Curriculum Vitae (CV)

Joshua Masataro Heitzman, Ph.D.

Updated: May 2025

Orcid ID: 0000-0002-8275-5006
https://joheitzman.github.io

heitzman@hiroshima-u.ac.jp
joheitzman@gmail.com
+1 (415) 725-0236 (USA)
+81 (080) 2458-3009 (JPN)

Work History

Post-Doctoral Researcher
Seto Inland Sea Carbon-neutral Research Center
Hiroshima University (Japan)
Principal Investigator: Prof. Shigeki Wada
Project: 海洋酸性化が沿岸生態系の炭素隔離能(ブルーカーボン)に及ぼす影響
Impact of ocean acidification on carbon sequestration capacity (blue carbon) in coastal ecosystems
May 2025 to Present

Researcher
Shimoda Marine Research Center, University of Tsukuba (Japan)
Principal Investigator: Sylvain Agostini, Dr. Sc.
Feb. 2025 to Mar. 2024

Post-Doctoral Researcher
School of Molecular Biology (SMS), School of Ocean Futures (SOF)
Arizona State University (USA)
Principal Investigator: Liza Roger, Ph.D.
Project: Integrating nanobiotechnologies to understand the role of nitro-oxidative stress in the coral-dinoflagellate mutualistic symbiosis dynamics
Apr. 2024 to Nov. 2024

Japanese to English Realtime Translator
5th Annual Japanese Association for Marine Biology (JAMBIO) International Symposium
Mar. 2023

Teachers Assistant for Intensive Courses
Life and Environmental Sciences – Biological Sciences
Shimoda Marine Research Center, University of Tsukuba (Japan)
Apr. 2019 to Mar. 2024

Academic History

Doctor of Philosophy in Biological Sciences
Life and Environmental Sciences – Biological Sciences
Shimoda Marine Research Center, University of Tsukuba (Japan)
Thesis Title: "Coral-algae interactions in the Anthropocene"
Thesis Defense Date: January 2023
Principal Investigator: Sylvain Agostini, Dr. Sc.
Apr. 2021 to Mar. 2024

Master of Science in Biological Sciences
Life and Environmental Sciences – Biological Sciences
Shimoda Marine Research Center, University of Tsukuba (Japan)
Thesis Title: "Recurrent disease outbreak in a high latitude marginal coral community"
Thesis Defense Date: February 2021
Principal Investigator: Sylvain Agostini, Dr. Sc.
Apr. 2019 to Mar. 2021

Bachelor of Science in Biological Sciences
Life and Environmental Sciences – Biological Sciences
Shimoda Marine Research Center, University of Tsukuba (Japan)
Dissertation Title: "Recurrent disease outbreak in a high latitude marginal coral community"
Dissertation Defense Date: February 2019
Principal Investigator: Sylvain Agostini, Dr. Sc.
Sept. 2014 to Mar. 2019

High School
Galileo Academy of Science and Technology
San Francisco, California, United States of America
Sept. 2010 to June 2014

Scholarships, Grants and Awards

Japan Student Services Organization (2,880,000 yen)
Exemption from student loan repayment due to outstanding achievements — *Apr. 2021 to Mar. 2024*
Type 1, Scholarship Number: 621-06-500387

JST SPRING Scientific Grant (6,650,000 yen)
Project Name: "*Coral-algae interactions under ocean acidification*" — *Oct. 2021 to Mar. 2024*
Grant Number: JPMJSP21242021

Best Oral Presentation Award for the 26th Japanese Coral Reef Symposium — *Nov. 2023*

Japanese Coral Reef Society Travel grant (100,000 yen)
for the 5th Asia-Pacific Coral Reef Symposium — *June 2023*

University of Tsukuba Scholarship (720,000 yen) — *Sept. 2014 to Mar. 2015*

Publications

Brownridge M., Connell S., Mitchell A., Harvey B.P., Agostini S., **Heitzman J.M.**, Nagelkerken I., 2025. *Body miniaturisation under ocean warming and acidification is not reproducible across marine invertebrate and fish taxa*, *In Review*

Heitzman, J.M., Iijima, L., Mitushasi, G., Spatafora, D., Wada, S., Harvey, B., Kurihara, H., Agostini, S., 2024. *Turf algae drives coral bioerosion under high CO_2,* Preprint. In Review, https://doi.org/10.21203/rs.3.rs-3779657/v1.

Heitzman, **J.M.**, 2024. *Coral-Algae Interactions in the Anthropocene*, University of Tsukuba, PhD Thesis, https://doi.org/10.15068/0002013012.

Heitzman, J.M., Mitushasi, G., Spatafora, D., Agostini, S., 2023. *Seasonal coral-algae interactions drive White Mat Syndrome coral disease outbreaks*. Science of The Total Environment 900, 166379. https://doi.org/10.1016/j.scitotenv.2023.166379

Heitzman, J.M., Caputo, N., Yang, S.-Y., Harvey, B.P., Agostini, S., 2022. *Recurrent disease outbreak in a warm temperate marginal coral community*. Marine Pollution Bulletin 182, 113954. https://doi.org/10.1016/j.marpolbul.2022.113954

Agostini, S., Houlbrèque, F., Biscéré, T., Harvey, B.P., **Heitzman, J.M.**, Takimoto, R., Yamazaki, W., Milazzo, M., Rodolfo-Metalpa, R., 2021. *Greater Mitochondrial Energy Production Provides Resistance to Ocean Acidification in "Winning" Hermatypic Corals*. Frontiers In Marine Science 7. https://doi.org/10.3389/fmars.2020.600836

