

## **CURRICULUM VITAE Domenico Schillaci**

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Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF) University of Palermo

### **University studies**

Degree in Biological Sciences from the University of Palermo, 11/3/1982.

Specialization Diploma in Microbiology, at the School of Specialization in Microbiology of Faculty of Medicine and Surgery of the University of Palermo on 16/12/1986.

### **Professional and Scientific Activity**

On 5/6/2023 he obtained the National Scientific Qualification for the functions of faculty professor in Scientific Field 05/I2 - MICROBIOLOGY.

Since 04/03/2018 he has been Associate Professor of Microbiology at the Department of Biological, Chemical and Sciences and Technologies Pharmaceutical Sciences (STEBICEF) of the University of Palermo.

Following a competition based on qualifications and exams reserved for graduate technicians, he was appointed on 17/9/2001 confirmed researcher, scientific-disciplinary field General Microbiology, at the Faculty of Pharmacy of the University of Palermo.

He was the winner of a competition based on qualifications and exams for graduate technicians at the Department of Chemistry and Pharmaceutical Technologies of the University of Palermo on 11/3/1988.

### **Scientific interest issues**

He has focused his scientific interest on antibiotic resistance and on forms of intrinsic resistance to antibiotics linked to the growth of pathogens in the form of communities (biofilm). In relation to the study and contrast of biofilm antibiotic resistance, new agents of natural origin (antimicrobial peptides from various organisms, essential oils, plant extracts etc.) and chemically synthesized compounds, have been identified and evaluated for their antibiofilm and antibiofilm activity inhibition of biofilm formation of important human pathogens such as *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Other research projects are aimed at improving the activity of known antibiotics and new substances through nano and micro release systems or delivery with functionalized polymers. Some research projects focused on food safety and infection control in animals breeding with alternative strategies to the use of antibiotics in non-clinical settings.

**He is the author of 111 publications in international journals (AU-ID Scopus "Schillaci, Domenico" 6603674133; h index 33; total citations 3260).**

## Responsibility or participation in scientific projects

- Scientific head of local unit and vice principal investigator (p.i.) of the PRIN project March 2022, project code 2022MPTT35, entitled "Production and characterization of new bioactive molecules against emerging and/or multidrug-resistant pathogens by neglected poly-extremophilic marine fungi".

Admitted to funding, July 2023.

- Scientific contact for the department. STEBICEF of a scientific collaboration with the Zooprohylactic Institute of Sicily, concerning research on pharmacological formulations and biomaterials for the delivery of substances with antimicrobial activity within the Research Node 5 (New therapeutic strategies) of "PE\_13\_ One health basic and translational research actions", national scientific director prof. F. Forneris, University of Pavia. August 2023.
- He is the scientific director of projects financed with funds from the University of Palermo (University scientific research funding) in the years 2004, 2005, 2006, 2007, 2012. Title of the projects "Bacterial biofilms: a challenge in the discovery of new anti-infective agents".

-He is the scientific head of the operational unit of the following projects financed by the Ministry of Health

1) "Abortions in farm animals in Sicily: development of classic and innovative diagnostic methods".

Current research 2010 IZS SI 08/10

2) "Molecular screening from foods of animal and plant origin and water for parasitic zoonoses e drug resistance". Current research 2009 IZS SI04/09

3) "Research for new molecules with anti-biofilm action in the veterinary field". Current research 2015 IZSSI Ministry of Health

4) Head of Operational Unit n.5 of the research project entitled "Pilot project on the use of molecules with antibiofilm action for the sanitization of food production plants", Current Research 2016 IZS SI 08/16, Ministry of Health

He has participated as a collaborator in the following research projects:

1) PRIN 2004 national research project entitled "New anticancer compounds that interfere with the cell cycle"

2) Bacterial biofilms: a challenge in the discovery of new anti-infective agents. Internationalization System

University, three-year period 2004-2006. Project selected by MIUR on 8/11/2005. Coordinator Scientific Prof. Anna Maria Puglia, University of Palermo

3) PRIN 2008 national research project entitled "Potential entomopathogenic bacteria and natural substances with insecticidal action against the red palm weevil: interactions with the immune system and the intestinal bacterial community". Scientific coordinator Prof. Ignazio Floris, University of

Cagliari

4) A.ST.E.D. Project (Anti Staphylococcus epidermidis Devices) Development of new orthopedic devices with anti-biofilm properties, PO FESR Project 2007-2013 line 4.1.1.2 Sicilian Region

5) Drugs Delivering Bone Graft Project, PO FESR Project 2007-2013 line 4.1.1.2 Sicilian Region

6) Scientific collaboration for the project "HTS of sortase inhibitors for antimicrobial therapy" 2011-2013  
Latvian Biomedical Research and Study Center, Riga Latvia

