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Curriculum vitae SIMONE CAPPELLO



PERSONAL INFORMATION

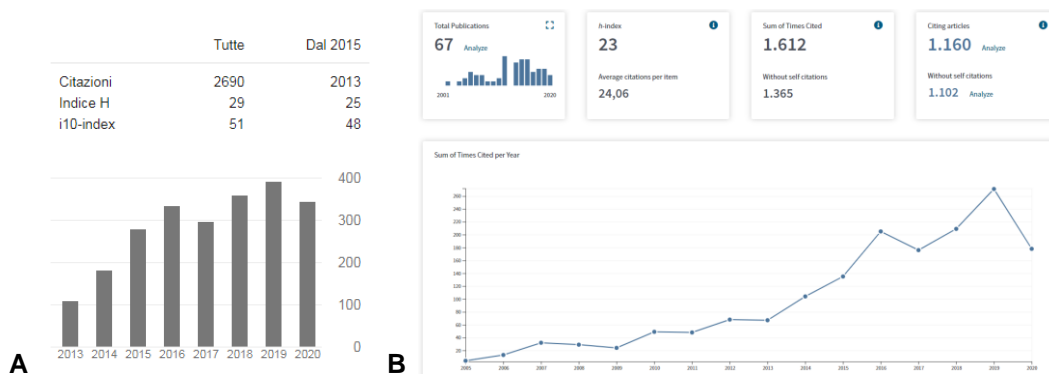
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A – index Google Scholar (1 October 2020) B – index Web of Sciences (1 October 2020)

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EDUCATION

- 2006 – **Awarded Ph.D.** in “**Science and Engineering of Sea**” (XVII cycle) of University “Federico II” of Naples (Naples, Italy) whit Thesis entitled: “*Analysis on medium scale of the evolution of hydrocarbons in marine environment: role and optimization of biodegradative potentiality of natural bacterial population*”.
Ph.D in co-tutele with University of Montpellier II (Montpellier, France) for PhD School in “Ecologie des Systemes Aquatiques Continentaux”.
- 2000 – **Qualified as Biology**, Faculty of Sciences of University of Messina, Messina (Italy);
- 1999 - **Awarded B.Sc in Biology**, Faculty of Sciences of University of Messina (Messina, Italy), whit Thesis entitled: “*Variation of adhesion of Pseudomonas aeruginosa ATCC 27853 under stress and starvation conditions and in mutants generated*”.

EMPLOYMENT CURRENT POSITION

Full Researcher Scientist, Consiglio Nazionale delle Ricerche (CNR) - Istituto per le Risorse Biologiche e le Biotecnologie Marine (IRBIM) of Messina (Messina, Italy)

PARTICIPATION IN RESEARCH PROJECTS

European Commission

- 2013-2016 – **Investigator** of Research Unit of IAMC-CNR for the European Project FP7-KEEB-2012.3.5-01 “*Innovative biotechnologies for tackily oil spill disasters (KILL-SPILL)*”;
- 2011-2014 - **Member** of Research Unit of IAMC-CNR for the European Project FP7-KBBE.2010.3.5-03 “*Unravelling and exploiting Mediterranean Sea microbial diversity and ecology for xenobiotics’ and pollutants’ clean up*” (ULIXES);
- 2010-2015 – **Member** of Research Unit of IAMC-CNR for the European Project FP7-KBBE-2009-3-5-01 “*Molecular Approaches and Metagenomic Investigations for optimizing clean-up of PAH contaminated sites*” (MAGICPAH);
- 2002-2005 - **Member** of Research Unit of IAMC-CNR for the European Project EC 6FP EVK3-2002-00189 “*Communities of Marine Microorganisms for Oil Degradation*” (COMMODE);
- 2001-2004 - **Member** of Research Unit of IAMC-CNR for the European Project EC 6FP EVK3-2000-22057 “*Biotechnology for the Deep*” (BIO-DEEP).

