

Adrianna Ianora



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Current Position: Research Director and Head of the Integrative Marine Ecology Department 2014-present

Education/Training/Experience

Institute	Degree/Function	Year	Field of Study
McGill University Montreal (Canada)	BSc	1975	Biological Sciences
Fellow SZN	Canadian Scholarship	1976-1978	Marine Biology
University of Naples	Laurea cum laude	1980	Scienze Naturali
University of Messina	contract	1981	copepod biology
Stazione Zoologica	contract	1982	copepod biology
Stazione Zoologica	I level Staff Scientist	1983-1992	copepod reproduction
Stazione Zoologica	II level Staff Scientist	1992-1998	chemical ecology
Stazione Zoologica	Director of Research	1998-present	chemical ecology
Head of the Functional And Evolutionary Ecology Laboratory	Stazione Zoologica	2010-2015	drug discovery
Head of the Public Aquarium and Aquariology Area	Stazione Zoologica	2014	

Appointments and awards

- 1991-2005 Editorial Board Member of the journal PSZN: Marine Ecology
- 1996-2010 Editorial Board Member of the Journal of Plankton Research
- 2007-2010 Editorial Board Member of the Open Oceanography Journal
- 2001-present Editorial Board Member of the journal Scientia Marina
- 2004-present Review Editor of the journal Marine Ecology Progress Series
- 2010-present Editorial Board Member Italian Journal of Limnology and Oceanography
- 2013-present Academic Editor for the journal PLoS ONE
- 1991-1992 Vice-President Plankton Committee CIESM (Commission Internationale pour l'Exploration Scientifique de la Mer Méditerranée)
- 1996-1999 Vice-President of WAC (World Association of Copepodologists)
- 2007-2009 Jury Member of the Ramon Margalef Prize
- 2008 Member of Sebetia-Ter International Prize
- 2004-2008 Principal Investigator of the EU Network of Excellence EUROCEAN and member of the training committee
- 2003-2009 Vice Chair for Southern Europe of the Scientific Steering Committee of the EU Network of Excellence MARBEF. Co-responsible for the Training Committee; Coordinator of the RMP Research Project ROSEMEB (Role of Secondary Metabolites in Ecosystem Biodiversity)
- 2010-2013 Vice Chair for Southern Europe of MARBEF+
- 2012-2013 Coordination Team of the EU (CSA) Coordination and Support Action for the creation of the Network EUROMARINE
- 2005-2014 Co-opted Member of the Executive Board of MARS Network of Marine Research Stations <http://www.marsnetwork.org/executive-board>
- 2014-2017 ERA-NET Marine Biotechnology International Advisory Group <http://www.marinebiotech.eu/>
- 2014-present Steering Committee of EUROMARINE http://www.euromarinenetwork.eu/files/SCmembers_1502.pdf

Other

Evaluator nominated by the European Commission for several FP7 and H2020 proposals
Evaluator ERC LS8 panel Consolidator grants 2014-2017
Evaluator Marie Skłodowska-Curie grants 2016
Evaluator Vienna Science and Technology Funds
Evaluator EPA Ireland Environmental Protection Agency
Evaluator ANR French National Research Agency
Evaluator US NSF grants

Co-founder of the SZN-CNR spin-off company BioSEARCH srl for the development of new drugs and cosmetics from marine microalgae <https://www.biosearchsrl.com/>

Students' Supervision

Tutor/cotutor of 11 national and international PhD thesis
Supervisor of 11 postdoctoral researchers and fellows

Member of national and international PhD examination panels
Author of 128 scientific publications in ISI journals and 6 book chapters
Co-editor of three books on Antarctic and peri-Antarctic Ecosystems published by Springer Verlag
More than 30 plenary and invited lectures in national or international events
Request for patents (A new fast method for the early diagnosis of cell fate by transcript analysis)
ISI h-index = 40; Google Scholar h-index = 48

