EUROPEAN FORMAT FOR CURRICULUM VITAE

CARLINI LAVINIA

WORK EXPERIENCE

• Dates (from - to)	**NOVEMBER 2024 – PRESENT**
• Name and address of employer	Faculty of Agricultural, Environmental and Food Science, Free University of Bolzano-Bozen
• Type of business or sector	**Laboratory of Plant and Microbe biotechnologies**
• Type of job	Post-Doctoral researcher
• Main activities and responsibilities	Research project: CEDRIC = Creation of a sustainable transboundary agro-ecosystem by exploiting the biodiversity of the root microbiome.

• Dates (from - to)	**NOVEMBER 2023 – NOVEMBER 2024**
• Name and address of employer	Department of Cellular, Computational and Integrative Biology (CIBIO) University of Trento
• Type of business or sector	**Laboratory of Protein Crystallography and Structure-Based Drug Design**
• Type of job	Post-Doctoral researcher
• Main activities and responsibilities	Research project: Therapeutic opportunities in Lafora disease, a rare juvenile neurodegenerative epilepsy with no treatment. - Structure-based development of a hit compound affecting Lafora disease (LD) progression Aim: Identification of a hit compound for its subsequent optimization in a drug candidate a) PROTACs for PTG degradation b) Fragment screening on PTG - Structural studies on LD-related macromolecular complexes Aim: Definition of the molecular architecture and mechanism of action/regulation for protein complexes affecting LD setting a) PTG/Laforin/Malin ternary complex b) PP1/PTG assemblies with glycogen-modifying enzymes

• Dates (from - to)	**NOVEMBER 2020 – OCTOBER 2023**
• Name and address of employer	Faculty of Agricultural, Environmental and Food Science, Free University of Bolzano-Bozen
• Type of business or sector	**University Research Laboratory of Bioorganic chemistry and Bio-Crystallography (B_2CI)**
• Type of job	Laboratory research work as part of the PhD
• Main activities and responsibilities	Research work devoted to the study of the amylovoran biosynthetic pathway of the phytopathogenic bacterium *Erwinia amylovora* (the causative agent of Fire blight in Rosaceae). Specialization in structural biology by X-ray crystallography. The main activities are: - Production and characterization of recombinant proteins (from the synthesis of the plasmid suitable for expression in a heterologous system to the purification by chromatographic techniques); - Bioinformatics analysis; - Bio-chemical and bio-physical characterization of samples through the use of different experimental methods and analytical techniques; - Crystallization trials and X-ray crystallography experiments to investigate bio-molecules.

