


E. Maggie Sogin

Curriculum Vitae

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Dr. E. Maggie Sogin
University of California, Merced
 <https://github.com/esogin>

Assistant Professor
Molecular and Cell Biology
 Twitter: @MaggieSogin

EDUCATION & PROFESSIONAL EXPERIENCE

- Since 01/2021 **Assistant Professor**, Department of Molecular and Cellular Biology, University of California at Merced, Merced, California, USA
- 01/2020 to 11/2020 **Project Leader**, Department of Symbiosis, Max Planck Institute for Marine Microbiology, Bremen, DE
- Leadership role in Department including student mentorship and lead on major departmental project
- 05/2019 to 11/2020 **MarMic Faculty**, Max Planck Research School for Marine Microbiology, Bremen, DE
- Mentorship of Bachelors, Masters and PhD students
 - Developing and teaching graduate course materials, workshops, guest lectures
- 01/2016 to 12/2019 **Post-doctoral Scientist**, Department of Symbiosis, Max Planck Institute for Marine Microbiology, Bremen, DE
- Analytical methods for marine metabolomics
 - Coastal sediment biogeochemistry
 - Mass spectrometry imaging of symbiotic associations
 - Metagenomic and metatranscriptomics of marine rhizospheres
 - Integrative exploratory analysis in 'omics research
- 04/2015 to 12/2015 **Post-doctoral Associate**, Hawaii Institute of Marine Biology, Kaneohe, HI
- Preparation of tag sequencing libraries for Illumina sequencing
- 04/2015 **PhD, University of Hawaii, Manoa, HI**
Department of Zoology & Hawaii Institute of Marine Biology
Advisor: Dr. Ruth D. Gates
Thesis title: A metabolomic investigation in reef building corals: development and utility of metabolite profiling tools
- 08/2014 to 04/2015 **Research Assistant**, Center for Microbial Oceanography, Research and Education, University of Hawaii, Manoa, HI
- Preparation of tag sequencing libraries for Illumina sequencing
 - Integration of metabolomics and tag sequencing data
- 2011 to 2014 **Hawaii EPSCoR Graduate Fellow**, Hawaii Institute of Marine Biology, Kaneohe, HI
- Developed metabolomic tools for reef-building corals
 - Performed field and laboratory experiments

- 2009 **Teaching Assistant**, University of Hawaii, Manoa, HI
to • Responsible for teaching undergraduate laboratories
2011
- 05/2009 **ScB, Honors, Brown University, Providence, RI**
Marine Biology, Department of Ecology and Evolutionary Biology
Advisors: Mark Bertness, Anne Cohen (Woods Hole Oceanographic Institute)
Thesis title: The impacts of ocean acidification on the development of the larval she
of the New England Bay Scallop (*Argopecten irradians*)
- 2008 **Three Seas Program, Northeastern University, Boston, MA**
• Trained in field and laboratory techniques for marine ecologists
• AAUS Scientific certification

PUBLICATIONS

Coauthors: ** Undergraduate student ; * Graduate student

[google scholar](#)

12. **Sogin EM**, Kleiner M, Borowski C, Gruber-Vodicka H, Dubilier N (2021) Life in the dark: phylogenetic and physiological diversity of chemosynthetic symbioses. **Annual Review of Microbiology**, *in press*.
11. Bennet GM, Heath-Heckman E, and **Sogin EM** (2021) Finding needles in haystacks and inferring their function: challenges and successes in beneficial symbiosis research. **mSystems**. 10.1128/mSystems.00243-21, *not-referred*
**commentary*
10. **Sogin EM**, Leisch N, Dubilier N (2020) Chemosynthetic symbioses. **Current Biology**.
<https://doi.org/10.1016/j.cub.2020.07.050>
**Invited primer into the field, not-referred*
9. **Sogin EM**, Puskas E**, Dubilier N, Liebeke M. (2019) Marine metabolomics: a method for the non-targeted measurement of metabolites in seawater by gas-chromatography mass spectrometry. **mSystems**. <https://doi.org/10.1128/mSystems.00638-19>
**Article was selected as the Editors' Pick*
Role: I developed a new method for describing metabolite composition in seawater samples using GC-MS techniques that until now were unavailable for seawater samples.
8. Geier B*, **Sogin EM**, Janda M*, Kompauer M, Michellod D*, Dubilier N, Liebeke M. (2019) Spatial metabolomics of in situ, host-microbe interactions. **Nature Microbiology**,
<https://doi.org/10.1101/555045>
Role: I developed the bioinformatic pipeline needed to combine mass spectrometry imaging data with fluorescence in situ microscopy data that is the foundation of metaFISH.
7. Wilkins LGE, Leray M, Yuen B, Peixoto R, Pereira TJ, Bink HM, Coil DA, Duffy JE, Herre EA, Lessios H, Lucey N, Mejia LC, O'Dea A, Rasher DB, Sharp K, **Sogin EM**, Thacker RW, Vega Thurber R,

