Guillem Salazar

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I use computational tools to understand how marine microbial communities are shaped and respond to environmental change.

Academic Information

Degree in Biological Sciences — *Valencia, SPAIN*
University of Valencia — *2007*

MSc in Biodiversity: Conservation and Evolution — *Valencia, SPAIN*
University of Valencia — *2008*

PhD. in Oceanography — *Barcelona, SPAIN*
Polytechnic University of Catalonia & Marine Sciences Institute (ICM - CSIC) — *2019*

Postdoc — *Z<d9>rich, SWITZERLAND*
Sunagawa Lab, ETH Z<d9>rich — *2020*

Grants and Contracts

Introduction to Scientific Research Grant _ Education and Science Ministry — *Valencia, SPAIN*
University of Valencia and Cavanilles Intitute for Biodiversity and Evolutionary Biology — *7-2007*

Research Technician - Geronimo Forteza Programme — *Valencia, SPAIN*
University of Valencia and Cavanilles Intitute for Biodiversity and Evolutionary Biology — *12-2008*

Grant for a stay at Dr. Fuhrman Lab — *Valencia, SPAIN*
University of Southern California (USC), Los Angeles, CA, USA — *12-2011*

JAE Predoc (Phd Grant/Contract) — *Barcelona, SPAIN*
Marine Sciences Institute (ICM), CSIC — *8-2013*

Research Technician Contract — *Barcelona, SPAIN*
Marine Sciences Institute (ICM), CSIC — *6-2014*

Research Technician Contract — *Barcelona, SPAIN*
Marine Sciences Institute (ICM), CSIC — *11-2015*

Courses

II Scientific Workshop of ICBiBE — *Valencia, SPAIN*
Cavanilles Intitute for Biodiversity and Evolutionary Biology — *12-2006*

International Course on Ecological Modelling — *Valencia, SPAIN*
University of Valenciaand the Spanish Society for Limnology and the Spanish Society for Terrestrial Ecology — *11-2007*

Socrates Intensive Programme Mathematics and Biology — *Paris, FRANCE*
Universit_ d<cd>Orsay Paris XI y AgroParisTech — *7-2008*

Famoso III Scientific Cruise (Barcelona _ Barcelona, Spain)
9-2009

Citowork Cruise (Barcelona _ Barcelona, Spain)
3-2010

Inter-calibration Scientific Cruise _ Malspina 2010 Expedition (Las Palmas de Gran Canaria, Spain _ Cartagena, Spain)
5-2010

Methods in Microbial Oceanography Course — *Barcelona, SPAIN*
Marine Sciences Institute (ICM), CSIC — *6-2010*

Malaspina 2010 Scientific Cruise (Cadiz, Spain _ Rio de Janeiro, Brazil)

1-2011

Bioinformatics for metagenomics and environmental sequencing *Oslo, NORWAY*

MERG and University of Oslo, Department of Biology *4-2011*

Tara Oceans Scientific Cruise (Bermudas _ A<8d>ores, Portugal)

3-2012

Teaching

Practical applications to epidemiology *Valencia, SPAIN*

Valencia's School for Health Studies (EVES) *5-2013*

Biostatistics for Doctors: practical applications *Valencia, SPAIN*

Valencia's School for Health Studies (EVES) *11-2014*

Oral presentations in conferences

Constataci<d1>n emp<d5>rica de un modelo estoc<e0>stico para predecir la extinci<d1>n de especies en interacci<d1>n
Salazar, G., et al.
II Congreso Nacional de Biodiversidad
2-2009

Biogeograf<d5>a y diversidad de procariotas diazotrofos marinos mediante t_cnicas moleculares y gen<d1>micas
Cornejo-Castillo, FM., Salazar, G., Stal, L., Hingamp, P., Gasol, J.M., Acinas, S.G.
IX Congreso de Microbiolog<d5>a del Medio Acu<e0>tico
9-2012

Global beta-diversity patterns in deep-ocean bacterial communities
Salazar, G., Cornejo-Castillo, FM., Acinas, S.G., Gasol, J.M.
ASLO Aquatic Sciences Meeting
7-2012

Exploraci<d1>n de la diversidad microbiana en el oc_ano profundo: primeros Resultados de la Expedici<d1>n Malaspina 2010
Gasol, J.M., Salazar, G., Cornejo-Castillo, FM., Pernice, M., Gomes, A., Massana, R., Mor<e0>n, X.G., Arrieta, T., Duarte, C., Acinas, S.G.
IV Congreso de Biodiversidad
2-2013

