Costantino Vetriani - *Curriculum Vitae*

Department of Biochemistry and Microbiology and Department of Marine and Coastal Sciences
Rutgers University
71 Dudley Rd.
New Brunswick, NJ 80901
USA
e-mail: vetriani@marine.rutgers.edu
web: http://www.marine.rutgers.edu/deep-seamicrobiology/

Education

• Ph.D., Molecular Biology, University of Rome Tor Vergata, Rome, Italy, 1994.
• M.S., Microbiology, University of Rome La Sapienza, Rome, Italy, 1990.

Professional Experience

• 2014 - Present: Professor, Department of Biochemistry and Microbiology and Institute of Marine and Coastal Sciences, Rutgers University, NJ, USA.
• 2008 - 2019: Director, Rutgers University's Undergraduate Program in Microbiology
• 2006 - 2014: Associate Professor, Department of Biochemistry and Microbiology and Institute of Marine and Coastal Sciences, Rutgers University, NJ, USA.
• 2001 - 2006: Assistant Professor, Department of Biochemistry and Microbiology and Institute of Marine and Coastal Sciences, Rutgers University, NJ, USA.
• 1999 - 2001: Research Assistant Professor, Institute of Marine and Coastal Sciences, Rutgers University.
• 1997 - 1999: Research Associate, Institute of Marine and Coastal Sciences, Rutgers University.
• 1996: Guest Investigator, Woods Hole Oceanographic Institution, Woods Hole, MA, USA.
• 1995 - 1997: Research Associate, Center of Marine Biotechnology, Baltimore, MD, USA.
• 1994 - 1995: Postdoctoral Fellow, University of Rome Tor Vergata, Rome, Italy.
• 1990 - 1994: Graduate Research Assistant, University of Rome Tor Vergata, Rome, Italy.

Fellowships and Awards

• School of Environmental and Biological Sciences, Rutgers University, 2007: Research Excellence Award.
• Marine Biological Laboratory, Woods Hole, MA, 1998. Participation in workshop: Molecular Evolution.
• Institute of Marine and Coastal Sciences Postdoctoral fellowship, Rutgers University, 1997.
• Associated Western Universities Postdoctoral fellowship, 1997.
• Marine Biological Laboratory, Woods Hole, MA, 1995. Participation in course: Microbial Diversity.
• Office of Naval Research Award, Marine Biological Laboratory, 1995.
• Lucretia Crocker Scholarship Fund Award, Marine Biological Laboratory, 1995.
• IRBM (Institute for Research in Molecular Biology) Fellowship, Rome, Italy, 1994.
• UNIDO-ICGEB, Grignano, Italy, 1991. Participation in course: Bacterial Genetics.
• Summa cum Laude, Microbiology, University of Rome La Sapienza, Rome, Italy, 1990.

External Funding (totaling $12.9M; $6.1M as P.I.; $6.8M as Co-P.I.)

Foustoukos, D. and **Vetriani, C. (Co-PI).** Physiological adaptations in hydrogenotrophic bacteria at extreme pressures. NASA Exobiology. January 1, 2021 – December 31, 2023. $495,499 (total award: $749,640).

Vetriani, C. (P.I.) Collaborative research (with D. Foustoukos). Microbial hydrogen oxidation at high pressure: Role of hydrogenases and interspecies hydrogen transfer. National Science Foundation (Division of Integrative Organismal Systems, Integrative Ecological Physiology Program). May 1, 2020 – April 30, 2023. $435,538 (Total award: $664,142).

Vetriani, C. (P.I.) Collaborative research (with L. Mullineaux and S. Arellano). The predictive nature of microbial biofilms for cuing larval settlement at deep-sea hydrothermal vents. National Science Foundation (Biological Oceanography). May 1, 2020 – April 30, 2023. $553,860 (Total award: $1,497,521).

Vetriani, C. (P.I.) and Giovannelli, D. (Co-P.I.). Bridging the US and European Astrobiology community: supporting US scientist attendance to Extremophiles 2018 Conference. NASA Topical Workshops, Symposia, and Conferences. June 11, 2018 – June 10, 2019. $49,997.

Foustoukos, D. and **Vetriani, C. (Co-PI).** Synthrophic growth of piezophilic deep-sea vent bacteria. Center for Dark Energy Biosphere Investigations (C-DEBI). March 1, 2018 – February 28, 2019. $39,978 (Total award: $79,996).

Lutz, R. A. and **Vetriani, C. (Co-P.I.).** Vertex Pharmaceuticals VOICE Project Phase II: Deep-sea drug discovery from hydrothermal vents. December 1, 2015 - March 15, 2017. $343,201.

Vetriani, C. (P.I.). Collaborative Research (with D. Giovannelli and D. Foustoukos): Evolution of early metabolism: Carbon fixation, anaerobic respiration and ROS detoxification in the anaerobic vent bacterium, *Thermovibrio ammonificans*. National Science Foundation (Cellular Dynamics and Function, MCB). August 15, 2015 - August 14, 2018. $472,559 (Total award: $667,190).

Robb, F. T. and **Vetriani, C. (Co-P.I.).** Sentinel Microbes that Utilize Carbon Monoxide as Energy and Carbon Source. NASA Exobiology. July 30, 2015 - July 29, 2018. $270,003.

Lutz, R. A. and **Vetriani, C. (Co-P.I.).** Vertex Pharmaceuticals VOICE Project Phase I: Deep-sea drug discovery from hydrothermal vents. May 29, 2015 - November 30, 2015. $40,000.

Vetriani, C. (P.I.). Center for Dark Energy Biosphere Investigations (C-DEBI): Heterotrophy in deep-sea reducing environments: Physiology and metabolism of aerobic hydrocarbonoclastic bacteria. March 1, 2013 - February 28, 2014. $49,972.

Vetriani, C. (P.I.). Collaborative Research (with Sievert, S., Seewald, J., Taylor, C., Foustoukos, D., Stepanauskas, R.): DoB: An integrated study of energy metabolism, carbon fixation, and colonization mechanisms in chemosynthetic microbial communities at deep-sea vents. National

Science Foundation (Biological Oceanography, OCE). October 1, 2011 - September 30, 2014. $420,434 (Total award: $1,918,359).

Vetriani, C. (P.I.). Collaborative Research (with Sievert, S., Foustoukos, D.): Autotrophic carbon fixation at a shallow-water hydrothermal system: Constraining microbial activity, isotopic and geochemical regimes. National Science Foundation (Dimensions of Biodiversity, OCE). October 1, 2011 - September 30, 2013. $196,655 (Total award: $432,033).

Lutz, R. A. (P.I.) and **Vetriani, C. (Co-P.I.).** Collaborative Research (with Luther, G. W., Shank, T. M., Govenar, B.): Integrating geological, chemical, and biological processes: Implications for ecological succession on the East Pacific Rise. National Science Foundation (RIDGE, Biological Oceanography, OCE). September 1, 2009 – August 31, 2010. $136,295 (Total award $285,168).

Vetriani, C. (P.I.) and Bini, E. (Co-P.I.). Transcriptional analysis of the deep-sea vent *Epsilonproteobacterium*, *Caminibacter mediatlanticus*, in response to different growth conditions. National Science Foundation (Metabolic Biochemistry, MCB). March 15, 2009 – February 29, 2013. Total award: $373,721.

Vetriani, C. (P.I.). Alkane oxidation in pure cultures and natural microbial communities from deep-sea hydrothermal vents: linking diversity and function. CEBIC (Center for Environmental and BioInorganic Chemistry). October 1, 2005 – September 30, 2006. Total award $20,000.

Vetriani, C. (P.I.). Collaborative Research (with Casciotti, K.L., Sievert S.M.): MIP: Physiology and molecular ecology of thermophilic, nitrate-reducing microorganisms at deep-sea hydrothermal vents. National Science Foundation (Microbial Interactions and Processes, MCB). June 15, 2005 – May 31, 2008. $315,169 (Total award: $418,313).

Lutz, R. A. (P.I.) and **Vetriani, C. (Co-P.I.).** Collaborative Research (with Luther, G. W., Shank, T. M.): Integrated studies of biological community structure at deep-sea hydrothermal vents. National Science Foundation (RIDGE, Biological Oceanography, OCE). October 1, 2003 – September 30, 2007. $363,457 (Total award: $887,622).

Falkowski, P. G. (P.I.), Miller, K. G., Knoll, A., Schofield, O., and **Vetriani, C. (Co-P.Is.).** Biocomplexity: The Evolution and Radiation of Eucaryotic Phytoplankton Taxa (EREUPT). National Science Foundation. September 1, 2000 - August 31, 2005. Total award: $4,206,495.

Genome Sequencing Projects

Vetriani, C. (P.I.). Department of Energy/Joint Genome Institute: *Thermovibrio ammonificans* DSM 15698.

Vetriani, C. (P.I.). Gordon and Betty Moore Foundation: *Caminibacter mediatlanticus* DSM 16658.

Internal Funding - Rutgers University (totaling ~ $28,000)

Rutgers University, Core Facility Utilization Grants 2023 “Chemosynthesis at Deep-Sea Hydrothermal Vents: Microbial Adaptations to Geochemical and Thermal Gradients”. 2023 (P.I.)

Rutgers University, Research Council Grant “DNA uptake in bacteria from marine geothermal habitats”. 2020 - 2021. (P.I.)

Rutgers University, Research Council Grant “Phage induction of lysogenic bacterial isolates from deep-sea hydrothermal vents”. 2012 - 2013. (P.I.)

Rutgers University, Research Council Grant “Analysis of functional gene transcripts in microbial chemosynthetic biofilms from deep-sea hydrothermal vents ”. 2011 - 2012. (P.I.)

Rutgers University, Research Council Grant “Development of a system for the genetic manipulation of the deep-sea vent Epsiloproteobacterium, *Caminibacter mediatlanticus*”. 2008 - 2009. (P.I.)

Rutgers University, Basic Research Grant "Assessment of the Ecological Relevance of Nitrate-Ammonifiyng Microorganisms from Deep-Sea Vents". 2004. (P.I.)

Rutgers University, Research Council Grant “Isolation of Anaerobic Thermophilic Bacteria from Hydrothermal Vents”. 2003 - 2004. (P.I.)

Rutgers Undergraduate Research Fellow Program. “Isolation of Thermophilic, Chemolithotrophic, Nitrate-Reducing Bacteria from Deep-Sea Hydrothermal Vents. 2003 - 2004. (P.I.)

Institute of Marine and Coastal Sciences/Rutgers University Summer Research Program “Microbial Oxidation of *n*-Alkanes: Isolation of Organisms from Deep-Sea Vents and Cold Seeps, and Identification of Alkane Hydroxylase Genes”. 2003. (P.I.)

Journal Articles (Refereed)

Ricciardelli, A., de Pins, B., Brusca, J., Correggia, M., Di Iorio, L., Cascone, M., Giardina, M., Castaldi S., Isticato, R., Iacono, R., Moracci, M., Nappi, N., Pollio, A., **Vetriani, C.,** Leone, S., Cordone, A. and Giovannelli, D. (2025). Trace metals availability controls terminal electron acceptor utilization in *Escherichia coli*. *Science*, in review.

