

EUROPEAN  
CURRICULUM VITAE  
FORMAT



PERSONAL INFORMATION

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Name **Salvatore Pacifico**  
Telephone  
E-mail  
  
Nationality  
Date of birth

EDUCATION AND TRAINING

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- Dates **21/03/2013**  
• Name and type of organisation providing education and training University of Ferrara  
• Principal subjects/occupational skills covered Organic Synthesis and Reactivity  
• Title of qualification awarded PhD Degree in Organic Chemistry  
Thesis entitled: Synthesis of Glycopeptides by Thiol-ene/yne Couplings and Study on the Umpolung Reactivity of  $\alpha$ -diketones (Tutor: Prof. Olga Bortolini)
  
- Date **27/03/2009**  
• Name and type of organisation providing education and training University of Ferrara  
• Principal subjects/occupational skills covered Medicinal Chemistry  
• Title of qualification awarded Master Degree in Medicinal Chemistry  
Thesis entitled: Design and Synthesis of New 2-Heterocyclyl-imidazo[2,1-i]purin-5-one Derivatives as Potent and Selective Human A<sub>3</sub> Adenosine Receptor Antagonists. (Tutor Prof. Pier Giovanni Baraldi)

RESEARCH ACTIVITY

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- Dates **01/04/2019-31/03/2020**  
• Name and address of employer Ferrara University, Department of Chemical and Pharmaceutical Sciences
  - Type of business or sector Organic and Medicinal Chemistry-Synthesis
  - Occupation or position held Post-Doc Research Fellowship
- Main activities and responsibilities NOP receptor biased agonists as innovative drugs
  
- Dates **01/04/2018-31/03/2019**  
• Name and address of employer Modena University, Department of Life Sciences
  - Type of business or sector Organic and Medicinal Chemistry-Synthesis
  - Occupation or position held Post-Doc Research Fellowship
- Main activities and responsibilities Protein-protein interaction inhibitors of thymidylate synthase against colorectal cancer

- Main activities and responsibilities
  - Dates **01/07/2014-30/06/2015**
  - Name and address of employer
    - Type of business or sector Modena University, Department of Life Sciences
    - Occupation or position held Organic and Medicinal Chemistry-Synthesis
  - Main activities and responsibilities Post-Doc Research Fellowship
- Main activities and responsibilities
  - Dates **01/06/2013-31/05/2014**
  - Name and address of employer
    - Type of business or sector Ferrara University, Department of Chemical and Pharmaceutical Sciences
    - Occupation or position held Organic and Medicinal Chemistry-Synthesis
  - Main activities and responsibilities
    - Post-Doc Research Fellowship by the Laboratory Network - Tecnopolo Ferrara - LTTA
    - Synthesis of heterodimers MOP / NOP agonists with analgesic activity. (Tutor: Prof. Remo Guerrini).
    - Collaboration with MBV Technologies S.r.l. (Modena, Italy), for the development of new mini-plants for raw or refined sugar production.
- Main activities and responsibilities
  - Dates **01/12/2012-31/05/2013**
  - Name and address of employer
    - Type of business or sector Ferrara University, Department of Organic Chemistry
    - Occupation or position held Organic Chemistry-Synthesis
  - Main activities and responsibilities
    - Principal Investigator of a project founded by FasTech S.r.l.
    - Collaboration with FasTech S.r.l. for the evaluation of new heterogeneous catalysts in the ammoxidation of cyclohexanone to cyclohexanoneoxime.
- Main activities and responsibilities
  - Dates **05/02/2011 – 05/08/2011**
  - Name and address of employer
    - Type of business or sector Ronzoni Institute (Institute for Chemical and Biochemical research)/Politecnico di Milano
    - Occupation or position held Organic Chemistry-Synthesis
  - Main activities and responsibilities
    - PhD student holder of a Fellowship by NIH
    - Synthesis, characterization and biological evaluation of sulfate trimaltose C-C-linked dimers with heparanase and selectin inhibitory activity (Tutors: Dott. GianGiacomo Torri and Prof. Elena Vismara)
- Main activities and responsibilities
  - Dates **28/09/2009 – 27/09/2010**
  - Name and address of employer
    - Type of business or sector Ferrara University, Department of Organic Chemistry
    - Occupation or position held Organic Chemistry-Synthesis
  - Main activities and responsibilities
    - Principal Investigator of a project founded by "Spinner 2013" (*business idea*)
    - Synthesis of ionic liquids from carbohydrates resulting from the recycling of biomass
- Main activities and responsibilities
  - Dates **01/04/2009 – 01/09/2009**
  - Name and address of employer
    - Type of business or sector Ferrara University, Department of Pharmaceutical Sciences
    - Occupation or position held Medicinal Chemistry-Synthesis
  - Main activities and responsibilities
    - Graduate student
    - Synthesis of 7-Oxo-[1,4]oxazino[2,3,4-ij]quinoline-6-carboxamides as Selective CB2 Cannabinoid Full Agonists for the Potential Treatment of Neuropathic Pain (Tutor: Prof. Pier Giovanni Baraldi)

