



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 5759

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Scienze Farmaceutiche**

Scientist- in - charge: **Professor Sara Pellegrino**

ANTONIA ANTONIOU**CURRICULUM VITAE**

PERSONAL INFORMATION

Surname	ANTONIOU
Name	ANTONIA

PRESENT OCCUPATION

Appointment	Structure
Postdoctoral Fellow, Department of Chemistry, University of Milan	Synthesis and characterization of peptides, peptide-phospholipid hybrids and their synthetic analogues in liquid and on solid phase; synthesis and characterization of anticancer and anti-neurodegenerative agents.

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Diploma in Chemistry (4-year studies, 240 ECTS-credits) 7.50/10, "VERY GOOD"	University of Patras, Patras, Greece	2010
PhD	PhD in Organic/ Medicinal Chemistry	University of Patras, Patras, Greece	2017
Master	Master in Science in Medicinal Chemistry, "EXCELLENT"	University of Patras, Patras, Greece	2012

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
05.04.2014	European Peptide Society (EPS) https://www.eurpepsoc.com	Prato, Italy
25.11.2010	Association of Greek Chemists (EEX) https://www.eex.gr	Patras, Greece



FOREIGN LANGUAGES

Languages	level of knowledge
Greek	Mother tongue
English	C1
German	B2
Italian	A2

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2014-2015	16-month scholarship in a project related to my PhD thesis in the National Centre for Scientific Research "DEMOKRITOS" in Athens. My key role was the design, synthesis and characterization of a series of Taepeenin D analogs, suitable for structure activity relationship studies as Hedgehog Inhibitors. Moreover, I contributed to the writing of 2 scientific research articles and participated in international conferences, symposia and training schools.

TRAINING OR RESEARCH ACTIVITY

During my 4th year of my undergraduate studies and the obligatory experimental research project for my diploma thesis, I was trained in the use of lab equipment and synthetic experimental procedures and participated in the synthesis of polyamine conjugates, such as spermidine analogs of Kukoamine A and of Chloramphenicol.

Furthermore, I had the opportunity to improve my lab and research skills during my MSc studies. My post-graduate diploma thesis project involved the synthesis of unnatural amino acids, using natural amino acids as chiral templates. This project required several protection and deprotection procedures, as well as solution and solid phase synthesis. This work has been presented in two international symposia and part of it, regarding the chemoselective protection of glutathione and application to the synthesis of trypanothione is published in *The Journal of Organic Chemistry*.

Finally, during my PhD studies, I worked on a project regarding the synthesis of dehydroabiatic acid derivatives as anticancer and antibacterial agents, suitable for structure activity relationship studies. At the same period, I worked also in another project of our research group regarding Minoxidil analogues and conjugates. Thus, I gained strong experience in organic synthetic procedures and modifications of natural products and acquired high skills in spectra interpretation and structure elucidation, using modern analytical methods, such as ¹H-NMR, ¹³C-NMR, 2D-NMR, ESI-MS, GC-MS, UV-Vis and FT-IR. The results of this work are presented among my thesis in peer-reviewed journals (*Future Med.Chem.*, *Med.Chem.Comm.*, *Biorg. Med. Chem.*, *Letters and Org.Lett.*) and in four international conferences.

Currently, I am working as a postdoctoral researcher expanding further my synthetical field on peptide chemistry and nanomaterials gathering also experience in other analytical methods, such as HPLC and DLS. Simultaneously, I am involved in other projects for the discovery and synthesis of anticancer and anti-neurodegenerative derivatives, analogues, and hybrids. This work has been presented in two international conferences and in three peer-reviewed journals (*Drug Discov.*, *Pharmaceutics* and *Pharmaceuticals*).



PROJECT ACTIVITY

Year	Project
2020-2023	"New frontiers of engineered nanovectors to improve treatment efficacy and safety in neurological disorders - NEVERMIND"
2014-2015	"3069 - GliTerIn: Gli-mediated transcription inhibitors based on furanoditerpenoid natural products" of Action Excellence II (16-month scholarship)

CONGRESSES AND SEMINARS

Date	Title	Place
19.09.2022	2 nd DISFARM Insights "Synthesis of MMP-responsive constructs and modified phospholipids suitable for incorporation into liposomes for diagnosis and treatment of neurological disorders."	Department of Pharmaceutical Sciences, Milan, Italy
04-06.09.2022	13 th Spanish-Italian Symposium on Organic Chemistry "Modified phospholipids suitable for incorporation into liposomes for treatment in neurological disorders."	El Seminari Centre Tarraconense, Tarragona, Spain
25-29.11.2018	30 th International Symposium on the Chemistry of Natural Products "Abietane diterpenes - high value natural precursors for the development of new antimicrobial agents."	Royal Olympic Hotel, Athens, Greece
23-25.11.2015	Targeting Hedgehog Signaling in Cancer Stem Cells, COST Action CM1106 "Taepeenin D Derivatives Targeting The Hedgehog Pathway."	University of Lisbon, Lisbon, Portugal
26-27.03.2015	3 rd Working Group Meeting, COST Action CM1106	St. George Lycabettus Boutique Hotel, Athens, Greece
23-25.01.2015	16 th Hellenic Symposium on Medicinal Chemistry "Taepeenin D Derivatives Targeting The Hedgehog Pathway."	Conference and Culture Center, University of Patras, Patras, Greece
19-20.01.2015	STEMCHEM - Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells "Taepeenin D Derivatives Targeting The Hedgehog Pathway."	University of Barcelona, Barcelona, Spain
13-15.11.2014	1 st DDDD International Congress "Exploration of Structure Activity Relationships of Taepeenin D Derivatives Targeting The Hedgehog Pathway."	Royal Olympic Hotel, Athens, Greece



