

CURRICULUM VITAE: A/PROF CHRIS GREENING

Position: Associate Professor & Group Leader, Department of Microbiology, Monash University

Date of Birth: February 25, 1987 (Warrington, UK)

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QUALIFICATIONS

- 2014 Ph.D., Department of Microbiology and Immunology, University of Otago
Physiological roles of the three [NiFe]-hydrogenases in Mycobacterium smegmatis
- 2010 M.Sc./B.Sc. (1st Class), Molecular and Cellular Biochemistry, University of Oxford
Variants of heme d₁ biosynthesis enzymes in Paracoccus pantotrophus
- 2005 Five A-levels (Grade A), Nailsea Comprehensive School

APPOINTMENTS

- 2020 – NHMRC EL2 Fellow & Associate Professor, Department of Microbiology, Monash University
- 2019 – 2020 Associate Professor, School of Biological Sciences, Monash University
- 2017 – 2019 ARC DECRA Fellow, School of Biological Sciences, Monash University
- 2016 – 2018 Lecturer & Group Leader, School of Biological Sciences, Monash University
- 2014 – 2016 Postdoctoral Fellow, CSIRO Land & Water / Australian National University
- 2013 – 2014 Cover Lecturer & Assistant Research Fellow, Department of Microbiology, University of Otago

EXTERNAL GRANTS & FUNDING

Since initiating an independent career with my ARC DECRA Fellowship, I have secured funding across a range of sources to execute my One Health Microbiology vision. These span individual grants with a basic science focus from the Australian Research Council (ARC) and National Health & Medical Research Council (NHMRC), as well two large program grants with a translational focus. I have been awarded over \$3.5M in competitive funding as a lead or sole investigator, and helped secure over \$50M funding as a chief investigator.

- 2021 – 2023 ARC Discovery Project Grant (DP210101595; Co-Lead CI), \$671K
Coastal permeable sediments as a novel source of greenhouse gases
- 2020 – 2024 NHMRC Emerging Leadership Fellowship (EL2 APP1178715; Sole CI), \$1.45M
What doesn't kill tuberculosis makes it stronger: carbon monoxide as a host-derived energy source for mycobacterial persistence
- 2020 – 2022 ARC Discovery Project Grant (DP200103074; Lead CI), \$497K
Living on air: how do bacteria scavenge atmospheric trace gases?
- 2020 – 2027 ARC Special Research Initiative in Excellence in Antarctic Science (SR200100005; CI), \$36M
SAEF: Securing Antarctica's Environmental Future
- 2020 – 2022 Australian Antarctic Science Grant Program (AAS-4592; Lead CI), \$138K
Terrestrial microbial biodiversity in the Vestfold Hills: structure, drivers, and protection
- 2020 – 2024 NHMRC Ideas Grant (APP1163728; AI – Pathogen Monitoring), \$2.9M
Assessing exposure pathways for pathogens causing gastrointestinal infection among children living in urban informal settlements

2020	ARC Linkage, Equipment, and Infrastructure Grant (LE200100156; CI), \$471K A facility for quantification and isotopic analysis of trace gases
2018 – 2021	NHMRC Project Grant (APP1142699; Sole CI), \$396K Targeting redox homeostasis to prevent <i>Mycobacterium tuberculosis</i> persistence
2018 – 2020	ARC Discovery Project Grant (DP180101762; CI), \$411K Hydrogen: an overlooked intermediate during anoxia in permeable sediments
2018 – 2020	NHMRC Project Grant (APP1139832; CI), \$670K Preventing the evolution of transmissible nitroimidazole resistance in <i>Mycobacterium tuberculosis</i>
2017 – 2022	Wellcome Trust Our Planet, Our Health Program Grant (CI following grant variation), \$14M RISE: Revitalising Urban Settlements and their Environments
2017 – 2020	Marsden Grant (GNS1601; AI), \$286K Methanotroph's dirty little secret: they're not metabolically monogamous
2017 – 2019	Australian Antarctic Division Project Grant (AAS-4406; CI), \$128K A novel strategy driving niche development and climate adaptation in polar desert soils
2017 – 2019	ARC DECRA Fellowship (DE170100310; Sole CI), \$360K Atmospheric trace gases: fuelling the dormant majority

Also received over \$100K in industrial funding, including from Lion Dairy & Drinks (2017 – 2018) and Wilypa (2019 – 2020). International collaborator on Global Partnerships in Livestock Emissions grant (2017 – 2020) and cohort study on human gastrointestinal hydrogen metabolism (2019 – 2021).