Pelliciari Silva, A.C., Migliaccio, F., Barosa , B., Gallucci, L., Yücel, M., Foustoukos, D., Le Bris, N., Bartlett, S.J., D'Alessandro, V., **Vetriani, C.** and Giovannelli, D. (2025). Hydrodynamic flow and benthic boundary layer interactions shape the microbial community in Milos shallow water hydrothermal vents. *Front. Microbiol.,* 16:1649514. doi: https://doi.org/10.3389/fmicb.2025.1649514

Zúñiga Mouret, R., Hourdez, S., Curran, M., DiBenedetto, M.H., Mills, S.W., **Vetriani, C.,** Arellano, S.M., Weston, J.N.J., Dykman, L.N., Best, A.C., Pires, A., Mullineaux, L.S. (2025). Pressurized plankton observatory offers a new window into deep-sea larval behavior. *Limnol. Ocean*. *Methods* doi: https://doi.org/10.1002/lom3.10708

Grosche, A., Selci, M., Smedile, F., Giovannelli, D., Borin, S., Le Bris, N. and **Vetriani, C.** (2025). The chemosynthetic biofilm microbiome of deep-sea hydrothermal vents across space and time. *BMC Environ. Microbiome* 20: 88. doi: https://doi.org/10.1186/s40793-025-00738-x

Osborn Popp, T.M., Karthikeyan, M., Herman, E., Dufur, A., **Vetriani, C.** and Nieuwkoop, A.J. (2025). Measurement of phospholipid lateral diffusion at high pressure by in situ magic-angle spinning NMR spectroscopy. *Commun. Chem.* 8: 49 doi: doi.org/10.1093/gbe/evae131

Selci, M., Correggia, M., Cordone, A., Guida, M., Quero, G.M., Piredda, R., **Vetriani, C.**, Ramirez, C.J., Lloyd, K., De Moor, M.J., Barry, P.H., Schrenk, M.O. and Giovannelli, D. (2024). Recreational hot springs as environmental reservoir of potential multidrug-resistant pathogens. *Environmental Research* 119841. doi: https://doi.org/10.1016/j.envres.2024.119841.

Bosi, E., Taviani, E., Avesani, A., Doni, L., Auguste, M., Oliveri, C., Leonessi, M., Canesi, L., Martinez-Urtaza, J., **Vetriani, C.** and Vezzulli, L. (2024). Pan-genome provides insights into *Vibrio* evolution and adaptation to deep-sea hydrothermal vents. *Genome Biol. Evol.* 16: evae131. doi: doi.org/10.1093/gbe/evae131

Ladd, T.M., Selci, M., Davis, D.J., Cannon, O., Plowman, C.Q., Schlegel, I., Inaba, A., Mills, S.W., **Vetriani, C.,** Mullineaux, L.S. and Arellano, S.M. (2024). Faunal colonists, including mussel settlers, respond to microbial biofilms at hydrothermal vents. *Deep-Sea Research I* 208:104314. doi: doi.org/10.1016/j.dsr.2024.104314

Barosa, B., Ferrillo, A., Selci, M., Giardina, M., Bastianoni, A., Correggia, M., di Iorio, L., Bernardi, G., Cascone, M., Capuozzo, R., Intoccia, M., Price, R., **Vetriani, C.,** Cordone, A. and Giovannelli, D. (2023). Mapping the microbial diversity associated with different geochemical regimes in the shallow-water hydrothermal vents of the Aeolian archipelago, Italy. *Front. Microbiol.* 14:1134114. doi: doi.org/10.3389/fmicb.2023.1134114

Patwardhan., S., Phan, J., Smedile, F. and **Vetriani, C.** (2023). The genome of *Varunaivibrio sulfuroxidans* strain TC8, a metabolically versatile Alphaproteobacterium from the Tor Caldara gas

vents in the Tyrrhenian Sea. *Microorganisms* 11:1366. doi: doi.org/10.3390/microorganisms11061366

Smedile, F., Foustoukos, D., Patwardhan., S., Mullane, K., Schlegel, I., Adams, M.W., Gerrit, J.S., Giovannelli, D. and **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. *Environ. Microbiol.* 24:6164–6183. DOI: 10.1111/1462-2920.16256

Sciutteri, V., Smedile, F., Vizzini, S., Mazzola, A. and **Vetriani, C.** (2022). Microbial biofilms along a geochemical gradient at the shallow-water hydrothermal system of Vulcano island, Mediterranean Sea. *Front. Microbiol.* 13:840205. doi: 10.3389/fmicb.2022.840205

Patwardhan, S., Smedile, F., Giovannelli, D. and **Vetriani, C.** (2021). Metaproteogenomic profiling of chemosynthetic microbial biofilms reveals metabolic flexibility during colonization of a shallow-water gas vent. *Front. Microbol.* 12: 638300. doi.org/10.3389/fmicb.2021.638300

Fullerton, K.M., Schrenk, M.O., Yücel, M., Manini, E., Basili, M., Rogers, T.J., Fattorini, D., Di Carlo, M., d'Errico, G., Regoli, F., Nakagawa, M., **Vetriani, C.,** Smedile, F., Ramírez, C., Miller, H., Morrison, S.M., Buongiorno, J., Jessen, G.L., Steen, A.D., Martínez, M., de Moor, J.M., Barry, P.H., Giovannelli, D. and Lloyd, K.G. (2021). Effect of tectonic processes on biosphere-geosphere feedbacks across a convergent margin. *Nat. Geosci.* https://doi.org/10.1038/s41561-021-00725-0.

Honarbakhsh, M., Ericsson, A., Zhong, G., Isoherranen, N., Zhu, C., Bromberg, Y., Charlene Van Buiten, C., Malta, K., Joseph, L., Sampath, H., Lakey, A., Storch, J., **Vetriani, C.,** Chikindas, M.J., Breslin, P. and Quadro, L. (2021). Impact of vitamin A transport and storage on intestinal retinoid homeostasis and functions. *J. Lipid Res.* 62:100046. doi.org/10.1016/j.jlr.2021.100046

Labonté, J., Pachiadaki, M., Fergusson, E., McNichol, J., Grosche, A., Gulman, L.K., **Vetriani, C.,** Sievert, S.M. and Stepanauskas, R. (2019). Single cell genomics-based analysis of gene content and expression of prophages in a diffuse-flow deep-sea hydrothermal system. *Front. Microbiol.* 10:1262. doi.org/10.3389/fmicb.2019.01262

Barry, P.H., de Moor, J.M., Giovannelli, D., Schrenk, M., Hummer, D., Lopez, T., Pratt, C.A., Alpízar Segura, Y., Battaglia, A., P. Beaudry, P., Bini, G., Cascante, M., d'Errico, G., di Carlo, M., Fattorini, D., Fullerton, K., Gazel, E., González, G., Halldórsson, S. A., Iacovino, K., Kulongoski, J.T., Manini, E., Martínez, M., Miller, H., Nakagawa, M., Ono, S., Patwardhan, S., Ramírez, C.J., Regoli, F., Smedile, F., Turner, S., **Vetriani, C.,** Yücel, M., Ballentine, C.J., Fischer, T.P., Hilton, D.R., Lloyd, K.G. (2019). Forearc carbon sequestration reduces long-term volatile recycling into the mantle. *Nature*, 568:487. doi.org/10.1038/s41586-019-1131-5

Patwardhan, S., Foustoukos, D.I., Giovannelli, D., Yücel, M. and **Vetriani, C.** (2018). Ecological succession of sulfur-oxidizing *Epsilon*- and *Gammaproteobacteria* during colonization of a shallow-water gas vent. *Front. Microbiol*. 9: 2970. doi.org/10.3389/fmicb.2018.02970.

Jelen, B., Giovannelli, D., Falkowski, P.G. and **Vetriani, C.** (2018). Elemental sulfur reduction in the deep-sea vent thermophile, *Thermovibrio ammonificans*. *Environ. Microbiol.* 20:2301-2316. doi.org/10.1111/1462-2920.14280

Di Carlo, M., Giovannelli, D., Fattorini, D., Le Bris, N., **Vetriani, C.** and Regoli, F. (2017). Trace elements and arsenic speciation in tissues of tube dwelling polychaetes from hydrothermal vent ecosystems (East Pacific Rise): an ecological role as antipredatory strategy? *Mar. Environ. Res.* 132: 1-13. doi.org/10.1016/j.marenvres.2017.10.003.

Giovannelli, D., Sievert, S.M., Hügler, M., Markert, S., Becher, D., Schweder, T. and **Vetriani, C.** (2017). Insight into the evolution of microbial metabolism from the deep-branching bacterium, *Thermovibrio ammonificans*. *eLife* 6:e18990. doi: dx.doi.org/10.7554/eLife.18990.

Patwardhan, S. and **Vetriani, C.** (2016). *Varunaivibrio sulfuroxidans* gen. nov., sp. nov., a facultatively chemolithoautotrophic, mesophilic alphaproteobacterium from a shallow-water gas vent at Tor Caldara, Tyrrhenian Sea. *Intl. J. Syst. Evol. Microbiol.* 66:3579-3584. doi:10.1099/ijsem.0.001235.

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.

Giovannelli, D., Chung, M., Staley, J., Starovoytov, V., Le Bris, N. and **Vetriani, C.** (2016). *Sulfurovum riftiae* sp. nov., a mesophilic, thiosulfate-oxidizing, nitrate-reducing chemolithoautotrophic *Epsilonproteobacterium* isolated from the tube of the deep-sea hydrothermal vent polychaete, *Riftia pachyptila*. *Intl. J. Syst. Evol. Microbiol*. 66:2697-2701. doi: 10.1099/ijsem.0.001106.

Houghton, J.L., Foustoukos, D., Flynn T., **Vetriani, C.,** Brandley, A., Fike, D. (2016). Thiosulfate oxidation by *Thiomicrospira thermophila*: metabolic flexibility in response to ambient geochemistry. *Environ. Microbiol.* 18:3057-3072. doi: 10.1111/1462-2920.13232.

O'Brien, C. E., Giovannelli, D., Govenar, B., Luther, G. W., Lutz, R. A., Shank, T. M. and **Vetriani, C.** (2015). Microbial biofilms associated with fluid chemistry and megafaunal colonization at post-eruptive deep-sea hydrothermal vents. *Deep-Sea Res. II* 121:31-40. doi:10.1016/j.dsr2.2015.07.020.

Grosche, A., Sekaran, H., Pérez-Rodríguez, I., Starovoytov, V. and **Vetriani, C.** (2015). *Cetia pacifica* gen. nov., sp. nov., a novel chemolithoautotrophic, thermophilic, nitrate-ammonifying bacterium from a deep-sea hydrothermal vent. *Intl. J. Syst. Evol. Microbiol*. 65:1144-1150. doi: 10.1099/ijs.0.000070.

Pérez-Rodríguez, I., Bolognini, M., Ricci, J., Bini, E. and **Vetriani, C.** (2015). From deep-sea volcanoes to human pathogens: A conserved quorum sensing signal in *Epsilonproteobacteria. ISME J.* 9:1222-1234. doi:10.1038/ismej.2014.214.

Tasiemski, A., Jung, S., Boidin-Wichlacz, C., Jollivet, D., Cuvillier-Hot, V., Pradillon, F., **Vetriani, C.,** Hecht, O., Sönnichsen, F.D., Gelhaus, C., Hung, C.-W., Tholey, A., Leippe, M., Grötzinger, J. and

Gaill, F. (2014). Characterization and function of the first antibiotic isolated from a vent organism: The extremophile metazoan *Alvinella pompejana*. *Plos One* 9:e95737. doi: 10.1371/journal.pone.0095737.

Vetriani, C., Voordeckers, J. W., Crespo-Medina, M., O'Brien, C., Giovannelli, D. and Lutz, R. A. (2014). Deep-sea hydrothermal vent *Epsiloproteobacteria* encode for a conserved and widespread nitrate reduction pathway (Nap). *ISME J.* 8:1510-1521. doi:10.1038/ismej.2013.246.

Pérez-Rodríguez, I., Bohnert, K. A., Cuebas, M., Keddis, R. and **Vetriani, C.** (2013). Detection and phylogenetic analysis of the membrane-bound nitrate reductase (NarG) in pure cultures and microbial communities from deep-sea hydrothermal vents. *FEMS Microbiol. Ecol.* 86:256-267. doi: 10.1111/1574-6941.12158.