12-17.05.2014	33 rd European Peptide Symposium I) "Synthesis of Unnatural Amino Acids, Using the Readily Available N-Trityl-L-Aspartic Acid-Beta Methyl Ester", & II) "Novel Trypanothione and Analogs Synthesis Based on Chemical Modification of Glutathione"	National Palace of Culture, Sofia, Bulgaria
26-28.09.2013	5 th BBBB International Conference, European Federation for Pharmaceutical Science (EUFEPS) "Synthesis of artemisinin dimers and their biological evaluation against MCF7 breast cancer cells"	Metropolitan Hotel, Athens, Greece
09-10.05.2012	13 th International Conference on Medicinal Chemistry "Synthetic Studies Towards Methodologies Leading to Novel Unnatural Amino Acids"	Conference and Culture Center, University of Patras, Patras, Greece,

PUBLICATIONS

Articles in reviews (peer-review journals)
1) "2-Hydroxyoleic acid as a self-assembly inducer for anti-cancer drug-centered nanoparticles", <i>Pharmaceuticals</i> , MDPI, 2023 , accepted manuscript.
2) "Dual Functionalized Liposomes for Selective Delivery of Poorly Soluble Drugs to Inflamed Brain Regions", <i>Pharmaceutics</i> , 14 (11), 2402, MDPI, 2022
3) "Synthesis and Antiproliferative Activity of Novel Dehydroabiatic Acid-Chalcone Hybrids", <i>Molecules</i> , 27 (11), 3623, MDPI, 2022
4) "Stimulus-responsive liposomes for biomedical applications", <i>Drug Discov.</i> , 26 (8), 1794-1824, Elsevier, 2021
5) "Synthesis and antiplasmodial activity of novel fosmidomycin derivatives and conjugates with artemisinin and aminochloroquinoline", <i>Molecules</i> , 25 (20), 4858, MDPI, 2020
6) "Synthesis and structure-activity relationships of novel abietane diterpenoids with activity against <i>Staphylococcus aureus</i> ", <i>Future Med.Chem.</i> , 11 (24), 3109-3124, Future Science, 2019
7) "Identification of Gli-mediated transcription inhibitors through synthesis and evaluation of taapeenin D analogues", <i>Med.Chem.Comm.</i> , 7 , 2328-2331, Royal Society of Chemistry, 2016
8) "Chemoselective Protection of Glutathione in the Preparation of Bioconjugates: The Case of Trypanothione Disulfide", <i>J.Org.Chem.</i> , 81 , 4353-4358, ACS Publications, 2016
9) "Synthesis of minoxidil conjugates and their evaluation as HL-60 differentiation agents", <i>Bioorg.Med.Chem.Lett.</i> , 26 , 1145-1150, Elsevier, 2016
10) "A fast entry to funanoditerpenoid-based hedgehog signaling inhibitors: Identifying essential structural features", <i>Org.Lett.</i> , 16 , 3344-3347, ACS Publications, 2014



Congress proceedings
1) 2 nd DISFARM Insights, Department of Pharmaceutical Sciences, Milan, Italy, 2022 Oral Communication
2) 13 th Spanish-Italian Symposium on Organic Chemistry (SISOC XIII), El Seminari Centre Tarraconense, Tarragona, Spain, 2022 Oral Communication
3) 30 th International Symposium on the Chemistry of Natural Products, International Union of Pure and Applied Chemistry, Royal Olympic Hotel, Athens, Greece, 2018 Poster Communication
4) Targeting Hedgehog Signaling in Cancer Stem Cells, European Cooperation in Science and Technology (COST Action CM1106), University of Lisbon, Lisbon, Portugal, 2015 Oral Communication
5) 3 rd Working Group Meeting, Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells, European Cooperation in Science and Technology (COST Action CM1106), St. George Lycabettus Boutique Hotel, Athens, Greece, 2015 Local organising secretary
6) 16 th Hellenic Symposium on Medicinal Chemistry, European Federation for Medicinal Chemistry (EFMC), Conference and Culture Center, University of Patras, Patras, Greece, 2015 Oral Communication
7) Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells, European Cooperation in Science and Technology (COST Action CM1106), University of Barcelona, Barcelona, Spain, 2015 Oral Communication
8) 1 st DDDD International Congress, European Federation for Medicinal Chemistry (EFMC) & European Federation for Pharmaceutical Science (EUFEPS), Royal Olympic Hotel, Athens, Greece, 2014 Oral Communication
9) 1 st Synthetic & Medicinal Chemistry Symposium, University of Patras, Patras, Greece, 2014 Oral Communication
10) 33 rd European Peptide Symposium, European Peptide Society (EPS), National Palace of Culture, Sofia, Bulgaria, 2014 Poster Communication
11) 5 th BBBB International Conference, European Federation for Pharmaceutical Science (EUFEPS), Metropolitan Hotel, Athens, Greece, 2013 Poster Communication
12) 13 th International Conference on Medicinal Chemistry, University of Patras, Conference and Culture Center, University of Patras, Patras, Greece, 2013 Poster Communication

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph



1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and it is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Place and date: Paderno Dugnano, 20.04.2023