

CURRICULUM VITAE

Maxwell Alexander Lechte

Date of birth: 26th March 1991

Nationality: Australian

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EDUCATION

2015-2019 PhD, Earth Sciences, University of Melbourne

2012-2014 MSc (Distinction), Earth Sciences, University of Melbourne

2009-2011 BSc, Geology, University of Melbourne

PROFESSIONAL EXPERIENCE

August 2019–Present: PBEEE Postdoctoral Fellow

Department of Earth and Planetary Sciences, McGill University

Advisor: Prof. Galen Halverson. Funded by the Programme de Bourses d'Excellence pour Étudiants Étrangers (Fonds de recherche du Québec – Nature et technologies)

April 2019–August 2019: Precambrian Geology Research Assistant

School of Earth Sciences, University of Melbourne

Summer 2017: Visiting Researcher

Department of Geology and Geophysics, Yale University

2013–2018: Teaching Assistant

School of Earth Sciences, University of Melbourne

Lecturer:

Geology for Engineers (2016)

Introduction to Adobe Illustrator Workshop (2016)

Teaching assistant:

Sedimentary Geology (2015-2018)

Understanding Planet Earth (2015-2018)

Introduction to Life, Earth & the Universe (2015-2016)

Dangerous Earth (2016)

Field trip demonstrator:

Geology of Southeast Australia (Otways, VIC; 2013-2017)

Tectonics & Geodynamics (Cape Conran, VIC; 2018)

Sedimentary Geology (Black Rock, VIC; 2017-2018)

Understanding Planet Earth (Phillip Island, VIC; 2015-2018)

Field Mapping & Sedimentary Geology (Buchan, VIC; 2017)

Advanced Field Geology (Flinders Ranges, SA; 2013-2014)

HONOURS, SCHOLARSHIPS AND AWARDS

- 2019 Postdoctoral Merit Scholarship for Foreign Students / Programme de Bourses d'Excellence pour Étudiants Étrangers (Fonds de recherche du Québec – Nature et technologies)
- 2018 Albert Shimmins Award (Faculty of Science, Uni. Melb.)
- 2018 George Lansell Memorial Scholarship, Melbourne School of Engineering
- 2017 Research Training Program Scholarship (Australian Federal Government)
- 2016 International Geological Congress GeoHost Award
- 2015 Australian Postgraduate Award
- 2015 Dean's Honour List (Faculty of Science, Uni. Melb.)
- 2014 P.W. Crohn Scholarship (School of Earth Sciences, Uni. Melb.)
- 2014 P.J. Adams Research Award (School of Earth Sciences, Uni. Melb.)
- 2013 VUEESC Sedimentology & Environmental Sciences Prize
- 2012 C.M. Tattam Scholarship (School of Earth Sciences, Uni. Melb.)

RESEARCH GRANTS

- 2017 International Association of Sedimentologists Postgraduate Research Grant
- 2016 Science Abroad Travel Grant, Faculty of Science
- 2016 Geological Society of Australia Victoria Division Research Award

PUBLICATIONS

Peer-reviewed articles:

- 2019 **Lechte, M.A.**, Wallace, M.W., van Smeerdijk Hood, A., Li, W., Jiang, G., Halverson, G.P., Asael, D., McColl, S.L. & Planavsky, N.J., Subglacial meltwater supported oxygenated marine habitats during Snowball Earth. *Proceedings of the National Academy of Sciences USA*, doi: 10.1073/pnas.1909165116.
- 2019 Ling, H.-F., Wei, G., Shields, G., Chen, T., **Lechte, M.**, Chen, X., Qiu, C., Lei, H. & Zhu M., Long-term evolution of terrestrial inputs from the Ediacaran to early Cambrian: clues from Nd isotopes in shallow-marine carbonates, South China. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 535, doi: 10.1016/j.palaeo.2019.109367.
- 2018 **Lechte, M.A.**, Wallace, M.W., Hood, A.v.S. & Planavsky, N. (2018) Cryogenian iron formations in the glaciogenic Kingston Peak Formation, California. *Precambrian Research*, 310, p.443-462, doi: 10.1016/j.precamres.2018.04.003.
- 2018 Busigny, V., Planavsky, N.J., Goldbaum, E., **Lechte, M.A.**, Feng, L. & Lyons, T.W., (2018) Origin of the Neoproterozoic Fulu iron formation, South China: Insights from iron isotopes and rare earth element patterns. *Geochimica et Cosmochimica Acta*, 242, p.123-142, doi: 10.1016/j.gca.2018.09.006.
- 2018 **Lechte, M.A.**, Wallace, M.W. & Hoffmann, K.H. (2018) Glacio-marine iron formation deposition in a c. 700 Ma glaciated margin: insights from the Chuos Formation, Namibia. *Geological Society, London, Special Publications*, SP475-2, doi: 10.1144/SP475.2.
- 2016 **Lechte, M.** & Wallace, M. (2016) Sub-ice shelf ironstone deposition during the Neoproterozoic Sturtian glaciation. *Geology*, 44(11), p.891-894, doi: 10.1130/G38495.1.

