

Maité SYLLA

(born IYARRETA VEITÍA, 24 January 1971 in Santa Clara, Cuba)

Assistant professor at National Conservatory of Arts and Crafts

Doctor of Pharmacy (Pharm.D.) Degree., PhD in Medicinal Chemistry

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Profile, skills

Currently, my research interests are focused on two main axes: medicinal chemistry / drug discovery and green chemistry / sustainable development. In medicinal chemistry, I am interested in developing new therapeutic molecules from known drugs: design, synthesis and biological evaluation of new anti-inflammatory agents, including TNF α and COX-2 inhibitors and the development of new antimicrobials. In the field of green chemistry, my interest is focused on the implementation of various mild activation methods for the synthesis of molecules with high added value (biotransformation, organocatalysis, microwaves).

Research Experience

Sept. 2006-present Assistant Professor: Laboratory of Molecular Chemistry, Engineering of Chemical and Energy Processes, National Conservatory of Arts and Crafts (Cnam), Paris, France

Research: Development of new therapeutic molecules from known drugs using the greener methods, repositioning and SOSA approaches/Synthesis of chiral azapyridinomacrocycles of pyridine type *N*-oxide and their applications as organocatalysis/ Synthesis of chiral β^3 -amino acids via *N*-carbamate aziridines involving a bioconversion step.

Responsible of collaboration with the Latin American Universities (Cuba and Chili) and Sfax University, Tunisia (PHC Utique 2017, N°17G 1215)

Sept. 2003-Mars. 2006 (2 years) Postdoctoral Researcher, Paris-Sud University, BioCIS- CNRS Laboratory.

Research: synthesis and crystallographic study of metal complexes of copper (II), magnesium (II) and zinc (II) with anticonvulsive activity/ Synthesis and biological evaluation of novel non-peptide ligands for the NOP (ORL1 receptor). Project GenHomme, National Fund for Science (FNS).

Sept. 2002-2003 (1 year), 1994-1997 (3 years): Assistant Professor in Medicinal Chemistry, Chemistry and Pharmacy Faculty, Martha Abreu de Las Villas University, Santa Clara, Cuba.

Research: Validation of the virtual screening algorithm "TOMOCOMD-CARDD" for molecules with an antimalarial activity/ Pharmacognostic studies of *Portulaca oleracea* L. and biological activity of its extracts. CITMA project (Ministry of Science, Technology and Environment).

Head of Pharmacy Department (3 months)

Sept. 1993- Aug. 1994 (1 an): Assistant researcher, Formulation and stability Team, Bioactive Chemicals Research Center (CBQ) at Martha Abreu de Las Villas University, Santa Clara, Cuba.

Research: Formulation and stability study of pharmaceutical forms of furan compounds.

Teaching Experience

Jan. 2006-present: Assistant Professor: National Conservatory of Arts and Crafts (192 hours/year)

Lectures, tutorials and practical works. E-learning

- Organic and bioorganic chemistry

- Medicinal Chemistry

1998-2002: Academic Monitor/ Project "Aperfeiçoamento do Ensino" (PAE) for Pharmacy students, Pharmacy Faculty, São Paulo University, Brazil (53 hours/year)

Lectures, tutorials and practical courses; Medicinal Chemistry

2002-2003 and 1994-1998: Martha Abreu de Las Villas University, Santa Clara, Cuba. More than 500 h

Lectures, tutorials and practical courses.

- Medicinal Chemistry

- Pharmacology and Chemistry of drugs from CNS

- Organic Chemistry

1990-1993: Academic Monitor, Martha Abreu de Las Villas University, Santa Clara, Cuba.

Tutorials of Pharmacology, physiology and Chemistry and synthesis of drugs

Education

2002 : PhD in Medicinal Chemistry, , São Paulo University, Brazil

Conception, synthesis and biological evaluation of novel mefloquine derivatives.

Supervisor: Pr. Maria A. Barata da Silveira, Pharmacy Department

1996 : Specialization in Therapeutic Chemistry and Natural Products (Maestria), University of Havana, Cuba.

*Pharmacognosy, phytochemistry and biological evaluation of *Portulaca oleracea* L*

Supervisor: Pr. Armando Cuellar, Pharmacy Department

1993 : PharmaD, Chemistry and Pharmacy Faculty, Martha Abreu de Las Villas University, Santa Clara, Cuba.

*Standardization of a method of inclusion of the active product 1- (5-bromofur-2-yl) -2-bromo-2-nitroethylene (GI) in the *Drosophila melanogaster* culture.*

Supervisor: Pr. Antonio Pérez Donato, CBQ Center

Awards, Fellowships & Memberships

2016: Co-editor of a special issue of the journal Current topics in medicinal chemistry/ Member of the scientific committee of the International Conference on Multidisciplinary Sciences. MOL2NET.

