

Curriculum Vitae

Michael Studinger

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Education

- M.S. (Diplom Geophysiker) in Geophysics, Ludwig Maximilians University, Munich, Germany 1993
Master thesis: Cluster analysis of a micro-earthquake swarm in Northern Bohemia, Advisor: Frank Scherbaum
- Ph.D. (Dr. rer. nat.) in Geophysics, Alfred Wegener Institute and University of Bremen, Germany 1998
Doctoral thesis: Compilation and analysis of potential field data from the Weddell Sea, Antarctica:
implications for the breakup of Gondwana, Advisor: Heinz Miller

Professional Employment

- Doherty Research Scientist, Lamont-Doherty Earth Observatory, USA 2007 - present
- PGI-Doherty Young Scientist, Lamont-Doherty Earth Observatory, USA 2004 - 2007
- Doherty Associate Research Scientist, Lamont-Doherty Earth Observatory, USA 2000 - 2007
- Post-Doctoral Research Scientist, Lamont-Doherty Earth Observatory, USA 1998 - 2000
- Graduate Research Assistant at the Alfred Wegener Institute for Polar and Marine Research, Germany 1995 - 1998

Committees

- Chair, US SALE Geophysics and Site Surveys Committee on Subglacial Lake Exploration 2005 - present
- Member, US SALE Science and Technology Steering Committee (USSSTSC) 2005 - present
- Member, US SALE Data Management and Information Systems Technical Committee 2005 - present
- Member, Antarctica's Gamburtsev Province International Polar Year Steering Committee 2005 - present
- Chair, NSF Steering Committee Long-Range Aircraft for Antarctic Research 2004 - 2006
- Member, LDEO's Promotions and Careers Committee 2003 - 2006
- Member, IAG Commission Project Antarctic Geoid (AntGP) 2003 - present
- Member, MG&G representative on LDEO's Computing Oversight Committee 2002 - present

Workshops

- Transantarctic Mountains Workshop: New Opportunities for Multidisciplinary Research September 2006
Geophysics discussion group leader and workshop report writer, Columbus, Ohio
- Co-convenor and organizer of Workshop on Science Opportunities for a Multidisciplinary September 2004
Long-Range Aircraft for Antarctic Research (LARA), Herndon, Virginia
- Workshop coordinator at NCAR's Research Aviation Facility on science requirements for an LC-130 December 2003

Invited Lectures and Keynote Talks (2005-2008)

- Keynote address at the Annual Meeting of the German Society for Polar Research, Münster, Germany March 2008
- Department of Physics, Trinity College, Hartford, Connecticut September 2007
- K. Douglas Nelson Lecture, Department of Earth Sciences, Syracuse University September 2005
- The Center for Remote Sensing of Ice Sheets (CReSIS), University of Kansas, Lawrence March 2006
- SALE in the International Polar Year: Advanced Science and Technology Planning, Grenoble, France April 2006
- Transantarctic Mountains Workshop, Byrd Polar Research Center, Ohio State University, Columbus September 2006
- Department of Earth and Space Sciences, University of Washington, Seattle October 2006

Proposal and Manuscript Reviews

- Proposal reviews: US National Science Foundation, Italian Antarctic Programme (PNRA), International Science and Technology Center (Lawrence Livermore National Laboratory), Natural Environment Research Council (NERC, UK), French National Research Agency (ANR), Australian Antarctic Division (AAD).
- Manuscript reviews: Nature, Journal of Geophysical Research, Geology, G³, Journal of Glaciology, Geophysical Research Letters, Earth & Planetary Science Letters, Annals of Glaciology, Antarctic Science, Bulletin of the Royal Society of New Zealand, Proceedings of the 9th International Symposium for Antarctic Earth Sciences.
- Co-Editor: Antarctica: A Keystone in a Changing World—Online Proceedings for the Tenth International Symposium on Antarctic Earth Sciences. <http://pubs.usgs.gov/of/2007/1047/>

