

A. CURRICULUM VITAE

Name: Jochen Knies, PhD, Ms. Geologist and Geographer
Address: Eidsvoll's gate 10, 7030 Trondheim, Norway
Date of birth: 25. April 1969
Place of birth: Marburg, Germany
Personal status: Married, two children
Nationality: German
Current Position: Team Leader for the Department of Quaternary Geology and Climate at the Geological Survey of Norway, 7491 Trondheim, Norway

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Education

- **University education**

Geography/Geomorphology at the Justus Liebig University, Giessen (Germany) from Oktober 1988 to March 1993.

Diploma Thesis, Giessen University:

J. Knies, 1992: Sea ice cover, thickness and decay in the Liefdefjord (NW-Spitsbergen) under the influence of the warm Westspitsbergen Current. (Supervisor: Prof. Dr. Lorenz King)

Geology/Hydrogeology at the Justus Liebig University, Giessen (Germany) from October 1990 to March 1995.

Diploma Thesis, Giessen University:

J. Knies, 1995: Late Quaternary sedimentation on the continental slope of NW Spitsbergen. The last interglacial/ glacial cycle. (Supervisor: Prof. Dr. Ruediger Stein)

- **Post-graduate school**

PhD. Candidacy, Alfred Wegener Institute, Bremerhaven, from August 1995 to July 1998.

Ph.D., University of Bremen ('magna cum laude'):

J. Knies, 1999: Late Quaternary palaeoenvironment along the northern Barents and Kara seas continental margin. A multiparameter analysis. in: *Reports on Polar Research*, v. 304, pp. 157.

Experience

- 1995-1998** **Assistant Research Scientist, PhD**, Alfred Wegener Institute for Polar and Marine Research, Germany.
Project: "Late Quaternary palaeoenvironment along the northern Barents and Kara seas continental margin: A multiparameter analysis"
- 1998-2000** **Postdoctoral Fellow**, Alfred Wegener Institute for Polar and Marine Research, Germany, in co-operation with SINTEF Petroleum Research, Trondheim, Norway.
Project: "Geochemical and sedimentological investigations in the Nordic Seas (Ocean Drilling Program Legs 151 and 162) with respect to global climate changes during mid-Miocene and late Pliocene", funded by the German Research Council (DFG).
- 2000** **Research Scientist**, Geological Survey of Norway (NGU), Trondheim, Norway.
Project: Compilation and visualisation of available data from the Mid-Norwegian continental margin by means of the PANGAEA database (www.pangaea.de) and the Geographical Information System ARC VIEW.
- 2001-2002** **Postdoctoral Fellow**, Geological Survey of Norway (NGU), Trondheim, Norway.
Project: "Climate Archive Fjords: Bridging marine and terrestrial sedimentary environments", funded by the German Research Council (DFG) (Emmy Nöther Program, Phase 1).
- 2002-2003** **Research Scientist**, Geological Survey of Norway (NGU), Trondheim, Norway.
Project: "Past and present carbon cycle in open-marine fjord systems", funded by TOTAL E&P, in cooperation with SINTEF Petroleum Research, Geolabnor AS, and the Alfred Wegener Institute for Polar and Marine Research.
- 2005-2006** **Team Manager** for the Department of Landscape and Climate Development at the Geological Survey of Norway (NGU) Trondheim, Norway.
Responsibility: Personnel (10), budget (11 MNOK), external funding (7 MNOK).
- 2006-2007** **Visiting Scientist**, University of Hawaii, School of Ocean, Earth, Science, and Technology (SOEST), Honolulu, U.S.A.
Project: "Source Rock Evaluation and Modeling in the Arctic Ocean" funded by the Norwegian Research Council (Leiv Eiriksson Mobility Program).
- Since 2007** **Team Manager** for the Department of Quaternary Geology and Climate at the Geological Survey of Norway (NGU), Trondheim, Norway.
Responsibility: Personnel (14), budget (~20 MNOK), external funding (11 MNOK).

Professional Organisation Membership

American Geophysical Union (AGU)	1999-today
European Geophysical Union (EGU)	2005-2006
European Association of Organic Geochemists (EAOG)	2001-2007

Professional Services

Proposal Review

- Member of the ESF "Eurocore" Program Review Panel, **2004**
- Member of EU 6th framework review panel, **2005**
- Member of the Arctic Research School in "Arctic Marine Geology and Geophysics" at the University of Tromsø, **2006-2009**
- Member of evaluation committees at SOEST, University of Hawaii, and University of Tromsø for promotion of full professorships **2009**
- Reviewer for funding agencies including the Research Councils of Norway (NFR) and Germany (DFG). **Ongoing**
- Editor for the Norwegian Journal of Geology Special Issue "MAREANO Sediment characteristics and environmental implications in the Barents Sea" **2009**

Journal and Book Reviews

- Reviewer for journals including *Applied Geochemistry*, *Polar Research*, *Boreas*, *Brazilian Journal of Oceanography*, *Marine Geology*, *G-cubed*, *Organic Geochemistry*, *Paleoceanography*, *Geology*, *Paleo3*, *Chemical Geology*, *Estuarine, Coastal, and Shelf Science*, *The Holocene*, *Norwegian Journal of Geology*, *Quaternary Science Reviews*, *Nature Geoscience*

