FORMATO EUROPEO PER IL CURRICULUM VITAE

PERSONAL INFORMATION

First name and surname: PUXEDDU MICHELA

E-mail:

OCCUPATIONAL FIELD Pharmaceutical Chemistry CHIM08

CURRENT WORK POSITION Postdoctoral Research Associate at Drug Chemistry and Technologies Department, "Sapienza" University of Rome.

EDUCATION AND TRAINING

March 2022 — Sapienza University of Rome
Obtained PhD in medicinal chemistry (XXXIV cycle) cum laude
Thesis: New approaches to anticancer therapy through different targets

November 2017 — Sapienza University of Rome
Qualification to exercise the Pharmacist profession.

October 2017 — Sapienza University of Rome
Master's Degree in Drug Chemistry and Technologies
Thesis: Microwave assisted synthesis of new 3-aroyl-1-heteroarylpyrroles.

PROFESSIONAL AND RESEARCH ACTIVITIES

From March 2023 to date — Visiting scientist at department of pharmacy and biochemistry, institute of pharmaceutical sciences, University of Tübingen, Germany

From June 2022 to date — Drug Chemistry and Technologies Department, Sapienza University of Rome.
Attained a temporary position (category B – Type I) to carry out research activity for the SSD CHIM/08. The project title was "Targenting di beta-canenina e proteina di Dishevelled quale strategia sinergica nel tumore colorettale"

Academic year 2022-2023 — Sapienza University of Rome
Lecturer for the course of "Natural Compound Extraction Laboratory" for Applied Pharmaceutical Sciences (SFA) bachelor's degree

From November 2018 to March 2022 — Drug Chemistry and Technologies Department, Sapienza University of Rome.
PhD student, winner with scholarship.

From March 2016 to March 2017 — Drug Chemistry and Technologies Department, Sapienza University of Rome.
Experimental thesis in pharmaceutical chemistry: design, synthesis and purification of compounds with antitumor activity.

MOTHER TONGUE

Italian

OTHER LANGUAGES

English
• Listening Good
• Reading Good
• Spoken interaction Good

French
• Listening Good
• Reading Good
• Spoken interaction Good

MAIN SCIENTIFIC INTERESTS AND SKILLS

Design, synthesis and development of heterocycles endowed with potential biological activity. Development of new indole and pyrrole derivatives with potent tubulin polymerization inhibiting activity as anticancer agents. Good knowledge about standard techniques of organic compound synthesis and their purification (eg, gravitational and flash column chromatography, thin layer chromatography, crystallization, distillation). Good experience in microwave-assisted organic synthesis.

Experience in the acquisition and interpretation of NMR (^{1}H, ^{13}C) and IR.

Good knowledge of software tools: Microsoft Office (Word, Excel, Power Point), ChemBioDraw. MestreNova

SCIENTIFIC PUBLICATION

1. Nalli, M.; Di Magno, L.; Wen, Y.; Liu, X.; D'Ambrosio, M.; Puxeddu, M.; Parisi, A.; Sebastiani, J.; Sorato, A.; Coluccia, A.; Ripa, S.; Di Pastena, F.; Capelli, D.; Montanari, R.; Masci, D.; Urbani, A.; Naro, C.; Sette, C.; Orlando, V.; D'Angelo, S.; Biagioni, S.; Bigogno, C.; Dondio, G.; Pastore, A.; Stornaiuolo, M.; Canettieri, G.; Liu, T.; Silvestri, R.; La Regina, G. Novel N-(Heterocyclylphenyl)Benzensulfonamide Sharing an Unreported Binding Site with T-Cell Factor 4 at the β-Catenin Armadillo Repeats Domain as an Anticancer Agent. *ACS Pharmacol. Transl. Sci.* **2023**, *6* (7), 1087–1103. https://doi.org/10.1021/acsptsci.3c00092.

2. Bufano, M.; Puxeddu, M.; Nalli, M.; La Regina, G.; Toto, A.; Liberati, F. R.; Paone, A.; Cutruzzolà, F.; Masci, D.; Bigogno, C.; Dondio, G.; Silvestri, R.; Gianni, S.; Coluccia, A. Targeting the Grb2 CSH3 Domain: Design, Synthesis and Biological Evaluation of the First Series of Modulators. *Bioorganic Chem.* **2023**, *138*, 106607. https://doi.org/10.1016/j.bioorg.2023.106607.