## TEACHING ACTIVITY

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- Dates**2019-2020**
  - Occupation or position held Professor of "Chimica Organica Avanzata" (136 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2017-2018**
  - Occupation or position held Professor of "Analisi Quantitativa del Farmaco" (30 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2017-2018**
  - Occupation or position held Professor of "Analisi Qualitativa del Farmaco" (30 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2016-2017**
  - Occupation or position held Professor of "Chimica Farmaceutica Generale con Laboratorio" (16 h)
  - Course or Faculty Corso di Laurea in Farmacia, University of Ferrara.
- Dates**2015-2016**
  - Occupation or position held Professor of "Analisi Qualitativa del Farmaco" (120 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2015-2016**
  - Occupation or position held Professor of "Chimica Farmaceutica Generale con Laboratorio" (24 h)
  - Course or Faculty Corso di Laurea in Farmacia, University of Ferrara.
- Dates**2014-2015**
  - Occupation or position held Professor of "Analisi Qualitativa del Farmaco" (120 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2014-2015**
  - Occupation or position held Professor of "Chimica Farmaceutica Generale con Laboratorio" (24 h)
  - Course or Faculty Corso di Laurea in Farmacia, University of Ferrara.
- Dates**2013-2014**
  - Occupation or position held Professor of "Analisi Qualitativa del Farmaco" (96 h)
  - Course or Faculty Corso di Laurea in CTF, University of Ferrara.
- Dates**2013-2014**
  - Occupation or position held Professor of "Chimica Farmaceutica Generale con Laboratorio" (36 h)
  - Course or Faculty Corso di Laurea in Farmacia, University of Ferrara.
- Dates**2013 to present**
  - Occupation or position held Tutor of several Master Degree thesis in Medicinal Chemistry. Pharmaceutical Chemistry and Technology, University of Ferrara
  - Course or Faculty

## PERSONAL SKILLS AND COMPETENCES

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Mother tongue  
Other languages

**Italian**  
**English**  
reading: good  
Writing: good  
Speaking: good  
Pharmacy, University of Ferrara

Technical skills and competences      Organic Synthesis methodologies, Liquid and Solid phase synthesis, Purification techniques, Analytical characterization (IR, NMR, UV, Electrospray mass, MALDI-QTOF MS, HPLC); Design and synthesis of pharmacologically active compounds; Lead compound optimization; Theoretical knowledge of the main pharmacological assays

Other      Certificate for the free profession of pharmacist

## **RESEARCH AWARDS**

Dates      2014  
Description      Award for the best Chemical Sciences PhD thesis

Dates      2016  
Description      BANDO "GIOVANI RICERCATORI"

## ORAL COMMUNICATIONS

- **Synthesis of S-glycosyl amino acids via photoinduced thiol-ene coupling.**XII meeting-school of carbohydrate chemistry, Pontignano (Si), 20-23 June 2010.
- **Reactivity of dialkyl and diaryl  $\alpha$ -diketones with N-heterocyclic carbenes.**XII Giornata di Chimica dell' Emilia Romagna, Congresso Società Chimica Italiana, Ferrara, 17 December 2012

## POSTERS

- **Synthesis of S-glycosyl amino acids via photoinduced thiol-ene coupling.** **Pacifico, S;** Lo Conte, M.; Chambery, A.; Marra, A.; Dondoni, A. XII meeting-school of carbohydrate chemistry, Pontignano (Si), 20-23 June 2010.
- **Synthesis, structure and biological activity of sulfate trimaltose C-C-linked dimers.** Vismara E.; Valerio A.; Borsig L.; Vlodavsky I.; Naggi A.; **Pacifico S.;** Torri G. XXIV Congresso Nazionale della Società Chimica Italiana, Lecce, 11-16 Settembre 2011.
- **Reactivity of dialkyl and diaryl  $\alpha$ -diketones with N-heterocyclic carbenes.** **Salvatore Pacifico,** Gloria Guidetti, Daniele Ragno, Alessandro Massi, and Olga Bortolini. XXV Congresso Nazionale della Società Chimica Italiana, Pavia, 10-14 Settembre 2012

