

Curriculum Vitae

Mark Roberts

Present Position

Senior Research Specialist/Staff Physicist
National Ocean Sciences AMS Facility
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Present Research Interests

Interdisciplinary application of Accelerator Mass Spectrometry, development of Accelerator Mass Spectrometry technology, and ion microanalysis techniques.

Employment

7/2002 - Current Senior Research Specialist/Staff Physicist, Woods Hole Oceanographic Institution, Woods Hole, MA 02543
7/2000 - 7/2002 Senior Research Scientist and Associate Director, Center for Applied Isotope Studies, The University of Georgia, Athens, GA 30602
6/1999 - 7/2000 Deputy Director, Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA 94551
6/1991 - 6/1999 Research Staff Member, Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA 94551
2/1989 - 6/1991 Post-Doctoral Research Associate, Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA 94551

Education

Ph.D., Nuclear Physics, Duke University, November 1988.
A.M., Physics, Duke University, 1984.
B.S., Physics, North Carolina State University, 1982.

Honors

Graduated Magna Cum Laude (North Carolina State University, 1982)
Graduated with Honors (North Carolina State University, 1982)
Member: Sigma Pi Sigma (National Physics Honors Society)

Patents

"Small System for Tritium Accelerator Mass Spectrometry", M.L. Roberts, and J.C. Davis,
Patent No. 5,189,302, Issued February 23, 1993.

Publications

- 'Rapid, high-resolution ^{14}C chronology of ooids', S. Beaudré, M.L. Roberts, J.R. Burton, R.E. Summons, *Geochimica et Cosmochimica Acta*, Volume 159, 15 June 2015, Pages 126–138, doi:10.1016/j.gca.2015.03.009.
- 'Temporal and spatial distributions of cold-water corals in the Drake Passage: Insights from the last 35,000 years', A.R. Margolin, L.F. Robinson, A. Burke, R.G. Waller, K.M. Scanlon, M.L. Roberts, M.E. Auro, T. van de Flierdt, *Deep Sea Research Part II: Topical Studies in Oceanography*, Volume: 99, January 2014, p 237-248.
- 'A high-throughput low-cost method for analysis of carbonate samples for ^{14}C ', M.L. Roberts, S.R. Beaudré and J.R. Burton, *Radiocarbon*, Volume 55, Numbers 2-3, 2013, p 585-592.
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- 'Improved precision of radiocarbon measurements for CH_4 and CO_2 using GC and continuous-flow AMS achieved by summation of repeated injections', C.P. McIntyre, A.P. McNichol, M.L. Roberts, J.S. Seewald, K.F. Von Reden, and W.J. Jenkins, *Radiocarbon*, Volume 55, Numbers 2-3, 2013, p 677-685.
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- 'Rapid radiocarbon analysis of coral and carbonate samples using a continuous-flow accelerator mass spectrometry (CFAMS) system', C.P. McIntyre, J.R. Burton, A.P. McNichol, A. Burke, L.F. Robinson, K.F. von Reden, W.J. Jenkins, and M.L. Roberts. *Paleoceanography*, doi:10.1029/2011PA002174.
- 'A gas-accepting ion source for Accelerator Mass Spectrometry: Progress and applications', M.L. Roberts, , K.F. von Reden, J.R. Burton, C.P. McIntyre, S.R. Beaudré, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, Volume 294, January 2013, Pages 296–299.
- 'Carbonate as sputter target material for rapid ^{14}C AMS', B.E. Longworth, L.F. Robinson, M.L. Roberts, S.R. Beaudré, A. Burke, W.J. Jenkins, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, Volume 294, January 2013, Pages 328-334.
- 'Optimizing a microwave gas ion source for continuous-flow accelerator mass spectrometry', K. F. von Reden, M.L. Roberts, J.R. Burton. and S.R. Beaudré, *Rev. Sci. Instrum.* 83, 02B304 (2012); <http://dx.doi.org/10.1063/1.3656408>
- 'Design and reality: Continuous-flow accelerator mass spectrometry (CFAMS)', K.F. von Reden, M.L. Roberts, C.P. McIntyre , J.R. Burton, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, Volume 269, Issue 24, 15 December 2011, Pages 3176–3179.
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