

ASHLEY M. DUNGAN, Ph.D.

ashley.dungan@unimelb.edu.au | www.ashleydungan.com | @Symb10sis

EDUCATION

Doctor of Philosophy in Biosciences, Graduation December 2020

The University of Melbourne (UoM), School of Biosciences, Melbourne, VIC, Australia
Thesis: "Feasibility of bacterial probiotics for mitigating coral bleaching"
Advisors: Profs. Madeleine van Oppen and Linda Blackall

Masters of Science in Marine Biology - Final GPA: 3.97, Graduation November 2015

Nova Southeastern University, Oceanographic Center, Dania Beach, FL, USA
Thesis: "Species specific microcalcification for reef building Caribbean corals in ocean acidification conditions"
Advisors: Drs. Nicole Fogarty, Pat Blackwelder, and Justin Campbell

Bachelor of Science in Biology, Minor in Chemistry - Final GPA: 3.31, Graduation May 2011

State University of New York, College at Brockport, Brockport, NY, USA
Thesis: "Identification of the microbial population found in water sources in and around San Salvador Island, Bahamas"
Advisors: Drs. Michael Pelletier and Jim Haynes

EMPLOYMENT DETAILS - RESEARCH

Date	Title (FTE) – Research Group
Apr 2021 – present	Research Fellow (1 FTE) - Microbial Symbiosis Laboratory, UoM <ul style="list-style-type: none">Use advanced strategies to purify bacteria from samples and conduct metagenomic sequencingApply for internal and external research grants to supplement research activitiesSupervise Master's and PhD students including wet laboratory training, editing proposals and manuscripts, and marking
Mar 2017 - Mar 21	Research Assistant/Laboratory Manager (0.2 - 1.0 FTE) - Microbial Symbiosis Laboratory, UoM <ul style="list-style-type: none">Developed experimental methodologies for the manipulation of prokaryotic symbionts to enhance thermal tolerance in coralsSource and order consumables, reagents, and equipment for the laboratoryTrain undergraduate and Masters' students in basic research skills
Mar 2015 – Feb 17	Staff Chemist (1 FTE) - Ocean Acidification Program, Mote Marine Laboratory, Summerland Key, FL, USA <ul style="list-style-type: none">Design and conduct innovative climate change research on coral reef ecosystemsAssist engineering and building of NSF funded experimental raceway units for studies on ocean acidification and climate changeManage laboratory including ordering supplies and maintaining marine aquariaTrain undergraduate interns in advanced laboratory techniquesPrepare grant documents and manuscripts of research for publication

EMPLOYMENT DETAILS - TEACHING & LEARNING

Date	Position - Organization
Aug 2021-present	Bioinformatics Workshop Facilitator – UoM and Australian BioCommons <ul style="list-style-type: none">Invited by Melbourne Bioinformatics to develop a cross-disciplinary workshop to train biologists in the use of Quantitative Insights Into Microbial Ecology v2 (QIIME2) for UoM staff/studentsLead the development of curriculum (80%) and teaching (95%) for the virtual workshopAugust 2021 Melbourne Bioinformatics workshop was attended by 23 UoM participants from three faculties. This workshop was also run in Oct. and Nov. 2022.

- Recruited by Australian BioCommons to run the QIIME2 workshop at a national level
- Feb. 2022 Australian BioCommons workshop was attended by 45 participants from 22 organizations

Apr 2020 – present	<p>Guest Lecturer - UoM</p> <ul style="list-style-type: none"> • Guest lecturer for COMP90016 (Computational Genomics), Sem I 2020-23; BINF90002 (Microbial Genomics), Sem I 2022-23; BIOL90040 (Graduate Seminars in BioSciences), Sem I 2022 • Engaged students using case studies and polls to encourage participation and connection with the material
Mar 2017- May 20	<p>Demonstrator - UoM</p> <ul style="list-style-type: none"> • Demonstrator for: Earth’s Microbiomes (2nd year BSc), Microscopy for Biological Sciences (MSc), Biometry (3rd year BSc, MSc), Thinking Scientifically (2nd year BSc), Experimental Marine Biology (Field subject, 3rd year BSc), Animal Structure and Function (2nd year BSc), and Introductory Biology II (1st year BSc) • Responsible for supporting instruction by assisting students with practical skills • Assist in recording attendance and assessment tasks
Jan 2016 - Dec 16	<p>Adjunct Professor – Florida Keys Community College, Key West, FL, USA</p> <ul style="list-style-type: none"> • Instruct Introduction to Marine Biology course (OCE 1000) • Devise weekly lessons to cover designated material and current issues in marine science • Maintain a thorough knowledge of instructional standards, practices, and methodologies

