

## PERSONAL INFORMATION



## Serena Savoca

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 serysavoca@gmail.com

Sex Female | Date of birth 27/11/1988 | Nationality Italian

## POSITION

## PhD student in Applied Biology and Experimental Medicine

## EDUCATION AND TRAINING

02/05/2019–15/11/2019

## Visiting PhD student

University of Zagreb. Faculty of Veterinary, Department of Fish Biology and Pathology., Zagreb (Croatia)

Training in pathology of farmed warmwater fish

01/10/2017–Present

PhD student in Applied Biology and Experimental Medicine:  
Curriculum Biology and Environmental sciences

University of Messina. Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, Messina (Italy), Messina (Italy)

17/12/2016–30/09/2017

## Laboratory of Microbial Ecology

University of Messina, Messina (Italy)

Study of microbial community associated with antarctic sponge and their biotechnological potential.

Training on microbiological basely techniques, preparation of culture media, maintenance of cell cultures in monolayer and in suspension, acridina orange, extraction of DNA and RNA, separation of nucleic acids on gel of agarose, extraction of protein from cell preparations, purification and quantification, SDS-PAGE, WESTERN BLOT, coloration DAPI e FISH, PCR, purification of nucleic acids, thermal shock lysis, DGGE.

15/09/2016–15/12/2016

## Erasmus Placement

University of Valencia, Department of Environmental Microbiology, Valencia (Spain)

Field work and water sampling in selected aquatic ecosystems.

Samples processing for fluorescence in situ hybridization (FISH).

Optimization of fluorescence in situ hybridization (FISH) from selected probes.

Microscopic analysis (microphotography of all project samples).

Image analysis and counts of FISH preparations.

Skills in field sampling techniques and processing methods for collected samples. Probe design for FISH (bibliography work and use of databases and specific software as Image-Pro Plus). Microscopic techniques for visualization of in situ hybridization preparation by epifluorescence microscopy. Techniques of image analysis for the processing of photographs obtained by epifluorescence microscopy.

06/10/2014–21/07/2016

Master of Science in Marine Biology and Ecology of the Coastal  
Marine Environment

EQF level 7

University of Messina, Messina (Italy)

Thesis: Cultured bacteria associated with Antarctic Sponges

boarding on Laboratory of Virology from 01/06/2015 to 01/02/2016

Boarding on Laboratory of Microbial Ecology from 02/02/2016 to 21/07/2016

01/10/2008–21/07/2014 **Graduated in Natural Science** EQF level 6  
 University of Palermo, Palermo (Italy)  
 Thesis: Evolution of Y chromosome from *Pan troglodytes* to *Homo sapiens*

01/11/2009–01/10/2010 **National Civil Service**  
 Onlus Unione Italiana Ciechi e Ipovedenti, Palermo (Italy)

10/09/2002–14/07/2007 **Linguistic Secondary School** EQF level 4  
 Liceo linguistico Provinciale di cultura e lingue "Ninni Cassarà", Palermo (Italy)

**WORK EXPERIENCE**

09/10/2018–Present **Ecology Lecturer**  
 University of Messina. Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, Messina (Italy)

2017–Present **Tutoring activities**  
 University of Messina. Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, Messina (Italy), Messina (Italy)  
 Tutoring activities for bachelor and Master thesis elaboration and programming. Support activities for high-school, bachelor and Master students orientation in the academic world.

10/07/2017–17/07/2017 **Biologist**  
 University of Messina, Messina (Italy)  
 Project ArBioMe  
 Second Biological and Archeological research campaign in the Strait of Messina. Research using MultiBeam system, Side-scan sonar system, video monitoring with ROV (Remotely Operated underwater Vehicle) and Triton submarines.  
 U-Boat Navigator.  
<http://u-boat.com.mt/u-boat-navigator/>

**Business or sector** Oceanographic Campaign

30/05/2017–06/06/2017 **Biologist**  
 University of Messina, Messina (Italy)  
 Fish sampling for microplastic research in the Tyrrhenian Sea.  
 Boat - G. Dalla Porta  
 IAMC-CNR

**Business or sector** Oceanographic Campaign

25/03/2017–01/04/2017 **Biologist**  
 University of Messina, Messina (Italy)  
 Project Venus 4

Water sampling with Rosette and multi-parametric profiler for microbiological analysis.

