

Curriculum vitae et studiorum

MARIA PAPALE

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Personal information

Date and Place of birth: 28 May 1987, Messina, Italy

Nationality: Italian

Spoken languages: Italian (mother language), English (fluent) and Spanish (fluent)

Projects and Research grant

2020

Research grant with the Institute of Polar Science (ISP-CNR), in the field of PNRA project PNRA18_00194 “Microbial response to human Pollutants in polAr lakeS, MicroPolArS”, from the 15 July 2020, currently taking place.

2019

Winner of the Italian PNRA (National Research Program in Antarctica) with the project titled “Microbial response to human Pollutants in polAr lakeS, MicroPolArS”, (PNRA18_00194)

2018-2019

Research grant with the Italian National Research Council (CNR) in the field of the project PNRA16_00020 “Antarctic Porifera: Hot-spots of prokaryotic diversity and biotechnological potential (P3)”, from the 1th of September (2018) to the 31th of August (2019).

2016

Research grant with the National Interuniversity Consortium for the Marine Sciences (CoNISMa) in the field of the project MARINE HAZARD “Marine Hydrothermal environments, microbial diversity and new molecules of biotechnological interest” from the 1th April to the 1th December

Academic degrees

2016

Ph.D. in *Environmental Sciences: Marine Environment and Resources* (curriculum Biological and Environmental Sciences), University of Messina, Italy. Experimental Thesis entitled “PCB-OXIDISING BACTERIA FROM ARCTIC AND ANTARCTIC ENVIRONMENTS”. Tutor: Prof. Emilio De Domenico; Co-tutors: Dr. Angelina Lo Giudice (Italy) and Dr. Anu Mikkonen (Finland)

2012

Master Degree in *Biology and Ecology of the Coastal Marine Environment* (110/110 *cum Laude*). Department of Biological and Environmental Sciences, University of Messina (Italy). Experimental Thesis entitled “COMUNITA’ BATTERICHE DEL LAGO COSTIERO LIMNOPOLAR (LIVINGSTON ISLAND, SOUTH SHETLAND ISLAND, ANTARCTICA)”. Tutor Prof. Emilio De Domenico; Tutor: Dr. Luigi Michaud (University of Messina, Messina)

2010

Bachelor Degree in *Marine Biology and Ecology* (110/110). Faculty of Mathematical, Physical and Natural Science, University of Messina (Italy). Experimental Thesis entitled “STUDIO DI BATTERIE DI AMBIENTI PROFONDI DEL MAR MEDITERRANEO: APPROCCIO BIOTECNOLOGICO”, Tutor Prof. Emilio De Domenico; Tutor: Dr. Angelina Lo Giudice (CNR, Messina)

Work experiences

2019-2020

- Teaching: temporary substitution, at the Comprehensive Institute "Villafranca Tirrena", Villafranca Tirrena via G. Calasanzio, 98049 (ME). Secondary school level. For the teaching of Mathematics and Sciences (competition class A028). From the 24th of January to the 30th of June.
- Teaching: temporary substitution, at the Comprehensive Institute "Petri", S. Teresa di Riva via delle colline, 98028 (ME). Secondary school level. For the teaching of Mathematics and Sciences (competition class A028). From the 10th of October to the 15th of November.

2018

Occasional provision as support for organized trips, at INIZIATIVA VIAGGI SAS Via E. Martines, 98122 Messina. From the 12th April to 3rd May.