RESEARCH TRAINING

Year	Student	Degree	Role*	Achievements/Notes
Mar 2022-	Felix Powrie	MSc	P	
Mar 2022-	Amanda Williams	BSc	S	Amanda is a Gumbaynggirr and Yuin Person and first-generation scientist. She accompanied myself and Laura Geissler to the Australian Institute for Marine Science to collect data and is a co-author on the resulting manuscript (submitted to ISMEJ). At AIMS Amanda was provided mentoring on what an academic career might look like in a way of mitigating the high attrition rate of Indigenous students within science.
Jan 2022-	Laura Geissler	PhD	C	Laura is a co-author on two manuscripts (one submitted, one in prep) and was the presenting author for one of these projects at the Australian Microbial Ecology conference (Nov. 2022).
2021-2022	Isini Buthgamuwa	BSc	S	Isini was awarded a summer internship scholarship from the Australian Society for Microbiology to work with me. We have a manuscript submitted from this project with Isini as the first author. She is also presenting this research at the Australian Microbial Ecology conference (Nov. 2022). After internship, Isini joined our lab group as a Master’s student.
Mar 2021-	ShiQi Quo	MSc	C	ShiQi was selected as a demonstrator for BIOL10009 and 10008 during Semester I 2022. She presented her research at the Australian Microbial Ecology conference (Nov. 2022).
2020	Xavier Smith	BSc	S	Xavier’s lab experience was cut short because of COVID19. In 2022, he joined the School of BioSciences as a Master’s student in another marine biology lab.
2019	Louis Dorison	MSc	C	Louis completed his international internship placement at UoM.
2018	Shona Elliot-Kerr	BSc	S	After completing her volunteer role, Shona joined the School of BioSciences as a Master’s student.
2017	Giulia Holland	BSc	C	After completing her research course role, Giulia began a Master’s by coursework program in environmental science. Giulia continued to work casually in the van Oppen/Blackall lab from 2018-2022 with manuscripts in prep from those research projects. Giulia has recently (April 2022) accepted a job as an Environmental Engagement Officer with the City of Mandurah in Western Australia.

**S = sole supervisor; C = co-supervisor; P = panel member*

GRANTS AND AWARDS

	Amount (AUD\$)	Institution – Year
Melbourne Data Analytics Platform Collaboration Award† (Ashley M. Dungan, Kshitij Tandon, Gayle Philip, Linda L. Blackall, Madeleine J. H. van Oppen)	100,000	UoM - 2022
ECR Global Collaborations Award	19,620	UoM - 2021
RDU Researcher Development Initiative Grant** (Ashley M. Dungan, Amar Abdullah, Bhawana Bhatta, Justin Maire, Laura Brannelly)	25,000	UoM - 2021
Early Career Researcher Grant	33,144	UoM - 2021
EMRI Research Grant	10,000	UoM - 2021
Funding for School of BioSciences ECA conference**	14,300	UoM - 2021
Melbourne Research Scholarship	105,000	UoM - 2017-20
Small grants during PhD (8)	10,528	UoM – 2018-19
Mote’s “Protect Our Reefs” Grant (Ashley M. Dungan, Emily Hall)	13,500	Mote - 2017
Mote’s “Protect Our Reefs” Grant (Ashley M. Dungan, Emily Hall)	13,500	Mote - 2016

* Where there were multiple applicants, all applicants are listed as shown on application.

