

CURRICULUM VITAE

Angelina Lo Giudice, Ph.D.

Messina (Italy), 6th October 1974



Senior Researcher at the *Institute of Polar Sciences*
National Research Council (CNR-ISP), Spianata S. Raineri 86, 98122 Messina, Italy
Tel.: +390906015414

ERC Panels: *LS8 and LS9*
ORCID: *0000-0002-8842-083X*
SCOPUS: <https://www.scopus.com/authid/detail.uri?authorId=57202031230>

Main Research Fields

Research activities are mainly addressed to the study of the prokaryotic communities in polar environments. Particular attention is paid to:

- Microbial ecology (diversity and function) of aquatic and terrestrial systems
- Associations between prokaryotes and marine benthic filter-feeders
- Prokaryotes in the cryosphere
- Response by prokaryotic communities to human impact
- Biotechnological potential of cold-adapted bacteria
- Relationships between chemical contamination and prokaryotic biodiversity

Education

- 2013-2014, Research grant within the RITMARE Project
- 2007-2009, Post-Doc Research grant in *Environmental Sciences: Marine Environment and Resources*, University of Messina
- 2006, Ph.D. in *Environmental Sciences: Marine Environment and Resources* (XVII cycle), University of Messina
- 2001, Master Degree in Biology, University of Messina, 110 *cum laude*
- 1993, High School Diploma in Scientific Studies, Messina

Institutional Responsibilities

- 2022-present, member of the Committee for the Collection and Management of Antarctic samples of the PNRA-MIUR (Second mandate).
- 2021-present, within the Horizon 2020 EU-PolarNet 2 project, nominated expert of the Polar Expert Group (PEG) in Polar Biology, Ecology and Biodiversity for the prioritization of relevant Polar Research themes.
- 2021-present, member of the CNR working group for INTERACT III Program management at the Italian Station "Dirigibile Italia" (Ny-Ålesund, Svalbard Islands).
- 2021-2023, member of the CNR-DSSTTA working group for Biodiversity.
- 2021-present, Scientific Responsible for the Italian Collection of Antarctic Bacteria of the National Antarctic Museum (CIBAN-MNA), kept at the University of Messina.
- 2019-present, Responsible for the Laboratory "Microbial Ecology and Biotechnology" (EcoBiM)^(*) at the CNR-ISP, Messina.
- 2020-present, member of the CNR-ISP working group for INTERNATIONAL COOPERATION.
- 2019-present, member of the CNR-ISP working group for OUTREACH and COMMUNICATION.
- 2019-2022, she is member of the Executive Committee of the *Centro Universitario di Ricerca per lo Studio degli Ambienti Estremi e degli Estremofili "Francesco Maria Faranda"* of the Dept.

of Chemical, Biological, Pharmaceutical and Environmental Sciences of the University of Messina.

•2018-2022, she was member of the Committee for the Collection and Management of Antarctic samples of the PNRA-MIUR (First mandate).

On-going Research Projects

•**Ice2FLUX**: *Hydrological changes in Arctic Environments and water-driven biogeochemical FLUXes*, granted by Italian Arctic Research Program (PRA-MUR, PRA2021/0027), WP leader (2022-2024).

•**NBFC** “National Biodiversity Future Centre”, granted by the Piano Nazionale di Ripresa e Resilienza-PNRR (2022-2025).

•**BlueHealthy**: Bacterial and viruses as contaminants of Emerging concern in CALabrian marine environments: new tools for their occurrence, distribution and dynamics, CRIMAC project, WP leader (2021-2023).

•**EcoClimate**: *Nutrient cycling, ecosystem functioning and climate change in Arctic lake ecosystems*, granted by Italian Arctic Research Program (PRA-MUR), RU Component (2021-2024).

•**CIRCE**: *Searching for emerging Contaminants in Sub-Arctic rivers*, granted by the INTER-ACT (Funded by H2020) (Grant Agreement No. 730938), Project Coordinator (2021-2023).

•**SPRYNTT**: *Comparative study on Sponge-associated Prokaryotic communities in Rothera (Adelaide Island, Antarctic Peninsula) and Thetys Bay (Terra Nova Bay, Ross Sea) sub-littoral zones*, Transnational Access (TA) program of ASSEMBLE Plus (project n. 9713), Project Coordinator (2019-2021).

•**BIP**: *Benthic filter-feeding Invertebrates from the Arctic as accumulators of Pollutants and tolerant bacterial communities*, granted by the INTER-ACT (Funded by H2020) (Grant Agreement No. 730938), Project Coordinator (2020-2022).

•**DROP**: *Diversity of bacterial communities associated with sponges from wild populations and in coupling with fish aquaculture systems*, Transnational Access (TA) program of ASSEMBLE Plus (project n. 13490), Member of the Proposal Team (2020-2021).

•**Sym(b)iosis**: *Assaying Marine Benthic invertebrates in the Arctic for the associated Bacterial communities: diversity and biotechnological potential*, Transnational Access (TA) program of ASSEMBLE Plus (project n. 11142), Member of the Proposal Team (2020-2021).

•**POLAR SLIMY**: *Potential of Antarctic Sponges Mycale acerata and Dendrilla antarctica Mucus layer*, Transnational Access (TA) program of ASSEMBLE Plus (project n. 11145), Member of the Proposal Team (2020-2021).

•**CryoCarb** (PNRA18_00007): *Bacterial LPSs and EPSs structural features in response to temperature fluctuations in the Antarctic Sea*, Italian Antarctic Research Program (PNRA-MIUR), RU Responsible (2021-2023).

•**HABEAS** (PNRA18_00075): *Harnessing Antarctic Bacteria by systems biology Approaches*, Italian Antarctic Research Program (PNRA-MIUR), RU Component (2020-2022).

•**RESTORE** (PNRA18_00137): *Robotic-based investigation and monitoring Ross Sea*, Italian Antarctic Research Program (PNRA-MIUR), RU Component (2019-2021).

In the framework of several national and international research projects, Angelina Lo Giudice participated to sampling campaigns in Arctic (e.g., Arctic Norway and Svalbard Islands) and Antarctica areas, as well as to oceanographic cruises in the Mediterranean Sea.

