

## Donato Giovannelli

Department of Biology, University of Naples "Federico II", Via Cintia, Napoli, ITALY  
Institute for Marine Biological and Biotechnological Resources, National Research Council, CNR-IRBIM, Ancona, ITALY  
Department of Marine and Coastal Science, Rutgers University, New Brunswick, NJ – USA  
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I am fundamentally interested in the co-evolution of the biosphere and the geosphere and how life influences planetary-scale processes. My current research focuses on two major themes, integrally linked to each other: 1) the microbial diversity and ecosystem functioning of extreme environments and their role in global biogeochemistry; and 2) reconstructing the emergence and evolution of metabolism. In my work, I combine data from comparative genomic, physiology, phylogenetic, and environmental surveys with phylometabolic analyses and computational approaches to reconstruct a blueprint of the evolution of metabolism on Earth.

I am currently an Full Professor at the University of Naples "Federico II" (Italy), an adjunct researcher at the Institute for Marine Biological and Biotechnological Resources of the National Research Council of Italy, a Visiting Research Associate Professor at Rutgers University (USA) and a Visiting Scholar at the Earth-Life Science Institute in Tokyo (Japan). I'm also the co-founder of a high-tech nanostructured composite materials startup, Nano-Tech Spa ([www.nanotechspa.com](http://www.nanotechspa.com)). I'm also involved in wine making with a family-owned winery ([www.albertoserenelli.com](http://www.albertoserenelli.com)).

<b>CURRENT APPOINTMENTS</b>	<b>University of Naples "Federico II", Department of Biology, Italy</b> Professor of Microbiology (BIO/19)	2021 Nov 01 – present
	<b>Woods Hole Oceanographic Institution, Marine Chemistry &amp; Geochemistry, USA</b> Adjunct Researcher	2020 Oct 14 – 2021
	<b>National Research Council, CNR-IRBIM, Italy</b> Adjunct Researcher	2019 Jun 01 – present
	<b>Rutgers University, Department of Marine and Coastal Science</b> Visiting Associate Research Professor	2016 Jun 01 – present
	<b>Earth-Life Science Institute, Tokyo Institute of Technology, Japan</b> Affiliated Scientist	2018 Apr 01 – present
	<b>YHouse, New York City, USA</b> Research Scientist	2016 Sept 01 – present
<b>EDUCATION</b>	<b>University of Naples "Federico II", Naples, Italy</b> <b>PhD Applied Biology, Ecology and Microbiology</b> <ul style="list-style-type: none"><li>• Thesis: "Microbial life and metabolism in Mediterranean Sea extreme environments"</li><li>• Advisor: Prof. Marco Moracci</li><li>• Co-Advisor: Dr. Elena Manini</li></ul>	2010 Mar 01 – 2013 May 22
	<b>Polytechnic University of Marche, Ancona, Italy</b> <b>MSc Marine Biological Sciences</b> <ul style="list-style-type: none"><li>• Graduated with summa cum laude and academic kiss and embrace</li><li>• Thesis: "Impact of sunscreen on the hermatypic corals of the genus Acropora (Scleractinia, Cnidaria)"</li><li>• Advisor: Dr. Lucia Bongiorni</li></ul>	2005 Sep 01 – 2007 Jul 12
	<b>BSc (Honors) Biological Sciences</b> <ul style="list-style-type: none"><li>• Thesis: "Developing a new spectrophotometric assay for the</li></ul>	2002 Sep 01 –

- determination of the total antioxidants capacity” 2005 Jul 15
- Advisor: Prof. Francesco Regoli
- Senior year and experimental thesis carried out as visiting student at Plymouth University, UK, under the supervision of Prof. Les Jervis

**ACADEMIC  
PROFESSIONAL  
EXPERIENCE**

- University of Naples “Federico II”, Department of Biology, Italy** 2018 Dec 06 –  
Assistant Professor (RTDb) (BIO/19) 2021 Sept 30
- National Research Council, Institute for Marine Science, Italy** 2018 May 01 –  
Research Fellow 2018 Dec 05
- Institute of Advanced Studies, Princeton, USA** 2015 Jul 01 –  
Visiting Scholar 2018 Jun 30
- Earth-Life Science Institute, Tokyo, Japan** 2016 Apr 01 –  
ELSI EON Research Scientist 2018 Mar 31
- Rutgers University, Earth Ocean and Atmospheric Sciences, USA** 2014 Jun 01 –  
C-DEBI Postdoctoral Fellow 2016 May 31
- National Research Council, Institute for Marine Science, Italy** 2013 Jan 01 –  
Adjunct Researcher 2017 Jan 01
- Rutgers University, Institute of Marine and Coastal Science, USA** 2013 Jun 01 –  
Postdoctoral Research Fellow 2014 May 31
- Rutgers University, Institute of Marine and Coastal Science, USA** 2012 Sep 20 –  
Visiting InterRidge PhD student 2013 Jan 15
- National Research Council, Institute for Marine Science, Italy** 2012 Mar 01 –  
Graduate Research fellow 2012 Aug 31
- National Research Council, Institute for Marine Science, Italy** 2011 Oct 03 –  
Principal Investigator, National Antarctic Research Program of Italy 2013 Oct 02
- Rutgers University, Institute of Marine and Coastal Science, USA** 14 Nov 2010 –  
Visiting PhD student 2011 July 14
- National Research Council, Institute for Marine Science, Italy** 2009 Jan 01 –  
Graduate Research Fellow 2011 Mar 15
- Polytechnic University of Marche, Italy** 2007 July 20 –  
Graduate Research Fellow 2008 Dec 31

**ENTREPRENEURIAL  
EXPERIENCE**

**Alberto Serenelli, Italy** 2018-2022  
Collaborator  
Alberto Serenelli is a three generation winemaker located in the Conero area, near Ancona Italy. For the past 30 years, the red and white wines produced by the vineyard have excelled among the products of the region collecting countless award from Italian and international sommelier and wine associations. The small scale production (~20,000 bottle/year) is characterized by a constant search for perfection and emotions. And a wide range of premium wines produced only in selected vintages. [www.albertoserenelli.com](http://www.albertoserenelli.com)

**The Foundry, Italy** 2017 Sept 02 – 2020 Dec  
Founder  
The Foundry is an early stage start-up investment group. It provides advising, counseling and support services through work-for-equity. The group has several active start-up projects. [www.thefoundry.it](http://www.thefoundry.it)

**Cypress Biotechnology srl, Italy**

Founder and shareholder  
CEO

2016-2019

from 2016 Aug 02 to 2018 Dec 06

Cypress Biotechnology is a biotech start-up working to develop innovative biotechnological solutions in the field of antimicrobial materials, decontamination and novel bioactive compounds through innovative pipelines and cross-disciplinary approaches. The company is still in its early stages. [www.cypressbiotechnology.com](http://www.cypressbiotechnology.com)

**Nano-Tech SpA, Italy**

Co-Founder and shareholder  
Member of the Board of Directors  
R&D Advisor

since 2016 Jul 14

from 2016 Jul 14 to 2018 Dec 06

from 2011 Jul 14 to 14 Jul 2016

Nano-Tech SpA, founded in 2011, is a specialty chemical company producing nanostructured advanced materials with applications in the automotive, aerospace, defense, marine and sport-goods sectors. The company detains several patents and disruptive technologies like the 3Dynamics® nanoparticle dispersion technology and the C-preg® high-temperature prepreg material. The company has raised 4.9 Million Euro to date. [www.italnanotech.com](http://www.italnanotech.com)

**PUBLICATIONS**

**Google Scholar:** h-index 22 • citation count 2390 • i10-index 37

**α. Peer-review journal articles (\*Corresponding or Co-correspond author)**

56 – Levitan O, Ma L, **Giovannelli D**, Burluson DB, McCaffrey P, Vala A, Johnson DA. 2023. The gut microbiome—Does stool represent right?. *Heliyon*, 9(3)

55 – Cordone A, Selci M, Barosa B, Bastianoni A, Bastoni D, Bolinesi F, Capuozzo R, Cascone M, Correggia M, Corso D, Di Iorio L, Misic C, Montemagno F, Ricciardelli A, Saggiomo M, Tonietti L, Mangoni O, **Giovannelli D\***. 2023. Surface Bacterioplankton Community Structure Crossing the Antarctic Circumpolar Current Fronts. *Microorganisms*, 11(3):702

54 – Rucker HR, Ely TD, LaRowe DE, **Giovannelli D**, Price RE. 2023. Quantifying the Bioavailable Energy in an Ancient Hydrothermal Vent on Mars and a Modern Earth-Based Analog. *Astrobiology*, 23(4):431-445

53 – Bekaert DV, Barry PH, Broadley MW, Byrne DJ, Marty B, Ramírez CJ, de Moor JM, Rodriguez A, Hudak MR, Subhas AV, Halldórsson SA, Stefánsson A, Caracausi A, Lloyd KG, **Giovannelli D**, Seltzer AM. 2023. Ultrahigh-precision noble gas isotope analyses reveal pervasive subsurface fractionation in hydrothermal systems. *Science Advances*, 9(15):eadg2566. doi: 10.1126/sciadv.adg2566

52 – Rogers TJ, Buongiorno J, Jessen GL, Schrenk MO, Fordyce JA, de Moor JM, Ramírez CJ, Barry PH, Yücel M, Selci M, Cordone A, **Giovannelli D**, Lloyd KG. 2023. Chemolithoautotroph distributions across the subsurface of a convergent margin. *ISME J*, 17(1):140-150. doi: 10.1038/s41396-022-01331-7

51 – Smedile F, Foustoukos DI, Patwardhan S, Mullane K, Schlegel I, Adams MW, Schut GJ, **Giovannelli D**, Vetriani C. 2022. Adaptations to high pressure of *Nautilia* sp. strain PV-1, a piezophilic *Campylobacterium* (aka *Epsilonproteobacterium*) isolated from a deep-sea hydrothermal vent. *Environmental microbiology*, 24(12): 6164-6183. doi: 10.1111/1462-2920.16256

50 – Twing KI, Ward LM, Kane ZK, Sanders A, Price RE, Pendleton HL, **Giovannelli D**, Brazelton WJ, McGlynn SE. 2022. Microbial ecology of a shallow alkaline hydrothermal vent: Strýtan Hydrothermal Field, Eyjaförður, northern Iceland. *Frontiers in Microbiology* 13. doi:

10.3389/fmicb.2022.960335/

49 – Sharma G, Islam ST, Rahi P, Silby MW, **Giovannelli D**, Welander PV, Ehling-Schulz M, Chaudhry V, Molloy E, Hertweck C, Mundra S, Kalia VC, Lal R, Singh Y, Ruby E, Weigel C, Kolter R. 2022. Reply to Oren et al., “New Phylum Names Harmonize Prokaryotic Nomenclature.” *mBio* 0, e02323-22. doi: 10.1128/mbio.02323-22

48 – **Giovannelli D\***, Barry PH, de Moor JM, Jessen GL, Schrenk MO, and Lloyd KG. 2022. Sampling across large-scale geological gradients to study geosphere–biosphere interactions. *Frontiers in Microbiology*, 13. doi: 10.3389/fmicb.2022.998133

47 – Barry P, De Moor JM, A Chiodi, F Aguilera, MR Hudak, DV Bekaert, S J Turner, J Curtice, AM Seltzer, G L Jessen, E Osses, JM Blamey, M Amenabar, M Selci, M Cascone, A Bastianoni, M Nakagawa, R Filipovich, E Bustos, M Schrenk, J Buongiorno, CJ Ramírez, TJ Rogers, KG Lloyd and **D Giovannelli**. 2022. The helium and carbon isotope characteristics of the Andean Convergent Margin. *Frontiers in Earth Sciences*, 10. doi: 10.3389/feart.2022.897267

46 – Manini E, Baldrighi E, Ricci F, Grilli F, **Giovannelli D**, Intoccia M, Casabianca S, Capellacci S, Marinchel N, Penna P, Moro F, Campanelli A, Cordone A, Correggia M, Bastoni D, Bolognini L, Marini M, Penna A. 2022. Assessment of Spatio-Temporal Variability of Faecal Pollution along Coastal Waters during and after Rainfall Events. *Water*, 14, 502. doi: /10.3390/w14030502

45 – Cordone A, D’Errico G, Magliulo M, Bolinesi F, Selci M, Basili M, de Marco R, Saggiomo M, Rivaro P, **Giovannelli D\*** and Mangoni O\*. 2022. Bacterioplankton Diversity and Distribution in Relation to Phytoplankton Community Structure in the Ross Sea Surface Waters. *Front. Microbiol.* 13:722900. doi: 10.3389/fmicb.2022.722900

44 – Aptekmann AA, Buongiorno J, **Giovannelli D**, Glamoclija M, Ferreira DU, Bromberg Y. 2021. Mebipred: identifying metal-binding potential in protein sequence. *Bioinformatics*, 38(14): 3532-3540. doi: 10.1093/bioinformatics/btac358

43 – Bekaert DV, Gazel E, Turner S, Behn M, de Moor JM, Zahirovic S, Manea VC, Hoernle K, Fischer TP, Hammerstrom A, Seltzer AM, Kulongoski JT, Patel BS, Schrenk M, Halldórsson SA, Nakagawa M, Ramírez CR, Krantz JA, Yücel M, Ballentine CJ, **Giovannelli D**, Lloyd KG, Barry PH. 2021. High <sup>3</sup>He/<sup>4</sup>He in central Panama reveals a distal connection to the Galápagos plume. *PNAS*, 118(47):e2110997118. doi: 10.1073/pnas.2110997118

42 – Hand K, Phillips CB, Chyba CF, Toner B, Katija K, Orphan V, Huber J, Cavanaugh CM, Carlson M, Christner B, Templeton A, Seewald J, Hofgartner JD, Amend JP, Orcutt BN, Bartlett DH, Falkowski P, Anderson R, Spear JR, Shank T, Fischer WW, Hazen RM, Hoehler T, D’Hondt S, Pitesky J, Lynch K, Shock EL, Craft K, Boyd E, House CH, Reysenbach AL, Glass J, Fike D, Baross JA, Gogarten JP, Kaçar B, El-Naggar M, Murray AE, Dupont C, Scully J, Rothschild J, Trembath-Reichert E, Klein F, Cohen PA, Gile GH, Lloyd K, Dekas A, Delaney JR, Skidmore M, Buongiorno J, Rogers K, Hofmann A, Brazelton WJ, Anbar A, Manalang DA, Stevenson B, Neuer S, Hara E, Nordheim T, Shapiro R, Bradley AS, Mikucki J, Brown ME, Glamoclija M, Reyes C, Sánchez-Román M, Farmer JD, **Giovannelli D**, Suel G, Trumbo S, Cameron M, Osburn M, Bradley JA, Garcia-Pichel F, Steen AD, Marlow J, Trubl G, Robinson K, Caro T, Fulfer V, Parker CW, Feyhl-Buska J, and Rouse A. 2021. On the Past, Present, and Future Role of Biology in NASA’s Exploration of our Solar System. *Bulletin of the American Astronomical Society*, 53:4. doi: 10.3847/25c2cfcb.1f3849db

41 – Petrillo C, Castaldi S, Lanzilli M, Selci M, Cordone A, **Giovannelli D**, Isticato R. 2021. Genomic and physiological characterization of Bacilli isolated from salt-pans with Plant Growth Promoting features. *Frontiers in Microbiology*, 12:2517. doi: 10.3389/fmicb.2021.715678

40\* – Fullerton KM, Schrenk MO, Yücel M, Manini E, Basili M, Rogers TJ, Fattorini D, Di Carlo M, d’Errico G, Regoli F, Nakagawa M, Vetricani C, Smedile F, Ramírez C, Miller H, Morrison SM, Buongiorno J, Jessen GL, Martínez M, de Moor JM, Barry PH, **Giovannelli D\***, Lloyd KG\*. 2021.

