

Michèle Barbier

Ethics advisor, Scientist & Manager

*Ethics, Health, Biotechnology,
Marine Science, geoscience
GeoEthics, Third countries,
Sustainable, fairness, equity
Access and Benefit Sharing
Innovative partnerships,
international cooperation,*



*Cell cycle, cancer
Ocean observation,
Innovation, aquaculture,
Integrated governance
Artificial Intelligence
personal data protection
Scientific Management*

Independent Ethics Advisor

Founder and Executive Director, Institut de Science et Ethique. Consulting company for ethics and ocean science, and for implementation of governance based on socio-ecological systems (management, communication, coordination), Nice, France.

Ethics adviser

- Project EU H2020 Saltgiant – Understanding the Mediterranean Salt Giant, Institut de Physique du Globe de Paris.
- Project EU H2020 S4CE, Science for clean energy, University College London.

Ethics expert European Commission, H2020 projects evaluation since 2014

Evaluation for ethics of proposals submitted to the following calls in the last 12 months: ERC-2019-ETHICS-1; -ERC-2018-ETHICS- 2; H2020-EIC-SME-INSTRUMENT-2-2018-2020 proposals Phase 2; H2020-INNOSUP-05-2018-2020; H2020 INNOSUP-02-2019; H2020-MSCA-RISE-2019; H2020-EIC-FTI-2019- cut-offs; H2020 MSCA IF 2018.

Ethics checks/assessment follow-up 2016, H2020-BG, H2020-RUR, H2020-BB, H2020-SFS).

Author of the CIESM Charter on Access and Benefits Sharing of Marine Genetics Resources for access to knowledge to everyone and to prevent the abuses of the ocean global commons, 2014 (<http://www.ciesm.org/marine/charter/index.php>).

Lecturer on ethics in research. Highlighting human health and safety, environmental protection but also artificial intelligence, transhumanism and data protection, use of animal in research. “**L’éthique en recherche**”, projets H2020, Sorbonne Université, Paris, 14 Novembre, 2018; “**Questions éthiques en Biologie marine**”, Cours Bi2Phi, Sorbonne Université, Villefranche/Mer, 26 June 2018 ; “**Ethics and DNA revolution, European Youth Event 2018**” AJC06, 14 April 2018, Nice, part of “The DNA revolution: We better talk this over!” presented at the European Parliament.

French representative of the International Association for Promoting Geoethics ([IAPG](#)).

Scientific Officer

International Scientific Officer – Mediterranean Science Commission – [CIESM](#), HQ Monaco. Since 2008 - Officer in Marine Genetics Resources, Marine Biotechnology, Access and Benefits Sharing.

CIESM is an inter-governmental organisation conceived in 1910 that promotes research in the Mediterranean and Black Seas. It offers a unique forum for scientific exchanges and dialogue and facilitates, stimulates cooperation efforts across the Basin. 23 States around the Mediterranean and Black seas are members of CIESM.

Expert in Science, evaluation for the European Commission (H2020 Societal Challenge 2, H2020-SC2-2014-SFS-BG ISIB), **for the Federal Ministry of Education and Research in Germany-** Federal Government's Strategy for the Internationalization of Science and Research (2015).

International Scientific Manager

Project Manager of the Workpackage on “Autonomous Ocean Observation networks including Argo floats, drifters, gliders, moorings (PIRATA, Biogeochemical fixed-platforms, Transport Mooring Array) European Aquatic Animals Tracking Network, [H2020 AtlantOS project](#) since 2015.

European Project Manager, Station Biologique de Roscoff – SBR- **CNRS-UPMC**, France 2004-2008

- Project FP7 Network of Excellence « **Marine Genomics Europe – MGE**” (10 M€, 45 institutions, 16 countries, 500 scientists)
- Project Marie Curie “**ESTEAM**” (1,8 M€ for 9 early-stage international scientists studying at Station Biologique de Roscoff)

Leader of the communication strategy (internal and external) MGE and ESTeam.

Scientist specialized in marine sciences

At **IFREMER**, Microbiology and Phycotoxin Department, REPHY Program, Nantes, **France** (2002).

At **NOAA** - Department of Commerce, National Ocean Service -Center for Coastal Environmental Health and Biomolecular Research-CCEHBR, Charleston, SC, USA (1999- 2002).

At **Institut Territorial de Recherches Médicales Louis Malardé (Institut Pasteur)**, Medical Oceanography Unit, Papeete, Tahiti, French Polynesia (1997-1999).