Current Projects

1. EMBRIC European Marine Biological Research Infrastructure Cluster to promote the Blue Bioeconomy Coordinated by EMBRC (2015-2018)
<http://www.embrc.eu/node/612>
2. OCEAN MEDICINES Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE) (2016-2019)
http://cordis.europa.eu/project/rcn/198834_en.html
3. MarPipe Marie Skłodowska-Curie Actions Research and Innovation Training Network http://cordis.europa.eu/project/rcn/205431_en.html
4. Marine Biotechnology for New Cosmeceuticals and Nutraceuticals (MarCAN) SZN Flagship Project 2016-2018

FULL PAPERS (in ISI journals)

2018

- Lauritano C, Martin 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
- Sannino F, Sansone C, Galasso C, Kildgaard S, Tedesco P, Fani R, Marino G, de Pascale D, Ianora A, Parrilli E, Ostefeld Larsen T, Romano G, Tuttino ML. 2018. *Pseudoalteromonas haloplanktis* TAC125 produces 4-hydroxybenzoic acid that induces pyroptosis in human A459 lung adenocarcinoma cells. Scientific Reports 8:1190 | DOI:10.1038/s41598-018-19536-2
- Sansone C, Galasso C, Ummarino R, Nuzzo G, Casotti R, Fontana A, Romano G, Ianora A. 2017. The dinoflagellate *Alexandrium andersoni* induces caspase-independent cell death in lung and colon-rectal tumor cell lines. Marine Biotechnology (in press)
- Brillatz T, Lauritano C, Jacmin M, Khamma S, Marcourt L, Righi D, Romano G, Esposito F, Ianora A, Queiroz EF, Wolfender J-L, Crawford AD. Zebrafish-based identification of the antiseizure nucleoside inosine from the marine diatom *Skeletonema marinoi* PLOS ONE (in press)
- Ruocco N, Costantini S, Zupo V, Lauritano C, Caramiello D, Romano G, D'Ippolito G, Budillon A, Ianora A, Fontana A, Costantini M. Toxicogenic effects of two benthic diatoms, *Nanofrustulum shiloi* and *Cylindrotheca closterium*, upon grazing activity of the sea urchin *Paracentrotus lividus*: morphological, metabolomic and de novo transcriptomic analysis Scientific Reports (in press)

2017

- Di Dato V, Orefice I, Fontanarosa C, Moresano A, Ianora A, Romano G. 2017. Animal-like prostaglandins in marine microalgae ISME Journal 11: 1722–1726 doi:10.1038/ismej.2017.27

- 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: 11701 | DOI:10.1038/s41598-017-12092-1 1
- Manzo E, Cutignano A, Pagano D, Gallo C, Barra G, Nuzzo G, Sansone C, Ianora A, Urbanek K, Fenoglio D, Ferrera F, Bernardi C, Parodi A, Pasquale G, Leonardi A, Filaci G, De Palma R, Fontana A. 2017. A new marine-derived sulfoglycolipid triggers dendritic cell activation and immune adjuvant response *Scientific Reports* 7: 6286 | DOI:10.1038/s41598-017-05969-81
- Ruocco N, Costantini S, Zupo V, Romano G, Ianora A, Fontana A, Costantini M. 2017. High-quality RNA extraction from the sea urchin *Paracentrotus lividus* embryos for Next Generation Sequencing technologies *PloS One* **12**(2): e0172171
- Ruocco N, Fedele AM, Costantini S, Romano G, Ianora A, Costantini M. 2017. New inter-correlated genes targeted by diatom-derived polyunsaturated aldehydes in the sea urchin *Paracentrotus lividus*. *Ecotoxicology and Environmental Safety* 142: 355-362
- Sansone C, Galasso C, Orefice I, Nuzzo G, Luongo E, Cutignano A, Romano G, Brunet C, Fontana A, Esposito F, Ianora A. 2017. The green microalga *Tetraselmis suecica* reduces oxidative stress and induces repairing mechanisms in human cells *Scientific Reports* 7:41215 | DOI: 10.1038/srep41215

