

## Compiled ASP Publications 19-20

*Annotation:*

*\* Postgraduate Student*

*# Early Career Researcher*

### Peer-Reviewed Journal Papers [3]

Note: Grey publications reported in 20-21 total count, so not double counted here, despite publication dates technically in 19-20.

1. \*Brett, G. M., A. Irvin, W. **Rack**, C. Haas, P. **Langhorne**, G. **Leonard** (2020), Variability in the distribution of fast ice and the sub-ice platelet layer near McMurdo Ice Shelf, Journal of Geophysical Research: Oceans, 125, <https://doi.org/10.1029/2019JC015678>
2. Das I, Padman L, Bell RE, Fricker HA, Tinto KJ, **Hulbe** CL, Siddoway CS, Dhakal T, Frearson NP, Mosbeux C, Cordero SI and Siegfried MR (2020), "Multidecadal Basal Melt Rates and Structure of the Ross Ice Shelf, Antarctica, Using Airborne Ice Penetrating Radar", Journal of Geophysical Research: Earth Surface., mar, 2020. Vol. 125(3) American Geophysical Union (AGU). <https://doi.org/10.1029/2019JF005241>
3. \*Farooq, U.; **Rack**, W.; **McDonald**, A.; Howell, S. Long-Term Analysis of Sea Ice Drift in the Western Ross Sea, Antarctica, at High and Low Spatial Resolution. Remote Sens. 2020, 12, 1402. DOI:10.3390/rs12091402
4. **Stevens** C, **Hulbe** C, Brewer M, **Stewart** C, **Robinson** N, **Ohneiser** C and **Jendersie** S (2020), "Ocean mixing and heat transport processes observed under the Ross Ice Shelf control its basal melting", Proceedings of the National Academy of Sciences., jun, 2020. Vol. 117(29), pp. 16799-16804. Proceedings of the National Academy of Sciences. <https://doi.org/10.1073/pnas.1910760117>
5. Levy J., **Cary**, S.C., Joy, K., and **Lee**, C.K. (2020). Detection and community-level identification of microbial mats in the McMurdo Dry Valleys using drone-based hyperspectral reflectance imaging. Antarct. Sci. doi:10.1017/S0954102020000243

### Book Chapters [1]

1. **Fraser** CI, Morrison A & \***Olmedo-Rojas** P (2020). Biogeographic processes influencing Antarctic and sub-Antarctic seaweeds. In: Antarctic Seaweeds (Ed.s Gomez I and Huovinen P). Springer. pp 43-57. DOI: 10.1007/978-3-030-39448-6\_3

### Reports (for external body) [2]

1. Coffin, M.F., J. Parr, K. Grice, A. Pagès, A. Lisé-Pronovost, M.B. Clennell, M. Seton, N. Mortimer, R.M. **McKay**, H. McGregor, C.R. Riesselman, I. Poiner, and L.K. Armand (2020). Ocean Planet: An ANZIC workshop report focused on future research challenges and opportunities for collaborative international scientific ocean drilling. J. Parr, M.F. Coffin and L.K. Armand (eds). Australian and New Zealand IODP Consortium, Australian National University, Canberra. 48 p. <https://doi.org/10.25911/5e1c39629af61>
2. **McKay**, R. June 2020. Author on the Exploring Earth Through Scientific Ocean Drilling 2050 Science Framework (new IODP science plan), lead author on the Flagship Initiative of "Ground Truthing Future Climate Change" and "Earth's Climate System" chapters. (Cross credit ASP-P2)

### Invited /Keynote @ Conferences [3]

1. Rob **Mckay**. Plenary Lecture “ Antarctic Ice Sheet History in the Ross Sea During the Late Cenozoic from Geological Drill Core Studies” SCAR International Symposium on Earth Science. July, 25th, 2019.
2. Tim **Naish** Keynote Talk at the International Symposium on Antarctic Earth Sciences, Incheon, Korea July 25th, 2019.
3. Tim **Naish**. Invited speaker at the 2019 Congreso Futuro, Santiago & Punta Arenas, Chile. Speaking on the impact of climate change on Antarctica and global implications Jan 13th-17<sup>th</sup>, 2020.