Plate tectonics drive deep biosphere microbial community structure. *Nature Geoscience*, 14, 301–306. doi: 10.1038/s41561-021-00725-0

39 – Patwardhan S, F Smedile, **D Giovannelli**, C Vetriani. 2021. Metaproteogenomic profiling of chemosynthetic microbial biofilms reveals metabolic flexibility during colonization of a shallow-water gas vent. *Frontiers in Microbiology*, 12: 638300, doi: 10.3389/fmicb.2021.638300

38 – Vitale Brovarone A, Sverjensky DA, Piccoli F, Ressico F, **Giovannelli D**, Daniel I. 2020. Subduction hides high-pressure sources of energy that may feed deep subsurface biosphere. *Nature Communication*, 11:3880. doi: 10.1038/s41467-020-17342-x

37\* – Shaunna SM\*, Buongiorno J, Downs RT, Eleish A, Fox P, **Giovannelli D\***, Golden JJ, Hummer DR, Hystad G, Kellogg LH, Kreylos O, Krivovichev S, Liu C, Meredith A, Prabhu A, Ralph J, Runyon S, Zahirovic S, Hazen RM. 2020. Exploring carbon mineral systems: Recent advances in C mineral evolution, mineral ecology, and network analysis. *Frontiers in Earth Science*, 8:208. doi: 10.3389/feart.2020.00208

36 – Basili M, Quero GM, **Giovannelli D**, Manini E, Vignaroli C, Avio CG, De Marco R, Luna GM. 2020. Major role of surrounding environment in shaping biofilm community composition on marine plastic debris. *Frontiers in Marine Science*, accepted, doi: 10.3389/fmars.2020.00262

35 – Vitale-Brovarone A, Butch C, Ciappa A, Cleaves H, Elmaleh A, Faccenda M, Feineman M, Hermann J, Nestola F, Cordone A, and **Giovannelli D**. 2020. Let there be water: how hydration/dehydration reactions control Earth and life key properties. *American Mineralogist*, 105: 1152–1160. doi: 10.2138/am-2020-7380

34 – Sheik CS, Cleaves II HJ, Johnson-Finn K, **Giovannelli D**, Kieft TL, Papineau D, Schrenk MO, Tumati S. 2020. Biotic and abiotic processes that drive carboxylation and decarboxylation reactions. *American Mineralogist*, 105: 609–615. doi: 10.2138/am-2020-7166CCBYNCND

33 – Barry PH, Nakagawa M, **Giovannelli D**, de Moor JM, Schrenk M, Seltzer AM, Manini E, Fattorini D, di Carlo M, Regoli F, Fullerton K, Lloyd KG. 2019. Helium, inorganic and organic carbon isotopes of fluids and gases across the Costa Rica convergent margin. *Scientific Data* 6, 1–8. doi: 10.1038/s41597-019-0302-4

32 – C Mariscal, N Aubert-Kato, A Umur Aydinoglu, A Barahona, S Bartlett, ML Cárdenas, K Chandru, HJ Cleaves II, C Cleland, BT Cocanougher, N Comfort, A Cornish-Bowden, T Deacon, T Froese, **D Giovannelli**, J Hernlund, N Merino, A Moreno, M Nakagawa, J Pereto, N Virgo, O Witkowski, J Kimura. 2019. Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: A Workshop Report. *Origins of Life and Evolution of Biospheres*, 49(3): 111-145. doi: 10.1007/s11084-019-09580-x

31 – Barry PH, JM de Moor§, **D Giovannelli§**, M Schrenk, D Hummer, T Lopez, CA Pratt, Y Alpízar Segura, A Battaglia, P Beaudry, G Bini, M Cascante, G d’Errico, M di Carlo, D Fattorini, K Fullerton, E Gazel, G González, SA Halldórsson, K Iacovino, JT Kulongoski, E Manini, M Martínez, H Miller, M Nakagawa, S Ono, S Patwardhan, CJ Ramírez, F Regoli, F Smedile, S Turner, C Vetriani, M Yücel, CJ Ballentine, TP Fischer, DR Hilton & KG Lloyd§. 2019. Forearc carbon sink reduces long-term volatile recycling into the mantle. *Nature*, 568 (7753): 487-486. doi: hdoi: 10.1038/s41586-019-1131-5. §NOTE: Equally contributing authors

30\* – Merino N, Aronson HS, Bojanova D, Feyhl-Buska J, Wong ML, Zhang S, **Giovannelli D\***. 2019. Living at the Extremes: Extremophiles and the Limits of Life in a Planetary Context. *Frontiers in Microbiology*, 10: 780. doi: 10.3389/fmicb.2019.00780

29 – Li J, Redfern SAT, **Giovannelli D**. 2019. Deep carbon cycle through five reactions. *American Mineralogist*, 104: 465–467. doi:10.2138/am-2019-6833

28\* – **Giovannelli D\*** and Price RE. 2019. Marine Shallow-Water Hydrothermal Vents: Microbiology, in *Encyclopedia of Ocean Sciences (Third Edition)*, eds. J. K. Cochran, H. J.

- Bokuniewicz, and P. L. Yager (Oxford: Academic Press), 353–363. doi: 10.1016/B978-0-12-409548-9.11250-3
- 27 – Price RE and **Giovannelli D**. 2019. Marine Shallow-Water Hydrothermal Vents: Geochemistry, "in Encyclopedia of Ocean Sciences (Third Edition), eds. J. K. Cochran, H. J. Bokuniewicz, and P. L. Yager (Oxford: Academic Press), 346–352. doi: 10.1016/B978-0-12-409548-9.11015-2
- 26 – Patwardhan S, Foustoukos DI, **Giovannelli D**, Yucel M, Vetriani C. 2018. Ecological succession of sulfur-oxidizing Epsilon- and Gammaproteobacteria during colonization of a shallow-vent. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2018.02970
- 25 – Jelen B, **Giovannelli D**, Falkowski PG, and Vetriani C. 2018. Combined comparative transcriptomic and proteomic analysis reveals the mechanism and pathway of elemental sulfur reduction in *Thermovibrio ammonificans*, a deep-sea vent thermophile. *Environmental Microbiology*, 20(6): 2301-2316. doi: 10.1111/1462-2920.14280
- 24\* – **Giovannelli D\***, Black BA, Cox AD and Sheik CS. 2017. Editorial: Deep Carbon in Earth: Early Career Scientist Contributions to the Deep Carbon Observatory. *Frontiers in Earth Science*, 5: 89. doi: 10.3389/feart.2017.00089
- 23 – Di Carlo M, **Giovannelli D**, D Fattorini, N Le Bris, C Vetriani, F Regoli. 2017. Trace elements and arsenic speciation in tissues of tube dwelling polychaetes from hydrothermal vents ecosystem: a possible role as antipredatory strategy? *Marine Environmental Research*, 132: 1-13. doi: 10.1016/j.marenvres.2017.10.003
- 22 – Moore E, Jelen B, **Giovannelli D**, Raanan H and Falkowski P. 2017. Metal Availability and the Expanding Redox Network of Microbial Metabolism in the Archean Eon. *Nature Geoscience*, 10, 629–636. doi: 10.1038/ngeo3006
- 21 – Baldrighi E, Manini E, **Giovannelli D**, D'Errico G and Lavaley M. 2017. Exploring the relationship between macrofaunal biodiversity and ecosystem functioning in the deep sea. *Front. Mar. Sci.* 4. doi: 10.3389/fmars.2017.00198
- 20 – Price RE and **Giovannelli D**. 2017. A Review of the Geochemistry and Microbiology of Marine Shallow-water Hydrothermal Vents. Invited Article, Reference Module in Earth Systems and Environmental Sciences, In Press. doi: 10.1016/B978-0-12-409548-9.09523-3
- 19\* – **Giovannelli D\***, SM Sievert, M Hügler, S Markert, D Becher, T Schweder and C Vetriani\*. 2017. Insight into the evolution of microbial metabolism from the deep-branching bacterium, *Thermovibrio ammonificans*. *eLife* 6: e18990 doi: 10.7554/eLife.18990
- 18 – Louie TS, **Giovannelli D**, N Yee, P Narasingarao, E Lang, V Starovoytov, M Göker, H Klenk, E Bini, MM Häggblom. 2016. High-quality draft genome sequence of *Sedimenticola selenatireducens* strain AK4OH1T, a gammaproteobacterium isolated from estuarine sediment. *Standard In Genomic Science*, 11:66 doi: 10.1186/s40793-016-0191-5
- 17\* – **Giovannelli D\***, d'Errico G, Fiorentino F, Fattorini D, Regoli F, Angeletti L, Bakran-Petricioli T, Vetriani C, Yucel M, Taviani M and Manini E\*. 2016. Diversity and distribution of prokaryotes within a shallow-water pockmark field. *Front. Microbiol.*, 7:941 doi: 10.3389/fmicb.2016.00941
- 16 – **Giovannelli D**, M Chung, J Staley, V Starovoytov and C Vetriani. 2016. *Sulfurovum rifitae* sp. nov., a mesophilic, nitrate-reducing, chemosynthetic, thiosulfate-oxidizing bacterium isolated from the tube of the vestimentiferan worm *Riftia pachyptila*. *IJSEM*, 66: 2697-2701, doi: 10.1099/ijsem.0.001106
- 15 – Jelen BI, **Giovannelli D** and PG Falkowski. 2016. The Role of Microbial Electron Transfer in the Coevolution of the Geosphere and Biosphere. *Annual Review of Microbiology*, 70 (1): 45-62, doi: 10.1146/annurev-micro-102215-095521
- 14 – O'Brien C, **Giovannelli D**, B Govenar, GW Luther, RA Lutz, TM Shank, C Vetriani. 2015.

Microbial biofilms associated with fluid chemistry and megafaunal colonization at post-eruptive deep-sea hydrothermal vents. *Deep-Sea Research Part II*, 121:31-40, doi: 10.1016/j.dsr2.2015.07.020

13 – Pasotti F, E Manini, **Giovannelli D**, AC Wölfl, D Monien, E Verleyen, U Braeckman, D Abele, A Vanreusel. 2014. Antarctic shallow water benthos under glacier retreat forcing. *Marine Biology*, doi: 10.1111/maec.12179

12 – Vetriani C, JW Voordeckers, M Crespo-Medina, CE O'Brien, **Giovannelli D**, RA Lutz. 2014. Deep-Sea Hydrothermal Vent Epsilonproteobacteria Encode a Conserved and Widespread Nitrate Reduction Pathway (Nap). *The ISME Journal*. doi: 10.1038/ismej.2013.246

11\* – **Giovannelli D\***, G d' Errico, E Manini, M Yakimov, C Vetriani\*. 2013. Diversity and Phylogenetic Analyses of Bacteria from a Shallow-Water Hydrothermal Vent in Milos Island (Greece). *Frontiers in Microbiology* 4: 184. doi: 10.3389/fmicb.2013.00184

10 – Mustafa YM, SM Sievert, C Vetriani, DI Foustoukos, **D Giovannelli**, N Le Bris. 2013. Eco-Geochemical Dynamics of a Shallow-Water Hydrothermal Vent System at Milos Island, Aegean Sea (Eastern Mediterranean). *Chemical Geology* 356: 11–20. doi: 10.1016/j.chemgeo.2013.07.020

9 – **Giovannelli D**, M Molari, G d' Errico, E Baldrighi, C Pala, E Manini. 2013. Large-Scale Distribution and Activity of Prokaryotes in Deep-Sea Surface Sediments of the Mediterranean Sea and the Adjacent Atlantic Ocean. *PLoS ONE* 8 (8): e72996. doi: 10.1371/journal.pone.0072996

8 – **Giovannelli D**, Ricci J, Pérez-Rodríguez I, Hügler M, O'Brien C, Keddiss R, Grosche A, Goodwin L, Bruce D, Davenport KW, Detter C, Han J, Han S, Ivanova N, Land ML, Mikhailova N, Nolan M, Pitluck S, Tapia R, Tanja Woyke T and Vetriani C. 2012. Complete genome sequence of *Thermovibrio ammonificans* strain HB-1<sup>T</sup>, an Aquificae isolated from a deep-sea hydrothermal vent. *Standard In Genomic Science*, 7(1):82-90. doi: 10.4056/sigs.2856770

7 – d'Errico G, **D Giovannelli**, C Montano, V Milanovic, M Ciani, E Manini. 2012. In situ bioremediation of high organic load lagoon sediments: compost addition and priming effect. *Chemosphere*, DOI: 10.1016/j.chemosphere.2012.11.037

6 – **Giovannelli D**, V Starovoytov, E Manini, M Yakimov, C Vetriani. 2012. *Galenea microaerophila* gen. nov., sp. nov., a mesophilic, microaerophilic, chemosynthetic, thiosulfate-oxidizing bacterium isolated from a shallow hydrothermal vent of Milos (Greece). *IJSEM*, 62(12):3060-3066. doi: 10.1099/ijs.0.040808-0

5 – **Giovannelli D**, S Ferriera, J Johnson, S Kravitz, I Pérez-Rodríguez, J Ricci, C O'Brien, JW Voordeckers, E Bini, C Vetriani. 2011. Draft genome sequence of *Caminibacter mediatlanticus* strain TB-2<sup>T</sup>, an Epsilonproteobacterium isolated from a deep-sea hydrothermal vent. *Standard In Genomic Science*, 5(1):135-143. doi: 10.4056/sigs.2094859

4 – Molari M§, **D Giovannelli§**, G D'Errico, E Manini. 2012. Factors influencing prokaryotic community structure composition in sub-surface coastal sediments. *Estuarine and Coastal Shelf Science*, 97:141-148. doi: 10.1016/j.ecss.2011.11.036 §NOTE: Equally contributing authors

3 – Bongiorni L, **D Giovannelli**, B Rinkevich, A Pusceddu, LK Chou, R Danovaro 2011. First step in the restoration of a highly degraded coral reef (Singapore) by in situ coral intensive farming. *Aquaculture*, 322-323:181-200. doi: 10.1016/j.aquaculture.2011.09.024

2 – Danovaro R, L Bongiorni, C Corinaldesi, **D Giovannelli**, E Damiani, P Astolfi, L Greci, A Pusceddu. 2008. Sunscreens Cause Coral Bleaching by Promoting Viral Infections. *Env Health Perspec*, 116: 441-447. doi: 10.1289/ehp.10966 NOTE: Reviewed by "National Geographic", "Frontiers in Ecology and Environments" and "Nature"(doi: 10.1038/news.2008.537)

1 – Jervis L, LM Jervis, **D Giovannelli**. 2005. Aligning biochemistry to the interests of biology students using haloperoxidase to illustrate reactions of environmental and biomedical importance.

Bioch and Mol Biol Edu, 33: 293-301. doi: 10.1002/bmb.2005.49403304293

#### b. Other publications

6\* – **Giovannelli D\***, PH Barry, JM de Moor, KG Lloyd, and MO Schrenk. 2020. Microbial influences on subduction zone carbon cycling, *Eos*, 101, doi: 10.1029/2020EO140906

5\* – **Giovannelli D\*** and Vetriani C. 2017. "From extreme environments to human pathogens: an evolutionary journey". *The Biochemist*, vol. 39:6 Dec 2017. doi: 10.1042/BIO03906004

4 – Keppel E, Minicante SA, Bonomo S, Capotondi L, Ceregato A, Fontaneto D, Frogliola C, Petrocelli A, Taviani M, Abbiati M, Amori G, Angeletti L, Alessandra A, Austoni M, Badalamenti F, Baldrighi E, Belmonte M, Bergami C, Bernardi Aubry F, Boggero A, Boero F, Bolognini L, Borsetti AM, Camatti E, Camedda A, Caroppo C, Cecere E, Chiari M, Colangelo P, Como S, Coppa S, Di Lorenzo T, de Lucia GA, Domenichetti F, Donnici S, Eckert EM, Luciana F, Finotto S, Ghigliotti L, Giacobbe MG, **Giovannelli D**, Grati F, Guarneri I, La Cono V, Loru L, Luna GM, Magni P, Manca M, Marchetto A, Martinez A, Massi D, Messana G, Mirto S, Panfili M, Pansera M, Pantaleoni RA, Pipitone C, Piscia R, Prato E, Punzo E, Riccardi N, Rubino F, Salvalaggio V, Santelli A, Serra G, Sigovini M, Spagnolo A, Strafella P, Tagliapietra D, Taiti S, Vasapollo C, Vacchi M, Verdinelli M, Volta P, Yakimov M. 2017. "Taxonomy work at CNR". CNR technical report, pp. 1-103. <https://doi.org/10.5281/zenodo.569874>

3\* – **Giovannelli D\***, A Cox, K Pratt and C Sheik. 2017. Associated Editors of a *Frontiers in Earth Science* Research Topic entitled "Deep Carbon in Earth: Early Career Scientist Contributions to the Deep Carbon Observatory". <http://goo.gl/HHCmIV>

2\* – **Giovannelli D\***, K Pratt and F Viveiros. 2016. Early-career scientists tackle deep carbon. *Eos*, 97, doi: 10.1029/2016EO046699. Published on 24 February 2016.