## PUBLICATIONS

- **Photoinduced Addition of Glycosyl Thiols to Alkynyl Peptides: Use of Free-Radical Thiol-Yne Coupling for Post-translational Bis-glycosylation of Peptides.** Lo Conte, M.; Pacifico, S.; Chambery, A.; Marra, A.; Dondoni, A. *J. Org. Chem.* **75**, **2010**, 4644.
- **Synthesis of S-glycosyl amino acids and S-glycopeptides via photoinduced click thiol-ene coupling.** Fiore, M.; Lo Conte, M.; Pacifico, S.; Marra, A.; Dondoni, A. *Tetrahedron Letters* **52**, **2011**, 444.
- **Thiazolium-Catalyzed Intermolecular Stetter Reaction of linear and cyclic alkyl  $\alpha$ -diketones.** Olga Bortolini, Giancarlo Fantin, Marco Fogagnolo, Pier Paolo Giovannini, Alessandro Massi, and Salvatore Pacifico. *Organic & Biomolecular Chemistry* **9**, **2011**, 8437.
- **$\alpha$ -Diketones as acyl anion equivalents: a non-enzymatic thiamine-promoted route to aldehyde-ketone coupling in PEG400 as recyclable medium.** Giancarlo Fantin, Marco Fogagnolo, Pier Paolo Giovannini, Salvatore Pacifico, Valentina Venturi, Alessandro Massi, and Olga Bortolini. *Tetrahedron* **67**, **2011**, 8110.
- **Unexpected reactivity of diaryl  $\alpha$ -diketones with thiazolium carbenes: discovery of a novel multicomponent reaction for the facile synthesis of 1,4-thiazin-3-ones.** Valerio Bertolasi, Olga Bortolini, Adelaide Donvito, Giancarlo Fantin, Marco Fogagnolo, Pier Paolo Giovannini, Alessandro Massi, and Salvatore Pacifico. *Org. Biomol. Chem.* **10**, **2012**, 6579.
- **Thiazolium-Functionalized Polystyrene Monolithic Microreactors for Continuous-Flow Umpolung Catalysis.** Olga Bortolini, Alberto Cavazzini, Paolo Dambrosio, Pier Paolo Giovannini, Lorenzo Caciolli, Alessandro Massi, Salvatore Pacifico and Daniele Ragno. *Green Chem.* **15**, **2013**, 2981.
- **Methylsulfinyl (Dimsyl) Anion as Umpolung Catalyst for the Chemoselective Cross Benzoin Reaction of  $\alpha$ -Diketones with Aldehydes.** Olga Bortolini, Giancarlo Fantin, Valeria Ferretti, Marco Fogagnolo, Pier Paolo Giovannini, Alessandro Massi, Salvatore Pacifico and Daniele Ragno *Adv. Synth. Catal.* **355**, **2013**, 3244
- **Practical Two-Step Desymmetrization of Benzils Catalyzed by the Methylsulfinyl (Dimsyl) Anion.** Olga Bortolini, Pier Paolo Giovannini, Alessandro Massi, Salvatore Pacifico, Daniele Ragno and Anna Zaghi *Org. Biomol. Chem.* **12**, **2014**, 5733

## PUBLICATIONS

- **In vitro and in vivo pharmacological characterization of a neuropeptide S tetrabranched derivative.** Chiara Ruzza, Anna Rizzi, Davide Malfacini, Alice Pulga, Salvatore Pacifico, Severo Salvadori, Claudio Trapella, Rainer K. Reinsheido, Girolamo Calo & Remo Guerrini. *Pharma Res Per.* **3**, **2015**, doi:10.1002/prp2.108
- **Structure activity studies of nociceptin/orphanin FQ(1-13)-NH<sub>2</sub> derivatives modified in position 5.** Remo Guerrini, Erika Marzola, Claudio Trapella, Salvatore Pacifico, Maria Camilla Cerlesi, Davide Malfacini, Federica Ferrari, Mark Francis Bird, David George Lambert, Severo Salvadori, Girolamo Calo.

*Bioorganic & Medicinal Chemistry*, 23, 2015, 1515-1520.