MIUR Italian Ministry of Education University and Research

- 2014-2010 - **Local Coordinator** for IRBIM-CNR of Operative National Project (PON) - **TechNology And materials for safe Low consumption And low life cycle cost veSSels And crafts** (THALASSA Project)
- 2018-2020 - **Local Coordinator** for IAMC-CNR of Project PRIN/MIUR (Cod. PNRA2016_00075) - **Polimeric nanoparticle in marine environment and in antarctic organisms** (nanoPANTA Project);
- 2016-2018 - **Local Coordinator** for IAMC-CNR of Project PRIN/MIUR (cod. PNRA2015_00090) - **Plastic in Antartic Environment** (PLANET Project);
- 2015-2017 - **Coordinator** for Project MIUR/PNRA2013 (PdR 2013_B4.01) “*Integrated physical-biological-mechanical systems for recovery in of the "Oil Spill" in Antarctic Environment*” (STRANGe Project);
- 2012-2015 – **Local Coordinator** for IAMC-CNR of Project PRIN/MIUR 2010-2011 (prot. 2010ARBLT7_001/008) “*System Biology” the study of xenobiotic effects on marine organisms*”

for evaluation of the environmental health status: Biotechnological applications for potential recovery strategies (SYSTEM BIOLOGY Project);

2012-2015 – **Local Coordinator** for IAMC-CNR of Operative National Project (PON; cod. PON02_00153_2849085) "**Sviluppo di Tecnologie Innovative per il trattamento dei rifiuti liquidi della navigazione finalizzate alla Tutela dell'Ambiente Marino**" (STI-TAM Project);

2012-2015 – **Local Coordinator** for IAMC-CNR of Operative National Project (PON; cod. PON02_00153_2939551) "**Sviluppo di tecnologie innovative per la Sostenibilità Energetica ed Ambientale di cantieri navali ed aree PORTuali**" (SEAPORT Project);

2002-2005 – **Co-Principal Investigator** of Operative National Project (PON measure 1.3 "**Analisi dell'efficacia di surfattanti in attivita' di bioremediation in-situ ed ex-situ (reattori) mediante studio su media scala**" (PON-SABIE Project).

Research Contract

2018-2010 - **Coordinator/Responsible** for Research Contract "Studi di Biodegradabilità Acqua di Produzione" (ACQUA DI FALDA) funded by SYNDIAL-EBI S.p.A

2017-2018 - **Coordinator/Responsible** for Research Contract "**Studio di sistemi sperimentali (microcosmi) per l'applicazione di strategie di biodegradazione naturale e/o accelerata dei contaminanti presenti nelle acqua di falda**" (FALDA) funded by ENI S.p.A

2016-2017 - **Coordinator/Responsible** for Research Contract "**Bioremediation**" funded by BIO-ON S.p.A (Prot. IAMC num. 00066643 del 25 maggio 2016);

2008-2009 - **Coordinator/Responsible** for Research Contract "**Long term weathering of oil in marine environment**" (LOW-MARE) funded by ENI S.p.A. (Contract ENI 4900169904 of 21/10/2007);

2006-2007 - **Principal Investigator** or IAMC-CNR Research Unit for Research Contract "**Microbial Oil Weathering**" (MOW-SIM) funded by ENI S.p.A. (Contract IAMC 0000504 of 24/5/2006);

2009-2010 - **Principal Investigator** or IAMC-CNR Research Unit for Research Contract "**Valutazione ecotossicologica di sedimenti marini sottoposti ad inquinamento simulato da idrocarburi petroliferi**" (DE-SED) funded by ENI S.p.A. (Contract IAMC 00014860 date 8/06/2009).

ACADEMIC ACTIVITIES

Publications

The scientific activity of Dr. Simone Cappello is witnessed by more than **60 publications** as first author (**26 between papers and chapter's book**) and co-author, **14 chapters** in different books and/or volumes, more than **100 poster and/or oral communications in National and International conferences**. As indicated (*Google Scholar index, in date October 21th 2019*) the scientific activity of Dr. Simone Cappello present a **~1900 citations** and a total **H index equal to 29 (Google Scholar; 23 Web of Sciences)**. However, Dr. Cappello is also author of **4 Italian Patent and 3 International Patent**.