Field Experience

- Co-leader AGAP Expedition Antarctica's Gamburtsev Province, East Antarctic Plateau 2008
- Co-leader Airborne Geophysical Test Flights, Calgary and West Greenland 2008
- Chief Scientist and Expedition Leader: Gravimeter test flights to the North Pole from Ellesmere Island 2007
- Magnetic gradiometer survey of the Hudson River between 59th Street NYC and Tappan Zea 2002
- Magnetic survey of cultural targets in the Haverstraw Bay, Hudson River 2002
- Aerogeophysical survey at Vostok (East Antarctica) and deployment of broadband seismic stations and geodetic GPS measurements (2 months) 2002
- Seismic reflection and refraction survey Dronning Maud Land, Antarctica (3 months) 1996
- Seismic reflection and refraction survey Filchner and Ronne Ice Shelves, Antarctica (2 months) 1995
- Seismic reflection and refraction survey Northeast Greenland (2 months) 1994

- Planning and carrying out a passive seismic experiment (60+ stations) for the German Continental Deep Drilling Program (KTB) (3 months) 1994
- Operation of broadband seismological network at the KTB drill site (3 months) 1990
- Refraction seismic survey around the KTB drill site (1 month) 1990
- Wide angle and refraction seismic surveys around the KTB drill site (1 month) 1989

Professional Awards

- PGI-Doherty Young Scientist Award, Lamont-Doherty Earth Observatory 2004

Teaching and Education

- E3221 Environmental Geophysics, Fall Semester 2001, co-taught with R.E. Bell. Columbia University, Department of Earth and Environmental Sciences 2001
- Earth2Class guest scientist and lecturer (www.earth2class.org) 2003 - present

Professional Societies

- American Geophysical Union, International Glaciological Society, German Society for Polar Research, Society of Exploration Geophysicists

List of Publications

MICHAEL STUDINGER

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- MacGregor, J.A., K. Matsuoka, **M. Studinger**, Radar detection of accreted ice over Lake Vostok, Antarctica, *Earth Planet. Sci. Lett.*, Vol 282, pp 222-233, doi:10.1016/j.epsl.2009.03.018, 2009.
- MacGregor, J.A., K. Matsuoka, M.R. Koutnik, E.D. Waddington, **M. Studinger**, D.P. Winebrenner, Millennially averaged accumulation rates for the Lake Vostok region inferred from deep internal layers, *Annals of Glaciology*, Vol. 50(51), pp 25 - 34, 2009.
- Studinger, M.**, R.E. Bell, N. Frearson, Comparison of AIRGrav and GT-1A airborne gravimeters for research applications, *Geophysics* 73, I51, doi:10.1190/1.2969664, 2008.
- Priscu, J.C., S. Tulaczyk, **M. Studinger**, M.C. Kennicutt II, B.C. Christner, and C.M. Foreman, Antarctic subglacial water: origin, evolution, and ecology, in: *Polar Lakes and Rivers - Limnology of Arctic and Antarctic Aquatic Ecosystems*, Edited by Warwick F. Vincent & Johanna Laybourn-Parry, Oxford University Press, ISBN 978-0-19-921388-7, 327 pp, 2008.
- Golynsky, A., D. Blankenship, M. Chiappini, D.Damaske, F. Ferraccioli, C. Finn, D. Golynsky, A. Goncharov, T. Ishihara, S. Ivanov, W. Jokat, H.R. Kim, M. König, V. Masolov, Y. Nogi, M. Sand, **M. Studinger**, and the ADMAP Working Group, New Magnetic Anomaly Map of East Antarctica and Surrounding Regions, in *Antarctica: A Keystone in a Changing World—Online Proceedings for the 10th International Symposium on Antarctic Earth Sciences*, DOI: 10.3133/of2007-1047.srp050, <http://pubs.usgs.gov/of/2007/1047/srp/srp050/>, 2007.
- Bialas, R.W., W.R. Buck, **M. Studinger**, P.G. Fitzgerald, Plateau collapse model for the Transantarctic Mountains West Antarctic Rift System: Insights from numerical experiments, *Geology*, Vol. 35, No. 8, 687-690, doi: 10.1130/G23825A.1, 2007.
- Bell, R.E., **Studinger, M.**, Shuman, C.A., Fahnestock, M., Joughin, I., Large subglacial lakes in East Antarctica at the onset of fast-flowing ice streams, *Nature*, Vol. 445, 904-907, doi:10.1038/nature05554, 2007.
- Christner, B.C., Royston-Bishop, G., Foreman, C.M., Arnold, B.R., Tranter, M., Welch, K.A., Lyons, W.B., Tsapin, A.I., **Studinger, M.** and Priscu, J.C., Limnological conditions in subglacial Lake Vostok, Antarctica, *Limnology and Oceanography*, Vol. 51(6), 2485-2501, 2006.
- Studinger, M.**, Bell, R.E., Fitzgerald, P.G., Buck, W.R., Crustal architecture of the Transantarctic Mountains between the Scott and Reedy Glacier region and South Pole from aerogeophysical data, *Earth Planet. Sci. Lett.*, doi:10.1016/j.epsl.2006.07.035, 250 (1-2), 182-199, 2006.
- Bell, R.E., **Studinger M.**, Karner, G.D., Finn, C.A., and Blankenship, D.D., Identifying major sedimentary basins beneath the West Antarctic Ice Sheet from aeromagnetic data analysis, in: D.K. Fütterer, D. Damaske, G. Kleinschmidt, H. Miller, F. Tessensohn, (Eds), *Antarctica: Contributions to global earth sciences*, Springer-Verlag, Berlin Heidelberg New York, pp. 117 - 122, 2006.
- Bell, R.E., **Studinger M.**, Fahnestock, M.A., and Shuman, C.A., Tectonically controlled subglacial lakes on the flanks of the Gamburtsev Subglacial Mountains, East Antarctica, *Geophys. Res. Lett.*, 33, L02504, doi:10.1029/2005GL025207, 2006.

