

PERSONAL INFORMATION

Raffaella Gandolfi



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Sex Female | Date of birth 02/05/1996 | Nationality Italian

CURRENT POSITION

Associate Professor
Sector Chim/11 - Chemistry and Biotechnology of Fermentations
Department of Pharmaceutical Sciences, University Milan

WORK EXPERIENCE

- 2018- Quality assurance manager for Bachelor in Herbal Sciences and Technology, University of Milan
- 2004-2016 Research Assistant Professor at the University of Milan, Department of Pharmaceutical Science, SSD CHIM/11 - Chemistry and Biotechnology of Fermentations
- 2003-2004 Researcher Grant "Production of molecules involved in yeast energy and detoxification reactions", DISTAM University of Milan
- 2002-2003 Researcher Grant "Vanillin production by microbial biotransformation of agri-food residues", DISTAM University of Milan
- 2001-2002 Researcher Fellowship (Euticals S.p.A) "Enzymatic Production of (S) - isopropylidenglycerol (IPG)", DISTAM University of Milan
- 1999-2001 Researcher Fellowship MURST "Research, characterization and development of new antibiotics" performed at Biosearch Italia S.p.A, Gerenzano (VA),
- 1996-1999 Researcher Fellowship (Sitia Yomo S.p.A) "Influence of the administration of yoghurt on the concentration of bile acids in the faecal water of subjects in the geriatric age", DISTAM University of Milan

EDUCATION AND TRAINING

- 1998 Qualified as Food Technologist
- 1996 Master degree in Food Science and Technology, University of Milan
- 1988 Secondary school Diploma specialization in Food Technology, ITIS "Galileo Galilei", Crema

PERSONAL SKILLS

- Mother tongue Italian
- Other tongue English

Organizational /Managerial skills

- Tutor for 38 graduand students, co-tutor for 39 graduand students, co-tutor of 1 PhD student, University of Milan
- Tutor for Erasmus and secondary school students

Job related skills

- Knowledge of quality assurance processes
- Expertise in fermentation processes, biocatalysis and microbial metabolism.
- Use of analytical techniques as: gas-chromatography, HPLC, UV-visible spectroscopy, NMR and mass spectroscopy

Other skills

- Use of Microsoft Office, chemical software and instrument management software
- Expertise in bibliographic research

ADDITIONAL INFORMATION

Teaching activity

From 2018-2019

Phytopharmaceutical chemistry and analysis, Laboratory, Bachelor's degree in Herbal Sciences and Technology

Since a.a. 2016-2017

Preparation of drugs with biotechnological methods, Two-years Master's Degree in Pharmaceutical Biotechnology, Curriculum: Development and production of biotechnological drugs

Bioprocesses for drug preparation, Bachelor's degree in Biotechnology, Pharmaceutical curriculum

Fermentation Chemistry, Bachelor's degree in Herbal Sciences and Technology

a.a. 2013-'14/2016-'17

Special Food analysis, Master's degree in Pharmaceutical Chemistry and Technology

a.a. 2004-'05/2016-'17

Fermentation Biotechnology, Bachelor's degree in Pharmaceutical Biotechnology

a.a. 2010-'11/2012-'13

Applied Microbiology, Master's degree in Pharmaceutical Chemistry and Technology

a.a. 2006-'07/2007-'08

Fermentation Chemistry, Bachelor's degree in Dairy production and processing

a.a. 2003-2004

Fermentation Biotechnology, Two-years Master's Degree in Pharmaceutical Biotechnology

a.a. 2001-2002

Guest lecturer. Fermentation Biotechnology, Bachelor's degree in Pharmaceutical Biotechnology

Research activity

The main scientific activity belong to the area of biocatalysis and can be resumed by the following fields:

1. Isolation and selection of new biocatalysts
2. Chemo and regioselective modification of glycopeptides and glycodepsipeptides with antibiotic activity by biotransformation
3. Racemic mixture resolution of chiral synthons by enzymatic hydrolysis or enzymatic esterification in organic solvents
4. Enantioselective reduction of ketones by isolate or cells bound dehydrogenases
5. Study of cascade reactions that combine chemo and biocatalysis in eco-friendly systems
6. Study of artificial metallo-enzyme

Publications

The scientific activity is documented by 54 publications in international peer-reviewed journals, 1 contribution on volume, 3 patents and 36 communications at congresses.