- 2015 **Lechte, M.A.** & Wallace, M.W. (2015) Sedimentary and tectonic history of the Holowilena Ironstone, a Neoproterozoic iron formation in South Australia. *Sedimentary Geology*, 329, p.211-224, doi: 10.1016/j.sedgeo.2015.09.014.

PRESENTATIONS

Invited lectures, colloquia and seminars

- 2020 *Programme Séminaires Géotop*, Centre de recherche sur la dynamique du système Terre, Université du Québec à Montréal, Montréal, Canada
- 2020 *Distinguished Speaker Program* Department of Geological Science and Geological Engineering, Queen's University, Kingston, Canada
- 2019 School of Earth Sciences and Engineering, Nanjing University, Nanjing, China
- 2019 Department of Earth Science, UC Santa Barbara, Santa Barbara, USA
- 2017 Geological Society of Australia, Victoria Division, Melbourne, Australia
- 2017 Department of Geology & Geophysics, Yale University, Connecticut, USA

Selected conference abstracts presented (*student advisee):

- 2019 **Lechte, M.**, Halverson, G., Wallace, M., Hood, A., Planavsky, N., Gibson, T., Milikin, A., Maloney, K. & Murphy, J. Tonian ironstones of the Katherine Group, Yukon: low oxygen shallow seawater in the early Neoproterozoic. *Geobiology Society Conference*, Banff, Canada.
- 2019 **Lechte, M.**, Halverson, G., Wallace, M., Hood, A., Gibson, T., Milikin, A., Maloney, K. & Murphy, J. Ironstones of the Katherine Group, Yukon: marine iron cycling in the early Neoproterozoic. *GAC-MAC*, Quebec, Canada.
- 2018 **Lechte, M.**, Wallace, M., Hood, A., Planavsky, N., Li, W., Jiang, G., *McColl, S. & Asael, D. Glacial Oxygen Delivery in the Neoproterozoic: Fe Isotope Evidence. *Goldschmidt*, Boston, USA.
- 2017 **Lechte, M.**, Wallace, M. & Hood, A. Did glacial fluids help ventilate the oceans in the Neoproterozoic? Insights from glacially-associated iron formations. *Geobiology Society Conference*, Banff, Alberta, Canada.
- 2017 **Lechte, M.**, Wallace, M. & Hood, A. Neoproterozoic glaciomarine ironstones as geochemical proxies for Cryogenian oceans. *Goldschmidt*, Paris, France.
- 2016 **Lechte, M.A.** & Wallace, M.W. Origin of Neoproterozoic iron formations in Australia and Namibia. *International Geological Congress*, Cape Town, South Africa.
- 2016 **Lechte, M.A.** & Wallace, M.W. A sub-ice shelf setting for Neoproterozoic iron formations within the Sturtian glacial sequence? Insights from Australia and Namibia. *William Smith Meeting: Glaciated Margins, The Sedimentary and Geophysical Archive*, Geological Society of London, United Kingdom.

RELATED ACTIVITIES AND EXPERIENCE

Reviewer:

Geochimica et Cosmochimica Acta; Geobiology; Ore Geology Reviews; Environmental Earth Science; Geobiology; Precambrian Research

Professional societies:

Geobiology Society; Geological Association of Canada; European Association of Geochemistry; International Association of Sedimentologists; Geological Society of Victoria

Short courses and workshops:

2018 Cryogenian Subcommission field trip, northern Flinders Ranges, Australia
2014 *Science Communication*, University of Melbourne
2014 *Advanced Geophysics*, Monash University
2013 *Applied Structural Geology*, University of Western Australia
2013 *Advanced Structural Mapping* (Bermagui, VIC), Monash University
2013 *Mineral Exploration Under Cover* (Arkaroola, SA), Adelaide University
2013 *Coastal Environmental Geomorphology* (Gippsland, VIC), La Trobe University
2013 *Basin Analysis*, University of Melbourne
2013 *Interpretation of Satellite Images*, La Trobe University
2013 *Geoscience Information Systems*, University of Melbourne

Tutoring:

2016-2018 Tutor and Mentor, Murrup Barak Institute for Indigenous Development
2015-2016 Tutor, Trinity College, University of Melbourne
2009-2011 Tutor, Tutoring for Excellence, Melbourne, VIC

Leadership:

2019 Session Co-Chair: Precambrian Sedimentology, GAC-MAC, Quebec, Canada
2015-2018 Science Experience Summer School, Melbourne, Australia
2015-2018 Science Expo, University of Melbourne
2015 Organisation Committee, VUEESC, Melbourne, Australia
2014 Global Leaders in Science Program Leader, Trinity College, Melbourne
2014 Treasurer, Earth Science Postgraduate Group, University of Melbourne