Yücel, M., Sievert, S., **Vetriani, C.,** Foustoukos, D., Giovannelli, D. and Le Bris, N. (2013). Eco-geochemical dynamics of a shallow-water hydrothermal vent system at Milos Island, Aegean Sea (Eastern Mediterranean). *Chem. Geol.* 356:11-20.

Giovannelli, D., d'Errico, G., Manini, E., Yakimov, M. and **Vetriani, C.** (2013). Diversity and phylogenetic analyses of bacteria from a shallow-water hydrothermal vent in Milos island (Greece). *Front. Microbiol*. 4:184. doi: 10.3389/fmicb.2013.00184

Bertrand, E. M., Keddis, R., Groves, J. T., **Vetriani, C.** and Narehood Austin, R. (2013). Identity and mechanisms of alkane-oxidizing metalloenzymes from deep-sea hydrothermal vents. *Front. Microbiol.* 4:109. doi: 10.3389/fmicb.2013.00109

Giovannelli, D., Grosche, A., Starovoytov, V. Yakimov, M., Manini, E. and **Vetriani, C.** (2012). *Galenea microaerophila* gen. nov., sp. nov., a mesophilic, microaerophilic, chemosynthetic, thiosulfate-oxidizing bacterium isolated from a shallow water hydrothermal vent. *Intl. J. Syst. Evol. Microbiol*. 62:3060-3066.

Rosario-Passapera, R., Keddis, R., Wong, R., Lutz, R. A., Starovoytov, V. and **Vetriani, C.** (2012). *Parvibaculum hydrocarbonoclasticum* sp. nov., a mesophilic, alkane-oxidizing *alphaproteobacterium* isolated from a deep-sea hydrothermal vent on the East Pacific Rise. Intl. J. *Syst. Evol. Microbiol.* 62:2921-2926.

Andrianasolo, E., Haramaty, L., Rosario-Passapera, R., **Vetriani, C.,** Falkowski, P., White, E. and Lutz, R. (2012). Ammonificin C and D, hydroxyethylamine chroman derivatives from a cultured marine hydrothermal vent bacterium, *Thermovibrio ammonificans*. *Marine Drugs* 10:2300-2311.

Giovannelli, D., Ricci, J., Pérez-Rodríguez, I. Hügler, M., O'Brien, C., Keddis, R., Grosche, A., Goodwin, L., Bruce, D., Davenport, K., Detter, C., Han, J., Han, S., Ivanova, N., Land, M. L., Mikhailova, N., Nolan, M., Pitluck, S., Tapia, R., Woyke, T. and **Vetriani, C.** (2012). Complete genome sequence of *Thermovibrio ammonificans* HB-1^T, a thermophilic chemolithoautotrophic bacterium from a deep-sea hydrothermal vent. *Stand. Genomic Sci.* 7:82-90.

Pérez-Rodríguez, I., Grosche, A., Massenburg, L., Starovoytov, V. and **Vetriani, C.** (2012). *Phorcysia thermohydrogeniphila* gen. nov., sp. nov., a thermophilic, chemolithoautotrophic, nitrate-ammonifying bacterium isolated from a microbial biofilm from a deep-sea hydrothermal vent. *Intl. J. Syst. Evol. Microbiol.* 62:2388-2394.

Sievert S. M. and **Vetriani, C.** (2012). Chemoautotrophy at deep-sea vents - Past, present, and future. *Oceanography* 25:218-233.

Giovannelli, D., Ferriera, S., Johnson, J., Kravitz, S., Perez-Rodriguez, I., Ricci, J., O'Brian, C., Voordeckers, J. W., Bini, E. and **Vetriani, C.** (2011). Draft genome sequence of *Caminibacter mediatlanticus* strain TB-2^T, an *Epsilonproteobacterium* isolated from a deep-sea hydrothermal vent. *Stand. Genomic Sci.* 5:135-143.

Andrianasolo, E., Haramaty, L., McPhail, K. L., White, E., **Vetriani, C.,** Falkowski, P. and Lutz, R. (2011). Bathymodiolamides A and B, ceramide derivatives from a deep-sea hydrothermal vent invertebrate mussel, *Bathymodiolus thermophilus*. *J. Nat. Prod.* 74: 842-846.

Pérez-Rodríguez, I., Ricci, J., Voordeckers, J. W., Starovoytov, V. and **Vetriani, C.** (2010). *Nautilia nitratireducens* sp. nov, a thermophilic, anaerobic, chemosynthetic, nitrate-ammonifying bacterium isolated from a deep-sea hydrothermal vent on the East Pacific Rise. *Intl. J. Syst. Evol. Microbiol.* 60:1182-1186.

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Invited Lectures and Presentations

May 7, 2025: Frank Robb Symposium, Institute of Marine and Environmental Technology (IMET), Baltimore, MD. Invited talk: "Anaerobic thermophiles and the reconstruction of early microbial metabolism".

November 20, 2024: Forum on Advanced Environmental Sciences and Technology (iFAST), part of the University of Oklahoma's Institute for Environmental Genomics Seminar Series. Invited webinar: "The microbial contribution to the sulfur and nitrogen cycling in marine hydrothermal systems".

November 17, 2023: School of Marine and Atmospheric Sciences (SoMAS) Marine and Atmospheric Sciences Colloquium series, Stony Brook University, Stony Brook, NY. Invited seminar: "The chemosynthetic microbiome of deep-sea hydrothermal vents across space and time".

November 6, 2023: Western Washington University, Bellingham, WA. Invited lecture in the Deep-Sea Ecology course: "Deep-Sea Hydrothermal Vents".

May 5, 2023: Microbiology at Rutgers University 2023 Symposium: Cultivating Traditions, Current Strength, and New Frontiers, New Brunswick, NJ. Invited seminar: "Adaptations to high pressure of a piezothermophilic chemosynthetic Epsilonproteobacterium from a deep-sea hydrothermal vent".

April 3, 2023: ENIGMA Seminar Series, Rutgers University, New Brunswick, NJ. Invited talk: "The chemosynthetic microbiome of deep-sea hydrothermal vents in space and time".

January 12, 2023. MultiKulti webinar series, part of the MultiKulti Project sponsored by the German Ministry of Education and Research. Invited webinar: "Isolation and characterization of *Nautilia* sp. strain PV-1, a piezophilic *Epsilonproteobacterium* isolated from a deep-sea hydrothermal vent".

September 18-22, 2022. 13th International Congress of Extremophiles, Loutraki, Greece. Invited talk: "DNA uptake in chemosynthetic Epsilonproteobacteria from deep-sea hydrothermal vents".

September 15-16, 2022. 7th Deep-Sea Microbiology Workshop, Institut Universitaire Europeen de la Mer, Universite` de Bretagne Occidentale, Technopole Brest-Iroise, Plouzane`, France. Invited talk: "Adaptations to high pressure of *Nautilia* sp. strain PV-1, a piezophilic Epsilonproteobacterium isolated from a deep-sea hydrothermal vent".

February 7, 2020. Microbiology at Rutgers University 2020 Symposium: Cultivating Traditions, Current Strength, and New Frontiers, New Brunswick, NJ. Invited seminar: "Metaproteogenomic profiling of chemosynthetic microbial biofilms reveals metabolic flexibility during colonization of a shallow-water gas vent".

Every Spring semester since 2020. Invited lecture: "Microbiology of deep-sea hydrothermal vents". Department of Biology and Biotechnology "C. Darwin", University of Rome La Sapienza, Rome, Italy.

Every Fall semester since 2020. Invited lecture: "From deep-sea volcanoes to microbial genomes: Microbiology of deep-sea hydrothermal vents". Department of Biology and Biotechnology "C. Darwin", University of Rome La Sapienza, Rome, Italy.

Every Fall semester since 2020. Invited lecture for graduate students in microbial ecology and microbiology of extremophiles graduate programs: “Microbiology of deep-sea hydrothermal vents”. Department of Biology, University of Naples Federico II, Naples, Italy.

December 10, 2019. Department of Biology, University of Naples Federico II, Naples, Italy. Invited seminar: “Ecophysiology of chemosynthetic microbial biofilms at a shallow water gas vent in the Tyrrhenian Sea”.

December 9, 2019. Department of Biology and Biotechnology "C. Darwin”, University of Rome La Sapienza, Rome, Italy. Invited seminar: “From deep-sea volcanoes to microbial genomes: Microbiology of deep-sea hydrothermal vents”.

December 5, 2019. Department of Biology, University of Naples Federico II, Naples, Italy. Invited lecture for undergraduate students: “Microbiology of deep-sea hydrothermal vents”.

December 4, 2019. Department of Biology, University of Naples Federico II, Naples, Italy. Invited lecture for master’s students: “Microbial ecology of deep-sea hydrothermal vents”.

November 29, 2019. FISV Days: Life’s Enigma – Man and the Environment in a Century of Major Changes. University of Naples Federico II, Naples, Italy. Invited presentation: “Extreme environments and the origin of life”.

November 18-21, 2019. 4th InterRidge Theoretical Institute Workshop: Hydrothermalism in 4D: Current challenges and emerging issues, Banyuls-sur-Mer, France. Invited talk: “Vent microbiomes with combined next generation sequencing and experimental approaches”.

November 18-21, 2019. 4th InterRidge Theoretical Institute Workshop: Hydrothermalism in 4D: Current challenges and emerging issues, Banyuls-sur-Mer, France. Invited talk: “Current challenges in the microbiology of marine geothermal environments”.

September 25, 2019. Department of Biology, University of Naples Federico II, Naples, Italy. Invited seminar: “Experimental strategies for the enrichment and isolation of microorganisms from marine environments”.

September 16-20, 2018. 12th International Congress of Extremophiles, Ischia, Italy. Keynote presentation: “Ecophysiology of chemosynthetic microbial biofilms at a shallow water gas vent in the Tyrrhenian Sea”.

September 17-20, 2017. Microbiology 2017 - XXXII SIMGBM Congress, Palermo, Italy. Invited presentation: “Prokaryotic diversity and function at a shallow-water gas vent in the Tyrrhenian Sea”.

August 29, 2017. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA. Invited presentation: **"**Common adaptive strategies in hydrothermal vent and pathogenic *Epsilonproteobacteria* revealed by comparative genomic and physiological analyses".

April 18, 2017. Department of Microbiology, University of Washington, Seattle, WA. Invited seminar "From seafloor volcanic eruptions to microbial genomes: Adventures in deep-sea microbiology".

December 13, 2016. Italian Space Agency, Rome Italy. Invited to participate in the workshop: "Exobiology and extreme environments: from molecular chemistry to the biology of extremophiles". Presented a talk entitled: "Life in the dark: Anaerobic chemosynthetic bacteria as models to reconstruct the evolutionary history of early metabolism".

December 12, 2016. Department of Biology, University of Naples Federico II, Naples, Italy. Invited seminar "Life in the dark: Chemosynthetic communities at deep-sea hydrothermal vents".

December 5-6, 2016. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course "Deep-sea ecosystems and extreme environments" as a lecturer on the themes: 1) "Molecular approaches for microbial ecology studies", 2) "Chemoautotrophy and heterotrophy in the deep ocean", and 3) "Microbial colonization and biofilm formation hydrothermal vents and cold seeps".

December 10-11, 2015. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course "Deep-sea ecosystems and extreme environments" as a lecturer on the themes: 1) "Molecular approaches for microbial ecology studies", 2) "Chemoautotrophy and heterotrophy in the deep ocean", and 3) "Microbial colonization and biofilm formation hydrothermal vents and cold seeps".

November 7, 2015. Keynote presentation: Metropolitan Association of College and University Biologists (MACUB) 48th Annual Fall Conference, Montclair State University, Montclair, NJ. Keynote speaker: "Life in Deep-Sea Vents".

October 9, 2015. Waterfront Technology Center, Rutgers University, Camden NJ. Invited seminar: "From deep-sea volcanoes to mammalian hosts: *Epsilonproteobacteria* as models to reconstruct the evolutionary history of microbial adaptation".