At **Observatoire Océanologique de Banyuls sur mer**, Cell and Molecular Biology Department (CNRS-UPMC) (Ifremer PhD grant), France, (1992-1996).

Education

PhD in Life Science, Cell and Molecular Biology, Univ. Pierre and Marie Curie, Paris 6, Observatoire Océanologique de Banyuls sur mer, France. PhD thesis title: “Cell cycle regulation in unicellular eukaryote Dinoflagellates”. PIs: M.O. Soyer-Gobillard & A. Picard, 1996.

Master on Animal Biology and Cell physiology, option Genetics, Protistology and Microbiology, Univ. Blaise Pascal, Clermont Ferrand, France, 1990.

Bachelor on Animal Cell Biology and Physiology, option Virology, Bacteriology, Immunology and Microbiology, Univ. Blaise Pascal, Clermont Ferrand, France, 1989.

University Technician Diploma on Biological and biochemical analysis specialized in Pharmacology, Univ. Blaise Pascal, Clermont Ferrand, France 1988.

Expertise

Legislation

UNCLOS and Nagoya Protocol in the framework of the Ocean Sampling Day implementation in MicroB3: Bioinformatics and Marine microbial diversity - EU-FP7 project, MPI MM, German (www.microb3.eu/)

Member of the advisory board on legal issues within the **Project Oceanomics** (Investissement d’Avenir) - wOrld oCEAN biOressources, biotechnologies, and Earth-systeM serviCeS-, Biotechnologies et Bioressources (2015) coordination SB Roscoff, France

Education and Capacity Building

Initiation of new partnerships: Sultanate of Oman with Nice and Monaco partnership for the development of marine biotechnological activities (2017-2018).

Technical pedagogic engineer, UPMC – CNRS (2014) “New partnerships for marine biotechnology development” (Master de Biologie Intégrée – Biologie et Bioressources Marines, UPMC)

Elaboration of long-term programs and managing large international scientific networks in research and capacity building; the conception of integrating activities: sharing technology platforms, training and education; gender actions

Communication

Organisation of popular conferences in the framework of the Monaco Ocean Week: Cocktail conference open to the public at large on marine biotechnology and sustainable development ([2018](#)) on biomimetic ([2019](#)).

Initiation of white papers in Marine Sciences: “Marine Genomics Europe: The European Flagship in Marine Sciences for a Sustainable Future” (2008). Aman R., Arendt D., Barbier M., Boyen C., *et al.*

Initiation of scientific book series on marine genomics “Introduction to marine genomics” J.M. Cock Ed., Springer (2010).

Creation and implementation of original communication supports

“ImaGene”, a photo contest on marine genomics (2005, see *Science*, 310: 227, 2005) followed up by a travelling exhibition in European aquaria.

“Once upon a time... the marine sciences” (2005) a booklet made by and for teenagers.

Popular articles:

“Geoethics, how to apply ethical core-values to the ocean observation” (2018) [4th AtlantOS Newsletter](#) Vol. 1 (4), “Algae and posidonia” Dictionary of the Mediterranean, Editions Actes Sud, MMSH, CNRS (2016); “The Mediterranean, a major research laboratory for Global warming in need of a GO-SHIP program”, [CIESM press release](#); “Recherches génomiques sur les organismes marins”, [BioFutur](#) (265): 53-56

Winner of a scientific communication prize, Institut Malardé, Tahiti: « le généthon de la gratte » (1998)

Winner of the Daniel Jouvance prize (1996)

Scientific Editions

(for details, see: <https://orcid.org/0000-0003-3845-6233>)

PEGASUS - PHYCOMORPH European Guidelines for a Sustainable Aquaculture of Seaweeds (2019)
Edited by Michèle Barbier, Bénédicte Charrier, COST Action FA1406, Roscoff, France.
doi.org/10.21411/2c3w-yc73.

MARINA Mobilisation and [Mutual Learning Workshop](#) Report on Marine biotechnologies, a source of a local and sustainable economy: what are the challenges for the future? 29 January 2018, Nice, France, available upon request.