• Dates (from - to)	**FEBRUARY 2023 – MAY 2023**
• Name and address of employer	Diamond Light Source - Research Complex, Membrane Protein Laboratory (MPL)
• Type of job	Period abroad for Membrane Protein production and crystallization
• Main activities and responsibilities	High throughput technologies for membrane protein production and different techniques of sample preparation for crystallisation and cryo-electron microscopy to optimize the expression and purification process and structurally characterize the proteins of my PhD project. Screening new constructs and optimise my existing constructs for crystallisation. Nanodrop crystallisation and Lipidic Cubic Phase crystallisation (coupled to a pre-screen using Fluorescence Recovery after Photo-bleaching) and Single-particle cryo-EM platforms for the rapid crystallization screening for each target. Complementary biophysical analyses such as nano-DSF, Isothermal titration calorimetry (ITC) and SEC-MALS.
• Dates (from - to)	**06.02.2023 - 17.02.2023**
• Name and address of employer	Faculty of Science and Technology, Free University of Bolzano-Bozen
• Type of job	Tutoring
• Main activities and responsibilities	Tutoring work in the "Bioorganic chemistry and Bio-Crystallography" university laboratory for the 'Overarching competences and orientation' program of a student from the Realgymnasium Albert Einstein TFO Oskar von Miller Meran. Basic concepts of chemical solutions, chromatography and some principles of crystallography were first discussed in order to get to grips with protein purification and to be able to carry out some crystallisation tests.
• Dates (from - to)	**JUNE 2022 – JULY 2022**
• Name and address of employer	Biotechnology and Biomedicine Centre of the Academy of Sciences and Charles University (BIOCEV)
• Type of job	Period abroad for Biophysical studies
• Main activities and responsibilities	Achieve a better understanding of the biochemical and biophysical properties of the different proteins of my PhD project. Reach a better technical knowledge and gain experience in all the different biophysical techniques present in the TNA-site, like nano-DLS, nano-DSF, Circular Dichroism and SAXS.
• Dates (from - to)	**OCTOBER 2021 – MARCH 2022 and JANUARY 2023**
• Name and address of employer	Faculty of Science and Technology, Free University of Bolzano-Bozen
• Type of job	Teaching assistant
• Main activities and responsibilities	Assist and support the main professor in laboratory experiences and exam preparation lessons related to his course (“Fondamenti di Chimica” and “Entomology and Phytopathology” courses): collaborate in the preparation of teaching materials for lectures and view sessions for students; tutoring activities for students; exercise and study trips (excursions); supporting the preparation and correction of profit examinations.
• Dates (from - to)	**OCTOBER 2021 and OCTOBER 2022**
• Name and address of employer	Faculty of Science and Technology, Free University of Bolzano-Bozen
• Type of job	Professor for an OFA - Chemistry course
• Main activities and responsibilities	Teaching of a 6-hour university course. Services deriving from teaching activities (e.g. correction of profit checks, participation in meetings, preparation of teaching activities, etc.) and use of digital teaching tools and methodologies: OLE moodle platform, recording of video lectures, management of forums, exercises, assessment/self-evaluation activities, tests.
• Dates (from - to)	**SEPTEMBER 2021 – OCTOBER 2021**
• Name and address of employer	International Centre for Genetic Engineering and Biotechnology (ICGEB)
• Type of job	Period of collaboration

• Main activities and responsibilities	Computational biology analyses related to my PhD project research. Genome-wide and different other bioinformatics analyses. The relationships between the structure and functions of *Erwinia* genomes were studied and the proteomic and metabolomic analysis of biological systems was covered.
• Dates (from - to)	**SEPTEMBER 2019 - JULY 2020**
• Name and address of employer	Department of Chemical Sciences, University of Padua
• Type of business or sector	**University Research Laboratory of Protein Structure**
• Type of job	Internship and practical training
• Main activities and responsibilities	Production and characterization of recombinant proteins: design and synthesis of constructs and relative plasmids; transformation and study of their expression in a heterologous system; protein purification through various chromatographic techniques; analysis of the secondary and three-dimensional structure of models obtained with prediction tools and X-ray crystallography experimental results; bio-chemical and bio-physical characterization using the techniques of DLS, CD, Thermofluor, SDS-PAGE, Mass spectrometry.
• Dates (from - to)	**07.08.2017 - 29.09.2017**
• Name and address of employer	Province of Bolzano
• Type of company or sector	**Internship at the water analysis and chromatography laboratory of the Provincial Environment Agency**
• Type of job	Summer practical training
• Main tasks and responsibilities	Food analysis, water analysis, preparation samples and standard solutions, pesticide extraction from different matrices (Queppe and Quechers applied methods), use of liquid chromatography, use of gas chromatography, use of spectrophotometer, use of liquid chromatography combined with mass spectrometry, ion chromatography, data processing with excel software.
• Dates (from - to)	**OCTOBER 2016 - JANUARY 2017**
• Name and address of employer	Department of Chemistry, University of Parma
• Type of business or sector	**University Research Laboratory in Organic Chemistry**
• Type of job	Training internship
• Main tasks and responsibilities	Chemical synthesis and application of various known reactions for the modification and functionalization of a macromolecule (calix - 4 - arenes functionalized); Chemical Analysis and Characterization of supramolecular compounds (two-dimensional NMR, Mass Spectrometry, TLC).
• Dates (from - to)	**SUMMER 2015, SUMMER 2017 and SUMMER 2018**
• Name and address of employer	Municipality of Bolzano
• Type of company or sector	**Summer camp "Estate Ragazzi"**
• Type of employment	Animator
• Main activities and responsibilities	Entertainment, recreational play and group teaching of different children of all ages.