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Publications List

2013-2018

1. Gandolfi R., Facchetti G., Christodoulou M. S., Fusé M., Meneghetti F., Rimoldi I., Cascade Reaction by Chemo- and Biocatalytic Approaches to Obtain Chiral Hydroxy Ketones and *anti* 1,3-Diols. *ChemistryOPEN.*, 2018, 7, 393.
2. Pellegrino S., Facchetti G., Gandolfi R., Fusé M., Erba E., Rimoldi I., Ruthenium(II) complexes bearing (NNN) ligand: Catalytic evaluation of different solvent-mediated coordination modes. *Can. J. of Chem.*, 2018, 96, 40.
3. Gandolfi R., Contini A., Pinto D., Marzani B., Pandini S., Nava D., Pini E., Synthesis and Biological Evaluation of New Natural Phenolic (2E,4E,6E)-Octa-2,4,6-trienoic Esters. *Chem. and Biod.*, 2017, 14, e1700294.
4. Bucci R., Das P., Iannuzzi F., Feligioni M., Gandolfi R., Gelmi M.L., Reches M., Pellegrino S., Self-assembly of an amphipathic $\alpha\alpha\beta$ -tripeptide into cationic spherical particles for intracellular delivery. *Org. Biomol. Chem.*, 2017, 32, 6773.
5. Rimoldi I., Facchetti G., Contente M.L., Gandolfi R., Efficient methodology to produce duloxetine precursor using whole cells of *Rhodotorula rubra*. *Tetrahedron: Asymmetry*, 2016, 27, 389.
6. Pellizzoni M., Facchetti G., Gandolfi R., Fusé M., Contini A., Rimoldi I., Evaluation of Chemical Diversity of Biotinylated Chiral 1,3-Diamines as a Catalytic Moiety in Artificial Imine Reductase. *ChemCatChem.*, 2016, 8, 1665.
7. Pellegrino S., Facchetti G., Contini A., Gelmi M.L., Erba E., Gandolfi R., Rimoldi I., Ctr-1 Mets7 motif inspiring new peptide ligands for Cu(i)-catalyzed asymmetric Henry reactions under green conditions. *RCS Advances*, 2016, 6, 71529.
8. Contente M. L., Serra I., Molinari F., Gandolfi R., Pinto A., Romano D., Preparation of enantiomerically enriched aromatic β -hydroxynitriles and halohydrins by ketone

- reduction with recombinant ketoreductase KRED1-Pglu. *Tetrahedron*, 2016, **72**, 3974.
9. Facchetti G., Gandolfi R., Fusè M., Zerla D., Cesarotti E., Pellizzoni M., Rimoldi I., Simple 1,3 diamines and their application as ligands un ruthenium (II) catalysts for asymmetric transfer hydrogenation of aryl ketones. *New Journal of Chemistry*, 2015, **39**, 3792.
10. Contente M.L., Zambelli P., De Vitis V., Gandolfi R., Pinto A., Romano D., Biotransformation of aromatic ketones and ketoesters with the non-conventional yeast *Pichia glucozyma*. *Tetrahedron Letters*, 2014, **55**, 7051.
11. Zambelli P., Fernandez-Arrojo L., Romano D., Santos-Moriano P., Gimeno-Perez M., Gandolfi R., Fernandez-Lobato M., Molinari F., Plou F.J., Production of fructooligosaccharides by mycelium-bound transfructosylation activity present in *Cladosporium cladosporioides* and *Penicillium sizovae*. *Process Biochemistry*, 2014, **49**, 2174.
12. Zerla D., Facchetti G., Fusè M., Pellizzoni M., Castellano C., Cesarotti E., Gandolfi R., Rimoldi I., 8-Amino-5,6,7,8-tetrahydroquinolines as ligands in iridium(III) catalysts for the reduction of aryl ketones by asymmetric transfer hydrogenation (ATH). *Tetrahedron: Asymmetry*, 2014, **25**, 1031.
13. Treviño J., Bayón C., Arda A., Marinelli F., Gandolfi R., Molinari F., Jimenez-Barbero J., Hernáiz M., New Insights into the Glycopeptide Antibiotics Binding to Cell Wall Precursors using SPR and NMR spectroscopy. *Chem. Eur. J.*, 2014, **20**, 7363.
14. Ferri N., Cazzaniga S., Mazzarella L., Curigliano G., Lucchini G., Zerla D., Gandolfi R., Facchetti G., Pellizzoni M., Rimoldi I. Cytotoxic effect of (1-methyl-1H-imidazol-2-yl)-methanamine and its derivatives in PtII complexes on human carcinoma cel. *Biorg. Med Chem.*, 2013, **21** 2379

Finanziamenti

1. 2010-2011 Research Support “Progetto dote ricerca applicata” 2010/2011 di Regione Lombardia in collaboration with Phytoremedial s.r.l.
2. 2009 Consulting contract Phytoremedial s.r.l. “Fermentations of vegetable matrices and biotransformation of natural molecules in order to increase their bioavailability and obtain functional foods”.
3. 2009 Commissioned research contract, Zuccherificio Molisano S.p.A “Production of fructooligosaccharides by biotransformation”
- 4 MIUR PRIN 2008: Research Support “New unnatural polyfunctionalized amino acids and their use in the synthesis of peptido mimetics”
5. PUR 2008 e 2007: “Chemical synthesis and biotransformation of conjugated polyene systems of potential biological interest”
6. PUR 2006: “Chemical synthesis and biotransformation of conjugated polyene: characterization and evaluation of their biological activity.
7. PRIN 2005: Research support “Cycloaddition reactions using eco-friendly methodologies for the preparation of polyhydroxylated amino acids as pseudo-sugar and pseudo-nucleoside precursors”.

Dati personali Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali" e sue successive modifiche e integrazioni, nonché del Regolamento UE 679/2016 "Regolamento Generale sulla Protezione dei dati o, più brevemente, RGPD".

Milano, 20 febbraio 2019

Firma