1\* – **Giovannelli D\***. 2016. Deep-Sea, Origin of Life and Astrobiology. *IAS Institute Letter*, Spring 2016 <https://goo.gl/Tn8rM7>

#### c. Pre-prints

14 – Tonietti L, Barosa B, Pioltelli E, **Giovannelli D**, Covone G, Di Donato P, Cordone A, Inno L, Magliano C, Fiscale S, Muscari Tomajoli MT, Napolitano G, Piccirillo AM, Della Corte V, Santomartino R, Rotundi A. 2023. Exploring the Development of Astrobiology Scientific Research Through Bibliometric Network Analysis: A Focus on Biomining and Bioleaching. *Preprints.org*, 2023050739. <https://doi.org/10.20944/preprints202305.0739.v1>

13 – Correggia M, Di Iorio L, Bastianoni AB, Yucel M, Cordone A, **Giovannelli D**. 2023. Standard Operating Procedure for the analysis of major ions in hydrothermal fluids by Ion Chromatography. *OSF Preprints*, doi: 10.31219/osf.io/jqnx3

12 – Correggia M, Di Iorio L, Bastianoni AB, Yucel M, Cordone A, **Giovannelli D**. 2023. Standard Operating Procedure for the analysis of trace elements in hydrothermal fluids by Inductively Coupled Plasma Mass Spectrometry (ICP-MS). *OSF Preprints*, doi: 10.31219/osf.io/rc2es

11 – Cordone A, Selci M, Barosa B, Bastianoni A, Bastoni D, Bolinesi F, Capuozzo R, Cascone M, Correggia M, Corso D, Di Iorio L, Misic C, Montemagno F, Ricciardelli A, Saggiomo M, Tonietti L, Mangoni O, **Giovannelli D\***. 2022. Surface Bacterioplankton Community Structure Crossing the Antarctic Circumpolar Current Fronts. *EarthArXiv*, doi: 10.31223/X58Q04

10 – **Giovannelli D\***. 2022. Geosphere and Biosphere coevolution: the role of trace metals availability in the evolution of biogeochemistry. *EarthArXiv*, doi:10.31223/X5QH1G

9 – Cordone, A., Coppola, A., Severino, A., Correggia, M., Selci, M., Cascone, A., Vetriani C, **Giovannelli D\***. (2021). From sequences to enzymes: comparative genomics to study evolutionary conserved protein functions in marine microbes. *OSF preprints*, doi:10.31219/osf.io/yacvr.



8 – Severino, A., Coppola, A., Correggia, M., Vetriani, C., **Giovannelli, D.**, and Cordone, A. (2021). From sequences to enzymes: heterologous expression of genes from marine microbes. OSF preprints, doi:10.31219/osf.io/6c4su

7 – Aptekmann AA, Buongiorno J, **Giovannelli D**, Glamoclija M, Ferreiro DU, Bromberg Y. 2021. mebipred: identifying metal-binding potential in protein sequence. bioRxiv 2021.08.12.456141; doi: <https://doi.org/10.1101/2021.08.12.456141>

6 – Cordone A, d'Errico G, Magliulo M, Bolinesi F, Selci M, Basili M, de Marco R, Saggiomo M, Rivaro P, **Giovannelli D\***, Mangoni O\*. 2021. Bacterioplankton Diversity and Distribution in Relation to Phytoplankton Community Structure in the Ross Sea surface waters. BioRxiv, <https://doi.org/10.1101/2021.06.08.447544>

5 – Petrillo C, Castaldi S, Lanzilli M, Selci M, Cordone A, **Giovannelli D**, Isticato R. 2021. Genomic Mining and Physiological Characterization of new Halophilic Plant Growth Promoting Bacilli. BioRxiv, doi: <https://doi.org/10.1101/2021.05.17.444429>

4\* – Fullerton K, Schrenk MO, Yucel M, Manini E, Fattorini D, Di Carlo M, Manini E, Regoli F, Vetriani C, Smedile F, Miller H, Morrison SM, de Moor JM, Barry PH, **Giovannelli D\***, Lloyd K\*. 2019. Linking deep subsurface microbial communities to tectonic-scale geological processes above a subduction zone. EarthArXiv, gyr7n. <https://doi.org/10.31223/osf.io/gyr7n>

3 – Danko DC, Bezdán D, Afshinnekoo E, Ahsanuddin S, Alicea J, Bhattacharya C, Bhattacharyya M, Blekhman R, Butler DJ, Castro-Nallar E, Cañas AM, Chatziefthimiou AD, Chng KR, Coil DA, Court DS, Crawford RW, Desnues C, Dias-Neto E, Donnellan D, Dybwad M, Eisen JA, Elhaik E, Ercolini D, Filippis FD, Frolova A, Graf AB, Green DC, Lee PKH, Hecht J, Hernandez M, Jang S, Kahles A, Karasikov M, Knights K, Kyripides NC, Ljungdahl P, Lyons A, Mason-Buck G, McGrath K, Mongodin EF, Mustafa H, Mutai B, Nagarajan N, Neches RY, Ng A, Nieto-Caballero M, Nikolayeva O, Nikolayeva T, Noushmehr H, Oliveira M, Ossowski S, Osuolale OO, Paez-Espino D, Png E, Rascovan N, Richard H, Rättsch G, Sanchez JL, Schriml LM, Shaaban H, Shi L, Sierra MA, Song LH, Suzuki H, Thomas D, Udekwu KI, Ugalde JA, Valentine B, Vassilev DI, Vayndorf E, Leung MHY, Young B, Zambrano MM, Zhu J, Zhu S, Łabaj PP, Mason C, **The International MetaSUB Consortium**. 2019. Global Genetic Cartography of Urban Metagenomes and Anti-Microbial Resistance. BioRxiv, 724526. <https://doi.org/10.1101/724526>

2\* – Merino N, Aronson HS, Bojanova D, Feyhl-Buska J, Wong ML, Zhang S, **Giovannelli D\***. 2019. Living at the Extremes: Extremophiles and the Limits of Life in a Planetary Context. EarthArXiv, doi: 10.31223/osf.io/8eay6

1 – E. Baldrighi, **D Giovannelli**, G D'errico, MSS Lavaley and E Manini. Deep-Sea ecosystem: a world of positive species interactions? Biogeoscience Discussion, doi: 10.5194/bg-2016-26

#### d. Books and chapters

Hazen RM, Bromberg, Y, Downs RT, Eleish A, Falkowski PG, Fox P, **Giovannelli D**, Hummer DR, Hystad G, Golden JJ, Knoll AH, Li C, Liu C, Moore EK, Morrison SM, Muscente AD, Prabhu A, Ralph J, Rucker MY, Runyon S, Warden LA, Zhong H. 2018. "Deep Carbon through Deep Time: Data-Driven Insights" in *Whole Earth Carbon*, Edited by Orcutt, Danielle, Dasgupta. Cambridge University Press. <https://bit.ly/2GNohFF> doi: 10.1017/9781108677950.020

#### e. Industrial patents

2017 Jun: PCT international patent request number PCT/IB2017/053795. "Polymeric compositions loaded with carbon nanotubes, their production and use", inventors A Giovannelli, **D Giovannelli**, P Barcala Dominguez

#### f. Cosignatory white papers

2 – Engelhart AE et al. 2020. Astrobiology on habitable worlds: The case for considering prebiotic chemistry in mission design. NASA Decadal Survey 2023-3032

1 – Hand, KP et al. 2020. On the Past, Present, and Future Role of Biology in NASA's Exploration of our Solar System. NASA Decadal Survey 2023-3032

#### EDITORIAL ROLES

Vetriani C and **Giovannelli D.** Editors. "The Microbiology of the Deep-Sea". Springer-Nature. Expected in the second half of 2023

Li J, **Giovannelli D** and Redfern SAT. Guest Editors. 2019. "Earth in five reactions: a deep-carbon perspective". American Mineralogist, <https://bit.ly/3nPzKZv>

**Giovannelli D**, A Cox, K Pratt and C Sheik. Associate Editors. 2017. "Deep Carbon in Earth: Early Career Scientist Contributions to the Deep Carbon Observatory". Frontiers in Earth Science Research Topic, <http://goo.gl/HHCmIV>

**Review Editor** for the Extreme Microbiology section of the journal Frontiers in Microbiology

#### OUTREACH AND MEDIA APPEARANCES

I am a convinced supporter of Open Science, and I am currently involved in the OPERAS (OPEn Research And Science Group) of the National Research Council of Italy, an interdepartmental group dedicated to promote Open Science practices within the research community. We also follow the FAIR principle with my research group, making data, code and all relevant material available to the public at the time of preprint publication.

#### Schools and Education

**2023 Giovannelli D.** Invited speaker at the Arzano High School (Naples) to speak about climate change and environmental awareness

**2022 Giovannelli D and Cascone M.** Organized a remote meeting with a class from the primary school of Castellammare di Stabia (Naples) live from the Svalbard to speak about permafrost and climate change

**2022 Giovannelli D, Cardellini C.** Organized a remote meeting with a class from the primary school of Arezzo (Arezzo) live from the Svalbard to speak about permafrost and climate change

**2022 Giovannelli D and Pasotti J.** Organized a remote meeting with a class from the primary school of Trieste (Trieste) live from the Svalbard to speak about permafrost and climate change

**2021 Giovannelli D.** Organized a remote meeting with a class from the primary school of Sirolo (AN) live from the Svalbard to speak about permafrost and climate change

#### Published Articles and Blogs as Author

**2017 Strytan Expedition Postcard from the Field** appears on the AGU Tumbledir blog. – [goo.gl/cV6HXt](http://goo.gl/cV6HXt)

**2017 Biology Meets Subduction science party.** Postcard from the field. Interdisciplinary sampling of Costa Rica hot springs. EOS magazine backcover – [goo.gl/977jWQ](http://goo.gl/977jWQ)

**2016 D Giovannelli.** "Deep-Sea, Origin of Life and Astrobiology". IAS Institute Letter, Spring 2016 – [goo.gl/Tn8rM7](http://goo.gl/Tn8rM7)

**2016 Giovannelli D.** "Visiting the EON satellite program at the Institute for Advanced Study in Princeton" ELSI Science Blog – [goo.gl/A2XeTZ](http://goo.gl/A2XeTZ)

**2015 Giovannelli D.** "Why Open Science?" DCOECS15 Open Science Blog – [goo.gl/34AXLM](http://goo.gl/34AXLM)

**2014 Giovannelli D.** "3000 metri sotto il mare" Italian Science Blog OggiScienza. Articles and photo gallery featuring the 2012 Mescal Cruise Oceanographic Expedition to the East Pacific

Hydrothermal Vents – [tinyurl.com/OggiScienza](https://tinyurl.com/OggiScienza)

### Science Festivals and Public Events

**2023 Giovannelli D and Pasotti J.** Live performance at the Roma Science Festival entitled “La Terra e la Vita: una nuova storia”

**2022 Giovannelli D.** Invited at the Roma Science Festival to a panel discussion on “La vita invisibile” – <https://festivaldellescienzeroma.it/eventi/la-vita-invisibile/>

**2022 Giovannelli D and Covone G.** Invited speaker at the Risonanze Filosofiche festival with a talk entitled “Vita sulla Terra e vita nel Cosmo”

**2022 Giovannelli D and Pasotti J.** Live performance at the Bergamo Science Festival entitled “La Terra e la Vita: una storia di coevoluzione” – <https://youtu.be/eYGCiCkLbKQ>

**2022 Giovannelli D.** Invited speaker at the CICAP Fest, on a round table entitled “Il futuro del clima nascosto nei ghiacci” – <https://www.cicapfest.it/programma/620>

**2022 Giovannelli D and Covone C.** Invited to give the May monthly SETI public talks, speaking of the role of metals in controlling the emergence and evolution of life – <https://youtu.be/dF59JRSPmnw>

**2020 Giovannelli D.** Speaker at the International Researchers Night in Naples, with a two-voice talk on the evolution of life and our planet together with geologist Mariano Parente

**2019 Giovannelli D.** Invited speaker at the 2019 FISV Days in Naples, to speak about the co-evolution of Life and planet – [bit.ly/2OU8iK](https://bit.ly/2OU8iK)

**2018 Giovannelli D, Barry P, Lloyd K.** Facebook live event organized by the University of Oxford, UK, and Oxford Sparks “Sampling Earth Interior” – [bit.ly/2TXv20I](https://bit.ly/2TXv20I)

**2017 Giovannelli D.** Invited guest at the “What is Life?” series organized by New York Times science writer Carl Zimmer, Caveat, New York, USA. Listen to it at “Warm Ponds Or Hellish Vents– Where Did Life Begin?” – [tiny.cc/gzyh4y](https://tiny.cc/gzyh4y)

**2016 Giovannelli D.** “Hidden World: The Deep Sea” Institute for Advanced Studies Family Science talk – [youtu.be/TX0dlqX\\_UaE](https://youtu.be/TX0dlqX_UaE)

### In the media (Newspapers, Magazines, Podcasts, Radio and Television)

**2023** Radio interview at the Argentina Radio Radio Salta – <https://my.radiocut.fm/radiostation/salta/listen/2023/03/22/16/37/14/>

**2023** Radio Interview at Radio3 Scienza during the Rome Science festival to discuss the latest ERC CoEvolve expedition

**2023** Radio interview at Radio3 Scienza to discuss the outcome of the recent ESA Astronaut selection

**2022** Participated to the SEG Discovery to Recovery Podcast Episode 27: Unlocking the Powers of Microbes – <https://www.buzzsprout.com/1012126/11769667-episode-27-unlocking-the-powers-of-microbes>

**2022** Radio interview at Radio3 Scienza during the Rome Science Festival to discuss the next ERC CoEvolve expedition and the latest project’s results – <https://www.raiplaysound.it/audio/2022/11/Radio3-Scienza-al-Festival-delle-scienze-di-Roma-d58d653a-4752-4c88-95b2-03e4351d5df2.html>

**2022** Live interview with Radar Magazine to discuss the ongoing Svalbard sampling expedition – <https://www.instagram.com/tv/Cap97zZqWPL>

**2022** Sole24Ore Article on the use of extremophilic microbes for society “Microbi utili per la

transizione green” – <https://24plus.ilsole24ore.com/art/cosi-microbi-estremi-diventano-alleati-dall-industria-transizione-green-AEIRUtHB>

**2021** Guest of the radio program SCARTI RADIOATTIVI (puntata 4 - in Italian) 'Cronache dalla Terra di Sotto' organized by the eXtemporanea group within FestivalLetteratura of Mantova – <https://bit.ly/3BOzXI9>

**2021** Appeared in the article “Finding Carbon in unlikely places” on the science blog Earth Island Journal – <http://bit.ly/3qtzOPi>

**2020** Appeared on the second episode (Janus) of the **Netflix** astrobiology-focused docuseries Alien Worlds [www.netflix.com/title/80221410](http://www.netflix.com/title/80221410)

**2020** An article by Romulo Cruz based on our American Mineralogist review on hydration-dehydration reactions appeared online in the sciworthy blog. “How water shaped the Earth. Mineralogists, geologists, astronomers, astrobiologists explain how water shaped our planet’s history by studying the types of chemical reactions where water plays a fundamental role”. <https://sciworthy.com/how-water-shaped-the-earth/>

**2020** **Giovannelli D.** My interview with Alberto Vitale-Brovarone regarding our paper recently appeared in Nature Communication for the podcast Co.Scienza is available on Spotify <https://spoti.fi/2FT2pen>

**2020** Our recent Nature Communication article about deep sources of energy for subsurface microbial communities has been featured in Nature new Subduction collection. <https://www.nature.com/collections/cbjbfjhdhg>

**2020** Our Nature Communication article about a previously unrecognized sources of deep serpentinization in subduction zones has been covered by several media outlet, including the ScienceDaily, LeScienze and featured on online blog, twitter feed and science blogs

**2019** A blog entry written by Peter Barry (WHOI) appeared on the blog of the Nature journal Scientific Data regarding our recent data paper on the Costa Rica dataset – [go.nature.com/2PWLzNm](http://go.nature.com/2PWLzNm)

**2019** **Giovannelli D.** Guest of the MiniGeology podcast ([earthscience.rice.edu/minigeology](http://earthscience.rice.edu/minigeology)) on the KPFT Houston radio. The interview can be found at [youtu.be/X6nwJbO3Q84](https://youtu.be/X6nwJbO3Q84)

**2019** Appeared on a featured article on the deepcarb.net website about the Earth in Five Reactions Special Collection I am co-editing in American Mineralogist – [bit.ly/2ROBvF4](http://bit.ly/2ROBvF4)

**2019** Appeared on a featured article on the deepcarb.net website about the Wikipedia Fellowship – [tiny.cc/3utgaz](http://tiny.cc/3utgaz)

**2019** An interesting articles appeared on Mark Kaufman’s NASA supported blog manyworlds.space about how our recent work form Biology Meets Subduction published in Nature fits with other recent papers talking about planet habitability – [bit.ly/2yphehQ](http://bit.ly/2yphehQ)

**2019** Appeared on a featured article on the deepcarb.net website about my involvement on the 4D Initiative – [tiny.cc/3wtgaz](http://tiny.cc/3wtgaz)

**2019** Appeared on a featured article on the deepcarb.net website about the NASA NAI ENIMGA team, for which I am one of the International members – [tiny.cc/3dugaz](http://tiny.cc/3dugaz)

