

# Curriculum Vitae

## Roberto Danovaro

### 1. PERSONAL INFORMATION

Date of birth: 22 February 1966 (Genova), Italy  
Married, 3 children (6, 8 and 13 years)  
Nationality: Italian

#### Researcher unique identifier(s)

ORCID: 0000-0002-9025-9395  
Research ID: M-9018-2014



**Languages:** Italian (mother language), English (fluent), French (fluent), Spanish (medium).

### 2. BIOSKETCH

Roberto Danovaro was born in Genoa (master degrees in Biology, 1988). PhD in Marine and Environmental Sciences at the University of Pisa in 1993. Assistant Professor in 1994 at the University of Ancona, Associate Professor in 1998 at the University of Bari and Full Professor in 2001 at the Polytechnic University of Marche. Founder of the Doctorate in *Marine Biology and Ecology and Coordinator of the International Master degree in Marine Biology* and of the first Master Degree *Environmental Sustainability and Civil Protection*. Director of the Department of Marine Sciences (2004 to 2010), Director of the Department of Life and Environmental Sciences (2011 to 2014) at the Polytechnic University of Marche, Dean of the Faculty of Science till 2014. Pro-Rector (delegated to the Research) at the Polytechnic University of Marche (2010-2013). From 2013 to present, was nominated by the Ministry of Education University and Research (MIUR) President of the *Stazione Zoologica Anton Dohrn* (the oldest research institution in Italy founded in 1872). President of the Scientific Council of WWF Italy, and member of the scientific council of several institutions (ENI, OGS, CoNISMa inter alia). Member of several international panels (IUCN, UNEP, EU), editor of international journals (ISI, WoS) and coordinator of EU and international programs. President of two Italian Scientific Societies and of a European Federation of Scientific Societies. RD received the Prize BMC Biology (London, 2010), the Award of French Society of Oceanography (2011), and the ENI Award "Protection of the Environment" (first Italian winner in 2013).

### 3. MAIN ACHIEVEMENTS, EDUCATIONAL STEPS

#### 3.1 Education

1993-PhD in Marine Environmental Sciences at the Department of Biology University of Pisa (joint PhD activity at the University of Ghent, Belgium)

1988-Master Degree in Biology (Marine Biology curriculum), Institute of Marine Science, Genoa

#### 3.2 Position

2013-Present: President at the Stazione Zoologica Anton Dohrn, Naples, Italy

2001-Present: Full Professor, Marine Biology and Ecology, Polytechnic University of Marche, Italy

1998-2001 Associate Professor, Department of Biology, University of Bari, Italy

1994-1998 Assistant Professor (University of Ancona), Italy

#### 3.3 International Projects

**EU:** Participated in more than 20 international research projects (either EU or ESF) as WP leader or Project coordinator

##### ***Project coordinator***

- 2017-2019 Project **IDEM**: Implementation of the MSFD to the Deep Mediterranean Sea (IDEM), Project coordinator, 1 M Euros.
- 2016-2020 H2020 project **MERCES**: Marine Ecosystem Restoration in changing European Seas, Project coordinator. 6.5 M Euros.

##### ***List of the research projects from 2000 till present:***

- 2015-2017 JPIO Pilot Action “**Ecological aspects of deep-sea mining**”, UNIVPM PI
- 2013-2016 FPVII project **MIDAS**: Mangling Impacts of Deep Sea Resources exploitation, UNIVPM PI
- 2012-2016 FPVII project **DEVOTES**: DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status, WP Leader
- 2009-2012 FPVII project **HERMIONE**: Hotspot Ecosystem Research and Man's Impact On European Sea, WP Leader
- 2010-2011 FPVII project **CLAMER**: Climate change impacts on the marine environment: research results and public perception, UNIVPM PI
- 2005-2008 Responsive Mode Project MARBEF Project **MANUELA**: Meiobenthic and nematode biodiversity: unravelling ecological and latitudinal aspects, UNIVPM PI
- 2004-2009 FPVII project **HERMES**: Hotspot Ecosystem Research on the Margins of European Seas, WP leader
- 2007-2009 European Science Foundation project **BIOFUN**: BIOdiversity and ecosystem FUNctioning in contrasting southern European deep-sea environments: from viruses to megafauna, Project co-leader
- 2005-2009: FPVII project **SESAME**: Southern European Seas: Assessing and Modelling Ecosystem Changes, UNIVPM PI
- 2005-2009 FPVI project **CORALZOO**: The development of an SME-friendly European breeding program for hard corals, WP leader
- 2005-2008 FPVI project **REEFRES**: Developing ubiquitous restoration practices for Indo-Pacific reefs, WP leader
- 2005-2009 FPVI project **MAP**: Marine Aerosol Production, UNIVPM PI