- Tikku, A.A., Bell, R.E., **Studinger, M.**, Clarke, G.K.C., Tabacco, I., and Ferraccioli, F., The influx of meltwater to subglacial Lake Concordia, East Antarctica, *Journal of Glaciology*, Vol. 51 No. 172, p 96-104, 2005.
- Karner, G.D., **Studinger, M.**, Bell, R.E., Gravity anomalies of sedimentary basins and their mechanical implications: Application to the Ross Sea basins, West Antarctica, *Earth Planet. Sci. Lett.*, 235, p 577 - 596, 2005. doi:10.1016/j.epsl.2005.04.016.
- Bell, R.E., **M. Studinger**, A. Tikku, J.D. Castello, Ancient Ice and Subglacial Lake Environments: Lake Vostok as an Example, In *Life in Ancient Ice*, edited by J.D. Castello, and S.O. Rogers, Princeton University Press, p 251-267, 2005.
- Tikku, A.A., Bell, R.E., **Studinger, M.**, Clarke, G.K.C., Ice flow over Lake Vostok, East Antarctica inferred by structure tracking, *Earth Planet. Sci. Lett.*, 227, 249-261, 2004.
- Leonard, K., Bell, R.E., **Studinger, M.**, and Tremblay, B., Anomalous accumulation rates in the Vostok ice core from ice flow over Lake Vostok, *Geophys. Res. Lett.*, 31, No. 24, L24602, doi:10.1029/2004GL021102, 2004.
- Studinger, M.**, Bell, R.E., and Tikku A.A., Estimating the depth and shape of subglacial Lake Vostok's water cavity from aerogravity data, *Geophys. Res. Lett.*, 31, L12401, doi:10.1029/2004GL019801, 2004a.
- Studinger, M.**, Bell, R.E., Buck, W.R., Karner, G.D., and Blankenship, D.D., Sub-ice geology inland of the Transantarctic Mountains in light of new aerogeophysical data, *Earth Planet. Sci. Lett.*, 220, 391-408, 2004b.
- Studinger, M.**, Karner, G.D., Bell, R.E., Levin, V., Tikku, A.A., Raymond, C.A., Geophysical models for the tectonic framework of the Lake Vostok region, East Antarctica, *Earth Planet. Sci. Lett.*, 216, 663-677, 2003a.
- Studinger, M.**, R.E. Bell, G.D. Karner, A.A. Tikku, J.W. Holt, D.L. Morse, T.G. Richter, S.D. Kempf, M.E. Peters, D.D. Blankenship, R.E. Sweeney, and V.L. Rystrom. Ice cover, landscape setting, and geological framework of Lake Vostok, East Antarctica, *Earth Planet. Sci. Lett.*, 205(3-4), 195-210, 2003b.
- Studinger, M.**, Bell, R.E., Finn, C.A., and Blankenship, D.D., Mesozoic and Cenozoic extensional tectonics of the West Antarctic rift system from high-resolution airborne geophysical mapping, In: J.A. Gamble, D.N.B. Skinner, and S. Henrys, Antarctica at the close of a millennium, *R. Soc. of NZ Bull.*, 35, pp 563-569, 2002.
- Bell, R.E., **M. Studinger**, A.A. Tikku, G.K.C. Clarke, M.M. Gutner, and C. Meertens, Origin and fate of Lake Vostok water frozen to the base of the East Antarctic ice sheet, *Nature*, 417, 307-310, 2002.
