

CURRICULUM VITAE

KONRAD ALLEN HUGHEN

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EDUCATION:

B.A.: University of California, Santa Cruz - Biology and Geology double major.
Ph.D.: University of Colorado, Boulder - Geological Sciences.

PROFESSIONAL EXPERIENCE:

Teaching Assistant, Geological Sciences, CU Boulder, September 1991 to August 1992.
Research Assistant, INSTAAR, CU Boulder, September 1991 to August 1997.
Postdoctoral Fellow, Harvard University, September 1997 to August 1999.
Research Scientist I, INSTAAR, CU Boulder, September 1999 to January 2000.
Assistant Scientist, Marine Chemistry and Geochemistry, WHOI, February 2000 to present.

AWARDS:

National Merit Scholarship, 1982.
Univ. of Colorado Doctoral Fellowship, 1991.
Explorer's Club Research Grant, 1994.
NASA Earth Systems Science Graduate Research Fellowship, 1995.
NSF Grant - Atmos. Sci., radiocarbon research on Cariaco Basin, 1997.
NOAA Climate and Global Change Postdoctoral Fellowship, 1997.

PROFESSIONAL AFFILIATIONS:

Member, American Geophysical Union, 1991 to present.
Member, American Quaternary Association, 1994 to present.
Geological Society of America, 1991 to 1997.

RESEARCH INTERESTS:

My research interests involve the application of carbonate and organic geochemical and sedimentological techniques toward constructing and interpreting high-resolution, multi-proxy paleoenvironmental records in order to understand the mechanisms controlling global climate change at a variety of time scales.

PROFESSIONAL ACTIVITIES:

WHOI (Non Education Related):

Summer Student Fellow selection committee
Oceans and Climate Change research proposal review committee
WHOI Mentorship Task Force committee
Fellow, Oceans and Climate Change Institute

Outside WHOI (Other than attendance at Meetings):

Panel Member, Abrupt North Atlantic Climate Change, ICP, Lisbon, June 1998.
Instructor, Swiss Climate Summer School, Bern, Switz., July 1999.
PARCS High-resolution WorkingGroup workshop, Oct., 2001, Bates College, ME.
Gordon Research Conference on Chemical Oceanography, Aug., 2001, Tilton, NH.
Reconstructing Late Holocene Climate workshop, April, 201, Charlottesville, VA.

Newspaper interview, Tucson Citizen.
Reviews of 9 NSF research proposals for OCE, EAR, ATM and OPP.
Reviews of 2 research proposals for the Research Council of Norway.
Reviews of 6 manuscripts for *Science*, *Journal of Hydrology*, *Paleoceanography*, *Arctic and Alpine Research*.

PARTICIPATION IN EDUCATION PROGRAM:

Lecturer, 2000 Summer Student Lecture Series
Summer Student Fellow selection committee
Participation in informal Graduate Student seminar on Paleoceanography and Paleoclimatology, 2001.
JP Student Thesis co-advisor, 2001.
Generals project co-advisor for JP student, David Lund, 2001.

SUPERVISION AT WHOI:

Ellen Roosen, Lab Technician, March 2000 to present.
Louise Hildebrant, visiting scientist, August 7-September 14, 2001.
David Lund, JP Student, G&G, 2001.
Chanda Herring, Research Assistant, 2001
Marcie Workman, Research Assistant (part-time), 2001.

FIELD EXPERIENCE/CRUISE PARTICIPATION:

8 seasons, 1991-1997, Glacial geology/Lake sediment coring, Baffin Island, Canada.
2 seasons, 1997-1998, Carbonate platform geology/Fossil coral coring, Indonesia.
May 25-June 13, 2001. R/V New Horizon, San Francisco, CA to San Diego, CA for sediment coring and water sampling in the near-shore and along river delta transects.

