Court curriculum vitae
Jean-Pierre Gattuso
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Situation professionnelle

- 2015-présent : Chercheur associé, Institut du développement durable et des relations internationales, SciencesPo, France
- 2005-présent : Directeur de recherche au CNRS, Laboratoire d'Océanographie de Villefranche

Distinctions

- Prix Ruth Patrick de l'*Association for the Sciences of Limnology and Oceanography* (2020)
- Membre élu, Academia Europaea (2018)
- Médaille Blaise Pascal, *European Academy of Sciences* (2014)
- Membre élu, *European Academy of Sciences* (2014)

Thèmes de recherche

- Cycle du carbone et des carbonates dans l'océan
- Impacts des changements globaux (température, acidité, pollution) sur les organismes, les écosystèmes et les services écosystémiques
- Solutions aux changements climatiques

Activités éditoriales

- 2021-present: éditeur, *Cambridge Prisms: Coastal Futures*
- 2018-2021 : éditeur de l'édition annuelle du *Copernicus State of the Ocean Report*
- 2011 : éditeur de l'ouvrage *Ocean acidification* publié par *Oxford University Press*
- 2010-présent : éditeur, *Biogeosciences*
- 2006-présent : éditeur, *The Encyclopedia of Earth*

Assemblées consultatives nationales et internationales, organisation de congrès

- 2021-présent: Membre, Scientific Advisory Board, Research Mission of the German Marine Research Alliance (Marine carbon sinks in decarbonisation pathways; CDRmare)
- 2021-présent : President, Ocean Acidification & other ocean Changes – Impacts and Solutions (OACIS), Prince Albert II of Monaco Foundation
- 2021-présent : Member, Scientific Committee, BNP Paribas Foundation
- 2021-présent : Member, International Advisory Board of the Aqaba Marine Park, Jordan
- 2021-présent : Membre, Comité scientifique du Programme Prioritaire de Recherche "Océan de solutions"
- 2021-présent : Membre, Conseil métropolitain sur le climat, Métropole Nice Côte d'Azur
- 2021-présent : Membre, Agence de sécurité sanitaire, environnementale et de gestion des risques, Métropole Nice Côte d'Azur
- 2018-présent : Membre, Scientific and Technical Advisory Committee, Copernicus Marine Environment Monitoring Service
- 2018-2021 : Membre, Comité scientifique, La Rochelle Territoire Zéro Carbone
- 2017-2019 : Coordinating Lead and Contributing Author, IPCC Special Report on the Ocean and Cryosphere in a Changing Climate
- 2017-présent : Contributing Author, IPCC Special Report on Global Warming of 1.5 °C
- 2016-2020 : SCOR Working Group #149: Changing Ocean Biological Systems: how will biota respond to a changing ocean?
- 2016-présent : Membre, Comité scientifique de la Division Terre et Environnement de l'Académie Européenne des Sciences

- 2013-2020 : Membre, Conseil scientifique de Office parlementaire d'évaluation des choix scientifiques et technologiques (OPECST)
- 2013-2021 : Président, Association Monégasque pour l'Acidification des Océans.
- 2012-present : Membre, Advisory Board of the Ocean Acidification International Coordination Centre
- 2008-2012 : Membre, Comité scientifique du programme IGBP-SCOR *Integrated Marine Biogeochemistry and Ecosystem Research* (IMBER)

Contrats de recherche (liste partielle)

- *The future of Arctic coastal ecosystems - Identifying transitions in fjord systems and adjacent coastal areas*, European Commission H2020 (2020-2024)
- La conchyliculture dans un monde riche en CO_2, Fonds européen pour les affaires maritimes et la pêche (2020-2022)
- *Southern Ocean pH Monitoring*, Fondation Prince Albert II de Monaco (2017-2018)
- *The Ocean Solutions Initiative*, Veolia Fondation, Fondation Prince Albert II de Monaco, Ocean Acidification International Coordination Centre (2016-2020)
- *Integrated Arctic Observation System* (INTAROS), European Commission (2016-2020)
- HighCO_2Seas, Fondation Total, (2016-2018)
- *Small islands addressing climate change: towards storylines of risk and adaptation* (STORISK), ANR (2016-2021)
- AWIPEV-CO_2, Institut polaire français Paul Émile Victor (2015-2020)

Sélection d'articles, 2017-2021

Une liste complète est disponible ici : http://www.obs-vlfr.fr/~gattuso/publications.html. Ma production comportait un "hot paper"1 et 9 "highly cited papers". J'ai été désigné "Highly cited researcher 2021".