December 10-12, 2014. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course "Deep-sea ecosystems and extreme environments" as a lecturer on the themes: 1) "Molecular tools for microbial ecology studies", and 2) "Microbial colonizers, biofilms and microbial adaptations to deep-sea hydrothermal vents".

December 4-5, 2013. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course "Extreme environments and deep-sea ecosystems" as a lecturer on the themes: 1) "Molecular tools in microbial oceanography", and 2) "Microbiology of deep-sea hydrothermal vents: Microbial colonization, biofilms, thermophiles".

April 29, 2013. Invited seminar: “From mantle to genomes: Insights from volcanic eruptions in the deep-sea”. Institute of Marine and Coastal Sciences, Rutgers University.

December 6-7, 2012. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course “Extreme environments and deep-sea ecosystems” as a lecturer on the themes: 1) “Molecular tools in microbial oceanography”, and 2) “Microbiology of deep-sea hydrothermal vents: Microbial colonization, biofilms, thermophiles”.

February 3, 2012. Invited Presentation: “Chemosynthetic microbial biofilms at post eruptive vents on the East Pacific Rise at 9°N”. Microbiology at Rutgers: Second Annual Mini-Symposium, Rutgers University, New Brunswick, NJ.

December 5-7, 2011. Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course “Extreme environments and deep-sea ecosystems” as a lecturer on the themes: 1) “Molecular tools in microbial oceanography”, and 2) “Microbiology of deep-sea hydrothermal vents: Microbial colonization, biofilms, thermophiles”.

December 1, 2011. IFM-GEOMAR, Kiel, Germany. Invited seminar: “Chemosynthetic microbial biofilms: Understanding the foundation of deep-sea hydrothermal vent ecosystems”.

November 9, 2011. Queens College, New York, NY. Invited seminar: “Chemosynthetic microbial biofilms from deep-sea hydrothermal vents: insight from laboratory and in situ studies”.

March 25, 2011. Universidad del Turabo, Gurabo, Puerto Rico. Invited talk: “Life without sun: A deep look into chemosynthetic microbial communities from hydrothermal vents”.

December 1, 2010. Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited seminar: “Chemosynthetic microbial biofilms from deep-sea hydrothermal vents: insight from laboratory and in situ studies”.

December 2-3, 2010. Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France. Invited to participate in the training course “Extreme environments and deep-sea ecosystems” as a lecturer on the theme: “Extremophilic microbes: adaptation to temperature and toxics /Microbial diversity and metal/hydrocarbon detoxification at vents and seeps”.

June 23, 2009. Goldschmidt 2009, Davos, Switzerland. Keynote presentation: “Microbial Mechanisms of Energy Conservation, Carbon Transfer and Detoxification in Deep-Sea Extreme Environments”.

April 20, 2009. Benjamin Franklin Medal in Earth and Environmental Science Symposium "Deep Sea, Ocean Floor Gas Vents". Invited Speaker and Panelist, Honoring J. Frederick Grassle, Temple University, Philadelphia, PA.

December 19, 2008. American Geophysical Union Fall Meeting, San Francisco, CA. Invited presentation: "Microbial Colonization of Post Eruptive Vents on the EPR at 9°N".

December 12, 2008. School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY. Invited lecture: "Microbial colonization of deep-sea hydrothermal vents on the East Pacific Rise (9°N) following recent a volcanic eruption".

March 19, 2008. Department of Biological Sciences, Seton Hall University, South Orange, NJ. Invited lecture: "Microbial Colonization of Deep-Sea Hydrothermal Vents Following a Volcanic Eruption on the East Pacific Rise".

February 29, 2008. Keynote presentation: Second Annual Joint Molecular Biosciences Graduate Student Symposium, Rutgers University, Piscataway, NJ. Keynote Speaker: "Microbiology of Post-Eruptive Deep-Sea Hydrothermal Vents".

February 8, 2008. Microbiology at Rutgers: Second Annual Mini-Symposium, Rutgers University, New Brunswick, NJ. Invited Presentation: "Microbial Studies of Post-Eruptive Deep-Sea Hydrothermal Vents".

June 10-13, 2007. The Center for BioInorganic Chemistry (CEBIC) Summer Conference, Princeton University, Princeton, NJ. Invited talk: "Diversity of alkane-oxidizing bacteria and alkane hydroxylase genes in deep-sea hydrothermal vents".

March 2, 2007. Microbial Observatories/Microbial Interaction and Processes Principal Investigators' Meeting and Workshop, Washington, DC, March 1-3, 2007. Invited Presentation: "MIP: Physiology and Molecular Ecology of Thermophilic Nitrate-Reducing Microorganisms at Deep-Sea Hydrothermal Vents".

December 7, 2006. Theobald Smith Society, New Jersey Branch of the American Society for Microbiology, Rutgers University, Piscataway, N.J. Invited Speaker for the Three-Speaker Meeting: "Microbiology of Deep-Sea Vents: A View of Ancient Microbial Processes".

November 15, 2006. Columbia Earth Microbiology Initiative, Workshop on Subsurface Microbiology, Lamont-Doherty Earth Observatory, Palisades, NY. Invited seminar: "Microbial Diversity of Deep-Sea Reducing Environments: Hydrothermal Vents and Cold Seeps".

July 30, 2006. Jacques Cousteau Coastal Education Center, Tuckerton, NJ. Invited lecture: "Introduction to the IMAX Movie Volcanoes of the Deep-Sea", for the Sixth Grade MARE Workshop.

March 30, 2006. School of Natural Sciences, Fairleigh Dickinson University, Teaneck, NJ. Invited speaker for the Biology Seminar Course: "Microbiology of deep-sea hydrothermal vents".

September 26, 2005. Department of Biology, University of Rome III, Rome, Italy. Invited seminar: "Volcanoes and Bacteria at the bottom of the ocean".

September 24, 2005. Symposium on Marine Extremophiles and Metabolic Diversity. Italian Society of General Microbiology and Microbial Biotechnology, Riva del Garda, Italy. Invited lecture: "Chemosynthetic processes and energy metabolism in hydrothermal vent bacteria".

June 27, 2005. Jacques Cousteau Coastal Education Center, Tuckerton, NJ. Invited lecture: "Microbiology of the Deep-Sea", for "The Sea You Can't See", a NSF-sponsored marine microbiology workshop for high school teachers.

June 12-15, 2005. The Center for BioInorganic Chemistry (CEBIC) Summer Conference, Princeton University, Princeton, NJ. Invited talk: "Alkane-oxidizing bacteria from deep-sea hydrothermal vents".

February 24, 2005. Department of Biology, College of Science, Texas A & M University, College Station, TX. Invited seminar: "Chemolithotrophy and hydrogen-based energy metabolism in thermophilic microorganisms from deep-sea hydrothermal vents".

November 19, 2004. Fifth Annual West Point Microbiology Symposium, Department of Chemistry and Life Sciences, The United States Military Academy, West Point, NY. Invited lecture: "Microbiology of Deep-Sea Hydrothermal Vents".

March 5, 2004. Department of Microbiology, University of New Hampshire, Durham, NH. Invited lecture: "Microbiology of Deep-Sea Hydrothermal Vents" for the Marine Microbiology course.

March 4, 2004. Department of Microbiology, University of New Hampshire, Durham, NH. Invited seminar: "Microbial processes at deep-sea vents: Nitrate respiratory metabolism and mercury reduction".

February 2, 2004. "Astrobiology and Extrasolar Planets" Seminar Series, Department of Geosciences, Princeton University, Princeton, NJ. Invited seminar: "Deep-sea hydrothermal vent systems: Contemporary windows into ancient microbial processes".

October 10, 2003, Department of Environmental Sciences, Rutgers University, New Brunswick, NJ. Invited seminar: "A microbial link between the carbon and nitrogen cycling at deep-sea hydrothermal vents".

August 6, 2003. Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ. Invited lecture: "Deep-Sea Vent Microbes: A Link Between Geology, Chemistry and Biology" for the "Volcanoes of the Deep-Sea" workshop, sponsored by NSF's Centers for Ocean Science Education Excellence (COSEE).

April 10, 2003, Department of Ecology, Evolution and Natural Resources, Rutgers University, New Brunswick, NJ. Invited seminar: "Microbial interactions with hydrothermal fluids at deep-sea vents".

May 2, 2002, Department of Biology, Woods Hole Oceanographic Institution, Woods Hole, MA. Invited seminar: "Diversity, distribution and physiological adaptations of deep-sea hydrothermal vent microorganisms".

March 6, 2002, Department of Geosciences, Princeton University. Princeton, NJ. Invited seminar: "Diversity, distribution and physiological adaptations of deep-sea hydrothermal vent microorganisms".

March 7, 2001, Department of Biochemistry and Microbiology, Rutgers University, New Brunswick, NJ. Invited seminar: "Microbial Communities in Deep-Sea Extreme Environments: Population Structure and Biophysical Adaptations".

July 24, 2000. Center of Marine Biotechnology, Baltimore, MD. Invited lecture: "Diversity, Ecology and Phylogeny of the Archaea" for the course: "Extremophile Research: Theory and Techniques".

March 24, 1999, Department of Biology, California State University Long Beach, Long Beach, CA. Invited seminar: "Archaea in Marine Environments: Perspectives on their Diversity, Community Structure and Evolution".

July 26, 1999. Center of Marine Biotechnology, Baltimore, MD. Invited lecture: "Diversity, Ecology and Phylogeny of the Archaea" for the course: "Extremophile Research: Theory and Techniques".

Conference Proceedings

Bharath A. and Vetriani C. (2024). Natural competence and DNA Uptake in Chemosynthetic Campylobacterota from deep-sea hydrothermal vents. Abstract, ASM Microbe 2024 Conference, Section EEB-FRIDAY-1131, June 14, 2024, Atlanta, GA. https://www.abstractsonline.com/pp8/#!/20188/presentation/5357

Foustoukos, D.I., Pérez-Rodríguez, I., Sievert, S.M. and **Vetriani, C.** Lithotrophic Nitrate Reduction Under High-Pressure Conditions at Deep-Sea Vents. 54th Lunar and Planetary Science Conference, The Woodlands, TX, March 13-17, 2023. LPI Contribution No. 2806, id.1084.

Smedile, F., Patwardhan, S., Giovannelli, D., Mullane, K., Foustoukos, D.I. and **Vetriani, C.** Adaptations to high pressure of *Nautilia* sp. strain PV-1, a piezophilic epsilonproteobacterium isolated from a deep-sea hydrothermal vent. 12th International Congress of Extremophiles, Ischia, Italy, September 16-20, 2018.

Smedile, F., Grosche, A., Patwardhan, S., Giovannelli, D., Jelen, B. and **Vetriani, C.** Hydrogen oxidation coupled to sulfur reduction: an ancient respiratory pathway widespread among deep-sea vent bacteria. XXXII SIMGBBM congress Palermo, Italy, September 17-20, 2017.

Smedile, F., Grosche, A., Patwardhan, S., Giovannelli, D., Jelen, B and **Vetriani, C.** Hydrogen oxidation coupled to sulfur reduction in deep-sea vent bacteria. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA, August 27-September 1, 2017.

Grosche, A., Giovannelli, D., Smedile, F., Le Bris, N., and **Vetriani, C.** The Microbial Biogeography of Deep-Sea Hydrothermal Vents: Mapping the Landscape of Active Microbial Communities Across Space, Time, and Fluid Dynamics. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA, August 27-September 1, 2017.

Patwardhan, S., Giovannelli, D. and **Vetriani, C.** Prokaryotic Diversity and Function at a Newly Discovered Shallow-water Gas Vent Site in the Tyrrhenian Sea. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA, August 27-September 1, 2017.

Jelen, B., Giovannelli, D. and **Vetriani, C.** Revealing the genes responsible for sulfur respiration in *Thermovibrio ammonificans*. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA, August 27-September 1, 2017.

