

Name: Hans Wilhelm Linderholm

Work Address: Department of Earth Sciences, University of Gothenburg, SE-405 30 GÖTEBORG, Sweden

Born: 19 May 1968

Title: Associate Professor/Docent

Marital Status: Married, two children (born 2003 and 2006)

Nationality: Swedish

Narrative Summary

I am permanently employed on a teaching position as Associate Professor in Geography at the Department of Earth Sciences, University of Gothenburg. From 2005 to 2008, I hold a position as Research Fellow, funded by the Swedish Research Council (VR), where my research is focused the spatial and temporal variability of climate in Fennoscandia during the last 500 years. I have run a project in China, funded by the Swedish International Development Cooperation Agency (Sida, 2005-2007), where tree-ring data is used to study past climate variability (with focus on drought and the Asian monsoon) in the Shaanxi Province. This project is the basis of further research co-operation with China, where a joint tree-ring research centre will be established in 2008. Since 2003 I have held a part time position as a visiting scientist at the Laboratory for Climate Studies, National Climate Center, Beijing, China. Recent research focus has been on the dynamics of the atmospheric circulation over the North Atlantic Ocean and its link to large-scale climate variability. This work is conducted in association with researchers from the Climate Variability and Forecasting Research, Hadley Centre in UK. Within these projects (as well as other projects listed below), I collaborate with a number of colleagues at research institutes in England, Germany and China, as well as in Sweden. I have published 25 papers in international peer-reviewed journals and several manuscripts are also under review or in their final stages of preparation. I was a contributing author to chapter 14: Forests, Land Management and Agriculture in the Arctic Climate Impact assessment (ACIA)-report.

Doctoral degree

Doctor of Philosophy 12 December 2001, in Geography, with emphasis on Physical Geography, Stockholm University. Title: Temporal and spatial couplings between tree-ring variability and climate in Scandinavia. Supervisors: Prof. Wibjörn Karlén (main), Dr Peter Jansson, Dr Anders Moberg,

Postdoctoral work

Researcher, Dept. of Physical Geography and Quaternary Geology, Stockholm University, Sweden, 1 Dec. 2001-31 Jan. 2002. (Funded by SMHI)

Researcher, Climate Impacts Research Centre. Abisko Scientific Research Station, Sweden. 1 Feb. 2002-31 Dec. 2002.

Researcher, Dept. of Physical Geography and Quaternary Geology, Stockholm University, Sweden. 1 Jan. 2003-30 Apr. 2003.

Researcher, Department of Earth Sciences, University of Gothenburg., 16 Jun. 2003-31 Dec. 2004

Laboratory for Climate Studies, National Climate Center, Beijing, China. 2003-2007 (25%, this appointment was changed from PostDoc into a Visiting Scientist position in 2005).

Research Fellow (forskarassistent), Financed by the Swedish National Science Foundation (Vetenskapsrådet, VR), Department of Earth Sciences, Gothenburg Univ., 1 Jan 2005-31 Dec. 2008. 100% research.

Qualification as Associate Professor

Docent in Physical Geography, University of Gothenburg, 13 Dec. 2005.

Current position

Research Fellow (forskarassistent), Financed by the Swedish Research Council (Vetenskapsrådet, VR), Department of Earth Sciences, Gothenburg Univ., 1 Jan 2005–31 Dec. 2008. 100% research.
Permanent position as Associate Professor (Lektor) in Geography, Department of Earth Sciences, Gothenburg Univ., 1 Jan 2005–

Previous academic positions

- Research Assistant, Dept. of Physical Geogr., Stockholm Univ., 011001-011130.
- Postgraduate Fellowship, Dept. of Physical Geogr., Stockholm Univ., 980101-010930.
- Research Assistant (50%) Dept. of Physical Geogr., Stockholm Univ., 970601-971231.
- Teaching Assistant: (50%) Dept. of Physical Geogr., Stockholm Univ., 950701-971231.
- Technician, South Pole, Antarctica, Polarforskningssektariatet, 951101-960131.