- **Design, Synthesis and Evaluation of Antiproliferative Activity of New Benzimidazolehydrazones.** Valentina Onnis, Monica Demurtas, Alessandro Deplano, Gianfranco Balboni, Anna Baldisserotto, Stefano Manfredini, Salvatore Pacifico, Sandra Liekens and Jan Balzarini. *Molecules*, 21, 2016, 579
- **Intracellular quantitative detection of human thymidylate synthase engagement with an unconventional inhibitor using tetracysteine-diarsenical-probe technology.** Glauco Ponterini, Andrea Martello, Giorgia Pavesi, Angela Lauriola, Rosaria Luciani, Matteo Santucci, Michela Pelà, Gaia Gozzi, Salvatore Pacifico, Remo Guerrini, Gaetano Marverti, Maria Paola Costi, and Domenico D'Arca. *Scientific Reports*
- **Neuropeptide S receptorligands: a patentreview (2005-2016)** Chiara Ruzza, Girolamo Calò, Salvatore Di Maro, Salvatore Pacifico, Claudio Trapella, Severo Salvadori, Delia Preti, Remo Guerrini. *Expert Opinion on Therapeutic Patents*, 27, 2017, 347-362
- **Structure- and conformation-activity studies of nociceptin/orphanin FQ receptor dimeric ligands.** Salvatore Pacifico, Alfonso Carotenuto, Diego Brancaccio, Ettore Novellino, Erika Marzola, Federica Ferrari, Maria Camilla Cerlesi, Claudio Trapella, Delia Preti, Severo Salvadori, Girolamo Calò and Remo Guerrini. *Scientific Reports*, 7, 2017, 45817
- **A diastereoselective synthesis of Cebranopadol, a novel analgesic showing NOP/ $\mu$  mixed agonism.** Claudio Trapella, Sara Bianco, Anna Fantinati, Remo Guerrini, Severo Salvadori, Salvatore Pacifico, Maria Camilla Cerlesi, Girolamo Calò. *Scientific Reports*, 7, 2017, 2416
- **Activation of nociceptin/orphanin FQ receptors inhibits contextual fear memory reconsolidation.** Rekik, K., Faria Da Silva, R., Colom, M., Pacifico, S., Zaveri, N.T., Calò, G., Rampon, C., Frances, B., Mouledous, L. *Neuropharmacology*, 125, 2017, 39-49
- **Urotensin-II peptidomimetic incorporating a non-reducible 1,5-triazole disulfide bond reveals a pseudo-irreversible covalent binding mechanism to the urotensin G-protein coupled receptor** Pacifico, S., Kerckhoffs, A., Fallow, A.J., Foreman, R.E., Guerrini, R., McDonald, J., Lambert, D.G., Jamieson, A.G. *Organic and Biomolecular Chemistry*, 15, 2017, 4704-4710.
- **Conveying a newly designed hydrophilic anti-human thymidylate synthase peptide to cisplatin resistant cancer cells: are pH-sensitive liposomes more effective than conventional ones?** Sacchetti, F., D'Arca, D., Genovese, F., Pacifico, S., Maretta, E., Hanuskova, M., Iannuccelli, V., Costi, M.P., Leo, E. *Drug Development and Industrial Pharmacy*, 43, 2017, 465-473.
- **Peptide welding technology – A simple strategy for generating innovative ligands for G protein coupled receptors** Calò, G., Rizzi, A., Ruzza, C., Ferrari, F., Pacifico, S., Gavioli, E.C., Salvadori, S., Guerrini, R. *Peptides*, 99, 2018, 195-204.
- **Fluorometric detection of protein-ligand engagement: The case of phosphodiesterase5** Di Rocco, G., Martinelli, I., Pacifico, S., Guerrini, R., Chichero, E., Fossa, P., Franchini, S., Cardarelli, S., Giorgi, M., Sola, M., Ponterini, G. *Journal of Pharmaceutical and Biomedical Analysis*, 149, 2018, 335-342.
- **Discovery of Novel 1,3,8-Triazaspiro[4.5]decane Derivatives That Target the  $\gamma$  Subunit of F1 /FO -Adenosine Triphosphate (ATP) Synthase for the Treatment of Reperfusion Damage in Myocardial Infarction.** Dr. Giampaolo Morciano, Delia Preti, Gaia Pedriali, Giorgio Aquila, Sonia Missiroli, Dr. Anna Fantinati, Dr. Salvatore Pacifico, Dr. Massimo Bonora, Dr. Natascia Carocchia, Dr. Claudia Morganti, Dr. Paola Rizzo, Roberto Ferrari, Prof. Mariusz Wieckowski, Gianluca Campo, Dr. Carlotta Giorgi, Prof. Claudio

Trapella J. Med. Chem., 61, 2018, 7131–7143.

