BIOGRAPHICAL SKETCH

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NAME: Esposti Poly da Silva, Ítalo

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: PhD Candidate

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Universidade Estadual do Norte Fluminense (UENF), Campos dos Goytacazes, Rio de Janeiro	BOTH	08/2013	Biological Sciences
Universidade Federal de Viçosa (UFV), Viçosa, Minas Gerais	MOTH	02/2018	Structural and Cellular Biolgy
Universidade Estadual de Campinas (Unicamp), Campinas, São Paulo	DOTH	07/2023	Genetics and molecular biology

A. Personal Statement

I am a PhD candidate in the Genetics and Molecular Biology program at University of Campinas (UNICAMP – Brazil). I am developing my research at the Center for Medicinal Chemistry (CQMED). CQMED was created in 2015 to contribute with molecular tools, including the obtention of large-scale three-dimensional structures of biomedical relevant proteins, including human and parasites targets, to tackle major challenges in the development of new drugs. CQMED executes a robust public/private partnership, including the academic and pharmaceutical industry. One of the aims of my PhD project is to characterize the structures of the RNA helicase ASCC3 and the related RQT/ASC1 complex, of which it is part . Resolution of these structures will help understanding the RQT/ASC1 complex function on the Ribosome-associated Quality Control (RQC) pathway, which is involved in co-translational degradation of defective proteins. Besides , the structures will guide the development of chemical probes for ASCC3, which are predicted also to be RQC inhibitors. These compounds would be important tools to elucidate this understudied pathway and are expected to be potential treatment candidates for certain neurodegenerative diseases. Our strategy to accomplish our goal is to express and purify our targets using baculovirus expression system in order to obtain highly pure and homogeneous protein and/or complexes for 3D structure determination using Cryo-EM and/or X-ray crystallography. During my Master's degree I had contact with electronic microscopy, the involved techniques, equipment handling and analysis. More recently, in my PhD collaborating in a diverse of projects, I acquired more theoretical and technical knowledge on X-ray crystallography and structure resolving. Despite all this expertise, X-ray crystallography has been shown to be an unsuitable approach for the ASCC3 structure determination, and probably will be even less apropriate for the whole complex. For that matter, being trained in such a high level course and institution would not only be important for achieving the goals of my project, but would also represent an unprecedent life-changing opportunity for me. I will acquire knowledge and expertise that I can apply deeply at CQMED on ongoing and future projects, and that will be an outstanding skill for my carreer development .

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2019 - PhD Candidate , Universidade Estadual de Campinas, Biology Institute, CQMED (Center for Medicinal Chemistry), Campinas

2018 - 2019 Technician, Universidade Estadual de Campinas, Biology Institute, CQMED (Center for Medicinal Chemistry), Campinas

2016 - 2018 Master Degree Student, Universidade Federal de Viçosa (UFV), Biology Departament, Molecular Immuno virology Lab, Viçosa

Honors

2019 - 2023 Scholarship for PhD Degree , CAPES

2018 - 2019 Technical Training, FAPESP

2016 - 2018 Scholarship for Masters Degree, FAPEMIG

C. Contribution to Science

1. a. Poly da Silva Í, Lopes da Silva M, Dias R, Santos E, Brangioni de Paula M, Silva de Oliveira A, Costa da Silveira Oliveira A, Marques de Oliveira F, Canedo da Silva C, Teixeira R, Oliveira de Paula S. Xanthenedione (and intermediates involved in their synthesis) inhibit Zika virus migration to the central nervous system in murine neonatal models. Microbes and Infection. 2020 October; 22(9):489-499. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1286457920300745 DOI: 10.1016/j.micinf.2020.04.007
2. a. de Oliveira A, Gazolla P, Oliveira A, Pereira W, de S. Viol L, Maia A, Santos E, da Silva Í, Mendes T, da Silva A, Dias R, da Silva C, Polêto M, Teixeira R, de Paula S. Discovery of novel West Nile Virus protease inhibitor based on isobenzonafuranone and triazolic derivatives of eugenol and indan-1,3-dione scaffolds. PLOS ONE. 2019; 14(9):e0223017-. Available from: https://dx.plos.org/10.1371/journal.pone.0223017 DOI: 10.1371/journal.pone.0223017
3. a. Oliveira A, de Souza A, de Oliveira A, da Silva M, de Oliveira F, Santos E, da Silva Í, Ferreira R, Villela F, Martins F, Leal D, Vaz B, Teixeira R, de Paula S. Zirconium catalyzed synthesis of 2-arylidene Indan-1,3-diones and evaluation of their inhibitory activity against NS2B-NS3 WNV protease. European Journal of Medicinal Chemistry. 2018 April; 149:98-109. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0223523418301673 DOI: 10.1016/j.ejmech.2018.02.037
4. a. Lima Â, Teixeira R, Silva B, Siqueira R, Silva Í, Santos E, Fernandes M, Gonçalves V, Bressan G, Mendes T, Paula S, Costa A, Santos M. SÍNTESE E AVALIAÇÃO DAS ATIVIDADES FOTOPROTETORA, CITOTÓXICA E ANTIVIRAL CONTRA O ZIKA VÍRUS DE DERIVADOS TRIAZÓLICOS DA BENZOFENONA. Química Nova. 2019; :-. Available from: http://quimicanova.sbq.org.br/audiencia_pdf.asp?aid2=6921&nomeArquivo=AR20180402.pdf DOI: 10.21577/0100-4042.20170365