**2019** Our Nature article about a previously unrecognized forearc carbon sink has been covered by several media outlet, including the ScienceDaily, Phys.org, the Italian newspaper La Repubblica and Il Corriere del Mezzogiorno and Costa Rica newspaper La Nación and featured prominently on online blog, twitter feed and science blogs. See the full list of media coverage at [tiny.cc/v3tgaz](http://tiny.cc/v3tgaz)

**2018** An interview (in spanish) with the Colombian RCN Radio (Radio Cadena Nacional, “National Radio Network”) from Bogotá, part of the press release done by the Deep Carbon Observatory (DCO, [www.deepcarbon.net](http://www.deepcarbon.net)) during the American Geophysical Union 2018 Fall meeting –

[tiny.cc/zuyh4y](https://tiny.cc/zuyh4y)

**2018** A blogpost appeared on the Frontiers in website highlighting our Research Topic “Deep Carbon in Earth: Early Career Scientist Contributions to the Deep Carbon Observatory” selected as a 2018 Spotlight finalist – [spotlight.frontiersin.org/earth-science-deep-carbon/](https://spotlight.frontiersin.org/earth-science-deep-carbon/)

**2018** The youtube video accompanying our announcement as Frontiers in 2018 Spotlight finalist – [youtu.be/eLl7bghqCoQ](https://youtu.be/eLl7bghqCoQ)

**2018** The local Oxford newspaper covered our science outreach Facebook Live event

**2018** My research at ELSI appeared on the celebration book “ELSI Rising” by science writer Mark Kaufman

**2017** A short science documentary was co-produced and starred by **my** and few other PIs of the “Biology Meet Subduction” project, explaining the aims and activities of the project. The documentary was selected as the first prize winner at the International Orbit Science Documentary Award at the Goldschmidt conference in Paris among over 90 other documentaries – [youtu.be/NAf7MvYZfwY](https://youtu.be/NAf7MvYZfwY)

**2017** A blog post on the NASA Astrobiology blog Astobio.net talking about the Earth-Life Science Institute and my research there by Mark Kaufman “Research Center a hub for origins of life studies – [goo.gl/6fn8ZF](https://goo.gl/6fn8ZF)

**2015** A service on the Second Deep Carbon Observatory Early Career Scientist Workshop is aired on the national public television channel during the regional news section – [goo.gl/VjiPE9](https://goo.gl/VjiPE9)

**2015** Azorean Regional Newspaper (Portugal). As PI of the organizing committee, I am interviewed on the scope and activities of the Second Deep Carbon Observatory Early Career Scientist Workshop – [goo.gl/moX3B1](https://goo.gl/moX3B1)

**2014** The scientific e-journal Nautil.us covered our 2014 Oceanographic Expedition and its implication for the study of the origin of life – [tinyurl.com/nautilus14](https://tinyurl.com/nautilus14)

**2012** The Scientific e-journal Almanacco delle Scienze, covered the my research on Thermovibrio ammonificans in collaboration with Costantino Vetriani – [tinyurl.com/AlmanaccoScienze](https://tinyurl.com/AlmanaccoScienze)

**2010** National Geographic, Italian edition, covered in the August issue our BIOFUN 2009 Oceanographic Cruise in the article “Abissi Mediterranei” – [tinyurl.com/NatGeoBIOFUN](https://tinyurl.com/NatGeoBIOFUN)

### Public talks

**2020** Giovannelli D. Aeolian Island Preservation Fund public seminar. “Perché proteggere gli ambienti estremi delle Eolie?”. The seminar can be viewed at [youtu.be/RaO\\_wl7S9X0](https://youtu.be/RaO_wl7S9X0)

### Other contributions (Journal covers, licensed images, etc...)

**2022** Our laboratory Winogradsky columns image was used on a Nature Review Microbiology article about gradients in biofilm by Jo et al. 2022 - [doi.org/10.1038/s41579-022-00692-2](https://doi.org/10.1038/s41579-022-00692-2)

**2020** Our laboratory Winogradsky columns have appeared on the science communication blog [justinedees.com/winogradsky-column](https://justinedees.com/winogradsky-column)

**2017** Two of my pictures from Yellowstone National Park and from the Shallow-Water Hydrothermal Vents of Vulcano Island (Aeolian Archipelago, Italy) were used on the cover of the December edition of The Biochemist, featuring our article on the connection between extreme environments and pathogens.

### RESEARCH GRANTS AND FUNDING

**2023** Participating to the Piano Nazionale Ripresa e Resilienza (PNRR) funded Infrastructure for Research MIRRI – <http://www.mirri-it.it/>

**2023** Participating to the Piano Nazionale Ripresa e Resilienza (PNRR) funded National Biodiversity Future Center – <https://www.nbfc.it/>

**2023** Provenzale A (PI), **Giovannelli D (Co-I)** and Bradly J (Collaborator). Arctic Research Grant (PRA) from the Ministry of University and Research “Winter Critical Zone dynamics in the High Arctic: measuring carbon fluxes and geo-biological processes at the Bayelva Critical Zone Observatory during winter” (project Winter-CZ) – €94,921

**2022** **Giovannelli D (PI)**, Moracci M (Co-I), Parente M (Co-I), Iacopini D (Co-I), Di Benedetto A (Co-I) and Luciani G (Co-I). ENI spa industrial project HyEnergy – “Studio dell’influenza microbiologica sulla geochimica e sui parametri petrofisici durante lo stoccaggio di Idrogeno in giacimenti depletati” – €398,330

**2021** **Giovannelli D (PI)**. Arctic Research Grant (PRA) from the Ministry of University and Research for the study of the influence of permafrost seasonal melting on the biogeochemical cycling of soil microorganisms (Project MeltingICE) – €112,699

**2021** Lloyd K (PI), Barry PH (Co-I), **Giovannelli D (Collaborator)**. NSF Rapid: Sampling the hot springs around the recent Icelandic eruption to elucidate subsurface biosphere coupling with tectonic processes – \$49,900

**2020** **Giovannelli D (PI)**. ERC Starting Grant 2020 COEVOLVE – €2,080,438. <https://cordis.europa.eu/project/id/948972>

**2020** Müntener O, Pistone M, Ziberna L, Hetényi G, Greenwood A, Zanetti A (Pis), **Giovannelli D (Co-I)** and others (Co-I). ICDP DIVE project to drill in the Ivrea-Verbano zone – €1,000,000

**2020** Vetriani C (PI), Fostoukos D (Co-I), **Giovannelli D (Collaborator)**. NSF Molecular and Cellular Biosciences: Collaborative Research “High-temperature and high-pressure growth of extremophilic hydrogen oxidizers” – \$956,000

**2019** Quero GM (PI), De Marco R and **Giovannelli D**. CINECA ISCRAC access to the HCP cluster Marconi2

**2019** **Giovannelli D (Responsible for Action 5.1)**. FEAMP Campania 2019. The action aims at characterizing the microbial diversity and contribution to biogeochemistry of microbial population in shallow-water marine hydrothermal vents of the region. Lead PI Dr. M Andaloro (SZN, Italy) – €5,736,000

**2019** **Giovannelli D (PI)**, Gulgiandolo C, Vetriani C, Smedile F, Yucel M, Bernardi G, Mulder C, Lo Giudice A. Lifewatch-Italy, distributed Laboratory of Molecular Biodiversity, “Biodiversity of shallow-water hydrothermal vents microbial communities: factories of element cycling - BIOVENT” – €45,000

**2018** **Giovannelli D (PI)**, De Marco R and Quero GM. “MIMESIS”. CINECA ISCRAC access to the HCP cluster Marconi2

**2018** Vetriani C (PI) and **Giovannelli D (Co-PI)**. “Increasing the US early career scientist participation to the international Extremophiles 2018 conference”. NASA TWSC program – \$49,990

**2017** Zahirovic S (PI), D Müller, S Tristan, A Dutkiewicz, X Qin, S Williams, S Brune, A Ionescu, L Purkamo, M Pistone, M Ruhl, B Tutolo, T Keller, J Webster, R Chandra, N Wright, R Hazen, S Morrison, C Liu, S Runyon, **D Giovannelli**, W Leavitt, M Bowles, E Hughes, E Mason and R Davies (Co-Pis). Alfred P. Sloan Foundation. “The Deep Carbon Cycle (DCC) through geological time: An interdisciplinary synthesis of the carbon cycle in the Earth’s lithosphere-biosphere system” – \$130,000

**2016** Lloyd K (PI), **Giovannelli D** and Schrenk M (Co-PIs). DCO Census of Deep Life Sequencing effort: “Microbial communities dependent on deep subsurface gas emissions at the Costa Rica margin”

**2016** Barry P (PI), de Moor M, **Giovannelli D**, Hummer D, Lloyd K, Lopez T and Pratt K (Co-PIs). Alfred P. Sloan Foundation. "Biology Meets Subduction: A Collaborative and Multi-disciplinary Deep Carbon Field Initiative" – \$464,129

**2016** Colwell R (PI), **Giovannelli D**, Morgan L, Pratt K, Reysenbach AL, Shanks P (Co-PIs). Alfred P. Sloan Foundation. The second Deep Carbon Observatory Summer School – \$100,000

**2015** Vetriani C (PI), Fostoukos D (PI) and **Giovannelli D (Co-PI)**. NSF Molecular and Cellular Biosciences: Collaborative Research "Carbon fixation, anaerobic respiration and ROS detoxification in the anaerobic vent bacterium, *Thermovibrio ammonificans*" – \$876,000

**2014** **Giovannelli D (PI)**, Cox A, Hummer D, Pratt K, Sheik C, Thomas D, Viveiros F (Co-PIs). Alfred P. Sloan Foundation. The second Deep Carbon Observatory Early Career Scientist Workshop – \$75,000

**2014** Bongioni L (PI), Viaroli P, Sfriso A, Pallavicini A, **Giovannelli D (Co-PIs)**. Lifewatch-Italy, distributed Laboratory of Molecular Biodiversity, "Responses of benthic microbial diversity and functioning to the recent invasion of *Gracilaria vermiculophylla* in the lagoon of Venice" – €45,000

**2010** **Giovannelli D (PI)**. PNRA (National Antarctic Research Program of Italy) Young Researcher Project "Diversity and functioning of prokaryotic communities in shallow Antarctic waters, pre and post ice melting" 2010/C1.03 – €25,000

#### FELLOWSHIPS, PRIZES AND AWARDS

**2022** Our paper Fullerton et al 2021 Was selected as Best Deep Life paper of 2021 by the International Center for Deep Life – <https://icdli.sjtu.edu.cn/Data/View/612>

**2021** January: The book "Whole Earth Carbon", Cambridge University Press, for which **D Giovannelli** is one of the coauthor, has been inserted in the "Outstanding Academic Titles" by the Association of College and Research Libraries, a division of the American Library Association. The award is given to books for "their excellence in presentation and scholarship, the significance of their contribution to the field, their originality and value as an essential treatment of their subject, and significance in building undergraduate collections."

**2020** September: **D Giovannelli** is among the winner of the ERC Starting Grant

**2018** December: **D Giovannelli** is a 2018 Wikipedia Fellow

**2018** September: The Frontiers in Earth Science Research Topic edited in 2015 is selected among the 10 finalist of the Frontiers Spotlight Award – [tiny.cc/q4yh4y](https://tiny.cc/q4yh4y)

**2018** March: Deep Carbon Observatory Deep Life Modeling and Visualization Fellowship – \$33,950

**2017** December: Institute for Marine Science of Ancona, National Research Council of Italy. Best Science Seminar of the Year Award

**2017** August: The Science Documentary co-produced and starred is awarded the Orbit Science Documentary Festival first prize award at the Goldschmidt conference in Paris

**2017** July: Frontiers Community Support Fund Grant – \$1,000

**2015** December: Awarded the 2015 Deep Carbon Observatory Emerging Leader Award

**2015** July: Awarded a ELSI Origin of Life Network fellowship (two years) for the study of the "Emergence and Evolution of Early Metabolism" – \$200,000

**2014** May: Awarded a fellowship to participate to the Deep Carbon Observatory "Deep Life" summer school in Yellowstone, USA

**2014** March: Awarded a C-DEBI postdoctoral fellowship (two years) for the study of "Alternative carbon fixation strategies in *Thermovibrio ammonificans*: a model system to study energy limitation in the deep biosphere" – \$125,000 – [www.darkenergybiosphere.org](http://www.darkenergybiosphere.org)

**2013** May: Awarded a postdoctoral fellowship (two years), Institute of Marine and Coastal Science, Rutgers University, USA – \$100,000

**2011** November: Among the 150 finalists (out of 2,139 participants) at the National Innovation Competitions, Telecom Working Capital, with the business project entitled “Nano-Tech: nano carbon technologies”

**2011** June: Awarded an InterRidge fellowship to visit the Deep-Sea Microbiology Lab, Rutgers University, USA – \$5,000 – [www.interridge.org/2011awards](http://www.interridge.org/2011awards)

**2011** March: Awarded the eCapital Business plan competition first prize for the Business Plan group project entitled “Nano-Tech: nano carbon technologies”. Donato Giovannelli is the group leader – €50,000 – [www.ecapital.it/news/vincitori](http://www.ecapital.it/news/vincitori)

**2010** July: Winner of a ADISU Puglia International Exchange Student Scholarship to visit the Deep-Sea Microbiology Lab, Rutgers University, USA – €10,000

**2008** November: Awarded the Rotary International Ancona Conero prize for best Master Thesis in Marine Biology and Ecology of Polytechnic University of Marche – €1,000

**2008** May: Awarded a fellowship to attend the International Workshop on microbial metagenomics “MicMetagenome” organized by European Science Foundation in Taormina, Italy

**2007** July: Summa cum laudae and academic kiss and embrace, Polytechnic University of Marche, Italy

**2006** April: Awarded a fellowship to attend the course on Oxidative Stress in Marine Organisms organized by the Alfred Wegener Institute for Polar and Marine Research (AWI) at Helgoland Marine Station, Germany

**2004 – 2005**: Awarded a Socrates-Erasmus one-year student exchange grant between Polytechnic University of Marche, Italy, and the University of Plymouth, UK

**INVITED TALKS,  
LECTURES AND  
SPEECHES**

**2023** 19 – 21 September: Invited Speaker at the Microbial Stress Meeting, Vienna, Austria

**2023** 16 – 21 July: Invited Speaker at the GRC in Applied and Environmental Microbiology, Massachusetts, USA

**2023** 5 July: Invited Speaker at the One Health Microbiology Seminars, University of Luxembourg, Luxembourg

**2023** 4 – 7 July: Invited Instructor at the International Summer School on Underground Hydrogen Storage, University of Delf, Netherlands

**2023** 2 – 4 May: Invited Talk at the COST Dynalife Workshop, Venice, Italy

**2023** 27 – 31 March: Invited Talk at the COST Chemobryonics Workshop, Akureyri, Iceland

**2023** 22 March: Invited Talk at UninAquam, University of Naples Federico II, Naples, Italy

**2023** 18 March: Invited Talk at the Department of Geology, University of Salta, Argentina

**2023** 27 January: Invited Talk at the Department of Earth Sciences, Oxford University, UK

**2022** 19 – 23 September: Invited Speaker at the 13<sup>th</sup> International Extremophiles Congress, Greece

**2022** 14 – 16 September: Invited Speaker at the Federazione Italiana Scienze della Vita (FISV) congress in Portici, Italy