- **Conformational propensity and biological studies of proline mutated LR peptides inhibiting human thymidylate synthase and ovarian cancer cell growth.**Saxena, Puneet; Severi, Leda; Santucci, Matteo; Taddia, Laura; Ferrari, Stefania; Luciani, Rosaria; Marverti, Gaetano; Marraccini, Chiara; Tondi, Donatella; Vitiello, Simone; Losi, Lorena; Fonda, Sergio; Pacifico, Salvatore; Guerrini, Remo; D'Arca, Domenico; Ponterini, Glauco; Costi, Maria Paola. J.Med.Chem 2018 61, 7374-7380
- **pH-Promoted Release of a Novel Anti-Tumour Peptide by “Stealth” Liposomes: Effect of Nanocarriers on the Drug Activity in Cis-Platinum Resistant Cancer Cells.**Francesca Sacchetti; Gaetano Marverti; Domenico D'Arca; Leda Severi; Eleonora Maretti; Valentina Iannuccelli; Salvatore Pacifico; Glauco Ponterini; Maria Paola Costi; Eliana Leo Pharm Res. 2018 ,35, 206.
- **Probing the Effect of Sildenafil on Progesterone and Testosterone Production by an Intracellular FRET/BRET Combined Approach.**Casarini L., Riccetti L., Limoncella S., Lazzaretti C., Barbagallo F., Pacifico S., Guerrini R., Tagliavini S., Trenti T., Simoni M., Sola M., Di Rocco G. Biochemistry. 2019 12;58(6):799-808.
- **Modulation of the NOP receptor signaling affects resilience to acute stress.** Holanda V., Pacifico S., Azevedo Neto J., Finetti L., Lobão-Soares B., Calo G., Gavioli E.C., Ruzza C. J Psychopharmacol. 2019 doi: 10.1177/0269881119864942.
- **Indole derivatives as multifunctional drugs: Synthesis and evaluation of antioxidant, photoprotective and antiproliferative activity of indole hydrazones.**DemurtasM, Baldisserotto A, Lampronti I, Moi D, Balboni G, Pacifico S , Vertuani S, Manfredini S, Onnis V. Bioorg Chem. 2019 85:568-576.
- **Synthesis and biological activity of peptide  $\alpha$ -ketoamide derivatives as proteasome inhibitors.**Pacifico S., Ferretti V., Albanese V., Fantinati A., Gallerani E., Nicoli F., Gavioli R., Zamberlan F., Preti D., Marastoni M. ACS MedChemLett. 2019 10(7):1086-1092.
- **Antagonistic Activity of Naphthoquinone-Based Hybrids toward Amyloids Associated with Alzheimer's Disease and Type-2 Diabetes.**Paul A., Viswanathan G., Mahapatra S., Balboni G., Pacifico S., Gazit E., Segal D. ACS ChemNeurosci. 2019 10(8):3510-3520.
- **Tetrabranched Hetero-Conjugated Peptides as Bifunctional Agonists of the NOP and Mu Opioid Receptors.**Pacifico S., Albanese V., Illuminati D., Fantinati A., Marzola E., Ferrari F., Neto J., Sturaro C., Ruzza C., Calò G., Preti D., Guerrini R. BioconjugChem. 2019 30(9):2444-2451.
- **Cyclic peptides acting as allosteric inhibitors of human thymidylate synthase and cancer cell growth.**Pacifico S., Santucci M., Luciani R., Saxena P., Linciano P., Ponterini G., Lauriola A., D'Arca D., Marverti G., Guerrini R., Costi MP. Molecules. 2019 24(19):3493.
- **Synthesis of folic acid functionalized gold nanoclusters for targeting folate receptor-positive cells.** Liu Z., Turyanska L., Zamberlan F., Pacifico S., Bradshaw T., Moro F., Fay M., Williams H., Thomas N. Nanotechnology. 2019 30(50):505102.
- **Serum beta-secretase 1 (BACE1) activity as candidate biomarker for late-onset Alzheimer's disease.**Cervellati C., Trentini A., Rosta V., Passaro A., Bosi C., Sanz JM., Bonazzi S., Pacifico S., Seripa D., Valacchi G., Guerini R., Zuliani G. Geroscience. 2019 doi: 10.1007/s11357-019-00127-6.
- **Synthesis and evaluation of antioxidant and antiproliferative activity of 2-arylbenzimidazoles.**Anna Baldisserotto, Monica Demurtasa, Ilaria

Lampronti, Massimo Tacchini, Davide Moia, Gianfranco Balboni, Salvatore Pacifico, Silvia Vertuani, Stefano Manfredini, Valentina Onnis. *BioorganicChemistry* 2020, 94,103396.

FERRARA,

SALVATORE PACIFICO