

## PERSONAL INFORMATION

## Marco Paolino



University of Siena  
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Sex Male | Date of birth 26/11/1983 | Nationality Italian

## WORK EXPERIENCE

- from 12/2022 – to date **Associate Professor (SSD CHIM/08)**  
University of Siena, Department of Biotechnology, Chemistry and Pharmacy
- from 11/2019 – 11/2022 **Senior researcher (RTD-B)**  
University of Siena, Department of Biotechnology, Chemistry and Pharmacy  
▪ Researcher in Medicinal Chemistry (SSD CHIM/08)
- from 04/2011 – to 10/2019 **Post-Doc fellowships**  
University of Siena, Department of Biotechnology, Chemistry and Pharmacy  
Post-doc fellowships in Pharmaceutical technology (SSD CHIM/09) and Organic Chemistry (SSD CHIM/06)  
Supervisor Prof. A. Cappelli and Prof. M. Olivucci
- from 06/2011 – to 02/2012 **Guest Scientist**  
Leibniz Institute of Polymer Research, Dresden (Germany), Department of Polymer Structures  
Supervisors: Prof. Dr. Brigitte Voit and co-supervision of Dr. Dietmar Appelhans

## EDUCATION AND TRAINING

- National scientific qualification (ASN)**
- 03/D1 CHIMICA E TECNOLOGIE FARMACEUTICHE, TOSSICOLOGICHE E NUTRACEUTICO-ALIMENTARI (obtained 17/09/2019)
  - 03/C1 CHIMICA ORGANICA (obtained 19/09/2019)
- from 10/2007- to 12/2010 **Ph. D. in Pharmaceutical Sciences**  
University of Siena, Dipartimento Farmaco Chimico Tecnologico  
Thesis: "Innovative systems in pharmaceutical field"  
Advisor: Prof. Andrea Cappelli
- from 09/2002- to 09/2007 **Master Degree in "Chimica e Tecnologia Farmaceutiche" (CTF)**  
University of Siena  
Advisor: Prof. Andrea Cappelli

## WORK ACTIVITIES

- Teaching activity**
- From A. Y. 2019/20 to date Professor of the laboratory course of "Medicines Analysis II" (84 hours, 8 CFU, SSD CHIM/08) in the master degree in PHARMACY at the Department of Biotechnology, Chemistry and Pharmacy of the University of Siena.
- From A. Y. 2019/20 to date Professor of "Biomaterials" (8 hours, 1 CFU, SSD CHIM/08) at the School of Specialization in Hospital Pharmacy (SSFO) of the University of Siena.
- From A.Y. 2019/2020 to date Professor of "Radiopharmaceuticals" (8 hours, 1 CFU, SSD CHIM/08) at the School of Specialization in Hospital Pharmacy (SSFO) of the University of Siena.
- From 2016 co-supervisor of over 25 experimental theses in the degree courses of Pharmacy, CTF and Chemical Sciences in the disciplinary sectors CHIM/03, CHIM/06, CHIM/08 and CHIM/09.
- Selected Awards**
- The article "Self-assembly of poly (propylene imine) glycodendrimers: role of aromatic interactions in the formation of necklace- and donut-like nanostructures" (Polym. Chem., 2012, 3, 3239–3242) was awarded as "Paper of the week" in "RSC Polymer Chemistry Blog" on 12 December 2012 by Julien Nicolas, web-writer and advisory board member of the journal "Polymer Chemistry".
  - Winner of a scholarship for participation in the "XXVI National Congress of the Italian Chemical Society" awarded by the Board of the Pharmaceutical Chemistry Division of the SCI.
  - Winner of a scholarship for participation in the "Italian-Spanish-Portuguese Joint Meeting in Medicinal Chemistry - MedChemSicily 2018" awarded by the Management of the Pharmaceutical Chemistry Division of the SCI.
- Editorial Activity**
- Co-author of chapter "Reversible Polymerization Techniques Leading to  $\pi$ -Stacked Polymers" in book " $\pi$ -Stacked Polymers and Molecules", Edited by Nakano Tamaki, 12/2014. ISBN: 978-4-431-54129-5.
- from 2015 reviewer for:  
"Analyst" (RSC Journal), "Nature Protocols" (NatureResearch), "ChemistrySelect" (Wiley-VCH), "Mini-Review in Organic Chemistry" (Bentham Science), "Biomacromolecules" (ACS), "Polymers", "Molecules", "Pharmaceutics", "Materials", (MDPI) "Carbohydrate Polymers", "Bioorganic Chemistry", "European Journal of Pharmacology" (Elsevier), "Topics Current in Chemistry" (Springer).
- 2019** Guest Editor di "Pharmaceutics" (MDPI) for the Special Issue: "Physicochemical Properties of Polymeric Micro- and Nanoparticles as Drug Carriers".

