

CURRICULUM VITAE

Frank-Oliver Nitsche

Lamont-Doherty Earth Observatory of Columbia University
61 Rt. 9W, Palisades, NY 10964, U.S.A.
Phone: +1 845 365 8746
Fax: +1 845 365 8719

E-mail: fnitsche@ldeo.columbia.edu
WWW: <http://www.ldeo.columbia.edu/~fnitsche>
Citizenship: German

EDUCATION

- Ph.D. Geology and Geophysics (magna cum laude)** 1997
University of Bremen, Germany. Thesis: “*Development of a sedimentation model for the Bellingshausen and Amundsen Seas*”.
- Diplom in Geophysics** 1994
Institute of Geophysics, University of Kiel, Germany. Thesis: “*Investigations of magnetic anomalies in archeology using three-dimensional models and cross-correlation*”.
- Additional training in Marine Geotechnics** 1991/92
Marine Geotechnics M.Sc. Program, School of Ocean Sciences, University of Northwest Wales, Bangor, UK

RESEARCH INTERESTS

Estuarine and coastal sediment dynamic and transport; Glacial and glacial-marine sediment processes; Continental margins; Sub-surface imaging; GIS; Data integration and Visualization; Benthic habitats

PROFESSIONAL EXPERIENCE

- Doherty Associate Research Scientist** 2004 - present
Lamont-Doherty Earth Observatory of Columbia University, U.S.A.
- Postdoctoral Scientist** 2001 - 2004
Lamont-Doherty Earth Observatory of Columbia University, U.S.A.
- Postdoctoral Scientist** 1997 - 2001
Institute of Geophysics, ETH-Zürich, Switzerland
- Research Assistant (Marine Geophysics)** 1994 - 1997
Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany
- Research Assistant (Environmental Geophysics / Archaeometry)** 1992 - 1994
Institute of Geophysics, University of Kiel, Germany
- Research Assistant (Marine Geology)** 1992
GEOMAR, Kiel, Germany
- Part-time Employee and Field Assistant (Environmental Consulting)** 1990 - 1991
GeCon Geophysik GmbH, Kiel, Germany
- Field Assistant (3D seismic survey)** 1989
Prakla-Seismos AG, Hannover, Germany

TEACHING EXPERIENCE

Courses taught:

- Reflection seismic I (Fall 1999, Fall 2000, ETH Zürich).
- Reflection Seismic II – processing lab, (co-instructor; Spring 1998, Spring 1999, Spring 2000, ETH Zürich).
- Advanced geophysics field class (instructor for seismic; Spring 1998 - 2001, ETH Zürich).
- Environmental geophysics summer school (lecturer and field instructor; June 2000, Nordic Science Policy Council and Nordic Academy for Advanced Study (NorFA), Oslo, Norway).
- Marine Acoustics and Bottom Mapping (lecturer and field instructor; July 2005, July 2006, July 2007; July 2008 Hudson River “RiverSummer” summer school, R/V Walford).

Guest lectures:

- Lecture on Marine geology and seafloor mapping, EI practicum (Oct 2008, Columbia University)
- Lecture on seismic methods during environmental geophysics course, E3221 (Nov 2002, Columbia University).
- Lecture on shallow water mapping for Lamont summer intern program (July 2004, July 2005, July 2006, July 2007).
- Lecture on Hudson River Research for the Hudson River Watershed field class of SUNY Albany (May 2004).

Graduate student co-adviser:

- Roman Spitzer (Ph.D., ETH, 1997-2001)
"Improving 2- and 3-D high-resolution seismic reflection surveying", now at OMV, Austria.
- Cedric Schmelzbach (Master thesis, ETH, 2000-2001)
"Ultra-shallow seismic reflection imaging", presently Ph.D. student in Uppsala, Sweden.
- Michael Knüsel (Master thesis, ETH, 1998-1999)
"Improvement of a 2D seismic reflection line by reprocessing", now at PGS, Norway,

Supervised summer students, interns, and senior theses:

- Holly Menten-Weil (LDEO 2008), Nicole Robinson (LEDO 2008), Joni Baumgarten (LDEO 2007), Pablo Garcia Del Real (LDEO 2007), Mackenzie Haberman (LDEO/Barnard College 2006), Alisha Goldstein (LDEO 2005), Andrew Melkonian (LDEO 2004), Chris Bertinado (LDEO 2002-2005), Martin Polak (ETH 2000/2001), Samuel Neukomm (ETH 2000/2001), Niki Ormuz (ETH 2000), Tiziana Angioni (ETH 1999/2000), Friso Brouwer (ETH 1999), and Beatrice Benjumea (ETH 1998).