Foustoukos, D. I., Patwardhan, S., Mullane,K., Smedile, F., Pérez-Rodriguez, I., **Vetriani, C.** Lithotrophic nitrate reduction under high-pressure conditions at deep-sea vents. 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, MA, August 27-September 1, 2017.

Patwardhan, S., Smedile, F., **Vetriani, C.** The genome of *Varunaivibrio sulfuroxidans* strain TC8^T, an *alphaproteobacterium* from a shallow-water vent gas vent in the Tyrrhenian Sea shows potential for heavy metal detoxification and metabolic adaptations to its native habitat. Society of Industrial Microbiology and Biotechnology Annual Meeting and Exhibition, Denver, CO, July 30-Aug 3, 2017.

Jelen, B., Giovannelli, D. and **Vetriani, C.** Revealing the genes responsible for sulfur respiration in *Thermovibrio ammonificans*. NorthEastern Geobiology Symposium 2017, University of Connecticut, March 10, 2017.

Jelen, B., Giovannelli, D. and **Vetriani, C.** Revealing the genes responsible for sulfur respiration in *Thermovibrio ammonificans*. Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 2-3, 2017.

Grosche, A., Smedile, F., Giovannelli, D. and **Vetriani, C.** Primary Production at Deep-Sea Hydrothermal Vents. Theobald Smith Society (NJ chapter of ASM) Fall Meeting, New Brunswick, NJ, November 14, 2016.

Grosche, A., Dreifus, J., Giovannelli, D. and **Vetriani, C.** Deep-Sea Dinner Party: Carbon Cycling in Biofilms at Hydrothermal Vents. Theobald Smith Society (NJ chapter of ASM) Meeting in Miniature, New Brunswick, NJ, April 27, 2016. **Winner of the first prize in oral presentations.**

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

Patwardhan, S., Giovannelli, D. and **Vetriani, C.** Microbial Diversity at a Shallow-Water Hydrothermal Vent in the Tyrrhenian Sea. Society of Industrial Microbiology and Biotechnology Annual Meeting and Exhibition, Philadelphia, PA, August 2-6, 2015.

Grosche, A., Giovannelli, D. and **Vetriani, C.** Community Structure and Function During Biofilm Formation at Deep-Sea Hydrothermal Vents. NEMPET (Northeast Microbiologists: Physiology, Ecology, Taxonomy, Minnowbrook Lodge, Blue Mountain Lake, New York, NY, June 26-28, 2015.

Grosche, A., Giovannelli, D., Sievert, S. M. and **Vetriani, C.** The composition of active microbial communities in the shallow subsurface and in seafloor biofilms at deep-sea hydrothermal vents. American Society of Microbiology, Theobald Smith Society Meeting, New Brunswick, NJ, April, 2015.

Giovannelli, D., Hügler, M., Sievert, S. M. and **Vetriani, C.** Insight into the evolution of carbon fixation revealed by comparative genomic and proteomic analysis of the anaerobic chemosynthetic bacterium *Thermovibrio ammonificans*. Deep Carbon Observatory International Science Meeting, Munich, Germany, March 26-28, 2015.

Giovannelli, D., Foustoukos, D. I., Le Bris,N., Yücel, M., Sievert, S. M. and **Vetriani, C.** Spatial and temporal diversity of microbial mats in the shallow-water hydrothermal system of Milos Island (Greece). Deep Carbon Observatory International Science Meeting, Munich, Germany, March 26-28, 2015.

Giovannelli, D., Foustoukos, D. I., Le Bris,N., Yücel, M., Sievert, S. M. and **Vetriani, C.** Spatial and temporal diversity of microbial mats in the shallow-water hydrothermal system of Milos Island (Greece). American Geophysical Union Fall Meeting, San Francisco, CA, December 15-19, 2014.

Grosche, A., Giovannelli, D. and **Vetriani, C.** Tolerance to oxidative stress as a mechanism to facilitate dispersal of subsurface microorganisms: A case study using the model bacterium, *Thermovibrio ammonificans*. 10th International Congress on Extremophiles, Saint Petersburg, Russia, September 7-11, 2014.

Giovannelli, D., Hugler, M., Sievert, S. M. and **Vetriani, C.** Insight into the evolution of carbon fixation revealed by comparative genomic of the anaerobic chemosynthetic bacterium *Thermovibrio ammonificans*. Deep Carbon Observatory Summer School 2014, Yellowstone National Park, MT, July 13-18, 2014.

Patwardhan, S., Giovannelli, D. and **Vetriani, C.** Bacterial Diversity at a Shallow-Water Hydrothermal Vent in the Tyrrhenian Sea. Gordon Research Conference and Seminar in Marine Microbes, Waltham, MA, June 22-27, 2014.

Yücel, M., Sievert, S. M., *Giovannelli, D., **Vetriani, C.,** Foustoukos, D. I. and Le Bris, N. Microbial population and geochemical dynamics in the shallow-water hydrothermal vents of Milos (Greece). European Geoscience Union, General assembly, Vienna, Austria, April 27-May 2, 2014.

Patwardhan, S., D.Giovannelli and **Vetriani, C.** Bacterial Diversity at a Shallow-Water Hydrothermal Vent in the Tyrrhenian Sea. Theobald Smith Society Meeting in Miniature, Rutgers University, New Brunswick, NJ, April 3, 2014.

Vetriani, C., Barkay, T., Borin, S., Bolognini, M., Crespo-Medina, M., O'Brien, C., Perez-Rodriguez, I., Ricci, J., and Wawrick, B. Chemosynthetic Microbial Biofilms at Post Eruptive Vents on the East Pacific Rise at 9°N. 112th General Meeting, American Society for Microbiology, San Francisco, CA, June 16-19, 2012.

Perez, I., Ricci, J., Bini, E., Starovoytov, V. and **Vetriani, C.** AI-2 mediated quorum sensing in anaerobic chemosynthetic Epsilonproteobacteria from deep-sea hydrothermal vents. 8th International Congress on Extremophiles, Ponta Delgada, Azores, Portugal, September 12-16, 2010. **Winner of the ISE Poster Award 2010.**

Porter, A.W., **Vetriani, C.** and Young, L.Y. Aromatic Carboxylic Acids are Anaerobically Transformed in Guaymas Basin Sediments. Goldschmidt 2010, Knoxville, TN, June 13-18, 2010.

Ricci, J., Crespo-Medina, M., Starovoytov, V., Wawrik, B. and **Vetriani, C.** Metatranscriptomic Analysis of Microbial Biofilms from Deep-Sea Hydrothermal Vents. 110th General Meeting, American Society for Microbiology, San Diego, CA, May 23-27, 2010. **This poster was selected to be included in the Outstanding Student Poster Session.**

Rosario-Passapera. R., Cruz-Matos, R., Wong, R., Lutz, R.A., Starovoytov, V. and **Vetriani, C.** Characterization of *Parvibaculm hydrocarbonoclasticus* sp. nov., an alkane-oxidizing *Alphaproteobacterium* isolated from a deep-sea hydrothermal vent. The Fourth Annual Mini-Symposium on Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 1-2, 2010.

Cruz, R. and **Vetriani, C.** Diversity of alkane oxidizing bacteria and alkane hydroxylase genes in deep-sea hydrothermal vents. The Fourth Annual Mini-Symposium on Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 1-2, 2010.

Perez, I., Ricci, J., Bini, E., Starovoytov, V. and **Vetriani, C.** The role of biofilm formation in the evolution of early microbial processes: anaerobic chemosynthetic *Epsilonproteobacteria* from deep-sea hydrothermal vents. The Fourth Annual Mini-Symposium on Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 1-2, 2010.

Ricci, J., Crespo-Medina, M., Starovoytov, V., Wawrik, B. and **Vetriani, C.** Metatranscriptomic analysis of microbial biofilms from deep-sea hydrothermal vents. The Fourth Annual Mini-Symposium on Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 1-2, 2010.

O'Brien, C., Govenar, B., Luther, G.W., Lutz, R.A., Shank, T.M. and **Vetriani, C.** Composition of microbial biofilm communities from diffuse flow deep-sea hydrothermal vents on the East Pacific Rise at 9°N. The Fourth Annual Mini-Symposium on Microbiology at Rutgers University: Cultivating Traditions, Current Strength and Future Frontiers, New Brunswick, NJ, February 1-2,

2010.

Vetriani, C., Barkay, T., Borin, S., Crespo-Medina, M., Cruz, R., Govenar, B., LeBris, N., Luther, G.W., Lutz, R.A., Nuzzio, D., Perez, I., Shank, T.M., Sievert, S., Wawrik, B. and Yucel, M. An integrated view of microbial biofilms at post eruptive vents on the EPR at 9°N. Ridge 2000 Integration and Synthesis Workshop: Developing a holistic view of oceanic spreading center processes, St. Louis, MO, October 1-3, 2009.

Shank, T.M., Govenar, B., Luther, G.W., and **Vetriani, C.,** Sievert, S., Gulman, L., Seyfried, W.E., Fornari, D.J., Tolstoy, M., and Lutz, R.A. Long-term integrated studies on the East Pacific Rise: Spatial and temporal patterns of interactions among vent fluid chemistry, microbial community structure and faunal colonization associated with volcanic disturbances. Ridge 2000 Integration and Synthesis Workshop: Developing a holistic view of oceanic spreading center processes, St. Louis, MO, October 1-3, 2009.

Lutz, R.A., Shank, T.M., Luther, G.W., and **Vetriani, C.** Interdisciplinary studies of biological community structure at deep-sea hydrothermal vents along the East Pacific Rise. Ridge 2000 Integration and Synthesis Workshop: Developing a holistic view of oceanic spreading center processes, St. Louis, MO, October 1-3, 2009.

Perez, I. and **Vetriani, C.** Physiological characterization of an anaerobic chemosynthetic, nitrate-reducing bacterium from a deep-sea vent at 9ºN on the EPR. 109th General Meeting, American Society for Microbiology, Philadelphia, PA, May 17-21, 2009.

Cruz, R., and **Vetriani, C.** Diversity of alkane oxidizing bacteria and alkane hydroxylase genes in deep-sea hydrothermal vents. 109th General Meeting, American Society for Microbiology, Philadelphia, PA, May 17-21, 2009.

Porter, A.W., **Vetriani, C.** and Young, L.Y. Anaerobic Hydrocarbon Transformation in Guaymas Basin Enrichments Q-075. 109th General Meeting, American Society for Microbiology, Philadelphia, PA, May 17-21, 2009.

Vetriani, C., Barkay, T., Borin, S., Crespo-Medina, M., Cruz, R., Luther, G.W., Perez, I., and Voordeckers, J.W. Microbial colonization of post eruptive vents on the EPR at 9°N. Ridge 2000 meeting: Mantle to Microbe: Integrated Studies at Oceanic Spreading Centers, Portland, OR, March 25-28, 2008.

Vetriani, C., Voordeckers, J.W., Sievert, S.M., and Hügler, M. Culture dependent and independent analyses of 16S rRNA and ATP citrate lyase genes: a comparison of microbial communities from different black smoker chimneys on the Mid-Atlantic Ridge. Ridge 2000 meeting: Mantle to Microbe: Integrated Studies at Oceanic Spreading Centers, Portland, OR, March 25-28, 2008.

Crespo-Medina, M., Bloom, N., Chatziefthimiou, A., Luther, G.W., Reinfelder, J., **Vetriani, C.** and Barkay, T. Microbe-Mercury Interactions at Deep-sea Hydrothermal Vents from the East Pacific Rise at 9ºN. 2008 Ocean Sciences Meeting, Orlando, FL, March 2-7, 2008. Winner of the Ocean Sciences Award of Recognition.