Skills

Relational

Excellent relational capacities developed along the study path, which allowed to be able to work with different groups and different cultures, people and operating ways

Organizational

Leadership (manager of laboratory groups both for educational exercises for students graduates and doctoral degrees during their training period), problem solving, ability to collaborate and ability to work under pressure

Professional

Specialization in the treatment of microbiological samples of different origins. molecular instruments for bacterial biodiversity: extraction of DNA from various matrices, PCR, T-RFLP, ARISA, DGGE, Libraries of Clones. Hybridation with probes: DAPI, FISH, CARD-FISH. Analysis of the microbial communities (metagenomics) by next generation sequencing (NGS: 454 Roche, Ion Torrent And Illumina); genome and transcriptome and meta-genome reconstruction from raw NGS data. Differential expression analysis and statistical validation of RNA-seq data. Estimates of biomass; screening for the production of substances of biotechnological interest; screening for the ability to degrade pollutants (hydrocarbons and polycorlorate biphenyles). Excellent skills in the statistical validation of biological data (rarefaction curves, PCA, PCoA, NMDS, Pearson's correlation, Bray Curtis similarity matrix, etc..)

Computer

Excellent knowledge of the Windows operating system. Excellent masterpiece of the Microsoft office tools and good mastering of the photoshop software. Excellent knowledge of operational systems based on linux (UBUNTU). Bioinformatics analysis applied to molecular biology by using specific softwares (FinchTV, MAFFT, MegaX, FastQC, Trimmomatic, FASTX-Toolkit, BWA, STAR, SAMtools, BEDtools, MAKER, RepeatMasker, tRNAscan, QualiMap, Trinity, BUSCO, Cufflinks, edgeR, DESeq2, BLAST, Mothur, Qiime, ChromasPRO, etc..), statistical analysis of biological and environmental data using the use of specific software (R, CAP, PAST, PRIMER 7, etc..)

Projects

National:

- **2019-2021**
Project PNRA - *Microbial response to human Pollutants in polAr lakeS – MicroPolArS*. PNRA project, PI: Dr. **Maria Papale** (Center for Nutritional Research- CNR)
- **2017-2019**
Project PNRA - *Antarctic Porifera: Hot-spots for Prokaryotic diversity and biotechnological Potentialities - P3*. PNRA project, PI: Dr. Angelina Lo Giudice (University of Messina, Italy)
- **2013-2015**
Project PNRA AZ1.05 - *Ecologia del Permafrost a Victoria Land: passato, presente ed evoluzione futura in un contesto di cambiamento climatico*. PNRA project, PI: Dr Mauro Guglielmin (Department of Theoretical and Applied Sciences, Varese, Italy)

- **2013-2014**

Project PNRA AZ1.04 - *Nuovi farmaci contro i patogeni opportunisti della fibrosi cistica dal microbiota antartico*. PNRA project, PI: Dr. Renato Fani (Department of Biology, University of Florence, Italy)

International:

- **2014-2016**

Project SpongePOP - *Sponge associated culturable microbiome able to degrade persistent organic pollutants along the Pasvik River and the Bokfjorden (Norway)* - within the European project INTERACT (FP7). PI: Dr. Maurizio Azzaro (CNR, Messina, Italy)

- **2013-2015**

Project SedMicro - *Sedimentary microbial communities along the Pasvik River (Norway) and Varanger Fjord system in relation to heavy metal and polychlorinated biphenyl contamination* - within the European project INTERACT (FP7). PI: Dr. Luigi Michaud (University of Messina, Italy).

Certification

Professional Biology Qualification (evaluation 186/200), 16th of January 2017

Open Water Diver, Scuba Schools International (SSI) since 2007

Italian driver license B, since 2005

Tutoring

2014-2015

- Tutor for the thesis of Federica Moscheo entitled: “Application of the Ion Torrent for the study of bacterial biodiversity (Arctic Norway)”
- Tutor for the thesis of Marco Graziano entitled: “Pollution from polychlorinated biphenyls in Arctic Norway and degrading PCB bacteria”

2013-2014

- Tutor for the thesis of Alessandro Ciro Rappazzo entitled: “Tolerance to heavy metals and polychlorinated biphenyls in arctic bacteria (Continental Norway)”