Biogeochemical-Argo Planning Group. 2016. The scientific rationale, design and Implementation Plan for a Biogeochemical-Argo float array. *Edited by Ken Johnson and Hervé Claustre.*
[doi:10.13155/46601](https://doi.org/10.13155/46601)

Special Issue of *Marine Genomics* “Omics at the crossroads –from integrated science to multisector implications”, Vol 17, 2014, L. Giuliano & M. Barbier, Guest editors (DOI: [10.1016/s1874-7787\(14\)00117-2](https://doi.org/10.1016/s1874-7787(14)00117-2))

CIESM Marine Policy Series (1) (51p): New partnerships for blue biotechnology development, 2012, L Giuliano, M. Barbier. (<http://www.ciesm.org/CIESM2011.pdf>)

CIESM Workshop Monograph n°43: Designing Med-SHIP: a program for repeated oceanographic surveys, 2011 (162 p.), F. Briand Eds. (<http://www.ciesm.org/online/monographs/Supetar.html>)

Special Issue of *Microbial Biotechnology* “Marine Omics” Vol 3, (5), 2010. L. Giuliano, M. Barbier & F. Briand, Guest editors (DOI: [10.1111/j.1751-7915.2010.00206.x](https://doi.org/10.1111/j.1751-7915.2010.00206.x))

Publications (selection)

(for details, see: <https://orcid.org/0000-0003-3845-6233>)

Evolving and Sustaining Ocean Best Practices and Standards for the Next Decade (2019), Pearlman J.S., Bushnell M., Coppola L., Buttigieg P.L., Pearlman F., Simpson P., Barbier M., Karstensen J., Muller-Karger J.E., Munoz-Mas C., Pissierssens P., Chandler C.L., Hermes J., Heslop E., Jenkyns R., Achterberg E., Bensi M., Bittig H., Blandin J., Bosch J.A., Bourlès B., Bozzano R., Buck J.J., Burger E.F., Cano D., Cardin V., Charcos Llorens M., Cianca A., Hua C., Cusack C., Delory E., Garello R., Giovanetti G., Harscoat V., Heitsenrether R., Jirka S., Lara-Lopez A., Lanteri N., Leadbetter A.M., Manzella G.M., Masó J., Mccurdy A., Moussat E., Ntoumas M., Pensieri S., Petihakis G., Pinardi N., Pouliquen S., Przeslawski R., Roden N., Silke J., Tamburri M., Tang H., Tanhua T., Testor P., Thomas J.O., Waldmann C., Whoriskey F., *Front. Mar. Sci.* | DOI: 10.3389/fmars.2019.00277

Ethical recommendations for ocean observation (2018) Barbier M., Reitz A., Pabortsava K., Wöfl A.-C., Hahn T., and Whoriskey F. *Adv. Geosci.*, 45, 343-361, 2018 (DOI: [10.5194/adgeo-45-343-2018](https://doi.org/10.5194/adgeo-45-343-2018))

The Ocean Sampling Day, Kopf et al., *GigaScience* 2015 4:27 (DOI: [10.1186/s13742-015-0066-5](https://doi.org/10.1186/s13742-015-0066-5))

The founding charter of the Genomic Observatories Network, Davies et al. *GigaScience*, 2014, 3:2 (DOI: [10.1186/2047-217X-3-2](https://doi.org/10.1186/2047-217X-3-2))

Marketing opportunities for jellyfish, M. Barbier and H. Milo, *CIESM Marine Policy series* 2012, (1): 25-30. (<http://www.ciesm.org/CIESM2011.pdf>)

Computing power and Bioinformatics – catching up with the Genomics revolution. M. Barbier, F.O. Glöckner, G. Sutton, M. El Bour, B. Bouhaouala, L. Giuliano in *Report on Marine Genomics: ‘The Interface of Marine Microbial Ecology and Biotechnological Applications’* 2009 edited by the EU US Task Force on Biotechnology Research. (<http://www.ciesm.org/news/ciesm/monaco.pdf>)

Empowering Marine Science through Genomics. *Marine Genomics* 2008 (1): 33-35. F.A.M.J. Volckaert, M. Barbier, A.V.M. Canario, J.L. Olsen, J. Wesnigk, M. Clark and C. Boyen (DOI: [10.1016/j.margen.2008.04.001](https://doi.org/10.1016/j.margen.2008.04.001))

Permanent expression of a cyclin B homologue in the cell cycle of a primitive unicellular dinoflagellate, *Karenia brevis*. *Journal of Eukaryotic Microbiology* 2003 50 (2): 123-131. Barbier M., Leighfield T.A., Soyer-Gobillard M.O. & Van Dolah F.