Cruz, R. and **Vetriani, C.** Diversity of Alkane Oxidizing Bacteria and Alkane Hydroxylase Genes in Deep-Sea Hydrothermal Vents. InterRidge Theoretical Institute Workshop: Biogeochemical Interactions at Deep-Sea Vents, Woods Hole, MA, September 10-14, 2007.

Crespo-Medina, M., Cuebas. M., Borin, S., Luther, G.W., Waite, T., Barkay. T., and **Vetriani, C.** Isolation and Partial Characterization of Aerobic Chemosynthetic Thiosulfate Oxidizing Bacteria from Diffuse Flow Hydrothermal Vents on the East Pacific Rise. InterRidge Theoretical Institute Workshop: Biogeochemical Interactions at Deep-Sea Vents, Woods Hole, MA, September 10-14, 2007.

Crespo-Medina, M., Cuebas. M., Borin, S., Luther, G.W., Waite, T., Barkay. T., and **Vetriani C.** Isolation and Partial Characterization of Aerobic Chemosynthetic Thiosulfate Oxidizing Bacteria from Diffuse Flow Hydrothermal Vents on the East Pacific Rise. 107th General Meeting, American Society for Microbiology, Toronto, Canada, May 21-25, 2007.

Vetriani, C., Voordeckers, J., and Crespo-Medina, M. Detection of the periplasmic nitrate reductase (NapA) in thermophilic, chemolithoautotrophic *Epsilonproteobacteria* and in deep-sea hydrothermal vent microbial communities. Extremophiles 2006, Brest, France, September 17-21, 2006.

Crespo-Medina, M., Bloom, N., Chatziefthimiou, A., Reinfelder, J., **Vetriani, C.,** and Barkay, T. Interactions of Chemosynthetic Bacteria with Mercury at Deep-sea Hydrothermal Vents. International Conference: "Mercury as a Global Pollutant", Madison, WI, August 6-11, 2006.

Voordeckers, J.W., Crespo-Medina, M., and **Vetriani, C.** Detection and Diversity of the Periplasmic Nitrate Reductase (NapA) in *Epsilonproteobacteria* and Natural Microbial Communities in Deep-sea Hydrothermal Vents. 106th General Meeting, American Society for Microbiology, Orlando, FL, May 21-25, 2006.

Lutz, R.A., **Vetriani, C.**, Luther, G., Shank, T., and Tolstoy, M. Integrated studies of biological community structure at deep-sea hydrothermal vents: a project overview. RIDGE 2000 Progress and Planning Workshop, Vancouver, BC, Canada, October 30-November 2, 2005.

Vetriani, C., Voordeckers, J., Hügler, M., and Sievert, S. Nitrate respiration and carbon fixation in thermophilic, chemolithoautotrophic nitrate-reducing bacteria from deep-sea hydrothermal vents. Third International Symposium on Hydrothermal Vent and Seep Biology, La Jolla, CA, September 12-16, 2005.

Reed, A.J., Lutz, L.A., and **Vetriani, C.** Analysis of the Vertical Zonation of Sedimentary Archaea Via Analysis of 16S rDNA and mcr Genes from Cold Seep Areas of the Florida Escarpment (Gulf of Mexico) and the Blake Ridge (Atlantic Ocean). 105th General Meeting, American Society for Microbiology, Atlanta, GA, June 5-9, 2005. N-071.

Austin, R.N., Alexander-Ozinskas, M., Bertrand, E.M., Zylstra, G.J., Groves, J.T., Rozhkova, E.A., and **Vetriani, C.** Mechanistic Studies of Hydrocarbon-Degrading Metalloenzymes in Pristine, Polluted and Extreme Environments. 229th National Meeting, American Chemical Society, San Diego, CA, March 13-17, 2005.

Vetriani, C., Voordeckers, J.W., and Sievert, S.M. Characterization of Thermophilic, Chemolithoautotrophic, Nitrate-Reducing Bacteria from Deep-Sea Hydrothermal Vents, and Identification of the Genes Involved in Nitrate Reduction and Carbon Fixation. Extremophiles 2004, American Society of Microbiology, Cambridge, MD, September 19-23, 2004.

Crespo-Medina, M., Barkay, T., and **Vetriani, C.** Mercuric Reductase Enzymes from Mesophilic Bacteria are Optimally Active at a Moderately Thermophilic to Thermophilic Temperature Range. Extremophiles 2004, American Society of Microbiology, Cambridge, MD, September 19-23, 2004.

Voordeckers, J., Haggblom, M., and **Vetriani, C.** Isolation and Characterization of Novel Thermophilic, Chemolithoautotrophic, Nitrate-reducing Isolates from Deep-Sea Hydrothermal Vents that Belong to the Genus Caminibacter. 104th General Meeting, American Society for Microbiology, New Orleans, LA, May 24-27, 2004. N-274.

Wong, R. and **Vetriani, C.** Isolation of Alkane-Oxidizing Bacteria from Deep-Sea Hydrothermal Vents and Identification of Alkane Hydroxylase Encoding Genes. 104th General Meeting, American Society for Microbiology, New Orleans, LA, May 24-27, 2004. N-250.

Chatziefthimiou, A., **Vetriani, C.,** and Barkay, T. Isolation and Characterization of Mercury Resistant, Thermophilic, Thiosulfate-Oxidizing Bacteria from a Hot Spring in Mount Amiata, Italy. 104th General Meeting, American Society for Microbiology, New Orleans, LA, May 24-27, 2004. N-244.

Rona, P.A., Seilacher, A. Luginsland, H., Seilacher, E., de Vargas, C., **Vetriani, C.,** Bernhard, J.M., Sherrel, R.M., Grassle, J.F., Low, S. and Lutz, R.A. (2003). *Paleodictyon*, a living fossil on the deep-sea floor. *EOS Trans. Am. Geophys. Union* 84:46.

Vetriani, C. and Voordeckers, J. Isolation and characterization of thermophilic, chemolithotrophic nitrate ammonifying bacteria from deep-sea hydrothermal vents. Ridge 2000 Community Meeting, Boulder, CO, November 6-8, 2003.

Vetriani, C., Speck, M.D., and Ellor, S.V. Isolation and Characterization of Thermophilic, Chemolithotrophic Nitrate Ammonifying Bacteria from Deep-Sea Hydrothermal Vents. 103st General Meeting, American Society for Microbiology, Washington, DC, May 18-22, 2003.

Voordeckers, J., Haggblom, M., Van Dover, C. L., and **Vetriani, C.** Phylogenetic and Functional Analysis of Microbial Communities Associated with Active Black Smokers at Mid-Atlantic Ridge Hydrothermal Vents. 103st General Meeting, American Society for Microbiology, Washington, DC, May 18-22, 2003.

Reed, A.J., Lutz, R.A., Van Dover, C. L., and **Vetriani, C.** Diversity, Community Structure and Vertical Zonation of Sedimentary Bacteria and Archaea from the Base of the Florida Escarpment, Gulf of Mexico. 103st General Meeting, American Society for Microbiology, Washington, DC, May 18-22, 2003.

Chew, Y., **Vetriani, C.,** and Barkay, T. Mercury resistance and *merA* sequences of mesophilic and moderately thermophilic bacteria from hydrothermal vents. 102nd General Meeting, American Society for Microbiology, Salt Lake City, UT, May 19-23, 2002.

Barkay, T., Schaefer, J., Yagi, J., Chew, Y., and **Vetriani, C.** The mercury resistance operon: old paradigms, new frontiers. Bioremediation and Biodegradation: Current Advances in Reducing Toxicity, Exposure and Environmental Consequences, Pacific Grove, CA, June 9-12, 2002.

Kerkhof, L.J. and **Vetriani, C.** High Density Sampling in the Coastal Ocean. Ocean Sciences meeting, Honolulu, HI, Feb. 11-15, 2002.

Grzebyk, D. Schofield, O., **Vetriani, C.** and Falkowski P.G. Comparative Evolution of Plastid Genomes in Eukaryotic Algae. Ocean Sciences meeting, Honolulu, HI, Feb. 11-15, 2002.

Vetriani, C., Reed, A.J., Speck, M.D., and Lutz, R.A. Microbial community analysis along temperature and chemical gradients associated with deep-sea hydrothermal vents along the East Pacific Rise ridge (9° 50' N). Second international symposium on deep-sea hydrothermal vent biology, Brest, France, October 8-12, 2001.

Reed, A.J., Speck, M.D., Lutz, R.A., and **Vetriani, C.** Microbial community analysis along temperature and chemical gradients associated with deep-sea hydrothermal vents along the East Pacfic Rise ridge (9° 50' N). 101st General Meeting, American Society for Microbiology, Orlando, FL, May 20-24, 2001.

Vetriani, C., Tran, H.V., and Kerkhof, L.J. Phylogenetic and functional analysis of microbial communities at the oxic/anoxic interface in the Black Sea. 101st General Meeting, American Society for Microbiology, Orlando, FL, May 20-24, 2001.

Koblizek, M., **Vetriani, C.** Falkowski P.G., and Kobler, Z. Marine Aerobic Photosynthetic Bacteria. Life on the Edge of Photosynthesis. Eighteenth Annual Eastern Regional Photosynthesis Conference, Woods Hole, MA, April 20-22, 2001.

Kolber, Z.S. and **Vetriani, C.** Detection and characterization of aerobic anoxygenic photosynthetic bacteria in the upper ocean. ASLO Aquatic Sciences 2001, Albuquerque, NM, February 12-16, 2001.

Sun, M.M.C., Mak, G.S., Maeder, D.L., Lee, M., **Vetriani, C.,** Robb, F.T., and Clark, D.S. Effect of amino acid mutations and pressure on the stability and flexibility of hyperthermophilic gluatamate dehydrogenase. 219th National Meeting of the American Chemical Society, San Francisco, CA, March 26-30, 2000.

Vetriani, C., and Kerkhof, L.J. Phylogenetic and functional characterization of microbial assemblages at the oxic/anoxic interface in the Black Sea. 2000 Ocean Sciences Meeting, San Antonio, TX, Jan. 24-28, 2000. Published in: *EOS Trans. Am. Geophys. Union* 80:288.

Sun, M.M.C., Maeder, D.L., Tolliday, N., **Vetriani, C.,** Robb, F.T., and Clark, D.S. Stability of Hyperthermophilic Glutamate Dehydrogenases: Insights into the Mechanism of Pressure Stabilization and the Effect of Charge Interactions," NATO Advanced Study Institute on High Pressure Molecular Science, Il Ciocco, Italy, October, 1998.

Sun, M.M.C., **Vetriani, C.,** Tolliday, N., Maeder, D.L., Robb, F.T., and Clark, D.S. Improving the stability of hyperthermophilic enzymes by protein engineering and application of high pressure. American Chemical Society Annual Meeting, Boston, MA, August, 1998.

Sun, M.M.C., Maeder, D.L., Tolliday, N., **Vetriani, C.,** Robb, F.T., and Clark, D.S. Stability of Thermophilic Glutamate Dehydrogenases: Insights into the Mechanism of Pressure Stabilization and the Effect of Charge Interactions. American Chemical Society Annual Meeting, Boston, MA, August, 1998.

Vetriani, C., Jannasch, H.W., Grassle, J.F., Robb, F.T. and Reysenbach, A.-L. Vertical distribution and phylogenetic characterization of benthic *Archaea* in coastal and deep-sea sediments. 1998 Ocean Sciences Meeting, San Diego, CA, Feb. 9-13, 1998.

Vetriani, C., Maeder, D.L., Tolliday, N., Yip, K.S.P., Stillman, T.J., Britton, K.L., Rice, D.W., Klump, H.H. and Robb, F.T. Protein thermostability above 100°C: a key role for ionic interactions. International Congress on Extremophiles, Yokohama, Japan, Jan. 18-22, 1998.