† estimated in kind contribution from MDAP for collaboration services

** funds for Service activities

TALKS AND SEMINARS

International (*invited)	Location	Type - Year
Mote Marine Laboratory – Invited by Dr. Erinn Muller*	Florida Keys, FL, USA	Talk - 2023
University of Miami – Invited by A/Prof. Nikki Traylor-Knowles*	Miami, FL, USA	Talk - 2023
Arizona State University – Invited by Prof. John McCutcheon*	Tempe, AZ, USA	Talk - 2023
International Symposium on Microbial Ecology	Lausanne, Switzerland	Poster - 2022
SfAM Webinar series on Sustainable Microbiology*	UK - Zoom	Talk - 2021
Gordon Research Conference on Marine Molecular Ecology	Hong Kong, China	Poster - 2019
Gordon Research Symposium on Marine Molecular Ecology	Hong Kong, China	Poster - 2019
International Symbiosis Society Congress	Corvallis, OR, USA	Talk - 2018
7 th Conference on Beneficial Microbes	Madison, WI, USA	Poster - 2018
International Coral Reef Symposium	Honolulu, HI, USA	Poster – 2016
Domestic (*invited)		
Faculty of Science SECAN Research Summit	Melbourne, VIC	Talk - 2023
Flinders University – hosted by Prof. Robert Edwards*	Adelaide, SA	Talk - 2022
Microbial Ecology and Environmental Microbiology Meeting*	Australia - Zoom	Talk - 2021
Australian Society for Microbiology Happy Hour*	Australia - Zoom	Talk - 2021
Assisted Evolution Workshop*	Townsville, QLD	Talk - 2019
School of BioSciences Postgraduate Symposium	Melbourne, VIC	Talk - 2018
Microbial Ecology and Environmental Microbiology Meeting*	Melbourne, VIC	Talk - 2018

POSITIONS OF SERVICE AND ENGAGEMENT

	Role	Dates
Australian Microbial Ecology Conference Organizing Committee	Treasurer	November 2021 - 2022
International Society for Microbial Ecology Early Career Scientists Committee (ISME-ECSC)	Chair	June 2023 – present
	Member	July 2021 – June 2023
UoM BioSciences Early Career Academics Committee (BECA)	Co-Chair	March 2021 – June 2022
UoM BioSciences Operational Executive Committee	Member	March 2021 – Jan. 2023

UoM BioSciences People and Culture Committee (P&C)	Co-Chair Secretary Member	Feb. 2022 – Jan. 2023 Sept. 2021-Feb. 2022 Jan. 2021-Sept. 2021
Gordon Research Symposium on Marine Molecular Ecology	Chair	2019 - present
International Symbiosis Society Executive Committee (ISS-EC)	Member	2018 - 2022
UoM BioSciences Postgraduate Society (BioPS)	Vice President	2017 - 19
International Coral Reef Society Student Committee	Member	2016 - 18

COMMUNITY ENGAGEMENT ACTIVITIES

	Role	Dates
STEM-focused Leadership Workshops for FoS, FVAS, and MDHS ECAs (\$25,000)*	Lead Organizer	Oct. 2022 Feb. 2023
School of BioSciences ECA Research Summit (\$14,300)*	Lead Organizer	June 2022
FoS Diversity in STEM panel	Lead Organizer	May 2022
Careers in Marine Science Panel	Panelist	April 2022
Podcast Interview (Good for the Bee)	Interviewee	Oct. 2021
Picture a Scientist/Women in STEM Discussion Panel	Lead Organizer	Sept. 2021
School of BioSciences Mentoring Program	Organizer	July 2021-July 2022
Seminar on academic and non-academic resources to UoM postgraduates (\$1,000)*	Organizer	Oct. 2018
ECR Mixer at 2018 International Symbiosis Conference	Lead Organizer	July 2018
“How to review for academic journals” with Prof. Linda Blackall	Lead Organizer	April 2018
Mental Health Awareness Seminar	Organizer	Jan. 2018

*Funding awarded to organize the event

PUBLICATIONS

It is common practice in the fields of coral reef ecology and environmental microbiology that the first author undertakes most of the work and writes the first draft. Co-authors are listed in order of contribution. The last author is typically a senior academic with a supervisory role or project leader. The nature of sampling and processing means it can take months-years to translate research into publications. Two first-author papers per year is typical. Research quality is assessed by the impact factor of journal, number of citations and any end-user uptake of the research findings. High quality, international journals in environmental microbiology generally have impact factors above 3. I currently have 192 citations with an h-index of 7.

Gomez P, **Dungan AM**, van Oppen MJH, Rodríguez Zaragoza FA (2023) Spatio-temporal variation of associated bacteria assemblage to *Pavona* and *Porites* corals in the Central Mexican Pacific. In prep for *Marine Pollution Bulletin*.

Dungan AM, Tandon K, Jameson V, Gotze C, Blackall LL, van Oppen MJH (2023) A targeted approach to enrich host-associated bacteria for metagenomic sequencing. In prep for *FEMS Microbes*.

Dilworth J, Million WC, Ruggeri M, Hall ER, **Dungan AM**, Muller E, Kenkel CD (2023) Synergistic response to climate stressors in coral is associated with genotypic variation in baseline expression. Submitted to *Nat. Comms*.

