Università di Genova

Renata Riva

Full Professor in Organic Chemistry

EDUCATION AND TRAINING

1986 – 1987
Post-doctoral fellow
Fellowship funded by the National Institute of Health, Bethesda (USA). Research topic: Enantioselective Synthesis of the Bottom-Half of Chlotricolide. Supervisor: Prof. William R. Roush
Massachusetts Institute of Technology Cambridge (MA, USA) and Indiana University Bloomington (IN, USA)

1983 – 1986
PhD in Chemical Sciences, curriculum Synthesis, characterization and synthetic methodologies, I cycle
Title of the Thesis: Ricerche sullo Sviluppo e sulla Utilizzazione di Sostanze Organiche Naturali Azotate. Sintesi Stereo- ed Enantioselettive, Semisintesi di Alcaloidi Indolici. Supervisor: Prof. Bruno Danieli
University of Milano, Milano (I)

1983
Qualification to practice as a chemist
University of Milano, Milano (I)

1982 – 1983
Postgraduate research
Research in the field of alkaloids (indole and non-indole), also in collaboration with a leading Italian company in the isolation of natural substances, especially alkaloids
University of Milano, Milano (I)

1982
Master's degree in Chemistry
Title of the Thesis: Sui Processi di Trasposizione di γ-Idroperossienoni Steroidali ad Opera di Sali di Fe(II), della Luce e delle Basi. Supervisor: Prof. Bruno Danieli
University of Milano, Milano (I)

1977
Secondary School Diploma in Classical Studies
Liceo Classico E. Cairoli, Varese (I)

PROFESSIONAL HISTORY

2017 – ongoing
Full Professor
School of Medical and Pharmaceutical Sciences, Department of Pharmacy (2017 – 2020), School of Sciences and Department of Chemistry and Industrial Chemistry (2020 – ongoing)
University of Genova, Genova (I)

Università di Genova

2000 – 2017
Associate Professor
School of Sciences and Department of Chemistry and Industrial Chemistry
University of Genova, Genova (I)

1992 – 2000
Assistant Professor (Researcher)
School of Sciences and Institute of Organic Chemistry (then merged into the Department of Chemistry and Industrial Chemistry)
University of Genova, Genova (I)

1989 – 1992
Post-doc
Fellowship funded by a pharmaceutical company, School of Sciences and Institute of Organic Chemistry
University of Genova, Genova (I)

1987 – 1992
Tenured Chemistry Teacher in Secondary Schools (part-time from 1989 to 1992)
Ministry of Education – Schools in Loano, Genova, Rapallo (I)

ACADEMIC APPOINTMENTS

2024 – ongoing
Member of the Academic Senate
Representing the School of Sciences
University of Genova, Genova (I)

2024 – ongoing
Member of the Programming Commission of the Department of Chemistry and Industrial Chemistry
University of Genova, Genova (I)

2019 – 2024
Coordinator of the PhD Course in Sciences and Technologies of Chemistry and Materials
Five curricula, of which two (merged into a single curriculum from 2024) in agreement with the Italian Institute of Technology, Genova
University of Genova, Genova (I)

2021 – 2024
Member of the Doctoral Commission
University of Genova, Genova (I)

2020 – 2022
Member of the Expert Evaluation Group GEV 03 and Coordinator of sub-GEV3 for the VQR 2015-2019
ANVUR – National Agency for Evaluation of the University and Research System

2019 – 2020
Coordinator of the Steering Committee of IANUA
Advanced School of the University of Genova, specialization Sustainability Sciences and Technologies
University of Genova, Genova (I)

Università di Genova

2018 – 2020
Member of the Scientific Commission
Department of Pharmacy
University of Genova, Genova (I)

2016 – 2020
Member of the Steering Committee of IANUA
Advanced School of the University of Genova (ISSUGE until January 2019; Institute of Advanced Studies of the University of Genova), specialization Sustainability Sciences and Technologies
University of Genova, Genova (I)

2013 – ongoing
Member of the Doctoral Board of the PhD Course in Sciences and Technologies of Chemistry and Materials
PhD program activated by the Department of Chemistry and Industrial Chemistry
University of Genova, Genova (I)

2012 – 2017
Deputy Director of the Department of Chemistry and Industrial Chemistry
Member by right of the Department Council
University of Genova, Genova (I)

2009 – 2012
Member of the Teaching Committee of the Doctoral School in Humanoid and Life Technologies
School established jointly by the University of Genova and the Italian Institute of Technology Foundation
Italian Institute of Technology, Genova (I) and University of Genova, Genova (I)

2009 – 2012
Member of the Doctoral Board of the PhD Course in Drug Discovery
Part of the above-mentioned Doctoral School in Humanoid and Life Technologies
Italian Institute of Technology, Genova (I) and University of Genova, Genova (I)