2016

- Brugnano C, Granata A, Guglielmo L, Minutoli R, Zagami G, Ianora A. The deleterious effect of diatoms on the biomass and growth of early stages of their copepod grazers. 2016. *J. Exp. Mar. Biol. Ecol.* **476**: 41–49.
- Jaspars M, de Pascale D, Andersen JH, Reyes F, Crawford AD, Ianora A. The Marine Biodiscovery Pipeline and Ocean Medicines of Tomorrow. 2016. *J. Mar. Biol. Ass. UK* **96**: 151–158.
- Lauritano C, Romano G, Roncalli V, Amoresano A, Fontanarosa C, Bastianini M, Braga F, Carotenuto Y, Ianora A. 2016. New oxylipins produced during a late diatom bloom and their effects on copepod reproductive success and gene expression levels. *Harmful Algae* **55**: 221-229
- Lauritano C, Andersen JH, Hansen E, Albrigtsen M, Escalera L, Esposito F, Helland K, Hansen 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*. 3, 68. doi: 10.3389/fmars.2016.00068
- Romano G, Costantini M, Sansone C, Lauritano C, Ruocco N, Ianora A. 2016. Marine microorganisms as a promising and sustainable source of bioactive molecules. *Mar. Environ. Res.* 128:58-69. doi: 10.1016/j.marenvres.2016.05.002.
- Ruocco N, Varrella S, Romano G, Ianora A, Bentley MG, Somma D, Leonardi A, Mellone S, Zuppa A, Costantini M. 2016. Diatom-derived oxylipins induce cell death in sea urchin embryos activating caspase-8 and caspase 3/7. *Aquatic Toxicology* 176: 128-140
- Varrella S, Romano G, Costantini S, Ruocco N, Ianora A, Bentley MG, Costantini M. Toxic Diatom Aldehydes Affect Defence Gene Networks in Sea Urchins. 2016. *PLoS ONE* 11(2): e0149734. doi:10.1371/journal.pone.0149734
- Varrella S, Romano G, Ruocco N, Ianora A, Bentley MG, Costantini M. 2016. First morphological and molecular evidence of the negative impact of diatom-

derived hydroxyacids on sea urchin *Paracentrotus lividus*, Toxicological Sciences 151: 419-433.

2015

- Asai S, Lauritano C, Ianora A, Carotenuto Y. 2015. High-quality RNA Extraction from Copepods for Next Generation Sequencing: A Comparative Approach. *Marine Genomics* **24**: 115-118.
- Castellano I, Ercolesi E, Romano G, Ianora A, Palumbo A. 2015. The diatom-derived aldehyde decadienal affects life cycle transition in the ascidian *Ciona intestinalis* through Nitric oxide/ERK signaling. *Open Biol.* **5**: 140182.
- Costantini S, Romano G, Rusolo F, Capone F, Guerriero E, Colonna G, Ianora A, Ciliberto G, Costantini M. 2015. Anti-inflammatory effects of methanol extract from the marine sponge *Geodia cydonium* on the human breast cancer MCF-7 cell line. *Mediators of Inflammation* Article ID 204975
- Cutignano A, Nuzzo G, Ianora A, Luongo E, Romano G, Gallo C, Sansone C, Aprea S, Mancini F, D'Oro U, Fontana A. 2015. Development and Application of a novel SPE-method for Bioassay-Guided Fractionation of Marine Extracts. *Mar. Drugs* **13**: 5736-5749.
- Dhankera R, Molinero JC, Kumarc R, Tsenga L-C, Ianora A, Hwang J-S. 2015. Sensitivity of the estuarine calanoid copepod *Pseudodiaptomus annandalei* to polyunsaturated aldehydes: Reproduction, survival and naupliar development. *Harmful Algae* **43**: 74–81
- Ianora A, Bastianini M, Carotenuto Y, Casotti R, Roncalli R, Miralto A, Romano G, Gerecht A, Fontana A, Turner JT. 2015. Some diatom blooms are more toxic for copepod recruitment due to production of non-volatile oxylipins. *Harmful Algae* **44**: 1-7
- Lauritano C, Carotenuto Y, Vitiello V, Buttino I, Romano G, Hwang J-S, Ianora A. 2015. Effects of the oxylipin-producing diatom *Skeletonema marinoi* on reproduction and gene expression of the calanoid copepod *Calanus sinicus*. *Marine Genomics* **24**: 89-94.
- Lauritano C, Orefice I, Procaccini G, Romano G, Ianora A. 2015. Selected genes as stress indicators in the ubiquitous diatom *Skeletonema marinoi*. *BMC Genomics* 16:411, DOI 10.1186/s12864-015-1574-5
- Lettieri A, Esposito R, Spagnuolo A, Ianora A. 2015. *Ciona intestinalis* as a marine model system to better understand the toxic effects of diatom-derived aldehydes on gene targets during development. *Mar. Drugs* **13**: 1451-1465
- Orefice I, Gerecht A, d'Ippolito G, Fontana A, Ianora A, Romano G. 2015. Determination of lipid hydroperoxides in marine diatoms by the FOX2 assay. *Mar. Drugs* 13: 5767-5783; doi:10.3390/md13095767
- Orefice I, Lauritano C, Procaccini G, Ianora A, Romano G. 2015. Possible cell-death markers in the diatom *Skeletonema marinoi* in response to senescence and silica starvation. *Marine Genomics* 24: 81-88.
- Zhang J, Ianora A, Wu C, Pellegrini D, Buttino I. 2015. How crowding and food quantity influence fecundity in the copepod *Acartia tonsa* (Dana) *Aquaculture Research* **46**, 2982–2990