3. Mammone, F.R.; Rotundo, P.; Ferretti, R.; Puxeddu, M.; Silvestri, R. and Cirilli, R. Chemo- and enantio-selective reversed-phase HPLC analysis of rosuvastatin using a cellulose-based chiral stationary phase in gradient elution mode. *J Pharm Biomed Anal*. **2023**, *225*, e115239. doi:10.1016/j.jpba.2023.115239

4. Mammone, F.R., Zanitti, L., Puxeddu, M., La Regina, G., Silvestri, R., Borioni, A. and Cirilli, R. A Novel Validated UHPLC Method for the Estimation of Rosuvastatin and Its Complete Impurity Profile in Tablet Formulations. *Molecules*. **2023**, 28(1):431. doi:10.3390/molecules28010431v

5. Sebastiani, J.; Puxeddu, M.; Nalli M.; Bai, R.; Altieri L.; Rovella P.; Gaudio, E.; Trisciuoglio, D.; Spriano, F.; Lavia, P.; Fionda, C.; Hamel, E.; Bertoni, F.; Silvestri, R. and La Regina, G. RS6077 Induces Mitotic Arrest and Selectively Activates Cell Death in Human Cancer Cell Lines and in a Lymphoma Tumor In Vivo. Eur J Med Chem. **2022**, *246*, e114997. doi:10.1016/j.ejmech.2022.114997.

6. Puxeddu, M.; Wu, J.; Bai, R.; D'Ambrosio, M.; Nalli, M.; Coluccia, A.; Manetto, S.; Ciogli, A.; Masci, D.; Urbani, A.; Fionda, C.; Coni, S. Bordone, R.; Canettieri, G.; Bigogno, C.; Dondio, G.; Hamel, E.; Liu, T.; Silvestri, R. and La Regina, G. *Journal of Medicinal Chemistry* **2022** *65* (23), 15805-15818

7. Coluccia, A.; Bufano, M.; La Regina, G.; Puxeddu, M.; Toto, A.; Paone, A.; Bouzidi, A.; Musto, G.; Badolati, N.; Orlando, V.; Biagioni, S.; Masci, D.; Cantatore, C.; Cirilli, R.; Cutruzzolà, F.; Gianni, S.; Stornaiuolo, M.; Silvestri, R. Anticancer Activity of (*S*)-5-Chloro- 3-((3,5-dimethylphenyl) sulfonyl) -*N*-(1-oxo-1-((pyridin-4-ylmethyl) amino) propan-2-yl) - 1*H*-indole-2-carboxamide (RS4690), a New Dishevelled 1 Inhibitor. *Cancers* **2022**, *14*, 1358.

https://doi.org/10.3390/cancers14051358

8. Nalli, M.; Puxeddu, M.; La Regina, G.; Gianni, S.; Silvestri, R. Emerging Therapeutic Agents for Colorectal Cancer. *Molecules* **2021**, *26*, 7463. https://doi.org/10.3390/molecules26247463

9. Van Dycke, J.; Puxeddu, M.; La Regina, G.; Mastrangelo, E.; Tarantino, D.; Rymenants, J.; Sebastiani, J.; Nalli, M.; Matthijnssens, J.; Neyts, J.; Silvestri, R.; Rocha- Pereira, J. Discovery of a Novel Class of Norovirus Inhibitors with High Barrier of Resistance. *Pharmaceuticals* **2021**, *14*,1006. doi: https://doi.org/10.3390/ph14101006

10. Puxeddu, M.; Shen, H.; Bai, R.; Coluccia, A.; Bufano, M.; Nalli, M.; Sebastiani, J.; Brancaccio, D.; Da Pozzo, E.; Tremolanti, C.; Martini, C.; Orlando, V.; Biagioni, S.; Sinicropi, M. S.; Ceramella, J.; Iacopetta, D.; Coluccia, A. M. L.; Hamel, E.; Liu, T.; Silvestri, R.; La Regina, G. Discovery of pyrrole derivatives for the treatment of glioblastoma and chronic myeloid leukemia. *Eur. J. Med. Chem* **2021**, *221*, e113532 doi: 10.1016/j.ejmech 2021.113532; ISSN: 0223-5234.