SUPERVISION & MENTORING

Over the last five years, I have developed a diverse, innovative, and productive team. My group currently hosts four PhD students, four postdoctoral fellows, four research assistants, and one Honours student. The four current and four completed PhD students under my primary supervision have developed excellent scientific and professional skills, published papers in leading journals, and presented at major national or international conferences. Three postdoctoral fellows that I have mentored have secured independent fellowships and two are now independent group leaders.

PhD lead supervision:

Caitlin Welsh	Determinants of microbial hydrogen cycling in the human gastrointestinal tract	2020 –
David Gillett	Physiological and biochemical basis of mycobacterial adaptation to hypoxia	2019 –
Katie Bayly	Carbon monoxide as a host-derived energy source for mycobacteria	2019 –
Pok Man Leung	Energy and carbon acquisition in global desert ecosystems	2018 –
Dr Paul Cordero	Biochemical basis of mycobacterial hydrogen and carbon monoxide oxidation	2017 – 2021
Dr Zahra Islam	New mediators of bacterial atmospheric trace gas oxidation	2017 – 2020
Dr Ya-Jou Chen	Linking biogeochemical processes to microbial community in permeable sediments	2016 – 2020
Dr Sean Bay	Structure and basis of soil microbial biodiversity	2016 – 2020

PhD co-supervision: Tess Hutchinson (2021 –), Maha Alharbi (2021 –), Sarah Reeve (2017 – 2021), Dr Rosemarie Herbert (2016 – 2017), Dr Dan Søndergaard (Aarhus, 2015 – 2018), Dr Brendon Lee (ANU, 2015 – 2018), Dr Liam Harold (Otago, 2015 – 2019)

Postdoctoral staff: Dr Paul Cordero (2021 –), Dr Laura Perlaza Jimenez (2021 –), Dr Sean Bay (2020 –), Dr Rachael Lappan (2019 –), Dr Rhys Grinter (2018 – 2020; secured NHMRC Fellowship; now group leader at Monash University), Dr Karen Jordaan (2018 – 2019), Dr Eleonora Chiri (2017 – 2020; secured SNF Fellowship), Dr Carlo Carere (Mentored, 2016 – 2017; secured Marsden Fast Start; now group leader at University of Canterbury)

Technical staff: Michael Milton (2021 –), Luis Jimenez (2021 –), Jie Mao (2020 – 2021), Caitlin Welsh (2019 – 2020), Ashleigh Kropp (2019 –), Dr Maria Chuvochina (2017), Blair Ney (2017 – 2018), Tent Jirapanjawan (2016 –)

Honours supervision: Anjali Lobo (2021), Abraham Freijah (2019 – 2020), Caitlin Welsh (2019), Guy Shelley (2018), Katie Bayly (2018), Joanna Feng (2017), Blair Ney (2016. ANU), Thanavit Jirapanjawat (2015 – 2016), James Antoney (Co-supervised, 2015), Kiel Hards (Co-supervised, 2012)

Undergraduates: Anjali Lobo (2020), Jasmyn Voss (2017), Jethro Sallmann (2017), Lauren Sanders-Berg (2016 - 2017), Blair Ney (2015 - 2016), Ro Rushton-Green (2014 - 2015), Kiel Hards (2011 - 2012)

Sabbatical visitors: Prof Osnat Gillor (2019)

TEACHING

I have convened and lectured for a wide range of units for students from first to fifth year. For example, as convenor of BIO3082: Global Change Biology, I entirely redesigned the course to take a more integrative, solution-based approach; it now considers causes, effects, and mitigation of global warming and other pressures within the framework of sustainable human development. It adopted a student-centred teaching approach that emphasised in-class interactions and fosters creativity. My teaching consistently receives excellent evaluations with all units that I have convened formally recognised as being outstanding (>4.7 out of 5.0) in all instances.