Editorial Activity

Editorial and Review Boards:

•2022-2024, Associate Editor (AE) of *Polar Biology*

•2021-present, Associate Editor (AE) of *Frontiers in Marine Science: Section Marine Biotechnology*

- 2022-present, Review Editor (RE) of *Frontiers in Microbiology: Section Extreme Microbiology*
- 2019-present, Editorial Board Member (EBM) of *Diversity - Section Microbial Diversity and Culture Collections*
- 2019-present, Editorial Board Member (EBM) of *Microorganisms - Section Microbial Biotechnology*
- 2020-present, Reviewer Board Member (RBM) of *Marine Drugs*^(*)
- 2013-2021, Review Editor (RE) of *Frontiers in Marine Science: Section Marine Biotechnology*

Honours, Awards, Qualification, Scientific Societies

- 2021, Qualification for Supervisor on research vessels and activities in the fields at the National Research Council (CNR, Italy)
- 2020, Qualification for Laboratory Supervisor at the National Research Council (CNR, Italy)
- 2020-present, Qualification for Italian Red Cross (CRI) Volunteer
- 2016-2020, Associated Researcher at the Dept. of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, Messina, Italy
- 2015-2019, member of the *Comunità Scientifica di Riferimento* of the Stazione Zoologica Anton Dohrn in Naples, Italy
- 2015, Docufilm for *Rai Storia* to be presented at the Quirinale for the International Woman Day: “*Terra, Aria, Fuoco e Acqua: storie di quattro donne che lavorano con gli elementi della Natura per difendere il pianeta*”
- 2014-2023, Eligible for Associate Professor position in Ecology at Italian Universities
- 2014, *Vivia Bruni Award* of the SOROPTIMIST INTERNATIONAL CLUB in Messina (Italy)
- 2010, *Young Researcher Award* of the University of Messina (Italy) for the scientific production of highly ranked publications
- 2006-present, Expert in Microbial Ecology at the University of Messina (Italy)
- 2001-present, Qualification for Biologist, University of Messina (Italy)

Scientific Production

To date, Angelina Lo Giudice has published more than 100 papers (**listed in section A**) in ranked scientific journals, including *Physics of Life Reviews*, *Scientific Reports*, *Biotechnology Advances*, *Applied Microbiology and Biotechnology*, *Science of the Total Environment*, *Soil Biology and Biochemistry*, *PLOS One*, *Applied and Environmental Microbiology*, *Microbial Ecology*, more than 100 communications at national and international conferences/workshops/congresses, and 10 chapters on scientific monographs (**listed in section B**).

Angelina Lo Giudice has a Hirsch factor (H-index) of 29 and over 2100 citations (*source: Scopus*).

A) Publications on ISI International Journals

Research and Review papers on Polar topics

- [1] CITTERICH F., LO GIUDICE A., AZZARO M. (2023) A plastic world: a review of microplastic pollution in the freshwaters of the Earth's poles. *Science of the Total Environment* 8691:161847.
- [2] PAPALE M., CARUSO G., MAIMONE G., LA FERLA R., LO GIUDICE A., RAPPAZZO A.C., COSENZA A., AZZARO A., FERRETTI R., PARANHOS R., CABRAL A.S., CACCIA M., ODETTI A., ZAPPALÀ G., BRUZZONE G., AZZARO M. (2023) Microbial community abundance and metabolism close to the ice-water interface of the Blomstrandbreen glacier (Kongsfjorden, Svalbard): a sampling survey using an Unmanned Autonomous Vehicle. *Water* 15:556; doi: 10.3390/w15030556.
- [3] GUGLIELMIN M., AZZARO M., BUZZINI P., BATTISTEL D., ROMAN M., PONTI S., TURCHETTI B., SANNINO C., BORRUSO L., PAPALE M., LO GIUDICE A. (2023) A possible unique ecosystem in the endoglacial hypersaline brines in Antarctica. *Scientific Reports* 13:177; doi: 10.1038/s41598-022-27219-2.
- [4] RIZZO C., PERRIN E., POLI A., FINORE I., FANI R., LO GIUDICE A. (2022) Characterization of the exopolymer-producing *Pseudoalteromonas* sp. S8-8 from Antarctic sediment. *Applied*

Microbiology and Biotechnology, 106:7173–7185; doi:10.1007/s00253-022-12180-x.

