSIVE PROGRAMME  
Title “Translational research in MDR: how to move from preclinical research to clinical benefits”.  
ID 2023-1-PT01-KA131-HED-000114182-3  
Duration: 31/01/2025-17/06/2025  
SIMONA SAPONARA: Partner from Italy

## **ORGANISATION OF SCIENTIFIC MEETINGS:**

- 1st Annual Symposium “Pharmacological strategies to overcome multidrug resistance in cancer chemotherapy”. Certosa di Pontignano, Siena, Italy, November 22, 2004
- 2nd Annual Symposium “Pharmacological strategies to overcome multidrug resistance in cancer chemotherapy”. Certosa di Pontignano, Siena, Italy, November 22, 2005
- 3rd Annual Symposium “Pharmacological strategies to overcome multidrug resistance in cancer chemotherapy”. Certosa di Pontignano, Siena, Italy, November 14, 2006
- 4th Annual Symposium “Pharmacological strategies to overcome multidrug resistance in cancer chemotherapy”. Certosa di Pontignano, Siena, Italy, November 19-20, 2007

- Conclusive meeting of the project Futuro in Ricerca “Optimization of oncology therapy: novel drugs affecting multidrug resistance”. University of Siena, Siena, 3-4 November 2016
- First WG1-WG4 meeting of Cost Action CA17104 “New diagnostic and therapeutic tools against multidrug resistant tumours”. Molecular Biotechnology Center, Turin, Italy, January 29-31, 2019
- COST Action CA17104, STRATAGEM Annual Conference – 3rd MC meeting and 4th WGs meetings, 88 Rooms Hotel, Belgrade, Serbia, 27-28 February, 2020.
- COST Action 17104, STRATAGEM WG3 Meeting – International Online Symposium on “New Therapeutic Tools Against Preclinical Models of Multidrug Resistant Tumors”, 4 November, 2020.
- COST Action 17104, STRATAGEM WG2 Meeting and International Online Symposium on “Synthesis and nanodelivery strategies for new therapeutic tools against Multidrug Resistant Tumours”, 15 December, 2020.
- COST Action 17104 STRATAGEM Annual Conference –MC meeting and WGs meetings, Prague, Czechia, 6-8 September, 2021
- COST Action 17104 WG3-WG4 Training School “Applications of genomic, cytometry and in silico studies to the study of drug sensitivity and resistance mechanisms – Clinical implications, Coimbra, Portugal, 27-29 June 2022
- COST Action 17104 STRATAGEM 5<sup>th</sup> Annual meeting, Coimbra, Portugal, 29 June-1 July 2022
- CIG 17104 PANDORA Online Course “Bench to Bedside: Translating Science From the Lab to the Patient”, 19 and 22 June 2023

## **HONORS**

- 2001: Young Researcher Award, University of Siena
- 2008 EPHAR (Federation of the European Pharmacological Societies) bursary to attend the EPHAR meeting 2008, 13-17 July Manchester, UK and the International Workshop On Methods In Cardiovascular Pharmacology, The University of Manchester, Core Technology facility, Manchester, United Kingdom. July 18-19, 2008

## **BIBLIOMETRY**

- 91 full papers on indexed international journals subjected to peer-review; 8 book chapters; 16 proceedings of international meetings; 92 national and international meetings (4 invited talks)