EDUCATION AND TRAINING

• Dates (from - to)	**NOVEMBER 2020 – OCTOBER 2023** **(PhD defense 19/04/2024)**

• Name and type of institution providing education and training	Free University Bolzano-Bozen, Faculty of Science and Technology, Bioorganic chemistry and Bio-Crystallography laboratory (B_2CI)
• Title of qualification awarded	**PhD in Mountain Environment and Agriculture**
• Degree thesis title	"Towards the understanding of the amylovoran biosynthetic pathway in *Erwinia amylovora*"
• Main subjects / professional skills covered by the study	PhD program aimed at providing in-depth research skills that will allow students to tackle relevant agricultural and environmental problems in mountain areas. Research activity: study of organic molecules involved in biological processes such as proteins, enzymes, carbohydrates and DNA with a link to the local economy.
• Dates (from - to)	**2 JUNE 2023 – 10 JUNE 2023**
• Name and type of institution	"Ettore Majorana" Foundation and International Centre for Scientific Culture
• Title of qualification awarded	**International School of Crystallography**
• Degree thesis title	58th Course: Structural Drug Design 2023: Biology, Chemistry and Computers – Erice, Italy 2-10 June 2023
• Main subjects / professional skills covered by the study	The course provided with: a) an overview of the current structural and biophysical techniques used in the field; b) the use of informatics tools in drug discovery; c) the evolving role of chemistry in drug design and biology understanding; and d) an introduction to biologics and their applications. Hands-on workshops and tutorials complemented the lectures.
• Dates (from - to)	**ACADEMIC YEAR 2018/2019 – ACADEMIC YEAR 2020/2021**
• Name and type of institution	University of Padua, Department of Biology
• Title of qualification awarded	**Master's Degree in Industrial Biotechnology – Chemistry Address**
• Degree thesis title	"Study of the production in *Escherichia coli* of the PAS-B domains of the Aryl hydrocarbon Receptor (AhR) and the Aryl hydrocarbon Receptor Nuclear Translocator (ARNT)"
• Grade mark reported	110 cum Laude
• Main subjects / professional skills covered by the study	The course of study provided the ability both to deal with biotechnological systems at a chemical-molecular level and to be able to apply them on an industrial production scale. In particular, I delved into aspects such as biotransformation of small molecules and the use of biomaterials. I studied the preparation, the characterization, the use and the structural analysis of bio-molecules using state-of-the-art techniques. The course provided the knowledge necessary to obtain a biotechnological background in the development, production and use of cellular systems, variously engineered, that are applicable as biotechnological agents; the development and production of biomolecules, largely recombinant and the main biotechnology laboratory methodologies to be used in the environmental sector and in the industrial production of bio-based products and bio-materials (including innovative ones) in a sustainable manner.
• Dates (from - to)	**ACADEMIC YEAR 2017/2018**
• Name and type of institution of education and training	University of Bologna, Department of Chemical Sciences
	Master's Degree in Chemistry - Synthesis Methods and Bio-organic Chemistry
• Dates (from - to)	**ACADEMIC YEAR 2013/2014 - ACADEMIC YEAR 2016/2017**
• Name and type of institution providing education and	University of Parma, Department of Chemical Sciences, Life and Environmental Sustainability
• Title of qualification awarded	**First Cycle Degree in Chemistry**
• Degree thesis title	"Synthesis of Calix(4)areni such as α-helix-mimics"
• Grade mark	101

