

# CURRICULUM VITAE

## Giuseppina Sabatino

### PERSONAL INFORMATION

First name / Surname Giuseppina SABATINO  
Address Via Albertina Giordano Pero, 5 59100 Prato  
Email giuseppina.sabatino@gmail.com  
Birthdate January 17- 01-1973  
Birthplace Petralia Sottana (PA) Italy  
Citizenship I talian  
Job address Laboratory of Peptide Chemistry & Biology, Department of Chemistry "Ugo Schiff"; Polo Scientifico e Tecnologico, via della Lastruccia, 13, I-50019 Sesto Fiorentino, Firenze (Italy) Tel. +39 0554573794; fax: +39 0554573584

### EDUCATION AND TRAINING

**July 1998** "Laurea" in Chemistry. Degree thesis title: "Ciclizzazione in fase solida di peptidi contenenti istidina tramite ancoraggio dell'anello imidazolico a tritil resine". Tutors: Dr Mario Chelli and Prof. Francesco De Sarlo; Dept of Organic Chemistry "Ugo Schiff", University of Florence (Italy).  
**January 1999** Habilitation for the Chemist Profession.  
**January 2005** Ph.D granted in "Chemical Sciences". Title: "*Solid Phase Peptide Synthesis: evaluation and optimization of different synthetic strategies.*". Supervisors Prof .Anna Maria Papini. Coordinator: Prof. Giacomo Martini PeptLab, Dept of Organic Chemistry "Ugo Schiff", University of Florence

### PROFESSIONAL CAREER

**2013** Tutor for Student Chemistry Laboratory, at Degree in Biological Sciences, University of Florence.  
**2011 and 2012** Teaching assignment "Sampling techniques and main analysis techniques, 16 hours" for the Postgraduate Course for the Profession Chemist, University Of Florence.  
**From 1/12/2011 To 30/11/2013** "Assegno di ricerca" at the Dipartimento di Chimica Università degli Studi di Firenze (Italy) "Chemical characterization of proteinaceous pictorial material by UPLC-AccQ • Tag <sup>TM</sup> and proteomic techniques". Scientific supervisor Prof. Anna Maria Papini.  
**From 1/01/2012 To 31/12/2013** Collaboration at Espikem S.r.l for the following project "design and synthesis of peptides and peptidomimetics bioactive".  
**From November 2001 To October 2009** "Assegno di ricerca" at the Dipartimento di Chimica Organica "Ugo Schiff", Università degli Studi di Firenze (Italy) on the research project "Synthesis of modifieds peptides in the context of Plasma filtration and immunoadsorbtion". Scientific supervisor Prof. Anna Maria Papini.  
**January 2005** PhD thesis on the title "Solid Phase Peptide Synthesis. Evaluation and optimization of different synthetic procedures".  
**From January 2002 To December 2004** PhD Student at the Laboratory of Peptide Chemistry of the Dipartimento di Chimica Organica "Ugo Schiff", Università degli Studi di Firenze (Italy).  
**From January 1999 To October 2001** Scholarship at the division of Nuclear Medicine Department of Istituto Europeo di Oncologia (Milano) on the research project "Synthesis of new biotin derivatives containing azamacrocyclic chelating agents " in collaboration with Dipartimento di Chimica Organica "Ugo Schiff", Università degli Studi di Firenze (Italy) and Sigma-Tau Spa (Pomezia - Roma).  
**Sep 2004-Jul 2006** OpenLab educational activities in the research laboratories, Polo Scientifico e Tecnologico, University of Florence (Italy).

### RESEARCH SKILLS

Design, synthesis, purification and characterization of peptides and their analogues of biomedical interest. Solid phase peptide synthesis following Fmoc/tBu strategies, in batch and continuous flow methods. Single linear peptides (L- and D-amino acids), multi-peptide, peptides libraries, multi-peptides from overlapping study, cyclic and branched peptides (disulphide bridges, cyclic through a peptide bond), isotopically labeled peptides, modified peptides (fluorescein, dansyl, dabcyI, acetyl, formyl, maleimide, fatty acids, amidation, biotin, spacers), MAP Multiple Antigenic Peptides, peptide anchored to solid support.. Peptide synthesis in solution. Orthogonal protection

of amino acids for SPPS. Use of manual, semi-automatic and automatic synthesizers for solid phase peptide synthesis. Microwave SPPS Synthesis of biotin derivatives and somatostatin analogues modified with chelating agents for radioimmuno-diagnosis and radioimmuno-therapy. Preparation of bioconjugates: peptides covalently bound to carrier proteins such as KLH, BSA, protein conjugation with fluorescent probes such as FITC. Organic synthesis. Synthesis of unnatural amino acids. Solid Phase Organic Synthesis. Analytical and purification technologies: NMR, IR and FT-IR, UV, SPE, HPLC/MS, Ultra Fast HPLC/ MS, MS (ESI and APCI).