Monash University – Department of Microbiology:

S3701: Microbiology Honours	Deputy convenor, module designer	2021 –
BMS5003: Infectious diseases and population health	Facilitator	2020 –
MIC3032: Pathogenesis of infectious disease	Lecturer	2020 –
MIC2011: Introduction to microbiology	Lecturer	2020 –

Monash University – School of Biological Sciences:

BIO1022: Life on earth	Module designer	2019
BIO4100: Honours research project	Course convenor, primary lecturer	2018 – 2019
BIO3082: Global change biology	Course convenor, primary lecturer	2017 – 2019

Australian National University – Research School of Chemistry:

CHEM4005: Enzymatic basis of energy generation	Module convenor, primary lecturer	2016
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University of Otago – Department of Microbiology and Immunology:

MICR461: Molecular microbiology	Lecturer	2014
MICR336: Microbial ecology	Lecturer	2014
MICR335: Molecular microbiology	Lecturer	2014

INSTITUTIONAL SERVICE

Departmental / school leadership:

- Member of Department of Microbiology Leadership Team (2021 –)
- Head of the Antimicrobial Resistance Testing & Surveillance Facility (2020 –)
- Member of the Biological Sciences Leadership Team (2019)
- Convenor of Biological Sciences Honours Program (2018 – 2019)
- Head of the Biological Sciences Media Engagement Strategy (2018 – 2019)
- Member of Biological Sciences Research Committee (2018 – 2019)
- Convenor of Biological Sciences Seminar Program (2017)

Program leadership:

- Co-lead of the Biomedicine in the Environment Initiative (2021 –)
- Chair of the One Health Working Group of the Centre to Combat AMR (2020 –)
- Chief investigator of SAEF: Securing Antarctica's Environmental Future (2020 –)
- Member of Monash Energy Institute (2020 –)
- Member of Micromon Genomics Steering Committee (2019 –)
- Chief investigator of RISE: Revitalising Informal Settlements and their Environments (2018 –)
- Member of Centre for Geometric Biology (2016 – 2018)

Teaching & Training:

- Judge of the Robert Power Prize for Laboratory-Based Sciences (2021)

- Member of Biological Sciences Teaching Committee (2018 – 2019)
- Chief judge of Biological Sciences Postgraduate Symposia (2016 – 2018)
- Panel member for eleven PhD students and panel chair for one PhD student

Community:

- Member of Monash University Ally Network (2018 –)
- Co-organiser of inaugural Women in Science Lecture (2018)
- Participant in Monash University Open Days (2016 – 2018)

EXTERNAL SERVICE

Society roles:

- Advisory committee for AusME: Microbial Ecology Conference (2019)
- Co-founder of the MEEM: Microbial Ecology – Environmental Microbiology in Victoria Symposia (2018 –)
- Committee member for New Zealand Microbiological Society (2012 – 2013)
- Organising committee for New Zealand Microbiological Society Conference (2012)
- Member of the International Society for Microbial Ecology (2017 –), Australian Society for Microbiology (2017 –), New Zealand Microbiological Society (2011 –)

Outreach and translation roles:

- Panel member for DFAT Fiji and Tuvalu Research and Evaluation Service (2020 –)
- Member of the Defence Science and Technology – Academia Working Group (2018 –)
- Scientific advisor for China-Australia Scientific Association (2014)

Editorial and reviewer roles:

- Editor for Microbial Genomics (2021 –)
- Editorial board for The ISME Journal (2021 –), Environmental Microbiology (2020 –), Environmental Microbiology Reports (2020 –), and Frontiers in Microbiology (2017 –)
- Editor for Frontiers in Microbiology special topic ‘microbial hydrogen metabolism’ (2017 – 2019)
- Reviewer of 84 articles for 34 journals (<https://publons.com/researcher/1513245/chris-greening/>), e.g. JACS, ISME Journal, Nature Microbiology, Environmental Microbiology, Chemical Science, Journal of Infectious Diseases
- Examiner for six PhD theses, one habilitation thesis, and one MSc thesis
- Grant reviewer for national schemes of Australia, New Zealand, France, Iceland, UK, and NASA

OUTREACH ACTIVITIES

I am also passionate about communicating the importance of science to children and the public, as well as inspiring future scientists and leaders. Reflecting this, I have participated in a wide and growing range of outreach activities.

