SAMUELE MARAMAI

RICERCATORE LEGGE 240/10

PERSONAL INFORMATION

Name	Samuele Maramai
Nationality	Italian
Affiliation	Department of Biotechnology, Chemistry and Pharmacy – University of Siena Via Aldo Moro, 2 – 53100, Siena (SI) - Italy
Phone	(+39) 0577 232933 (int. 2933)
Institutional e-mail	samuele.maramai@unisi.it
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RESEARCH EXPERTISE

Date	From July 2023 to date
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy
Occupation or Position Held	**Senior Research Associate (Ricercatore Legge 240/10 tipo B)**
Main Activities and Responsibilities	Leading research projects in the field of organic chemistry. Developing new green and MW-assisted synthetic methodologies. Teaching classes in the master's degree courses of Chemical Sciences, Pharmacy, and Pharmaceutical Chemistry and Technology

Date	2020-2023
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy, *Dept. of Excellence 2018-2022*
Occupation or Position Held	**Research Fellow**
Main Activities and Responsibilities	- **2021-2022**: Preclinical development and characterization of GLI-selective therapeutics for the treatment of basal cell carcinoma and melanoma. - **2020**: Synthesis and structural modifications of cytotoxic natural products.

Date	2016-2019
Name and Address of Employer	University of Sussex, Falmer, Brighton BN1 9RH, UK
Type of Business and Sector	Sussex Drug Discovery Centre (SDDC), School of Life Sciences
Occupation or Position Held	**Research Fellow**
Main Activities and Responsibilities	- **2018-2019**: an integrated drug discovery and validation platform for the identification of novel agents targeting DNA damage response for the treatment of cancer. - **2016-2018**: Valium without sedation. Design and synthesis of positive allosteric modulators of GABA-A receptors selective for α2/α3 subunits.

Date	2013-2016
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy
Occupation or Position Held	**Post-Doctoral Fellow**
Main Activities and Responsibilities	- **2016**: synthesis of antitumoral drugs. - **2014-2016**: synthesis of peptidomimetics and bioconjugates. - **2013-2014**: synthesis of bioactive molecules.

Date	2009
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Pharmaceutical and Applied Chemistry, Faculty of Pharmacy
Occupation or Position Held	**Scholarship Holder**
Main Activities and Responsibilities	Synthesis of new antipsychotic drugs.

TEACHING EXPERIENCE

Date	2023/2024
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy
Course	**Organic Chemistry Laboratory** – Chemical Sciences (SE002)

Date	2023/2024
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Life Sciences
Course	**Fundamentals of Organic Chemistry** – Biological Sciences (SE001)

Date	2022/2023, 2021/2022, 2020/2021
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy
Occupation or Position Held	**Adjunct Professor (60 h)** – Quantitative Drug Analysis - Pharmacy (FF003)

TEACHING IN DOCTORAL PROGRAMS

Date	2021/2022 – 2020/2021
Name and Address of Employer	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Biotechnology, Chemistry and Pharmacy, *Dept. of Excellence 2018-2022*
Occupation or Position Held	**PhD Program in Chemical and Pharmaceutical Science** – Course title "The chemistry of CNS modulators: Valium without sedation" (8 h lessons -1 ECTS credit).

PhD and Education

Date	**2012**
Name and Address of Organization	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Type of Business and Sector	Department of Pharmaceutical and Applied Chemistry, Faculty of Pharmacy
Title of Qualification Awarded	**PhD in Pharmaceutical Sciences** (MIUR fellowship for PhD)

Date	**2010**
Name and Type of Organization	University of Siena, V. Aldo Moro n° 2, 53100, Siena
Title of Qualification Awarded	**Second Level Master in "Drug Design and Synthesis**"

Date	**2008**
Name and Type of Organization	University of Siena
Title of Qualification Awarded	**Master's degree** UE normative in "Pharmaceutical Chemistry and Technology" In December 2008, I passed the qualifying examination to practice as Pharmacist

Editorial Board Membership

Guest Editor for IJMS (2023, MDPI) – Small Molecules: From Design, Synthesis and Characterization to Pharmacological Functional Analysis.
Guest Associate Editor for Frontiers in Molecular Biosciences (2021/2022) – Research Topic: Modulators of 14-3-3 Protein-Protein Interactions involved in Cancer Pathology
Academic Editor for BioMed Research International (since 2021, HINDAWI)
Guest Editor for IJMS (2021, MDPI) – Special Issue: Recent Advances in the Identification of Biologically Active Natural and Synthetic Small Molecules
Guest Editor for BioMed Research International: Neurology (2019, HINDAWI) – Special Issue: Multitarget Therapeutics for Neurodegenerative Diseases

