

## Daniela Coppola



Born in Catanzaro (CZ) on 21/11/1983

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**Current Position:** Tecnologo III° livello, Technologist

**Current Affiliation:** BlueBiotec Department, Stazione Zoologica Anton Dohrn, Napoli (Italy)

### Education/Training/Experience

Institute and Location	Degree / Function	Year	Field of Study
University of Naples “Federico II”	B.Sc. (Laurea triennale)	2002-2005	Biotechnology for products and processes
University of Naples “Federico II”	M.Sc. (Laurea Magistrale)	2005-2007	Molecular and Industrial Biotechnology
University of Naples “Federico II”	Ph.D.	2008-2012	Biotechnological Sciences
Institute of Protein Biochemistry, CNR, Naples Italy	Fellowship	2008-2012	Hemoproteins from polar marine bacteria and fish
Institute of Protein Biochemistry, CNR, Naples Italy	Master	2012-2013	BIAM-EPI-Form-Expert in Innovative processes of biomolecular synthesis techniques applied to epigenetic
Institute of Biosciences and BioResources, CNR, Naples Italy	Postdoc	2013-2019	Oxygen-binding proteins from marine bacteria and fish; discovery of new enzymes and marine bioactive molecules for nutraceutical and cosmeceutical applications

Stazione Zoologica Anton Dohrn, Napoli, Italy	Tecnologo	2019-present	Biotechnological applications from marine sources
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### **Appointments and awards**

2014: Winner of Mini Grant provided by the Scientific Committee for Antarctic Research (SCAR) Antarctic Thresholds - Ecosystem Resilience and Adaptation (AnT-ERA) Programme

2014: Winner of a Short-Term Mobility Fellowship 2014, CNR

### **Visiting Scientist and Participation to Field Expedition**

2010. Visiting scientist in the laboratory of Prof. A. Mozzarelli and Prof. C. Viappiani at the University of Parma - Biochemistry and Molecular Biology Department, Italy. March-May 2010.

2010-2011. Visiting scientist in the laboratory of Prof. R.K. Poole at the University of Sheffield - Molecular Biology and Biotechnology Department, UK. September 2010-July 2011.

2013. Participant in the TUNU-V expedition (East Greenland), in the Programme TUNU-MAFIG (Marine fishes of North East Greenland - diversity and adaptation), on board of R/V Helmer Hanssen in collaboration with the University of Tromsø, Norway. August 2003

2013-2014. Participant in the XXIX Italian Expedition in Antarctica 2013/2014” - Mario Zucchelli Station, Baia Terra Nova, Antarctica - in the National Antarctic Research Programme (PNRA 2013/AZ1.10). December 2013-February 2014

2014. Visiting scientist in the laboratory of Prof. R.K. Poole at the University of Sheffield - Molecular Biology and Biotechnology Department, UK. October-November 2014

2017. Participant in the XXXIII Italian Expedition in Antarctica 2017/20148” - Mario Zucchelli Station, Baia Terra Nova, Antarctica - in the National Antarctic Research Programme (PNRA 2016). October - November 2017.

### **Other**

Participant in five Italian projects

### **Publications**

#### ***List of publications of the last 10 years:***

#### **Peer-reviewed**

- Giordano D, Russo R, **Coppola D**, di Prisco G, Verde C (2010). Molecular adaptations in hemoglobins of notothenioid fishes. *Journal of Fish Biology* 75, 301-318.
- **Coppola D**, Giordano D, Vergara A, Mazzarella L, di Prisco G, Verde C, Russo R (2010). The hemoglobins of sub-Antarctic fishes of the suborder *Notothenioidei*. *Polar Science* 4, 295-308.
- Merlino A, Vitagliano L, Balsamo A, Nicoletti FP, Howes BD, Giordano D, **Coppola D**, di Prisco G, Verde C, Smulevich G, Mozzarella L, Vergara A (2010). Crystallization, preliminary X-ray