Boat - Minerva 1

**Business or sector** Oceanographic Campaign

20/02/2017–24/02/2017

**Biologist**

University of Messina, Messina (Italy)

Sampling with Benna Van Veen for sediments characterization for the dredging of the Ortona port. Ortona Port, Pescara (Italy)

**Business or sector** Oceanographic Campaign

01/08/2015–18/08/2015

**Biologist**

University of Messina, Messina (Italy)

Project ArBioMe

Biological and Archeological research campaign in the Strait of Messina. Research using MultiBeam system, Side-scan sonar system, video monitoring with ROV (Remotely Operated underwater Vehicle) and Triton submarines.

U-Boat Navigator.

<http://u-boat.com.mt/u-boat-navigator/>

**Business or sector** Oceanographic Campaign

PERSONAL SKILLS

**Mother tongue(s)**

Italian

**Foreign language(s)**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Inglese	B1	B1	B1	B1	B1
Francese	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
Common European Framework of Reference for Languages

**Job-related skills**

Microbiological basely techniques, preparation of culture media, maintenance of cell cultures in monolayer and in suspension, acridina orange, extraction of DNA and RNA, separation of nucleic acids on gel of agarose, extraction of protein from cell preparations, purification and quantification, SDS-PAGE, WESTERN BLOT, coloration DAPI e FISH, PCR, purification of nucleic acids, thermal shock lysis, DGGE.

Use of principal instruments for determination of water parameters and associated biological communities (zoobenthos, necton).

Detection and analyses of microplastic contamination in marine environment and organisms.

**Digital skills**

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Independent user	Proficient user	Basic user	Independent user	Independent user

Digital skills - Self-assessment grid

Driving licence A1, B

#### ADDITIONAL INFORMATION

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**Projects** 2017-2019, Programma Nazionale di Ricerche in Antartide, Progetto Antarctic Porifera: Hot-spots for Prokaryotic diversity and biotechnological Potentialities - P3, PI: Dr. Angelina Lo Giudice (Università di Messina, Italia).

2019-2021, Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN): Identification of new biomarkers and clinical determinants for management improvement of patients with pituitary tumor related syndromes, PI: Cannavò Salvatore (Università di Messina, Italia).

**Publications** Full length articles:

Savoca, S., Giudice, A. L., Papale, M., Mangano, S., Caruso, C., Spanò, N., ... & Rizzo, C. (2019). Antarctic sponges from the Terra Nova Bay (Ross Sea) host a diversified bacterial community. *Scientific reports*, 9(1), 1-15.

Savoca, S., Capillo, G., Mancuso, M., Faggio, C., Panarello, G., Crupi, R., ... & Fazio, E. (2019). Detection of artificial cellulose microfibers in Boops boops from the northern coasts of Sicily (Central Mediterranean). *Science of The Total Environment*, 691, 455-465.

Capillo, G., Savoca, S., Panarello, G., Mancuso, M., Branca, C., Romano, V., ... & Spanò, N. (2019). Quali-quantitative analysis of plastics and synthetic microfibers found in demersal species from Southern Tyrrhenian Sea (Central Mediterranean). *Marine pollution bulletin*, 110596.

Bottari, T., Savoca, S., Mancuso, M., Capillo, G., Giuseppe Panarello, G., Martina Bonsignore, M., ... & Neri, F. (2019). Plastics occurrence in the gastrointestinal tract of Zeus faber and Lepidopus caudatus from the Tyrrhenian Sea. *Marine pollution bulletin*, 146, 408-416.

Capillo, G., Sanfilippo, M., Savoca, S., Albano, M., & Fazio, F. (2019). Body Patterning of Sepia officinalis in Captivity, from Feeding to Reproduction. *Res Adv Aquat Sci*, 1, 01-09.

S. Savoca, G. Capillo, M. Mancuso, T. Bottari, R. Crupi, C. Branca V. Romano, C. Faggio, G. D'Angelo, N. Spanò. Microplastics occurrence in the Tyrrhenian waters and in the gastrointestinal tract of two congener species of seabreams. *Environmental Toxicology and Pharmacology* Vol. 67, April 2019, Pages 35-41

Costa, R., Capillo, G., Albergamo, A., Li Volsi, R., Bartolomeo, G., Bua, G., Ferracane, A., Savoca, S., Gervasi, T., Rando, R., Dugo, G., Spanò, N. (2019). A Multi-screening Evaluation of the Nutritional and Nutraceutical Potential of the Mediterranean Jellyfish Pelagia noctiluca. *Marine drugs*, 17(3), 172

Monique Mancuso, Serena Savoca, Teresa Bottari (2019). First record of microplastics ingestion by european hake Merluccius merluccius from the Tyrrhenian sicilian coast (central Mediterranean Sea). *J Fish Biol. Journal of fish biology*, 94(3), 517-519. doi:10.1111/jfb.13920

Gioele Capillo, Giuseppe Panarello, Serena Savoca, Marilena Sanfilippo, Marco Albano, Rosalia Li Volsi, Giancarlo Consolo, Nunziacarla Spanò. Intertidal ponds of Messina's beachrock faunal assemblage, evaluation of ecosystem dynamics and communities' interactions. *Atti della Accademia Peloritana dei Pericolanti - classe di scienze fisiche, matematiche e Naturali* ISSN: 1825-1242. Vol. 96, No. S3, A4 (2018). DOI: 10.1478/AAPP.96S3A4.