- [5] AZZARO M., SPECCHIULLI A., MAIMONE G., AZZARO F., **LO GIUDICE A.**, PAPALE M., LA FERLA R., PARANHOS R. CABRAL A.S., RAPPAZZO A.C., RENZI M., CASTAGNO P., FALCO P., RIVARO P., CARUSO G. (2022) Trophic and microbial patterns in the Ross Sea area (Antarctica): spatial variability during the summer season. *Journal of Marine Science and Engineering* 10: 1666; <https://doi.org/10.3390/jmse10111666>.
- [6] **LO GIUDICE A.**, RIZZO C. (2022) Bacteria associated with benthic invertebrates from extreme marine environments: promising but underexplored sources of biotechnologically relevant molecules. *Marine Drugs* 20:617; <https://doi.org/10.3390/md20100617>.
- [7] AZZARO M., PAPALE M., RIZZO C., FORTE E., LENAZ D., GUGLIELMIN M., **LO GIUDICE A.** (2022) Antarctic salt-cones: an oasis of microbial life? The example of Boulder Clay Glacier (Northern Victoria Land). *Microorganisms* 10:1753.
- [8] RIZZO C., PAPALE M., **LO GIUDICE A.** (2022) *Idiomarina* sp. isolates from cold and temperate environments as biosurfactant producers. *Journal of Marine Science and Engineering* 10: 1135.
- [9] PAPALE M., RIZZO C., GIANNARELLI S., CARUSO G., AMALFITANO S., ASPHOLM P.E., MAIMONE G., MISEROCCHI S., RAPPAZZO, A.C., **LO GIUDICE A.**, AZZARO M. (2022) Benthic microbial communities in a seasonally ice-covered sub-Arctic river (Pasvik River, Norway) are shaped by site-specific environmental conditions. *Microorganisms* 10:1022. doi: 10.3390/microorganisms10051022.
- [10] CARUSO, G., PAPALE, M., AZZARO, M., RIZZO C., LAGANÀ P., CARUSO R., **LO GIUDICE A.** (2022) Antarctic Porifera homogenates as a source of enzymes and antibacterial substances: first results. *Polar Biology*, 45: 895–907. doi: 10.1007/s00300-022-03042-3.
- [11] Rizzo C., **LO GIUDICE A.** (2022) Life from a Snowflake: Diversity and Adaptation of Cold-Loving Bacteria among Ice Crystals. *Crystals* 12:312. doi: 10.3390/cryst12030312. **Review Article.**
- [12] PAPALE M., **LO GIUDICE A.**, RAPPAZZO A.C., AZZARO M., RIZZO C. (2022) A first glimpse on cold-adapted PCB-oxidizing bacteria in Edmonson Point lakes (Northern Victoria Land, Antarctica). *Water* 14:109. doi: 10.3390/w14010109.
- [13] **LO GIUDICE A.**, CONTE A., PAPALE M., RIZZO C., AZZARO M., GUGLIELMIN M. (2021) Prokaryotic diversity and metabolically active communities in brines from two perennially ice-covered Antarctic lakes. *Astrobiology* 21:551-565.
- [14] PAPALE M., RIZZO C., CARUSO G., AMALFITANO S., MAIMONE G., MISEROCCHI S., LA FERLA R., ASPHOLM P.E., DECEMBRINI F., AZZARO F., CONTE A., GRAZIANO G., RAPPAZZO A.C., **LO GIUDICE A.**, AZZARO M. (2021) Ice melt-induced variations of structural and functional traits of the aquatic microbial community along an Arctic river (Pasvik River, Norway). *Water* 13(16):2297. doi: 10.3390/w13162297.
- [15] PAPALE M., RIZZO C., CARUSO, G., LA FERLA R., MAIMONE G., **LO GIUDICE A.**, AZZARO M., GUGLIELMIN M. (2021) First insights into the microbiology of three Antarctic briny systems of the Northern Victoria Land. *Diversity* 13:323. doi: 10.3390/d13070323.
- [16] RIZZO C., ZAMMUTO V., **LO GIUDICE A.**, RIZZO M.G., SPANÒ A., LAGANÀ P., MARTINEZ M., GUGLIELMINO S., GUGLIANDOLO C. (2021) Antibiofilm activity of Antarctic sponge-associated bacteria against *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *Journal of Marine Science and Engineering* 9:243. doi: 10.3390/jmse9030243.
- [17] PARRILLI E., TEDESCO P., FONDI M., TUTINO M.L., **LO GIUDICE A.**, DE PASCALE D., FANI R. (2021) The art of adapting to extreme environments: the model system *Pseudoalteromonas*. *Physics of Life Reviews* 36:137-161. **Review Article.**
- [18] ZAMMUTO V., RIZZO M.G., DE PLANO L.M., FRANCO D., GUGLIELMINO S., CACCAMO M.T., MAGAZÙ S., FUJIMORI A., **LO GIUDICE A.**, GUGLIELMIN M., MCALPIN K.R., MOELLER R., GUGLIANDOLO C. (2020) Effects of heavy ion particle irradiation on spore germination of *Bacillus* spp. from extremely hot and cold environments. *Life* 10:264. doi:10.3390/life10110264.
- [19] LAURITANO C., RIZZO C., **LO GIUDICE A.**, SAGGIOMO M. (2020) Physiological and molecular responses to main environmental stressors of microalgae and bacteria in polar marine environments. *Microorganisms* 8:1957. doi:10.3390/microorganisms8121957. **Review**

Article.

- [20] PAPAIE M., RAPPAZZO A.C., MIKKONEN A., RIZZO C., MOSCHEO F., CONTE A., MICHAUD L., **LO GIUDICE A. (2020)** Bacterial diversity in a dynamic and extreme sub-Arctic watercourse (Pasvik River, Norwegian Arctic). *Water* 12: 3098. doi:10.3390/w12113098.
- [21] RIZZO C., **LO GIUDICE A. (2020)** The variety and inscrutability of polar environments as a resource of biotechnologically relevant molecules. *Microorganisms* 8:1422. **Review Article.**
- [22] PAPAIE M., RIZZO C., FANI R., BERTOLINO M., COSTA G., PAYTUVÍ-GALLART A., SCHIAPARELLI S., MICHAUD L., AZZARO M., **LO GIUDICE A. (2020)** Exploring the diversity and metabolic profiles of bacterial communities associated with Antarctic sponges (Terra Nova Bay, Ross Sea). *Frontiers in Ecology and Evolution* 8:268. doi: 10.3389/fevo.2020.00268.
- [23] RIZZO C., CONTE A., AZZARO M., PAPAIE M., RAPPAZZO A.C., BATTISTEL D., ROMAN M., **LO GIUDICE A.,** GUGLIELMIN M. (2020) Cultivable bacterial communities in brines from perennially ice-covered and pristine Antarctic lakes: ecological and biotechnological implications. *Microorganisms* 8:819.
- [24] RIZZO C., GUGLIANDOLO C., **LO GIUDICE A. (2020)** Exploring Mediterranean and Arctic environments as a novel source of bacteria producing antibacterial compounds to be applied in aquaculture. *Applied Sciences* 10:4006.
- [25] **LO GIUDICE A.,** POLI A., FINORE I., RIZZO C. (2020) Peculiarities of extracellular polymeric substances produced by Antarctic bacteria and their possible applications. *Applied Microbiology and Biotechnology* 104:2923–2934. **Invited Review Article.**
- [26] **LO GIUDICE A.,** CARUSO G., RIZZO C., PAPAIE M., AZZARO M. (2019) Bacterial communities versus anthropogenic disturbances in the Antarctic coastal marine environment. *Environmental Sustainability* 2:297-310. **Invited Review Article.**
- [27] RIZZO C., MALAVENDA R., GERÇE B. PAPAIE M., SYLDATK C., HAUSMANN R., BRUNI V., MICHAUD L., **LO GIUDICE A.,** AMALFITANO S. (2019). Effects of a simulated oil spill event on bacterial communities from Arctic and Antarctic marine sediments. *Microorganisms* 7:632.
- [28] SAVOCA S., **LO GIUDICE A.,** PAPAIE M., MANGANO S., CARUSO C., SPANÒ N., MICHAUD L., RIZZO C. (2019). Antarctic sponges from the Terra Nova Bay (Ross Sea) host a diversified bacterial community. *Scientific Reports* 9:16135. DOI:10.1038/s41598-019-52491-0.
- [29] PAPAIE M., **LO GIUDICE A.,** CONTE A., RIZZO C., RAPPAZZO C., MAIMONE G., CARUSO G., LA FERLA R., AZZARO M., GUGLIANDOLO C., PARANHOS R., CABRAL A.S., ROMANO SPICA V., GUGLIELMIN M. (2019) Microbial assemblages in pressurized Antarctic brine pockets (Tarn Flat, Northern Victoria Land): a hotspot of biodiversity and activity. *Microorganisms* 7:333.
- [30] CAPUTO S., PAPAIE M., RIZZO C., GIANNARELLI S., CONTE A., MOSCHEO F., GRAZIANO M., ASPHOLM P.E., ONOR M., DE DOMENICO E., MISEROCCHI S., MICHAUD L., AZZARO M., **LO GIUDICE A. (2019)** Heavy metal resistance in bacteria from contaminated Arctic sediment is driven by heavy metal local inputs. *Archives of Environmental Contamination and Toxicology* 77:291-307.
- [31] RAPPAZZO A.C., PAPAIE M., RIZZO C., CONTE A., GIANNARELLI S., ONOR M., ABETE C., CEFALI P., DE DOMENICO E., MICHAUD L., **LO GIUDICE A. (2019)** Heavy metal tolerance and polychlorinated biphenyl oxidation in bacterial communities inhabiting the Pasvik River and the Varanger Fjord area (Arctic Norway). *Marine Pollution Bulletin* 141:535-549.
- [32] CARUSO C., RIZZO C., MANGANO S., POLI A., DI DONATO P., NICOLAUS B., FINORE I., DI MARCO G., MICHAUD L., **LO GIUDICE A. (2019)** Isolation, characterization, and optimization of extracellular polymeric substances produced by a cold-adapted *Marinobacter* isolate from Antarctic seawater. *Antarctic Science* 31:69-79.
- [33] MANGANO S., CARUSO C., MICHAUD L., **LO GIUDICE A. (2018)** First evidence of quorum sensing activity in bacteria associated with Antarctic sponges. *Polar Biology* 41:1435-1445.
- [34] LAGANÀ P., VOTANO L., CARUSO G., AZZARO M., **LO GIUDICE A.,** DELIA S. (2018) Bacterial isolates from the Arctic region (Pasvik River, Norway): assessment of biofilm production and antibiotic susceptibility profiles. *Environmental Science and Pollution Research* 25:1089-1102.
- [35] PAPAIE M., CONTE A., MIKKONEN A., MICHAUD L., LA FERLA R., AZZARO M., CARUSO G., PARANHOS R., ANDERSOND S.C., MAIMONE G., RAPPAZZO A.C., RIZZO C., SPANÒ N., **LO GIUDICE A.,** GUGLIELMIN M.

