

Chiara Lauritano, PhD

Researcher at the Stazione Zoologica Anton Dohrn, Napoli, Italy, since 2018

Marine Biotechnology Department

Education/Training

Institute and Location	Degree (if applicable)	Year	Field of Study
University Federico II of Napoli, Italy	M. Sc,	2008	Pharmaceutical Biotechnologies
University Federico II of Napoli, Italy	B. Sc.	2006	Biotechnologies
Station Biologique de Roscoff, Roscoff (France)	Visitor Scientist	17 th – 29 th May 2010	Chemical Ecology; EU FP7 Project ASSEMBLE
Göteborg University, Sven Lovén Centre for Marine Sciences, Kristineberg (Sweden)	Visitor Scientist	23 rd May-3 rd June 2011	Chemical Ecology; EU FP7 Project ASSEMBLE
University of Calabria, Arcavacata di Rende, Italy	Ph.D.	2011	Animal Biology
Stazione Zoologica di Napoli Anton Dohrn, Napoli, Italy	Post-doc	2013-2017	EU FP7 funded PharmaSea project
University of Tromsø, Norway	Visitor Post-doc Scientist	17 th February 2015-17 th April 2015	Marine Biotechnology; EU FP7 project PharmaSea
Stazione Zoologica di Napoli Anton Dohrn, Napoli, Italy	Temporary Researcher	2017-2018	Chemical Ecology, Marine Biotechnology
Stazione Zoologica di Napoli Anton Dohrn, Napoli, Italy	Researcher	2018-now	Chemical Ecology, Marine Biotechnology

Scientific expeditions:

-9th of December 2015 to the 3rd of January 2016: Oceanographic cruise on board of the vessel “HESPERIDES” for sampling in Sub-Antartic waters as part of a H2020 EUROFLEET2 project PharmaDeep.

-7th of April 2011-14th of April 2011: Oceanographic cruise on board of the vessel “URANIA”.

Grants:

1. **EU FP7 ASSEMBLE Project:** Grant by ASSEMBLE EU Project to perform the project “Molecular investigations of the stress response induced by diatom oxylipins in the copepod *Calanus helgolandicus*” at the Station Biologique de Roscoff, France, from 17th to 29th May 2010.

2. **EU FP7 ASSEMBLE Project:** Grant by ASSEMBLE EU Project to perform the project “Stress response in the copepods *Calanus helgolandicus* and *Calanus finmarchicus* after feeding on the oxylipin-producing diatom *Skeletonema marinoi*” at

the Sven Lovén Centre for Marine Sciences, Kristineberg, Sweden, from 23rd May 2011 to 3rd June 2011.

3. **Grant by COST** (European Cooperation in Science and Technology) to participate in COST Action ES0906: Seagrass productivity: from genes to ecosystem management, performed in Vulcano (Aeolian Island, Italy) on 6-11 May 2013.

4. **H2020 EUROFLEET2** project called “PHARMADEEP, Drug discovery from the deep Antarctic waters”. The project consisted in an oceanographic cruise on board of the vessel “HESPERIDES” for sampling in Sub-Antarctic between 9th December 2015 and 3rd January 2016. Grant agreement n° 312762.

Other:

- Tutor of 1 international B.Sc. thesis and 2 international PhD thesis
- Editorial board member of: *Frontiers in Marine Science*; *Journal of Biotechnology and Biomedical Engineering*; *SM Journal of Environmental Toxicology*; *Journal of Coastal Life Medicine (JCLM)*; *Jacobs Journal of Physiology*; *Austin Endocrinology & Diabetes Case Reports*; *Insights in Genetics and Genomics*; *Current Updates in Aging*; *EC Pharmacology and Toxicology*; *Journal of Aquaculture and Marine Sciences*

Current Research Projects:

- MSCA-ITN-ETN MarPipe training network and I am also co-supervising a PhD student (Kevin Martinez) in this network (2017-2020).
- “Cosmeceuticals And Nutraceuticals From Antarctic Biological Resources (CAN FARE)”, approved by PNRA (National Programme of Research in Antarctica), 2017-2019.
- SZN Premiale project ExPO: Exploring the biotechnological potential of marine organisms”, 2018-2019.