Field experience

- **Sampling Campaign** in Antarctica (Terra Nova Bay, Ross Sea), Mario Zucchelli Station, XXXIV Italian Antarctic Expedition, in the framework of the PNRA (National Research Program in Antarctica), from December 23th to February 8th, **2018-2019**
- **Sampling Campaign** in the Arctic Norway (Pasvik River and Varanger fjord), Bioforsk Svanhovd Station, in the framework of the research project SpongePOP (European project INTERACT (FP7), from May 18th to 31st, **2014**
- **Sampling Campaign** in Antarctica (Terra Nova Bay, Ross Sea), Mario Zucchelli Station, XXIX Italian Antarctic Expedition, in the framework of the PNRA (National Research Program in Antarctica), from December 26th to February 25th, **2013-2014**
- **Sampling Campaign** in the Arctic Norway (Pasvik River and Varanger fjord), Bioforsk Svanhovd Station, in the framework of the research project SedMicro (European project INTERACT (FP7), from July 8th to 20th, **2013**
- **Oceanographic Cruise** “BioLig” aboard R/V “Minerva 1”-CoNISMa, 30 April-20 May, **2013**, Gulf of Genoa, Mediterranean Sea.
- **Oceanographic Cruise** “EUROFLEETS 12” aboard R/V “Urania” – CNR, 8-26 November, **2012**, Mediterranean Sea.

- **Oceanographic Cruise** “Ichnussa 2012” aboard R/V “Urania” – CNR, 11-25 January, **2012**, Mediterranean Sea.
- **Oceanographic Cruise** “Venus 1” aboard R/V “Urania” – CNR, 31 July-25 August, **2010**, Mediterranean Sea.
- **Oceanographic Cruise** “Sicily 09” aboard R/V “Urania” – CNR, 30 October-23 November, **2009**, Mediterranean Sea.
- **Oceanographic Cruise** “MedCO 08” aboard R/V “Urania” – CNR, 1-22 November, **2008**, Mediterranean Sea.
- **Oceanographic Cruise** “MIDDL” aboard R/V “Urania” – CNR, 23 September-6 October, **2008**, Mediterranean Sea

Short courses and stage

- **Bioinformatics Course:** Trainee at the Sequentia Biotech SL, Barcelona, Spain. April 16 to June 12, 2019
- **8th International Course in Microbial Ecology:** “Microbial metagenome analysis: hands-on training”. 12-16 June, 2017. Verbania, Italy
- **7th International Course in Microbial Ecology:** “Publishing dos and don’ts for Microbial Ecologists”. 24-27 October, **2016**. Catania, Italy
- **Summer School:** The Ramon Margalef Summer Colloquia: A view of ocean from Barcelona. Topic: “Microbes in a changing world: diversity and biogeochemistry”. 10-15 July, **2016**. Barcelona, Spain
- **Bioinformatics Course:** Participation at the course “Transcriptome analysis using RNA-seq” 11-12 March, **2016**. Napoli, Italy
- **Internship and work abroad** Jyvaskyla University (Finland), from February 2nd to March 28th, **2015**
- **5^o International Course in Microbial Ecology:** “Deciphering microbial diversity and function in the environment through Next Generation Sequencing”. 6 -10 October, **2014**. Venice, Italy
- **Bioinformatics Course:** Participation at a course on the bioinformatics “Mothur and Qiime” softwares. 7-10 July, 2014. Messina, Italy
- **Workshop on “R”:** Participation at a course on the statistic program R. 7-8 April, 2014. Palermo, Italy
- **ERASMUS Placement:** Cavanilles Institute of Biodiversity and Evolutionary Biology, University of Valencia, Spain. Spanish Supervisor: Prof. Antonio Camacho. From May to September, **2012**.
- **Summer School:** “Biodiversity and Conservation” 10 June-10 July, **2011**. Virginia Commonwealth University, Richmond, Virginia, USA
- **3^o S.It.E MICRO course:** “From Cultivation to New-Generation Molecular Method”. 1-10 June, **2011**. Messina, Italy