- (2018) Prokaryotic assemblages within permafrost active layer at Edmonson Point (Northern Victoria Land, Antarctica). *Soil Biology and Biochemistry* 123:165–179.
- [36] CONTE A., PAPALE M., AMALFITANO S., MIKKONEN A., RIZZO C., DE DOMENICO E., MICHAUD L., **LO GIUDICE A.** (2018) Bacterial community structure along the subtidal sandy sediment belt of a high Arctic fjord (Kongsfjorden, Svalbard Islands). *Science of the Total Environment* 619-620:203-211.
- [37] **LO GIUDICE A.**, RIZZO C. (2018) Bacteria associated with marine benthic invertebrates from polar environments: unexplored frontiers for biodiscovery? *Diversity* 10:80. **Invited Feature Paper.**
- [38] CARUSO C., RIZZO C., MANGANO S., POLI A., DI DONATO P., NICOLAUS B., DI MARCO G., MICHAUD L., **LO GIUDICE A.** (2018) Extracellular polymeric substances with metal adsorption capacity produced by *Pseudoalteromonas* sp. MER144 from Antarctic seawater. *Environmental Science and Pollution Research* 25:4667-4677.
- [39] CARUSO C., RIZZO C., MANGANO S., POLI A., DI DONATO P., FINORE I., NICOLAUS B., DI MARCO G., MICHAUD L., **LO GIUDICE A.** (2018) Production and biotechnological potentialities of extracellular polymeric substances from sponge-associated Antarctic bacteria. *Applied and Environmental Microbiology* 84:e01624-17.
- [40] BOSI E., FONDI M., ORLANDINI V., PERRIN E., MAIDA I., DE PASCALE D., TUTINO M.L., PARRILLI E., **LO GIUDICE A.**, FILLoux A., FANI R. (2017) The pangenome of (Antarctic) *Pseudoalteromonas* bacteria: evolutionary and functional insights. *BMC Genomics* 18:93.
- [41] LA FERLA R., AZZARO M., MICHAUD L., CARUSO G., **LO GIUDICE A.**, PARANHOS R., CABRAL A.S., CONTE A., COSENZA A., MAIMONE G., PAPALE M., RAPPAZZO A.C., GUGLIELMIN M. (2017) Prokaryotic abundance and activity in permafrost of the Northern Victoria Land and Upper Victoria Valley (Antarctica). *Microbial Ecology* 74:402-415.
- [42] MOCALI S., CHIELLINI C., FABIANI A., DECUZZI S., DE PASCALE D., PARRILLI E., TUTINO M.L., PERRIN E., BOSI E., FONDI M., **LO GIUDICE A.**, FANI R. (2017) Ecology of cold environments: New insights of bacterial metabolic adaptation through an integrated genomic-phenomic approach. *Scientific Reports* 7:839.
- [43] PAPALE M., RIZZO C., VILLESUSA J.A., ROCHERA C., CAMACHO A., MICHAUD L., **LO GIUDICE A.** (2017) Prokaryotic assemblages in the maritime Antarctic Lake Limnopolar (Byers Peninsula, South Shetland Islands). *Extremophiles* 21:947:961.
- [44] PAPALE M., GIANNARELLI S., FRANCESCONI S., DI MARCO G., MIKKONEN A., CONTE A., RIZZO C., DE DOMENICO E., MICHAUD L., **LO GIUDICE A.** (2017) Enrichment, isolation and biodegradation potential of psychrotolerant polychlorinated-biphenyl degrading bacteria from the Kongsfjorden (Svalbard Islands, High Arctic Norway). *Marine Pollution Bulletin* 114:849–859.
- [45] GUGLIANDOLO C., MICHAUD L., **LO GIUDICE A.**, LENTINI V., ROCHERA C., CAMACHO A., MAUGERI T.L. (2016) Prokaryotic Community in Lacustrine Sediments of Byers Peninsula (Livingston Island, Maritime Antarctica). *Microbial Ecology* 71:387-400.
- [46] PRESTA L., INZUCCHI I., BOSI E., FONDI M., PERRIN E., MAIDA I., MICELI E., TUTINO M.L., **LO GIUDICE A.**, DE PASCALE D., FANI R. (2016) Draft genome sequences of the antimicrobial producers *Pseudomonas* sp. TAA207 and *Pseudomonas* sp. TAD18 isolated from Antarctic sediments. *Genome Announcements* 4:e00728-16.
- [47] PRESTA L., INZUCCHI I., BOSI E., FONDI M., PERRIN E., MICELI E., TUTINO M.L., **LO GIUDICE A.**, DE PASCALE D., FANI R. (2016) Draft genome sequence of *Flavobacterium* sp. strain TAB 87, able to inhibit the growth of cystic fibrosis bacterial pathogens belonging to the *Burkholderia cepacia* complex. *Genome Announcements* 4:e00410-16.
- [48] BOSI E., FONDI M., MAIDA I., PERRIN E., DE PASCALE D., TUTINO M.L., PARRILLI E., **LO GIUDICE A.**, FILLoux A., FANI R. (2015) Genome-scale phylogenetic and DNA composition analyses of Antarctic *Pseudoalteromonas* bacteria reveal inconsistencies in current taxonomic affiliation. *Hydrobiologia* 761:85-95.
- [49] **LO GIUDICE A.**, FANI R. (2015) Cold-adapted bacteria from a coastal area of the Ross Sea (Terra Nova Bay, Antarctica): linking microbial ecology to biotechnology. *Hydrobiologia*