2008 – 2017
Coordinator of the Organic Chemistry Section of the Department of Chemistry and Industrial Chemistry
University of Genova, Genova (I)

2002 – 2005
Member of the Department Council of the Department of Chemistry and Industrial Chemistry
Representing the Associate Professors
University of Genova, Genova (I)

2001 – 2015
Coordinator of the Tutoring (and Internship) Commission, Bachelor's Degree in Chemistry (it later became Bachelor's Degree in Chemistry and Chemical Technologies)
University of Genova, Genova (I)

2001 – 2013
Coordinator of the Supplementary Courses for four-year graduates at the Art High School Barabino, Genova

Università di Genova

Appointed by the University of Genova
University of Genova, Genova (I)

2000 – 2007
Member of the Scientific Commission of Scientific-Disciplinary Area 03 (Chemical Sciences)
Appointed by the University of Genova
University of Genova, Genova (I)

1999 – 2000
Member of the Department Council of the Department of Chemistry and Industrial Chemistry
Representing the Assistant Professors
University of Genova, Genova (I)

EXPERIENCE

SCIENTIFIC RESPONSIBILITY FOR RESEARCH PROJECTS ACCEPTED FOR FUNDING ON THE BASIS OF COMPETITIVE CALLS INVOLVING PEER REVIEW

2018 – 2023 *Progettazione Sintesi e Valutazione di Nuovi Inibitori di STAT3*
Project Coordinator: Dr. Maurizio Viale (IRCCS San Martino University Hospital – IST National Institute for Cancer Research). Responsible of the synthesis unit (no operational units were foreseen): Renata Riva
Compagnia di San Paolo, Torino (I)

2018 – 2020 *Research and Innovation Staff Exchange (RISE) Synthesis Characterization structure and properties of Biodegradable Polyesters* ("Biodest").
Scientific Coordinator: Prof. Alejandro Müller (Polymat, San Sebastian, (E)). The local research unit was composed of three professors, including Renata Riva, but there was no coordinator
European Community

2017 Funding of basic research activities (FFABR)
Reserved for Associate Professors in possession of the required qualifications
MIUR - Ministry of University and Research

2012 – 2013 *Ricerca e Purificazione di Molecole ad Attività Antitumorale per Potenziali Applicazioni Farmacologiche e Oncologiche* (POR – FESR 2007-2013 – Asse 1 Innovazione e Competitività Azione 1.2.2. Ricerca Industriale e Sviluppo Sperimentale – anno 2011.
The project was submitted by a Ligurian company, as mandatorily required by the call. Once approved by external evaluators, it included a consulting contract signed by the company with Renata Riva.
Regione Liguria

2012 *Accoppiamento di Metodi Microbiologici e Chimici per la Sintesi Efficiente e Selettiva di Principi Attivi Farmaceutici e/o di Analoghi e Trasferimento dei Risultati al Comparto Industriale*
Funding for two two-year post-doc fellowships, approved by external evaluators; one was managed by Renata Riva. Proposing institution: IRCCS San Martino University Hospital – IST National Institute for Cancer Research through the Tecnobionet hub.
Regione Liguria

2011 – 2013 Three University research projects (PRA), subject to evaluation

2007 – 2013 *Nuove Sintesi di Molecole con Attività Farmaceutica*
Annual or biennial ongoing research contracts with a pharmaceutical company

TEACHING OR RESEARCH POSITIONS (FELLOWSHIPS) AT QUALIFIED FOREIGN OR SUPRANATIONAL UNIVERSITIES AND RESEARCH INSTITUTES

2012 and 2017 Teaching assignment as part of an Erasmus mobility (OM type).
A series of lectures was held for PhD students, post-docs and Master's students on: Multicomponent Reactions: applications to Multi Diversity Generation and in Drug Discovery (2012) and Multicomponent Reactions: multi diversity generation and stereochemistry control (2017). In both cases a research seminar was also held.
H. Heine Universität, Düsseldorf (D)

EDITORSHIP OR PARTICIPATION IN EDITORIAL BOARDS OF JOURNALS, PUBLISHING SERIES, ENCYCLOPAEDIAS AND TREATISES

2019 – ongoing Associate Editor of the journal Molecular Diversity, Springer Nature

2019 – ongoing Member of the Editorial Board of the journal Molecules, MDPI

2019 Guest Editor of the special issue "New Insights in Diversity Oriented Synthesis" of the journal Molecules, MDPI

PARTICIPATION IN THE CREATION OF NEW BUSINESS ENTITIES (SPIN-OFFS), DEVELOPMENT, USE AND COMMERCIALISATION OF ACADEMIC PATENTS

2025 Viale, M.; Riva, R.; Lambruschini, C. *Antitumorale Inibitore non Covalente di Stat3*
Italian Patent No. 812025000078835 filed on May 22nd 2025
University of Genova, and IRCCS San Martino Polyclinic Hospital, Genova