<2017 Gattuso J.-P., Frankignoulle M. & Wollast R., 1998. Carbon and carbonate metabolism in coastal aquatic ecosystems. *Annual Review of Ecology and Systematics* 29:405-434.

Gattuso J.-P., Frankignoulle M. & Smith S. V., 1999. Measurement of community metabolism and significance of coral reefs in the CO_2 source-sink debate. *Proceedings of the National Academy of Science U.S.A.* 96:13017-13022.

Gattuso J.-P. & Buddemeier R. W., 2000. Ocean biogeochemistry: calcification and CO_2. *Nature* 407:311-312.

Gattuso J.-P. & Hansson L. (eds.), 2011. *Ocean acidification*, 326 p. Oxford: Oxford University Press.

Gattuso J.-P., Mach K. J. & Morgan G. M., 2013. Ocean acidification and its impacts: an expert survey. *Climatic Change* 117:725-738.

Kroeker K., Kordas R., Crim R., Hendriks I., Ramajo L., Singh G., Duarte C. & Gattuso J.-P., 2013. Impacts of ocean acidification on marine organisms: quantifying sensitivities and interaction with warming. *Global Change Biology* 19:1884-1896.

Riebesell U., Gattuso J.-P., Thingstad T. F. & Middelburg J. J., 2013. Arctic ocean acidification: pelagic ecosystem and biogeochemical responses during a mesocosm study. *Biogeosciences* 10:5619-5626.

Wong P. P., Losada I. J., Gattuso J.-P., Hinkel J., Khattabi A., McInnes K., Saito Y. & Sallenger A., 2014. Coastal systems and low-lying areas. In: Field C. B. et al. (Eds.), Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, pp. 361-409. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

Gattuso J.-P., Kirkwood W., Barry J. P., Cox E., Gazeau F., Hansson L., Hendriks I. E., Kline D. I., Mahacek P., Marker M., Martin S., McElhany P., Peltzer E. T., Reeve J., Roberts D., Saderne V., Tait K., Widdicombe S. & Brewer P., 2014. Free-ocean CO_2 enrichment (FOCE) systems: present status and future developments. *Biogeosciences* 11:4057-4075.

Gattuso J.-P., Magnan A., Billé R., Cheung W. W. L., Howes E. L., Joos F., Allemand D., Bopp L., Cooley S., Eakin C. M., Hoegh-Guldberg O., Kelly R. P., Pörtner H., Rogers A. D., Baxter J. M., Laffoley D., Osborn D., Rankovic A., Rochette J., Sumaila U. R., Treyer S. & Turley C., 2015. Contrasting futures for ocean and society from different anthropogenic CO_2 emissions scenarios. *Science* 349:aac4722.

Riebesell U. & Gattuso J.-P., 2015. Lessons learned from ocean acidification research. *Nature Climate Change* 5:12-14.

Magnan A. K., Colombier M., Billé R., Hoegh-Guldberg O., Joos F., Pörtner H.-O., Waisman H., Spencer T. & Gattuso J.-P., 2016. Implications of the Paris Agreement for the ocean. *Nature Climate Change* 6:732-735.

Moya A., Howes E. L., Lacoue-Labarthe T., Forêt S., Hanna B., Medina M., Munday P. L., Ong J.-S., Teyssié J.-L., Torda G., Watson S.-A., Miller D. J., Bijma J. & Gattuso J.-P., 2016. Near-future pH conditions severely impact calcification, metabolism and the nervous system in the pteropod *Heliconoides inflatus*. *Global Change Biology* 22:3888-3900.