- 2001-2004 FPV project **MEDVEG**: Effects of nutrient release from Mediterranean fish farms on benthic vegetation in coastal ecosystems, WP leader
- 2001-2003 FPV project **INTERPOL**: Impact of Natural and Trawling Events on Resuspension, Dispersion and Fate of Pollutants, WP leader
- 2001-2003 FPV project **ADIOS**: Atmospheric Deposition and Impact of Pollutants, key elements and nutrients of the Open Mediterranean Sea, UNIVPM PI
- 1998-2001 project **BENGAL**: High-resolution temporal and spatial study of the Benthic biology and Geochemistry of north-eastern Atlantic abyssal Locality, UNIVPM PI

**Networks of excellence:** RD participates to the following EU Network of Excellence:

- I. **MARBEF** (Marine Biodiversity and ecosystem functioning, acting as PI for UNIVPM).
- II. **EUROCEANS** (European Research on Ocean Ecosystems under Anthropogenic and Natural forcings), acting as PI for CoNISMa
- III. **CAREX** European Life in Extreme Environments.

**World Networks:** RD acted as Coordinator or leader of International programs

- I. Census of Marine Life, Executive Board EU (project declared one of the Top Five World Projects in 2010)
- II. INTECOL (Singapore)
- III. ATIE (Atacama Trench International Expedition)
- IV. LICO (Life in a changing ocean, Canada)

### 3.4 Research expeditions

RD participated to >30 cruises and international research expeditions, crossing a variety of seas and oceans including: the Mediterranean Sea, Black Sea, Atlantic and Pacific Ocean and Antarctica. He has been was PI/Chief scientist in 12 cruises, among them R/V Mare Nigrum, Black Sea (EU HERMES); R/V Universitatis, Eastern Mediterranean Sea (Project on deep-anoxic basins); R/V Abate Molina, South Pacific Ocean, deep-sea investigations in the Juan Fernandez area.

### 3.5 Teaching Activities

2001-present – Full Professor of “*Marine Biology*” and “*Marine Ecology*”

2004-present – Professor of the Doctorate in *Marine Biology and Ecology*

2013-present – Funder and Coordinator of the *International Master in Marine Biology* (FUNIBER)

2005-2012 – Professor of *Environmental Ethics*

### 3.6 Educational and formative responsibilities

2007-2012 –Coordinator of the *Master Degree in Marine Biology and Ecology* (UNIVPM)

2007-2012 – Funder and Coordinator of the *Master Degree in Environmental Sustainability and Civil Protection* (UNIVPM)

2011-2014 Dean of Faculty of Science UNIVPM

### 3.7 Scientific Commissions and Councils

2018-present Member of the EU - Academy of Science

2014-present Member of the Faculty of 1000 Biology (section Ecology)

2014-present President of the Scientific Council of the WWF Italy

2013-present Member of the Scientific Council of ENI

2006-2014 Member of the Scientific Council of the WWF Italy

2010-2012 Member of the Scientific Board of the *Reef check Italy*

2008-2010 Member of the *Forum of oceans & Islands beyond national jurisdiction*

- 2005-2010 Member of the Scientific Council of the *Census of Marine Life* (CoML)
- 2006-2008 Member and coordinator of the “*Task force Deep Sea*” of the CIESM *International commission for exploration of the Mediterranean*
- 2007-2009 Member of the Scientific Council of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale IN-OGS (Trieste)
- 2005-2010 Member of the Scientific Council of the CoNISMa (Consorzio Interuniversitario Science del Mare, Roma).
- 2011-2013 Member of the Scientific Council of the Stazione Zoologica Anton Dohrn.