PAPERS IN REFEREED JOURNALS AND BOOKS

- Haug, G.H., Hughen, K.A., Sigman, D.M., Peterson, L.C. and Röhl, U., 2001. A Marine Record of Holocene Climate Events in Tropical South America, *Science*, **293**, 1304-1308.
- Friedrich, M., Kromer, B., Kaiser, K.F., Spurk, M., Hughen, K.A., Johnsen, S.J., 2001. High-resolution Climate Signals in the Bolling-Allerod Interstadial (Greenland Interstadial 1) as Reflected in European Tree-ring Chronologies Compared to Marine Varves and Ice-core Records, *Quaternary Science Reviews*, **20**, 1223-1232.
- Moore, J.J., Hughen, K.A., Miller, G.H. and Overpeck, J.T., 2001. Little Ice Age Recorded in Summer Temperatures from Varved Sediments of Donard Lake, Baffin Island, Canada, *J. Paleolimnology*, **25**, 503-517.
- Hughen, K.A., Southon, J.R., Lehman, S.J., and Overpeck, J.T., 2000. Synchronous Radiocarbon and Climate Shifts During the Last Deglaciation. *Science* **290**: 1951-1954.
- Hughen, K.A., Overpeck, J.T. and Anderson, R.F., 2000, Recent Warming in a 500-Year Paleotemperature Record from Varved Sediments: Upper Soper Lake, Baffin Island, Canada, *The Holocene* **10**, 9-19.
- Peterson, L.C., Haug, G.H., Hughen, K.A., and Röhl, U., 2000. Rapid Changes in the Hydrologic Cycle of the Tropical Atlantic During the Last Glacial. *Science* **290**: 1947-1951.

- Hughen, K.A., Schrag, D.P., Jacobsen, S.B., and Hantoro, W., 1999, El Niño During the Last Interglacial Period Recorded by a Fossil Coral from Indonesia, *Geophys. Res. Lett.* **26**, 3126-3132.
- Stuiver, M., Reimer, P.J., Bard, E., Beck, J.W., Burr, G.S., Hughen, K.A., Kromer, B., McCormac, G., van der Plicht, J. and Spurk, M., 1998, INTCAL98 Radiocarbon Age Calibration, *Radiocarbon* **40**, 1041-1083.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Southon, J., Kashgarian, M., and Peterson, L.C., 1998, A new ¹⁴C calibration for the last deglaciation, *Radiocarbon* **39**, 483-494.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Kashgarian, M., Southon, J., Peterson, L.C., Alley, R. and Sigman, D.M., 1998, Deglacial changes in ocean circulation from an extended radiocarbon calibration, *Nature* **391**, 65-68.
- Overpeck, J.T., Hughen, K.A., Hardy, D.R., and 14 others, 1997, Arctic Environmental Change of the Last Four Centuries, *Science* **278**, 1251-1256,
- Hughen, K.A., Overpeck, J.T., Peterson, L.C. Trumbore, S., 1996, Rapid climate changes in the tropical Atlantic region during the last deglaciation, *Nature* **380**, 51-54.
- Hughen, K.A., Overpeck, J.T., Peterson, L.C. and Anderson, R.F., 1996, The nature of varved sedimentation in the Cariaco Basin, Venezuela, and its palaeoclimatic significance, In: Kemp, A.E.S. (ed.), *Palaeoclimatology and Palaeoceanography from Laminated Sediments*, Geological Society Special Publication **116**, 171-183.
- Hughen, K.A., Overpeck, J.T., Anderson, R.F. and Williams, K.M., 1996, The potential for palaeoclimate records from varved Arctic lake sediments, In: Kemp, A.E.S. (ed.), *Palaeoclimatology and Palaeoceanography from Laminated Sediments*, Geological Society Special Publication **116**, 57-71.

In Press:

- Hughen, K.A., Varved Sediments, Analysis and Applications, In: *Current methods in geochronology: Temporal resolution in geology, paleontology, archaeology, and anthropology*, Copeland, P., Foster, D., and Roberts, R., Eds., Kluwer Academic Press.
- Kromer, B. and Hughen, K., Radiocarbon Analysis, Calibration and Applications, In: *Current methods in geochronology: Temporal resolution in geology, paleontology, archaeology, and anthropology*, Copeland, P., Foster, D., and Roberts, R., Eds., Kluwer Academic Press.

Manuscripts Submitted:

- Southon, J., Hughen, K.A., Overpeck, J.T., Lehman, S.J., and Herring, C., Near-decadal radiocarbon calibration for the last deglaciation, (submitted to *Radiocarbon*).

OTHER PUBLICATIONS:

- Hughen, K., 1998, Past Environmental Change in the Arctic: A PALE contribution to Arctic System Science, *Witness the Arctic* **6**, 1-3.