Conference participation

- **XIII International Symposium on Antarctic Earth Sciences 2019**, 22-26 July 2019, Songdo Convensia, Incheon, Republic of Korea
- **Bioinformatics new generation professional: biologists in-silico** ENPAB conference, 14 June 2019 Messina, Italy
- **90th SIBS** (Italian Society of Experimental Biology) “National Congress on Climate and Life” 27-28 October **2016**, Trapani (TP), Italy
- **XXVII Symposium S.It.E**(Italian Society of Ecology). 12-15 September 2017. Napoli, Italy
- **89th SIBS** (Italian Society of Experimental Biology) “National Congress on Climate and Life” 1-2 December **2016**, Ozzano dell’ Emilia (BO), Italy
- **Next Generation Sequencing and Bioinformatics: Methods, Tools and Applications in Basic Research, Clinical Diagnostics and much more.** Messina 27-28 May **2016**, Italy
- **XXII Congress AIOL** (Italian Association of Oceanology and Limnology), Verbania 28 settembre – 1 ottobre **2015**, Italy

- **6th International Conference on Polar and Alpine Microbiology** 6 -10 September **2015**. ČeskéBudějovice, Czech Republic
- **XXIV Symposium S.It.E.** (Italian Society of Ecology). 15-17 September **2014**. Ferrara, Italy
- **X PhD meeting** in “Science and Ecology of Aquatic System”. 7-10 April **2014**. Palermo, Italy
- **13th Symposium on Aquatic Microbial Ecology** (SAME). 8-15 September **2013**. Stresa, Italy

Conference talk

1. **M. Papale**, METAGENOMIC AND BIODIVERSITY IN MARINE AND ENVIRONMENTAL MICROBIAL COMMUNITIES. Course “Bioinformatics new generation professional: biologists in-silico”, **2019**, Messina, Italy
2. **M. Papale**, V. Cocca, G. Di Marco, A. C. Rappazzo, M. Graziano, E. De Domenico, A. Lo Giudice. PCB DEGRADATION POTENTIAL BY BACTERIA FROM LAKES OF THE EDMONDSON POINT AREA (ANTARCTICA). (**2017**), 90th SIBS National Congress on experimental biology in basic research and in environmental and human application, **2017**, Trapani (TP), Italy.
3. **M. Papale**, C. G. Leon, C. Valenzuela, A. Lo Giudice, R. Moraga, C. Vilo, Q. Dong, C. T. Smith, R. Rossello-Mora, J. Yañez, V. L. Campos, C. Gugliandolo. CHANGES IN BACTERIAL DIVERSITY ALONG AN ARSENIC GRADIENT IN SEDIMENTS OF CAMARONES RIVER (ATACAMA DESERT, CHILE), XXVII Symposium of Italian Society of Ecology (SIIE), **2017**, Napoli, 12-15 settembre.
4. **M. Papale**, F. Francone, G. Di Marco, C. Rizzo, A. Conte, S. Savoca, E. De Domenico, A. Lo Giudice. PCB-DEGRADING BACTERIA FROM THE ARCTIC KONGSFJORDEN (SVALBARD ISLANDS). 90th SIBS National Congress on experimental biology in basic research and in environmental and human application, **2016**, Trapani (TP), Italy.
5. **M. Papale**, A. Mikkonen, C. Rizzo, A. Conte, E. De Domenico, A. Lo Giudice. EXPLORING MICROBIAL DIVERSITY IN A DYNAMIC AND EXTREME ECOSYSTEM USING THE ION TORRENT TECHNOLOGY, 89th SIBS National Congress on Climate and Life, 1-2 December, **2016**, Ozzanodell’ Emilia (BO), Italy.