761:417-441. **Review Article.**

- [50] LA FERLA R., MAIMONE G., **LO GIUDICE A.**, AZZARO F., COSENZA A., AZZARO M. (2015) Cell size and other phenotypic traits of prokaryotic cells in pelagic areas of the Ross Sea (Antarctica). *Hydrobiologia* 761:181–194.
- [51] MALAVENDA R., RIZZO C., MICHAUD L., GERÇE B., BRUNI V., SYLDATK C., HAUSMANN R., **LO GIUDICE A.** (2015) Biosurfactant production by Arctic and Antarctic bacteria growing on hydrocarbons. *Polar Biology* 38:1565–1574.
- [52] MAIDA I., BOSI E., FONDI M., PERRIN E., ORLANDINI V., PAPALEO M.C., MENGONI A., DE PASCALE D., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, FANI R. (2015) Antimicrobial activity of *Pseudoalteromonas* strains isolated from the Ross Sea (Antarctica) vs Cystic Fibrosis opportunistic pathogens. *Hydrobiologia* 761:443–457.
- [53] FONDI M., ORLANDINI V., PERRIN E., MAIDA I., BOSI E., PAPALEO M.C., MICHAUD L., **LO GIUDICE A.**, DE PASCALE D., TUTINO M.L., LIÒ P., FANI R. (2014) Draft genomes of three Antarctic *Psychrobacter* strains known to have antimicrobial activity against *Burkholderia cepacia* complex opportunistic pathogens. *Marine Genomics* 13:37–38.
- [54] MAIDA I., FONDI M., PAPALEO M.C., PERRIN E., ORLANDINI V., EMILIANI G., DE PASCALE D., PARRILLI E., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, ROMOLI R., BARTOLUCCI G., FANI R. (2014) Phenotypic and genomic characterization of the Antarctic bacterium *Gillisia* sp. CAL575, a producer of antimicrobial compounds. *Extremophiles* 18:35–49.
- [55] MANGANO S., MICHAUD L., CARUSO C., **LO GIUDICE A.** (2014) Metal and antibiotic-resistance in psychrotrophic bacteria associated with the Antarctic sponge *Hemigellius pilosus* (Kirkpatrick, 1907). *Polar Biology* 37:227–235.
- [56] MICHAUD L., **LO GIUDICE A.**, MYSARA M., MONSIEURS P., RAFFA C., LEYS N., AMALFITANO S., VAN HOUTD R. (2014) Snow surface microbiome on the high Antarctic Plateau (DOME C). *PLoS ONE* 9(8):e104505.
- [57] ORLANDINI V., MAIDA I., FONDI M., PERRIN E., PAPALEO M.C., BOSI E., DE PASCALE D., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, FANI R. (2014) Genomic analysis of three sponge-associated *Arthrobacter* Antarctic strains, inhibiting the growth of *Burkholderia cepacia* complex bacteria by synthesizing volatile organic compounds. *Microbiological Research* 169:593–601.
- [58] ROMOLI R., PAPALEO M.C., DE PASCALE D., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, FANI R., BARTOLUCCI G. (2014) GC-MS volatolomic approach to study the antimicrobial activity of the Antarctic bacterium *Pseudoalteromonas* sp. TB41. *Metabolomics* 10:42–51.
- [59] **LO GIUDICE A.**, CASELLA P., BRUNI V., MICHAUD L. (2013) Response of bacterial isolates from Antarctic shallow sediments towards heavy metals, antibiotics and polychlorinated biphenyls. *Ecotoxicology* 22:240–250.
- [60] PAPALEO M.C., ROMOLI R., BARTOLUCCI G., MAIDA I., PERRIN E., FONDI M., ORLANDINI V., MENGONI A., EMILIANI G., TUTINO M.L., PARRILLI E., DE PASCALE D., MICHAUD L., **LO GIUDICE A.**, FANI R. (2013) Bioactive volatile organic compounds from Antarctic (sponges) bacteria. *New Biotechnology* 30:824–838.
- [61] VAN HOUTD R., DEGHORAIN M., VERMEERSCH M., PROOVOST A., **LO GIUDICE A.**, LEYS N., PEREZ-MORGA D., VAN MELDEREN L., MICHAUD L. (2013) Characterization of culturable *Paenibacillus* spp. from the snow surface on the high Antarctic Plateau (DOME C) and their dissemination in the Concordia research station. *Extremophiles* 17:565–573.
- [62] FONDI M., ORLANDINI V., MAIDA I., PERRIN E., PAPALEO M.C., EMILIANI G., DE PASCALE D., PARRILLI E., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, FANI R. (2012) The draft genome of the VOCs-producing Antarctic bacterium *Arthrobacter* sp. TB23 able to inhibit Cystic Fibrosis pathogens belonging to the *Burkholderia cepacia* complex. *Journal of Bacteriology* 194:6334–6335.
- [63] **LO GIUDICE A.**, CARUSO C., MANGANO S., BRUNI V., DE DOMENICO M., MICHAUD L. (2012) Marine bacterioplankton diversity and community composition in an Antarctic coastal environment. *Microbial Ecology* 63 210–223.
- [64] MICHAUD L., CARUSO C., MANGANO S., INTERDONATO F., BRUNI V., **LO GIUDICE A.** (2012)

Predominance of *Flavobacterium*, *Pseudomonas* and *Polaromonas* within the prokaryotic community of freshwater shallow lakes in the northern Victoria Land, East Antarctica. *FEMS Microbiology Ecology* 82:391-404.