2017 Cox T., Nash M., Gazeau F., Daniel M., Legrand E., Alliouane S., Mahacek P., Le Fur A., Gattuso J.-P. & Martin S., 2017. Effects of *in situ* CO_2 enrichment on *Posidonia oceanica* epiphytic community composition and mineralogy. *Marine Biology* 164:103.

Howes E. L., Kaczmarek K., Raitzsch M., Mewes A., Bijma N., Horn I., Misra S., Gattuso J.-P. & Bijma J., 2017. Decoupled carbonate chemistry controls on the incorporation of boron into *Orbulina universa*. *Biogeosciences* 14:415-430.

Kapsenberg L., Alliouane S., Gazeau F., Mousseau L. & Gattuso J.-P., 2017. Coastal ocean acidification and increasing total alkalinity in the northwestern Mediterranean Sea. *Ocean Science* 13:411-426.

Sauzède R., Claustre H., Pasqueron de Fommervault O., Bittig H., Gattuso J.-P., Legendre L. & Johnson K., 2017. Estimates of water-column nutrients concentration and carbonate system parameters in the global ocean: A novel approach based on neural networks. *Frontiers in Marine Science* 4:128.

Kapsenberg L., Bockmon E. E., Bresnahan P. J., Kroeker K., Gattuso J.-P. & Martz T. R., 2017. Advancing ocean acidification biology using Durafet® pH electrodes. *Frontiers in Marine Science* 4:321.

2018 Bittig H. C., Steinhoff T., Claustre H., Fiedler B., Williams N. L., Sauzède R., Körtzinger A. & Gattuso J.-P., 2018. An alternative to static climatologies: robust estimation of open ocean CO2 variables and nutrient concentrations from T, S, and O_2 data using Bayesian neural networks. *Frontiers in Marine Science* 5:328.

Boyd P. W., Collins S., Dupont S., Fabricius K., Gattuso J. P., Havenhand J., Hutchins D. A., Riebesell U., Rintoul M. S., Vichi M., Biswas H., Ciotti A., Gao K., Gehlen M., Hurd C. L., Kurihara H., McGraw C. M., Navarro J. M., Nilsson G. E., Passow U. & Pörtner H.-O., 2018. Experimental strategies to assess the biological ramifications of multiple drivers of global ocean change - a review. *Global Change Biology* 24:2239-2261.

Cramer W., Guiot J., Fader M., Garrabou J., Gattuso J.-P., Iglesias A., Lange M. A., Lionello P., Llasat M. C., Paz S., Peñuelas J., Snoussi M., Toreti A., Tsimplis M. N. & Xoplaki E., 2018. Climate change and interconnected risks to sustainable development in the Mediterranean. *Nature Climate Change* 8:972-980.

Cyronak T., Andersson A. J., Langdon C., Albright R., Bates N. R., Caldeira K., Carlton R., Corredor J. E., Dunbar R. B., Enochs I., Erez J., Eyre B., Gattuso J.-P., Gledhill D., Kayanne H., Kline D. I., Kopek D. A., Lantz C., Lazar B., Manzello D., McMahon A., Meléndez M., Page H. N., Santos I. R., Shaw E., Silverman J., Suzuki A., Teneva L., Watanabe A. & Yamamoto S., 2018. Taking the biogeochemical pulse of the world's coral reefs. *PLoS ONE* 13:e0190872.

Gattuso J.-P., Magnan A. K., Bopp L., Cheung W. W. L., Duarte C. M., Hinkel J., Mcleod E., Micheli F., Oschlies A., Williamson P., Billé R., Chalastani V. I., Gates R. D., Irisson J.-O., Middelburg J. J., Pörtner H.-O. & Rau G. H., 2018. Ocean solutions to address climate change and its effects on marine ecosystems. *Frontiers in Marine Science* 5:337.

Kapsenberg L., Miglioli A., Bitter M. C., Tambutté E., Dumollard R. & Gattuso J.-P., 2018. Ocean pH fluctuations affect mussel larvae at key developmental transitions. *Proceedings of the Royal Society of London. Series B: Biological Sciences* 285:20182381.