Review Editor

Review Editor Board Member "Frontiers in Chemistry – Organic Chemistry" (since 2023, Frontiers)
Scientific Reports (since 2023, Nature)
ACS Chemical Neuroscience (since 2021, ACS)
Marine Drugs (since 2021, MDPI)
Pharmaceuticals (since 2021, MDPI)
ChemMedChem (since 2020, Wiley)
RSC Advances (since 2020, Royal Society of Chemistry)
International Journal of Molecular Sciences (since 2020, MDPI)
Molecules (since 2020, MDPI)
Journal of Medicinal Chemistry (since 2019, ACS)
Bioorganic & Medicinal Chemistry (since 2018, Elsevier)
Review Editor Board Member "Frontiers in Chemistry – Medicinal and Pharmaceutical Chemistry" (since 2016, Frontiers)

NATIONAL SCIENTIFIC QUALIFICATION

National Scientific Qualification as associate in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) 06/02/2023-06/02/2034

PUBLICATIONS LIST

Documents by author: 32

32. Butini, S., Grether, U., Jung, K. M., Ligresti, A., Allarà, M., Postmus, A. G. J., **Maramai, S.**, Brogi, S., Papa, A., Carullo, G., Sykes, D., Veprintsev, D., Federico, S., Grillo, A., Di Guglielmo, B., Ramunno, A., Stevens, A. F., Heer, D.; Lamponi, S., Gemma, S., Benz, J., Di Marzo, V., Van der Stelt, M., Piomelli, D., Campiani, G. *Development of Potent and Selective Monoacylglycerol Lipase Inhibitors. SARs, Structural Analysis, and Biological Characterization*. Journal of Medicinal Chemistry, **2023**, Article in Press.

31. Valentini, F.; Di Erasmo, B.; Ciancuti, C.; Rossi, S.; **Maramai, S.**; Taddei, M.; Vaccaro, L. *Macroreticular POLITAG-Pd(0) for the waste minimized hydrogenation/reductive amination of phenols using formic acid as hydrogen source*. Catalysis Today, **2023**, 424, 113833.

30. Romeo, I., Brizzi, A., Pessina, F., Ambrosio, F. A., Aiello, F., Belardo, C., Carullo, G., Costa, G., De Petrocellis, L., Frosini, M., Luongo, L., **Maramai, S*.**, Paolino, M., Moriello, A. S., Mugnaini, C., Scorzelli, F., Maione, S., Corelli, F., Di Marzo, V., Alcaro, S., Artese, A. *In Silico-Guided Rational Drug Design and Synthesis of Novel 4-(Thiophen-2-yl)butanamides as Potent and Selective TRPV1 Agonists*. Journal of Medicinal Chemistry, **2023**, *66* (10), 6994.

29. Brizzi, A.[#]; **Maramai, S**.[#]; ([#] equal contribution) Aiello, F.; Baratto, M. C.; Corelli, F.; Mugnaini, C.; Paolino, M.; Scorzelli, F.; Aldinucci, C.; De Petrocellis, L.; Signorini, C.; Pessina, F. *Lipoic/Capsaicin-Related Amides: Synthesis and Biological Characterization of New TRPV1 Agonists Endowed with Protective Properties against Oxidative Stress*. Int. J. Mol. Sci. **2022**, 23 (21), 13580.

28. Tassone, G.; Mazzorana, M.; Mangani, S.; Petricci, E.; Cini, E.; Giannini, G.; Pozzi, C.; **Maramai, S**. *Structural Characterization of Human Heat Shock Protein 90 N-Terminal Domain and Its Variants K112R and K112A in Complex with a Potent 1,2,3-Triazole-Based Inhibitor*. Int. J. Mol. Sci. **2022**, 23, 9458.

27. Micheli, L.[#]; **Maramai, S.**[#] ([#] equal contribution); Toti, A.; Ferrara, V.; Ciampi, C.; Di Cesare Mannelli, L.; Ghelardini, C. *Inhibition of Monoacylglycerol Lipase by NSD1819 as an Effective Strategy for the Endocannabinoid System Modulation against Neuroinflammation-Related Disorders*. Int. J. Mol. Sci. **2022**, 23, 8428.