Patrones de diversidad globales de procariotas y picoeucariotas en el oc_ano f<d1>tico y af<d1>tico
Salazar G., Logares R., Cornejo-Castillo F.M., Sunagawa S., Bork P., Gasol J.M. and Acinas S.G.
X Congreso de Microbiolog<d5>a del Medio Acu<e0>tico
9-2014

A global ocean metagenomic survey reveals events of vertical connectivity in oceanic microbial communities
Salazar G., Cornejo-Castillo F.M., Logares R., Sunagawa S., Ludicone D., Lionel G., Stemmann L., Laxenaire R., Speich S., Gasol J.M., Acinas S.G.
SAME 14
8-2015

Living on particles in the ocean surface and the bathypelagic: prokaryotic groups involved and phylogenetic conservation of the particle-association trait
Mestre M., Salazar G., Cornejo-Castillo F.M., Sala M.M., Acinas S.G., Gasol J.M.
SAME 14
8-2015

Posters in conferences

El papel del canibalismo en copepodos dentro de una red tr<d1>fica sencilla
Salazar, G., et al.
XI Conferencia Espa<d0>ola y I Encuentro Iberamericano de Biometr<d5>a
6-2007

Un modelo nulo para la conectancia de redes de interacci<d1> planta-animal
Salazar, G., et al.
XI Conferencia Espa<d0>ola y I Encuentro Iberamericano de Biometr<d5>a
6-2007

Diversity patterns of cultured marine bacteria ussing different organic matter sources as compared to single amplified genomes
Salazar, G., Sarmento, H., D<d5>ez-Vives, C., Ferrera, I., Gasol, J.M., and Acinas, S.G.
SAME 12
11-2011

Exploraci<d1>n de la diversidad microbiana en en distintos contextos ecol<d1>gicos dentro de la expedici<d1>n TARA Oceans
Salazar, G., Logares, R., Cornejo-Castillo, FM., Ferrera, I., Sarmento, H., Gasol, JM., Acinas, S.G.
IV Congreso de Biodiversidad
2-2013