- [65] PAPALEO M.C., FONDI M., MAIDA I., PERRIN E., **LO GIUDICE A.**, MICHAUD L., MANGANO S., BARTOLUCCI G., ROMOLI R., FANI R. (2012) Sponge-associated microbial Antarctic communities exhibiting antimicrobial activity against *Burkholderia cepacia* complex bacteria. *Biotechnology Advances* 30:272-293.
- [66] ROMOLI R., PAPALEO M.C., DE PASCALE D., TUTINO M.L., MICHAUD L., **LO GIUDICE A.**, FANI R., BARTOLUCCI G. (2011) Characterization of the volatile profile of Antarctic bacteria by using solid-phase microextraction - gas chromatography mass spectrometry. *Journal of Mass Spectrometry* 46:1051-1059.
- [67] BALDI F., MARCHETTO D., PINI F., FANI R., MICHAUD L., **LO GIUDICE A.**, BERTO D., GIANI M. (2010) Biochemical and microbial features of shallow marine sediments along the Terra Nova Bay (Ross Sea, Antarctica). *Continental Shelf Research* 30:1614-1625.
- [68] CRISAFI E., AZZARO M., **LO GIUDICE A.**, MICHAUD L., LA FERLA R., MAUGERI T.L., DE DOMENICO M., AZZARO F., ACOSTA POMAR M.L.C., BRUNI V. (2010) Microbiological characterization of a semi-enclosed sub-Antarctic environment: the Straits of Magellan. *Polar Biology* 33:1485-1504.
- [69] **LO GIUDICE A.**, CASELLA P., CARUSO C., MANGANO S., BRUNI V., DE DOMENICO M., MICHAUD L. (2010) Occurrence and characterization of psychrotolerant hydrocarbon-oxidizing bacteria from surface seawater along the Victoria Land coast (Antarctica). *Polar Biology* 33:929-943.
- [70] MANGANO S., MICHAUD L., CARUSO C., BRILLI M., BRUNI V., FANI R., **LO GIUDICE A.** (2009) Antagonistic interactions among psychrotrophic cultivable bacteria isolated from Antarctic sponges: a preliminary analysis. *Research in Microbiology* 160:27-37.
- [71] **LO GIUDICE A.**, BRILLI M., BRUNI V., DE DOMENICO M., FANI R., MICHAUD L. (2007) Bacterium-bacterium inhibitory interactions among psychrotrophic bacteria isolated from Antarctic seawaters (Terra Nova Bay, Ross Sea). *FEMS Microbiology Ecology* 60:383-396.
- [72] **LO GIUDICE A.**, BRUNI V., MICHAUD L. (2007) Characterization of Antarctic psychrotrophic bacteria with antibacterial activities against terrestrial microorganisms. *Journal of Basic Microbiology* (Special Issue: Bio-Geo-Interactions) 47:496-505.
- [73] MICHAUD L., DI MARCO G., BRUNI V., **LO GIUDICE A.** (2007) Biodegradative potential and characterization of psychrotolerant polychlorinated biphenyl-degrading marine bacteria isolated from a coastal station in the Terra Nova Bay (Ross Sea, Antarctica). *Marine Pollution Bulletin* 54:1754-1761.
- [74] PINI F., GROSSI C., NEREO S., MICHAUD L., **LO GIUDICE A.**, BRUNI V., BALDI F., FANI R. (2007) Molecular and physiological characterisation of psychrotrophic hydrocarbon-degrading bacteria isolated from Terra Nova Bay (Antarctica). *European Journal of Soil Biology* 43:368-379.
- [75] **LO GIUDICE A.**, MICHAUD L., DE PASCALE D., DE DOMENICO M., DI PRISCO G., FANI R., BRUNI V. (2006) Lipolytic activity of Antarctic cold-adapted marine bacteria (Terra Nova Bay, Ross Sea). *Journal of Applied Microbiology* 101:1039-1048.
- [76] DE DOMENICO M., **LO GIUDICE A.**, MICHAUD L., SAITTA M., BRUNI V. (2004) Diesel oil and PCB-degrading bacteria isolated from Antarctic seawaters (Terra Nova Bay, Ross Sea). *Polar Research* 23:141-146.
- [77] MICHAUD L., **LO GIUDICE A.**, SAITTA M., DE DOMENICO M., BRUNI V. (2004) The biodegradation efficiency on diesel oil by two psychrotrophic Antarctic marine bacteria during a two-month-long experiment. *Marine Pollution Bulletin* 49:405-409.
- [78] MICHAUD L., DI CELLO F., BRILLI M., FANI R., **LO GIUDICE A.**, BRUNI V. (2004) Biodiversity of cultivable Antarctic psychrotrophic marine bacteria isolated from Terra Nova Bay (Ross Sea). *FEMS Microbiology Letters* 230:63-71.