11. Daniele, S.; La Pietra, V.; Piccarducci, R.; Pietrobono, D.; Cavallini, C.; D'Amore, V. M.; Cerofolini, L.; Giuntini, S.; Russomanno, P.; Puxeddu, M.; Nalli, M.; Pedrini, M.; Fragai, M.; Luchinat, C.; Novellino, E.; Taliani, S.; La Regina, G.; Silvestri, R.; Martini, C.; Marinelli, L. CXCR4 antagonism sensitizes cancer cells to novel indole-based MDM2/4 inhibitors in glioblastoma multiforme. European Journal of Pharmacology **2021**, *897*, e173936 doi: 10.1016/j.ejphar 2021.173936; ISSN: 0014-2999.

12. Malagrinò, F.; Coluccia, A.; Bufano, M.; Regina, G.L.; Puxeddu, M.; Toto, A.; Visconti, L.; Paone, A.; Magnifico, M.C.; Troilo, F.; Cutruzzolà, F.; Silvestri, R.; Gianni, S. Targeting the Interaction between the SH3 Domain of Grb2 and Gab2. *Cells,* **2020**, *11*, e2435. doi: 10.3390/cells9112435; ISSN 2073-4409.

13. Di Magno, L.; Di Pastena, F.; Puxeddu, M.; La Regina, G.; Coluccia, A.; Ciogli, A.; Manetto, S.; Maroder, M.; Canettieri, G.; Silvestri, R.; Nalli, M. Sulfonamide inhibitors of beta-Catenin signaling as anticancerAgents with different output on c-Myc. ChemMedChem, **2020**, *15*, 2264-2268. doi: 10.1002/cmdc.202000594; ISSN 1860-7179.

14. Coluccia, A.; Puxeddu, M.; Nalli, M.; Wei, C. K.; Wu, Y. H.; Mastrangelo, E.; Elamin, T.; Tarantino, D.; Bugert, J. J.; Schreiner, B.; Nolte, J.; Schwarze, F.; La Regina, G.; Lee, J. C.; Silvestri, R. Discovery of Zika virus NS2B/NS3 inhibitors that prevent mice from fife-threatening infection and brain damage. *ACS Med. Chem. Lett.* **2020**, *11,* 1869–1874. doi: 10.1021/acsmedchemlett.9b00405; ISSN 1948-5875.

15. Puxeddu, M.; Shen, H.; Bai, R.; Coluccia, A.; Nalli, M.; Mazzoccoli, C.; Da Pozzo, E.; Cavallini, C.; Martini, C.; Orlando, V.; Biagioni, S.; Mazzoni, C.; Coluccia, A. M. L.; Hamel, E.; Liu, T.; Silvestri, R.; La Regina, G. Structure activity relationship studies and in vitro and in vivo anticancer activity of novel 3-aroyl-1,4-diarylpyrroles against solid tumors and hematological malignancies. *Eur. J. Med. Chem.* **2020**, *185*, e111828. doi: 10.1016/j.ejmech 2019.111828; ISSN 0223-5234.

16. La Regina, G.; Puxeddu, M.; Nalli, M.; Vullo, D.; Gratteri, P.; Supuran, C. T.; Nocentini, A.; Silvestri, R. Discovery of new 1,1'-biphenyl-4sulfonamides as selective subnanomolar human carbonic anhydrase II inhibitors. *ACS Med. Chem. Lett.* **2020**, *11*, 633–637. (doi: 10.1021/acsmedchemlett.9b00437; ISSN 1948-5875

ORAL COMMUNICATIONS

1. Puxeddu M. A novel class of pyrrole derivatives as anti-glioblastoma and anti- chronic myeloid leukemia agents. WG2 Hybrid Meeting "Synthesis and nanodelivery strategies for new therapeutic tools against Multidrug Resistant Tumours" December 6th, **2021**, Angers (France)

2. Puxeddu, M.; Hucke, F.; Mastrangelo, E.; Milani, M.; Nalli, M.; La Regina, G.; Bugert, J.J. and Silvestri, R. Discovery of new SARS-CoV-2 inhibitors. Medical Biodefense Conference (MBDC) Hybrid Meeting. September 28th-october 1st **2021**, virtual.