26. Petricci, E.; Zurzolo, S.; Matassini, C.; **Maramai, S.**; Cardona, F.; Goti, A.; Taddei, M. *An Intramolecular Hydroaminomethylation-Based Approach to Pyrrolizidine Alkaloids under Microwave-Assisted Heating*. Molecules **2022**, 27, 4762.

25. Manetti, F.; Maresca, L.; Crivaro, E.; Pepe, S.; Cini, E.; Singh, S.; Governa, P.; **Maramai, S.**; Giannini, G.; Stecca, B.; Petricci, E. *Quinolines and Oxazino-quinoline Derivatives as Small Molecule GLI1 Inhibitors Identified by Virtual Screening*. ACS Med. Chem. Lett. **2022**, 13, 1329-1336

24. Saletti, M.[#]; **Maramai, S.**[#] ([#] equal contribution); Reale, A.; Paolino, M.; Brogi, S.; Di Capua, A.; Cappelli, A.; Giorgi, A.; D'Avino, D.; Rossi, A.; Ghelardini, C.; Di Cesare Mannelli, L.; Sardella, R.; Carotti, A.; Woelkart, G.; Klösch, B.; Bigogno, C.; Dondio, G.; Anzini, M. *Novel analgesic/anti-inflammatory agents: 1,5-Diarylpyrrole nitrooxyethyl sulfides and related compounds as Cyclooxygenase-2 inhibitors containing a nitric oxide donor moiety endowed with vasorelaxant properties.* European Journal of Medicinal Chemistry, **2022**, 241, 114615

23. Paolino, M.; Rullo, M.[#]; **Maramai, S.**[#] (equal contribution); de Candia, M.; Pisani; L.; Catto, M.; Mugnaini, C.; Brizzi, A.; Cappelli, A; Olivucci, M.; Corelli, F.; Altomare, C.D. *Design, synthesis and biological evaluation of light-driven on–off multitarget AChE and MAO-B inhibitors.* RSC Med. Chem., **2022**,13, 873-883

22. Brizzi, A.; Trezza, A.; Spiga, O.; **Maramai, S.**; Scorzelli, F.; Saponara, S.; Fusi, F. *2-Hydroxy-5-(3,5,7-trihydroxy-4-oxo-4H-chromen-2-yl)phenyl (E)-3-(4-hydroxy-3-methoxyphenyl)acrylate: Synthesis, In Silico Analysis and In Vitro Pharmacological Evaluation*. Molbank, **2021**, 2021(3), M1258.

21. Campiani, G., Cavella, C., Osko, J. D., Brindisi, M., Relitti, N., Brogi, S., Saraswati, P., Federico, S., Chemi, G., **Maramai, S.**, Carullo, G., Jaeger, B., Carleo, A., Benedetti, R., Sarno, F., Lamponi, S., Rottoli, P., Bargagli, E., Bertucci, C., Tedesco, D., Herp, D., Senger, J., Ruberti, G., Saccoccia, F., Saponara, S., Gorelli, B., Valoti, M., Kennedy, B., Sundaramurthi, H., Butini, S., Jung, M., Roach, K. M., Altucci, L., Bradding, P., Christianson, D. W., Gemma, S., Prasse, A. *Harnessing the role of HDAC6 in Idiopathic Pulmonary Fibrosis: Design, Synthesis, Structural Analysis, and Biological Evaluation of Potent Inhibitors*. Journal of Medicinal Chemistry, **2021**, *64*, 9960−9988

20. Migliorini, F., Dei, F., **Maramai, S.,** Petricci, E., Calamante, M. *Micellar catalysis for sustainable hydroformylation*. ChemCatChem, **2021,** *13***,** 2794 –2806.

19. **Maramai, S.*,** Brindisi, M. *Targeting Endocannabinoid Metabolism: An Arrow with Multiple Tips Against Multiple Sclerosis*. ChemMedChem, **2020**,*15,* 1985–2003

18. **Maramai, S.*,** Benchekroun, M., Gabr. M. T., Yahiaoui, S. *Multitarget Therapeutic Strategies for Alzheimer's Disease: Review on Emerging Target Combinations.* BioMed Research International, **2020**, Article ID 5120230, 27 pages

17. **Maramai, S.*,** Benchekroun, M., Ward, S. E., Atack, J. R. *Subtype selective γ-Aminobutyric Acid Type A Receptor ($GABA_AR$) modulators Acting at the Benzodiazepine Binding Site: An Update*. Journal of Medicinal Chemistry, **2020**, 63 (7), 3425-3446.