Research and Review Papers on bacteria associated with Mediterranean benthic invertebrates

- [79] RIZZO C., **LO GIUDICE A.** (2018) Marine invertebrates: underexplored sources of bacteria producing biologically active molecules. *Diversity* 10:52. **Review Article.**

- [80] RIZZO C., SYLDATK C., HAUSMANN R., GERÇE B., LONGO C., PAPALE M., CONTE A., DE DOMENICO E., MICHAUD L., **LO GIUDICE A.** (2018) The demosponge *Halichondria (Halichondria) panicea* (Pallas, 1766) as a novel source of biosurfactant-producing bacteria. *Journal of Basic Microbiology* 58:532-542.
- [81] RIZZO C., RAPPAZZO A.C., MICHAUD L., DE DOMENICO E., ROCHERA C., CAMACHO A., **LO GIUDICE A.** (2018) Efficiency in hydrocarbon degradation and biosurfactant production by *Joostella* sp. A8 when grown in pure culture and consortia. *Journal of Environmental Sciences* 67:115-126.
- [82] GRAZIANO M., RIZZO C., MICHAUD L., PORPORATO E.M.D., DE DOMENICO E., SPANÒ N., **LO GIUDICE A.** (2016) Biosurfactant production by hydrocarbon-degrading *Brevibacterium* and *Vibrio* isolates from the sea pen *Pteroeides spinosum* (Ellis, 1764). *Journal of Basic Microbiology* 56:963–974.
- [83] RIZZO C., MICHAUD L., GRAZIANO M., DE DOMENICO E., SYLDATK C., HAUSMANN R., **LO GIUDICE A.** (2015) Biosurfactant activity, heavy metal tolerance and characterization of *Joostella* strain A8 from the Mediterranean polychaete *Megalomma claparedei* (Gravier, 1906). *Ecotoxicology* 24:1294-1304.
- [84] RIZZO C., MICHAUD L., SYLDATK C., HAUSMANN R., DE DOMENICO E., **LO GIUDICE A.** (2014) Influence of salinity and temperature on the activity of biosurfactants by polychaete-associated isolates. *Environmental Science and Pollution Research* 21:2988–3004.
- [85] RIZZO C., MICHAUD L., HÖRMANN B., GERÇE B., SYLDATK C., HAUSMANN R., DE DOMENICO E., **LO GIUDICE A.** (2013) Bacteria associated with Sabellids (Polychaeta: Annelida) as a novel source of surface active compounds. *Marine Pollution Bulletin* 70:125-133.
- [86] PORPORATO E.M.D., **LO GIUDICE A.**, MICHAUD L., DE DOMENICO E., SPANÒ N. (2013) Diversity and antibacterial activity of the bacterial communities associated with two Mediterranean sea pens, *Pennatula phosphorea* and *Pteroeides spinosum* (Anthozoa: Octocorallia). *Microbial Ecology* 66:701-714.

Other topics (deep-sea, extremophiles, aquaculture)

- [87] MAMMOLA S., FUKUSHIMA C.S., BIONDO G., BONGIORNI L., CIANFERONI F., DOMENICI P., FRUCIANO C., **LO GIUDICE A.**, MACÍAS-HERNÁNDEZ N., MALUMBRES-OLARTE J., MILIČIĆ M., MORGANTI M., MORI E., MUNÉVAR A., POLLEGIONI P., ROSATI I., TENAN S., URBANO-TENORIO F., FONTANETO D., CARDOSO P. (2023) How much biodiversity is concealed in the word “biodiversity”? *Current Biology* 33(2):R59-R60.
- [88] FLORIS R., SANNA G., MURA L., FIORI M., CULURGIONI J., DICIOTTI R., RIZZO C., **LO GIUDICE A.**, LAGANÀ P., FOIS N. (2021) Mediterranean grey mullets intestinal microbiota: isolation and identification of bacteria with surfactant and antibacterial activities. *Microorganisms* 9(12): 2555. doi: 10.3390/microorganisms9122555.
- [89] RIZZO C., CALDARONE B., DE LUCA M., DE DOMENICO E., **LO GIUDICE A.** (2021) Native bilge water bacteria as biosurfactant producers and implications in hydrocarbon-enriched wastewater treatment. *Journal of Water Process Engineering* 43:102271. doi: 10.1016/j.jwpe.2021.102271.
- [90] PAPALE M., ROMANO I., FINORE I., **LO GIUDICE A.**, PICCOLO A., CANGEMI S., DI MEIO V., NICOLAUS B., POLI A. (2021) Prokaryotic diversity of the composting thermophilic phase: the case of ground coffee-compost. *Microorganisms* 9:218. doi: 10.3390/microorganisms9020218.
- [91] DE LEO F., LO GIUDICE A., ALAIMO C., DE CARLO G., RAPPAZZO A.C., GRAZIANO M., DE DOMENICO E., URZÌ C. (2019) Occurrence of the black yeast *Hortaea werneckii* in the Mediterranean Sea. *Extremophiles* 23:9-17.
- [92] RAFFA C., RIZZO C., STROUS M., DE DOMENICO E., SANFILIPPO M., MICHAUD L., LO GIUDICE A. (2019) Prokaryotic dynamics in the meromictic coastal Lake Faro (Sicily, Italy). *Diversity* 11:37.
- [93] PAPALE M., CONTE A., DEL CORE M., ZITO E., SPROVIERI M., DE LEO F., RIZZO C., URZÌ C., DE DOMENICO E., LUNA G.M., MICHAUD L., LO GIUDICE A. (2018) Heavy-metal tolerant microorganisms in sediments from submarine canyons and the adjacent continental slope in the northeastern Ligurian margin (Western Mediterranean Sea). *Progress in Oceanography* 168: 155–168.

