Università
degli Studi di
Messina
DIPARTIMENTO DI SCIENZE CHIMICHE,
BIOLOGICHE, FARMACEUTICHE
ED AMBIENTALI

PROF. MARIA ZAPPALA'
CURRICULUM VITAE

CURRENT POSITION:

Full Professor of Medicinal Chemistry at the Department of Chemical, Biological, Medicinal and Environmental Sciences of the University of Messina.
She is responsible for the teaching of Medicinal Chemistry II (Pharmaceutical Chemistry and Technology degree course)

EDUCATION

1983 Master's degree in pharmacy with honours (legal course 4 years) / Faculty of Pharmacy / University of Messina
1990 Master's degree in Pharmaceutical Chemistry and Technology with honours (legal course 5 years) / Faculty of Pharmacy / University of Messina

WORK EXPERIENCE

1987-1998 Assistant Professor of Medicinal Chemistry, Pharmaco-Chemical Department, Faculty of Pharmacy, University of Messina, Italy
1998-2002 Associate Professor of Medicinal Chemistry, Pharmaco-Chemical Department, Faculty of Pharmacy, University of Messina Italy
2002-present Full Professor of Medicinal Chemistry, Department of Medicinal Chemistry, University of Messina, Italy

ACADEMIC AND PROFESSIONAL RESPONSABILITIES

1999-2000 Member of the Committee "Scientific-Disciplinary Area 03 (Chemical Sciences)" for the evaluation of Ateneo Research Projects (PRA) – (1999-2000)
2000-present President or Member of examination board for qualification to exert the profession of Pharmacist
2002-2013 Member of the Scientific Committee of the PhD program in 'Pharmaceutical Sciences'
2002-2004 Member of scientific and organizing committee of the Inter-faculty Degree Course in Biotechnology
2008-2013 President of the Degree Course in Pharmacy
2013-present Member of the Scientific Committee of the PhD program in 'Chemical Sciences'
2014-2015 Head of the Department of Drug Sciences and Product for Health
2014-2015 Member of the Academic Senate
2016-2019 Member of the Organizing Committee, Specialization School in Hospital Pharmacy (DM 68/2015),
2016-2020 Member of the Joint Commission Students/Teachers of the ChiBioFarAm Department
2018-2021 Member of the Executive Committee of the SICILY Section of the Italian Chemical Society
2021-2024 President of the Degree Course in Pharmaceutical Chemistry and Technology

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TUTORIAL ACTIVITY:

- Tutor of undergraduate students of the Pharmacy and CTF degree courses for the preparation of their experimental thesis and final dissertations
- Supervisor of PhD students of PhD course in "Pharmaceutical Sciences" and in “Chemical Sciences”

JOURNAL REVIEWING

Reviewer for the following journals: Journal of Medicinal Chemistry, ACS Medicinal Chemistry Letters, European Journal of Medicinal Chemistry, Bioorganic & Medicinal Chemistry, Bioorganic & Medicinal Chemistry Letters, Bioorganic Chemistry, Medicinal Chemistry; ChemMedChem; Natural Product Research

RESEARCH PROJECTS

Scientific Responsible of research projects financed by the Italian Ministry of Education FISR2020 COVID-19

Scientific Responsible of research projects financed by the University of Messina: PRA2004, PRA2005, PRA2006/2007, PRA2008/2009, FFABR2019, FFABR2020)

Member of research teams financially supported by: Italian Ministry of Education (PRIN2004, PRIN2005, PRIN2008, PRIN2010-2011, FISR2019) Italian-German University (Vigoni Project 2008/09 and 2012/2013)

RESEARCH ACTIVITY

The scientific research activity is documented from 150 publications on the main international journals, two patents and beyond 120 contributions to scientific symposia. The main areas of interest in the two first decades of research activity were the design and synthesis of new anti-tumor and anti-AIDS drugs. Later, another research line developed was that concerning the design, synthesis, and SAR of noncompetitive AMPA-receptor antagonists.

At present, the research is focused on the following themes:

1. Design, synthesis, and pharmacological evaluation of cysteine protease inhibitors as antiprotozoan and antiviral agents.
2. Design, synthesis, and pharmacological evaluation of peptidomimetics inhibitors of proteasome and immunoproteasome.