- Given several school talks (e.g. for STEM Week, Haileybury College Berwick, 2020), where I discuss how I overcame considerable adversity to make scientific discoveries and emerge as a leader.
- Curriculum designer for Microbiology Literacy Knowledge Framework (2021 –)
- Written popular science articles for COSMOS (2018), Monash LENS (2018), Nature Blogs (2017), ECOS (2015).
- Featured on the television documentary Life Beyond Earth (AstroMedia, 2017).
- Gained strong social media presence through Twitter account (>2000 followers).
- Responsible for reviewing and revising media dissemination strategy at the School of Biological Sciences, Monash University, leading to a series of changes that resulted in a three-fold increase in the school's press attention.
- Research articles highlighted in diverse local, national, and international press and social media, e.g.: Nature paper (Altmetric score 558; <https://www.nature.com/articles/nature25014/metrics>) and Nature Reviews Microbiology article (Altmetric score 397, <https://www.nature.com/articles/s41579-020-0413-0/metrics>).

AWARDS

My research, teaching, and service has been recognised with diverse institutional and nationally competitive awards:

- ASM Jim Pittard Award for Outstanding Early-Career Researcher (2019)
- NHMRC EL2 Fellowship (2019)

- Dean's Commendation for Teaching Excellence (2019)
- Faculty of Science Exceptional Service Award (2018)
- Faculty of Science Early Career Researcher Award (2017)
- School of Biological Sciences Teaching Excellence Award (2017)
- ARC DECRA Fellowship (2016)
- CSIRO Office of the Chief Executive Postdoctoral Fellowship (2014)
- Margaret di Menna Best Publication Award (2014)
- Otago School of Biomedical Sciences Best Publication Award (2014)
- Professor Sandy Smith Memorial Scholarship (2013)

CONFERENCE PRESENTATIONS AND EXTERNAL SEMINAR/SYMPOSIUM PRESENTATIONS

Since forming my own group, I have developed a strong national and international profile by presenting 22 conference and symposia talks, including five plenary, twelve invited, and one award talk. I have also delivered 26 invited seminars across major institutions in the USA, Europe, Israel, South Africa, Australia, and New Zealand.

Upcoming

1. Molecular Basis of Microbial One-Carbon Metabolism GRC 2022, New Hampshire, USA (invited speaker)
2. Applied and Environmental Microbiology GRC 2022, Connecticut, USA (invited speaker)
3. ISME Conference, Cape Town, South Africa (invited speaker)
4. Monash FMNHS Early-Career Research Symposium 2021, Melbourne, Australia (plenary speaker)
5. Malaysian Society for Microbiology 2021, Kuala Lumpur, Malaysia (invited speaker)
6. MicroSeminar Series, Virtual, USA (invited speaker)
7. Doherty Institute for Infection and Immunity, Melbourne, Australia
8. Hudson Institute of Medical Research, Melbourne, Australia

2021

9. JAMS Kuala Lumpur, Virtual, Malaysia (invited speaker)
10. Australia Australian Society for Microbiology Conference 2021, Melbourne, Australia (invited speaker)

2020

11. MicroSeq Conference, Virtual, Australia (session chair)
12. Goldschmidt 2020, Honolulu, HI USA (session organiser)
13. Securing Antarctica's Environmental Future Seminar Series, Virtual