Publications

1. Ruiz-González, C, M Mestre, M Estrada, M Sebastián, G Salazar, S Agustí, E Moreno-Ostos, I Reche, XA Álvarez-Salgado, XAG Morán, CM Duarte, MM Sala, and JM Gasol (Apr. 2020). Major imprint of surface plankton on deep ocean prokaryotic structure and activity. *Molecular Ecology*.
2. Milanese, A, DR Mende, L Paoli, G Salazar, HJ Ruscheweyh, M Cuenca, P Hingamp, R Alves, PI Costea, LP Coelho, TSB Schmidt, A Almeida, AL Mitchell, RD Finn, J Huerta-Cepas, P Bork, G Zeller, and S Sunagawa (Mar. 2019). Microbial abundance, activity and population genomic profiling with mOTUs2. *Nature Communications* **10**(1).
3. Massoni, J, M Bortfeld-Miller, L Jardillier, G Salazar, S Sunagawa, and JA Vorholt (Oct. 2019). Consistent host and organ occupancy of phyllosphere bacteria in a community of wild herbaceous plant species. *The ISME Journal* **14**(1), 245–258.
4. Salazar, G, L Paoli, et al. (Nov. 2019). Gene Expression Changes and Community Turnover Differentially Shape the Global Ocean Metatranscriptome. *Cell* **179**(5), 1068–1083.e21.
5. Eguíluz, VM, G Salazar, J Fernández-Gracia, JK Pearman, JM Gasol, SG Acinas, S Sunagawa, X Irigoien, and CM Duarte (Dec. 2019). Scaling of species distribution explains the vast potential marine prokaryote diversity. *Scientific Reports* **9**(1).
6. Ibarbalz, FM et al. (Nov. 2019). Global Trends in Marine Plankton Diversity across Kingdoms of Life. *Cell* **179**(5), 1084–1097.e21.
7. Villarino, E et al. (Jan. 2018). Large-scale ocean connectivity and planktonic body size. *Nature Communications* **9**(1).
8. Salazar, G and S Sunagawa (June 2017). Marine microbial diversity. *Current Biology* **27**(11), R489–R494.
9. Royo-Llonch, M, I Ferrera, FM Cornejo-Castillo, P Sánchez, G Salazar, R Stepanauskas, JM González, ME Sieracki, S Speich, L Stemmann, C Pedrós-Alió, and SG Acinas (July 2017). Exploring Microdiversity in Novel Kordia sp. (Bacteroidetes) with Proteorhodopsin from the Tropical Indian Ocean via Single Amplified Genomes. *Frontiers in Microbiology* **8**.
10. Lara, E et al. (Sept. 2017). Unveiling the role and life strategies of viruses from the surface to the dark ocean. *Science Advances* **3**(9), e1602565.
11. Cornejo-Castillo, FM, AM Cabello, G Salazar, P Sánchez-Baracaldo, G Lima-Mendez, P Hingamp, A Alberti, S Sunagawa, P Bork, C de Vargas, J Raes, C Bowler, P Wincker, JP Zehr, JM Gasol, R Massana, and SG Acinas (Mar. 2016). Cyanobacterial symbionts diverged in the late Cretaceous towards lineage-specific nitrogen fixation factories in single-celled phytoplankton. *Nature Communications* **7**(1).
12. Lima-Mendez, G et al. (May 2015). Determinants of community structure in the global plankton interactome. *Science* **348**(6237), 1262073–1262073.
13. Sunagawa, S et al. (May 2015). Structure and function of the global ocean microbiome. *Science* **348**(6237), 1261359–1261359.
14. Baltar, F, J Palovaara, M Vila-Costa, G Salazar, E Calvo, C Pelejero, C Marrasé, JM Gasol, and J Pinhassi (June 2015). Response of rare, common and abundant bacterioplankton to anthropogenic perturbations in a Mediterranean coastal site. *FEMS Microbiology Ecology* **91**(6).
15. Agusti, S, JI González-Gordillo, D Vaqué, M Estrada, MI Cerezo, G Salazar, JM Gasol, and CM Duarte (July 2015). Ubiquitous healthy diatoms in the deep sea confirm deep carbon injection by the biological pump. *Nature Communications* **6**(1).
16. Salazar, G, FM Cornejo-Castillo, V Benítez-Barrios, E Fraile-Nuez, XA Álvarez-Salgado, CM Duarte, JM Gasol, and SG Acinas (Aug. 2015). Global diversity and biogeography of deep-sea pelagic prokaryotes. *The ISME Journal* **10**(3), 596–608.
17. Ruiz-González, C, G Salazar, R Logares, L Proia, JM Gasol, and S Sabater (Nov. 2015). Weak Coherence in Abundance Patterns Between Bacterial Classes and Their Constituent OTUs Along a Regulated River. *Frontiers in Microbiology* **6**.
18. Acinas, SG, I Ferrera, H Sarmento, C Díez-Vives, I Forn, C Ruiz-González, FM Cornejo-Castillo, G Salazar, and JM Gasol (July 2014). Validation of a new catalysed reporter deposition-fluorescence in situ hybridization probe for the accurate quantification of marine B acteroidetes populations. *Environmental Microbiology* **17**(10), 3557–3569.
19. Logares, R, S Sunagawa, G Salazar, FM Cornejo-Castillo, I Ferrera, H Sarmento, P Hingamp, H Ogata, C de Vargas, G Lima-Mendez, J Raes, J Poulain, O Jaillon, P Wincker, S Kandels-Lewis, E Karsenti, P Bork, and SG Acinas (Sept. 2013). Metagenomic 16S rDNA Illumina tags are a powerful alternative to amplicon sequencing to explore diversity and structure of microbial communities. *Environmental Microbiology* **16**(9), 2659–2671.
20. Rodríguez-Martínez, R, G Rocap, G Salazar, and R Massana (Apr. 2013). Biogeography of the uncultured marine picoeukaryote MAST-4: temperature-driven distribution patterns. *The ISME Journal* **7**(8), 1531–1543.
21. Ferrera, I, CM Borrego, G Salazar, and JM Gasol (Oct. 2013). Marked seasonality of aerobic anoxygenic phototrophic bacteria in the coastal NW Mediterranean Sea as revealed by cell abundance, pigment concentration and pyrosequencing ofpufMgene. *Environmental Microbiology* **16**(9), 2953–2965.
22. Salvadó, Z, FN Arroyo-López, JM Guillamón, G Salazar, A Querol, and E Barrio (Feb. 2011). Temperature Adaptation Markedly Determines Evolution within the GenusSaccharomyces. *Applied and Environmental Microbiology* **77**(7), 2292–2302.
23. Rojo, C and G Salazar (June 2010). Why are there so many kinds of planktonic consumers? The answer lies in the allometric diet breadth. *Hydrobiologia* **653**(1), 91–102.
24. Rojo, C, M Segura, MA Rodrigo, and G Salazar (Sept. 2008). Factors controlling the colonial structure of Pediastrum tetras (Chlorophyceae). *Hydrobiologia* **617**(1), 143–155.