MOST RELEVANT PUBLICATIONS OF THE LAST TEN YEARS

1. Di Chio, C.; Previti, S., Amendola, G., Ravichandran, R., Wagner A., Cosconati S., Hellmich, U.A., Schirmeister, T.; **Zappalà, M**., Ettari, R. (2022). Development of novel dipeptide nitriles as inhibitors of rhodesain of Trypanosoma brucei rhodesiense. (**2022)** *European Journal of Medicinal Chemistry*, *234*, 114328
2. Amendola, G., Ettari, R., Previti, S., Di Chio, C., Messere, A., Di Maro, S. Hammerschmidt, S., Zimmer, C., Zimmermann, R., Schirmeister, T., **Zappalà, M**., Cosconati, S. Lead Discovery of SARS-CoV-2 Main Protease Inhibitors Through Covalent Docking-Based Virtual Screening. (**2021**) *Journal of Chemical Information and Modeling* 61, 4, 2062-2073.
3. Maiorana, S., Ettari, R., Previti, S., Amendola, G., Wagner, A., Cosconati, S., Hellmich, U.A., Schirmeister, T., **Zappalà, M.** Peptidyl Vinyl Ketone Irreversible Inhibitors of Rhodesain: Modifications of the P2 Fragment (**2020**) *ChemMedChem* 15 (16), pp. 1552-1561.
4. Ettari, R., Previti, S., Maiorana, S., Amendola, G., Wagner, A., Cosconati, S., Schirmeister, T., Hellmich, U.A., **Zappalà, M.** Optimization Strategy of Novel Peptide-Based Michael Acceptors for the Treatment of Human African Trypanosomiasis. (**2019**) *Journal of Medicinal Chemistry*, 62 (23), pp. 10617-10629.

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5. Ettari, R., Cerchia, C., Maiorana, S., Guccione, M., Novellino, E., Bitto, A., Grasso, S., Lavecchia, A., **Zappalà, M.** Development of novel amides as noncovalent inhibitors of immunoproteasomes. (**2019**) *ChemMedChem*, 14 (8), pp. 842-852.
6. Previti, S., Ettari, R., Cosconati, S., Amendola, G., Chouchene, K., Wagner, A., Hellmich, U.A., Ulrich, K., Krauth-Siegel, R.L., Wich, P.R., Schmid, I., Schirmeister, T., Gut, J., Rosenthal, P.J., Grasso, S., **Zappalà, M.** Development of Novel Peptide-Based Michael Acceptors Targeting Rhodesain and Falcipain-2 for the Treatment of Neglected Tropical Diseases (NTDs). (**2017**) *Journal of Medicinal Chemistry*, 60 (16), pp. 6911-6923.
7. Ettari, R., Previti, S., Cosconati, S., Kesselring, J., Schirmeister, T., Grasso, S., **Zappalà, M.** Synthesis and biological evaluation of novel peptidomimetics as rhodesain inhibitors. (**2016**) *Journal of Enzyme Inhibition and Medicinal Chemistry*, 31 (6), pp. 1184-1191.
8. Di Giovanni, C., Ettari, R., Sarno, S., Rotondo, A., Bitto, A., Squadrito, F., Altavilla, D., Schirmeister, T., Novellino, E., Grasso, S., **Zappalà, M.**, Lavecchia, A. Identification of noncovalent proteasome inhibitors with high selectivity for chymotrypsin-like activity by a multistep structure-based virtual screening. (**2016**) *European Journal of Medicinal Chemistry*, 121, pp. 578-591.
9. Troiano, V., Scarbaci, K., Ettari, R., Micale, N., Cerchia, C., Pinto, A., Schirmeister, T., Novellino, E., Grasso, S., Lavecchia, A., **Zappalà, M.** Optimization of peptidomimetic boronates bearing a P3 bicyclic scaffold as proteasome inhibitors. (**2014**) *European Journal of Medicinal Chemistry*, 83, pp. 1-14.
10. Scarbaci, K., Troiano, V., Micale, N., Ettari, R., Tamborini, L., Di Giovanni, C., Cerchia, C., Grasso, S., Novellino, E., Schirmeister, T., Lavecchia, A., **Zappalà, M.** Identification of a new series of amides as non-covalent proteasome inhibitors. (**2014**) *European Journal of Medicinal Chemistry*, 76, pp. 1-9.

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