### 3.7 Editorial Activity

- Since 2002 RD is Editor in Chief of the international journal *Chemistry and Ecology* (Taylor & Francis, London) the journal is part of the journal censused by ISI and is Present in Web of Science. The IF of *Chemistry and Ecology* is ca 1.5.
- From 2013 is Member of the Editorial Board, *Scientific Reports* (Nature).
- Member of the editorial board of 6 other international ISI (Web of Science) journals: *Open Journal of Ecology* (till 2009) and *Oceanologica Acta* (till 2005), member of the reviewer board of *Marine Ecology Progress Series*. RD is currently member of the editorial board of the International Journals: 1. *Open Journal of Marine Biology*; 2. *Transitional Water Bulletin*; 3. *Animals*; 4. *Diversity*; 5. *International Journal of Oceanography*; 6. *Advances in Oceanography and Limnology*.

RD collaborates as member of the evaluation board or reviewer for >50 international journals, including *Nature*, *Nature Reviews Microbiology*, *Science*, *Science Advances*, *Current Biology*, *PNAS*.

## 4. SCIENTOMETRIC DATA

Here below a list of the main scientometric indicators updated at February 2018:

- H (Hirsch) index of **71**
- more than **300** articles on ISI journals (WoS)
- ca **17000** citations (GS).
- i-10 Index: **241** (GS)

RD has published his research on more than **60** different international ISI top-ranked journals.

RD is the Italian Scientist with the highest number of Papers recommended by the Faculty of 1000 Biology in Ecology/Environmental Science (**8 ranked as exceptional**)

RD is the world’s most cited scientist in “Deep-sea Biology” (Scholar Citations):

[https://scholar.google.com/citations?view\\_op=search\\_authors&hl=en&mauthors=label:deep\\_sea\\_biology](https://scholar.google.com/citations?view_op=search_authors&hl=en&mauthors=label:deep_sea_biology)

and in the field of “Marine Biodiversity” (Scholar Citations):

[https://scholar.google.com/citations?view\\_op=search\\_authors&hl=en&mauthors=label:marine\\_biodiversity](https://scholar.google.com/citations?view_op=search_authors&hl=en&mauthors=label:marine_biodiversity)

RD is also in the world’s top 20 most cited scientists in “Marine Biology” (Scholar Citations).

RD is also the most productive and influential scientist on the “Mediterranean Sea” worldwide (source Web of Science)

[http://apps.webofknowledge.com/RAMore.do?product=WOS&search\\_mode=GeneralSearch&SID=P2JiTp7qZxt5JwYAF8&qid=1&ra\\_mode=more&ra\\_name=Author&colName=WOS&viewType=raMore](http://apps.webofknowledge.com/RAMore.do?product=WOS&search_mode=GeneralSearch&SID=P2JiTp7qZxt5JwYAF8&qid=1&ra_mode=more&ra_name=Author&colName=WOS&viewType=raMore)

## 5. RESEARCH INTERESTS

RD is an Ecologist. The background in Ecology has implications in the approach to problem solving, based on inter- and multidisciplinary, data analysis, experimental work, interactions with different research teams, valuation and exploitation of abiotic and biotic variables.

Multidisciplinary studies linking different disciplines, such as Biology, Ecology, Environmental Sciences, Socio-Economy, Medicine, Technology.

Impact of global change on life on Earth and on marine ecosystems, functioning and health of Oceans, multidisciplinary studies on deep-sea ecosystems.

### **Research collaborations**

Ongoing long-term research collaborations with: IFREMER, UPMC, CNRS (France), Scripps (USA), North Carolina University (USA), JAMSTEC (Japan), Newfoundland University (Canada); National Oceanography Centre (UK).

Within the frame of past and present researches additional direct collaborations include continuous links with: France, Belgium, The Netherlands, Germany, Austria, Denmark, Sweden, Norway, Spain, Greece, USA, Cuba, Canada, Israel, Romania, Ukraine, Indonesia, Thailand, Australia, New Zealand and Japan.

Visiting scientist at UPMC - Roscoff (France), University of Galway, College de France (France), Institute of Marine Biology of Crete (Greece).