Publication (in peer reviewed journals) of last 5 years of activity (2015-2019)

1. **S. Cappello**, C. Cruz Viggì, M. Yakimov, S. Rossetti, B. Maturro, L. Molina, A. Segura, S. Marqués, L. Yuste, E. Sevilla, F. Rojo, A. Sherry, O.K. Mejeha, I.M. Head, L. Malmquist, J.H. Christensen, N. Kalogerakis, F. Aulenta (2019) **Combining electrokinetic transport and bioremediation for enhanced removal of crude oil from contaminated marine sediments: Results of a long-term, mesocosm-scale experiment**. *Water research* 157: 381-395;
2. S. Santisi, M. Catalfamo, M. Bonsignore, G. Gentile, E. Di Salvo, M. Genovese, M. Mahjoubi, A. Cherif, G. Mancini, M. Hassanshahian, G. Pioggia, **S. Cappello** (2019) **Biodegradation ability of**

- two selected microbial autochthonous consortia from a chronically polluted marine coastal area (Priolo Gargallo, Italy). *Journal of applied microbiology* DOI: <https://doi.org/10.1111/jam.14246>
3. N. Djahnit, S. Chernai, V. Catania, B. Hamdi, B. China, **S. Cappello**, P. Quatrini (2019) **Isolation, characterization and determination of biotechnological potential of oil-degrading bacteria from Algerian centre coast**. *Journal of applied microbiology* 126(3): 780-795;
 4. **S. Cappello**, G. Mancini (2019) **Use of Nanomaterials for Marine Bioremediation: A Perspective**. *Annals of Materials Science & Engineering* 4:1
 5. P. Lagana, G. Caruso, I. Corsi, E. Bergami, V. Venuti, D. Majolino, R. La Ferla, M. Azzaro, **S. Cappello** (2018) **Do plastics serve as a possible vector for the spread of antibiotic resistance? First insights from bacteria associated to a polystyrene piece from King George Island (Antarctica)**. *International journal of hygiene and environmental health* 222(1): 89-100
 6. G. Caruso, C. Pedà, **S. Cappello**, M. Leonardi, R. La Ferla, A. Lo Giudice, G. Maricchiolo, C. Rizzo, G. Maimone, A.C. Rappazzo, L. Genovese, T. Romeo (2018) **Effects of microplastics on trophic parameters, abundance and metabolic activities of seawater and fish gut bacteria in mesocosm conditions**. *Environmental Science and Pollution Research* 25(30): 30067-30083;
 7. A. Giacoletti, **S. Cappello**, G. Mancini, M.C. Mangano, G. Sarà (2018) **Predicting the effectiveness of oil recovery strategies in the marine polluted environment**. *Journal Environmental Management* 223: 749-757;
 8. V. Catania, **S. Cappello**, V. Di Giorgi, S. Santisi, R. Di Maria, A. Mazzola, S. Vizzini, P. Quatrini (2018) **Microbial communities of polluted sub-surface marine sediments**. *Marine Pollution Bulletin* 131: 396-406;