2005: Prize for the most cited article in the period 2003-2006 in *J. Bioorg. Med. Chem.*, 13, 2005, 1293-1304

1998: Postgraduate Scholarship CAPES-MES (Cuban Ministry of High Education)

1997: Prize for the best Young Assistant Professor of the Faculty of Chemistry and Pharmacy

1996: Prize for the best methodological work of the Faculty of Chemistry and Pharmacy

1993: Gold Medal, (PharmaD) Talent Student (accelerated cursus with a year of research) (1991-1993).

1993: Annual Prize of Scientific Merit. (PharmaD)

Reviewer for: Bioorganic and Medicinal Chemistry, International Journal of Molecular Sciences, Letters in Drug Design and Discovery, ACS Sustainable Chemistry & Engineering

Scientific Tutorial: France: 4 PhD theses, 2 post-doc, 11 Master level, 6 License, 4 BTS. Cuba: 12 PharmaD students

Scientific production, bibliometric indicators:

33 publications, including **15** publications in international peer-reviewed journals, and **3** publications in refereed national journals, **9** articles in refereed international conferences, **6** articles in refereed national conferences. Co-inventor of 1 patent on ternary complexes containing valproic acid, **3** invited conferences (2 international), **10** oral communications, **45** poster communications

Majors publications: (*= corresponding author) (Impact factor)

- M. Sylla-Iyarreta Veitia*, D. Siverio-Mota, V. Lerari, M. Marín, R. M. Giner, F. Dumas, C. Ferroud, L. Vicet-Muro, Y. Rivero-Guerra, P. A. M. de Witte, A. D. Crawford, V. J. Arán and Y. Marrero-Ponce. Fishing Anti-Inflammatories from Known Drugs: In Silico Repurposing, Design, Synthesis and Biological Evaluation of Bisacodyl Analogues as Potential Anti-Inflammatory Agents. *Current Topics in Medicinal Chemistry, Special Issue* **2017**, in press (*IF* 2,9).
- G. Moreau, N. Fourati*, C. Zerrouki, H. Mouhsine1, M. Montes, M. Port, M. Sylla-Iyarreta Veitia, J.F. Zagury and N. Yaakoubi. Surface acoustic wave biosensors for the quantification of TNF α /SPD304 interaction. *Procedia Engineering*, **2016**, 168, 432–435, DOI: 10.1016/j.proeng. 2016.11.537, *IF* (0,73).
- E. Goya Jorge, A. Maria Rayar, S. Jones Barigye, M. Elisa Jorge Rodríguez, M. Sylla-Iyarreta Veitia*. Development of an *in silico* model of DPPH• free radical scavenging capacity: prediction of antioxidant activity of a coumarin type compounds. *International Journal of Molecular Sciences* **2016**, 17(6), 881; DOI: 10.3390/ijms17060881, (*IF* 3,26).
- M. Görmen, M. Sylla-Iyarreta Veitia*, F. Trigui, M. El Arbi, C. Ferroud. Ferrocenyl derivatives of bisacodyl: synthesis and antimicrobial activity. *Journal of Organometallic Chemistry* **2015**, 794, 274-281. DOI : 10.1021/om100614c, (*IF* 2,34).
- Rayar, M. Sylla-Iyarreta Veitia*, C. Ferroud. An efficient and selective microwave-assisted Claisen-Schmidt reaction for the synthesis of functionalized benzalacetones. *Springer Plus* **2015**, 4 (221), DOI:10.1186/s40064-015-0985-8, (*IF* 0,98).
- M. Sylla-Iyarreta Veitia* and C. Ferroud. New activation methods used in green chemistry for the synthesis of high added value molecules. *International Journal of Energy and Environmental Engineering* **2015**, 6(1), 37-46, DOI : 10.1007/s40095-014-0148-7.
- G. Bort, M. Sylla-Iyarreta Veitia*, C. Ferroud, Straightforward synthesis of PET tracer precursors used for the early diagnosis of Alzheimer's disease through Suzuki-Miyaura cross-coupling reactions. *Tetrahedron*, **2013**, 69(35), 7345-7353. DOI : 10.1016/j.tet.2013. 06.085, (*IF* 2,64).
- Fidaly, C. Ceballos, A. Falguières, M. Sylla-Iyarreta Veitia A. Guy, C. Ferroud*. Visible light photoredox organocatalysis: a fully metal-free direct asymmetric alkylation of aldehydes. *Green Chemistry*, **2012**, 14, 1293–1297. DOI: 10.1039/C2GC35118H (*IF* 8,51).