**2022** 5 – 9 September: Invited Speaker at the fO<sub>2</sub> Summer School in Trieste, Italy

**2022** 24 May: Invited Speaker at the GRC Conference in the Geochemistry of Mineral Deposits, Barcelona, Spain



- 2022** 04 May: Invited Speaker at the monthly seminar series for the Institute for Polar Science of CNR, Italy
- 2022** 27 January: Invited Speaker at the weekly online webinar meetings “Metagenomic Forum”
- 2021** 11 November: Invited Speaker at the Anthropocene School, University of Milano Bicocca
- 2021** 7 December: Invited Speaker at the Geomicrobiological and Geochemical Colloquium seminar series at the GFZ German Research Center for Geosciences in Potsdam. **Giovannelli D.** “Subsurface life can modify volatile cycling at convergent margins”
- 2021** 25 November. Invited Speaker at the Società Geologica Italiana Geobiology online seminar series
- 2021** 13 – 17 September: Invited Speaker at the 90° Congress of the Società Geologica Italiana, Trieste (remote)
- 2021** : Invited Speaker at the International Society for Extremophiles online webinars
- 2021** May: Invited Speaker at the University of Edinburgh Astrobiology seminar series
- 2021** 11 February: Invited speaker at the Italian Society for General Microbiology and Microbial Biotechnology (SIMGBM) online seminar series with a talk entitled “Emergence and evolution of microbial metabolism and its role in Planetary habitability”
- 2021** 1 February: Invited speaker at the Department of Microbiology of the University of Tennessee at Knoxville, USA
- 2020** 13 November: Invited speaker at the Department of Geology (DiSTAR) of the University of Naples Federico II, Italy
- 2020** 11 August: Invited speaker (remote) at the Woods Hole Oceanographic Institution (WHOI), USA
- 2020** 22 May: Invited speaker (remote) at the University of Texas, USA
- 2020** 01 May: Invited speaker (remote) at the Earth-Life Science Institute, Tokyo, Japan
- 2020** 22 April: Invited speaker (remote) at the Fermentation Club seminars, Rutgers University, USA
- 2019** 04 November: Invited speaker at the DULIABio Astrobiology conference at the INFN Gran Sasso National Underground Laboratory, Assergi, Italy
- 2019** 25 October: Invited speaker at the final international science meeting of the Deep Carbon Observatory DeepCarbon2019, Washington DC, USA
- 2019** 02 September: Invited talk at the MARUM Center for Marine Environmental Science of the University of Bremen, Germany
- 2019** 02 May: Invited talk at the Marine Science Institute of the Middle Eastern Technical University, METU, in Erdemli, Turkey
- 2018** 14 – 16 November: Invited Speaker at the Interdisciplinary Carbon Cycle Workshop, Pisa, Italy
- 2018** 29 October – 2 November: Invited Speaker at the International Deep Life Symposium, Shanghai, China
- 2018** 16 – 20 September: Invited Speaker at the International Extremophiles Conference, Ischia, Italy
- 2018** 1 – 6 July: Invited Speaker at the Gordon Research Conference in Marine Microbes, Lucca, Italy
- 2018** 17 – 22 June: Invited Speaker at the Gordon Research Conference in Deep Carbon Science,

Rodhe Island, USA

**2018** 4 – 6 June: Invited Speaker at the 4D Deep-Time Data Driven Discoveries Workshop, Washington DC, USA

**2018** 11 – 13 May: Invited Speaker at the 7th edition of Intercollegiate Biotechnology Symposium, Warsaw, Poland

**2018** January: Invited speaker at the 5<sup>th</sup> ELSI International Science Symposium, Tokyo, Japan

**2017** November 8: Invited Speaker at the award ceremony of the Start-Up Competition "Cambiamenti" organized by the CNA (Italian National Federation of Artisans and Small and Medium Enterprises), Ancona, Italy

**2017** September: Invited speaker at the MICROBIOLOGY 2017 XXXII SIMGBM Congress, Palermo, Italy. **D Giovannelli**. "Extremophiles as a model to understand the emergence and evolution of metabolism"

**2017** June 25: Invited talk at the Institute for Marine Science, National Research Council of Italy, Ancona. **D Giovannelli**. "The carbon puzzle is missing a piece: shallow-water hydrothermal vents"

**2017** June 10: All4TheGreen event week, part of the **Italian hosted G7**, Business Ideas for a Sustainable World round table. **D Giovannelli**, Invited Speaker. Present the Italian Minister for the Environment

**2017** May: International Continental Drilling Workshop "Drilling into the Moho in the Ivrea-Verbano Zone", Baveno, Italy. Invited talk: **D Giovannelli** "Deep biosphere: gaps in our knowledge and opportunities"

**2017** March: Invited talk at the 3<sup>rd</sup> Deep Carbon Observatory International Science Meeting, St. Andrews, UK. **D Giovannelli**. "The carbon puzzle is missing a piece: shallow-water hydrothermal vents"

**2016** November: Invited talk at the Institute of Biochemistry and Bioresources, National Research Council of Italy, Naples, Italy. **D Giovannelli** "Microbiology of shallow-water hydrothermal vents"

**2016** November: Invited talk at the Department of Biology, University of Naples Federico II, Naples, Italy. **D Giovannelli** "Microbiology of shallow-water hydrothermal vents"

**2016** November: Invited talk for the Y-Café series organized by the Y-House in New York City. **D Giovannelli** "Microbes and the Brain: Microbial Evolution and Mind Control".

**2016** March: Invited talk at the Department of Earth and Planetary Science, Rutgers University. **D Giovannelli** "On being shallow: shallow-water hydrothermal vents as a world-wide phenomenon"

**2016** March: Invited talk in the Institute for Advanced Studies bi-annual "Family Science Talk". **D Giovannelli** "A Hidden World: The Deep-Sea"

**2016** February: Invited talk at the School of Marine and Atmospheric Sciences, Stony Brook University, USA. **D Giovannelli** "Effects of acidification on the benthic prokaryotic diversity and functioning in a shallow-water CO<sub>2</sub> vent field"

**2015** November: Invited speaker at the Council of Graduate Schools Panel on the Graduate Student Professional Development for the STEM Workforce

**2015** November: Invited talk at the Institute of Advanced Studies, Princeton, USA. **D Giovannelli** "8,000 feet under the sea: a day on Earth's last frontier"

**2015** October: Invited talk at the C-DEBI annual meeting. **D Giovannelli** "Carbon fixation in the thermophilic, anaerobic, chemosynthetic bacterium *Thermovibrio ammonificans*"

**2015** January: Invited talk at the Rutgers Microbiology Symposium. **D Giovannelli** "Insight into the evolution of carbon fixation revealed by comparative genomic analysis of the anaerobic chemosynthetic bacterium *Thermovibrio ammonificans*"

**2014** October: Invited talk at Illumina Sequencing Symposium, Rutgers University, USA. **D Giovannelli**, T Barkay "Microbial Genomics: Metagenomic and Metatranscriptomic of a Yellowstone Microbial Mat"

**2012** May: Invited speaker at the annual meeting of the Chemical Industry Association of Marche. **D Giovannelli** "Nanotechnology and start-up on the Italian horizon"

**2011** June: Invited speaker at the annual Ancona High Schools career day. **D Giovannelli** "Universities and Entrepreneurship in Italy"

**ORGANIZATION OF  
WORKSHOPS,  
MEETINGS AND  
SCIENTIFIC  
CONGRESS**

**2023** 9 – 14 July: Chair of Theme 8 "Geosphere and Biosphere Coevolution" at the Goldschmidt International Conference, Lyone, France

**2023** 12 – 15 June: Chair of the Geosphere-Biosphere Coevolution session at the Congress of the Italian Astrobiological Society, Rome, Italy

**2022** 18 – 22 September: 13<sup>th</sup> International Extremophiles Conference, member of the International Advisory Board [www.extremophiles2022.org](http://www.extremophiles2022.org)

**2022** 22 – 26 August: Session Organizer for the 21<sup>st</sup> International Sedimentological Congress, Beijing. Wang F, Lloyd K, Bradley J, **Giovannelli D**. "Deep Biosphere: roles of subsurface life in elemental cycles and life-environment co-evolution"

**2021** November - December. Co-organizer of the Geobiology online seminar series for the Società Geologica Italiana

**2021** July: Theme Chair for Theme 8 "CO-EVOLUTION OF LIFE AND ENVIRONMENTS" of the Goldschmidt Conference, Lyon, France

**2021** January: Member of the European Local Organizing Committee for the 9<sup>th</sup> ELSI Symposium "Science in Society" [symposium2021.elsi.jp](http://symposium2021.elsi.jp)

**2020** November: Co-organizer of the first Italian Remote Conference on the Evolution of Marine Organisms [www.evolmar.it](http://www.evolmar.it)

**2020** 13 – 17 September: Member of the International Advisory Board of the international conference Extremophiles 2020, Greece. Postponed to 2021 due to COVID-19 pandemic

**2019** 03 – 06 June: Organized a DCO Deep Live Modeling and Visualization Workshop and datathon with 20 participants from different universities and research groups, Rutgers University, New Brunswick, NJ, USA

**2018** 23 – 30 September: Local organizer of the DCO sponsored grant writing workshop in Ancona, Italy

**2018** 16 – 20 September: Member of the International Advisory Board of the international conference Extremophiles 2018, Ischia, Naples, Italy

**2018** 4 – 6 June: Member of the Scientific Organizing Committee of the 4-D Workshop: Deep-Time Data-Driven Discovery and the Evolution of Earth, Washington DC, USA

**2018** 22 – 24 March: Member of the Scientific Organizing Committee of the DCO Earth In Five Reaction Workshop, Washington DC, USA

**2018** 8 – 11 January: Member of the Scientific Organizing Committee of the 5<sup>th</sup> ELSI International Science Symposium, Tokyo, Japanese

**2017** 12 – 19 August: Convener and Co-Chair of Session 15b "Hydrothermal Biogeochemistry and Geobiology" convener. 27<sup>th</sup> Goldschmidt Conference, Paris, France

**2016**: Co-Organizer of the Second Deep Carbon Observatory Summer School in Yellowstone National Park, July

**2015:** Chair of the Organizing Committee of the Second Deep Carbon Observatory Early Career Scientist Workshop, 31 August – 5 September, Sao Miguel, Azores, Portugal. A total of 47 participants from 17 different countries attended the workshop

CONTRIBUTIONS TO  
CONFERENCES,  
MEETINGS AND  
WORKSHOPS

**2022** 15 – 20 May: AbSciCon Conference. Rucker HR, Ely TD, LaRowe DE, **Giovannelli D**, Price RE. “Quantifying the bioavailable energy in an ancient hydrothermal vent on Mars and a modern Earth-based analogue”

**2021** 12 – 16 December: AGU Fall Meeting, New Orleans, USA.

- Rogers TJ, Buongiorno J, Schrenk M, de Moor JM, Barry PH, Jessen GL, Basili M, Selci M, **Giovannelli D**, Lloyd KG. “Subsurface Landscape of a Chemolithoautotrophy-based Ecosystem

- Barry PH, Bekaert DV, Seltzer AM, Curtice J, de Moor JM, Jessen GL, **Giovannelli D**, Schrenk MO, Buongiorno J, Chiodi A, Ramírez CJ, Rogers TJ, Lloyd KG. “Helium isotope characteristics of Andean Convergent Margin geothermal fluids”

- Prabhu A, Morrison S, **Giovannelli D**. “A new way to evaluate association rule mining methods and its applicability to mineral association analysis”

**2021** 13 – 17 September: 90° Congress of the Società Geologica Italiana, Trieste (remote). <https://www.geoscienze.org/trieste2021/>

- **Giovannelli D**, Cordone A, Barry PH, Jessen GL, Lloyd KG, de Moor JM, Schrenk MO, Vitale Brovarone A. Subsurface life can modify volatile cycling at subduction zones”

- **Giovannelli D**. “Trace element availability at the interface between planetary evolution and life emergence”

- Bastoni D, Buongiorno J, Morrison S, Hazen R, Prabhu A, Eleish A, Barry P, Bekaert DV, Zahirovic S, Cordone A, Narkar S, **Giovannelli D**. “Linking plate tectonic settings and microbial functions on a global scale”

- Cascone M, Lloyd K, Rogers TJ, de Moor JM, Schrenk MO, Barry P, Jessen GL, Chiodi A, Selci M, **Giovannelli D**. “Deeply-sourced springs microbial diversity: a window into the deep of the Earth”

- Selci M, **Giovannelli D**, De Marco R, Spagnoli F, Tramontana M, Droghini E, Dinelli E, Annibaldi A, Manini E. “Benthic microbial community structure across the Adriatic sea and the role of terrigenous inputs”

**2021** 12 – 17 September: 16<sup>th</sup> Deep-Sea Biology Symposium. Baldrighi E, Basili M, **Giovannelli D**, Quero GM, Cafarella M, Manini E. “Different benthic size classes shed light on deep-sea fauna small-scale spatial patterns”

**2021** 30 June: DINGUE (Developments In Noble Gas Understanding and Expertise) Conference. Bekaert DV, Gazel E, Hammerstrom A, Turner S, Behn M, de Moor JM, Zahirovic S, Seltzer AM, Fischer TP, Kulongoski JT, Patel BS, Schrenk MO, Halldórsson SA, Nakagawa M, Ramírez CJ, Krantz JA, Yücel M, Ballentine CJ, **Giovannelli D**, Lloyd KG, Barry PH. “High <sup>3</sup>He/<sup>4</sup>He in Western Panama track Galapagos mantle flow through a slab window”

**2021** 7 – 10 September: European Astrobiology Network Association EANA 2021 Conference, remote. Barosa B, Vetriani C, Smith DE, Cordone A, **Giovannelli D**. “At the dawn of metabolism-How Aquificae can shed light into the evolution of carbon fixation and hydrogen oxidation”. Poster

**2021** July: Goldschmidt Conference, Lyon, France.

- Bastoni D, Buongiorno J, Morrison S, Hazen R, Prabhu A, Eleish A, Barry PH, Bekaert DV, Zahirovic S, Cordone A, **Giovannelli D**. “Linking plate tectonic settings and microbial functions on a global scale”

- Cascone M, Lloyd KG, Rogers TJ, de Moor JM, Schrenk MO, Barry PH, Jessen GL, Chiodi A, Selci M, **Giovannelli D**. "Microbial diversity in the backarc hot springs of Argentina and its role in biogeochemical cycles"

**2020** 25 – 27 November: First Italian Congress on the Evolution of Marine Organisms.

- Selci M, Spagnoli F, De Marco R, Tramontana M, Droghini E, Dinelli E, Annibaldi A, Manini E, **Giovannelli D**. "Benthic microbial community structure across the Adriatic Sea: role of terrigenous inputs". Fash Talk

- **Giovannelli D** and Cordone A. "Making of a pathogens: how marine microbial genomics can help understand how pathogens are made". Oral communication

**2020** 28 October: Italian Astrobiology Congress, Agenzia Spaziale Italiana. **Giovannelli D**. "EARTH Subsurface biosphere and implication for the search of life in the universe". Invited talk

**2020** 21 – 26 June: Goldschmidt Conference, Hawaii, USA. Buongiorno J, Giovannelli D, DeMoor M, Barry P, Shrenk M, Lloyd K, Nakar S, Morrison S & Hazen R. "An Integrated Machine Learning Approach Reveals Geochemical Controls on Microbial Electron-Transfer Protein Abundance". Gone virtual due to COVID-19 pandemic

**2019** 9 – 19 December: AGU Fall Meeting, San Francisco, CA, USA.

- Giovannelli D, J Buongiorno, SM Morrison and R Hazen. "Bridging geosphere Biosphere interactions using big data: a case study from geothermal influenced ecosystems". Poster

- Barry PH, BS Patel, JM de Moor, M Nakagawa, **D Giovannelli**, CJ Ramirez, MO Schrenk, E Gazel, AM Seltzer, SA Halldórsson, JT Kulongoski, S Turner, CJ Ballentine, TP Fischer, DR Hilton, C Virrueta, K Blackmon, KG Lloyd. "Calcite precipitation in the Costa Rican forearc reduces long-term carbon recycling into Earth's deep mantle". Talk

- Patricia Barcala Dominguez and **D Giovannelli**. "Scientist and Artists as translators of natural processes and beauty". Poster

- Selci M, E Manini, F Spagnolo, M Tramontana, E Droghini, E Dinelli, A Annibaldi and **D Giovannelli**. "Benthic microbial community structure across the Adriatic Sea: role of terrigenous inputs and human impacts". Poster

- KG Lloyd, KM Fullerton, M Schrenk, M Yucel, H Miller, JM de Moor, PH Barry, **D Giovannelli**. "Microbial community coupling to deep subduction processes". Talk

- Ash J, A Franca, JF Biddle, S Singh, **D Giovannelli**, and the Expedition 374 Science Party. "Microbial sediment community changes from the Last Glacial Maximum to modern beneath the Ross Sea". Poster

**2019** 23 – 26 October: DeepCarbon 2019 International Science Meeting, Washington DC, USA.

- Invited Speaker. **D Giovannelli**, P Barry, K Lloyd, M de Moor, MO Schrenk and the Biology Meets Subduction team. "Biology Meet Subduction: Bacterial diversity tracks deep subduction processes"

**2019** 18 – 23 August: Goldschmidt 2019 conference, Barcellona, Spain.

- Barry PH, de Moor JM, **Giovannelli D**, Schrenk MO, Hummer D, Lopez T, Pratt CA, Lloyd KG. "Calcite precipitation in the Costa Rican forearc reduces long-term carbon recycling into Earth's deep mantle"

- Buongiorno J, Fullerton K, Rogers TJ, **Giovannelli D**, De Moor M, Barry P, Schrenk MO, Lloyd KG, Morrison S, Hazen R. "Interactions between microbial communities and their geologic environment at the Costa Rica active margin"

**2018** 10 – 14 December: AGU Fall Meeting, Washington DC, USA.

- Talk. de Moor JM, Barry P, Lloyd K, **Giovannelli D**, Nakagawa M, Ramirez C, Schrenk MO, Pratt CA, Lopez T, Hummer D. "Forearc carbon sinks reduce long-term volatile recycling into the

mantle: First insights from the Biology Meets Subduction project in Costa Rica”