International journal publications

1. **M. Papale**, C. Rizzo, R. Fani, M. Bertolino, G. Costa, A. Paytuví-Gallart, S. Schiaparelli, L. Michaud L.Š, M. Azzaro, A. Lo Giudice. Exploring the diversity and metabolic profiles of bacterial communities associated with Antarctic sponges (Terra Nova Bay, Ross Sea) (**2020**), *Frontiers*, 8:268. doi:10.3389/fevo.2020.00268
2. C. Rizzo, A. Conte, M. Azzaro, **M. Papale**, A.C. Rappazzo, D. Battistel, M. Roman, A. Lo Giudice, M. Guglielmin. CULTIVABLE BACTERIAL COMMUNITIES IN BRINES FROM PERENNIALY ICE-COVERED AND PRISTINE ANTARCTIC LAKES: ECOLOGICAL AND BIOTECHNOLOGICAL IMPLICATIONS (**2020**), *Microorganisms*, 8: 819
3. C. Rizzo, R. Malavenda, B. Gerçe, M. Papale, C. Syldatk, R. Hausmann, V. Bruni, L. Michaud, A. Lo Giudice, S. Amalfitano, EFFECTS OF A SIMULATED ACUTE OIL SPILLAGE ON BACTERIAL COMMUNITIES FROM ARCTIC AND ANTARCTIC MARINE SEDIMENTS *Microorganisms* (2019). 7 (12), 632 2.
4. S. Savoca, A. Lo Giudice, M. Papale, S. Mangano, C. Caruso, N. Spanò, L. Michaud, C. Rizzo, ANTARCTIC SPONGES FROM THE TERRA NOVA BAY (ROSS SEA) HOST A DIVERSIFIED BACTERIAL COMMUNITY (2019). *Scientific reports* 9 (1), 1-15
5. **M. Papale**, A. Lo Giudice, A. Conte, C. Rizzo, A.C. Rappazzo, G. Maimone, G. Caruso, R. La Ferla, M. Azzaro, C. Gugliandolo, R. Paranhos, A.S. Cabral, V. Romano Spica, M. Guglielmin, MICROBIAL ASSEMBLAGES IN PRESSURIZED ANTARCTIC BRINE POCKETS (TARN FLAT, NORTHERN VICTORIA LAND): A HOTSPOT OF BIODIVERSITY AND ACTIVITY (**2019**), *Microorganisms*, DOI: 10.3390/microorganisms7090333
6. A. Lo Giudice, G. Caruso, C. Rizzo, **M. Papale**, M. Azzaro, BACTERIAL COMMUNITIES VERSUS ANTHROPOGENIC DISTURBANCES IN THE ANTARCTIC COASTAL MARINE