Paternal Leave

1 September 2004–30 April 2005; 1 May 2007–31 December 2007

Distinctions and Meriting Missions

- Antarctica Service Medal of the United States of America, 1999.
- Chairman of the Graduate Student Council, Department of Physical Geography, Stockholm University, Sweden, 1998–2000
- Member of the working group on coordinating post-graduate education, Department of Physical Geography and Quaternary Geology, Stockholm University, Sweden, 1999-2000
- Contributing author to chapter 14: Forests, Land Management and Agriculture, in the Arctic Climate Impact assessment (ACIA), scientific report 2005.
- Editorial Board Member for The Open Atmospheric Science Journal
- Referee, 22 papers in international journals 2001–2008:
(*Pure and Applied Geophysics, Dendrochronologia, Arctic, Antarctic, and Alpine Research, Ecoscience, Boreas (3), Quaternary International, Quaternary Research, New Phytologist, Marine Biology Research, Global and Planetary Change, Journal of Vegetation Science, Global Change Biology, Trees, Tree Physiology, Forest Science, Geografiska Annaler, Geophysical Research Letters, International Journal of Applied Earth Observation and Geoinformation, International Journal of Climatology, Journal of Quaternary Science*)
- Assessor of Research Applications for the Natural Environmental Research Council (NERC), UK, (2) 2004 and the Research Council of Norway 2006.
- Member of the Research Strategy Group (PROF), Department of Earth Sciences, University of Gothenburg, 2006-
- Representing Sweden at the ZeroCarbonCity International Climate Change Conference 2007, Birmingham, England, hosted by the British Council.
- Member of the Management Group for EU COST Action ES0601: Advances in homogenisation methods of climate series: an integrated approach (HOME), 2007-2011
- Visiting scientist at Met Office Hadley Centre for Climate Change, Exeter, UK, November 2007, Invited by Prof. Chris Folland.
- Quality controller (kvalitetsansvarig) for Geography, Department of Earth Sciences, University of Gothenburg, 2008-
- 4 key note/invited talks since May 2007
- Corresponding member of the INQUA PALCOMM for the 2007-2011 Inter-Congress period

- Director of the *Dendrochronological Laboratory* at University of Gothenburg
- Leader of the *Paleoclimate Group* at University of Gothenburg
- Director of the Sino-Swedish Centre for Tree-Ring Research (SISTR), a joint Chinese-Swedish research centre to be officially opened in September 2008.
- Co-organiser of:
 - ADVANCE 10K – Pine-group meeting, Stockholm, Sweden, 7–9 November 1997.
 - Second Fennoscandian Dendroecological Field week, Tyresta National Park, Sweden, 1-7 September 2003.
 - Climate Variations in Sweden During the Past 2000 Years - Climatic variability, environmental change and cultural response , Uppsala, 20-21 October 2003.

Publication Summary

- 26 Publications in refereed international journals
- 1 Refereed book chapter
- 5 Manuscripts under review in international journals
- 6 Manuscripts in preparation
- 10 Refereed abstracts
- 3 Research reports
- 3 Publications in popular science
- 1 Web-based publication

Projects

- ADVANCE 10K - Analysis of Dendrochronological Variability and Associated Natural Climates in Eurasia - the last 10,000 years.* Project co-ordinator: Dr Keith Briffa, Climatic Research Unit, University of East Anglia, UK, 1995–1999. (E.U. project number ENV4-CT95-0127)
- Peatland conifers as climate indicators.* Principal investigator: H. Linderholm. Collaborators: Dr Anders Moberg and FL Håkan Grudd, Department of Physical Geography, Stockholm University. 1996–2002. Mainly funded by the Swedish Academy of Agriculture and Forestry.
- Late Holocene climate variability in Scandinavia.* PhD project. Collaborators: Dr B. Gunnarson, Department of Physical geography, Stockholm University; Dr Markus Lindholm, Saima Centre for Environmental Sciences, University of Joensuu, Finland; Dr Bård Solberg, Dept. of plant Ecology, Norwegian University of Science and Technology, Trondheim, Norway. 1996–2001.
- Glacier mass balance and tree rings as indicators of atmospheric circulation.* Principal investigators H. Linderholm and Professor Peter Jansson, Dept. of Physical Geography and Quaternary Geology, Stockholm University. 2001–
- Environmental effects of land cover change in central Quebec.* Principal investigator: H. Linderholm. Collaborator: Dr Krister Jansson, Department of Physical Geography and Quaternary Geology, Stockholm University. 2001–
- Development of Sub-grid Trace-gas Deposition Methodologies for Large Scale Models: Application to Sweden.* Project co-ordinator: Prof. Deliang Chen, Regional Climate, University of Gothenburg. 2001-2003. Funded by Formas (The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, grant no: 21.4/2001-3702).
- EMULATE - European and North Atlantic daily to multidecadal climate variability.* Project co-ordinator: Professor Phil Jones, Climatic Research Unit, University of East Anglia, UK, 2003–2005. Funded by the European Commission under the fifth Framework Programme (EVK2-CT-2002-00161 EMULATE)
- Evaluating climate variability and its ecological impacts in the past 300 years using tree-ring and historical data from Shaanxi Province, China.* Principal investigator: H. Linderholm. Collaborators: Professor Yu Liu, The Key State Laboratory of Loess and Quaternary Geology, Institute of Earth Environment, Chinese Academy of Sciences, Xian, China; Professor Hongbin Liu, National Climate Center, Beijing, China; Professor Deliang Chen, Earth Sciences Center,