3. Puxeddu, M.; La Regina, G.; Coluccia, A.; Nalli, M.; Lee JC. and Silvestri.

Discovery of Zika Virus NS2B/NS3 complex inhibitors. Paul Ehrlich virtual meeting (PEVM2021), July 26th-28th **2021**, virtual.

4. Puxeddu, M.; La Regina, G.; Coluccia, A.; Nalli, M.; Lee JC. and Silvestri, R. Inhibition of ZIKA virus replication by novel inhibitors of NS2B/NS3 complex. 13th Young medicinal chemist virtual symposium (NPCF13) April 26th -29th **2021**, virtual.

5. Puxeddu, M.; La Regina, G.; Coluccia, A. and Silvestri, R. New 1,1'-biphenyl-4-sulfonamides as potent and selective human carbonic anhydrase inhibitors. WG2 Meeting and International Online Symposium on "Synthesis and nanodelivery strategies for new therapeutic tools against Multidrug Resistant Tumours" 15th December **2020**, virtual.

POSTER COMMUNICATIONS

1. Puxeddu, M. La Regina, G.; Coluccia, A.; Nalli, M.; and Silvestri, R. Novel pyrrole derivatives as tubulin polymerization inhibitor agent capable of inducing ferroptosis in glioblastoma and ovarian cancer cells lines. Merck Young Chemists' Symposium 2022, November 21st -23 rd, **2022**, Rimini.

2. Puxeddu, M. Sebastiani, J.; Hamel, E.; Fionda, C. Bertoni, F.; Silvestri, R. and La Regina G. RS6077 as novel and selective growth inhibitor of human cancer cell lines and lymphoma tumor. XXVII National Meeting on Medicinal Chemistry. September 11th-14th, **2022**, Bari.

3. Puxeddu, M. RS4690, a new dishevelled 1 inhibitor as anticancer agent. European School of Medicinal Chemistry ESMEC. 41st Advanced Course of Medicinal Chemistry and Seminar for PhD students. July 3rd-7th **2022**, Urbino.

4. Puxeddu, M.; La Regina, G.; Coluccia, A.; Hamel, E.; Liu, T. and Silvestri, R. Discovery of novel pyrrole derivatives as anti-glioblastoma and anti-chronic myeloid leukemia agents. Merck Young Chemists' Symposium 2021, November 22nd -24 th, **2021**, Rimini.

5. Puxeddu, M.; Hucke, F.; Mastrangelo, E.; Milani, M.; Nalli, M.; La Regina, G.; Bugert, J.J. and Silvestri, R. Discovery of new SARS-CoV-2 inhibitors. AMYC BIOMED 2021, November 3rd-5th, **2021**, virtual.

6. Puxeddu, M.; Coluccia, A.; La Regina, G.; Gianni, S. and Silvestri, R. A new potential target in oncological therapy: Interaction between Gab2 with SH3-domain of Gbr2. XXVII Congresso nazionale della società chimica italiana (SCI2021), September 14th -23th, **2021**, virtual.

7. Puxeddu M. Novel sulfonamide inhibitors of β-catenin signaling as anticancer agents. European School of Medicinal Chemistry ESMEC. 41st Advanced Course of Medicinal Chemistry and Seminar for PhD students. June 28th -July 1st **2021**, virtual.

8. Puxeddu, M.; Coluccia, A.; Nalli, M.; Hamel, E.; La Regina, G. and Silvestri, R. Novel 3-aroyl-1,4-diarylpyrroles against solid tumors and hematological malignancies. Italian Young Medicinal Chemistry Virtual Meeting (I-YMC-VMeet) July 22 nd -24 th, **2020**, virtual.

SCOLARSHIPS AND GRANTS

Fellowship for the attendance at XXVIII National Meeting on Medicinal Chemistry, September 17th-20th, **2023**, Chieti. Supported by FARMALABOR S.r.l. **2023**

Fellowship for the attendance at XXVII National Meeting on Medicinal Chemistry (NMMC27), September 11th-14th, **2022**, Bari. Supported by FARMALABOR S.r.l. **2022**

Poster award at "European School of Medicinal Chemistry ESMEC. 41st Advanced Course of Medicinal Chemistry and Seminar for PhD students" **2022**

Fellowship for the attendance at XXVII Congresso Nazionale Della Società Chimica Italiana. SCI2021. **2021**

Rome 07/08/2023