 9. C. Pirrone, F. Rossi, **S. Cappello**, M. Borgese, G. Mancini, G. Bernardini, R. Gornati (2018) **Evaluation of biomarkers in *Mytilus galloprovincialis* as an integrated measure of biofilm-membrane bioreactor (BF-MBR) system efficiency in mitigating the impact of oily wastewater discharge to marine environment: a microcosm approach**. *Aquatic Toxicology* 198:49-62;
 10. M.S. Zoccali, **S. Cappello**, L. Mondello (2018) **Multilevel characterization of marine microbial biodegradation potentiality by means of flow-modulated comprehensive two-dimensional gas chromatography combined with a triple quadrupole mass spectrometer**. *Journal of Chromatography A* 1547: 99-106;
 11. M. Mahjoubi, **S. Cappello**, Y. Souissi, A. Jaouani, A. Cherif (2018) **Microbial Bioremediation of Petroleum Hydrocarbon– Contaminated Marine Environments**. *Recent Insights in Petroleum Science and Engineering*, 325-359;
 12. M. Maisano, T. Cappello, N. Natalotto, V. Vitale, V. Parrino, A. Giannetto, S. Oliva, G. Mancini, **S. Cappello**, A. Mauceri, S. Fasulo (2017). **Effects of petrochemical contamination on caged marine mussels using a multi-biomarker approach: Histological changes, neurotoxicity and hypoxic stress**. *Marine Environmental Research* 114-123;
 13. G. Mancini, M. Panzica, D. Fino, **S. Cappello**, M.M. Yakimov, A. Luciano (2017). **Feasibility of treating emulsified oily and salty wastewaters through coagulation and bio-regenerated GAC filtration**. *Journal of Environmental Management*, 203:817-824;
 14. R. Scaffaro, F. Lopresti, V. Catania, S. Santisi, **S. Cappello**, L. Botta, P. Quatrini (2017). **Polycaprolactone-based scaffold for oil-selective sorption and improvement of bacteria activity for bioremediation of polluted water: Porous PCL system obtained by leaching melt mixed PCL/PEG/NaCl composites: Oil uptake performance and bioremediation efficiency**. *European Polymer Journal* 91: 260-273 doi: 10.1016/j.eurpolymj.2017.04.015;
 15. M. Scalici, L. Traversetti, F. Spani, V. Malafoglia M. Colamartino, T. Persichini, **S. Cappello**, G. Mancini, G. Guerriero, M. Colasanti (2017). **Shell fluctuating asymmetry in the sea-dwelling benthic bivalve *Mytilus galloprovincialis* (Lamarck, 1819) as morphological markers to detect environmental chemical contamination**. *Ecotoxicology* 26: 396-404 (ISSN: 0963-9292);
 16. **S. Cappello**, A. Volta, S. Santisi, C. Morici, G. Mancini, P. Quatrini, M. Genovese, M.M. Yakimov, M. Torregrossa (2016). **Oil-degrading bacteria from a membrane bioreactor (BF-MBR) system for treatment of saline oily waste: Isolation, identification and characterization of the biotechnological potential**. *International Biodeterioration & Biodegradation* 110: 235-244;