- diffraction studies and Raman microscopy of the major hemoglobin from the sub-Antarctic fish *Eleginops maclovinus* in the carbomonoxy form. *Acta Crystallographica Section F* 66, 1536-1540.
- **Coppola D**, Bruno S, Ronda L, Abbruzzetti, Viappiani C, di Prisco G, Verde C, Mozzarelli A (2011). Low affinity PEGylated hemoglobins from *Trematomus bernacchii*, a model for hemoglobin-based blood substitutes, *BMC Biochemistry* 12, 66.
  - **Coppola D**, Abbruzzetti S, Nicoletti F, Merlino A, Gambacurta A, Giordano D, Howes BD, De Sanctis G, Vitagliano L, Bruno S, di Prisco G, Mazzarella L, Smulevich G, Coletta M, Viappiani C, Vergara A, Verde C (2012). ATP regulation of the ligand-binding properties in temperate and cold-adapted haemoglobins. X-ray structure and ligand-binding kinetics in the sub-Antarctic fish *Eleginops maclovinus*, *Molecular BioSystems* 8, 3295-3304.
  - **Coppola D**, Giordano D, Tinajero-Trejo M, di Prisco G, Ascenzi P, Poole RK, Verde C (2013). Antarctic bacterial hemoglobin and its role in the protection against nitrogen reactive species, *Biochimica et Biophysica Acta*, doi: 10.1016/j.bbapap.2013.02.018.
  - Giordano D, **Coppola D**, Russo R, Tinajero-Trejo M, di Prisco G, Lauro F, Ascenzi P, Verde C (2013). The globins of cold-adapted *Pseudoalteromonas haloplanktis* TAC125: from the structure to the physiological functions, *Advances in Microbial Physiology* 63, 329-389. doi: 10.1016/B978-0-12-407693-8.00008-X.
  - Giordano D, Russo R, **Coppola D**, Altomonte G, di Prisco G, Bruno S, Verde C (2015). “Cool” adaptations to cold environments: globins in Notothenioidei. *Hydrobiologia, Biology of the Ross Sea* 761, 313. DOI 10.1007/s10750-015-2306-1.
  - Giordano D, **Coppola D**, Russo R, di Prisco G, Denaro R, Giuliano L, Lauro F, Verde C (2015). Marine microbial secondary metabolites: pathways, evolution and physiological roles. *Advances in Microbial Physiology* 66, 357-428. doi: 10.1016/bs.ampbs.2015.04.001.
  - **Coppola D**, Giordano D, Abbruzzetti S, Marchesani F, Balestrieri M, di Prisco G, Viappiani C, Bruno S, Verde C (2015). Functional characterisation of the haemoglobins of the migratory notothenioid fish *Dissostichus eleginoides*. *Hydrobiologia, Biology of the Ross Sea* 761, 315-333.
  - Sattin G, Bakiu R, Tolomeo AM, **Coppola D**, Patarnello T, Santovito G (2015). Characterization of cytoplasmic glutathione peroxidase 1 of four Antarctic fish: insights into the evolution of fish glutathione peroxidases. *Hydrobiologia, Biology of the Ross Sea* 761, 363-372.
  - **Coppola D**, Giordano D, Milazzo L, Howes BD, Ascenzi P, di Prisco G, Smulevich G, Poole RK, Verde C (2018). Coexistence of multiple globin genes conferring protection against nitrosative stress to the Antarctic bacterium *Pseudoalteromonas haloplanktis* TAC125. *Nitric Oxide*, 73, 39-51.
  - Feis A, Howes BD, Milazzo L, **Coppola D**, Smulevich G (2018). Structural determinants of ligand binding in truncated hemoglobins: resonance Raman spectroscopy of the native states and their carbon monoxide and hydroxide complexes. *Biopolymers*, e23114.
  - Giordano D, Costantini M, **Coppola D**, Lauritano C, Núñez Pons L, Ruocco N, di Prisco G, Ianora A, Verde C (2018). Biotechnological applications of bioactive peptides from marine sources. *Advances in Microbial Physiology*, 73, 171-220.
  - Bruno S, **Coppola D**, di Prisco G, Giordano D, Verde C (2019). Enzymes from marine polar regions and their biotechnological applications. *Marine Drugs*, 17, 544.
  - Daane JM, Giordano D, **Coppola D**, di Prisco G, Detrich HWIII, Verde C (2019). Adaptations to environmental change: globin superfamily evolution in Antarctic fishes. *Marine genomics*, Accepted.