**2018** 14 – 16 November: Invited Speaker at the Interdisciplinary Carbon Cycle Workshop, Pisa, Italy

**2018** 16 – 20 September: International Extremophiles Conference, Ischia, Italy.

- Invited Speaker. **D Giovannelli**, P Barry, K Lloyd, M de Moor, MO Schrenk and the Biology Meets Subduction team. “Extremophiles impact on volatile cycling at subduction zones”

- Poster. M Nakagawa, **D Giovannelli**, C Vetrioni, M Kameya, A Gilbert, K Yamada, and N Yoshida. “Carbon and hydrogen stable isotopic signatures of fatty acids produced by reductive tricarboxylic acid cycle”

- Poster. Smedile F, Patwardhan S, **Giovannelli D**, Mullane K, Foustoukos DI and Vetrioni C. “Adaptations to high pressure of *Nautilia* sp. Strain PV-1 a piezophilic epsilonproteobacterium isolated from a deep-sea hydrothermal vent”

**2018** 1 – 6 July: Invited Speaker at the Gordon Research Conference in Marine Microbes, Lucca, Italy. **D Giovannelli**. “Surviving Earth’s Changing Conditions: a Genomic Perspective”

**2018** 17 – 22 June: Gordon Research Conference in Deep Carbon Science, Rodhe Island, USA.

- Invited Speaker. **D Giovannelli**. “Surviving Earth’s Changing Conditions: a Genomic Perspective”

- Poster. KG Lloyd, P Barry, A Battaglia, P Beaudry, G Bini, T Fisher, K Fullerton, M de Moor, **D Giovannelli**, G González, D Hilton, D Hummer, K Iacovino, T Lopez, M Martinez, M Matamoros, H Miller, M Nakagawa, K Pratt, C Ramírez, MO Schrenk, YA Segura, S Turner. “Evidence for deep subsurface chemistry and biology altering carbon budgets across the Costa Rica convergent margin”

**2018** 4 – 6 June: 4D Deep-Time Data Driven Discoveries Workshop, Washington DC, USA. Invited Speaker

- Invited Speaker. **Giovannelli D**. “Linking microbial metagenomics and environments: a big data approach”

- Poster. Butch CJ, **Giovannelli D**, Burger P, Cleaves HJ. “Probing the Pre-RNA World: Phylogenetic and Computational Investigation of Nucleotide Binding in Bacteria”

- Poster. EK Moore, BI Jelen, **D Giovannelli**, H Raanan, PG Falkowski. “The Evolution of Metal Availability and Metabolism in the Archean Era”

**2018** 11 – 13 May: Invited Speaker at the 7th edition of Intercollegiate Biotechnology Symposium, Warsaw, Poland. **D Giovannelli**. “Reconstructing the emergence and evolution of metabolism: ancestral and acquired metabolic pathways in extant genomes”

**2018** 22 – 24 March: Session Chair at the DCO Earth In Five Reaction Workshop, Washington DC, USA

**2018** 9 – 11 January: ELSI 6<sup>th</sup> International Science Symposium, Tokyo, Japan. Invited Speaker. **D Giovannelli**. “The evolution of carbon fixation in the deep-branching Aquificae phylum”

**2017** 11 – 16 December: AGU Fall Meeting, New Orleans, USA. EK Moore, BI Jelen, **D Giovannelli**, H Raanan, PG Falkowski. “Expanding the Network of Metal Availability and Metabolism in the Archean Era”

**2017** 17 – 20 September: Società Italiana di Microbiologia Generale e Biotecnologie Microbiche, XXXII SIMGBM Congress, MICROBIOLOGY 2017, Palermo, Italy. Invited Speaker. **D Giovannelli**. “Extremophiles as a model to understand the emergence and evolution of metabolism”

**2017** August 27 – September 1: 6<sup>th</sup> International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, Massachusetts, USA

- Poster. Smedile F, Grosche A, Patwardhan S, **Giovannelli D**, Jelen B and Vetriani C. "Hydrogen oxidation coupled to sulfur reduction in deep-sea vent bacteria"

- Talk. Vetriani C, Amieva M, **Giovannelli D**, Patwardhan S and Smedile F. "Common adaptive strategies in hydrothermal vent and pathogenic Epsilonproteobacteria revealed by comparative genomic and physiological analyses"

- Poster. Patwardhan S, **Giovannelli D**, Vetriani C. "Prokaryotic diversity and function at a newly discovered shallow-water gas vent in the Tyrrhenian Sea"

**2017** 12 – 17 August: 27th Goldschmidt Conference, Paris.

- Poster. S Bartlett, **D Giovannelli** and M Yucel. "Modelling of advective transport and biogeochemistry at a shallow hydrothermal vent system"

- Poster. EK Moore, BI Jelen, **D Giovannelli**, H Raanan, PG Falkowski. "The Evolution of Metal Availability and Metabolism in the Archean Era"

- Poster. Morrison SM, Eleish A, Liu C, Hummer DR, **Giovannelli D**, Meyer MB, Fox P, Downs RT, Golden JJ, Pires A, Hystad G, Ralph R and Hazen RM. "Network Analysis Applications: Exploring Geosphere and Biosphere Co-evolution with Big Data Techniques"

**2017** 18 – 20 July: 3rd Annual Metagenomics and Metadesign of Subways and Urban Biomes (MetaSUB) Conference, Stockholm. Talk. Suzusa H, Nakagawa M, Merino N, Giovannelli D. "Updates from MetaSUB Japan"

**2017** 16 – 21 July: International Society for the Study of the Origin of Life Meeting, San Diego, USA. Poster. SJ Bartlett, O Witkowski and **D Giovannelli**. "Cognition and learning: a primary determinant and seed of life"

**2017** 1 – 5 May: International Continental Drilling Workshop "Drilling into the Moho in the Ivrea-Verbano Zone", Baveno, Italy. Invited Speaker: **D Giovannelli** "Deep biosphere: gaps in our knowledge and opportunities"

**2017** March: Southeastern Biogeochemical Society (SBS) meeting. Poster. K Fullerton, P Barry, A Battaglia, P Beaudry, G Bini, M Cascante, M de Moor, **D Giovannelli**, G González, D Hummer, K Iacovino, M Martínez, H Miller, S Turner, K Pratt, C Ramírez, Y Alpizar Segura, K Lloyd. "Biology Meets Subduction: Exploration of Microbial Diversity of Costa Rican Convergent Margin"

**2017** 22 – 25 March: Deep Carbon Observatory International Science Meeting, St. Andrews, UK. Invited Speaker. **D Giovannelli**. "The carbon puzzle is missing a piece: shallow-water hydrothermal vents"

**2016** 12 – 16 December: AGU Fall Meeting, San Francisco, USA. Poster presentation. B13G-0728. **D Giovannelli**, A D Cox, DR Hummer, K Pratt, C Sheik, D Thomas, MF Viveiros. "Multidisciplinary field surveys as the new norm: Integrating geosciences to characterize the fate of carbon in a geothermal fumarole"

**2016** 12 – 16 December: American Geophysical Union Fall Meeting, San Francisco, USA. Poster presentation. K Pratt, J Fellowes, **D Giovannelli**, V Stagno. Building the next generation: the Deep Carbon Observatory early career scientist workshops"

**2016** 22 – 23 September: NanoInnovation 2016, Rome, Italy. Session communication. **D Giovannelli**, A Giovannelli, F Scarpa, D Di Maio, P Barcala Dominguez, V Alessi. "Industrial grade epoxy nanocomposites with mechanically dispersed carbon nanotubes: static properties"

**2016** 27 – 30 June: 26th Goldschmidt Conference, Yokohama, Japan. Session communication. **D Giovannelli**, D Foustoukosc, N Le Brisd, S Sievert, M Yucel, A D'Alessandro, R Ricci and C Vetriani. "Physical control of the spatial and temporal diversity of microbial mats at a shallow-water hydrothermal vent"

**2016** 13 – 15 June: WPI Site visit at ELSI, Tokyo, Japan. **D Giovannelli**, Smith DE, Takai K and

Vettraini C. "Insight into the evolution of carbon fixation in the deep-branching bacterial phylum Aquificae"

**2015** November: Modeling Origin of Life Conference, Washington DC. **D Giovannelli**. "Acquired and ancestral metabolic traits in the evolution of metabolism"

**2015** September: European Ecology Society Annual Meeting, Rome, Italy. Bongiorno L, **D Giovannelli**, S Stefanni, A Pallavicini, K De Potter, J Monteiro, H Parra and M Carreiro-Silva. "Effect of acidification on benthic prokaryotes diversity and functioning in a shallow-water CO<sub>2</sub> vent field (Fayal Island, NE Atlantic)"

**2015** September: Deep-Sea Biology Symposium, Aveiro, Portugal. Bardighi E, **D Giovannelli**, G D'Errico and E Manini. Deep-Sea Ecosystem: A world of positive species interactions?

**2015** September: Second DCO Early Career Scientist Workshop. **D Giovannelli**. Metadata: surviving the Big Data wave

**2015** September: Second DCO Early Career Scientist Workshop. **D Giovannelli**. Open Access and Open Science

**2015** August: Society for Industrial Microbiology and Biotechnology Annual Meeting. Patwardhan S, **D Giovannelli** and C Vetriani. Microbial diversity at a shallow-water hydrothermal vent in the Tyrrhenian Sea

**2015** August: Society for Industrial Microbiology and Biotechnology Annual Meeting. Louie TS, **D Giovannelli**, N Yee, E Bini and M Haggblom. A Preliminary Glimpse into the Genome of *Sedimenticola selenatireducens* strain AK4OH1

**2015** April: American Society of Microbiology, Theobald Smith Society Meeting. Grosche A, **Giovannelli D**, Sievert SM and Vettraini C. Microbial diversity at Deep-Sea hydrothermal vents

**2015** April: American Society of Microbiology, Theobald Smith Society Meeting. Louie TS, **D Giovannelli**, N Yee, E Bini and M Haggblom. A Preliminary Glimpse into the Genome of *Sedimenticola selenatireducens* strain AK4OH1

**2015** March: Deep Carbon Observatory International Science Meeting. **D Giovannelli**, M Hugler, S Sievert and C Vetriani. Insight into the evolution of carbon fixation revealed by comparative genomic and proteomic analysis of the anaerobic chemosynthetic bacterium *Thermovibrio ammonificans*

**2015** March: Deep Carbon Observatory International Science Meeting. **D Giovannelli**, Cox A, Hummer D, Pratt K, Sheik C, Thomas D, Viveiros F. The second DCO Early Career Scientist Workshop

**2015** March: Deep Carbon Observatory International Science Meeting. **D Giovannelli**, DI Foustoukos, N Le Bris, M Yücel, SM Sievert, C Vetriani. Spatial and temporal diversity of microbial mats in the shallow-water hydrothermal system of Milos Island (Greece)

**2014** December: AGU Fall Meeting, San Francisco. **D Giovannelli**, DI Foustoukos, N Le Bris, M Yücel, SM Sievert, C Vetriani. Spatial and temporal diversity of microbial mats in the shallow-water hydrothermal system of Milos Island (Greece)

**2014** September: RemTech 2014: Remediation Technologies International Expo, Ferrara, Italy. Manini E, **Giovannelli D**, d'Errico G, Baldighi E, Ciani M. Bioremediation of high organic load lagoon sediments: compost addition and priming effects

**2014** September: RemTech 2014: Remediation Technologies International Expo, Ferrara, Italy. Manini E, E Baldighi, G d'Errico, **D Giovannelli**. From microbes to megafauna: diversity and ecosystem functioning in different benthic communities

**2014** July: Deep Carbon Observatory Summer School 2014, Yellowstone National Park, USA. **Giovannelli D**, M Hugler, SM Sievert, C Vetriani. Insight into the evolution of carbon fixation



revealed by comparative genomic of the anaerobic chemosynthetic bacterium *Thermovibrio ammonificans*

**2014** May: European Geoscience Union, General assembly, Vienn. M Yücel, SM Sievert, **D Giovannelli**, C Vetriani, DI Foustoukos, N Le Bris. Microbial population and geochemical dynamics in the shallow-water hydrothermal vents of Milos (Greece)

**2011** October: V International Meeting LaguNet, Lesina, Italy. C Montagno, **D Giovannelli**, G d'Errico, E Manini. In situ bioremediation of high organic load lagoon sediments: compost addition and priming effect

**2011** June: Italian Association of Limnology and Oceanography, AIOL, general assembly, Lecce Italy. **Giovannelli D**, M Molari, G d'Errico, E Manini. Prokaryotic community structure variation in the deep sediments of the Mediterranean Sea and adjacent Atlantic Ocean

**2011** February: Rutgers University Microbiology Symposium, USA. **D Giovannelli**, E Manini, C Vetriani. Prokaryotic communities of Milos Island shallow hydrothermal vents, culture depend and independent approaches

**2010**: International Meeting LaguNet, Mazzara del Vallo, Italy. C Montagno, **D Giovannelli**, M Molari, G d'Errico, E Manini. Recovery of eutrophicated lagoon sediment through the induction of the in situ microbial degradation activities: pilot experiment with compost

**2008** November: EuroDeep Meeting, Valencia, Spain. R Danovaro, C Corinaldesi, A Dell'Anno, C Gambi, **D Giovannelli**, G Luna, M Molari, D Zeppilli, A Pusceddu, E Manini. Deep-sea benthic biodiversity and ecosystem functioning: a first multilayer attempt from viruses to meiofauna

**2008** September: Italian Ecological Society, SItE, General assembly, Parma, Italy. L Bongiorno, **D Giovannelli**, A Pusceddu, R Danovaro. Rehabilitation of a highly degraded coral reefs through transplantation of cultured corals

**2008** September: Italian Ecological Society, SItE, General assembly, Parma, Italy. C Corinaldesi, M Barucca, **D Giovannelli**, GM Luna, C Morigi, A Dell'Anno. Exploring the hidden biodiversity of genes in extracellular DNA preserved in marine sediments

**2008** September: Italian Ecological Society, SItE, General assembly, Parma, Italy. L Bongiorno, **D Giovannelli**, C Corinaldesi, R Danovaro. Viral abundance and production in tissue and mucus of the scleractinian corals *Acropora*

**2008**: Italian National meeting of PhD candidates in aquatic science, Trento, Italy. **D Giovannelli**. Viral ecology in deep-sea ecosystems: a metagenomic approach

**2007**: Join congress Italian Association of Limnology and Oceanography – Italian Ecological Society, AIOL-SItE, Ancona, Italy. L Bongiorno, **D Giovannelli**, A Pusceddu, R Danovaro. Restoration of highly degraded coral reef (Singapore)

**2007**: Join congress Italian Association of Limnology and Oceanography – Italian Ecological Society, AIOL-SItE, Ancona, Italy. C Cerrano, **D Giovannelli**, D Pica, L Rocchetti, G Rossi, G Di Camillo, L Valisano, M Ponti. Confront between not destructive methods for study benthonic community of hard substrates

**2006**: Italian Association of Limnology and Oceanography, AIOL, General assembly, Napoli, Italy. R Danovaro, C Corinaldesi, L Bongiorno, **D Giovannelli**, E Damiani, A Pusceddu, L Greci. Effect of sunscreen products on the scleractinian coral *Acropora* sp.