2019

14. Australian Society for Microbiology Conference, Adelaide, Australia (Jim Pittard award lecture)
15. Science for Life Laboratory Biodiversity Symposium, Uppsala, Sweden (plenary speaker)
16. Metagenomics Workshop, Uppsala, Sweden (invited speaker)
17. 12th Annual Hydrogenase Conference, Lisbon, Portugal (invited speaker)
18. Symposium on Desert Ecology, Gobabeb, Namibia (invited speaker)
19. AusME: Australian Microbial Ecology Conference, Perth, Australia (invited speaker)
20. QMB Infectious Disease Meeting, Queenstown, New Zealand
21. Atmospheric Physics and Chemistry Group, Utrecht University, Utrecht, Netherlands
22. Department of Microbiology, Radboud University, Nijmegen, Netherlands
23. Royal Netherlands Institute for Sea Research, Tessel, Netherlands
24. Groningen Biomolecular Sciences and Biotechnology Institute, University of Groningen, Groningen, Netherlands
25. Department of Agrotechnology and Food Sciences, Wageningen University, Wageningen, Netherlands
26. Centre for Microbial Ecology and Genomics, University of Pretoria, Pretoria, South Africa
27. School of Biological Sciences, University of Auckland, New Zealand
28. School of Biological Sciences, University of Canterbury, New Zealand
29. Department of Molecular Science, Macquarie University, Sydney, Australia

2018

30. ISME Conference, Leipzig, Germany
31. Joint Academic Microbiology Seminars Annual Symposium, Sydney, Australia (plenary speaker)

32. New Zealand Microbial Ecology Conference, Auckland, New Zealand
33. Carl R. Woese Institute for Genomic Biology, University of Illinois-Champaign, Champaign, IL USA
34. Center for Metalloenzyme Studies, University of Georgia, Athens, GA USA
35. Rollins School of Public Health, Emory University, Atlanta, GA USA
36. Department of Biological Sciences, Louisiana State University, Baton Rouge, LA USA
37. Division of Microbial Ecology, University of Vienna, Vienna, Austria
38. School of Chemistry and Molecular Biosciences, University of Queensland, Brisbane, Australia
39. Department of Physiology, Anatomy and Microbiology, La Trobe University, Melbourne, Australia
40. Department of Microbiology and Immunology, University of Otago, Dunedin, New Zealand
41. Department of Gastroenterology, Alfred Hospital, Melbourne, Australia

2017

42. Australian Society for Microbiology Conference, Hobart, Tasmania (invited speaker)
43. ASM Environmental Microbiology Evening (plenary speaker)
44. AusME: Australian Microbial Ecology Conference, Melbourne, Australia
45. School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, Australia
46. School of BioSciences, Melbourne University, Melbourne, Australia
47. Department of Microbiology, Monash University, Melbourne, Australia

2016

48. New Zealand Microbial Ecology Conference, Auckland, New Zealand
49. The Jacob Blaustein Institutes for Desert Research, Ben-Gurion University, Sde Boker, Israel
50. Research School of Chemistry, Australian National University, Canberra, Australia

2012 - 2015

51. National Symposium on Infectious Diseases, Queenstown, New Zealand (invited speaker)
52. 10th International Hydrogenase Conference, Szeged, Hungary
53. New Zealand Microbiological Society Conference 2012, Dunedin, New Zealand
54. New Zealand Microbiological Society Conference 2011, Palmerston North, New Zealand
55. Department of Microbiology, Humboldt University of Berlin, Berlin, Germany
56. Max-Planck Institute for Terrestrial Microbiology, Marburg, Germany
57. GNS Science, Taupo, New Zealand

PUBLICATIONS

* = corresponding author, & = authors contributed equally, IF = 2020 impact factor

Seven years post-PhD, I have published 79 journal articles and book chapters (average 11 per year). Demonstrating my leadership, I am corresponding/senior author on 43 (54%) and first author on 19 (24%) publications. Half of my journal articles (37 of 73) are published in high-impact journals (IF > 10), such as Nature, PNAS, the ISME Journal, Nature Microbiology, Nature Communications, and Lancet Planetary Health, and most involve international and discipline diverse collaborations. My work is well-cited (h-index 27, 2494 cites total, 18 papers cited > 50 times) and my citations show a rapid upward trajectory (160 in 2017, 282 in 2018, 472 in 2019, 764 in 2020, >1000 projected for 2021).