**LANGUAGES** French, English.

## **INTERNATIONAL MEETINGS**

### Oral communication

- 10-15 /09/2006** A New Generation of N-Trazinylammonium Coupling Reagents Versatile for Peptide Synthesis by Different Strategies. ORG-F-17. XXII Congresso Nazionale Società Chimica Italiana, Firenze
- 6/10/2009** Workshop dedicato al settore Clinico-diagnostico, presentazione orale dal titolo: Celiac disease, Characterization of linear autoantigenic epitopes, Torino.
- 17-18/03/2010** "Giornate di analitica farmaceutica" organizzato da Pharma Education Center, Milano. I Seminario dal titolo: Confronto tra HPLC-MS ed UPLC-MS nella caratterizzazione dei peptidi sintetici. II Seminario dal titolo: Analisi di amminoacidi in fluidi biologici tramite UPLC.
- 10-12 /09/2010** 1<sup>st</sup> Italy-Australia Symposium on Biomolecules for Diagnostics and Therapeutics. EspiKem Srl: case study of the first academic spin-off of the University of Florence, a custom peptide synthesis company

### Organization

- 1-12 /05/2006** International training course on Mass Spectrometry and High Performance Liquid Chromatography of Proteins,
- 15-18/07/2007** EUROCOMBI 4, first International Symposium on Combinatorial Science in Biology, Chemistry, Catalysts and materials, Firenze.
- 27-29/04/2011** "2nd International Microwave-Assisted Organic and Peptide Synthesis Symposium", Florence, Italy

### Partecipazione

- 10-15/09/ 2000** 26th European Peptide Symposium Montpellier, Francia
- 8-10/02/2002** Convegno Nazionale della Divisione di Chimica dei Sistemi Biologici, Pontignano, Siena.
- 31/08-6/09 2002** 27<sup>th</sup> European Peptide Symposium, Sorrento
- 16 -20/09/2002** XXVIII Congresso della Divisione di Chimica Organica della Società Chimica Italiana, Roma
- 9-11/04/2003** Innovative combinatorial approaches and technologies: Practical Training Course Firenze,
- 30/01-1/02 2003** 5th MULTIPLE SCLEROSIS LAB RETREAT 1th Pieve a Salti (Buonconvento-SI)
- 5/03/2003** Corso teorico pratico sulla comprensione ed utilizzo della SPE, Sesto Fiorentino, Firenze.
- 19-23/07/2003** 18<sup>th</sup> American Peptide Symposium Boston
- 22-27/06/2003** XXI Congresso Nazionale della Società Chimica Italiana, Torino
- 22-25/10/2003** XIV Congresso AINI, Taormina.
- 12/05/2004** Corso teorico e pratico Spring columns – Cromatografia preparativa HPLC, Sesto Fiorentino Firenze.
- 17/06/2004** Seminario Ultra performance LC, Firenze
- 5-10/09/2004** 28<sup>th</sup> European Peptide Symposium, Praga.
- 4-8/10/2004** 1st European Conference on Chemistry for Life Sciences, Rimini
- 8/06/2006** Seminario Evoluzione in HPLC con i moduli intelligenti del sistema Ultimate 3000, Firenze.
- 10-15/09/2006** XXII Congresso Nazionale della Società Chimica Italiana, Firenze.
- 30/08- 5/09 2008** 30<sup>th</sup> European Peptide Symposium, Helsinki.
- 27-29/05/2009**, Corso di alta formazione Life Science innovation: from vision to commercialization, organizzato da regione toscana promozione, Firenze.
- 5-6/10/ 2011** "Peptides and proteins in the New Millenium" Symposium dedicated to Prof Luis Moroder in honour of his Doctorate *Honoris Causa*. Cergy-Pointoise, France.
- 29/03/12 - 31/03/12** MASTERING The Coeliac Condition From Medicine to Social Sciences and food technology Florence
- 2-7/09/2012**, 32 European Peptide Symposium, Atene, Abstract P373

