

Dr Joanne MULLER

Geology and Geophysics

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Nationality: Australian

Education

2007, Ph.D. Earth Sciences, James Cook University, Australia

Thesis title: Reconstructing climate change of the last 55 kyr: The Lynch's Crater peat mire record, NE-QLD, Australia. Thesis advisors: Dominik. J. Weiss. and Raphael. J. Wust.

2003, Hons. (1st) Earth Sciences, James Cook University, Australia

Thesis Title: Sediment Transport on The Strand, Rowes Bay, and Pallarenda Beach, Townsville, Queensland, Australia. Thesis Advisor: Paul. J. Hearty.

2002, B.S. Earth Sciences, University of Technology, Sydney

Professional History

Woods Hole Oceanographic Institution (2006- Current) Postdoctoral Fellow

Departments of Geology and Geophysics, working with Senior Scientist Jerry McManus on uranium series applications in Oceanography

James Cook University (2002-2006) - Casual lecturer and tutor

Townsville City Council (2003 – 2004) Environmental management Consultant

Awards

2007-2009, Tropical Research Initiative (internal WHOI funding) totalling 93, 289 USD.

2006 – 2007, American Australian Association, Sir Keith Murdoch Fellowship

http://americanaustralian.org/Educational/ausa_2006_fellows.php

2003 – 2006, Australian Postgraduate Award

2003 – 2006, Australian Institute of Nuclear Sciences and Engineering,
Postgraduate Research Award

2003 – 2004, James Cook University, Equal Opportunities Bursary

2006, American Geophysical Union, Outstanding Student Paper Award (Joint Assembly).

Publications in Journals

- Muller, J.**, Malin Kylander, Raphael A.J. Wüst, Dominik Weiss, Antonio Martinez-Cortizas, Allegra N. LeGrande, Tim Jennerjahn, Herman Behling, William T. Anderson, Geraldine Jacobson., **(2008)** Possible evidence for wet Heinrich phases in tropical NE Australia: The Lynch's Crater deposit, *Quaternary Science Reviews*, Vol. 27, pp. 468-475
- Muller, J.** Kylander, M.E. Wüst, R.A.J. Weiss, D.J. Martinez-Cortizas A.M., Blake, K., Coles, B. and Garcia-Sanchez, R., **(2008)**. The use of principle component analyses in characterizing trace and major elemental distribution in a 55 kyr peat deposit in tropical Australia: Implications to paleoclimate, *Geochimica et Cosmochimica Acta*, Vol 72, pp. 449-463.
- Kylander, M.E. **Muller, J.** Wüst, R.A.J. Gallagher, K. Garcia-Sanchez, R. Coles B.J. and Weiss., D.J. **(2007)**. Rare earth element and Pb isotope variations in a 52 kyr peat core from Lynch's Crater (NE Queensland, Australia): Proxy development and application to paleoclimate in the Southern Hemisphere, *Geochimica et Cosmochimica Acta*, Vol 71, Issue 4, pp. 942-960
- Muller, J.** Wüst, R.A.J., Weiss, D.J. and Hu, Y., **(2006)**. Geochemical Evidence Of Environmental Change at Lynch's Crater, Queensland, Australia, *Global and Planetary Change*, Volume 53, Issue 4, October 2006, pp. 269-277.
- Muller, J.** Wüst, R.A.J. and Hearty, P.J., **(2006)**. Sediment movement along an artificially reconstructed beach: 'The Strand', Townsville, NE-Qld, Australia, *Estuarine Coastal and Shelf Science*, Vol. 66 (1-2), pp. 204-210.

Book Chapters

- Kylander, M.E. **Muller, J.** **(2008)** Inorganic Geochemistry in Paleoclimate: Tools and Trends in the Analysis of Peat and Lake Sediments. In *Climate Change Research Progress* (Ed. Lawrence N. Peretz.)

Abstracts

- Muller J.**, McManus, J., Opdyke, B., Indonesian Throughflow dynamics of the last 25 kyr: New Uranium Series results from the Indonesian Seas: American Geophysical Union, Fall session **2007**, PP12A-07
- Muller J.**, Kylander M.E., Wust R.A.J., Weiss D.J., Martinez-Cortizas A., LeGrande A.N., Jennerjahn T., Behling H., Past migrations of the Intertropical convergence zone in tropical NE Australia during Heinrich events: American Geophysical Union, Fall session **2006**, PP13A-1574

- Muller J.**, and Wust R.A.J., Weathering intensity related to climate change over the last 50 ka: Evidence from Lynch's Crater, NE-QLD, Australia: Goldschmidt **2006**, Geochimica et Cosmochimica Acta, Volume 70, Issue 18, Supplement 1, August-September **2006**, Page A435
- Muller J.**, Kylander M.E., Wust R.A.J., Weiss D.J., Martinez-Cortizas A., The Response of Tropical Australia to Heinrich Events: Evidence in a Terrestrial Paleorecord from Lynch's Crater: American Geophysical Union, Spring session, **2006**, PP52A-04
- Muller J.**, Kylander M.E., Wust R.A.J., Weiss D.J., 55,000 yrs of environmental change in the Southern Hemisphere: peat stratigraphy and inorganic geochemistry of Lynch's Crater, NE Queensland, Australia: American Geophysical Union, Fall session **2005**, PP22A-07
- Muller J.**, Kylander M.E., Wust R.A.J., Weiss D.J., Geochemical climate proxies 1: Trace elements in a 13 m record from Lynch's Crater, N-Queensland, Australia: DEKLIM /PAGES Conference, March **2005**, p. 172-173
- Muller J.**, Wust R.A.J. and Weiss D.J., 'Climate Change in the Southern Hemisphere Based on Carbon Isotopes and Geochemical Data' 32nd Int. Geol. Congr., **2004**, Abs, Vol., pt. 1 abs. 79-9, p. 388.

Invited talks

Geology and Geophysics Seminar Series, Woods Hole Oceanographic Institution, **July 2008**, 'The application of U-series nuclides as paleoceanographic proxies to deep-sea sediments of the Indonesian Seas'

Earth and Environmental Sciences Seminar Series, James Cook University, **March 2008**, Novel proxies from sea-floor sediments: clues to oceanic shifts and climate change over the past 25 kyr

Professional Affiliations

Geology and Geophysics representative, WHOI Postdoctoral Committee
 WHOI Women's Committee - Postdoctoral Representative
 American Geophysical Union (AGU)
 Geochemical Society of America (GSA)

Referees

Dr Jerry McManus (Current advisor)

Geology and Geophysics, Woods Hole Oceanographic Institution

Contact: 508 289-3328, Email: jmcmanus@whoi.edu

Dr Dominik Weiss (PhD co-advisor)

Department of Earth Sciences and Engineering, Imperial College London

Contact: +44 (0) 20 7594 63 83, Email: d.weiss@imperial.ac.uk

Dr Daniel McCorkle

Geology and Geophysics, Woods Hole Oceanographic Institution

Contact: 508 289-2949, Email: dmccorkle@whoi.edu

Dr Raphael Wust (PhD co-advisor)

School of Earth and Environmental Sciences, James Cook University

Contact: +610747814627, Email: raphael.wust@jcu.edu.au

Dr Antonio Martinez-Cortizas

Faculty de Biologia-Campus Sur, University of Santiago, Spain

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