## Conference / Workshop Presentations [11]

### Oral Presentation

1. Beltran, C., **Golledge**, N., **Ohneiser**, C., Manié, F., Sicre, M-A., Hageman, K.J., Smith, R., Wilson, G. (2020). Rapid Antarctic ice sheet retreat under low atmospheric CO<sub>2</sub>, EGU2020-12028.
2. **Huw Horgan**, **Craig Stewart**<sup>#</sup>, **Craig Stevens**, **Natalie Robinson**<sup>#</sup>, **Christina Hulbe**. (2020) Basal Melting at the Kamb Ice Stream (Ross Ice Shelf) Grounding Line. (ECR presenter) Forum for Research into Ice Shelf Processes (FRISP) 2020, Online.
3. **Christina Hulbe**, **Stevens**, **Dunbar**, **Ohneiser**, **Brewer**, **Mandeno**, **Pyne**. (2019) Beyond J9: New observations of the hidden ocean and sea floor sediments beneath the Ross Ice Shelf, West Antarctica, International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea, July 2019
4. Wei Ji Leong\*, **Huw Horgan** (Student presentation). (2019) DeepBedMap: a super-resolution deep neural network for resolving the bed topography of Antarctica. IGS Radioglaciology Symposium – Five Decades in Radioglaciology, Stanford, USA, July 2019
5. Robert M **Mckay**, Katelyn M Johnson, Kate Newton, Albot B Anya, James A Bendle, Francisco J Jimenez, Johan Etourneau, Xavier Crosta, Christina R **Riesselman**, **Huw J Horgan**, Nancy A.N. **Bertler**, Carlota Escutia and Robert B Dunbar. (2019) A sub-decadal record of East Antarctic biological productivity, and ocean-ice interactions over the Holocene from an ultra-expanded continental shelf sediment drift. AGU Fall 2019, San Francisco
6. Christian **Ohneiser** et al. (2020). Obliquity pacing of Antarctic glaciations during the Quaternary, EGU2020-11191.
7. Wolfgang **Rack**, **McDonald**, **Hulbe**, **Stevens**, **Price**, Marsh, Ryan, Gragg, Snodgrass. (2019) Radar Reflection Characteristics and Melt-Freeze Variability at the Ross Ice Shelf by Phase Sensitive radar Surveys, IGS Radioglaciology Symposium – Five Decades in Radioglaciology, Stanford, USA, July 2019
8. Joseph Snodgrass\*, **Rack**, **McDonald**, **Hulbe**, **Price**, Ryan, Gragg, Forbes. (Student presentation). (2019) Phase sensitive radar measurements along the Ross Ice Shelf SPOT traverse, Antarctica New Zealand Antarctic Science Conference, Christchurch, June 2019
9. **Craig Stevens**, **Natalie Robinson**<sup>#</sup>, **Christina Hulbe**, **Huw Horgan**, **Craig Stewart**, Peter de Joux, Peter Washam. (2020) Ice Shelf Cavity Estuarine Hydrodynamics at the Kamb Ice Stream Grounding Line (ECR presenter) Forum for Research into Ice Shelf Processes (FRISP) 2020, Online.
10. **Craig Stevens**, **Hulbe**, **Brewer**, **Robinson**, **Stewart**<sup>#</sup>. (2019) A year under ice: observations of thermohaline temporal variability in the central Ross Ice Shelf cavity, Forum for Research into Ice Shelf Processes (FRISP) 2019, Oxford, England, September 2019
11. Nicholas Benetti Sullivan, Stephen Richard Meyers, Richard H **Levy**, Peter Sadler, James S. Crampton, and Robert M **Mckay** (2019) Astronomical forcing of the Antarctic Ice Sheet and strategies for integrating proxy data into regional chronostratigraphic frameworks generated by constrained optimization (CONOP). AGU Fall 2019, San Francisco

## Talks, Lectures & Webinars [17]

1. C. Hulbe, University of California, Santa Cruz, Department of Earth and Planetary Sciences invited seminar. May 26<sup>th</sup> 2020
2. Stevens 2020 NIWA Seminar - Adventures on, and under, the Ross Ice Shelf, Wellington, 23 Jan 2020. – cross output with P1.
3. Jamey Stutz, Craig Stevens, and Stefan Jendersie<sup>#</sup> (2020) attended the LIONESS workshop, hosted and organised by KOPRI and involving around 50 Korean, Italian, American, Australian and Kiwi researchers. The aim was to provide an overview of ongoing ice-ocean interaction research in the Western Ross Sea/ Terra Nova Bay and emerging research programmes in the Amundsen Sea/ Thwaites Glacier area. LIONESS workshop, May 14<sup>th</sup>—15<sup>th</sup>, 2020 (Online)

## Ross Ice Shelf research project meeting, NIWA, Wellington February 2020

4. Recent history of the Kamb Ice Stream and its grounding line, C. Hulbe
5. Survey of ice-ocean interactions at KIS from Icefin, J. Lawrence and B. Schmidt
6. Does this feel heavy to you? Preliminary results from the Kamb Ice Stream Gravity Survey, J. Black
7. KIS grounding zone 2019 seismic survey results, A. Gorman
8. Gravity Coring at HWD-1 T. Calkin\* (Student presentation)
9. Modelling of deglacial grounding line-retreat of the Ross Embayment, D. Lowry<sup>#</sup>
10. Post-grounding sedimentary record at HWD-2, G. Dunbar
11. RIS Ocean Cavity Oceanography: Towards Connecting HWD 1 and 2, C. Stevens
12. Sub-ice shelf melt parameterisation, A. Malyarenko<sup>#</sup>
13. Quantifying the Victoria Land Coastal Current, N. Robinson
14. Phase sensitive radar along the SPOT, J. Snodgrass\* (Student presentation)
15. Ice shelf anisotropy from HWD-2 borehole seismics, F. Lutz (Student presentation)
16. A tale of two rifts, M. Forbes\* (Student presentation)
17. KIS-2 and ASP Project 1 Activities and Plans. Horgan, Hulbe, Whiteford\*, Forbes\*