17. B. Maturro, E. Frascadore, **S. Cappello**, M. Genovese, S. Rossetti (2016) **In situ detection of alkB2 gene involved in *Alcanivorax borkumensis* SK2T hydrocarbon biodegradation.** *Marine Pollution Bulletin* 110 (1): 378-382;
18. E. Oliveri, D. Salvagio Manta, M. Bonsignore, **S. Cappello**, G. Tranchida, E. Bagnato, N. Sabatino, S. Santisi, M. Sprovieri (2016) **Mobility of mercury in contaminated marine sediments: Biogeochemical pathways.** *Marine Chemistry* 186: 1-10;
19. E. Messina, R. Denaro, F. Crisafi, F. Smedile, **S. Cappello**, M. Genovese, L. Genovese, L. Giuliano, D. Russo, M. Ferrer, P. Golyshin, M.M. Yakimov (2016). **Genome sequence of obligate marine polycyclic aromatic hydrocarbons-degrading bacterium *Cycloclasticus* sp. 78-ME, isolated from petroleum deposits of the sunken tanker Amoco Milford Haven, Mediterranean Sea.** *Marine Genomics* 25: 11-13;
20. B.M. Dellagnezze, S.P. Vasconcellos, A.L. Angelim, V.V.M. Melo, S. Santisi, **S. Cappello**, V.M. Oliveira (2016) **Bioaugmentation strategy employing a microbial consortium immobilized in chitosan beads for oil degradation in mesocosm scale.** *Marine Pollution Bulletin* 107(1): 107–117;
21. D. Iannazzo, A. Pistone, A. Visco, G. Galtieri, S.V. Giofrè, R. Romeo, G. Romeo, **S. Cappello**, M. Bonsignore, R. Denaro, S. Galvagno (2015). **1, 2, 3-Triazole/MWCNT conjugates as filler for gelcoat nanocomposites: new active antibiofouling coatings for marine application.** *Materials Research Express* 11(2), DOI: 10.1088/2053-1591/2/11/115001;
22. F. D'Agostino, M. Del Core, **S. Cappello**, S. Mazzola, M. Sprovieri (2015). Synthesis of water suitable as the MEPC. 174 (58) G8 influent water for testing ballast water management systems. *Environmental Monitoring and Assessment* 187: 1-8;
23. M. Maisano, T. Cappello, A. Natalotto, V. Vitale, V. Parrino, A. Giannetto, S. Oliva, G. Mancini, **S. Cappello**, A. Mauceri, S. Fasulo (2016). **Effects of petrochemical contamination on caged marine mussels using a multi-biomarker approach: Histological changes, neurotoxicity and hypoxic stress.** *Marine Environmental Research* <http://dx.doi.org/10.1016/j.marenvres.2016.03.008>;
24. M. Hassanshahian, Z. Bayat, **S. Cappello**, F. Smedile, M.M. Yakimov (2016). **Comparison the effects of bioaugmentation versus biostimulation on marine microbial community by PCR–DGGE: A mesocosm scale.** *Journal of Environmental Sciences* 43: 136-146;
25. G. Gentile, M. Bonsignore, S. Santisi, M. Catalfamo, L. Giuliano, L. Genovese, M.M. Yakimov, R. Denaro, M. Genovese, **S. Cappello** (2016) **Biodegradation potentiality of psychrophilic bacterial strain *Oleispira antarctica* RB-8.** *Marine Pollution Bulletin* 105(1): 125–130;
26. R. Bargiela, F-A. Herbst, M. Martínez-Martínez, J. Seifert, D. Rojo, **S. Cappello**, M. Genovese, F. Crisafi, R. Denaro, T.N. Chernikova, C. Barbas, M. Bergen, M.M. Yakimov, M. Ferrer, P.N. Golyshin (2015) **Metaproteomics and metabolomics analyses of chronically petroleum-polluted sites reveal the importance of general anaerobic processes uncoupled with degradation.** *Proteomics* 15(20): 3508–3520;
27. **S. Cappello**, R. Calogero, S. Santisi, M. Genovese, R. Denaro, L. Genovese, L. Giuliano, G. Mancini, M.M. Yakimov (2015). **Bioremediation of oil polluted marine sediments: A bio-engineering treatment.** *International Microbiology* 18: 127-134;
28. S. Santisi, **S. Cappello**, M. Catalfamo, G. Mancini, M. Hassanshahian, L. Genovese, L. Giuliano, M.M. Yakimov (2015). **Biodegradation of crude oil by individual bacterial strains and a mixed bacterial consortium.** *Brazilian Journal of Microbiology* 46.
29. Z. Bayat, M. Hassanshahian, **S. Cappello** (2015). **Immobilization of Microbes for Bioremediation of Crude Oil Polluted Environments: A Mini Review.** *The Open Microbiology Journal* 9: 1-15;
30. R. Bargiela, F. Mapelli, D. Rojo, B. Chouaia, J. Tornés, S. Borin, M. Richter, M.V. Del Pozo, **S. Cappello**, C. Gertler, M. Genovese, R. Denaro, M. Martínez-Martínez, S. Fodelianakis, R.A. Amer, D. Bigazzi, X. Han, J. Chen, T.N. Chernikova, O.V. Golyshina, M. Mahjoubi, A. Jaouani, F. Benzha, M. Magagnini, E. Hussein, F. Al-Horani, A. Cherif, M. Blaghen, Y. R Abdel-Fattah, N. Kalogerakis, C. Barbas, H.I. Malkawi, P.N. Golyshin, M.M. Yakimov, D. Daffonchio, M. Ferrer (2015) **Bacterial population and biodegradation potential in chronically crude oil-contaminated marine sediments are strongly linked to temperature.** *Scientific Reports* 5, Article number: 11651;