## 6. TOP JOURNALS

List of journals on which the research of RD has been published.

- *Nature* (one with cover in 2008),
- *Science*
- *Nature communications*
- *Nature protocols*
- *Nature Ecology & Evolution*
- *Science Advances*
- *Proceeding National Academy of Science USA (PNAS)*
- *Trends in Ecology and Evolution* (cover in 2017)
- *Plos Biology*
- *Current Biology*
- *Ecology Letters*
- *Biological Reviews*
- *FEMS Microbiology Reviews*
- *ISME Journal*
- *Environmental Health Perspectives*
- *Proc Royal Soc Part B*

## 7. BOOKS AND POSITION PAPERS

Roberto Danovaro has published the following **Books**:

- Danovaro R. *Developing a strategy and action plan for Mediterranean deep-sea conservation, management and monitoring*. IUCN, in press
- Danovaro R. (2013). *Marine Biology: Biodiversity and functioning of marine ecosystems* (Biologia Marina, biodiversità e funzionamento degli ecosistemi marini). CittàStudi Edizioni De Agostini Scuola SpA –Novara (Italy), 451pp.
- Danovaro R. (2010). *Methods for the study of deep-sea sediments, their functioning and biodiversity*. CRC Press, Taylor & Francis (London), 456 pp. in English for CRC Press, USA.
- Danovaro R. (2001). *Environmental recovery: technologies, bioremediation and biotechnologies* (Recupero Ambientale: Tecnologie, bioremediation e biotecnologie. UTET Libreria Srl (Italy), 581pp.
- Della Croce N, Cattaneo-Vietti R, Danovaro R. (1997). *Ecology and protection of the coastal marine environment* (Ecologia e protezione dell'ambiente marino costiero) UTET 426 pp.

### International Position papers and reports

- Danovaro in coll. 2017. **Food from the Oceans**. Science Advices for Policy from European Academies. Evidence Report, Informs the Scientific Advice Mechanism High-Level Group of Scientific Advisors. Scientific Opinion No. 3/2017n.1, 154 pp.
- Danovaro in coll. 2016. **Explaining Ocean Warming: Causes, scale, effects and consequences**. IUCN: Edited by D. Laffoley and J. M. Baxter.
- Rogers, A.D., Brierley, A., Croot, P., Cunha, M.R., **Danovaro, R.**, et al., (2015) **Critical challenges for 21st century deep-sea research**. Larkin, K.E., Donaldson, K. and McDonough, N. (Eds.) Position Paper 22 of the European Marine Board, Ostend, Belgium. 224 pp. ISBN 978-94-920431-1-5
- Danovaro R., et al. 2003. Deep-sea Biodiversity in the Mediterranean Sea: a comparison at different spatial scales. **Mare Incognitum? Exploring Mediterranean deep-sea biology**. CIESM Workshop Monographs 23, 43-54.

## 8. HONORS AND AWARDS

1. **Award top ten species** discovered in 2018 ESF top ten New Species, New York
2. **Award Slow Food** for the Environment “Mosciolo d’oro” (*Gold mussel*).
3. **Award ENI “Protection of the Environment”** received from the President Giorgio Napolitano (the only Italian winner of the prize so far; Prize 200,000 Euros, 2013).
4. **Faculty of 1000 Biology**: nominated Member of the Section Ecology (2013)
5. **Award Médaille de la Société Océanographique de France pour l'Année 2010** *Institute Oceanographique de Paris* (conferred in Paris by the Prince of Monaco in 2011).
6. **Award Biology Prize** BioMedCentral, 2010 (London, June, 2011).
7. **Member of Top Italian Scientists** - VIA Academy (since 2010).
8. **Honorary member** of the Board of Research and Reports in Biodiversity Studies.