## SCIENTIFIC PUBLICATIONS LIST

- [1] G. Sabatino, M. Chelli, S. Mazzucco, M. Ginanneschi and A.M. Papini. Cyclisation of histidine containing peptides in the solid-phase by anchoring the imidazole ring to trityl resins. *Tetrahedron Lett.* (1999) 40(4), 809-812. IF 2.558, Cites 20
- [2] G. Sabatino, B. Mulinacci, M.C. Alcaro, M. Chelli, P. Rovero, and A.M. Papini Assessment of new 6Cl-HOBt based coupling reagents for peptide synthesis. Part 1: Coupling efficiency study. *Lett. Pept. Sci.* (2002), 9, 119-123. IF 0.216, Cites 19
- [3] G. Sabatino, M. Chinol, G. Paganelli, S. Papi, M. Chelli, G. Leone, A.M. Papini, A. De Luca, and M. Ginanneschi. A New Biotin Derivative-DOTA Conjugate as a Candidate for Pre-targeted Diagnosis and Therapy of Tumors. *J. Med. Chem.* (2003), 46, 3170-3173. IF 4.820, Cites 18
- [4] M.C. Alcaro, G. Sabatino, J. Uziel, M. Chelli, M. Ginanneschi, P. Rovero, and A.M. Papini On-resin head-to-tail cyclization of cyclotetrapeptides: optimization of crucial parameters. *J. Peptide Science* (2004) 10, 218-228. IF 1.652, Cites 10
- [5] F. Lolli, B. Mulinacci, A. Carotenuto, B. Bonetti, G. Sabatino, B. Mazzanti, A.M. D'Ursi, E. Novellino, M. Pazzagli, L. Lovato, M.C. Alcaro, E. Peroni, M.C. Pozo-Carrero, F. Nuti, L. Battistini, G. Borsellino, M. Chelli, P. Rovero, and A.M. Papini An N-glucosylated peptide detecting disease-specific autoantibodies, biomarkers of Multiple Sclerosis. *Proc. Natl. Acad. Sci., U.S.A.* (2005) 102(29), 10273-10278. IF 10.231, Cites 32
- [6] F. Lolli, B. Mazzanti, M. Pazzagli, E. Peroni, M.C. Alcaro, G. Sabatino, R. Lanzillo, V. Brescia Morra, L. Santoro, C. Gasperini, S. Galgani, M.M. D'Elia, V. Zipoli, S. Sotgiu, M. Pugliatti, P. Rovero, M. Chelli, and A.M. Papini The glycopeptide CSF114(Glc) detects serum antibodies in multiple sclerosis. *J. Neuroimmunol.* (2005) 167(1-2), 131-137. IF 2.824, Cites 17
- [7] Z.J. Kaminski, B. Kolesinska, J. Kolesinska, G. Sabatino, M. Chelli, P. Rovero, M. Baszczyk, M.L. Gowka, and A.M. Papini N-triazinylammonium tetrafluoroborates. A new generation of efficient coupling reagents useful for peptide synthesis. *J. Am. Chem. Soc.* (2005) 127,16912-16920. IF 7.419, Cites 14
- [8] K. Jastrzabek, B. Kolesińska, G. Sabatino, F. Rizzolo, A.M. Papini, and Z.J. Kamiński. Benzyloxy derivatives of triazine-based coupling reagents designed for an efficient solid phase peptide synthesis on polystyrene resin, *Int. J. Pept. Res. Ther.* (2007) 13, 1-2, 229-236. IF 0.971.
- [9] F. Rizzolo, G. Sabatino, M. Chelli, P. Rovero, and A.M. Papini. A convenient microwave-enhanced solid-phase synthesis of difficult peptide sequences: case study of Gramicidin A and CSF114(Glc). *Int. J. Pept. Res. Ther.* (2007) 13, 1-2, 203-208. IF 0.971, Cites 15
- [10] B. Kolesińska, J. Frączyk, G. Sabatino, A.M. Papini, and Z.J. Kamiński. Sulfonates of N-triazinylammonium salts as highly efficient, inexpensive and environmentally friendly coupling reagents for peptide synthesis. *Chemistry Today* (2007) 25(1), 10-13. IF 0.318
- [11] •Boenzli E, Robert-Tissot C, Sabatino G, Cattori V, Meli ML, Gutte B, Rovero P, Flynn N, Hofmann-Lehmann T, & Lutz H. In vitro inhibition of feline leukaemia virus infection by peptides derived from the transmembrane domain. *Antiviral Therapy* (2011), 16, 905-913.
- [12] M. Potenza, G. Sabatino, F. Giambi, L. Rosi, A. M.Papini and L. Dei, Analysis of egg-based model wall paintings using an innovative combined Dot-ELISA and UPLC-based approach. *Anal Bioanal Chem* (2013) 405:691-701

### Review

- [13] G. Sabatino, M. Chelli, A. Brandi, and A.M. Papini Analytical methods for solid phase peptide synthesis. *Current Organic Chemistry* (2004) 8, 291-301. IF 2.775 Cites 5
- [14] G. Sabatino, AM. Papini. Advances in automatic, manual and microwave-assisted solid-phase peptide synthesis. *Current Opinion in drug discovery & Development*, (2008), 11, (6), 762-770. IF 4.205, Cites 4

### Brevetti Internazionali

- [15] "Process for the preparation of N-triazinylammonium salts". Filing date 07/11/2005. Applicant: Italvelluti S.p.a. Inventors: Z. Kaminski, A.M. Papini, B. Kolesinska, J. Kolesinska, K. Jastrzabek, G. Sabatino, R. Bianchini. PCT/EP2005/055793 (2005). Cites 1
- [16] J. Hayek, C. De Felice, A.M. Papini, P. Rovero, F. Nuti, F. Real-Fernandez, G. Sabatino, C. Tiberi (2012). Nuovi peptidi glicosilati. -, Azienda Ospedaliera Universitaria Senese; A.M. Papini, P. Rovero, F. Nuti, F. Real-Fernandez, G. Sabatino, C. Tiberi