L'Haridon, S., Speck, M., **Vetriani, C.,** Reysenbach, A-L., Prieur, D. and Jeanthon, C. The *Desulfobacteriaceae*, a new family of thermophilic bacteria from deep-sea hydrothermal vents. Thermophiles 1998, Brest, France.

Reysenbach, A.-L. and **Vetriani, C.** Molecular markers in biodiversity studies. International Workshop for Agricultural Biotechnology, Dec. 97, Sao Paulo, Brazil.

Sun, M.M., Clark, D.S., DiRuggiero, J., **Vetriani, C.** and Robb, F.T. Pressure-regulated activity and stability of hyperthermophilic enzymes. 1997 American Institute of Chemical Engineers Meeting, Los Angeles, CA, Nov. 16-21, 1997.

Vetriani, C., Maeder, D.L., Tolliday, N., Klump, H.H., Yip, K.S.P., Rice, D.W. and Robb, F.T. (1997) Improving enzyme thermostability: The *Thermococcus litoralis* glutamate dehydrogenase model. 4th International Biotechnology Conference, Stazione Zoologica "Anton Dohrn", Naples, Italy, Sept. 22-29, 1997.

Vetriani, C., Maeder, D.L., Tolliday, N., Rice, D.W., Britton, K.L., Klump, H.H. and Robb, F.T. (1996) Marked elevation of thermostability of *Thermococcus litoralis* glutamate dehydrogenase by site-directed mutagenesis. Thermophiles '96 Conference, The University of Georgia, Athens, GA, Sept 4-9, 1996.

Maeder, D.L., Yip, K.S.P., Rice, D.W., Stillman, T.J., Britton, K.L., **Vetriani, C.,** Tolliday, N., DiRuggiero, J., Klump, H.H. and Robb, F.T. (1996) The structural basis for enzyme stability at or near 100˚C: Comparative structural and biophisical studies on glutamate dehydrogenases from

hyperthermophiles. International Conference on Protein Folding and Design, National Institute of Health, Bethesda, MD, April 23-26, 1996.

Castagnoli, L., Abril, M., **Vetriani, C.,** Portoghese, A., Helmer-Citterich, M., Ausiello, G. and Cesareni, G. (1994) Why Rop folds in a four-helix bundle. Convegno Congiunto ABCD-AGI-SIBBM-SIMGBM, Montesilvano Lido, Italy, Sept 26-30, 1994.

Vetriani, C., Iannolo, G., Minenkova, O., Dente, L. and Cesareni, G. (1993) The amino-terminus of the major coat protein of filamentous phage and phage assembly. 1993 Meeting on Molecular Genetics of Bacteria and Phages, Cold Spring Harbor, NY, Aug. 24-29, 1993.

Vetriani, C., Castagnoli, L., Felici, F., Gonfloni, S., Jappelli, R., Musacchio, A., Tataseo, P. and Cesareni, G. (1991) Selection of ligands from a phage displayed peptide library. Convegno Congiunto SIBBM-AGI, Porto Conte, Italy, Oct. 2-5, 1991.

Tataseo, P., **Vetriani, C.** and Cesareni, G. (1991) Genetic analysis of the interaction between filamentous phages and bacterial pili. 1991 Meeting on Molecular Genetics of Bacteria and Phages, Cold Spring Harbor, NY, Aug. 20-25, 1991.

Visca, P., **Vetriani, C.,** Serino, L. and Orsi, N. (1989) Production of siderophore and iron regulated outer membrane proteins by *Pseudomonas aeruginosa* clinical isolates. 4th International Symposium on Clinical Microbiology, Monteporzio, Italy, 1989.

Teaching

• Graduate Courses: Microbial Ecology and Diversity (16:682:572)
Microbial Life (16:682:501)
Seminar in Applied, Environmental and Industrial Microbiology (16:682:685)
• Undergraduate Courses: Microbial Ecology and Diversity (11:680:491)
General Microbiology (1:447:390, 11:680:390)
Byrne Seminar: Exploring the Deep-Sea (11:090:101:10)
Seminar in Microbiology (11:680:495)
Perspective on Agriculture and the Environment (11:015:101)

• 2008 - 2019: Director, Microbiology Undergraduate Program

Mentoring

Graduate Students

Graduate program in Microbiology and Molecular Genetics: Research advisor of four graduate students (James Voordeckers, Melitza Crespo-Medina, Aspasia Chatziefthimiou, Charles O'Brien)
Graduate program in Ecology and Evolution: Research advisor of two graduate students (Ileana Perez, Andrew Reed)
Graduate Program in Environmental Science: Research advisor of one graduate student (Ramaydalis Cruz, Benjamin Jelen)
Graduate Program in Oceanography: Research advisor of one graduate student (Sushmita Patwardhan)
Graduate Program in Microbial Biology: Research advisor of one graduate student (Ashley Grosche, Ian Schlegel, Avanthika Bharath, Olivia Cannon, Nic Bergamini, Aila Inaba, Lucas Foster)
Masters Program in Business and Science in Biotechnology and Genomics: Research advisor of one graduate student (Marie Bolognini)
National Research Council of Italy - ISMAR Ancona and Graduate School in Applied Biology, University Federico II, Naples, Italy: Research advisor of one visiting graduate student (Donato Giovannelli)

Of these eighteen graduate students, twelve graduated between 2007 and 2023 and five are current.

Undergraduate Students

Major in Biotechnology: Research advisor of 17 undergraduate students (Yein Chew, Ronald Wong, Susan Ellor, Umang Patel, Jasmine Ashraf, Kimberly Kendra, Amber Jensen, Kai Li Tan, Leticia Aquino, Katrina Koon, Danielle Leake, Justin Staley, Julia Dreifus, Daniel Pittaro, Lynn Hamade, Jonathan Phan, Lily Lumkong, Victor Lopez-Simpson.)
Major in Biological Sciences: Research advisor of 8 undergraduate students (Bethany Little, Christy Hoang, Sherry Yee, Barbara Wilimczyk, Vivian Ko, Molly McMahon, Nitish Sharma, Michelle Muhammad)
Major in Microbiology: Research advisor of 13 undergraduate students (Rashmi Bhagwatkar, Katherine Piso, Smita Pataskar, Rima Patel, Matthew Chang, Hema Sekaran, Ahmed Anwar, Mohamad Anwar, Nicole Adams, Peter Caruso, Brielle Hrymoc, Hanna Canonigo, Grabriel Palmieri, Samuel Zawacki)

Major in Biochemistry: Research advisor of 3 undergraduate students (Rahul Singh, Jessica Ricci, Samuel Pennock)
Major in Marine Sciences: Research advisor of 4 undergraduate students (My Do, Ashley Grosche, Kelli Mullane, Colin Sabol)
Major in Molecular Biology & Biochemistry: Research advisor of 1 undergraduate student (Chris Lee)
Major in Environmental Policy: Research advisor of 1 undergraduate student (Nicole Benalcazar)
Research Internships in Ocean Sciences: Research advisor of 4 undergraduate students (Adam Bonhert, Kristin Heidenreich, Caroline Toney, Jessica Ricci)
Major in Animal Sciences: : Research advisor of 1 undergraduate student (Kaitlyn Charles)
Douglass Project for Rutgers Women in the Sciences, Technology, Engineering and Math (S.T.E.M.) disciplines: Research advisor of 1 undergraduate student (Lynnicia Massenburg)
University of Ancona, Italy, Major in Marine Sciences: Research advisor of 1visiting undergraduate student (Alberto Domenighini)

Of these 53 undergraduate students, all graduated and one is current. Ten of these students graduated with honors theses (G. H. Cook Program), four were named Rutgers Undergraduate Research Fellows, one obtained a summer research fellowship from the former Institute of Marine and Coastal Sciences and three were named outstanding seniors in Marine and Coastal Sciences. Fourteen of these students are co-authors each of one or more peer-reviewed publication.

Postdoctoral Associates
Matteo Selci (2023-present)
Francesco Smedile (2016-18)
Donato Giovannelli (2013-16)

Fulbright Scholars
Sara Borin (2007)

High School Students
Liberty Science Center's Partner In Science Program: Research advisor of one high school student (Ronna Bansal)

Education and Outreach

NSF Center for Ocean Science Education Excellence. Works with the education staff at the Institute of Marine & Coastal Sciences at Rutgers University to translate vent research for K-12 and public audiences. Delivers lectures to science teachers and educators. Translate research to a public audience by (1) participating in established K-12 professional development programs offered by the NSF-sponsored Mid Atlantic Center for Ocean Science Education Excellence (MA COSEE: http://www.macosee.net/res_ed/guide4a.htm) and (2) by the creation of a "science page" in a major New Jersey newspaper as part of an established series highlighting research at IMCS.

NSF/RIDGE Student Experiments at Sea. Participant in the Student Experiments at Sea (SEAS) program, sponsored by NSF/RIDGE (http://ridge2000.bio.psu.edu/SEAS/). Offers guidance to students interested in designing experiments that then are carried out at sea during the course of oceanographic expeditions. SEAS is a pilot program for middle and high school students studying earth science, life

science, or other related subjects, who are interested in learning about real science and about the deep-sea environment.

NSF/IMCS Research Internships in Ocean Sciences. Participant, as a mentor, in the Research Internships in Ocean Sciences (RIOS) program, sponsored by NSF and Rutgers University's Institute of Marine and Coastal Sciences (http://www.marine.rutgers.edu/rios/). RIOS is a Summer Fellowship Program for undergraduate students. This ten-week research experience for undergraduates is designed to provide students with opportunities to explore and participate in ocean science research at IMCS.

"Partners in Science" Program. Participant in the "Partners in Science" Program (http://www.lsc.org/school_resources/partnersinscience/pis.home.html), in connection with the Liberty Science Center, Jersey City, NJ, by mentoring 10th to 12th grade students during the summer. This program is highly selective: first, the school must recommend the students, and then the Liberty Science Center puts them through a further selection process including a personal interview. The students are then assigned to a volunteer mentor and are expected to work 30-35 hours a week in the mentor's laboratory. At the end of the summer they are expected to present their research project to parents, mentors and other Partners in Science participants in a symposium at the Liberty Science Center, and to write report in the form of a journal article.

Deep-Sea Microbiology Lab Website. Costruction of a laboratory website, the Deep-Sea Microbiology Lab (https://marine.rutgers.edu/deep-seamicrobiology/index.html), to disseminate results from his research projects. This website was reviewed by the NSF-sponsored National Science Digital Library (NSDL) and reported to be "one of great quality and merit". The Deep-Sea Microbiology Lab website was featured in the October 15, 2004 issue of the NSDL Scout Report for the Life Sciences (Vol. 3, No. 21; https://scout.wisc.edu/report/nsdl/ls/2004/1015).

Service and Other Professional Activities

March 2024: Panelist, NASA Exobiology Panel (Early Life and Environments sub panel), virtual.

April 13, 2022: Chair, George H. Cook Scholars Program, Honor Thesis Symposium, Microbiology session, Rutgers University.

March 24, 2022 – Present: Associate Editor, Frontier in Microbiology - Extreme Microbiology.

August 4-9, 2019. Chair, NASA Habitable Worlds Panel, Detroit, MI.

July 2008 - June 2019: Director of Rutgers University's Undergraduate Program in Microbiology.

February 2017: *Ad hoc* reviewer for the Schmidt Ocean Institute.

January 14, 2017. Invited participant in the ELSI Origins Network (EON) Annual Meeting, Ours Inn Hankyu Oimachi Hotel, Tokyo, Japan.

January 11-13, 2017. Invited participant in the 5th ELSI (Earth-Life Science Institute) International Symposium: "Expanding Views on the Emergence of the Biosphere", Kuramae Hall, Tokyo Tech Front, Tokyo, Japan.

September 2016. Review panel, Schmidt Ocean Institute, Washington, DC.

February 2016. Review panel, National Science Foundation, Division of Molecular and Cellular Biosciences, Microbial Systems, Washington, DC.