McNamara KB, **Dungan AM**, Moschilla JA, Blackall LL, Simmons LW (2023) Microbial variation across the male reproductive tract, but no impact on sperm viability in the Pacific field cricket, *Teleogryllus oceanicus*. Submitted to *Science Adv*.

Buthgamuwa I, Fenelon JC, Roser A, Meer H, Renfree MB, Johnston SD, **Dungan AM** (2023) Unraveling the fecal microbiota stability in the short-beaked echidna (*Tachyglossus aculeatus*) across gestation. Submitted to *Animal Microbiome*.

Dungan AM, Geissler L, Williams A, Gotze C, Flynn E, Blackall LL, van Oppen MJH (2023) DNA from non-viable bacteria inflates diversity in the coral *Acropora loripes*. Submitted to *Env Microbio*.

- Dungan AM**, Maire J, Peres-Gonzalez A., Blackall LL, van Oppen MJH (2022) Lack of evidence for the oxidative stress theory of bleaching in the sea anemone, *Exaiptasia diaphana*. *Coral Reefs*.
<http://doi.org/10.1007/s00338-022-02251-w>
- Maire JM, Buerger P, Chan WY, Deore P, **Dungan AM**, Nitschke MR, van Oppen MJH (2022) Effects of ocean warming on the underexplored members of the coral microbiome. *Integr. Comp. Biol.*,
<https://doi.org/10.1093/icb/icac005>
- West JA, Ha JS, Yoon HS, Hansen GI, Goodman CD, **Dungan AM**, van de Meene A, Loiseaux-de Goër S (2022) Non-photosynthetic, brown loricate unicell *Fuscolorica viatorophila* gen. et sp. nov. (*Cercozoa*, ?*Nanofilidae*) on the marine red alga, *Viator vitreocola* (*Rhodophyta*, *Stylonemataceae*), and bacterial associates. *Not. Algarum* 228.
- Dungan AM**, Hartman LM, Blackall LL, van Oppen MJH (2022) Exploring microbiome engineering as a strategy for improved thermal tolerance in *Exaiptasia diaphana*. *J. Appl. Microbiol.*, 132(4):2940-2956.
<https://doi.org/10.1111/jam.15465>
- Muller EM, **Dungan AM**, Million WC, Eaton KR, Petrik C, Bartels E, Hall ER, Kenkel, CD (2021) Heritable variation and lack of tradeoffs suggest adaptive capacity in *Acropora cervicornis* despite negative synergism under climate change scenarios. *Proc. Royal Soc. B*, 288, 20210923. <https://doi.org/10.1098/rspb.2021.0923>
- Dungan AM**, Bulach D, Lin H, van Oppen MJH, Blackall LL (2021) Development of a free radical scavenging bacterial consortium to mitigate oxidative stress in cnidarians. *Microb. Biotechnol.*, 14(5), 2025-40.
<http://doi.org/10.1111/1751-7915.13877>
- Dungan AM**, van Oppen MJH, Blackall LL (2021) Short-term exposure to sterile seawater reduces bacterial community diversity in the sea anemone, *Exaiptasia diaphana*. *Front. Mar. Sci.*, 7.
<http://doi.org/10.3389/fmars.2020.599314>
- Ng EL, Silk YL, **Dungan AM**, Colwell J, Ede S, Lwanga EH, Meng K, Geissen V, Blackall LL, Chen D (2021) Microplastic pollution alters forest soil microbiome. *J. Hazard. Mater.*, 409, 124606.
<http://doi.org/10.1016/j.jhazmat.2020.124606>
- Blackall LL, **Dungan AM**, Hartman LM, van Oppen MJH (2020) Probiotics for corals. *Microbiol. Aust.*, 41(2), 100-104. <https://doi.org/10.1071/MA20025>
- Dungan AM**, Hartman LM, Tortorelli G, Belderok R, Lamb AM, Pisan L, McFadden GI, Blackall LL, van Oppen MJH (2020) *Exaiptasia diaphana* from the Great Barrier Reef: a valuable resource for coral symbiosis research. *Symbiosis*, 80, 195–206. <https://doi.org/10.1007/s13199-020-00665-0>
- Pelletier M, Haynes JM, **Dungan AM**, Kroeckel J (2014). Identification of the Microbial Population found in Water Sources in and around San Salvador Island, Bahamas. *Int. J Bahamian Stud.*, 20(1), 27-37.
<http://dx.doi.org/10.15362/ijbs.v20i1.196>