PUBLISHED ABSTRACTS:

- Hughen, K.A., Southon, J., Lehman, S.J., and Overpeck, J.T., Synchronous Radiocarbon and Climate Shifts during Deglaciation Provide Evidence for Abrupt Ocean Circulation Changes, *EOS, Transactions, American Geophysical Union*, Dec. 15-19, 2000, Fall AGU, S.F., CA.
- Hughen, K.A., Southon, J., Lehman, S.J., and Overpeck, J.T., Radiocarbon calibration and abrupt changes in atmospheric ^{14}C concentration during Marine Isotope Stage 3, *EOS, Transactions, American Geophysical Union*, Dec. 15-19, 2000, Fall AGU, S.F., CA.
- Hughen, K.A., Southon, J., Lehman, S.J., Overpeck, J.T. and Herring, C., Near-decadal ^{14}C calibration and abrupt changes in ocean circulation during the last deglaciation, *XVII International Radiocarbon Conference*, June 18-23, 2000, Jerusalem, Israel.
- Southon, J., Hughen, K.A., Overpeck, J.T., Lehman, S.J., and Herring, C., A detailed ^{14}C calibration for the Bølling/Allerød/Younger Dryas, *XVII International Radiocarbon Conference*, June 18-23, 2000, Jerusalem, Israel.
- Hughen, K.A., Schrag, D.P., Jacobsen, S.B., Hantoro, W., 1999, El Niño During the Last Interglacial Period Recorded by Fossil Corals from Indonesia, *9th Annual V.M. Goldschmidt Conference*, Aug 22-27, 1999, Cambridge, MA.
- Hughen, K.A., 1999, Cariaco Basin high-resolution record of ocean circulation changes during the last deglaciation, 1999, *XV International INQUA Congress*, Aug 3-11, 1999, Durban, S. Africa.
- Hughen, K.A., Schrag, D.P., Jacobsen, S.B., Hantoro, W., 1999, Geochemical records of El Niño variability from fossil corals of the last Interglacial period, *EOS, Transactions, American Geophysical Union*, Apr., 1999, Spring AGU, Boston, MA.
- Hughen, K.A., Schrag, D.P., Hantoro, W., 1998, Past Changes in El Niño Variability Recorded in Fossil Corals from Indonesia, *EOS, Transactions, American Geophysical Union*, Nov., 1998, Fall AGU, S.F., CA.
- Hughen, K.A., 1998, Climatic linkages between high-latitude North Atlantic, tropical South America and ocean circulation: evidence from the Cariaco Basin, *15th Biennial AMQUA Meeting*, Sept. 5-7, 1998, Puerto Vallarta, Mexico.
- Hughen, K., 1998, ENSO Variability from Fossil Corals, *2nd Summer Institute - NOAA Postdoctoral Program in Climate and Global Change*, June 15-18, 1998, Steamboat Springs, CO.
- Hughen, K., 1998, A compilation of annual Arctic paleoclimate records over the last 400 years, *10th Annual Meeting of Arctic Research Consortium of the US*, March 22-24, 1998, Washington, DC.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Southon, J., 1997, Radiocarbon change in the Cariaco Basin, *EOS, Transactions, American Geophysical Union*, 78, Nov. 7, 1997.
- Hughen, K., 1997, Deglacial climate and radiocarbon changes from the Cariaco Basin, *1st Annual INTIMATE Workshop*, Sept. 28-30, 1997, Lund, Sweden.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Kashgarian, M., Peterson, L.C., and Alley, R., 1997, Deglacial ^{14}C calibration and activity from marine varves of the Cariaco Basin, *XVI International Radiocarbon Conference*, June 16-20, 1997, Groningen, The Netherlands.

- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Kashgarian, M., Peterson, L.C., Alley, R., and Sigman, D., 1997, Radiocarbon Calibration and $D^{14}C$ during Deglaciation from Varved Sediments of the Cariaco Basin, *7th Annual V.M. Goldschmidt Conference*, June 2-6, 1997, Tucson, AZ.
- Behl, R.J. and Hughen K.A., 1997, Ultra-High-Resolution Stratigraphic Methods for Paleoclimatic and Paleoceanographic Studies, *Pacific Section Convention of AAPG-SEPM*, Bakersfield, CA, May 14-16, 1997.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Kashgarian, M., Peterson, L.C., and Alley, R., 1996, Deglacial ^{14}C Calibration, Paleoclimate and North Atlantic Thermohaline Circulation from Marine Varves, *EOS, Transactions, American Geophysical Union*, 77, Nov. 12, 1996.
- Black, D.E., Peterson, L.C., Kashgarian, M., Overpeck, J.T. and Hughen K.A., 1996, Variability in the InterTropical Convergence Zone and Trade Winds over the southern Caribbean for the last 800 years and during the Bolling/Allerod-Younger Dryas Transition, *EOS, Transactions, American Geophysical Union*, 77, Nov. 12, 1996.
- Hughen, K.A., Overpeck, J.T., Lehman, S.J., Kashgarian, M., and Alley, R., 1996, Deglacial ^{14}C Calibration and Activity from the Cariaco Basin, *IGCP 374: Palaeo-climatology and Palaeoceanography from Laminated Sediments, Abstracts*, Oct. 14-15, 1996, The Royal Society, London.
- Hughen, K.A., Overpeck, J.T., Kashgarian, M., Peterson, L.C., and Trumbore, S., 1995, Deglacial Climate and Carbon Cycle Changes: New Varved Sediment Data from the Cariaco Basin, Venezuela, *EOS, Transactions, American Geophysical Union*, Nov. 7, 1995.
- Overpeck, J.T., Peterson, L.C., and Hughen K.A., 1995, Holocene Climatic Change in the Tropical North Atlantic Region: Forcing and Response, *EOS, Transactions, American Geophysical Union*, Nov. 7, 1995.
- Hughen, K., 1995, Abrupt deglacial climatic change in the tropical Atlantic as recorded in the laminated sediment record of the anoxic Cariaco basin, Venezuela, *IGCP 374: Palaeoclimatology and Paleoceanography from Laminated Sediments, Abstracts*, 2-6 August, 1995, Univ. of California, Santa Barbara.
- Hughen, K.A., Anderson, R.F. and Overpeck, J.T., 1995, Paleoenvironmental records from annually-laminated sediments of Upper Soper Lake: Baffin Island, Canada, *25th Arctic Workshop, Abstracts*, March 16-18, 1995, Centre d'etudes Nordiques, Universite Laval, Quebec.
- Hughen, K.A., Anderson, R.F. and Overpeck, J.T., 1995, Paleoenvironmental records from annually-laminated sediments of Upper Soper and Ogac Lakes: Baffin Island, Canada, *2nd Annual PALE Research Meeting, Abstracts*, Feb. 4-6, 1995, Pack Forest, University of Washington.
- Hughen, K., Overpeck, J.T., Anderson, R. and Williams, K., 1994, Baffin Island lake varve and laminae thickness measurements as paleoclimate proxies: preliminary results, *24th Arctic Workshop, Abstracts*, March 17-19, 1994, INSTAAR, University of Colorado.
- Hughen, K., Overpeck, J.T., Anderson, R. and Williams, K., 1994, Paleoclimate records from varved Arctic lake sediments: Baffin Island, Eastern Canadian Arctic, *1st Annual PALE Research Meeting, Abstracts*, Feb. 3-4, 1994, INSTAAR, University of Colorado.

Hughen, K., Overpeck, J.T. and Peterson, L.C., 1993, The nature of varved sedimentation in the Cariaco Basin and its paleoclimatic significance, *EOS, Transactions, American Geophysical Union*, Oct. 26, 1993.

Hughen, K., Overpeck, J.T., Williams, K., Anderson, R. and Doner, L., 1993, Paleoclimate records from varved Arctic lake sediments: Baffin Island, Eastern Canadian Arctic, *IGCP 374: Palaeoclimatology and Palaeoceanography from Laminated Sediments, Abstracts*, Sept. 22-23, 1993, The Geological Society, London.

Hughen, K., Overpeck, J.T., Peterson, L.C. and Anderson, R., 1993, Varve analysis and palaeoclimate from sediments of the Cariaco Basin, Venezuela, *IGCP 374: Palaeoclimatology and Palaeoceanography from Laminated Sediments, Abstracts*, Sept. 22-23, 1993, The Geological Society, London.

INVITED PRESENTATIONS AND LECTURES

SCOR-IMAGES Workshop, Trins, Austria (2000); Univ. S. Carolina Columbia, Geology Dept. (1999); 15th INQUA Cong., Durban, S. Africa (1999); Brown Univ., Geology Dept. (1998); 15th AMQUA Cong., Puerto Vallarta, Mexico (1998); 10th ARCUS Meeting, Wash. DC (1998); Univ. Mass. Amherst, Geosciences Dept. (1998); 1st INTIMATE IGCP Pages, Lund, Sweden (1997); LDEO Climate Symposium (1997); 16th Radiocarbon Conf., Groningen, Netherlands (1997); Princeton Univ., GFDL (1997); 7th Goldschmidt Conf., Tucson, AZ (1997); 4th IGCP 374, The Royal Society, London (1996); 3rd IGCP 374, U.C. Santa Barbara, CA (1995); 1st IGCP 374, The Geological Society, London (1993).

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