Dinoflagellate centrosome: Associated proteins old and new. *Eur. J. Protistology* 2000 36(1):1-19. Ausseil J., Soyer-Gobillard M.O., Géraud M.L., Bhaud Y., Perret E., Barbier M., Albert M., Plaisance L., Moreau H

Co-localization of the cyclin B homologue, p56 and beta-tubulin during the cell cycle in a unicellular Dinoflagellate. *Biology of the Cell* 1998 90 (1): 63-76. Barbier M., Géraud M.L., and Soyer-Gobillard M.O

Cell cycle regulation of the primitive Dinoflagellate *Cryptocodinium cohnii* Biechler: Evidence for the presence of a homologue of cyclin B. *Biology of the Cell* 1995 84: 35-42. Barbier M., Albert M., Géraud M., Picard A., Soyer-Gobillard M

A detailed study of the complex cell cycle of the Dinoflagellate *Cryptocodinium cohnii* and evidence for variation in histone H1 kinase activity. *Journal of Eukaryotic Microbiology* 1994 41 (5): 519-526. Bhaud Y., Barbier M., Soyer-Gobillard.

Conferences (selection)

Access and use of Marine Genetic resources beyond Europe, M. Barbier, European Commission, DG-Mare Workshop on Marine genetic resources in areas beyond national jurisdiction (Brussels, Belgium, 21-22 May 2019)

Cocktail-Conférence "Le Biomimétisme" - Monaco Ocean Week 2019, organisée par l'Institut de Science et Ethique et le Centre Scientifique de Monaco, Monaco, 27 mars 2019

PEGASUS, Phycomorph European Guidelines for a sustainable development of seaweed aquaculture, European parliament, Searica Intergroup, Brussels, Belgium, 26 February 2019 (<http://searica.eu/events/conference/phycomorph-european-guidelines-for-a-sustainable-seaweeds-aquaculture-pegasus>)

Underwater noise, which additional recommendations can be provided? M. Barbier. CSA OCEANS 2 scoping workshop on Noise in the marine environment, Brussels, Belgium, 21-22 January 2019

Biotechnologie marine, source d'économie locale durable, quels enjeux pour l'avenir ? M. Barbier. Assises de la Transition Ecologique et Citoyenne, Nice, 2 novembre 2018 (<https://at06.eu/biotechnologie-marine-source-deconomie-locale-durable-quels-enjeux-pour-lavenir>)

PHYCOMORPH European guidelines for sustainable aquaculture of seaweeds, Aquaculture Canada 2018 conference in Quebec, Mai 2018 and Stakeholder workshop, COST Office, 21 September 2018

Biotechnologie marine et développement durable. M. Barbier. Beauty, Sea and Ethics, Monaco Ocean week, 9 April 2018

Integration of Ethics in marine research and management, M. Barbier, K. Pabortsava, A.C.n Wölf, T. Hahn, EGU 2018 General Assembly, Vienna, Austria, 11 April 2018

Ocean governance and ethics, M. Barbier. Geophysical Research, Abstracts Vol. 20, EGU2018-12632, poster presented at the 2018 EGU General Assembly, M. Barbier
<https://meetingorganizer.copernicus.org/EGU2018/EGU2018-12632.pdf>

Access and use of Marine Resources, Legislation & Ethics, Frontiers in Marine Biotechnology Conference, M. Barbier, Muscat, Oman, 5 February 2018 (<http://sciencethics.org/access-and-use-of-marine-genetic-resources>)

Marine Bioprospecting, legislation & ethics, M. Barbier, IRCAN – Institute for research and cancer, France, 9 September 2017

Access to algae: legislation, science and ethics, Barbier M. 11th International phycological Congress, Bioprospecting for algae: the profitable side of collecting algae Szczecin, Poland, 13-18 August 2017

Cultural differences in research project management, M. Barbier, EGU General Assembly, 2016

Participation to the ERANet MarineBiotech OUTLOOK workshop, foresight process to develop a longer-term view of how and where marine biotechnology is likely to contribute to the realisation of the grand societal challenges by maximising the impact of research funds provided by the EU's research programme H2020, Copenhagen, 4-5 December 2014

An original Instrument, the CIESM Charter on MGRs Access and Benefits Sharing. M. Barbier. MicroB3 Stakeholders WK: Towards a Model Agreement on Access and Benefit Sharing for Marine Genetic Resources, 27-28 February 2013, Brussels

MicroB3 – OSD - Legal aspect 'The Mediterranean Code of Conduct'. M. Barbier. MicroB3 Task Force meeting on Standards and InterOperability, EBI-EMBL, Hinxton, UK, 19-20 April 2012 and 5-6 July 2012

Environmental risks in the Mediterranean Sea. M. Barbier and F. Briand. ERAM Workshop, Alexandria, Egypt, 3-5 October 2010

Integrative ecosystemic research in the Mediterranean, the CIESM experience. M. Barbier. EMBO Workshop, Evo-devo meets marine ecology, Ischia, Italy, 9-11 October 2009