Scholarships and Honors

- Annette Barthelt Award for Marine Research in Germany (www.annette-barthelt-stiftung.de) **1996**
- German Research Council Fellowship (Emmy Nöther Programm) **2000-2002**
- Norwegian Research Council Fellowship (Leiv Eiriksson Mobility) **2006-2007**
- Award for best scientific contribution at the Geological Survey of Norway **2007**

Teaching Experience

Courses

- Guest lecturer in the Department of Geography at the University of Trondheim (NTNU) between 2000 and 2003. Lectures about "Rapid Climate Changes" and "Global Climate Changes and Future Perspectives".
- Guest lecturer in the Department of Geology at the University of Tromsø (UiTø) in autumn 2004. Lecture about "The status quo of Arctic Ocean paleoclimatic research"

- Guest lecturer in the Department of Geology at the University of Tromsø (UiT) in spring 2006. Lecture about "Paleoproductivity elucidated by geochemical tracers"
- Organisation of workshop "Exploring the Arctic frontiers" within the Trainee School of Arctic Marine Geology and Geophysics at the University of Tromsø in November 2008.
- Guest lecturer of workshop "Marine climate proxies in high northern latitudes" within the Trainee School of Arctic Marine Geology and Geophysics at the University of Tromsø in September 2009

Students supported

- Noffke, H. (undergraduate, University of Bremen, Germany)
- Winkelmann, D. (graduate, University of Freiberg, Germany)
- Herbrich, A. (undergraduate, University of Bremen, Germany)
- Schwolow, H. (undergraduate, University of Bonn, Germany)
- Hammerschmidt, S. (undergraduate, University of Bremen)
- Orlovova, S. (graduate, University of Munich),

PhD students supported

- Sørensen, S.A. (PhD, University of Tromsø, Norway), 2007-2011
- Maier, I. (PhD, Geological Survey of Norway, Norway), 2010-2013
- Faust, J. (PhD, Geological Survey of Norwayway), 2010-2013

Post-doctoral researcher supported

- Dr. Rubensdotter, L. (Geological Survey of Norway, Norway), 2006-2008
- Dr. Baranwal, S. (Geological Survey of Norway), 2011-2013

Additional Research Experience

- International geo-scientific Spitsbergen Expedition (SPE91) in the Liefdefjord (NW-Spitsbergen), May 11 to August 24, 1991. In charge of climate measurements, sea-ice, glacier and permafrost studies.
- Arctic Ocean 96 expedition with the Swedish icebreaker ODEN, July 16 to September 21, 1996. Deep-Sea Drilling Project in the Arctic Ocean: In charge of sediment-coring, sampling and preparation for further studies.
- RV "Polarstern" expedition ARK XIII/2 in summer 1997 to the Northern Svalbard Margin and Yermak Plateau. In charge of sediment-coring, stratigraphy and sampling for further studies.
- RV "Heincke" Leg 153 in summer 2001 to the continental shelf and fjords off western Svalbard. In charge of sediment sampling for studying (sub-) recent sedimentation processes, microseepages of hydrocarbons, and organic carbon budgets in polar shelf areas.

- RV "Polarstern" expedition ARKXVIII/2 in autumn 2002. In charge of sediment-coring in the Vestfjorden, Lofoten Island. Samples were taken to decipher the deglaciation pattern along the west coast of northern Norway.

Research Support

- German Research Council (DFG) (Kni 527/1-1). Full salary support for project "Climate Archive Fjords: Bridging between marine and terrestrial sedimentary environment" at the Geological Survey of Norway, Trondheim, Norway. Funding period 2000-2002, Amount: ca. 800 kNOK.
- Norwegian Research Council (NFR) Mobility Program between Norway, Germany, and France. Funding period 2003-2007, Amount: ca. 200 kNOK, PI: Knies, J.
- TOTAL E&P. Direct costs for project " Past and present carbon cycle in open-marine fjord systems", Funding period 2002-2003, Amount: ca. 500 kNOK, PI: Knies, J.
- Norwegian Research Council (NFR) project "Ice ages and isostatic response on the petroleum systems (GLACIPET), Funding period: 2005-2009, Amount to NGU: ca. 7MNOK, Knies, J. (PI for shelf stratigraphy)
- Norwegian Research Council (NFR) project "Gas Hydrates on the Norway - Barents Sea - Svalbard margin (GANS), Funding period: 2006-2010, Amount to NGU: ca. 5 MNOK, Knies, J. (PI and member of steering committee) .
- Norwegian Research Council (NFR) Leiv Eiriksson Mobility Program between Norway, U.S.A., and Canada, Funding period: 2006-2007, Amount to NGU: ca. 250 kNOK, Knies, J. (PI for project "Source rock evaluation and modeling in the Arctic Ocean)
- StatoilHydro, BG Group and Det norske oljeselskap. Funding for project "Towards an improved Arctic chronostratigraphy, Funding period: 2008-2011, Amount to NGU: ca. 2.6 MNOK, Knies, J. (Project leader and PI for stable isotopes and paleomagnetism)
- EU FP7-PEOPLE-ITN-2008; Marie Curie Actions – Networks for Initial Training (ITN), Project: "CASE – The changing Arctic and sub-Arctic environment: A research and training programme on marine biotic indicators of recent climate changes in the high latitudes of the North Atlantic. Funding Period: 2010-2014, Amount to NGU: ca. 4.5 MNOK, Knies, J. (PI for workpackage "Holocene dynamics of surface water productivity changes in the Nordic Seas inferred from bulk organic properties").
- Norwegian Research Council (NFR) project "Glaciations in the Barents Sea (GLACIBAR), Funding period: 2010-2013, Amount to NGU: ca. 5MNOK, Knies, J. (PI for shelf stratigraphy)
- Collaborative project between NGU and Norwegian Directorate for Nature Management: about "Promotion of national parks in Norway with respect to their ecological history", Funding period: 2011-2012, Amount to NGU: 0.5 MNOK, Knies, J. (PI for lake coring and climate history)