16. Benchekroun, M., **Maramai, S**. *Multitarget-Directed Ligands for neurodegenerative diseases: real opportunity or blurry mirage?* Future Medicinal Chemistry, **2019**, 11 (4), 261–263

15. Brindisi, M., [#]Borrelli, G., [#]Brogi, S., [#]Grillo, A., [#]**Maramai, S**. (# equal contribution), Paolino, M., Benedusi, M., Pecorelli, A., Valacchi, G., Di Cesare Mannelli, L., Ghelardini, C., Allarà, M., Ligresti, A., Minetti, P., Campiani, G., Di Marzo, V., Butini, S., Gemma, S. *Development of Potent Inhibitors of Fatty Acid Amide Hydrolase Useful for the Treatment of Neuropathic Pain*, ChemMedChem, **2018**, 13, 2090-2103.

14. Brogi, S., Brindisi, M., Butini, S., Kshirsagar, G., **Maramai, S.**, Chemi, G., Gemma, S., Campiani, G., Novellino, E., Fiorenzani, P., Pinassi, J., Aloisi, A. M., Gynther, M., Venskutonyte, R., Han, L., Frydenvang, K., Kastrup, J., Pickering, D. *AMPA and Kainate Receptor Ligands: Further Exploration of Bioisosteric Replacements, Structural and Biological Investigation.* J. Med. Chem., **2018**, 61 (5), 2124-2130.

13. Brogi, S., **Maramai, S.**, Brindisi, M., Chemi, G., Porcari, V., Corallo, C., Gennari, L., Novellino, E., Ramunno, A., Butini, S., Campiani, G., Gemma, S. *Activation of the Wnt Pathway by Small Peptides: Rational Design, Synthesis and Biological Evaluation.* ChemMedChem, **2017**, 12, 2074-2085.

12. **Maramai, S.**, Gemma, S., Brogi, S. Campiani, G., Butini, S., Stark, H., Brindisi, M. *Dopamine D3 Receptor Antagonists as Potential Therapeutics for the Treatment of Neurological Diseases*. Front. Neurosci., **2016**, 10:451.

11. Brindisi, M., Cavella, C., Brogi, S., Nebbioso, A., Senger, J., **Maramai, S.**, Ciotta, A., Iside, C., Butini, S., Lamponi, S., Novellino, E., Altucci, L., Jung, M., Campiani, G., Gemma, S*. Phenylpyrrole-based HDAC inhibitors: synthesis, molecular modeling and biological studies*. Future Med Chem. **2016,** 8 (13), 1573-87.

10. Brindisi, M., **Maramai, S.**, Brogi, S., Fanigliulo, E., Butini, S., Guarino, E., Casagni, A., Lamponi, S., Bonechi, C., Nathwani, S. M., Finetti, F., Ragonese, F., Arcidiacono, P., Campiglia, P., Valenti, S., Novellino, E., Spaccapelo, R., Morbidelli, L., Zisterer, D. M., Williams, C. D., Donati, A., Baldari, C., Campiani, G., Ulivieri, C., Gemma, S. *Development of novel cyclic peptides as pro-apoptotic agents*. European Journal of Medicinal Chemistry 117, **2016**, 301-320

9. Brindisi, M., **Maramai, S.**, Gemma, S., Brogi, S., Grillo, A., Gabellieri, E., Lamponi, S., Tedesco, D., Di Cesare Mannelli, L., Bonfiglio, T., Jung, K-M., Armirotti, A., Luongo, L., Ligresti, A., Piscitelli, F., Bertucci, C., Campiani, G., Maione, S., Ghelardini, C., Pittaluga, A., Piomelli, D., Di Marzo, V., Butini, S. *Development and Pharmacological Characterization of Selective Blockers of 2-Arachidonoyl Glycerol Degradation with Efficacy in Rodent Models of Multiple Sclerosis and Pain.* J. Med. Chem., **2016**, 59 (6), 2612–2632.

8. Brindisi, M., Brogi, S., **Maramai, S.**, Grillo, A., Borrelli, G., Butini, S., Novellino, E., Allarà, M., Ligresti, A., Campiani, G., Di Marzo, V., Gemma, S. *Harnessing the pyrroloquinoxaline scaffold for FAAH and MAGL interaction: definition of the structural determinants for enzyme inhibition*. RSC Adv., **2016**, 6 (69), 64651-64664.