Magnan A. K., Billé R., Bopp L., Chalastani V. I., Cheung W. W. L., Duarte C. M., Gates R. D., Hinkel J., Irisson J.-O., Mcleod E., Micheli F., Middelburg J. J., Oschlies A., Pörtner H.-O., Rau G. H., Williamson P. & Gattuso J.-P., 2018. Ocean-based measures for climate action. *IDRRI Policy Brief* 6:1-4.

Orr J. C., Epitalon J.-M., Dickson A. G. & Gattuso J.-P., 2018. Routine uncertainty propagation for the marine carbon dioxide system. *Marine Chemistry* 207:84-107.

2019 Abram N., Gattuso J.-P., Prakash A., Chen L., Chidichimo M. P., Crate S., Enomoto H., Garschagen M., Gruber N., Harper S., Holland E., Kudela R. M., Rice J. D., Steffen K. & von Schukmann

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Bitter M. C., Kapsenberg L., Gattuso J.-P. & Pfister C. A., 2019. Standing genetic variation fuels rapid adaptation to ocean acidification. *Nature Communications* 10:5821.

Boyd P. W., Collins S., Dupont S., Fabricius K., Gattuso J.-P., Havenhand J., Hutchins D. A., McGraw C. M., Riebesell U., Vichi M., Biswas H., Ciotti A., Dillingham P., Gao K., Gehlen M., Hurd C. L., Kurihawa H., Navarro J., Nilsson G. E., Passow U. & Portner H.-O., 2019. *SCOR WG149 Handbook to support the SCOR Best Practice Guide for 'Multiple Drivers' Marine Research.* 44 p. Hobart: University of Tasmania.

Díaz-Castañeda V., Cox T. E., Gazeau F., Fitzer S., Delille J., Alliouane S. & Gattuso J. P., 2019. Ocean acidification affects calcareous tube growth in adult stage and reared offspring of serpulid polychaetes. *Journal of Experimental Biology* 222.

Garrabou J., Gómez-Gras D., Ledoux J.-B., Linares C., Bensoussan N., López-Sendino P., Bazairi H., Espinosa F., Ramdani M., Grimes S., Benabdi M., Souissi J. B., Soufi E., Khamassi F., Ghanem R., Ocaña O., Ramos-Esplà A., Izquierdo A., Anton I., Rubio-Portillo E., Barbera C., Cebrian E., Marbà N., Hendriks I. E., Duarte C. M., Deudero S., Díaz D., Vázquez-Luis M., Alvarez E., Hereu B., Kersting D. K., Gori A., Viladrich N., Sartoretto S., Pairaud I., Ruitton S., Pergent G., Pergent-Martini C., Rouanet E., Teixidó N., Gattuso J.-P., Fraschetti S., Rivetti I., Azzurro E., Cerrano C., Ponti M., Turicchia E., Bavestrello G., Cattaneo-Vietti R., Bo M., Bertolino M., Montefalcone M., Chimienti G., Grech D., Rilov G., Tuney Kizilkaya I., Kizilkaya Z., Eda Topçu N., Gerovasileiou V., Sini M., Bakran-Petricioli T., Kipson S. & Harmelin J. G., 2019. Collaborative database to track mass mortality events in the Mediterranean Sea. *Frontiers in Marine Science* 6:707.

Gattuso J.-P., Magnan A. K., Gallo N., Herr D., Rochette J., Vallejo L. & Williamson P., 2019. Opportunities for increasing ocean action in climate strategies. *Iddri Policy Brief* 02/19:1-4.

González N., García-Corral L. S., Morán X. A. G., Middelburg J. J., Pizay M.-D. & Gattuso J.-P., 2019. Drivers of microbial carbon fluxes variability in two oligotrophic Mediterranean coastal systems. *Scientific Reports* 9:17669.