Selected Publications (2005-2010)

Knies, J. & Vogt, C.: Freshwater pulses in the eastern Arctic Ocean during Saalian and Early Weichselian ice-sheet collapse. *Quaternary Research*, 60, 243-251.

Knies, J. (2005): Climate-induced changes in sedimentary regimes for organic matter supply on the continental shelf off northern Norway. *Geochimica et Cosmochimica Acta*, Vol. 69, 19, 4631-4647.

Otto-Bliesner, B.L., Marshall, S.J., Overpeck, J.T., Miller, G.H., Hu, A., Anderson, P., Bennike, O., Bigelow, N., Brigham-Grette, J., Duvall, M., Edwards, M., Frechette, B., Funder, S., Johnsen, S., **Knies, J.**, Koerner, R., Lozhkin, A., MacDonald, G., Matthiessen, J., Montoya, M., Muhs, D., Reeh, N., Sejrup, H.P., Turner, C., Velichko, A. (2006). Simulating Arctic climate warmth and ice field retreat in the last interglaciation. *Science*, Vol. 311 (5768), 1751-1753.

Knies, J., Vogt, C., Matthiessen, J., Nam, S.-I., Ottesen, D., Rise, L., Bargel, T., Eilertsen, R.S. (2007) Re-advance of the Fennoscandian Ice Sheet during Heinrich Event 1. *Marine Geology* 240, 1-18.

Knies, J. Brookes, S., Schubert, C.J. (2007). Re-assessing the nitrogen signal in continental margin sediments: New insights from the high northern latitudes. *Earth and Planetary Science Letter* 253, 471-484.

Knies, J., Matthiessen, J., Vogt, C., Nam, S.-I., Frederichs, T., Mackensen, A., Stein, R. (2007) Effects of Arctic freshwater forcing on thermohaline circulation during the Pleistocene. *Geology* 35, 1075-1078.

Knies, J., Gaina, C. (2008) Middle Miocene ice sheet expansion in the Arctic – views from the Barents Sea. *Geochemistry, Geophysics, Geosystem*, 9, Q02015
doi:10.1029/2007/GC001824.

Knies, J., Mann, U., Popp, B.N., Stein, R., Brumsack, H.-J. (2008) Surface water productivity and paleoceanographic implications in the Cenozoic Arctic Ocean. *Paleoceanography*, 23, PA1S16, doi:10.1029/2007PA00455.

Knies, J., Matthiessen, J., Vogt, C., Laberg, J.S., Hjelstuen, B.O., Smelror, M., Larsen, E., Andreassen, K., Eidvin, T., Vorren, T. (2009) The Plio-Pleistocene glaciations of the Barents Sea-Svalbard region: A new model based on revised chronostratigraphy. *Quaternary Science Reviews*, 28, 812-829.

Matthiessen, J., **Knies, J.**, Vogt, C., Stein, R. (2009): Pliocene palaeoceanography of the Arctic Ocean and subarctic seas. *Philosophical Transactions of the Royal Society A*, 367, 21-48, doi:10.1098/rsta.2008.0203.

Mann, U., **Knies, J.**, Chand, S., Jokat, W., Stein, R., Zweigel, J. (2009): Evaluation and modelling of Tertiary source rocks in the central Arctic Ocean. *Marine and Petroleum Geology*, 26. 1624-1639.

Laberg, J.S., Andreassen, K., **Knies, J.**, Vorren, T.O., Winsborrow, M. (2010): Late Pliocene-Pleistocene development of the Barents Sea Ice Sheet. *Geology*, 38 (2), 107-110.

Timmermann, A., **J. Knies**, O. Elison Timm, A. Abe-Ouchi, and T. Friedrich (2010): Promotion of glacial ice sheet buildup 60-115 kyr B.P. by precessionally paced Northern Hemispheric meltwater pulses, *Paleoceanography*, 25, PA4208, doi:10.1029/2010PA001933.