Preprints

82) Ortiz M & Leung PM*, Shelley G, Van Goethem MW, Bay SK, Jordaan K, Vikram S, Hogg ID, Makhalanyane TP, Chown SL, Grinter R, Cowan DA*, **Greening C*** (2021). A genome compendium reveals diverse metabolic adaptations of Antarctic soil microorganisms. In revision [CITES = 8]

81) Martínez-Pérez C, **Greening C**, Zhao Z, Lappan R, Bay SK, De Corte D, Hulbe C, Ohneiser C, Stevens C, Thomson B, Stepanauskas R, González JM, Logares R, Herndl GJ, Morales SE*, Baltar F* (2021). Lifting the lid: nitrifying archaea sustain diverse microbial communities below the Ross Ice Shelf. In revision [CITES = 0]

80) Xu Y, Ting Y*, Dong X, Wang X, Zhang C, Ren W, Zhao L, Luo Y, **Greening C** (2021). Distinct hydrogenotrophic bacteria are stimulated by elevated H₂ levels in upland and wetland soils. In review [CITES = 0]

2021

- 79) Langwig MV* & De Anda V, Dombrowski N, Seitz KW, Rambo IM, **Greening C**, Teske A, Baker BJ* (2021). Large-scale protein level comparison of Deltaproteobacteria reveals cohesive metabolic groups. In press, The ISME Journal [IF = 10.3, CITES = 0]
- 78) Chiri E & Nauer PA*, Lappan R, Jirapanjawan T, Waite DW, Handley KM, Hugenholtz P, Cook PLM, Arndt SK, **Greening C*** (2021). Termite gas emissions select for hydrogenotrophic microbial communities in termite mounds. In press, PNAS [IF = 11.2, CITES = 0]
- 77) Grinter R*, Morris FC, Dunstan RA, Leung PM, Kropp A, Belousoff M, Gunasinghe SD, Scott NE, Beckham S, Peleg AY, **Greening C**, Li J, Heinz E, Lithgow T* (2021). BonA from *Acinetobacter baumannii* forms a divisome-localized decamer that supports outer envelope function. In press, mBio [CITES = 0, IF = 7.9]
- 76) Xie F, Jin W, Si H, Yuan Y, Tao Y, Liu J, Wang X, Yang C, Li Q, Yan X, Lin L, Jiang Q, Zhang L, Guo C, **Greening C**, Heller R, Guan L, Pope PB, Tan Z, Zhu W, Wang M, Qiu Q, Li Z, Mao S (2021). An integrated gene catalog and over 10,000 metagenome-assembled genomes from the gastrointestinal microbiome of ruminants. *Microbiome* 9, 137 [IF = 14.7, CITES = 0]
- 75) French MA & Barker SF & Taruc RR, [25 authors], **Greening C**, [8 authors], Clasen T, Luby S, Leder K*, RISE Consortium (2021). A planetary health model for reducing exposure to faecal contamination in urban informal settlements: baseline findings from Makassar, Indonesia. *Environment International* 155, 106679 [IF = 9.6, CITES = 0]
- 74) Bay SK*, Waite DW, Dong X, Gillor O, Chown SL, Hugenholtz P, **Greening C*** (2021). Chemosynthetic and photosynthetic bacteria contribute differentially to primary production across a steep desert aridity gradient. *The ISME Journal*, doi: 10.1038/s41396-021-01001-0 [IF = 10.3, CITES = 0]
- 73) Wong WW*, **Greening C**, Shelley G, Lappan R, Leung PM, Kessler AJ, Winfrey BK, Poh SC, Cook PLM (2021). Effects of drift algae accumulation and nitrate loading on nitrogen cycling in a eutrophic coastal sediment. *Science of the Total Environment* 790, 147749 [IF = 8.0, CITES = 0]
- 72) Garcia SL* & Mershad M & Buck M, Tsuji JM, Neufeld JD, McMahon KD, Bertilsson S, **Greening C**, Peura S (2021). Freshwater Chlorobia exhibit metabolic specialization among cosmopolitan and endemic populations. *mSystems* 6, e01196-20 [IF 6.5, CITES = 0]
- 71) Bayly K & Cordero PRF, Kropp A, Huang C, Schittenhelm RF, Grinter R*, **Greening C*** (2021). Mycobacteria tolerate carbon monoxide by remodelling their respiratory chain. *mSystems* 6, e310292-20 [IF = 6.5, CITES = 1]
- 70) Lappan R & Henry R, Chown SL, Luby SP, Higginson EE, Bata L, Jirapanjawan T, Schang C, Openshaw JJ, O'Toole, Lin A, Tela A, Turagabeci A, Wong THF, French MA, Brown RR, Leder K, **Greening C***, McCarthy D* (2021). Monitoring diverse enteric pathogens across environmental and host reservoirs with TaqMan Array Cards and standard qPCR: a methodological comparison study. *The Lancet Planetary Health* 5, E297-E308 [IF = 19.2, CITES = 0]
- 69) Chen Y-J & Leung PM, Wood JL, Bay SK, Hugenholtz P, Kessler AJ, Shelley G, Waite DW, Franks A, Cook PLM*, **Greening C*** (2021). Metabolic flexibility allows bacterial habitat generalists to become dominant in a frequently disturbed ecosystem. *The ISME Journal*, doi: 10.1038/s41396-021-00988-w [IF = 10.3, CITES = 10]
- 68) Grinter R*, **Greening C*** (2021). Cofactor F₄₂₀: an expanded view of its distribution, biosynthesis, and roles in bacteria and archaea. *FEMS Microbiology Reviews* 45, fuab021 [IF = 16.4, CITES = 0]
- 67) Jeffrey LC*, Maher DT, Tait DR, Reading MJ, Chiri E, **Greening C**, Johnston SG (2021). Isotopic evidence for axial tree stem methane oxidation within subtropical lowland forests. *New Phytologist* 230, 2200-2212 [IF = 10.2, CITES = 2]
- 66) Jeffrey LC*, Maher DT, Chiri E, Leung PM, Nauer PA, Arndt SK, Tait DR, **Greening C**, Johnston SG (2021). Bark-dwelling methanotrophic bacteria decrease methane emissions from trees. *Nature Communications* 12, 2127 [IF = 14.9, CITES = 3] (received Nature Reviews Microbiology summary and Communications Biology commentary)
- 65) Bay SK, Dong X, Bradley JA, Leung PM, Grinter R, Jirapanjawan T, Arndt SK, Cook PLM, LaRowe D, Nauer PA, Chiri E*, **Greening C*** (2021). Trace gas oxidizers are widespread and active members of soil microbial communities. *Nature Microbiology* 6, 246-256 [IF = 17.7, CITES = 6] (received Nature Microbiology commentary and Nature Reviews Microbiology summary / F1000 recommended)