2014

- Carotenuto Y, Dattolo E, Lauritano C, Pisano F, Sanges R, Miralto A, Procaccini G, Ianora A. 2014. Insights into the transcriptome of the copepod *Calanus*

- helgolandicus* feeding on the oxylipin-producing diatom *Skeletonema marinoi*. Harmful Algae **31**: 153–162
- Kâ S., Carotenuto Y., Romano G., Hwang J.-S., Buttino I., Ianora A. 2014. Impact of the diatom-derived polyunsaturated aldehyde 2-trans,4-trans decadienal on the feeding, survivorship and reproductive success of the calanoid copepod *Temora stylifera*. Mar. Environ. Res. **93**: 31-37
- Ribalet F, Bastianini M, Vidoudez C, Acri F, Berges J, Ianora A, Miralto A, Pohnert G, Romano G, Wichard T, Casotti R. 2014. Phytoplankton cell lysis associated with polyunsaturated aldehyde release in the northern Adriatic Sea. PLoS ONE **9**(1): e85947
- Sansone C, Braca A, Ercolesi E, Romano G, Palumbo A, Casotti R, Francone M, Ianora A. 2014. Diatom-derived polyunsaturated aldehydes activate cell death in human cancer cell lines but not normal cells. PLoS ONE **9**(7): e101220.
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2013

- Gerecht A, Carotenuto Y, Ianora A, Romano G, Fontana A, d'Ippolito G, Jakobsen HH, Nejstgaard JC. 2013. Oxylipin production during a mesocosm bloom of *Skeletonema marinoi*. J. Exp. Mar. Biol. Ecol. **446**: 159–165
- Lauritano C, Carotenuto Y, Procaccini G, Miralto A, Turner, JT, Ianora A. 2013. Stress gene expression levels in the copepod *Calanus helgolandicus* feeding on a non-toxic strain of the dinoflagellate *Karenia brevis*. Harmful Algae **28**:23-30
- Michalec FG, Kâ S, Holzner M, Souissia S, Ianora A, Hwang J-S. 2013. Changes in the dynamics of *Pseudodiaptomus annandalei* (Copepoda, Calanoida) adults exposed to the diatom toxin 2-trans, 4-trans decadienal. Harmful Algae **30**: 56–64
- Zhang J, Wu C, Pellegrini D, Romano G, Esposito F, Ianora A, Buttino I. 2013. Effects of different monoalgal diets on egg production, hatching success and apoptosis induction in a Mediterranean population of the calanoid copepod *Acartia tonsa* (Dana). Aquaculture **400-401**: 65–72.