Publications (ISI):

1. Lauritano C., Borra M., Carotenuto Y., Biffali E., Miralto A., Procaccini G., Ianora A. (2011) First molecular evidence of diatom effects in the copepod *Calanus helgolandicus*. *Journal of Experimental Marine Biology and Ecology*, 404(1-2):79-86.
2. Lauritano C., Borra M., Carotenuto Y., Biffali E., Miralto A., Procaccini G. and Ianora A. (2011) Molecular evidence of the toxic effects of diatom diets on gene expression patterns in copepods. *PLoS One*, 6(10):e26850.
3. Lauritano C., Procaccini G. and Ianora A. (2012) Gene Expression Patterns and Stress Response in Marine Copepods. *Marine Environmental Research*, 76:22-31.
4. Serra I.A.*, Lauritano C.*, Dattolo E., Puoti A., Nicastro S., Innocenti A.M., Procaccini G. (2012) Reference genes assessment for the seagrass *Posidonia oceanica* in different salinity, pH and light conditions. *Marine Ecology*. DOI 10.1007/s00227-012-1907-8 *First two authors share equal responsibility.
5. Carotenuto Y., Esposito F., Pisano F., Lauritano C., Perna M., Miralto A., Ianora A. (2012) Multi-generation cultivation of the copepod *Calanus helgolandicus* in a re-circulating system. *Journal of Experimental Marine Biology and Ecology*, 418-419 (2012) 46–58.

6. Lauritano C., Carotenuto Y., Procaccini G., Miralto A. and Ianora A. (2012) Copepod population-specific response to a toxic diatom diet. *PLoS One*, 7(10): e47262.
7. Lauritano C., Carotenuto Y., Procaccini G., Turner JT, Ianora A. (2013) Changes in expression of stress genes in copepods feeding upon a non-brevetoxin-producing strain of the dinoflagellate *Karenia brevis*. *Harmful Algae*, 28:23-30.
8. Carotenuto Y., Dattolo E., Lauritano C., Pisano F., Sanges R., Miralto A., Procaccini G. and Ianora A. (2014) Insights into the transcriptome of the marine copepod *Calanus helgolandicus* feeding on the oxylipin-producing diatom *Skeletonema marinoi*. *Harmful Algae*, 31:153–162.
9. Dattolo E., Ruocco M., Brunet C., Lorenti M., Lauritano C., D’Esposito D., De Luca P., Sanges R., Mazzuca S., Procaccini G. (2014) Response of the seagrass *Posidonia oceanica* to different light environments: Insights from a combined molecular and photo-physiological study. *Marine Environmental Research*, 101:225-36.
10. Asai S., Ianora A., Lauritano C. and Carotenuto Y. (2015) High-quality RNA Extraction from Copepods for Next Generation Sequencing: A Comparative Study. *Marine genomics*. 24:115-118. doi: 10.1016/j.margen.2014.12.004.
11. Lauritano C., Carotenuto Y., Vitiello V., Buttino I., Romano G. Hwang J.S. and Ianora A. (2015) Effects of the oxylipin-producing diatom *Skeletonema marinoi* on gene expression levels in the calanoid copepod *Calanus sinicus*. *Marine Genomics*. pii: S1874-7787(15)00008-2. doi: 10.1016/j.margen.2015.01.007.
12. Lauritano C., Orefice I., Procaccini G., Romano G., Ianora A. (2015) Key Genes as Stress Indicators in the Ubiquitous Diatom *Skeletonema marinoi*. *BMC Genomics*, 16:411.
13. Orefice I., Lauritano C., Procaccini G., Romano G., Ianora A. (2015) Insights in possible cell-death markers in the diatom *Skeletonema marinoi* in response to senescence and silica starvation. *Marine Genomics*, 24:81-88.
14. Lauritano C., Ruocco M., Dattolo E., Buia M.C., Silva J., Santos R., Olivé I., Costa M.M., Procaccini G. (2015) Response of key stress-related genes of the seagrass *Posidonia oceanica* in the vicinity of submarine volcanic vents, *Biogeosciences*, 12:4185–4194.
15. Jeanine L. Olsen, Pierre Rouzé, Bram Verhelst, Yao-Cheng Lin, Till Bayer, Jonas Collen, Emanuela Dattolo, Emanuele De Paoli, Simon Dittami, Florian Maumus, Gurvan Michel, Anna Kersting, Chiara Lauritano, Rolf Lohaus, Mats Töpel, Thierry Tonon, Kevin Vanneste, Mojgan Amirebrahimi, Janina Brakel, Christoffer Boström, Mansi Chovatia, Jane Grimwood, Jerry W. Jenkins, Alexander Jüterbock, Amy Mraz, Wytze T. Stam, Hope Tice, Erich Bornberg-Bauer, Pamela J. Green, Gareth A. Pearson, Gabriele Procaccini, Carlos M. Duarte, Jeremy Schmutz, Thorsten B. H. Reusch, & Yves van de Peer. (2016) The genome of the seagrass *Zostera marina* reveals angiosperm adaptation to the sea, *Nature*, 530, 331–335. doi:10.1038/nature16548.
16. Lauritano C., Romano G., Roncalli V., Amoresano A., Fontanarosa C., Bastianini M., Braga F., Carotenuto Y., Ianora A. (2016) New oxylipins produced at the end of a diatom bloom and their effects on copepod reproductive success and gene expression levels. *Harmful Algae*. 55: 221–229.