64) Nauer PA*, Chiri E, Jirapanjawat T, **Greening C**, Cook PLM* (2021). Inexpensive modification of Exetainers for the reliable storage of trace-level hydrogen and carbon monoxide gas samples. *Biogeosciences* 18, 729–737 [IF 4.3, CITES = 0]

63) Leder KS*, [12 authors], **Greening C**, Henry R, Higginson E, Johnston D, Lappan R, [14 authors], Brown RR, RISE Consortium (2021). Study design, rationale and methods of the Revitalising Informal Settlements and their Environments (RISE) study: a cluster randomised controlled trial to evaluate environmental and human health impacts of a water sensitive intervention in informal settlements in Indonesia and Fiji. *BMJ Open* 11, e042850 [IF = 2.7, CITES = 3]

62) Giguere AT & Eichorst SA*, Meier DV, Herbold CW, Richter A, **Greening C**, Woebken D (2021). Acidobacteria are active and abundant members of diverse atmospheric H₂-oxidizing communities detected in temperate soils. *The ISME Journal* 15, 363-376 [IF = 10.3, CITES = 3]

2020

61) Jordaan K & Lappan R, Dong X, Aitkenhead IJ, Bay SK, Chiri E, Wieler N, Meredith LK, Cowan DA, Chown SL, **Greening C*** (2020). Hydrogen-oxidizing bacteria are abundant in desert soils and strongly stimulated by hydration. *mSystems* 5, e01131-20 [IF = 6.5, CITES = 3] (received video summary)