University of Gothenburg. 2004–2007. Funded by the Swedish International Development Cooperation Agency (Sida/Sarec)

Spatial and temporal patterns of regional climate variability in Fennoscandia during the past 500 years – A dendroclimatological approach. Principal investigator: H. Linderholm. Collaborators: Professor Deliang Chen, Regional Climate, University of Gothenburg, Dr Gerrit Lohmann, Centre for Marine Environmental Sciences, Bremen University Germany; Dr Jürg Luterbacher, Institute of Geography, Climatology and meteorology, University of Bern, Switzerland; Dr Neil Loader, University of Wales, Swansea, UK. Professor K.R. Briffa, Climatic Research Unit, University of East Anglia, England. 2004–2008. Funded by the Swedish Research Council.

Millennium - European climate of the last Millennium. Project co-ordinator: Professor Danny McCarroll, Department of Geography, University of Wales Swansea, UK, 2006–2009.

Multi-proxy reconstruction of summer drought and its relationship with forest fire activity in southern and central Fennoscandia since AD 1500. Principal investigator: H. Linderholm. Collaborators: Dr Mats Niklasson and Dr Igor Drobyshch, Swedish University of Agricultural Sciences, Alnarp, Sweden; Dr Anders Moberg, Department of Physical Geography and Quaternary Geology, Stockholm University, Sweden; Dr Christine Achberger, Earth Sciences Center, University of Gothenburg, Sweden. 2007–2010. Funded by the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas)

Supervision

- Kristina Seftigen, PhD, Initiated 2008, University of Gothenburg (Main supervisor)
- Miriam Dalitso Kalanda, PhD, Initiated 2008, University of Gothenburg (Co-supervisor)
- Hong Yin, PhD, Initiated 2006, National Climate Centre, Beijing, China (Co-supervisor)
- Alexander Walther, PhD, Initiated 2005, University of Gothenburg (Co-supervisor)
- Jesper Björklund, MSc, Initiated 2008, University of Gothenburg (Main supervisor)
- Camilla Westin, MSc, 2008, University of Gothenburg (Main supervisor)
- Emil Hjertberg, MSc, 2008, University of Gothenburg (Main supervisor)
- Kristina Seftigen, MSc, 2008, Stockholm University (Main supervisor)
- Tina Molin, MSc, 2003, Stockholm University (Main supervisor)

Symposia and Conference Presentations

Gunnarson, B. and Linderholm, H. A 660-year tree-ring chronology from the central Scandinavian Mountains. INQUA, XV International congress, Durban, South Africa, August 1999.

Gunnarson, B. and Linderholm, H. Building a multimillennial tree-ring chronology in Jämtland, central Sweden. Eurodendro '99, Malbork, Poland, September 1999.

Gunnarson, B. and Linderholm, H. Building a multimillennial tree-ring chronology in Jämtland, central Sweden. First national IGBP-PAGES meeting, Lund/Höör, Sweden, October 1999.

Linderholm, H.W. Peatland pines as climate indicators – a regional study of Scots pine in Sweden. International Conference on Dendrochronology for the third Millennium, Mendoza, Argentina. April 2000.

Linderholm, H.W., Solberg, B.O. and Lindholm, M. Comparison of dendroclimatological variability of Scots pine along an east-west transect in northern Europe. PAGES, International conference on past climate variability through Europe and Africa, Aix-en-Provence, France. August 2001.