2012 Riva, R.; Moni, L.; Banfi, L.; Rasparini, M.; Carcone, L.; Minelli, C.; Venegoni, S. *Multicomponent Process for the Preparation of Bicyclic Compounds*
European patent WO 2013/178682 A2, filed on May 30th 2012, published on December 5th 2013
Private Company

2011 Taddei, M.; Russo, A.; Cini, E.; Riva, R.; Rasparini, M.; Carcone, L.; Banfi, L.; Vitale, R.; Roseblade, S.; Zanotti-Gerosa, A. C. *Process for Producing Aliskiren*
International Patent WO 2011/151442 A2 filed June 3rd 2011, published December 8th 2011. Granted as US9346745 B2 on May 24th 2016
Private Company

2008 Castaldi, G.; Rasparini, M.; Marras, G.; Banfi, L.; De Moliner, F.; Musumeci, F. M.; Riva, R. *One-step Process for Preparing Paliperidone and its Oxalate Salt*
European Patent No. EP08382084 A2, filed on December, 22nd 2008, published on June, 23rd 2010. Granted as EP2382213 B1 on February, 20th 2013
Private Company

1992 Guanti, G.; Banfi, L.; Narisano, E.; Riva, R.; Manghisi, E.; Cascio, G. *Processo e Intermedi per la Preparazione di Antibiotici β-Lattamici*
Italian patent no. MI92 A 000467 filed on March 3rd, 1992
Private Company

1991 Guanti, G.; Banfi, L.; Narisano, E.; Riva, R.; Manghisi, E.; Cascio, G. *Nuovo Processo per la Preparazione di Acidi 3-Acilammino-4-carbamoilossimetil-2-azetidinone-1-solfonici ed*

Intermedi per la loro Preparazione
Italian patent no. MI91 A 000255 filed on February 1st, 1991
Private Company

TEACHING ACTIVITIY

Over the years, Renata Riva has taught various courses for the following degree courses: 1) single-cycle degree courses in Chemistry (C), Industrial Chemistry (CI), and Pharmaceutical Chemistry and Technology (CTF); 2) Bachelor degree courses in Chemistry, Industrial Chemistry (later merged into Chemistry and Chemical Technologies (CTC)); 3) Master degree course in Chemical Sciences (SC).
She has also taught for the PhD programs in: 1) Sciences and Technologies of Chemistry and Materials (UniGe); 2) Drug Discovery (UniGe-IIT); 3) PhD in Chemical Sciences (UniInsubria, Como campus); for the IANUA Advanced School (UniGe); for some Post-graduate programs (UniGe and UniPv). Listed here are courses taught for Bachelor's or Master's degrees

- ✓ Organic Chemistry Laboratory 1 (C, CI)
- ✓ Organic Chemistry Laboratory (CI, CTC)
- ✓ Organic Chemistry 2 with Laboratory (CTC)
- ✓ Organic Chemistry 2 (CTC, CTF)
- ✓ Applied Organic Chemistry (C, CTC)
- ✓ Complements of Organic Chemistry (SC)
- ✓ Organic Stereochemistry (SC)

RESEARCH ACTIVITY

The research activity of Renata Riva, all in the field of synthetic organic chemistry, can be summarized as follows:

- ✓ Synthesis of substances of potential biological interest. During her career she worked first on the semisynthesis of natural products of biological interest not readily available from natural sources, by transforming more accessible compounds. Then she worked on the synthesis of complex biologically active molecules and on the preparation of simplified analogues (β-lactams, enediynes, iminosugars etc.), exploiting different methodologies in the field of asymmetric synthesis such as organometallic procedures and biocatalysis
- ✓ Diversity oriented synthesis for obtaining new scaffolds with potential pharmacological activity, by coupling multicomponent reactions with secondary transformations. The most recent interests are in the field of stereochemistry issues, mainly diastereoselectivity control, in multicomponent reactions. Within this topic she is mainly interested in the synthesis of chiral building blocks obtained by chemoenzymatic or organocatalytic procedures to be used in multicomponent reactions
- ✓ Synthesis of new fluorophores coupling multicomponent reactions with domino reactions catalyzed by transition metals and studies of their photophysical properties and possible applications. The most recent development concerns the obtaining of molecules with axial chirality
- ✓ "Bio-based" synthesis of new molecules through multicomponent reactions with different applications, exploiting building blocks from agro food industry or renewable sources.
- ✓ "Not infringing" synthesis of active pharmaceutical ingredients in collaboration with pharma companies

- ✓ Synthesis of conjugated between nanoparticles (magnetic or carbo nanoonions) and custom made organic molecules, with possible applications as biological probes and in drug delivery