- Selected Presentations**
- 16-17/04/2019** IV China-Italy Bilateral Symposium on Organic Chemistry (CISOC4) - University of Bologna - ORAL COMMUNICATION: "A fully Synthetic Rhodopsin Mimic Obtained by Functionalization of a Bile Acid Binding Protein and with a Biomimetic Photowitch"
- 04-05/10/2018** XXXVI Convegno Interregionale TUMA2018 - centro congressi "le benedettine", Pisa -INVITED SPEAKER: "Affinity Polymerization in the Synthesis of  $\pi$ -Stacked Polymers and their Potential Applications as Materials for Drug Delivery and OLED Systems"
- 10-14/09/2017** XXVI Congresso Nazionale della Societa Chimica Italiana - SCI2017 - Hotel Ariston, Paestum - Divisione Chimica Farmaceutica - ORAL COMMUNICATION: " $\pi$ -Stacked Polymers in Drug Delivery Applications"
- 10-14/09/2017** XXVI Congresso Nazionale della Societa Chimica Italiana - SCI2017 - Hotel Ariston, Paestum - Divisione Chimica Organica - ORAL COMMUNICATION: "An Ultrafast Molecular Photoswitch Bio-inspired by Green Fluorescent Protein Fluorophore"
- 21-23/09/2015** Chemistry, Materials and Light (CM&L 2015) in IUPAC Special Section - CNR Bologna - ORAL COMMUNICATION: "From Computational Photobiology to the Design of Light-Driven Molecular Motors"
- 28-30/03/2011** Workshop "Nuove prospettive in chimica farmaceutica – V Meeting", Trieste – ORAL COMMUNICATION: "Exploration of Multivalency in 5-HT<sub>3</sub> Receptor"

## ADDITIONAL INFORMATION

**Publications** total number of publications in peer-review journals: 75  
total Impact Factor (IF): 431,4 (average IF/paper: 5.76)  
total number of citations: 966 (scopus)  
H index: 18

### Selected Publications

#### Design, Synthesis and Biological Evaluation of Light-Driven On-Off Multi-target AChE and MAO-B Inhibitors

M. Paolino\*, M. Rullo, S. Maramai, M. de Candia, L. Pisani, M. Catto, C. Mugnaini, A. Brizzi, A. Cappelli, M. Olivucci, F. Corelli, C. D. Altomare. *RSC Medicinal Chemistry* **2022**, 13, 873–883.

#### Towards the engineering of a photon-only two-stroke rotary molecular motor

M. Filatov(Gulak)\*, M. Paolino\* , R. Pierron, A. Cappelli, G. Giorgi, J. Léonard\*, M. Huix-Rotlant, N. Ferré, X. Yang, D. Kaliakin, A. Blanco-González, M. Olivucci\* *Nature Communications*, **2022**, 13, 6433.

#### Xanthopsin-Like Systems via Site-Specific Click-Functionalization of a Retinoic Acid Binding Protein

G. Tassone†, M. Paolino†, C. Pozzi, A. Reale, L. Salvini, G. Giorgi, M. Orlandini, F. Galvagni, S. Mangani, X. Yang, B. Carlotti, F. Ortica, L. Latterini, M. Olivucci\*, A. Cappelli\* *ChemBioChem* **2022**, 23, e202100449.