Wcislo WT, Wilbanks EG, Eisen JA. (2019) Host-associated microbiomes and their roles in marine ecosystem functions. *PloS Biology*. doi: [10.1371/journal.pbio.3000533](https://doi.org/10.1371/journal.pbio.3000533)

6. **Sogin EM**, Putnam HM, Nelson CE, Anderson P, Gates RD (2017). Interspecific congruency of the coral holobiont metabolome with symbiotic bacteria, archaea and *Symbiodinium* communities. *Environmental Microbiology Reports*. doi: [10.1111/1758-2229.12541](https://doi.org/10.1111/1758-2229.12541)

This work involved integrating microbial community data with metabolomics results using a correlative analytical approach.

5. **Sogin EM**, Putnam HM, Anderson P, Gates RD (2016). Metabolomic signatures of increases in temperature and ocean acidification from the reef-building coral, *Pocillopora damicornis*. *Metabolomics*. doi:[10.007/11306-016-0987-8](https://doi.org/10.007/11306-016-0987-8)

This work involved integrating metabolomics data with physiological metrics of coral health.

4. Claar CD, Fabina NS, Putnam HM, Cunnning R, **Sogin EM**, Baum JK, and Gates RD (2015). Embracing complexity in coral-algal symbiosis. *Algal Symbioses*. (Book Chapter)

3. **Sogin EM**, Anderson P, Williams P, Chen CS, Gates RD (2014). Application of ¹H-NMR metabolomic profiling for reef-building corals. *PLoS One*: doi: [10.1371/journal.pone.0111274](https://doi.org/10.1371/journal.pone.0111274)

2. Yost DM, Wang LH, Fan TY, Chen CS, Lee RW, **Sogin EM** and Gates RD (2013). Diversity in skeletal architecture influences biological heterogeneity and *Symbiodinium* habitat in corals. *Zoology* 116(5): 262-269

1. Allen JJ, Mäthger LM, Barbosa A, Buresch KC, **Sogin E**, et. al. (2010) Cuttlefish dynamic camouflage: responses to substrate choice and integration of multiple visual cues. *Proceedings of the Royal Society: Biological Sciences* 1684:1031-1039

-Pre-prints under review-

Sogin EM, Michellod D*, Gruber-Vodicka H, Bourceau P*, Geier B, Meier D*, Seidel M, Ahmerkamp S, Schorn S, D'Angelo G, Procaccini G, Dubilier N, Liebeke M (2021) Sugars dominate the marine rhizosphere. *bioRxiv*. <https://doi.org/10.1101/797522>

Role: I am leading a collaborative team of researchers to define the biogeochemistry and microbial communities of seagrass rhizospheres.

Submission pending addition of metatranscriptomics data currently missing in bioRxiv preprint

[Link to outreach article describing our study system](#)

TEACHING

- 01/2021 - BIO 120: General Microbiology, University of California at Merced, co-instructor of
present record
- 01/2020 Symbiosis Metabolomics Practical laboratory, Max Planck Institute for Marine
Microbiology, Graduate Level Course
- 2018; 2020 Making Plots with ggplot2, Max Planck Institute for Marine Microbiology, Graduate
Level 2-day workshop

RECENT INVITED TALKS

- 06/2021 Sugars dominate the seagrass rhizosphere, SMComm Virtual Seminar Series, *invite*
from Dr. Laura Sanchez
- 05/2021 The metabolite interface of host-microbe interactions, QSB Retreat, QSB Chair Session
- 03/2021 Sugars dominate the seagrass rhizosphere, Joint Genome Institute Seminar Series,
USA, *invite from Dr. Axel Visel*
- 03/2021 Sugars dominate the seagrass rhizosphere, Aarhus University, Department of Biology
Seminar Series, Denmark, *invite from Dr. Klaus Koren*
- 12/2019 Seagrasses secrete sugars to their rhizospheres making them the sweet spots in the
sea, Isthmobiome Workshop, Bocas del Toro, Panama
- 03/2019 Exploring the metabolite interface of host-microbe interactions in the sea.
Guest lecture for master's course Current trends in Ecology and Evolution at
Universiteit van Amsterdam, Amsterdam, NL