Certifications

- Japanese Commercial Diving License (潜水士, Certified April 18th, 2025)
- California (US) Driving License
- PADI Open Water (Diving No. PJ18163053; Certified May 23rd, 2018)
- NAUI Advanced Diver (Regis. No. 526740-J, Certified December 5th, 2024)
- NAUI Enriched Air Nitrox (Regis. No. 526715-J, Certified December 5th, 2024)
- DAN Diving First Aid for Professional Divers (Certified November 2nd, 2024)

International Presentations

Heitzman, Joshua, Iijima, L., Mitushasi, G., Wada, S., Harvey, BP., Kurihara, H., Agostini, S. *Turf algae drives coral dissolution in a high CO_2 world* in: 5th Asia-Pacific Coral Reef Symposium, Singapore (2023, Oral)

Heitzman, Joshua, Hirata, A., Mitushasi, G., Agostini, S. *Coral-algae interactions under ocean acidification*. in: 5th Symposium on the Ocean in a High-CO_2 World, Online, Peru, (2022, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Recurrent disease outbreaks in a warm temperate marginal coral community*. in: 15th International Coral Reef Symposium, Online, Germany (2022, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Recurrent disease outbreaks in a warm temperate marginal coral community*. in: International Taiwan Coral Reef Symposium, Taiwan (2022, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Recurrent disease outbreaks in a warm temperate marginal coral community*. in: 14th International Coral Reef Symposium, Online, Germany (2021, Oral)

Domestic Presentations

Heitzman, Joshua, Iijima, L., Mitushasi, G., Spatafora, D., Wada, S., Harvey, B., Kurihara, H., Agostini, S., *Coral skeleton dissolution is accelerated by turf algal settlement under ocean acidification*. in: 26th Japanese Coral Reef Symposium, Sendai, Japan (2023, Oral)

Heitzman, Joshua, Hirata, A., Mitushasi, G., Agostini, S. *Coral-algae interactions under ocean acidification*. in: JST-SPRING Fellowship Poster Session, University of Tsukuba, Online, Japan (2022 & 2023, Poster)

Heitzman, Joshua, Hirata, A., Mitushasi, G., Agostini, S. *Coral-algae interactions under ocean acidification*. in: 25th Japanese Coral Reef Symposium, Ishigaki, Japan (2022, Oral)

Heitzman, Joshua, Hirata, A., Mitushasi, G., Agostini, S. *Coral-algae interactions under ocean acidification*. in: Japanese Geoscience Union Meeting 2022, Online, Japan (2022, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Epizootiology of a temperate coral disease driven by thermal stress and macroalgal interactions*. in: Japanese Geoscience Union Meeting 2021, Online, Japan (2021, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Recurrent disease outbreaks in a warm temperate marginal coral community*. in: 23rd Japanese Corals Reef Symposium, Online, Japan (2020, Oral)

Heitzman, Joshua, Caputo, N., Yang, SY., Harvey, BP., Agostini, S. *Recurrent disease outbreaks in a warm temperate marginal coral community*. in: 22nd Japanese Coral Reef Symposium, University of Hokkaido, Hokkaido, Japan (2019, Oral)

Heitzman, Joshua, Agostini, S*. Recurrent disease outbreaks in a high latitude marginal coral community*. in: 21st Japanese Coral Reef Symposium, University of the Ryukyus, Okinawa, Japan (2018, Poster)

Research Techniques and Abilities

- Bilingual in both English and Japanese
- Mass spectrometry (EA IsoLink CN IRMS System)
- SEM and confocal microscopy (Zeiss 880, ANDOR BC43)
- Microsensor experience and proficiency (Unisense)
- Microbial community assessment (16S, QIIME2)
- Environmental assessment techniques (TSS, POC, FDOM, TA, pH, etc.)
- Coral ecophysiology and ecology techniques
- Cnidarian cell techniques (cell dissociation, culturing, assays)
- Field survey and monitoring experience (at least 30 scientific dives per year since 2018, total dives > 200)
- Incubation system construction, usage and troubleshooting (Neptune Systems APEX, GHL)
- Mapping software (QGIS)
- Image analysis and macro making experience (FijiJ)
- Statistical analysis (R software)
- Leadership and supervision experience (TA & RA)

Outreach and Volunteer Work

TARA Pacific, Public Outreach, Kobe city, Japan	*July 2018*
IOP (Izu Oceanic Park), Public Outreach, Ito city, Japan	*July 2019*
TARA JAMBIO, Microplastic Collection Outreach, Shimoda city, Japan	*Sept. 2020*
Tsukuba Global Science Week, ICONA-JSPS Kick-off Symposium (Moderator), Online	*Sept. 2021*
Tsukuba Latin America Online Exchange (Moderator), Online	*March to April 2022*
Sophia University (Dr. Anne McDonald), Invasive Species Outreach, Shimoda city, Japan	*August 2023*

Memberships

Japanese Coral Reef Society (JCRS)	*2018 to Present*
Japanese Geological Union (JpGU)	*2019 to 2023*
International Coral Reef Society (ICRS)	*2020 to Present*

Refereed Journals

- Royal Society Open Sciences
- Coral Reefs
- PLOS Climate

References

Ph.D. Supervisor: Dr. Sylvain Agostini

French National Research Institute for Sustainable Development (IRD), New Caledonia sylvain.agostini@ird.fr

Research Collaborator: Dr. Davide Spatafora

Stazione Zoologica Anton Dohrn, Palermo, Italy davidespata87@gmail.com

Research Collaborator: Dr. Sung-Yin Yang

National Chiayi University, Taiwan syyang@mail.ncyu.edu.tw