ATTENDED  
SCIENTIFIC  
CONGRESSES,  
MEETINGS AND  
WORKSHOPS

**2023** 19 – 21 September: Invited Speaker at the Microbial Stress Meeting, Vienna, Austria

**2023** 16 – 21 July: GRC in Applied and Environmental Microbiology, Massachusetts, USA

**2023** 9 – 14 July: Goldschmidt International Conference, Lyone, France

- 2023** 4 – 7 July: *International Summer School on Underground Hydrogen Storage, University of Delf, Netherlands*
- 2023** 12 – 15 June: *Congress of the Italian Astrobiological Society, Rome, Italy*
- 2023** 2 – 4 May: *COST Dynalife Workshop, Venice, Italy*
- 2023** 27 – 31 March: *COST Chemobryonics Workshop, Akureyri, Iceland*
- 2022** 19 – 23 September: *13<sup>th</sup> International Extremophiles Congress, Greece*
- 2022** 14 – 16 September: *Federazione Italiana Scienze della Vita (FISV) congress in Portici, Italy*
- 2022** 5 – 9 September: *fO<sub>2</sub> Summer School in Trieste, Italy*
- 2022** 22 – 26 August: *21st International Sedimentological Congress, Beijing*
- 2022** 24 May: *GRC Conference in the Geochemistry of Mineral Deposits, Barcelona, Spain*
- 2021** 13 – 17 September: *90° Congress of the Società Geologica Italiana, Trieste (remote)*
- 2021** 7 – 10 September: *European Astrobiology Network Association EANA 2021 Conference, remote*
- 2021** 25 – 28 January: *9<sup>th</sup> ELSI International Symposium “Science in Society, remote*
- 2020** 23 – 25 November: *1<sup>st</sup> Italian online congress on the Evolution of Marine Organisms, EvolMar, remote*
- 2020** 27 – 29 October: *1st Italian Space Agency workshop on Astrobiology, remote*
- 2019** 13 – 15 November: *Center Dark Energy Biosphere Investigations (C-DEBI) meeting, Marina, CA, USA*
- 2019** 4 – 5 November: *DULIABio Astrobiology meeting, INFN Gran Sasso Underground Laboratory, Assergi, Italy. Invited Speaker*
- 2019** 23 – 26 October: *Deep Carbon Observatory DeepCarbon2019 International Science Meeting, Washington DC, USA. Invited Speaker*
- 2019** 17 – 24 August: *International Geochemical Society, Goldschmidt International Conference, Barcellona, Spain*
- 2019** 04 – 05 July: *Italian Antarctic Program workshop “Oceano Antartide”, University of Parthenope, Naples, Italy*
- 2019** 03 – 06 June: *DCO Deep Live Modelling and Visualization Workshop, Rutgers University, New Brunswick, NJ, USA. Workshop organizer*
- 2019** 28 May – 01 June: *Deep-Time Data Workshop, University of Idaho, Moscow, ID, USA*
- 2018** 14 – 16 November: *Interdisciplinary Carbon Cycle Workshop, Pisa, Italy. Invited Speaker*
- 2018** 29 October – 2 November: *DCO Deep Life International Workshop, Shanghai, China. Invited Speaker*
- 2018** 16 – 20 September: *International Extremophiles Conference, Ischia, Italy. Invited Speaker*
- 2018** 18 – 24 August: *GeoDeepDive Workshop, University of Wisconsin at Madison, Madison, WI, USA*
- 2018** 1 – 6 July: *Gordon Research Conference in Marine Microbes, Lucca, Italy. Invited Speaker*
- 2018** 17 – 22 July: *Gordon Research Conference in Deep Carbon Science, Rodhe Island, USA. Invited Speaker*
- 2018** 4 – 6 June: *4D Deep-Time Data Driven Discoveries Workshop. Invited S, Washington DC, USA. Invited Speaker*
- 2018** 11 – 13 May: *Invited Speaker at the 7th edition of Intercollegiate Biotechnology Symposium,*

Warsaw, Poland

**2018** 22 – 24 March: DCO Earth In Five Reaction Workshop, Washington DC, USA. Session Chair

**2018** 19 – 21 March: DCO Deep Life Modelling and Visualization workshop, Tempe, USA. Invited

**2018** 8 – 11 January: 5<sup>th</sup> ELSI International Science Symposium. Invited Speaker

**2017** 17 – 20 September: Invited speaker, MICROBIOLOGY 2017 XXXII SIMGBM Congress, Palermo, Italy. Invited Speaker

**2017** Session 15b “Hydrothermal Biogeochemistry and Geobiology” convener. 27th Goldschmidt Conference, Paris, France

**2017** 1 – 5 May: ICDP Ivrea-Verbano Drilling workshop, Baveno, Italy. Invited Speaker

**2017** 22 – 25 March: Deep Carbon Observatory International Science Meeting, St. Andrews, UK. Invited Speaker

**2016** 13 December: Italian Space Agency – ASI, Astrobiology Society Workshop, Rome, Italy

**2016** 21 – 23 September: Italian Federation of Life Science Congress, Rome, Italy

**2016** 22 – 23 September: NanoInnovation 2016, Rome, Italy

**2016** 27 – 30 June: 26th Goldschmidt Conference, Yokohama, Japan

**2016** 12 – 16 January: ELSI 4<sup>th</sup> International Symposium, Tokyo, Japan

**2015** 14 – 15 November: DCO Extreme Biophysics Workshop, Washington DC, USA

**2015** 9 – 13 November: Modeling Origin of Life Conference, Washington DC, USA

**2015** 8 November: Council of Graduate Schools STEM Panel, Washington DC, USA

**2015** 25 – 29 March: Deep Carbon Observatory International Meeting, Munich, Germany

**2014** 15 – 19 December: American Geophysical Union Fall meeting, San Francisco, USA

**2014** 6 – 9 November: Center Dark Energy Biosphere Investigations (C-DEBI) meeting, Marina, USA

**2011** February: Rutgers University Microbiology Symposium, New Brunswick, USA

**2010** 13 – 16 September: FEMS Extremophiles 2010, Ponta Delgada, Azores, Portugal

**2010** 26 – 28 May: III Workshop of the Italian Society for Astrobiology, Trieste, Italy

**2009** 18 – 20 February: TARA Oceans project preparatory meeting, Roscoff, France

**2008** 11 – 13 November: World Conference on Biodiversity, Valencia, Spain

**2008** 10 November: Annual meeting of EuroDEEP program, Valencia, Spain

**2008** 1 – 3 September: XVIII congress of Italian Society of Ecology SItE, Parma, Italy

**2008** 14 – 16 April: III national meeting of PhD candidates in aquatic science, Trento, Italy

**2007** 1 – 4 November: Meeting and Workshop of REEFRES project, Bolinao, Philippine

**2007** 17 – 20 September: First join congress Italian Association for Oceanography and Limnology AIOL – Italian Society for Ecology SItE, Ancona, Italy

**2006** 3 – 5 September: Meeting and Workshop of REEFRES project, Phuket, Thailand

**2006** 3 – 7 July: XVII Italian Association of Oceanography and Limnology, Naples, Italy

**TEACHING AND  
TUTORSHIP  
EXPERIENCE**

**α. University programs design and coordination**

**2023** – present: Director of the Master Degree program in Biology of Extreme Environments at the Department of Biology, University of Naples Federico II

**2020:** During the first wave of the COVID-19 pandemic in 2020 I invested my time in creating a new Master Program (currently in the last step of approval by the Ministry of Research and University) in the Biology of Extreme Environments. The program is the first of its kind in Europe, and it is organized in two curricula: "Biological Resources" and "Astrobiology". Within the new program I will teach the following courses: "Microbiology of extreme environments" and "Microbial colonization of terrestrial analogs and habitability"

#### **b. Ongoing teaching**

**since 2022:** Lecturer in Microbial Metabolism and Habitability in the international Master Degree program (LM) in the Biology of Extreme Environments at the University of Naples "Federico II". Class size ranges between 15 and 20 students

**since 2021:** Lecturer in Microbiology of Extreme Environments in the international Master Degree program (LM) in the Biology of Extreme Environments at the University of Naples "Federico II". Class size ranges between 15 and 20 students

**since 2020:** Lecturer in Environmental Metagenomic in the Master Degree program (LM) in the Biology at the University of Naples "Federico II". Class size ranges between 15 and 30 students

**2019 – 2022:** Lecturer in Marine Microbial Diversity in the Master Degree (LM) in Biology and Ecology and the Marine Environment and Sustainable Use of the Resources at the University of Naples "Federico II". We used Wikipedia as a teaching tool and to create class assignments adding on average 100,000 characters to articles on topics related to Marine Microbial Diversity. Class size ranges between 15 and 30 students

#### **c. Past teaching experience**

**2020:** During the COVID-19 pandemic organized and thought a remote introductory class on Bioinformatics and Data Analysis to Graduate students in my department

**2019 – 2020:** Lecturer in Applied Microbiology in the Master Degree (LM) in Biological Sciences at the University of Naples "Federico II". Class size ranges between 120 and 200 students

**2019 18 July:** Instructor for the K-12 professor summer School (PLS program) for science teachers

**2018 7 December:** Held a guest lecture for the course in Environmental Microbiology (Graduate level) and Bioinformatics (Undergraduate level) on the use of -omics techniques in microbial ecology at the University of Rome "La Sapienza", Italy. Lecturer Prof. Bianca Colonna

**2018 May:** Held a series of four lectures for the course in Environmental Microbiology (Graduate level) at the University of Rome "La Sapienza", Italy. Lecturer Prof. Bianca Colonna

**2018 February:** Organized and held a Practical Bioinformatic Workshop in three sessions to give a mix of theory and hand-on exercise for a practical introduction to bioinformatic analyses in microbial ecology and microbiology at ELSI, Japan

**2016 September – December:** Lecturer, as Visiting Professor, for the graduate course in Marine Microbial Biodiversity (6 CFU), University of Naples "Federico II", Italy

**2015 November:** Organized and held a Practical Bioinformatic Workshop in five sessions to give a mix of theory and hand-on exercise for a practical introduction to bioinformatic analyses in microbial ecology and microbiology at Rutgers University, USA

**2015 October:** Guest lecturer for the course in Microbial Diversity and Ecology (Undergraduate and Graduate) on "Omic techniques and their use in Microbial Ecology" at Rutgers University, USA. Lecturer Prof. Tamar Barkay [barkay@aesop.rutgers.edu](mailto:barkay@aesop.rutgers.edu)

**2014 October:** Guest lecturer for the course in Microbial Diversity and Ecology (Undergraduate and Graduate) on "Omic techniques and their use in Microbial Ecology" at Rutgers University,

USA. Lecturer Prof. Tamar Barkay [barkay@aesop.rutgers.edu](mailto:barkay@aesop.rutgers.edu)

**2014** January – May: Co-Lecturer for the graduate course in Microbial Genetics and Genomics (16:682:504 – 3 Credits) at the Department of Biochemistry and Microbiology, Rutgers University, USA. Lecturers Dr. Elisabetta Bini and Prof. Gerben Zylstra [zylstra@seb.rutgers.edu](mailto:zylstra@seb.rutgers.edu)

**2012** October: Guest Lecturer for the graduate course Seminar in Microbiology at Rutgers University, USA. Lecturer Prof. Costantino Vetriani [vetriani@marine.rutgers.edu](mailto:vetriani@marine.rutgers.edu)

**2009** January: Guest lecturer on within the graduate course program in Marine Ecology at Polytechnic University of Marche, Italy

**2008** March: held a series of guest lecture on “Restoration e rehabilitation” within the graduate course program in Laboratory of Applied Marine Ecology at Polytechnic University of Marche, Italy

#### **d. Student supervision**

**Since 2019:** Advisor of 13 PhD students and 4 postdoctoral fellows, co-advisor of 3 postdoctoral fellow, 3 PhD student and 5 graduate assistants, primary advisor or co-advisor of 28 master students and >30 undergraduate students at the University of Naples “Federico II”

**2021** – present: Member of the Doctoral Commission of the PhD candidate Ifeoma Ugwuanyi at Rutgers University, USA. Advisor Michaela Glamoclija

**2020** – present: Member of the Doctoral Commission of the PhD candidate Timothy J. Rogers at University of Tennessee at Knoxville, USA. Advisor Karen Lloyd

**2019** 3 May: President of the PhD Committee for the graduation of the PhD candidate Selin Deliceirmak at METU University, Turkey

**2018** – present: Member of the Doctoral Commission of the Master candidate Katherine Fullerton at University of Tennessee at Knoxville, USA. Advisor Karen Lloyd

**2017** September – July 2018: Co-Advisor of the Master Student Maria Magliulo with Prof. Angelina Cordone at the University of Naples “Federico II”, Italy

**2016** September – May 2018: Member of the Doctoral Commission of the PhD candidate Ashley Grosche at Rutgers University, USA. Advisor Costantino Vetriani

**2014** November – December 2018: Co-supervision with Prof. Costantino Vetriani and Prof. Paul Falkowski of the PhD research project of Ben Jelen at Rutgers University, USA

**2014** October – May 2015: Co-supervision with Prof. Costantino Vetriani of the BSc research project of the student Justin Staley at Rutgers University, USA

**2012** March – January 2013: Co-tutor for the MSc project of Fiorentino Federica at CNR-ISMAR Ancona in collaboration with Polytechnic University of Marche on microbial assemblages of cold seeps in the Adriatic Sea. Title of the project “Chemical and microbiological characterization of natural hydrocarbon seeps area in the Adriatic Sea”. Co-tutor with Dr. Elena Manini and Prof. Francesco Regoli

**2012:** Co-supervision with Prof. Costantino Vetriani of the undergraduate research project of Danielle Leake at Rutgers University. The project consisted in the identification and analysis of the pan and core genome of Epsilonproteobacteria

**2011** November – March 2012: Co-tutor with Dr. Elena Manini for the BSc intership of Tatiana Fioravanti and Roberta Iannelli at CNR-ISMAR Ancona

**2011** – 2012: co-tutor for the MSc project of Claudio Montagno at CNR-ISMAR Ancona in collaboration with Polytechnic University of Marche on the “Bioremediation of eutrophic lagoon sediments by priming effect”. Co-tutor with Dr. Elena Manini and Prof. Maurizio Ciani

**2011** March – August: Co-supervision with Prof. Costantino Vetriani of the BSc BRIDGE research

project of the student Moises de Jesus at Rutgers University

**2009** March – June: Co-tutor for the BSc inter-ship of students Eugenio Rastrelli and Micheal Tangherlini at Dismar, Polytechnic University of Marche

**2008** January – 2008 July: Co-tutor with Dr. Lucia Bongiorno for the for the MSc research project of the student Francesca Mineo. Project title “Viral production in hermatypic corals”

**e. Other relevant experiences**

**2023:** Instructor at the International Summer School in the Microbiology of Underground Hydrogen Storage, University of Delft, Netherlands

**2022:** Teacher for the international fO<sub>2</sub> school in Trieste, Italy

**2021:** Invited speaker for the Anthropocene Summer School, University of Milano Bicocca, Italy

**2018** March: Invited at the UNIVPM Contamination Lab, Ancona, Italy, to speak about the process of technology transfer in research and startups

**2015** November: Invited speaker at the Council of Graduate Schools Panel on the Graduate Student Professional Development for the STEM Workforce, Washington DC, USA

**2014** October: Attended the annual Rutgers University Teaching Conference “Teaching and Technology – Going Digital”

**2011** February: member of the jury in the section Microbiology for the New Jersey High School Science Fair, Rutgers University, USA

**2009** June: adjunct coordinator of a student's group fieldwork within the academic course “Laboratory of applied marine ecology” at Porto Cesareo, Lecce ITALY

**2009** January: adjunct coordinator of student's group fieldwork onboard R/V Actea within the academic undergraduate course in Marine Biology at Polytechnic University of Marche

**2008** May: adjunct coordinator for student's group fieldwork within the academic course “Laboratory of applied marine ecology” at Porto Cesareo, Lecce ITALY

**2005:** My undergraduate work on haloperoxidases and oxidative stress lead to the development of an assay to be used in undergraduate courses in biochemistry to illustrate oxidative stress and antioxidant defence. The work was included in a publication on the *Journal of Biochemistry and Molecular Biology Education* (see publication #1 in the publication list)

**OCEANOGRAPHIC  
CRUISES AND  
FIELDWORK  
CAMPAIGNS**

**2023** 2 – 19 March: Organized and participated to the ERC CoEvolve expedition to the Puna Plateau, Argentina

**2022** 1 December – 2 January 2023: takes part to the oceanographic cruise AT50-06 on board of the USA WHOI R/V Atlantis to sample the deep-sea hydrothermal vents of 09°50'N in the East Pacific Rise. Scientific leader Dr. Shawn Arellano

**2022** 18 – 24 October: Organized and participated to the ERC CoEvolve expedition to the hot springs of central and souther Italy (HYD22 Expedition)

**2022** 27 September – 2 October: Organized the PRA MeltingICE Leg III expedition to Ny Alesund, Svalbard

**2022** 25 August – 4 September: Organized and participated to the ERC CoEvolve expedition to the Aeolian Archipelago, Italy

**2022** 25 July – 2 August: Organized and participated to the Interact TA supported project GHOST to sample the hot spring of Disko Island, Greenland

**2022** 29 June – 6 July: Takes part to the field activities to sample the alkaline shallow-water

hydrothermal vents of Eyjafjördur Fjord in the north of Iceland as part of the NASA funded project on the habitability of mars analogues. Scientific leader Dr. Roy Price

**2022** 10 – 19 June: Organized and participated to the PRA MeltingICE Leg II expedition to Ny Alesund, Svalbard

**2022** 10 – 14 April: Moved onboard of the Saipem S3000 vessel in the North Sea to witness the recovery of a subsurface experiment designed back in December

**2022** 14 March – 6 April: Participated to the joint NSF FRES – ERC CoEvolve sampling expedition to the Chile Central Volcanic Zone

**2022** 22 February – 06 March: Organized and participated to the PRA MeltingICE Leg I expedition to Ny Alesund, Svalbard