## 9. EXPERIENCES IN THE MANAGEMENT OF RESEARCH, INSTITUTIONS AND UNIVERSITIES

- 2018 - 2022 Re-nominated President of the Stazione Zoologica, Anton Dohrn, Naples, Italy
- 2016-2017 President of Dohrn Foundation, Naples, Italy
- 2013 – present Member of the Council of Presidents of Public Research Institutions (COPER)
- 2013 - 2017 President of the Stazione Zoologica, Anton Dohrn, Naples, Italy
- 2013 - present Member of the Administration Council WWF
- 2010-2013 Pro-Rector for the Research at the Polytechnic University of Marche
- 2011-2014 CEO of different Academic Spin Off and Startup companies
- 2011-2014 Director of the Dept. Life Environmental Sciences (Polytechnic University of Marche)
- 2011-2014 Member of the Academic Senate of the Polytechnic University of Marche
- 2011-2015 Dean of the Faculty of Science at the Polytechnic University of Marche
- 2011-2012 President of the *Italian Society of Ecology* (SIeE)
- 2008-2011 President of the *Italian Association of Oceanography and Limnology* (AIOL).
- 2008-2009 Member of the Council of Administration of ICRAM (Institute for Research Applied to the Sea) of the Ministry of Environment (Nominated by the Minister of Research Mussi)
- 2005-2011 Director of the Department of Marine Sciences (Polytechnic University of Marche)
- 2004-2010 President of the Italian Chapter of EEIU (Eco-Ethic International Union)

### ***Management of Foreign Research Bodies and Institutions***

- 2005-2010 Member of the Management Board of the *International Census of Marine Life* (EuroCoML), a global network of researchers in more than 80 nations engaged in a 10-year scientific initiative
- 2008-2012 President of the *European Federation of Marine Science and Technology Societies* (seat Paris)
- 2010-2013 Management of the Board of the International Network LICO (*Life in a Changing Ocean*, Montreal, Canada)
- 2014-Present *European Implementation Board* EU Research Infrastructure EMBRC (seat Paris)

## 10. EXPERIENCES IN THE EVALUATION OF THE NATIONAL AND INTERNATIONAL RESEARCH

### ***Evaluation of International Research***

2018- present Evaluator proposal ERC– Synergy (EU)  
2016- present Evaluator proposal ERC Slovenia (Slovenian Research Agency)  
2010-present Evaluator of proposals for the *National Science Foundation* (NSF), USA  
2010-present Evaluator of proposals for the NOAA, USA  
2012-present Evaluator of the proposals of the ANR (*Agence Nationale Recherche*) France  
2010-present Evaluator of proposals for National Research Proposals, New Zealand  
2010-present Evaluator of proposals for National Research Proposals, Australia.  
2010-present Evaluator of proposals for the National Iceland Research Programs.  
2013-present Evaluator of proposals for National Research Proposals, Slovenia.  
2010-2012 Evaluator of proposals for the National Research Funds, Austria  
2010-2012 Evaluator of proposals for the NERC, UK  
2009-2010 Evaluator of proposals for the National Research Funds, Belgium  
2009-2010 Evaluator of proposals for National Research Proposals, The Netherlands

### ***Evaluation of Italian and EU Research***

2017 Member of the Evaluation panel for financial support to private research institutions (DM 44).  
2004-2012 Evaluator for the EU in VI and VII Framework Programs.  
2011-2013 Review Panel Member Marie Curie Fellowships, EU  
2010-2012 Review Panel Member ERC Starter and consolidator Grants  
2011 Member of the Board of the GEV (*Gruppo Esperti Valutatori*) ANVUR (Area 05)

### ***Evaluation of Career – Position upgrade / recruitment of Scientists***

Evaluator full professorship USA (California Scripps)  
Evaluator full professorship Canada (Dalhousie University, NewFoundLand University)  
Evaluator full professorship Israel (Institute of Science)  
Evaluator full professorship and Research Director in France (Perpignan).  
Evaluator full professorship Greece (Crete University)

### ***Evaluation of Research Institutions***

Member of the Evaluation board of CNR (past evaluation of 14 Institutes belonging to 2 Departments)  
Member of the evaluation board of CNRS (with visits and interview of several French institutions)  
Member of the evaluation board of HCMR Hellenic Centre of Marine Research (Greece)

## 11. EXPERIENCES OF INCENTIVATION OF TRANSFER OF KNOWLEDGE OF RESEARCH RESULTS

2010-2018 Co-Founder of the *Going Blue Too Foundation* (Charitable organization UK)  
2004-2014: President and CEO of two companies (Academic Spin Off) participated by the Polytechnic University of Marche.  
Inventor of international Patents in collaboration with industries (oil companies, personal care companies).  
Member of the Evaluation Committee of International Patents (UNIVPM and SZN).



