

## PERSONAL INFORMATION

### Rosanna Caliandro

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Address: Free University of Bozen, Facoltà di Scienze e Tecnologie  
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Nationality: Italian

## WORK EXPERIENCE

### Jan. 2017 – present Postdoc

Main activities and responsibilities: Production, purification and crystallization of enzymes involved in the biosynthetic pathway of bioactive polyphenolic metabolites in apple. In vitro enzymatic assays; X-ray diffraction data collection and protein structure determination

Name of employer: Free University of Bozen. Bolzano, Italy

### Jan. 2016 – Dec. 2017 Postdoc

Main activities and responsibilities: Protein expression and purification; protein crystallization; X-ray diffraction data collection and structure determination; in vitro enzymatic assays.

Name of employer: Institute of Crystallography - Italian National Research Council (CNR) - Area Science Park - Basovizza, Trieste - Italy

### Jan. 2015 - April 2015 Internship R&D

Main activities and responsibilities: Recovery of cheese-whey proteins by using membrane technology (Ultrafiltration).

Name of employer: Granarolo S. p. A., Pasturago di Vernate (MI), Italy

**Jan. 2012 - Dec. 2013 Postdoc**

Main activities and responsibilities: Recombinant overexpression, purification and crystallization of bacterial proteins of biomedical and biotechnical interest.

Name of employer: Molecular Biology Institute of Barcelona: Proteolysis Lab  
CSIC Barcelona Science Park

**EDUCATION AND TRAINING**

**June 2014 - May 2015 Training course**

Principal subject: Sustainability of the Italian food supply chain

Name of organization: Institute of Sciences of Food Production (ISPA), National Research Council (CNR), Bari - Italy

**Jan. 2008 - March 2012 Doctoral degree in Natural Science**

Principal subjects: PhD project:  
Investigation of the biosynthesis of lutein epoxide and the roles of  $\alpha$ -branch carotenoids in photoprotection and photoacclimation

Name of organisation: Institute of Bio- and Geosciences (IBG): Plant Sciences  
Forschungszentrum Juelich – Heinrich Heine Universität Düsseldorf

**July 2009 – October 2009 Training period**

Occupational skills covered: Cloning and expression of the membrane protein zeaxanthin epoxidase into the *Rhodobacter capsulatus* expression system

Name of organisation: Institut für Molekulare Enzymtechnologie (IMET)<sup>2</sup>  
Heinrich-Heine-Universität Düsseldorf

**Sept. 1999 - July 2007 Laurea (M.S. equivalent) in Biological Sciences, Molecular Biology**

Principal subjects: Master degree thesis:  
Proteomic and functional analysis of water soluble protein fraction extract from *Rhodobacter sphaeroides* cells grown in presence of cobalt ions

Name of organisation: University of Bari, Italy

## CONFERENCES AND WORKSHOPS

- April 2016** Participation in the **School on Synchrotron and Free-Electron-Laser Based Methods: Multidisciplinary Applications and Perspectives** in Trieste, organized by the International Centre of Theoretical Physics (ICTP)
- November 2012** Participation in the **meeting of the EU project RAPID** (Rheumatoid Arthritis and Periodontal Inflammatory Disease) in Barcelona, as an experienced researcher member of the project
- September 2011** Poster presentation at the **Botanikertagung 2011** in Berlin organized by the Freie Universität Berlin and the Humboldt-Universität Berlin.  
Title of the poster: **“Investigation of the role of zeaxanthin epoxidase in the lutein epoxide cycle”**
- April 2011** Co-author of the oral presentation at the **International Workshop “Mechanisms of Non-Photochemical Quenching”** in Passau, held by Prof. Govindjee (University of Illinois)  
Title of the presentation: **“Fluorescence Lifetime Imaging (FLI), Non-Photochemical Quenching (NPQ) and Photosynthesis: Avocado Leaves”**
- August 2010** Poster presentation at the **15<sup>th</sup> International Congress on Photosynthesis** in Beijing organized by the International Society of Photosynthesis Research.  
Title of the poster: **“ Roles of the  $\alpha$ -branch Carotenoids in Photoprotection and Photoacclimation under Fluctuating Light ”**
- April 2010** Participation in the **Expresso Workshop on Protein Expression** organized by the Institut für Molekulare Enzymtechnologie (IMET), Heinrich-Heine-Universität Düsseldorf

## LANGUAGES

**Italian:** Native  
**English:** Fluent  
**Spanish:** Fluent  
**German:** Good

## TECHNICAL COMPETENCIES AND SKILLS

- Genomic DNA and RNA extraction from bacteria and plant leaves
- PCR and Race PCR
- Cloning of DNA sequences in different kinds of vectors
- Southern and Northern blotting
- Bioinformatic analysis of DNA and protein sequences
- Recombinant overexpression of proteins in bacteria (*Escherichia coli*, *Rhodobacter capsulatus*, *Bacillus subtilis*) and plants (*Arabidopsis thaliana*)
- Protein purification by using different FPLC chromatographic methods (Affinity, SEC, IEX)
- Inclusion body proteins solubilization and refolding
- Protein-DNA complex formation
- SDS-PAGE and Western blotting
- Two-dimensional gel electrophoresis
- Protein crystallization
- X- ray protein diffraction data collection and structure determination
- In vitro enzymatic activity assays

## PUBLICATIONS

Matsubara, S. ; Chen, Y. -C. ; **Caliandro, R.** ; Govindjee ; Clegg, R. M.

“Photosystem II fluorescence lifetime imaging in avocado leaves: Contributions of the lutein-epoxide and violaxanthin cycles to fluorescence quenching”

Journal of photochemistry and photobiology / B 104, (2011)

10.1016/j.jphotobiol.2011.01.003

**Caliandro, R.** ; Nagel, K. ; Kastenholz, B. ; Bassi, R ; Li, Z. ; Niyogi, K. K. ; Pogson, B. J. ; Schurr, U. ; Matsubara, S.

“Effects of altered  $\alpha$  - and  $\beta$  -branch carotenoid biosynthesis on photoprotection and whole-plant acclimation of *Arabidopsis* to photo-oxidative stress”

Plant, cell & environment 36(2), 438 - 453 (2013)

10.1111/j.1365-3040.2012.02586.x

PDB structures deposition:

Caliandro, R.; Mirabelli, V.; **Caliandro, R**; Rosato, A.; Lasorsa, A.; Galliani, A.; Arnesano, F.; Natile, G.  
"Pt(II)-mediated copper-dependent interactions between ATOX1 and MNK1"

**Caliandro, R.**, Pesaresi, A., Lamba, D.

"Torpedo californica acetylcholinesterase in complex with a non-chiral donepezil like inhibitor 17"

**Caliandro, R.**, Pesaresi, A., Lamba, D.

"Torpedo californica acetylcholinesterase in complex with a non-chiral donepezil like inhibitor 20"