7. Brindisi, M.[#], **Maramai, S.[#]**, (equal contribution), Grillo, A., Brogi, S., Butini, S., Novellino, E., Campiani, G., and Gemma, S. *Development of a practical and scalable route for the preparation of the deacetoxytubuvaline (dTuv) fragment of Pretubulysin and analogues*. Tetrahedron Letters 57, **2016**, 920–923.

6. Brogi, S., Butini, S., **Maramai, S.**, Colombo, R., Verga, L., De Lorenzi, E., Lamponi, S., Andreassi, M., Bartolini, M., Andrisano, V., Novellino, E., Campiani, G., Brindisi, M., Gemma, S. *Disease modifying anti-Alzheimer's drugs: inhibitors of human cholinesterases interfering with β-amyloid aggregation*. CNS Neuroscience & Therapeutics 20, **2014**, 624–632.

5. Butini, S., Brindisi, M., Brogi, S., **Maramai, S**., Guarino, E., Panico, A., Saxena, A., Chauhan, V., Colombo, R., Verga, L., De Lorenzi, E., Bartolini, M., Andrisano, V., Novellino, E., Campiani, G., and Gemma, S. *Multifunctional Cholinesterase and Amyloid Beta Fibrillization Modulators. Synthesis and Biological InvestigationI,* ACS Med. Chem. Lett., **2013**, 4 (12), 1178-1182.

4. Butini S., Gabellieri E., Brindisi M., Giovani S., **Maramai S.**, Kshirsagar G., Guarino E., Brogi S., La Pietra V., Giustiniano M., Marinelli L., Novellino E., Campiani G., Cappelli A., Gemma S. *A stereoselective approach to peptidomimetic BACE1 inhibitors*. European Journal of Medicinal Chemistry 70, **2013**, 233-247

3. Butini S., Gemma S., Brindisi M., **Maramai S.**, Minetti P., Celona D., Napolitano R., Borsini F., Cabri W., Fezza F., Merlini L., Dallavalle S., Campiani G., Maccarrone M. *Identification of a novel arylpiperazine scaffold for fatty acid amide hydrolase inhibition with improved drug disposition properties.* Bioorg. Med. Chem. Lett. 23, **2013**, 492–495.

2. Butini, S., Brindisi, M., Gemma, S., Minetti, P., Cabri, W., Gallo, G., Vincenti, S., Talamonti, E., Borsini, F., Caprioli, A., Stasi, M. A., Di Serio, S., Ros, S., Borrelli, G., **Maramai, S.**, Fezza, F., Campiani, G., and Maccarrone, M. *Discovery of Potent Inhibitors of Human and Mouse Fatty Acid Amide Hydrolases*. J. Med. Chem., **2012**, *55* (15), 6898–6915.

1. Venskutonité, R.; Butini, S.; Sanna Coccone, S.; Gemma, S.; Brindisi, M.; Kumar, V.; Guarino, E.; **Maramai, S**.; Valenti, S.; Amir, A.; Anton Valdes, E.; Frydenvang, K.; Kastrup, J. S.; Novellino, E.; Campiani, G.; Pickering, D. S.; *Selective Kainate Receptors (GluK1) Ligands Structurally Based upon 1H-Cyclopentapyrimidin-2,4(1H, 3H)-dione: Synthesis, Molecular Modeling, and Pharmacological and Biostructural Characterization*. J. Med. Chem., **2011**, *54* (13), 4793-4805.

BOOK CHAPTERS

2. Giordani, A., Poce, G., Consalvi, S., **Maramai, S.**, Saletti, M., Rossi, A., Patrignani, P., Biava, M., Anzini, M. Nitric Oxide in Health and Disease: Therapeutic Applications in Cancer and Inflammatory Disorders – **2023**. Chapter 3: Therapeutic potential for coxib-nitric oxide releasing hybrids in cancer treatment.

1. **Maramai, S.**, Taddei, M. Sustainable Organic Synthesis: Tools and Strategies – **2021** Chapter 18: Microwave Irradiation.

PATENTS

2. Baek, K. S.; Khoo, J. H.; Choi, S.; Park, Y. W.; Ward, S.; Le Grand, D.; West, R.; Turner, P.; **Maramai, S.**; Reuillon, T. Preparation of Substituted 1,2-Diaminoheterocyclic Compound Derivatives and Their Use as Pharmaceutical Agents. **WO2022260441A1**

1. **Maramai, S.**; Mazzacani, A.; Paradowski, M.; Ward, S. 2-Oxo-dihydroquinoline-3-carboxamide Derivatives as GABA Type A Receptor Modulators. **WO2022079432A1**

Date 19/02/2024