- ENVIRONMENT (2019 REVIEW), Environmental Sustainability, DOI: 10.1007/s42398-019-00064-2
7. S. Caputo, **M. Papale**, C. Rizzo, S. Giannarelli, A. Conte, F. Moscheo, M. Graziano, P. E. Aspholm, M. Onor, E. De Domenico, S. Miserocchi, L. Michaud, M. Azzaro, A. Lo Giudice, METAL RESISTANCE IN BACTERIA FROM CONTAMINATED ARCTIC SEDIMENT IS DRIVEN BY METAL LOCAL INPUTS (2019), Archives of Environmental Contamination and Toxicology, DOI: 10.1007/S00244-019-00628-7
 8. A.C. Rappazzo, **M. Papale**, C. Rizzo, A. Conte, S. Giannarelli, M. Onor, C. Abete, P. Cefali, E. De Domenico, L. Michaud, A. Lo Giudice, HEAVY METAL TOLERANCE AND POLYCHLORINATED BIPHENYL OXIDATION IN BACTERIAL COMMUNITIES INHABITING THE PASVIK RIVER AND THE VARANGER FJORD (ARCTIC NORWAY), (2019), Marine Pollution Bulletin, 141: 535-549
 9. **M. Papale**, A. Conte, M. Del Core, E. Zito, M. Sprovieri, F. De Leo, C. Rizzo, C. Urzì, E. De Domenico, G. M. Luna, L. Michaud, A. Lo Giudice, HEAVY-METAL TOLERANT MICROORGANISMS IN SEDIMENTS FROM SUBMARINE CANYONS AND THE ADJACENT CONTINENTAL SLOPE IN THE NORTHEASTERN LIGURIAN MARGIN (WESTERN MEDITERRANEAN SEA) (2018), Progress in Oceanography, DOI: 10.1016/j.pocean.2018.09.015
 10. **M. Papale**, A. Conte, A. Mikkonen, L. Michaud, R. La Ferla, M. Azzaro, G. Caruso, R. Paranhos, A. Cabral, G. Maimone, A. C. Rappazzo, C. Rizzo, N. Spanò, A. Lo Giudice, M. Guglielmin. PROKARYOTIC ASSEMBLAGES WITHIN PERMAFROST ACTIVE LAYER AT EDMONSON POINT (NORTHERN VICTORIA LAND, ANTARCTICA) (2018), Soil Biology & Biochemistry, 123: 165-179
 11. C. Rizzo, C. Sylødatk, R. Hausmann, B. Gerçe, C. Longo, **M. Papale**, A. Conte, E. De Domenico, L. Michaud, A. Lo Giudice. THE DEMOSPONGE HALICHONDRIA (HALICHONDRIA) PANICEA (PALLAS, 1766) AS A NOVEL SOURCE OF BIOSURFACTANT-PRODUCING BACTERIA, (2018), Journal of Basic Microbiology, DOI: 10.1002/jobm.201700669
 12. C. G Leon, C. Valenzuela, C. Gugliandolo, A. Lo Giudice, **M. Papale**, R. Moraga, C. Vilo, Q. Dong, C. T. Smith, R. Rossello-Mora, J. Yañez, V. L. Campos. EFFECT OF THE NATURAL ARSENIC GRADIENT ON THE DIVERSITY AND ARSENIC RESISTANCE OF BACTERIAL COMMUNITIES OF THE SEDIMENTS OF CAMARONES RIVER (ATACAMA DESERT, CHILE) (2018), PlosOne, DOI: <https://doi.org/10.1371/journal.pone.0195080>
 13. Conte A., **M. Papale**, S. Amalfitano, A. Mikkonen, C. Rizzo, E. De Domenico, L. Michaud, A. Lo Giudice. BACTERIAL COMMUNITY STRUCTURE ALONG THE SUBTIDAL SANDY SEDIMENT BELT OF A HIGH ARCTIC FJORD (KONGSFJORDEN, SVALBARD ISLANDS), (2018), Science of the Total Environment, 619-620: 203-211
 14. **M. Papale**, C. Rizzo, J. A. Villescusa, C. Rochera, A. Camacho, L. Michaud, A. Lo Giudice. PROKARYOTIC ASSEMBLAGES IN THE MARITIME ANTARCTIC LAKE LIMNOPOLAR (BYERS PENINSULA, SOUTH SHETLAND ISLANDS), (2017), Extremophiles, 21(6): 947-961
 15. La Ferla, M. Azzaro, L. Michaud, G. Caruso, A. Lo Giudice, R. Paranhos, A. Cabral, A. Conte, A. Cosenza, G. Maimone, **M. Papale**, A.C. Rappazzo, M. Guglielmin. PROKARYOTIC ABUNDANCE AND ACTIVITY IN PERMAFROST OF THE NORTHERN VICTORIA LAND AND UPPER VICTORIA VALLEY (ANTARCTICA): A STUDY CASE. (2017), Microbial Ecology, in press, 74:402-415
 16. P. Aguayo, P. Gonzalez, V. Campos, T. L. Maugeri, **M. Papale**, C. Gugliandolo, M. Martinez. COMPARISON OF PROKARYOTIC DIVERSITY IN COLD, OLIGOTROPHIC REMOTE LAKES OF CHILEAN PATAGONIA. (2017), Current Microbiology, 74(5): 598-613
 17. **M. Papale**, S. Giannarelli, S. Francesconi, G. Di Marco, A. Mikkonen, A. Conte, C. Rizzo, E. De Domenico, L. Michaud, A. Lo Giudice. ENRICHMENT, ISOLATION AND BIODEGRADATION POTENTIAL OF PSYCHROTOLERANT POLYCHLORINATED-BIPHENYL DEGRADING BACTERIA FROM THE KONGSFJORDEN (SVALBARD ISLANDS, HIGH ARCTIC NORWAY). (2017), Marine Pollution Bulletin, 114: 849-859