Linderholm, H.W., Solberg, B.O. and Lindholm, M. Comparison of dendroclimatological variability of Scots pine along an east-west transect in northern Europe. International Conference Tree Rings and People. Davos, September 2001.

Grudd, H., Gunnarson, B.E., Kaalela-Brundin, M. and Linderholm, H.W. Was there a Little Ice Age in Scandinavia? International Conference Tree Rings and People. Davos, September 2001.

- Linderholm, H.W. Possible links between late 20th century Scots pine growth and the North Atlantic Oscillation in west central Scandinavia. Second national IGBP-PAGES meeting, Stockholm, Sweden. April 2002.
- Linderholm, H.W. Links between the North Atlantic Oscillation and Scots pine growth in west central Scandinavia since 1825. 6th International Conference on Dendrochronology, Quebec City, Canada, August 2002.
- Jansson, P. and Linderholm, H. W. Constraints on latitudinal climate forcing of mass balances of Scandinavian glaciers from combined glacier and tree-ring studies. International Symposium on Arctic Glaciology, Geilo, Norway, August 2004.
- Linderholm, H.W. A tentative comparison of high-resolution climate proxies from the Tibetan Plateau and Scandinavia during the last millennia. The 4th International Symposium on the Tibetan Plateau. Lhasa, Tibet, August 2004.
- Briffa, K. R., Bartholin, T., Eronen, M., Grudd, H., Gunnarson, B., Karlén, W., Kirchhefer, A., Linderholm, H., Lindholm, M., Melvin, T., Märläinen, J., Moberg, A., Osborn, T.J., Shishov, V., Timonen, M. and Zetterberg, P. Dendroclimatic reconstructions in high latitudes. Bjerknes Centenary 2004. Climate Change in High Latitudes, Bergen, Norway, September 2004.
- Luterbacher, J., Pauling, A., Rutishauser, T., Xoplaki, E., Fisher, E., Gouriand, I., Moberg, A., Linderholm, H., Nesje, A., Lie, O. and Nordli, O. How variable was Fennoscandian climate during the last 500 years? Bjerknes Centenary 2004. Climate Change in High Latitudes, Bergen, Norway, September 2004.
- Gouriand, I., Linderholm, H., Moberg, A. and Wolfarth, B. 2005: A 1600-year reconstruction of summer temperatures in Fennoscandia from conifer tree ring chronologies. EGU Spring meeting, Vienna, Austria, April 2005.
- Linderholm, H.W., Jansson, P. and Chen, D. A high-resolution reconstruction of Storglaciären mass balance back to 1780/81 using tree-ring data and circulation indices. IAMAS, Beijing, China, August 2005.
- Jansson, P., Karlin, T., Linderholm, H.W., Mörth, M. and Petterson, R. Chemical signal in winter snow on Storglaciären coupled to atmospheric circulation. IAMAS, Beijing, China, August 2005.
- Linderholm, H.W., Moberg, A., Gouriand, I., Chen, D and Wolfarth, B. Fennoscandian Summer temperatures since AD 442 reconstructed from a tree-ring network. HOLIVAR2006 Open Science Meeting, Natural Climate Variability and Global Warming, London, England June 2006.
- Jansson, P., Linderholm, H.W., Pettersson, R., Karlin, T. and Mörth, C. Assessing the possibility to couple chemical signal in winter snow on Storglaciären to atmospheric climatology. International Symposium on Cryospheric Indicators of Global Climate, Cambridge, England, August. 2006.
- Linderholm, H.W. and Jansson, P. Proxy data reconstructions of the Storglaciären mass balance record back to AD 1500 on annual to decadal timescales. International Symposium on Cryospheric Indicators of Global Climate, Cambridge, England, August. 2006.
- Linderholm, H.W., Folland, C Fereday, D., Hurrell, J., Ineson, S., Knight, J. and Scaife, A. Estimating past summer North Atlantic Oscillation (SNAO) variability with tree-ring data. ZeroCarbonCity International Climate Change Conference 2007, Birmingham, England, March 2007.
- Linderholm, H.W., Folland, C Fereday, D., Hurrell, J., Ineson, S., Knight, J. and Scaife, A. Estimating past summer NAO (SNAO) variability with tree-ring data. EGU 2007, Vienna, Austria, April 2007.
- Linderholm, H.W., Folland, C Fereday, D., Hurrell, J., Ineson, S., Knight, J. and Scaife, A. Reconstructing Summer North Atlantic Oscillation (SNAO) variability over the last centuries. TRACE 2007, Riga, Latvia, May 2007. (Solicited)
- Linderholm, H.W., Folland, C Fereday, D., Hurrell, J., Ineson, S., Knight, J. and Scaife, A.. Estimating past Summer North Atlantic Oscillation (SNAO) variability with tree-ring data. XVII INQUA Congress 2007, Cairns, Australia, July-August 2007. (Solicited)
- Linderholm, H.W. and Chen, D. Climate change – current issues and some examples of studies related to environmental changes in China. CAS – Nordic Forum, Lund, Sweden, September 2007. (Solicited)