- [94] CARUSO G., PEDÀ C., CAPPELLO S., LEONARDI M., LA FERLA R., **LO GIUDICE A.**, MARICCHIOLO G., RIZZO C., MAIMONE G., RAPPAZZO A.C., GENOVESE L., ROMEO T. (2018) Microplastics in the marine environment: effects on trophic parameters and abundance, taxonomy and metabolic activities of seawater and fish intestinal bacteria. *Environmental Science and Pollution Research* 25: 30067–30083.
- [95] CAPILLO G., SAVOCA S., COSTA R., SANFILIPPO M., RIZZO C., **LO GIUDICE A.**, ALBERGAMO A., RANDO R., BARTOLOMEO G., SPANÒ N., FAGGIO C. (2018) New insights into the culture method and antibacterial potential of *Gracilaria gracilis*. *Marine Drugs* 16, 492; DOI:10.3390/MD16120492.
- [96] FLORIS R., SCANU G., FOIS N., RIZZO C., MALAVENDA R., SPANÒ N., **LO GIUDICE A.** (2018) Intestinal bacterial flora of Mediterranean gilthead seabream (*Sparus aurata*, L.) as a novel source of natural surface active compounds. *Aquaculture Research* 49:1262–1273.
- [97] LEON C.G., MORAGA R., VALENZUELA C., GUGLIANDOLO C., **LO GIUDICE A.**, PAPALE M., VILO C., DONG Q., SMITH C.T., ROSSELLO-MORA R., YAÑEZ J., CAMPOS V.L. (2018) Effect of the natural arsenic gradient on the diversity and arsenic resistance of bacterial communities of the sediments of Camarones River (Atacama Desert, Chile). *PLoS One* 13:e0195080.
- [98] MICHAUD L., **LO GIUDICE A.**, INTERDONATO F., TRIPLET S., YING L., BLANCHETON J.P. (2014) C/N ratio-induced structural shift of bacterial communities inside lab-scale aquaculture biofilters. *Aquacultural Engineering* 58:77-87.
- [99] ZACCONE R., CARUSO G., AZZARO M., AZZARO F., CRISAFI E., DECEMBRINI F., DE DOMENICO E., DE DOMENICO M., LA FERLA R., LEONARDI M., **LO GIUDICE A.**, MAIMONE G., MANCUSO M., MICHAUD L., MONTICELLI L.S., RAFFA F., RUGGERI G., BRUNI V. (2010) Prokaryotic activities and abundance in pelagic areas of the Ionian Sea. *Chemistry and Ecology* 26:169-197.
- [100] MICHAUD L., **LO GIUDICE A.**, TROUSSELLIER M., SMEDILE F., BRUNI V., BLANCHETON J.P. (2009) Phylogenetic characterization of the heterotrophic bacterial communities inhabiting a marine Recirculating Aquaculture System. *Journal of Applied Microbiology* 107:1935–1946.
- [101] LA FERLA R., **LO GIUDICE A.**, MAIMONE G. (2004) Morphology and LPS content for the estimation of the bacterial biomass in the Ionian Sea. *Scientia Marina* 68:23-31.

B) Monographs and Books

Co-authors of chapters in international monographs

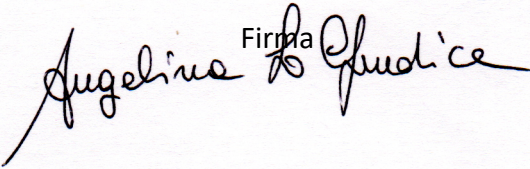
- [1] RIZZO C., PAPALE M., **LO GIUDICE A.** (2021) New Trends in Antarctic Bioprospecting: The Case of Cold-adapted Bacteria. In *Extreme Environments Unique Ecosystems – Amazing Microbes*, Pandey A. and Sharma A. (Eds.), CRC Press, Taylor and Francis Group, Chapter 7, pp. 116-139. **Invited Chapter.**
- [2] **LO GIUDICE A.**, AZZARO M. (2019) Diversity and ecological roles of prokaryotes in the changing Antarctic marine environment. In *The Ecological Role of micro-organisms in the Antarctic Environment*, Castro Sowinski (Ed.), Springer Polar Sciences, Springer Nature Switzerland, Chapter 6, pp. 109-131. **Invited Chapter.**
- [3] **LO GIUDICE A.**, AZZARO M., SCHIAPARELLI S. (2019) Microbial symbionts of Antarctic marine benthic invertebrates. In *The Ecological Role of micro-organisms in the Antarctic Environment*, Castro Sowinski (Ed.), Springer Polar Sciences, Springer Nature Switzerland, Chapter 13, pp. 277-296. **Invited Chapter.**
- [4] FLORIS R., RIZZO C., **LO GIUDICE A.** (2018) Biosurfactants from marine microorganisms. Bacteriology. In *Metabolomics - New Insights into Biology and Medicine*, Prof. Wael Nabil Hozzein (Ed.), IntechOpen, DOI: 10.5772/intechopen.80493.
- [5] **LO GIUDICE A.**, RIZZO C. (2015) Protocols for investigating hydrocarbon-oxidizing bacterial communities in polar seas and ice. In *Hydrocarbon and Lipid Microbiology Protocols*, Springer Protocols Handbooks, McGenity T.J., Timmis K.N., Nogales B. (Eds.), Springer Heidelberg, Berlin. pp. 1-18. **Invited Chapter.**
- [6] **LO GIUDICE A.**, FANI R. (2016) Antimicrobial potential of cold-adapted bacteria and fungi from Polar Regions. In *Biotechnology of Extremophiles: Advances and Challenges*, Springer series "Grand Challenges in Biotechnology", Rampelotto P.H. (Ed.), Springer Switzerland, Chapter

3, pp. 83-115. **Invited Chapter.**

- [7] FONDI M., BOSI E., **LO GIUDICE A.**, FANI R. (2016) A systems biology view on bacterial response to temperature shift. In *Biotechnology of Extremophiles: Advances and Challenges*, Springer series "Grand Challenges in Biotechnology", Rampelotto P.H. (Ed.), Springer Switzerland, Chapter 21, pp. 597-618.
- [8] MICHAUD L., GIANNARELLI S., AZZARO M., **LO GIUDICE A.** (2015) Finding cold-adapted bacteria to combat organic pollutants in the Arctic. In *INTERACT Stories of Arctic Science*, Eds. Callaghan, T.V. and Savelle, H. DCE – Danish Centre for Environment and Energy, Aarhus University, Denmark, pp. 142-143. **Invited contribution to monograph.**
- [9] **LO GIUDICE A.**, BRUNI V., MICHAUD L. (2010) Potential for microbial biodegradation of polychlorinated biphenyls in Polar environments. In *Polar Microbiology: the Ecology, Diversity and Bioremediation Potential of Microorganisms in Extremely Cold Environments*, Bej A.K., Aislabie J., Atlas R.M. (Eds.), CRC Press, Taylor and Francis Group, Chapter 11, pp. 255-275. **Invited Chapter.**
- [10] **LO GIUDICE A.**, BRUNI V., DE DOMENICO M., MICHAUD L. (2010) Psychrophiles-Cold-adapted hydrocarbon-degrading microorganisms. In *Handbook of Hydrocarbon and Lipid Microbiology*, Timmis K.N. (Ed.), Springer Heidelberg Berlin, Vol 3, pp. 1897-1922. **Invited Chapter.**

Data e Luogo

Messina, 13/03/2023



Handwritten signature of Angelina Lo Giudice. The signature is written in black ink on a white background. The word "Firma" is written in small black text above the signature. The signature itself is a cursive script that reads "Angelina Lo Giudice".