- Studinger, M.**, Bell, R.E., Blankenship, D.D., Finn, C.A., Arko, R.A., Morse, D.L., and Joughin, I., Subglacial Sediments: A regional geological template for ice flow in West Antarctica, *Geophys. Res. Lett.*, 28(18), 3493-3496, 2001.
- Blankenship, D.D., Morse, D.L., Finn, C.A., Bell, R.E., Peters, M.E., Kempf, S.E., Hodge, S.M., **Studinger, M.**, Behrendt, J.C., and Brozena, J.M., Geologic controls on the initiation of rapid basal motion for the West Antarctic ice streams; A geophysical perspective including new airborne radar sounding and laser altimetry results, *Ant. Res. Ser.*, 77, 105-121, 2001.
- Studinger, M.**, and Miller H., Crustal structure of the Filchner-Ronne Shelf and Coats Land, Antarctica from gravity and magnetic data: implications for the breakup of Gondwana, *J. Geophys. Res.*, 104(B9), 20379-20394, 1999.
- Studinger, M.**, Compilation and analysis of potential field data from the Weddell Sea, Antarctica: implications for the breakup of Gondwana, *Rep. Polar Res.*, 276, 134 pp, 1998.
- Studinger, M.**, Kurinin R.G., Aleshkova N., Miller H., Power spectra analysis of gravity data from the Weddell Sea embayment and adjacent areas, *Terra Antarctica*, 4(1), 23-26, 1997.
- Jokat W., Fechner N., **Studinger M.**, Geodynamic models of the Weddell Sea embayment in view of new geophysical data, In: Ricci, C.A. (ed.) *The Antarctic Region: Geological Evolution and Processes*, Siena, 453-459, 1997.
- Neunhöfer H., **Studinger M.**, Tittel B., Earthquakes along the Finne and Gera-Jachymov Faults in Thuringia and Saxony, *Z. angew. Geol.*, 42(1), 57-61, 1996.

Workshop and Meeting Reports

**PEER
REVIEWED**

Studinger, M., Bromwich, D., Csatho, B., Muench, R., Parish, T., Stith, J., Science Opportunities for a Long-Range Antarctic Research Aircraft, EOS Transactions, Vol. 86 No. 4, 39-40, 2005.
<http://www.agu.org/journals/eo/eo0504/2005EO040004.pdf#anchor>
(requires AGU password)

**COMMUNITY
REVIEWED**

Studinger, M., Bromwich, D., Csatho, B., Muench, R., Parish, T., Stith, J., Scientific Opportunities for a Long-Range Aircraft for Research in Antarctica (LARA), Workshop report, 60 pp, 2005.

http://polarmet.mps.ohio-state.edu/lara/lara_report.pdf

Studinger, M., Science Requirements for a Long-Range Aircraft for Antarctic Research: Assessing the Scope of Modifications for an LC-130 Hercules. Meeting report, 17 pp, 2004.

<http://www.ldeo.columbia.edu/~mstuding/LCSB/LC-130-report.pdf>