**2022** 24 – 27 January: Takes part to the sampling activities in the Poas Volcano (Costa Rica) and surrounding hot springs organized by Dr. Maarten de Moor

**2021** 2 – 5 June: Takes part to a sampling expedition to the hot springs around the new volcanic area in the Reykjanes Peninsula (Iceland) as part of the NSF Rapid project lead by Dr. Karen Lloyd

**2021** 23 – 31 May: Takes part to the field activities to sample the alkaline shallow-water hydrothermal vents of Eyjafjördur Fjord in the north of Iceland as part of the NASA funded project on the habitability of mars analogues. Scientific leader Dr. Roy Price

**2021** June – November: Organizer of the sampling expedition in the Campania Region territory to sample hot springs

**2021** 1-8 July: Organizer of the sampling expedition in the area of the Ivrea-Verbanò peridotites as a pre-drilling survey for the ICDP DIVE project

**2021** 14 – 30 March: Participated in the Department of Energy (USA) funded Arctic expedition to the Svalbard to recover intact permafrost cores to assess microbial contribution to organic carbon degradation following climate-induced melting. Scientific leader Dr. Karen Lloyd [klloyd@utk.edu](mailto:klloyd@utk.edu)

**2020** 29 February - 14 March: Co-organizer of the scientific expedition along the volcanic forearc and arc of central Chile as part of the follow up to the Biology Meet Subduction Project

**2019** 7 – 15 September: Organizer of a field campaign to sample subaerial and underwater geothermal fields in the Aeolian Islands

**2019** 9 – 20 June: Co-Organizer with Maarten de Moor (OVSI-CORI) of a sampling field campaign in the volcanic region of the Guanacaste Province in Costa Rica

**2019** 18 – 1 February: Co-Organizer of the scientific expedition along the volcanic backarc of the Argentinian Andes as part of the follow up to the Biology Meet Subduction Project

**2018** 1 – 18 April: Co-PI and Co-Organizer of the SubductCR scientific expedition leg 2 along the fore-arc, volcanic arc and back-arc of Costa Rica and Panama as part of the Biology Meet Subduction Project

**2017** 20 – 23 September: Organizer of a 3 day sampling campaign to sample the shallow-water hydrothermal vents in the Aeolian Islands, Italy. The sampling has been organized in collaboration with 5 Participants

**2017** 4 – 8 September: takes part to the field activities to sample the hot springs in the north of Iceland organized by the University of Iceland and University of Oxford

**2017** 23 August – 3 September: takes part to the field activities to sample the alkaline shallow-water hydrothermal vents of Eyjafjördur Fjord, in the north of Iceland.

**2017** 11 – 24 February: Co-PI and Co-Organizer of the SubductCR scientific expedition along the fore-arc, volcanic arc and back-arc of Costa Rica as part of the Biology Meet Subduction Project. The expedition involved 20 international scientist, a film crew and included the sampling of 25

individual sites including the descent into the crater of the active volcano Poas

**2015** 2 – 4 September: Leader of the multidisciplinary sampling effort carried out in the framework of the Second Deep Carbon Observatory Early career Scientist Workshop in Furnas Volcano, Sao Miguel Island, Azores, Portugal

**2014** 2 – 26 November: takes part to the oceanographic cruise AT26-23 on board of the USA WHOI R/V Atlantis to sample the deep-sea hydrothermal vents of 09°50'N in the East Pacific Rise. Alvin Dive 4765. Scientific leader Dr. Stefan Sievert [ssievert@whoi.edu](mailto:ssievert@whoi.edu)

**2013** 27 December – 26 January 2014: takes part to the oceanographic cruise AT26-10 on board of the USA WHOI R/V Atlantis to sample the deep-sea hydrothermal vents of 09°50'N in the East Pacific Rise in the framework of NSF Funded project on the metabolism and diversity of deep-sea hydrothermal vent microbial communities. Scientific leader Dr. Stefan Sievert [ssievert@whoi.edu](mailto:ssievert@whoi.edu)

**2012** 14 – 30 May: takes part to the field activities of the NSF Biological Oceanography: "Autotrophic carbon fixation at a shallow-water hydrothermal system" to study the prokaryotic communities of shallow hydrothermal vents at Milos Island, Greece. Activities included SCUBA diving to collect samples and perform in-situ experiments. Scientific leader Dr. Stefan Sievert [ssievert@whoi.edu](mailto:ssievert@whoi.edu)

**2012** 10 – 26 March: takes part to the oceanographic cruise MESCAL2 on board of the French R/V Atalante to sample the deep-sea hydrothermal vents of 09°50'N in the East Pacific Rise in the framework of the project MESCAL. Samplings are made using the deep-submergence vehicle Nautilie 6000. Scientific leader Prof. Nadine Le Bris [lebris@obs-banyuls.fr](mailto:lebris@obs-banyuls.fr)

**2010** 17 – 20 September: organize and leads the sampling dives at shallow hydrothermal vents in the Faial Channel, Azores, Portugal, in collaboration with Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it) e Dr. S. Stefanni

**2010** 25 July – 5 August: takes part to the oceanographic cruise Condor'10 on board of Portuguese R/V Noruega within the FCT project CONDOR in the North Atlantic seamounts of Azores. Scientific leader Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it)

**2010** 11 June – 27 June: takes part to the oceanographic cruise MAMBA10 on board of CNR R/V Urania within the european founded project MAMBA in Eastern Mediterranean Sea. Scientific leader Dr. Michail Yakimov [m.yachimov@iamc.cnr.it](mailto:m.yachimov@iamc.cnr.it)

**2010** 29 April – 17 May: takes part to the oceanographic cruise BIOFUN'10 on board of CNR R/V Urania within the project BIOFUN (Biodiversity and ecosystem functioning in contrasting southern European deep-sea environment) in Western Mediterranean Sea. Scientific leader Dr. Stefano Aliani [s.aliاني@ismar.cnr.it](mailto:s.aliاني@ismar.cnr.it)

**2010** 17 April – 30 May: organize and leads a series of sampling in the Lesina Lagoon (Foggia, italy) to evaluate the recovery of dystrophic sediments by inducing positive priming effect

**2010** 22 March – 8 April: takes part to oceanographic cruise ARCADIA '10 (seARch of Corals banks in the middle ADriatic) on board of CNR R/V Urania within the EC founded project HERMIONE in Adriatic Sea. Scientific leader Dr. Marco Taviani [m.taviani@ismar.cnr.it](mailto:m.taviani@ismar.cnr.it)

**2009** 13 – 29 October: takes part to the oceanographic cruise BIOFUN'09 on board of CNR R/V Urania within the project BIOFUN (Biodiversity and ecosystem functioning in contrasting southern European deep-sea environment) in Western Mediterranean Sea. Scientific leader Dr. Stefano Aliani [s.aliاني@ismar.cnr.it](mailto:s.aliاني@ismar.cnr.it)

**2009** 7 – 12 June: collaborate to the fieldwork within the academic course "laboratory of marine ecology" at Porto Cesareo, Lecce ITALY, coordinating a student's group during the fieldwork

**2009** 17 – 26 March: takes part to the oceanographic cruise IMPACT 09 on board of CNR R/V Urania within the EU project HERMIONE (Hotspot Ecosystem Research on the Men's Impact ON European seas) on Bari Canyon dense water formation. Scientific leader Dr. Leonardo Langone



[l.langone@ismar.cnr.it](mailto:l.langone@ismar.cnr.it)

**2008** 24 September – 6 October: takes part to the oceanographic cruise DEEP2 on board of IFREMER R/V Europe within the EU project HERMES (Hotspot Ecosystem Research on the Margins of European Seas) in the Gulf of Lion. Scientific leader Dr. Xavier de Madron [demadron@univ-perp.fr](mailto:demadron@univ-perp.fr)

**2008** 11 – 24 June: takes part to the oceanographic cruise BIOFUN'08 on board of CNR R/V Urania within the project BIOFUN (Biodiversity and ecosystem functioning in contrasting southern European deep-sea environment) in Eastern Mediterranean Sea. Scientific leader Dr. Stefano Aliani [s.aliiani@ismar.cnr.it](mailto:s.aliiani@ismar.cnr.it)

**2008** 28 – 31 May: collaborate to the fieldwork within the academic course “laboratory of marine ecology” at Porto Cesareo, Lecce ITALY, coordinating a student's group during the fieldwork

**2008** 30 March – 11 April: takes part to the oceanographic cruise DEEP1 on board of IFREMER R/V Europe within the EU project HERMES (Hotspot Ecosystem Research on the Margins of European Seas) in the Gulf of Lion. Scientific leader Dr. Xavier de Madron [demadron@univ-perp.fr](mailto:demadron@univ-perp.fr)

**2007** 5 October – 4 November: participate to the fieldwork within the EU project REEFRES (Developing Ubiquitous Restoration Practices for Indo-Pacific Coral Reefs) at St. John Island, Singapore and Bolinao, Philippines. Scientific leader Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it)

**2007** 23 – 27 July: takes part to the oceanographic cruise MESC 2007 on board of ConISMa R/V Universitatis within the project MESC (Ecosystems of deep mud volcanoes), Sicily channel.

**2007** 18 – 22 July: participate to the fieldwork sampling activity on board R/V Actea for Ecotechsystems project “API areas”

**2007** 27 May – 16 June: participate to the fieldwork within the EU project REEFRES (Developing Ubiquitous Restoration Practices for Indo-Pacific Coral Reefs) at St. John Island, Singapore. Scientific leader Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it)

**2007** 5 – 10 June: collaborate to the fieldwork within the academic course “scientific underwater methods” held by Dr Carlo Cerrano at Capo Palinuro, ITALY. Scientific leader Dr. C. Cerrano [c.cerrano@univpm.it](mailto:c.cerrano@univpm.it)

**2006** 3 September – 5 October: participate to the fieldwork within the EU project REEFRES (Developing Ubiquitous Restoration Practices for Indo-Pacific Coral Reefs) at St. John Island, Singapore and Phuket, Thailand. Scientific leader Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it)

**2006** 19 – 26 February: participate to the fieldwork to evaluate the impact of sunscreens in coral reef, Sharm El Sheik, Egypt. Scientific leader Dr. L. Bongiorni [l.bongiorni@ismar.cnr.it](mailto:l.bongiorni@ismar.cnr.it)

#### **PARTICIPATION TO RESEARCH PROJECTS**

**2022** – present. Scientific Coordinator for the Industrial Project “Microbiology of Underground Hydrogen Storage” with ENI spa

**2021** – present. PI of the Arctic Research Program MeltingICE

**2020** – present. PI of the ERC Starting Grant CoEVOLVE – [www.donatogiovannelli.com/erccevolve](http://www.donatogiovannelli.com/erccevolve)

**2020** – present. Collaborator on the DOE (USA) funded arctic permafrost project AMP'D

**2020** – present. Co-I for the ICDP project DIVE. Responsible for the microbiology team – <http://dive.icdp-online.org>

**2019** – present. Collaborator of the NASA Astrobiology Institute ENIGMA

**2019** – 2022. FEAMP Campania Region project. Responsible of Action 5.1

**2016** – 2019. Barry P (PI), de Moor M, **Giovannelli D**, Hummer D, Lloyd K, Lopez T and Pratt K (Co-PIs). Alfred P. Sloan Foundation. “Biology Meets Subduction: A Collaborative and Multi-

disciplinary Deep Carbon Field Initiative”

**2015 – 2018.** **Giovannelli D (Co-PI)**, Vetriani C (PI) and Foustoukos D (PI). NSF Molecular and Cellular Biosciences: Collaborative Research “Carbon fixation, anaerobic respiration and ROS detoxification in the anaerobic vent bacterium, *Thermovibrio ammonificans*”

**2015 – 2018.** Participate to the NASA Exobiology project: Collaborative Research (Frank Robb and Costantino Vetriani): CO respiring organisms

**2011 – 2014.** Participate to the NSF Dimensions of Biodiversity: Collaborative Research (Costantino Vetriani, S. Sievert and D. Foustoukos): An integrated study of energy metabolism, carbon fixation, and colonization mechanisms in chemosynthetic microbial communities at deep-sea vents

**2011 – 2014.** Participate to the NSF Biological Oceanography: Collaborative Research (Costantino Vetriani, S. Sievert and D. Foustoukos): Autotrophic carbon fixation at a shallow-water hydrothermal system: Constraining microbial activity, isotopic and geochemical regimes

**2011 – 2013.** Principal Investigator for the PNRA (National Antarctic Research Program of Italy) Young Researcher Project: Diversity and functioning of Prokaryotic communities in shallow Antarctic waters, pre and post ice melting”

**2012.** Participate to the EU funded project MESCAL on deep-sea hydrothermal vent communities of 9°N hydrothermal vent field

**2008 – 2010.** Participate to the ESF funded project BIOFUN (BIOdiversity and ecosystem FUNctioning in deep seas)

**2008 – 2009.** Participate to the EU funded project CORALZOO (Pathogens of corals in European aquaria; FPV1)

**2007 – 2009.** Participate to the EU funded project HERMES (Hotspot Ecosystem Research on the Margins of European Seas; FPV1)

**2007 – 2009.** Participate to the Italian National project VECTOR “Mediterranean deep-sea as source/sink of CO<sub>2</sub> and role in climate change and carbon cycling”

**2007.** Participate to the Italian National project COFIN 2007 MESC “Ecosystems of deep mud volcanoes”

**2006 – 2008.** Participate to the EU funded project REEFRES (Developing Ubiquitous Restoration Practices for Indo-Pacific Coral Reefs; FPV1)

#### COLLABORATIONS

P Falkowski (Biophysicist, Rutgers University); C Vetraini (Microbiologist, Rutgers University, USA); P Hut (Astrophysicist, Institute of Advanced Studies, USA); K Pratt (Scientific Journalist and Social Media Specialist, U Rode-Island, USA); R Hazen (Mineralogist, Geophysical Laboratory, Carnegie Institution of Washington, USA); R Price (Marine Geochemist, Stony Brook, USA); E Manini (Microbial Ecologist, ISMAR-CNR Ancona, Italy); L Bongiorno (Microbial Ecologist, ISMAR-CNR Venezia, Italy); F Regoli (Ecotoxicologist, Polytechnic University of Marche, Ancona, Italy); M Yücel (Geochemist, GEOMAR, Kiel, Germany); R Pugatch (Mathematician, Israel); T Barkay (Microbiologist, Rutgers U, USA); M Håggblom (Microbiologist, Rutgers U, USA); P Barcala Dominguez (Designer, Ancona, Italy); S Bartlett (Physicist, Earth-Life Science Institute, Tokyo, Japan); S Morrison (Mineralogist, Geophysical Laboratory, Carnegie Institution of Washington, USA); M Yakimov (Microbiologist, IAMC, National Research Council of Italy, Italy); M Pistone (Petrologist, University of Lausanne, Switzerland); P Barry (Noble Gas Geochemist, Oxford University, UK); K Lloyd (Microbiologist, University of Tennessee at Knoxville, USA); M Schrenk (Microbiologist, University of Michigan, USA); M de Moor (Volcanologist, OVSICORY, Costa Rica)

#### SERVICES AND

Invited reviewer for the peer review journal Nature Geosciences, PNAS, FEMS Microbiology

**OTHER  
PROFESSIONAL  
ACTIVITIES**

*Ecology, Biology, Environmental Microbiology, ISME Journal, Marine Genomics, Polar Biology, Environmental Chemistry, PLoS ONE, Journal of Volcanology, Geosciences*

*Ad hoc reviewer for the National Science Foundation, NASA, the Italian CNR Research Ship Commission, the Alfred P. Sloan Foundation, the German Research Foundation (DFG) and the Novo Nordisk Foundation*

*Served on multiple review panels for NASA*

*Serving as Scientific Expert for the Microbiology Technical Table (asi.AOO\_ASI\_3.REGISTRO UFFICIALE.U.0002067.10-03-2021) and the Astrobiology Technical Table (asi.AOO\_ASI\_3.REGISTRO UFFICIALE.U.0002067.10-03-2021) for the Agenzia Spaziale Italiana*

*Member of the Scientific Committee of the Italian Society for Astrobiology (astrobiologia.weebly.com)*

*Member of the SIMGBM (Società Italiana Microbiologia Generale e Biotecnologie Microbiche), American Geophysical Union, International Geochemical Society and Deep Carbon Observatory*

**LANGUAGES**

**Italian** Mother language

**English** Fluent

**Spanish** Intermediate

**French** Basic

**ADDITIONAL SKILLS  
AND ABILITIES**

*Yacht master certificate (sail and motor) – over 5,000 nautical miles sailed across the Mediterranean Sea and over 100 competitive regatta*

*II star certified CMAS diver – over 400 dives for scientific sampling and surveys*

*Lifeguard certificate with BLS training*