31. M. Mancuso, M. Rappazzo, M. Genovese, A. El Hady, M. Ghonimy, R. Ismal, M., Reda, **S. Cappello**, L. Genovese, G. Maricchiolo (2015). **In vitro selection of bacteria and isolation of probionts from farmed *Sparus aurata* with potential for use as probiotics.** *Animal Biology & Animal Husbandry* 1: 93-98;
32. G. Caruso, R. La Ferla, M. Azzaro, A. Zoppini, G. Marino, T. Petochi, C. Corinaldesi, M. Leonardi, R. Zaccone, S. Fonda Umani, N.H. Todorova, V.K. Karamfilov, E. Rastelli, S. Cappello, M. Immacolata Acquaviva, M. Narracci, R. De Angelis, P. Del Negro, M. Latini, R. Danovaro (2015) **Microbial assemblages for environmental quality assessment: knowledge, gaps and usefulness in the European Marine Strategy Framework Directive.** *Critical Reviews in Microbiology* 42(6): 883-904;
33. S. Fasulo, G. Guerriero, **S. Cappello**, M. Colasanti, T. Schettino, C. Leonzio, G. Mancini, R. Gornati (2015) **The “SYSTEMS BIOLOGY” in the study of xenobiotic effects on marine organisms for evaluation of the environmental health status: biotechnological applications for potential recovery strategies.** *Reviews in Environmental Science and Bio/Technology* 14(3): 339–345;
34. Santisi, S., Genovese, M., Bonsignore, M., Fiumara, E., Maricchiolo, G., Mancuso, M., Genovese, L., Giuliano, L., **Cappello S.** (2015) **Study of bacterial communities in mussel *Mytilus galloprovincialis* by a combination of 16S crDNA and 16S rDNA sequencing.** *International Journal of Microbiology and Application* 2(2): 18-24;
35. Santisi, S., Gentile, G., Volta, A., Bonsignore, M., Mancini, G., Quatrini, P., **Cappello, S.** (2015) **Isolation and Characterization of Oil-Degrading Bacteria from Bilge Water.** *International Journal of Microbiology and Application* 2(2): 45-49;
36. Santisi, S., Genovese, M., Crisafi, F., Gentile, G., Volta, A., Bonsignore, M., **Cappello S.**, (2015) **Effects of Growth Conditions on Hydrophobicity in Marine Obligate Hydrocarbonoclastic Bacteria.** *International Journal of Microbiology and Application* 2: 50-55;
37. Hassanshahian, M., **Cappello S.**, (2015) Hydrophobicity effect on oil degradation by two marine bacterial strains *Alcanivorax borkumensis* and *Thalassolituus oleivorans*. *Iranian J Environ Technol* 1, 9-18;
38. Catania, V., Santisi, S., Signa, G., Vizzini, S., Mazzola, A., **Cappello, S.** Yakimov, M.M., Quatrini, P. (2015) **Intrinsic bioremediation potential of a chronically polluted marine coastal area.** *Marine Pollution Bulletin* 99(1-2): 138-149.

Patents

- M.R. Plutino, **S. Cappello** (2018) **Metodo per il biorisanamento di acque o suoli inquinati che comprende l'impiego di una composizione ibrida a base polimerica** - "Comunicazione Preliminare" di Brevetto CNR-ID#2139
- M.R. Plutino, **S. Cappello**, G. Rando, G. Sabatino (2018) **Sviluppo di materiali ibridi multifunzionali basati su argille naturali per il recupero ed il biorisanamento ambientale** - "Comunicazione Preliminare" di Brevetto CNR-ID#2234
- **S. Cappello**, L. Genovese, S. Begotti (2017) **Metodo per il biorisanamento di acque o suoli inquinati che comprende l'impiego di una composizione a base di un polimero biodegradabile.**
- MM Yakimov, **S. Cappello**, R. Denaro, M. Genovese, L. Genovese, G. Irrera, L. Giuliano (2012) **Procedimento di recupero in situ di sedimenti marini contaminati e relativa apparecchiatura.** IT- PN2012A000012

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1th October 2020

Dr. Simone Cappello



Full Research
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