National journal publications

1. M. Graziano, **M. Papale**, A. Conte, F. Moscheo, S. Caputo, A. Mikkonen, S. Giannarelli, R. Manconi, E. De Domenico, A. Lo Giudice, M. Azzaro. PCB-OXYDIZING BACTERIA FROM THE FRESHWATER SPONGE SPONGILLA LACUSTRIS (LINNAEUS, 1759) (PASVIK RIVER, ARCTIC NORWAY). (2017), *J. Biol. Res.*, 90(s1): 20
2. C. Rizzo, **M. Papale**, A. Conte, S. Savoca, A. Lo Giudice, A. Manganaro. ANTIMICROBIAL POTENTIAL OF BACTERIAL BIOACTIVE MOLECULES AGAINST PATHOGENS WITH RELEVANCE FOR AQUACULTURE. (2017), *J. Biol. Res.*, 90(s1): 19
3. **M. Papale**, F. Francone, G. Di Marco, C. Rizzo, A. Conte, S. Savoca, E. De Domenico, A. Lo Giudice. PCB-DEGRADING BACTERIA FROM THE ARCTIC KONGSFJORDEN (SVALBARD ISLANDS). (2017), *J. Biol. Res.*, 90(s1): 3
4. **M. Papale**, V. Cocca, G. Di Marco, A. C. Rappazzo, M. Graziano, E. De Domenico, A. Lo Giudice. PCB DEGRADATION POTENTIAL BY BACTERIA FROM LAKES OF THE EDMONDSON POINT AREA (ANTARCTICA). (2017), *J. Biol. Res.*, 90(s1): 2
5. **M. Papale**, A. Mikkonen, C. Rizzo, A. Conte, E. De Domenico, A. Lo Giudice. EXPLORING MICROBIAL DIVERSITY IN A DYNAMIC AND EXTREME ECOSYSTEM USING THE ION TORRENT TECHNOLOGY. (2016), *J. Biol. Res.*, 89(s1): 5
6. Conte A., **M. Papale**, S. Amalfitano, A. Mikkonen, E. De Domenico, A. Lo Giudice. PROKARYOTIC COMMUNITY OF SUBTIDAL SANDY SEDIMENTS IN THE KONGSFJORDEN (SVALBARD ISLANDS, NORWAY). (2016), *J. Biol. Res.*, 89(s1): 10
7. **M. Papale**, A. Conte, S. Savoca, V. Zammuto, S. Vizzini, A. Lo Giudice, C. Gugliandolo. PROKARYOTIC DISTRIBUTION ALONG A PH GRADIENT AT SHALLOW HYDROTHERMAL VENT OF VULCANO ISLAND (ITALY). (2016), *J. Biol. Res.*, 89(s1): 14
8. S. Savoca, **M. Papale**, A. Conte, C. Rizzo, N. Spanò, S. Mangano, C. Caruso, A. C. Rappazzo, L. Michaud, A. Lo Giudice. SPONGE-ASSOCIATED ANTARCTIC BACTERIA: DIVERSITY AND BIOTECHNOLOGICAL POTENTIAL. (2016), *J. Biol. Res.*, 89(s1): 15
9. V. Zammuto, A. Conte, L. Michaud, **M. Papale**, M. Gulielmin, I. Romano, S. Vizzini, A. Lo Giudice, C. Gugliandolo. EXTREMOPHILES FROM COLD AND HOT ENVIRONMENTS RESISTANT TO ULTRAVIOLET RADIATION (UV-C) SIMULATING SPACE ENVIRONMENT. (2016), *J. Biol. Res.*, 89(s1): 17
10. G. Caruso, M. Borghini, M. Graziano, **M. Papale**, A.C. Rappazzo, G. Ruggeri, E. De Domenico. ABUNDANCE OF HETEROTROPHIC BACTERIA AND MICROBIAL ENZYME ACTIVITIES IN THE WESTERN MEDITERRANEAN SEA (VENUS 2010 CRUISE). (2015), *Biol. Mar. Mediterr.*, 22(1): 200-201
11. G. Caruso, M. Azzaro, P. Laganà, A. C. Rappazzo, M. Graziano, **M. Papale**, A. Conte, A. Lo Giudice. QUANTI- AND QUALITATIVE STUDY OF THE AEROBIC HETEROTROPHIC BACTERIAL FLORA IN THE ESTUARINE AREA OF THE PASVIK RIVER (ARCTIC NORWAY). (2015), *Biol. Mar. Mediterr.*, 22 (1): 198-199
12. **M. Papale**, A. Conte, A. Lo Giudice, E. Zito, G.M. Luna, E. De Domenico. HEAVY METAL TOLERANCE BY BACTERIA ISOLATED FROM SUBMARINE CANYONS IN THE GULF OF GENOA. (2014), *Biol. Mar. Mediterr.*, 21: 359-360
13. **M. Papale**, M. Borghini, A. Ribotti, A. Lo Giudice, L. Michaud, R. Sorgente, M. De Domenico, E. De Domenico. LUMINESCENT BACTERIA AND WATER MASSES RELATIONSHIPS ALONG A SECTION BALEARIC ISLANDS – SARDINIA. (2012), *Biol. Mar. Mediterr.*, 19(1): 238-239
14. G. Ruggeri, M. Borghini, A. Ribotti, M. Milici, **M. Papale**, R. Sorgente, M. De Domenico, E. De Domenico. LUMINOUS MARINE BACTERIA AND WATER MASSES DISTRIBUTION IN THE CENTRAL MEDITERRANEAN SEA. (2010), *Biol. Mar. Mediterr.*, 17(1):370-371