17. Lauritano C, Ianora A. (2016) Marine Organisms with Anti-diabetes properties. *Marine Drugs*. 14(12): 220. doi: 10.3390/md14120220.
18. Lauritano C., Andersen J.H., Hansen E., Albrigtsen M., Escalera L., Esposito F., Helland K., Hanssen K.Ø., Romano G., Ianora A. (2016) Bioactivity screening of microalgae for antioxidant, anti-inflammatory, anticancer, anti-diabetes and antibacterial activities. *Frontiers in Marine Science (ISI in 1 year)*. 3, 68. doi: 10.3389/fmars.2016.00068.
19. Romano G., Costantini M., Sansone C., Lauritano C., Ruocco N., Ianora A. (2017) Marine microorganisms as a promising and sustainable source of bioactive molecules. *Marine Environmental Research*. 128:58-69. doi: 10.1016/j.marenvres.2016.05.002.
20. Olivè I., Silva J., Lauritano C., Costa M.M., Ruocco M., Procaccini G., Santos R. (2017) Linking gene expression to productivity to unravel long- and short-term responses of seagrasses to CO₂ in volcanic vents. *Scientific Reports*. 7: 42278. doi: 10.1038/srep42278.
21. Procaccini G., Ruocco M., Marin-Guirao L., Dattolo E., Brunet C., D'Esposito D., Lauritano C., et al. (2017) Depth-specific fluctuations of gene expression and protein abundance modulate the photophysiology in the seagrass *Posidonia oceanica*. *Scientific Reports*. 7:42890. doi: 10.1038/srep42890.
22. Rasmusson L.M.; Lauritano C ; Procaccini G.; Gullström M.; Buapet P.; Björk M. (2017) Respiratory oxygen consumption in the seagrass *Zostera marina* varies on a diel basis and is partly affected by light. *Marine Biology*. 164(6): 140. doi: 10.1007/s00227-017-3168-z.
23. Lauritano C., De Luca D., Ferrarini A., Avanzato C., Minio A., Esposito F., Ianora A. (2017) De novo transcriptome of the cosmopolitan dinoflagellate *Amphidinium carterae* to identify enzymes with biotechnological potential. *Scientific Reports*. 7, Article number: 11701. doi:10.1038/s41598-017-12092-1.
24. Ravaglioli C., Lauritano C. et al. (2017) Nutrient Loading Fosters Seagrass Productivity Under Ocean Acidification. *Scientific Reports*. 7, Article number: 13732. doi:10.1038/s41598-017-14075-8
25. Lauritano C., Martín J., de la Cruz M., Reyes F., Romano G., Ianora A. (2018) First identification of marine diatoms with anti-tuberculosis activity. *Scientific Reports*. 8:2284 | DOI:10.1038/s41598-018-20611-x
26. Ruocco N, Costantini S, Zupo V, Lauritano C., Caramiello D, Ianora A, Budillon A, Romano G, Nuzzo G, D'Ippolito G, Fontana A, Costantini M. (2018) Toxicogenic effects of two benthic diatoms upon grazing activity of the sea urchin: morphological, metabolomic and de novo transcriptomic analysis. *Scientific Reports*. 8:5622. doi: 10.1038/s41598-018-24023-9.
27. Brillatz T.*, Lauritano C.*, Jacmin M.*, Khamma S., Marcourt L., Righi D., Romano G., Esposito F., Ianora A., Queiroz E.F., Wolfender J.L. and Crawford A.D. (2018) Zebrafish-based identification of the antiseizure nucleoside inosine from the marine diatom *Skeletonema marinoi*. *PLoS One*. 13:e0196195. doi: 10.1371/journal.pone.0196195. *First author shared.
28. Martinez Andrade K.A., Lauritano C., Romano G., Ianora A. (2018) Marine microalgae with anticancer properties. *Marine Drugs*. 16(5). pii: E165. doi: 10.3390/md16050165.