President of the *Dohrn Foundation*, which aims at promoting the outreach and dissemination of the activities of the Stazione Zoologica and charged of the management of the Turtle point and of the Darwin Dohrn centre and Museum.

## 12. LIST OF 10 SELECTED PUBLICATIONS

1. **Danovaro R.**, et alii. (2017) A submarine volcanic eruption leads to a novel microbial habitat. *Nature Ecol & Evol*. Feature Article with request of Blog from Nature. Article awarded of the Top 10 species discovered in 2018.
2. **Danovaro, R.**, Aguzzi, J., Fanelli, E., Billett, D., Gjerde, K., Jamieson, A., Ramirez-Llodra, E., Smith, C.R., Snelgrove, P.V.R., Thomsen, L., Van Dover, C.L. An ecosystem-based deep-ocean strategy (2017) *Science*, 355 (6324), pp. 452-454.
3. **Danovaro R**, A Dell'Anno, C Corinaldesi, E Rastelli, R Cavicchioli, (2016) Virus-mediated archaeal hecatomb in the deep seafloor. *Science advances* 2 (10), e1600492
4. **Danovaro R**, M Molari, C Corinaldesi, A Dell'Anno (2016) Macroecological drivers of archaea and bacteria in benthic deep-sea ecosystems. *Science advances* 2 (4), e1500961
5. Dell'Anno, A., Corinaldesi, C., **Danovaro, R.** Virus decomposition provides an important contribution to benthic deep-sea ecosystem functioning (2015) *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 112 (16), pp. E2014-E2019.
6. Pacton M, D Wacey, C Corinaldesi, M Tangherlini, MR Kilburn, GE Gorin, **Danovaro R.** (2015) *Nature communications* 5.
7. Barbier, E.B., Moreno-Mateos, D., Rogers, A.D., Aronson, J., Pendleton, L., Danovaro, R.... Protect the deep sea. (2014) *Nature*, 505 (7484), pp. 475-477.
8. Pusceddu, A., Bianchelli, S., Martín, J., Puig, P., Palanques, A., Masqué, P., Danovaro, R. Chronic and intensive bottom trawling impairs deep-sea biodiversity and ecosystem functioning (2014) *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 111 (24), pp. 8861-8866.
9. Danovaro, R., Dell'Anno, A., Corinaldesi, C., Magagnini, M., Noble, R., Tamburini, C., Weinbauer, M. Major viral impact on the functioning of benthic deep-sea ecosystems (2008) *Nature*, 454,1084-1087. Cover of Nature and highlight of the 20 top articles of Nature in 2008.
10. Dell'Anno, A., **Danovaro, R.** Ecology: Extracellular DNA plays a key role in deep-sea ecosystem functioning (2005) *Science*, 309 (5744), p. 2179.

### **Five Top reviews and Primers**

- I. **Danovaro R.**, Corinaldesi C., Dell'Anno A., Snelgrove P.V.R. (2017) Deep-sea biology under global change. *Current Biology*, Invited *Primer*.
- II. M Yasuhara, R Danovaro (2015) Temperature impacts on deep sea biodiversity. *Biological Reviews* 91 (2), 275-287
- III. **Danovaro, R.**, Snelgrove, P.V.R., Tyler, P. (2014) Challenging the paradigms of deep-sea ecology *Trends in Ecology and Evolution*, 29 (8), pp. 465-475.
- IV. **Danovaro R**, C Corinaldesi, A Dell'Anno, JA Fuhrman, JJ Middelburg (2011) Marine viruses and global climate change. *FEMS microbiology reviews* 35 (6), 993-1034
- V. **Danovaro, R.**, Dell'Anno, A., Fabiano, M., Pusceddu, A., Tselepidis, (2001) A. Deep-sea ecosystem response to climate changes: The eastern Mediterranean case study *Trends in Ecology and Evolution*, 16 (9), pp. 505-510.