60) Dong X*, Rattray JE, Campbell C, Webb J, Chakraborty A, Adebayo O, Matthews S, Li C, Fowler M, Macdonald A, Morrison N, Groves RA, Lewis IA, Wang SH, Mayumi D, **Greening C**, Hubert CRJ* (2020). Thermogenic hydrocarbon biodegradation by diverse depth-stratified microbial populations at a Scotian Basin cold seep. *Nature Communications* 11, 5825 [IF = 14.9, CITES = 9]

59) **Greening C***, Lithgow T* (2020). Formation and function of bacterial organelles. *Nature Reviews Microbiology* 18, 677–689 [IF = 60.6, CITES = 19] (featured article)

58) Chiri E, **Greening C***, Lappan R, Waite DW, Jirapanjawat T, Dong X, Arndt SK*, Nauer PA (2020). Termite mounds contain soil-derived methanotroph communities kinetically adapted to elevated methane concentrations. *The ISME Journal* 14, 2715–2731 [IF = 10.3, CITES = 8] (co-corresponding author)

57) Islam ZF, Welsh C, Bayly K, Grinter R, Southam G, Gagen EJ, **Greening C*** (2020). A widely distributed hydrogenase oxidises atmospheric H₂ during bacterial growth. *The ISME Journal* 14, 2649–2658 [IF = 10.3, CITES = 11]

56) Bay S*, McGeoch MA, Gillor O, Wieler N, Palmer DJ, Baker DJ, Chown SL, **Greening C*** (2020). Soil bacterial communities exhibit strong biogeographic patterns at fine taxonomic resolution. *mSystems* 5, e00540-20 [IF = 6.6, CITES = 8] (editor's choice)

55) Grinter R*, Ney B, Brammananth R, Barlow CK, Cordero PRF, Gillett DL, Izore T, Cryle MJ, Harold LK, Cook GM, Taiaroa G, Williamson DA, Warden AC, Oakeshott JG, Taylor MC, Crellin PK, Jackson CJ, Schittenhelm RB, Coppel RL, **Greening C*** (2020). Cellular and structural basis of synthesis of the unique intermediate dehydro-F₄₂₀-0 in mycobacteria. *mSystems* 5, e00389-20 [IF = 6.5, CITES = 2] (cover image article)

54) **Greening C** (ed.), Boyd ES (ed.) (2020). *Microbial Hydrogen Metabolism*. E-Book, Frontiers Press.

53) Kessler AJ*, Rogers A, Cyronak T, Bourke MF, Hasler-Sheetal H, Glud RN, **Greening C**, Meysman FJ, Eyre BD, Cook PLM (2020). Pore water conditions driving calcium carbonate dissolution in reef sands. *Geochimica et Cosmochimica Acta* 279, 16-28 [IF = 5.0, CITES = 3]

52) Leung PM*, Bay SK, Meier DV, Chiri E, Cowan DA, Gillor O, Woebken D, **Greening C*** (2020). Energetic basis of microbial growth and persistence in desert ecosystems. *mSystems* 5, e00495-19 [IF = 6.5, CITES = 9] (invited article)

51) Lee BM, Harold LK, Almeida DV, Afriat-Jurnou L, Aung HL, Forde BM, Hards K, Pidot SJ, Ahmed FH, Mohamed AE, Taylor MC, West NP, Stinear TP, **Greening C**, Beatson SA, Nuernberger EL, Cook GM, Jackson CJ* (2020). Predicting nitroimidazole antibiotic resistance mutations in *Mycobacterium tuberculosis* with protein engineering. *PLoS Pathogens* 16, e1008287 [IF = 6.8, CITES = 16]

50) Benoit SL, Maier RL*, Sawers RG, **Greening C*** (2020). Molecular hydrogen metabolism: a widespread trait of pathogenic bacteria and protists. *Microbiology and Molecular Biology Reviews* 84, e00092-19 [IF = 11.1, CITES = 20] (F1000 recommended / co-first author)

49) **Greening C***, Boyd ES* (2020). Editorial: Microbial Hydrogen Metabolism. *Frontiers in Microbiology* 11, 56 [IF = 5.6, CITES = 2]

2019

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