Folland, C. K., Linderholm, H., Hurrell, J., Ineson, S., Knight, J., Scaife, A. and Eastman R. The summer North Atlantic Oscillation - past, present and future. 20th Conference on Climate Variability and Change, AMS 88th Annual Meeting, New Orleans, USA, 20-24 January 2008

Workshop Presentations

- Linderholm, H. Peatland-pine studies in Sweden. Advance-10K, Pine-group meeting, Stockholm University, Sweden, 7–9 November 1997.
- Linderholm, H. An update on dendroclimatological studies on peatland pines in Sweden. Advance-10K, Pine-group meeting, Climate Research Unit, University of East Anglia, UK, 11–15 November 1998.
- Linderholm, H. The influence of winter NAO on tree growth in west central Scandinavia during the past 500 years. MUSCAD, Workshop, Stockholm University, Sweden, 6-8 November 2002.
- Linderholm, H. Tree-ring studies in China. Climate variation and its impact in China, Workshop, University of Gothenburg, Sweden, 16 September 2004.
- Chen, D. Linderholm, H. and Moberg, A. Links between climatic indices based on daily data and regional circulation: Examples from Sweden. EMULATE-ME3, Tarragona, Spain, 20-22 September 2004.
- Linderholm, H. and Chen, D. Palaeoclimate studies at the Regional Climate Group, University of Gothenburg. MUSCAD, Workshop, University of Gothenburg, Sweden, 25-26 October 2004.
- Linderholm, H., Walther and Chen, D. Trends in the GSL of the Greater Baltic Area – influence of GSL definitions. EMULATE ME4 (Final meeting), CNRS, Gif-sur-Yvette, France, 3-5 October 2005.
- Linderholm, H. A new reconstruction of Fennoscandian summer temperatures. MILLENNIUM Kick-off (MM0), SG2 meeting, Mallorca, Spain, 13-17 February 2006.
- Linderholm, H.W., Norrström, E., McCarroll, D., Liu, Y. and Holmgren, K. Isotope dendroclimatology in the central Scandinavian Mountains. MILLENNIUM MM1, Mallorca, Spain, 2-8 February 2007.
- Linderholm, H.W., Norrström, E., McCarroll, D., Liu, Y. and Holmgren, K. Isotope dendroclimatology in the central Scandinavian Mountains. ESF workshop on isotope dendrochronology. Potsdam, Germany, 11-16 February 2007.
- Folland, C., Linderholm, H., Ineson, S., Knight, J., Hurrell, J., Baines, P., Fereday, D., Warren and Scaife, A. The Summer North Atlantic Oscillation since the early eighteenth century. 4th International CLIVAR Climate of the 20th Century Workshop, Exeter, England, 13-15 March 2007.
- Linderholm, H. Dendroclimatology. Holocene Climate variability over Scandinavia, Säby Säteri, Stockholm, Sweden, 1-2 April 2008. (Solicited)

Invited seminars

- Geografiska Förbundet, Stockholm, Sweden: I Darwins fotspår – en tur till Galapagos, (In Darwin's footsteps – a visit to Galapagos), 9 November 1999.
- Arkeologiska Forskningslaboratoriet, Stockholm University, Sweden: Forntidens klimat, (Prehistoric climate), 8 November 2001.
- Forskardagarna 2002, Stockholm University, Sweden: Trädringar - naturliga klimatarkiv, (Tree rings – natural climate archives), 19 October 2002.
- National Climate Center, Beijing, China: Dendroclimatology and climate change research in Sweden, 30 October 2003.
- Earth Sciences Center, University of Gothenburg, Sweden: Dendroclimatology, 17 November 2003.
- Institute of Earth Environment, Xian, China: Dendrochronology, climate and environmental research in Sweden, 2 April 2004.
- College of Earth and Environment Sciences, Lanzhou University, Lanzhou, China: Dendroclimatological studies in Scandinavia. 5 April 2004.
- Beijing Normal University, Beijing, China: Dendrochronology and climatic change in Scandinavia. 7 April 2004.