January 12-15, 2016. Invited participant in the 4th ELSI International Symposium: "Early Earth, Venus & Mars. Three Experiments in Biological Origins", Kuramae Hall, Tokyo Tech Front, Tokyo, Japan.

April 20-22, 2015. Invited participant in the NOVAE Workshop: "Axial Volcano: Wired and Restless!", University of Washington, Seattle, WA.

March 16-18, 2015: Member of the Center for Microbial Oceanography: Research and Education (C-MORE) on site review panel, National Science Foundation, University of Hawaii at Manoa, Honolulu, HI.

March and August 2014, February 2015: *Ad hoc* reviewer for the Schmidt Ocean Institute.

July 2013: Review panel, National Science Foundation, Dimensions of Biodiversity program, Washington, DC.

November 2013. Member of the deep-submergence vehicle *Alvin* science verification cruise committee.

November 2012: Deep-submergence vehicle *Alvin* science verification cruise committee.

December 2010 – 2014: Invited lecturer in the training course "Deep-sea ecosystems and extreme environments". Universite Pierre et Marie Curie, Observatoire Oceanologique de Banyuls-sur-Mer, Banyuls-sur-Mer, France.

Spring 2010. Chair, Search Committee for a tenure-track faculty position in the Department of Biochemistry and Microbiology

June 15th – 17th, 2009, Sasbachwalden, Germany. Represented the US in the EU-sponsored CAREX Workshop: "Identification of Model Organisms in Extreme Environments".

2008-2010. Member of the RIDGE 2000 Executive Committee (http://www.ridge2000.org/science/info/stcom_bio.php).

2007-2010. Member of the RIDGE 2000 Steering Committee (http://www.ridge2000.org/science/info/stcom_bio.php).

October 2007: Dr. Vetriani led, in the capacity of Chief Scientist, a two-week deep-sea oceanographic expedition in the Gulf of California aboard the Research Vessel *Atlantis*. The expedition included sixteen dives in the deep-submergence vehicle *Alvin*, and it involved scientists from Rutgers University, Woods Hole Oceanographic Institution, University of Delaware, and University of Southern California.

Fall 2006. Member of the steering committee for the Spring symposium: "Small Matters: Microbes and Their Role in Conservation". American Museum of Natural History, New York, NY, April 26-27, 2007.

2006 – 2009 Councilor, Theobald Smith Society (New Jersey Branch of the American Society for Microbiology)

April-May 2005: Dr. Vetriani led, in the capacity of Chief Scientist, a three-week deep-sea oceanographic expedition in the Pacific Ocean aboard the Research Vessel *Atlantis*. The chief scientist is responsible for all science operations on board, and serves as liaison between the science party and the ship crew. This expedition was sponsored by one of Dr. Vetriani's NSF grants, and it involved scientists from Rutgers University, Woods Hole Oceanographic Institution, University of Delaware, Lamont Doherty Earth Observatory, and Scripps Institution of Oceanography. The expedition included sixteen dives in the deep-submergence vehicle *Alvin*, and hosted the Student Experiments at Sea (SEAS), an NSF/RIDGE-sponsored educational and outreach program (http://ridge2000.bio.psu.edu/SEAS/).

July 2006 – July 2012. Member of the Editorial Board, *FEMS Microbiology Ecology*.
September 2003 – September 2006. Member of the Editorial Board, *Aquatic Microbial Ecology*.
September 2004 – September 2007. Member of the Editorial Board, *Archaea*.

Frequent reviewer, averaging 10 to 20 manuscripts per year, for the following journals: *Applied and Environmental Microbiology, Environmental Microbiology, Deep-Sea Research*, *Environmental Microbiology, eLife, FEMS Microbiology Ecology*, *Geobiology, International Journal of Systematic and Evolutionary Microbiology, ISME Journal, Limnology and Oceanography, Marine Biology, Microbiology*, *Proceedings of the National Academy of Sciences USA, Science.*

Frequent reviewer, averaging 4 to 8 proposals per year, for the following funding agencies:
National Science Foundation, (mailed reviews): LExEn - Life in Extreme Environments; IBN - Ecological and Evolutionary Physiology; Biological Oceanography.
Schmidt Ocean Institute
NOAA, (mailed reviews): National Undersea Research Program; Office of Ocean Exploration.
Maryland Sea Grant Program; New Hampshire Sea Grant Program, (mailed reviews).
NASA, (mailed reviews): Astrobiology Program.
Genome Canada
Danish National Science Foundation

April 2003. Review panel, Department of Energy, NABIR Program.

2001-2003. Advisory board: Member of the science advisory board for the NSF/Rutgers University - sponsored Imax film, "Volcanoes of the Deep-Sea".

1999 and 2000. Invited Lecturer, "Extremophile Research: Theory and Techniques" workshop, Center of Marine Biotechnology

Science writer for "Il Corriere della Sera" (highest distribution Italian daily newspaper)

Memberships

- American Association for the Advancement of Science
- American Society for Limnology and Oceanography
- American Society for Microbiology

Oceanographic Expeditions

• R/V *Atlantis*, January 2024 - February 2024. DSV Alvin dives 5216-5231, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Shawn Arellano (Western Washington University); NSF-sponsored collaborative research project between Costantino Vetriani (Rutgers University), Lauren Mullineaux (WHOI) and Shawn Arellano (Western Washington University).
• R/V *Atlantis*, December 2022 - January 2023. DSV Alvin dives 5123-5142, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Shawn Arellano (Western Washington University); NSF-sponsored collaborative research project between Costantino Vetriani (Rutgers University), Lauren Mullineaux (WHOI) and Shawn Arellano (Western Washington University).
• Aeolian Islands, Italy, September 2017 and 2019. In collaboration with the Giovannelli Lab at the University of Napoli "Federico II". Microbial biofilm, sediment and porewater sampling of the shallow-water hydrothermal systems of Vulcano, Salina and Panarea Islands, Mediterranean Sea, Italy.
• N/O *L'Atalante*, July 2018. Mid-Atlantic Ridge, deep-sea hydrothermal vents sampling with ROV Victor. Chief scientist: Nadine Le Bris, Observatoire Océanologique de Banyuls sur mer, France.
• Tor Caldara, Italy, Summer 2015 & 2016. Microbial biofilm, sediment and gas sampling of the shallow-water gas vents of Tor Caldara, Mediterranean Sea, Italy.
• R/V *Atlantis*, December 2013 - January 2014. ROV Jason dives 758-762, East Pacific Rise, sampling at 9° and 13°N deep-sea hydrothermal vents. Chief scientist: Stefan Sievert, Woods Hole Oceanographic Institution.
• Milos island, Greece, May 2012. Sediment, porewater and microbial biofilm sampling of the shallow-water hydrothermal system of Paleochori Bay, Milos island, Greece. NSF-sponsored collaborative research project between C. Vetriani (Rutgers University), S. Sievert (WHOI) and D. Foustoukos (Carnegie Institution).
• L/S *Poseidon*, April/May 2011. ROV exploration and sampling of the hydrothermal systems of the Palinuro seamount and Panarea island, Italy. Chief scientist: Sven Petersen, IFM-GEOMAR, Kiel, Germany.
• N/O *L'Atalante/Nautile*, April/May 2010. DSV Nautile dives 1726-1730, East Pacific Rise, sampling at 9° and 13°N deep-sea hydrothermal vents. Chief scientist: Nadine Le Bris, Observatoire Océanologique de Banyuls sur mer, France.
• R/V *Atlantis/Alvin*, October 2008. DSV Alvin dives 4557-4462, Gulf of California, sampling at deep-sea vents in the Guaymas Basin. Chief scientist: Stefan Sievert, Woods Hole Oceanographic Institution.
• R/V *Atlantis/Alvin*, December 2007 - January 2008. DSV Alvin dives 4385-4398, East Pacific Rise, sampling at 9° and 13°N deep-sea hydrothermal vents. Chief scientist: Stefan Sievert, Woods Hole Oceanographic Institution.
• R/V *Atlantis/Alvin*, October 2007. DSV Alvin dives 4355-4359, Gulf of California, sampling at deep-sea vents in the Guaymas Basin. Chief scientist: Costantino Vetriani, Rutgers University.
• R/V *Atlantis/Alvin*, January - February 2007. DSV Alvin dives 4297-4318, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Timothy Shank, Woods Hole Oceanographic Institution.
• R/V *Atlantis/Alvin*, May 2005. DSV Alvin dives 4099-4113, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Costantino Vetriani (Rutgers University), Co-P.I.s: R. Lutz (Rutgers U.), G. Luther (U. Delaware), T. Shank (WHOI).
• R/V *Atlantis/Alvin*, April 2004. DSV *Alvin* dives 3996-3412, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Richard Lutz (Rutgers University), Co-PIs: C. Vetriani (Rutgers U.), G Luthers (U. Delaware), and T. Shank (WHOI).

• R/V *Atlantis/Alvin*, June/July 2001. DSV *Alvin* dives 3663-3682, Mid-Atlantic Ridge, sampling at six deep-sea hydrothermal vent sites. Chief scientist: Cindy L. Van Dover, College of William and Mary, Williamsburg, VA.
• R/V *Atlantis/Alvin*, April 2000. DSV *Alvin* dives 3440-3550, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Richard Lutz, Rutgers University, New Brunswick, NJ.
• R/V *Atlantis/Alvin*, November 1999. DSV *Alvin* dives 3488-3502, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Richard Lutz, Rutgers University, New Brunswick, NJ.
• R/V *Atlantis/Alvin*, May 1999. DSV *Alvin* dives 3394-3414, East Pacific Rise, sampling at 9°N deep-sea hydrothermal vents. Chief scientist: Craig Cary, University of Delaware, Lewes, DE.
• R/V *Atlantis/Alvin*, July 1997. DSV *Alvin* dives 3116-3133, Mid-Atlantic Ridge, sampling at seven deep-sea hydrothermal vent sites. Chief scientist: Robert Vrijenhoek, Rutgers University, New Brunswick, NJ.
• R/V *Atlantis/Alvin*, June 1997. DSV *Alvin* dives 3114-3115, Mid-Atlantic Ridge, sampling at Lucky Strike deep-sea hydrothermal vent. Chief scientist: Daniel Fornari, Woods Hole Oceanographic Institution, Woods Hole, MA.
• R/V *Oceanus*, July 1996. North Atlantic Abyssal Plain and Atlantis Canyon, deep-sea sediment and water sampling. Chief scientist: Holger Jannasch, Woods Hole Oceanographic Institution, Woods Hole, MA.
• R/V *Asterias*, July 1996. North Atlantic Continental Shelf, coastal sediment sampling. Chief scientist: Holger Jannasch, Woods Hole Oceanographic Institution, Woods Hole, MA.
• R/V *Atlantis II/Alvin*, June 1996. DSV *Alvin* dives 3075-3084, Long-term Ecosystem Observatory 2500 (LEO 2500), North Atlantic Continental Rise, deep-sea sediment sampling. Chief scientist: Frederick Grassle, Rutgers University, New Brunswick, NJ.
• SS/V *Corwith Cramer*, July 1995. North Atlantic Continental Shelf, coastal sediment and water sampling. Sea Education Association/Marine Biological Laboratory, Woods Hole, MA.

Research interests

Physiology and ecology marine microorganisms (deep-sea sediments, geothermal environments and hydrocarbon seeps). Evolution of microbial metabolism. Biophysical adaptations to extreme environments (thermophily; psychrophily; barophily).

Skills

SCUBA diving (35-year experience, teaching experience in diving schools).
Photography (Specialized in underwater photography, darkroom techniques).

Advisors

Ph. D Gianni Cesareni (University of Rome)

Postdoctoral Frank Robb (COMB, University of Maryland)
Holger Jannasch (Woods Hole Oceanographic Institution, deceased)
Anna-Louise Reysenbach (Portland State University)