Poster

1. **M. Papale**, M. Azzaro, A. Cabral, G. Caruso, A. Cosenza, E. Crisafi, E. Forte, R. La Ferla, A. Lo Giudice, G. Maimone, R. Paranhos, A.C. Rappazzo, M. Guglielmin. MICROBIAL LIFE IN THE BRINE OF CRYO-ENVIRONMENTS IN THE NORTHERN VICTORIA LAND (ANTARCTICA) XIII International Symposium on Antarctic Earth Sciences 2019 Songdo Convensia, Incheon, Republic of Korea 22-26 July 2019

2. M. Azzaro, G. Zappalà, R. La Ferla, S. Misericocchi, T. Tesi, G. Maimone, G. Caruso, M. Caccia, R. Ferretti, A. Odetti, F. Azzaro, A. Madonia, S. Bonamano, V. Piermattei, M. Marcelli, D. Piazzolla, A. Cosenza, A. C. Rappazzo, M. Furnari, **M. Papale**, A. Lo Giudice, G. Bruzzone. MICROBIAL METABOLISM IN FRONT OF KONGSFJORDEN GLACIERS, XXXV SCAR Biennial Meetings, Davos, Switzerland, 15-26 June **2018**
3. M. Azzaro, A. Conte, **M. Papale**, A.S. Cabral, G. Caruso, E. Crisafi, M. Dalle Fratte, E. Forte, R. La Ferla, A. Lo Giudice, G. Maimone, R. Paranhos, A.C. Rappazzo, C. Rizzo, S. Savoca, N. Spanò, M. Guglielmin, MICROBIAL COMMUNITIES IN THE BRINES OF TWO ANTARCTIC FROZEN LAKES (BOULDER CLAY) XXXV SCAR Biennial Meetings, Davos, Switzerland, 15-26 June **2018**
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