• Main subjects / professional skills covered by the study	The Chemistry degree course has provided me with a solid theoretical and experimental background in the various fields of chemistry. I have mastered the scientific method, knowledge in the use of instrumentation of chemical interest, risk management and safety regulations. In addition to the acquisition of mathematical and physical skills, thanks to theoretical content classes and laboratory activities, I have studied the fundamental chemical disciplines (general and inorganic chemistry, organic chemistry, analytical chemistry, physical chemistry and then courses in the area of complex systems chemistry). The training was completed with an experimental placement (short internship in a research laboratory inside or outside the university).
• Dates (from - to)	**SCHOOL YEAR 2008/2009 - SCHOOL YEAR 2012/2013**
• Name and type of institute of education	Scientific High School Evangelista Torricelli, Bolzano
• Title of qualification awarded	**Scientific Maturity**
• State exam date	1/7/2013
• Dates (from - to)	**JULY – AUGUST 2012**
• Name and type of institute of training	Humboldt-Institut, Schloss Ratzenried 88260 Argenbühl, Bad Schussenried Intensive language course “Intensivkurs für "Deutsch als Fremdsprache", Kursstufe B2”
• Dates (from - to)	**SEPTEMBER 2011**
• Name and type of institute of training	Life Learning Center, Trieste (Italy) Experience of Laboratory: DNA fingerprinting, Bacterial transformation, GMO recognition, Galenica laboratory
• Dates (from - to)	**MARCH 2011**
• Name and type of institute of training	Wimbledon School of English, Wimbledon Exceeding Full time course of General English

MOTHER TONGUE — ITALIAN

FOREIGN LANGUAGES

GERMAN

• Certificate	Goethe-zertifikat C1; Bescheinigung über die Kenntnis der italienischen und der deutschen Sprache: A (Patentino di bilinguismo A).
• Understanding	[Very Good]
• Listening	[Very Good]
• Reading	[Excellent]
• Speaking	[Good]
• Writing	[Excellent]

ENGLISH

• Certificate	Cambridge English: First (FCE), Level B2; Language Centre of the Free University of Bolzano, Level C1
• Understanding	[Excellent]
• Listening	[Excellent]
• Reading	[Excellent]
• Speaking	[Very Good]
• Writing	[Excellent]

COMMUNICATION SKILLS	Excellent interpersonal skills; Excellent ability to relate, communicate and build relationship with other and to work in a group gained during school years and thanks to the sports practiced (rhythmic gymnastics, swimming).
ORGANISATIONAL AND MANAGERIAL SKILLS	Flexibility and ability to adapt to any context and work sector; Autonomous in the organization and management of work; Skills to coordinate respect to a single and / or collective project, gained during the internship periods.
TECHNICAL SKILLS	Good skills in using the computer, able to use the different applications of the Office package; Good knowledge of e-mail clients and of the Windows and macOS operating systems, able to surf the internet through the various browsers.
EXPERTISE IN MY FIELD	Manual skills in the application of various analytical and bio-physical characterization techniques; Competent in the methods related to cellular and molecular biotechnology, with particular reference to bacterial cell culture techniques, even on a large scale; In-depth knowledge of the mechanisms of functioning and regulation of prokaryotic and eukaryotic cells and of methods aimed at the structural and functional characterization of biological macromolecules and cellular processes in which they intervene; Outstanding abilities in recombinant protein production, purification and crystallization and also in X-ray crystallography structure determination Good skills of bioinformatics methodologies for organization and access to databases; Good skills of molecular modelling, alignment of nucleotide and protein sequences, design of structural models and visualization/ modification through different tools and software; Basic knowledge related to the economy, organization and management of innovation and biotechnological development projects.
ADDITIONAL SKILLS	- Responsibility - Motivation - Patience - Empathy
FURTHER INFORMATION	Driving License B, Ex Red Cross Volunteer