IPCC, 2019. Summary for Policymakers. In: Pörtner H.-O., Roberts D. C., Masson-Delmotte V., Zhai P., M T., Poloczanska E., Mintenbeck K., Nicolai M., Okem A. & Petzold J. (Eds.), *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*, pp. 3-35. Geneva: Intergovernmental Panel on Climate Change.

Magnan A. K., Garschagen M., Gattuso J.-P., Hay J. E., Hilmi N., Holland E., Isla F., Kofinas G., Losada I. J., Petzold J., Ratter B., Schuur T., Tabe T. & van de Wal R., 2019. Integrative cross-chapter box on low-lying islands and coasts. In: Pörtner H.-O., Roberts D., Masson-Delmotte V. & Zhai P. (Eds.), *Special Report on Ocean and Cryosphere in a Changing Climate*, pp. 657-674. Geneva: Intergovernmental Panel on Climate Change.

Stark J. S., Peltzer E. T., Kline D. I., Queirós A. M., Erin Cox T., Headley K., Barry J., Gazeau F., Runcie J. W., Widdicombe S., Milnes M., Roden N. P., Black J., Whiteside S., Johnstone G., Ingels J., Shaw E., Bodrossy L., Diego Gaitan-Espitia J., Kirkwood W. & Gattuso J. P., 2019. Free Ocean CO_2 Enrichment (FOCE) experiments: scientific and technical recommendations for future in situ ocean acidification projects. *Progress in Oceanography* 172:89-107.

von Schuckmann K., Le Traon P.-Y., Smith N., Pascual A., Djavidnia S., Gattuso J.-P., Grégoire M. & Nolan G., 2019. Copernicus Marine Service Ocean State Report. *Journal of Operational Oceanography* 12:S1-S123.

Weinbauer M., Oregioni D., Großkurth A., Kerros M.-E., Harder T., DuBow M., Gattuso J.-P. & Maier C., 2019. Diversity of bacteria associated with the cold water corals Lophelia pertusa and Madrepora oculata. In: Orejas C. & Jiménez C. (Eds.), *Mediterranean Cold-Water Corals: Past, Present and Future*, pp. 377-386. Cham: Springer.

2020 Coppola L., Boutin J., Gattuso J.-P., Lefèvre D. & Metzl N., 2020. The carbonate system in the Ligurian Sea. In: Migon C., Nival P. & Sciandra A. (Eds.), The Mediterranean Sea in the era of global change (volume 1) - Evidence from 30 years of multidisciplinary study of the Ligurian sea, pp. 79-104. London: ISTE Science Publishing LTD.

Duarte C. M., Agustí S., Barbier E., Britten G. L., Castilla J. C., Gattuso J.-P., Fulweiler R. W., Hughes T. P., Knowlton N., Lovelock C. E., Lotze H. K., Predragovic M., Poloczanska E., Roberts

C. & Worm B., 2020. Rebuilding marine life. *Nature* 580:39-51.

Fischer P. F., Brix H., Baschek B., Kraberg A. C., Brand M., Cisewski B., Riethmüller R., Breitbach G., Möller K. O., Gattuso J.-P., Posner U., Alliouane S., Loth R., Van De Poll W. H. & Witbaard R., 2020. Operating cabled underwater observatories in rough shelf-sea environments: a technological challenge. *Frontiers in Marine Science* 7:551.

Fourrier M., Coppola L., Claustre H., d'Ortenzio F., Sauzčde R. & Gattuso J. P., 2020. A regional neural network approach to estimate water-column nutrient concentrations and carbonate system variables in the Mediterranean Sea: CANYON-MED. *Frontiers in Marine Science* 7:620.

Gattuso J.-P., Gentili B., Antoine D. & Doxaran D., 2020. Global distribution of photosynthetically available radiation on the seafloor. *Earth System Science Data* 12:1697-1709.

Gómez Batista M., Metian M., Oberhänsli F., Pouil S., Swarzenski P. W., Tambutté E., Gattuso J.-P., Alonso Hernández C. M. & Gazeau F., 2020. Intercomparison of four methods to estimate coral calcification under various environmental conditions. *Biogeosciences* 17:887-899.