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(12), 492

## Conferences

Giuseppe Panarello, Serena Savoca, Gioele Capillo, Monique Mancuso, Teresa Bottari, Nunziacarla Spanò. PLASTIC DEBRIS INGESTION BY DEMERSAL ELASMOBRANCH SPECIES FROM TYRRHENIAN SEA: GALEUS MELASTOMUS, SCYLIORHINUS CANICULA AND RAJA MIRALETUS. J. Biol. Res.,92 (S1): 10.

Mariachiara Costanzo, Gioele Capillo, Serena Savoca, Giuseppe Panarello, Teresa Bottari, Monique Mancuso, Nunziacarla Spanò. PLASTICS INGESTION EVIDENCES IN TWO COMMERCIALY IMPORTANT SPECIES FROM CENTRAL MEDITERRANEAN SEA. J. Biol. Res.,92 (S1): 10.

Dario Di Fresco, Giuseppe Panarello, Gioele Capillo, Serena Savoca, Teresa Bottari, Monique Mancuso, Nunziacarla Spanò. MICROFIBERS OCCURRENCE IN THE MEDITERRANEAN SEA: EVIDENCE OF INGESTION BY DEMERSAL-SEMIPELAGIC (BOOPS BOOPS) FISH SPECIES. J. Biol. Res.,92 (S1): 11.

Sergio Famulari, Serena Savoca, Giuseppe Panarello, Gioele Capillo, Monique Mancuso, Teresa Bottari, Nunziacarla Spanò. PRESENCE OF MICROPLASTICS IN THE GASTROINTESTINAL TRACT OF TWO SEABREAMS SPECIES (PAGELLUS ERYTHRINUS AND PAGELLUS BOGARAVEO). J. Biol. Res.,92 (S1): 11.

Serena Savoca, Gioele Capillo, Giuseppe Panarello, Angelina Lo Giudice, Carmen Rizzo, Rossana Rando, Giovanni Bartolomeo, Rosaria Costa, Nunziacarla Spanò. ANTIMICROBIAL ACTIVITIES OF EXTRACTS FROM GRACILARIA GRACILIS (RHODOPHYTA) (2018), J. Biol. Res., 91 (S1): 13.

Serena Savoca, Antonio Picazo, Vanessa Cocca, Mario López-Pérez, José M. Haro-Moreno, Angelina Lo Giudice, Francisco Rodriguez-Valera, Antonio Camacho. EXPERIMENTAL APPROACH TO THE EFFECT OF AVAILABLE CARBON AS STRUCTURING FACTOR FOR MICROBIAL POPULATIONS IN THE MEDITERRANEAN DEEP CHLOROPHYLL MAXIMUM. (2017), J. Biol. Res., 90(S1): 23.

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.

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.

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.

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.

Gioele Capillo, Caterina Faggio, Serena Savoca, Giuseppe Panarello, Marilena Sanfilippo, Nunziacarla Spanò. GRACILARIA GRACILIS: A POWERFUL PRODUCT FROM SUSTAINABLE AQUACULTURE. 91° Convegno SIBS, 9-10 Novembre, 2018 - Ancona, Italy.

Savoca S., Capparucci F., Guarnera S., Salvo A., Borella L., Salogni C., Marino F. VIBRIO ALGINOLYTICUS QUALE CAUSA DI MORTALITÀ IN AVANNOTTERIA. XXIV Congresso Nazionale S.I.P.I (Società Italiana Patologia Ittica) Torino (TO) 11-13 Ottobre 2018

Azzaro M., Conte A., Papale M., Cabral A.S., Caruso G., Crisafi E., Dalle Fratte M., Forte E., La Ferla R., Lo Giudice A., Maimone G., Paranhos R., Rappazzo A.C., Rizzo C., Savoca S., Spanò N.,

Guglielmin M. Microbial communities in the brines of two Antarctic frozen lakes (Boulder Clay). XXXV SCAR Biennial Meetings Arctic Science Summit Week 2018 & IASC Business Meetings. Davos – Switzerland 15-26 June 2018.