7) Scientific collaboration for the project entitled "Fish waste: valorization and exploitation biotechnological", Project financed measure 1.26 PO FEAM 2014-2020

8) Scientific collaboration for the Biotechnologies for Human Health and Blue Growth project (BYTHOS) entitled "Characterization of the antimicrobial and antibiofilm activity of extracts from fish waste", INTERREG V-A Italy-Malta programme, 2018-2020

9) Collaboration with the PON project "Green Processes for the Extraction of Active Ingredients and the Purification of Matrixeswaste and otherwise" - PROGEMA, 2018-2020

#### **Participation as a speaker at conferences**

- Biofilms 2007, ASM Conferences, Quebec City, Canada 2007
- Thymosins in health and disease, Washington D.C., USA, 2012
- 3rd International Symposium on Antimicrobial Peptides, Lille, France, 2012
- Thymosins in health and disease, Rome 2014
- Antibiotic Alternatives for the new millennium, London, 2014
- Antibiotic Resistance and Antibiotic alternatives: looking towards the future, London 2015

#### **Scientific, institutional and editorial activities**

He acted as chairman in a session entitled "New antimicrobial strategies in the post antibiotic era" of the XXXIII Congress of the Italian Society of General Microbiology and Biotechnology Microbial (SIMGBM), Microbiology 2019, held in Florence from 19 to 22 June 2019.

He was part of the organizing committee of the XXXII SIMGBM Congress, Microbiology 2017, held in Palermo in September 2017.

Member of the organizing committee and chair in a session of the conference "Developing antibiotics alternatives: A discussion of new approaches to overcoming antimicrobial resistance" Web-conference 2016 organized by Euroscicon (London).

He joined, as a founding member of the Department of Molecular Sciences and Technologies

Biomolecular Sciences (STEMBIO), subsequently called the Department of Biological Sciences and Technologies, Chemicals and Pharmaceuticals (STEBICEF), at the University of Palermo, January 2011.

He joined, as a proposing member, the Interdepartmental Center for Applied Biotechnology (C.I.B.A.) based at the University of Palermo. April 2005

In 2012 he joined the New York Academy of Sciences.

Since 2002 it has been part of SIMGBM and the European Federation of Microbiological Societies.

He has acted as an anonymous expert for the following scientific journals: FEMS Immunology and Medical Microb., Journal Antimicrobial Chemotherapy, Biofouling, Expert Opinion on Ther. Patents, Applied Microbiology and Biotech, Peer Journal., Molecules, Pathogens and Disease, Frontiers in Microbiology, Journal of Medicinal Chemistry, Antibiotics, Marine Drugs etc.

Since April 2021 he has been a member of the Editorial Board of Antibiotics (MDPI)

From 2010 to 2014 he was a member of the Editorial Board of Journal of Microbial & Biochemical Technology (Omic Publishing Group).

In 2014 he acted as reviewer for the evaluation of ministerial research programs and sectors LS6\_7 (Microbiology), LS6\_9 (Applied Microbiology), LS6\_11 (Prevention and treatment of infection by pathogens (e.g. vaccination, antibiotics, fungicides).

In 2019 he acted as reviewer for the evaluation of a research project submitted to the British Society for Antimicrobial Chemotherapy.

#### **Institutional activity**

- President of the commission for the two-year extension of the type A fixed-term researcher contract on the PON AIM project in the competition scientific 05/I2 SSD BIO/19 (Microbiology) at the Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, D.R. n. 2645 of 06.08.2022 - University Register n. 1731 of 06/08/2022.
- Internal member for a competition commission for a type A researcher position in the scientific sector 05/I2 at the Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, appointment DR 1666 of 10/05/2019 Register n.819.
- Internal member for a competition commission for the position of Associate Professor in the scientific sector 05/I2 SSD BIO/19 at the Department of Biological, Chemical and Pharmaceuticals (STEBICEF), University of Palermo, appointment DR 2985 Register n.1832 of 09/20/2019
- Internal member for a competition commission for the position of Associate Professor in the scientific sector 05/I2 SSD BIO/19 at the Department of Biological, Chemical and Pharmaceuticals (STEBICEF), University of Palermo, nomination DR 2505/2021 of 10/06/2021

#### **Teaching activity**

From the academic year 2001/2002 to the current year 2023/2024 he has been appointed to teach Microbiology for the degree courses in Pharmaceutical Chemistry and Technology and in Pharmacy at the University of Palermo.

Since 29 April 2020, Domenico Schillaci has been part of the teaching staff of the PhD in Molecular and Biomolecular Sciences (XXXVI cycle) at the STEBICEF Department, University of Palermo and was confirmed for the XXXVII cycles; XXXVIII; XXXIX.