Horwitz R., Norin T., Watson S.-A., Pistevos J. C. A., Beldade R., Hacquart S., Gattuso J.-P., Rodolfo-Metalpa R., Vidal-Dupiol J., Killen S. S. & Mills S. C., 2020. Near-future ocean warming and acidification alter foraging behaviour, locomotion, and metabolic rate in a keystone marine mollusc. *Scientific Reports* 10:5461.

Teixidó N., Caroselli E., Alliouane S., Ceccarelli C., Comeau S., Gattuso J.-P., Fici P., Micheli F., Mirasole A., Monismith S. G., Munari M., Palumbi S. R., Sheets E., Urbini L., De Vittor C., Goffredo S. & Gambi M. C., 2020. Ocean acidification causes variable trait shifts in a coral species. *Global Change Biology* 26:6813-6830.

2021 Bitter M. C., Kapsenberg L., Silliman K., Gattuso J.-P. & Pfister C. A., in press. Magnitude and predictability of pH fluctuations shape plastic responses to ocean acidification. *The American Naturalist*.

Carbonne C., Teixidó N., Moore B., Mirasole A., Guttierez T., Gattuso J.-P. & Comeau S., 2021. Two temperate corals are tolerant to low pH regardless of previous exposure to natural CO_2 vents. *Limnology and Oceanography* 66:4046-4061.

Cziesielski M. J., Duarte C. M., Aalismail N. A., Al-Hafedh Y., Anton A., Faiyah Baalkhuyur F., Baker A. C., Balke T., Baums I. B., Berumen M. L., Chalastani V. I., Cornwell B., Daffonchio D., Diele K., Ehtsaam F., Gattuso J.-P., He S., Lovelock C., Mcleod E., Macreadie P. I., Marba N., Martin C., Muniz Barreto M., Krishnakumar P. K., Prihartato P., Rabaoui L., Saderne S., Schmidt-Roach S., Suggett D., Sweet M., Statton J., Teicher S., Trevathan-Tackett S. M., Joydas T. V., Yahya R. Z. & Aranda M., 2021. Investing in Blue Natural Capital to secure a future for the Red Sea ecosystems. *Frontiers in Marine Science* 7:603722.

Duvat V. K. E., Magnan A. K., Perry C. T., Spencer T., Bell J. D., Wabnitz C., Webb A. P., White I., McInness K. L., Gattuso J.-P., Graham N. A. J., Nunn P. D. & Le Cozannet G., 2021. Risks to future atoll habitability from climate-driven environmental changes. *WIREs Climate Change* e700.

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Gattuso J.-P., Williamson P., Duarte C. & Magnan A. K., 2021. The potential for ocean-based climate action: negative emissions technologies and beyond. *Frontiers in Climate* 2:575716.

von Schuckmann K., Le Traon P.-Y., Smith N., Pascual A., Djavidnia S., Gattuso J.-P. (eds), 2021. Copernicus Marine Service Ocean State Report, Issue 5. *Journal of Operational Oceanography* 14:1-185.

Williamson P., Pörtner H.-O., Widdicombe C. E. & Gattuso J.-P., 2021. Ideas and Perspectives: When ocean acidification experiments are not the same, repeatability is not tested. *Biogeosciences* 18:1787-1792.

2022 Jiang L.-Q., Pierrot D., Wanninkhof R., Feely R. A., Tilbrook B., Alin S. R., Barbero L., Byrne R. H., Carter B. R., Dickson A. G., Gattuso J.-P., Greeley D., Hoppema M., Humphreys M. P., Karstensen J., Lange N., Lauvset S. K., Lewis E., Olsen A., Pérez F. F., Sabine C., Sharp J., Tanhua T., Trull T., Velo A., J. Allegra A. J., Barker P., Burger E., Cai W.-J., Chen C. T. A., N Cross J. N., Garcia H., Hernandez-Ayon J. M., Hu X., Kozyr A., Langdon C., Lee K., Salisbury J., Wang Z. A. & Xue L., in press. Best practice data standards for discrete chemical oceanographic observations. *Frontiers in Marine Science*.