Papale M., Graziano M., Conte A., Caruso G., Rappazzo A.C., Lo Giudice A., Maimone G., Mikkonen A., Rizzo C., Savoca S., De Domenico E., La Ferla R., Azzaro M. Prokaryotic communities in sediments along the Pasvik River (Arctic Norway). XXXV SCAR Biennial Meetings Arctic Science Summit Week 2018 & IASC Business Meetings. Davos – Switzerland 15-26 June 2018

Graziano M., Papale M., Conte A., Caruso G., Rappazzo A.C., Lo Giudice A., Amalfitano S., Maimone G., Rizzo C., Savoca S., De Domenico E., La Ferla R., Azzaro M. Abundances and activities of prokaryotic community in water of an Arctic river. XXXV SCAR Biennial Meetings Arctic Science Summit Week 2018 & IASC Business Meetings. Davos – Switzerland 15-26 June 2018

Azzaro M.1\*, Papale M.2, Conte A.2, Cabral A.S.3, Caruso G.1, Crisafi E.1, Dalle Fratte M.4, Forte E.5, La Ferla R.1, Lo Giudice A.1,2, Maimone G.1, Paranhos R.3, Rappazzo A.C.1, Rizzo C.2, Savoca S.2, Spanò N.2, Guglielmin M. Two microbial assemblages in lake brine pockets separated by a thick ice layer. XXXV SCAR Biennial Meetings Arctic Science Summit Week 2018 & IASC Business Meetings. Davos – Switzerland 15-26 June 2018

Gioele Capillo, Serena Savoca, Carmen Rizzo, Marilena Sanfilippo, Nunziacarla Spanò. GRACILARIA GRACILIS OF CAPO PELORO LAGOON, A POWERFUL PRODUCT FROM SUSTAINABLE AQUACULTURE. 8th European Coastal Lagoons Symposium. 20-23 MARCH 2018 - ATHENS, GREECE

Papale Maria, Conte Antonella, Azzaro Maurizio, Borruso Luigimaria, Rizzo Carmen, Savoca Serena, Spanò Nunziacarla, La Ferla Rosabruna, Guglielmin Mauro, Lo Giudice Angelina. BACTERIAL AND ARCHAEL COMMUNITIES IN ANTARCTIC BRINE POCKETS. XXVII Congresso della Società Italiana di Ecologia (SItE), Napoli, 12-15 settembre 2017.

Conte Antonella, Papale Maria, Maurizio Azzaro, Carmen Rizzo, Savoca Serena, Spanò Nunziacarla, Rosabruna La Ferla, Mauro Guglielmin, Angelina Lo Giudice. ANTIBIOTIC SUSCEPTIBILITY AND HEAVY METAL TOLERANCE IN BACTERIAL ISOLATES FROM UNCONTAMINATED ANTARCTIC BRINES. 1th ANTPAS Workshop, 4-5th October 2017 – Varese, Italy.

Savoca S., Papale M., Conte A., Rizzo C., Spanò N., Mangano S., Caruso C., Rappazzo A.C., Michaud L., Lo Giudice A. Sponge-Associated Antarctic bacterial: diversity and antibacterial potential. XIII Incontro dottorandi di Ecologia e Scienze dei Sistemi Acquatici. 03-05 Maggio, 2017 – Palermo, Italy.

#### Courses **8th International Course in Microbial Ecology**

"MICROBIAL METAGENOME ANALYSIS: HANDS-ON TRAINING"

12-16/06/2017

CNR-ISE, Verbania (Italy)

**Next generation sequencing and bioinformatics: methods, tools and applications in basic research, clinical diagnostics and much more.**

IRCCS Centro Neurolesi "Bonino Pulejo"

27/05/2016

## Certificazione

Certificate of attendance

**Conference on "Innovazione delle biotecnologie nella ricerca scientifica".**

SmartScience2017

26-27/01/2017

University of Catania (Italy)

Certificate of attendance

**Seminary on "Approcci molecolari per lo studio delle comunità microbiche: biodiversità e funzione".**

University of Messina

25/05/2016

Certificate of attendance

**Conference on "l'Università di Messina e il Distretto Tecnologico Sicilia Micro e Nano Sistemi per lo Sviluppo di Micro e Nano Tecnologie e Sistemi Avanzati per la Salute dell'uomo: Risultati e Prospettive.**

University of Messina

04/12/2015

Certificate of attendance

Scientific meeting "FORINNOVAQUA".

**Formation for Technological Innovation in Aquaculture**

University of Messina

21/10/2015