2012

- Buttino I, Ianora A, Buono S, Vitiello V, Malzone MG, Rico C, Lancellotti AL, Sansone G, Gennari L, Miralto A. 2012. Cultivation of the Mediterranean calanoid copepods *Temora stylifera* and *Centropages typicus* in a pilot recirculating system Aquaculture Res. **43**: 247-259.
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- Carotenuto Y, Esposito F, Pisano F, Lauritano C, Miralto A, Perna M, Ianora A. 2012. Multi-generation cultivation of the copepod *Calanus helgolandicus* in a recirculating system J. Exp. Mar. Biol. Ecol. **418-419**: 46-58.
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2011

- Barreiro A, Carotenuto Y, Lamari N, Esposito F, d'Ippolito G, Fontana A, Romano G, Ianora A, Miralto A, Guisande C. 2011. Diatom induction of reproductive failure in copepods: the effect of PUAs versus other toxic non-volatile oxylipins J. Exp. Mar. Biol. 401: 13–19.
- Buttino I, Hwang S-H, Sun C-K, Hsieh C-T, Liu TM, Pellegrini D, Ianora A, Sartori D, Romano G, Cheng S-H, Miralto A. 2011. Apoptosis to predict copepod mortality: state of the art and future perspectives. Hydrobiologia 666:257–264.
- Carotenuto Y, Ianora A, Miralto A. 2011. Maternal and neonate diatom diets impair development and sex differentiation in the copepod *Temora stylifera*. J. Exp. Mar. Biol. Ecol. 396: 99-107.
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- 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*. J. Exp. Mar. Biol. Ecol. 404: 79-86.
- Lauritano C, Borra M, Carotenuto Y, Biffali E, Miralto A, Procaccini G, Ianora A. 2011. Molecular Evidence of the Toxic Effects of Diatom Diets on Gene Expression Patterns in Copepods PloS ONE 6(10) e26850
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2010

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2009

Brugnano C, Guglielmo L, Ianora A, Zagami G. 2009. Temperature effects on fecundity, development and survival of the benthopelagic calanoid copepod, *Pseudocyclops xiphorus* Wells, 1967. *Mar. Biol.* **156**: 331-340.

Buttino I, Ianora A, Buono S, Vitello V, Miralto A. 2009. Are monoalgal diets inferior to plurialgal diets to maximize cultivation of the Calanoid Copepod *Temora stylifera*? *Mar. Biol.* **156**:1171-1182.

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2008

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2007

Ianora, A., A. Miralto and C. Halband-Lenk. 2007. Reproduction, hatching success, and early naupliar survival in *Centropages typicus*. *Prog. Oceanogr.* **72**: 195-213.

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2006

Buttino, I., G. De Rosa, Y. Carotenuto, A. Ianora, A. Fontana, F. Quaglia, M.I. La Rotonda and A. Miralto. 2006. Giant liposomes as delivery system for ecophysiological studies in copepods. *J. Exp. Biol.* **209**: 801-809.

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2005

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- Paffenhöfer, G.-A., A. Ianora, A. Miralto, J. T. Turner, G. S. Kleppel, M. Ribera d'Alcala, R. Casotti, G. Caldwell, G. Pohnert, A. Fontana, D. Müller-Navarra, S. Jonasdóttir, V. Armbrust, U. Bamstedt, S. Ban, M. Bentley, M. Boersma, M. Bundy, I. Buttino, A. Calbet, F. Carlotti, Y. Carotenuto, G. d'Ippolito, B. Frost, C. Guisande, W. Lampert, R. Lee, S. Mazza, M.G. Mazzocchi, J. Nejstgaard, S.A. Poulet, G. Romano, V. Smetacek, S. Uye, S. Wakeham, S. Watson, and T. Wichard. 2005. Colloquium on diatom-copepod interactions. *Mar. Ecol. Prog. Ser.* **286**: 293-305

2004

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2003

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