Norwegian Meteorological Institute, Oslo, Norway: Dendrochronology and climate change research in Fennoscandia, 15 April 2004.

Earth Sciences Center, University of Gothenburg, Sweden: The tree rings, the volcano, the myth - tales from a Swedish peat bog, 18 December 2004.

Xian Meteorological Office, Xian, China: Tree rings and climate - dendroclimatology, 24 May 2005.

Institute of Earth Environment, Xian, China: Recent development in dendroclimatology in Sweden, 29 May 2005.

National Climate Center, Beijing, China: Recent development in dendroclimatology in Sweden, 31 May 2005.

Mid Sweden University, Sundsvall, Sweden: Dendroclimatological studies in Sweden, 8 June 2005.

Institute of Desert Meteorology, Ürümqi, China: Dendroclimatology in northern Europe, 7 November 2005.

National Institute of Geography and Limnology, Nanjing, China: Dendroclimatology in Northern Europe, 9 November 2005.

Earth Sciences Center, University of Gothenburg, Sweden: Climate change - dendroclimatology, 15 September 2006.

Institute of Earth Environment, Xian, China: Reconstructing the summer NAO with tree-ring data, 30 October 2006.

Sustainable Development Conference, University of Gothenburg, Sweden: Klimatförändringar – spelar det någon roll? (Climate change – does it matter?), 4 December 2006.

Walker Institute, Department of Meteorology, Reading University, England: Reconstructing summer NAO with tree rings, 27 March 2007

Svenska Naturskyddsföreningen, Stenungsund, Sweden: Trädringar som källor till klimatinformation (Tree rings as sources of climate information), 17 October, 2007

Föreningen Då och Nu, Ulebergshamn, Sweden: Varför ser det Bohusländska landskapet ut som det gör? 20 October 2007.

Met Office Hadley Centre for Climate Change, Exeter, UK: Reconstructing large-scale circulation patterns with tree-ring data. 27 November 2007.

Institute of Earth Environment, Xian, China: Reconstructing löarge-scale circulation patterns with tree-ring data, 5 March 2008.

Other attended Conferences and Workshops

- Biological indicators of climate change. The Royal Society of Edinburgh, Scotland, 2 February 1994.
- 11th international Dendroecological Field Week, Selma, Switzerland. 1996.
- Eurodendro '97, Conference of the European Working Group for Dendrochronology, Savonlinna, Finland, 28 May–1 June 1997.
- Advance-10K, Copenhagen, Denmark, 28–30 Mars 1998.
- International Glaciological Society – Nordic branch meeting, Stockholm, Sweden, 6–7 November 1998.
- EMULATE-ME2, University of Würzburg, Germany, 23-25 October 2003
- Fisheries Management and Climate Change in the Northeast Atlantic Ocean and the Baltic Sea – Implications for resource management policy? Bergen, Norway, 17-18 April 2008.
- Sixth seminar for homogenization and quality control in climatological databases, Budapest, Hungary, 26-30 May 2008.

Associations

- Member of the Swedish Society for Anthropology and Geography (SSAG) since 1997.
- Member of the Society of Wetland Scientists 1998-2001.

- Member of the American Geophysical Union (AGU) since 2001.
- Member of the Tree Ring Society since 2005.
- Member of the International Glaciological Society (IGS) since 2005.
- Fellow of the Royal Geographical Society since 2007.
- Member of the Network for Dendroecological and Dendrochronological Research in Northern Europe since 2002.
- Member of the Multi-proxy Studies of Climate Anno Domini-network (MUSCAD) since 2002.

Experience of Field Work

- Sampling of dendrochronological material in Sweden, Norway, Canada and China, 1994-2007
- Field assistant, Tarfala Glaciological Research Station, Sweden, May 1995 and 2002.
- Technician, AMANDA-project, South Pole Station, Antarctica, Nov. 1995 – Feb. 1996.
- Geomorphological fieldwork, Arctic station, Qeqertarsuaq, Greenland, August 2003
- Excursion leader/assistant on 15 fieldtrips 1995-2008.