#### Bile Acid Binding Protein Functionalization Leads to a Fully Synthetic Rhodopsin Mimic

K.Pagano†, M. Paolino†\*, S. Fusi, V. Zanirato, C. Trapella, G. Giuliani, A. Cappelli, S. Zanzoni, H. Molinari, L. Ragona,\* M. Olivucci\*. *The Journal of Physical Chemistry Letters* **2019**, 10, 2235–2243.

#### Development of potent inhibitors of the Mycobacterium tuberculosis virulence factor Zmp1 and evaluation of their effect on mycobacterial survival inside macrophages

M. Paolino†, M. Brindisi†, A. Vallone, S. Butini, G. Campiani, C. Nannicini, G. Giuliani, M. Anzini, S. Lamponi, G. Giorgi, D. Sbardella, D. M. Ferraris, S. Marini, M. Coletta, I. Palucci, M. Minerva, G. Delogu, I. Pepponi, D. Goletti, A. Cappelli\*, S. Gemma\*, S. Brogi. *ChemMedChem* **2018**, 13, 422–430.

#### Engineering the vibrational coherence of vision into a synthetic molecular device

M. Gueye, M. Manathunga, D. Agathangelou, Y. Orozco, M. Paolino, S. Fusi, S. Haacke, M. Olivucci\*, and J. Leonard\*. *Nature Communications*, **2018**, 9, 313.

#### Development of subnanomolar-affinity serotonin 5-HT<sub>4</sub> receptor ligands based on quinoline structures

F. Castriconi, M. Paolino, G. Grisci, C. M. Francini, A. Reale, G. Giuliani, M. Anzini, G. Giorgi, L. Mennuni, C. Sabatini, M. Lanza, G. Caselli and A. Cappelli\*. *MedChemComm*, **2018**, 9, 1466-147.

#### Multivalent Ligands for the Serotonin 5-HT<sub>4</sub> Receptor

F. Castriconi, M. Paolino, A. Donati, G. Giuliani, M. Anzini, L. Mennuni, C. Sabatini, M. Lanza, G. Caselli, F. Makovec, M. Sbraccia, P. Molinari, T. Costa and A. Cappelli\*. *MedChemComm*, **2017**, 8, 647-651.

#### Design, Synthesis, and Dynamics of a Green Fluorescent Protein Fluorophore Mimic with an Ultrafast Switching Function

M. Paolino\*, M. Gueye, E. Pieri, M. Manathunga, S. Fusi, A. Cappelli, L. Latterini, D. Pannacci, M. Filatov\*, J. Leonard\*, and M. Olivucci\*. *Journal of the American Chemical Society*, **2016**, 138 (31), 9807–9825.

#### Dendrimeric Tetravalent Ligands for the Serotonin-gated Ion Channel

M. Paolino, L. Mennuni, G. Giuliani, M. Anzini, M. Lanza, G. Caselli, C. Galimberti, M. C. Menziani, A. Donati and A. Cappelli\*. *Chemical Communication*, **2014**, 50, 8582-8585.

#### Supramolecular Glycodendrimer-Based Hybrid Drugs

M. Paolino\*, H. Komber, L. Mennuni, G. Caselli, D. Appelhans, B. Voit, and A. Cappelli. *Biomacromolecules*, **2014**, 15, 3985-3993.

#### Bivalent Ligands for 5-HT<sub>3</sub> Receptor

A. Cappelli\*, M. Manini, M. Paolino, A. Gallelli, M. Anzini, L. Mennuni, M. Del Cadia, F. De Rienzo, M. C. Menziani, S. Vomero. *ACS Medicinal Chemistry Letters* **2011**, 2, 571–576.

#### Multivalent Supramolecular Dendrimer-Based Drugs

S. Galeazzi†, T. M. Hermans†, M. Paolino, M. Anzini, L. Mennuni, A. Giordani, G. Caselli, F. Makovec, E. W. Meijer, S. Vomero, and A. Cappelli\*. *Biomacromolecules* **2010**, 11, 182–186.