29. Giordano D., Costantini M., Coppola D., Lauritano C., Núñez Pons L., Ruocco N., di Prisco G., Ianora A., Verde C. Biotechnological applications of bioactive peptides from marine sources. *Advanced microbial physiology*. In press.

Other Publications (non ISI):

1. Lauritano C. and Ianora A. (2018) *Grand Challenges in Marine Biotechnology: Overview of recent EU-funded projects in the field*, Springer, In press.
2. Brillatz T., Lauritano C., et al. (2017). Anticonvulsant Principle Isolation of the Marine Diatom *Skeletonema marinoi*. *Planta Medica International Open*. 4, S01, Mo-PO-68.
3. Lauritano C., Andersen J.H., Hansen E., Albrigtsen M., Escalera L., Esposito F., Helland K., Hanssen K.Ø., Romano G., Ianora A. (2016) Bioactivity screening of microalgae for antioxidant, anti-inflammatory, anticancer, anti-diabetes and antibacterial activities. *Frontiers in Marine Science*. (ISI in 1 year) 3, 68.
4. Lauritano C., Bulleri F., Ravaglioli C., Tamburello L., Buia M. C., Procaccini G. (2015) Antioxidant and stress-related genes in the seagrass *Posidonia oceanica* in the vicinity of natural CO₂ vents at different nutrient conditions. *PeerJ Journal*. <https://dx.doi.org/10.7287/peerj.preprints.1060v1>. May 2015.
5. Procaccini G., Dattolo E., Lauritano C., Ruocco M., Marín-Guirao L. (2015) *Posidonia oceanica* molecular adaptation to the light environment. *PeerJ Journal*. <https://dx.doi.org/10.7287/peerj.preprints.1056v1>. May 2015. Ruocco M., Brunet C., Lorenti M.,
6. Dattolo E., Lauritano C., Ruocco M., Procaccini G. (2015) Circadian fluctuation of gene expression along a bathymetric cline in the marine angiosperm *Posidonia oceanica*. *PeerJ Journal*. <https://dx.doi.org/10.7287/peerj.preprints.1058v1>. May 2015.
7. Ruocco M., Brunet C., Lorenti M., Lauritano C., D'Esposito D., Riccio M., Procaccini G. “*Posidonia oceanica* photoadaptation to the depth gradient” *Biol. Mar. Mediterr.* (2012), 19 (1): 63-64
8. Lauritano C., Carotenuto Y., Procaccini G., Ianora A. “Changes in the molecular response to the same toxic diatom diet among different *Calanus helgolandicus* populations” *Biol. Mar. Mediterr.* (2012), 19 (1): 16-19