FIELD EXPERIENCE

- Scientist: Multibeam bathymetry mapping, and sediment sampling in the Amundsen Sea, West Antarctica. (Feb 2nd – March 26th, 2007) RV Palmer cruise NBP0702.
- Chief scientist: High-resolution geophysical survey (sidescan sonar, single-channel seismic, RTK-GPS) for the Tappan Zee Bridge environmental impact study (May 2006).
- Scientist: Deploying of Moorings, Installation of weather station, and CTD casts in the Amundsen Sea, West Antarctica. (Feb 10th – April 11th, 2006) RV Polarstern cruise ANT23-4.
- Chief scientist: Benthic Mapping surveys on the Hudson River (April-May 2004; March-May 2003, March-May 2002, April-May 2001, Riverkeeper).
- Co-Chief scientist: Sediment sampling on the Hudson River (Gravity cores and grab samples), June 2004, 2003, 2002, 2001, R/V Prichard, R/V Walford.
- Scientist: Marine magnetic survey in the Hudson Highlands (on NOAA Rude) as part of the NOAA exploration project to identify and classify shipwrecks in the Hudson River. (June 9th – 11th, 2004)
- Scientist: ADCP deployment and recovery May, June 2004, Riverkeeper.
- Crew-Chief: Reflection seismic survey using a land-streamer, Basel, June 2000.
- Crew-Chief: High-resolution seismic survey Birrfeld, Switzerland, Nov 1999.
- Co-Chief: High-resolution 3D reflection seismic survey in Flaach, Switzerland, Feb-Mar 1999.
- Scientist: Environmental geophysical surveys in alpine valleys, Switzerland, 1998-2000
- Scientist: Reflection and OBS seismic survey offshore Namibia, Dec 1995 – Jan 1996, R/V Polarqueen.
- Scientist: Geophysical survey of the Bellingshausen Sea, March – May 1995, R/V Polarstern.
- Research Assistant: Geophysical survey of the Amundsen and Bellingshausen Seas, Jan – Apr 2004, R/V Polarstern.
- Research Assistant: GLORIA sidescan survey of the East Greenland margin, Aug - Sep 1992, R/V Livonia.
- Field Assistant: Environmental and archaeological surveys using geoelectric, magnetic and shallow surface refraction seismic, Northern Germany, 1990-1993.

Field Assistant: DEKORP 1989 3D seismic survey, Prakla-Seismos, Aug 1989.

GRANTS AND AWARDS

Tappan Zee high-resolution acoustic mapping - extension (**Nitsche**, Kenna, PI) ,
EarthTech; Grant Period: 2008-2009; Award: \$53,732.

Tappan Zee high-resolution acoustic mapping (**Nitsche**, Kenna, PI) ,
EarthTech; Grant Period: 2006-2008; Award: \$106,854.

Compilation of a bathymetric map of the Amundsen Sea continental shelf (**Nitsche**, Jacobs, PI),
Supplement to NSF project Continued Growth of the Antarctic Multibeam Bathymetry Data Synthesis as a
Resource for Antarctic Geoscience Research and Education (#0440655) (Carbotte, Ryan PI);
NSF; Grant Period 2006-2007; Award: \$23,583.

Distribution, Timing, and Dynamic of Deposition in the Hudson River Estuary (**Nitsche**, Kenna, PI),
Hudson River Foundation; Grant period: 2005-2006; Award: \$69,613.

Sediment sample analysis for juvenile sturgeon study (Bell, **Nitsche**, PI),
NYSDEC; Grant period: 2004 - 2005; Award: \$14,466.

Exploring the maritime archaeology of the Hudson River (R. Flood (Stony Brook) PI; **Nitsche**, Bell (Co-PI),
NOAA via subcontract from SUNY Stony Brook; Grant period: 2004 - 2005; Award: \$8,003 .

Birrfeld 2D-high-resolution seismic survey (with J. Ansoerge, ETH Zurich, as PI),
Schweizer Geophysikalische Gesellschaft, Grant period: 1999 - 2000; Award: 20,000 CHF.

Erasmus Fellowship for studying at Bangor University, UK,
Erasmus Student Mobility Program of the European Union; Grant period: 1991 - 1992); Award: 6 month tuition
and travel expenses.

PROFESSIONAL SERVICE

Member of the NYS DEC subcommittee for habitat classification (2004 - present).

Organizer of Marine Geology and Geophysics seminar series at Lamont (Jan 2005 – Aug 2006).

Member of Lamont-Doherty Campus life committee (Apr 2005 – Sep 2007).

Participant of the NY Harbor restoration workshop (Oct 2005).

Participant of the Passaic River restoration workshop held by the Army Corps of Engineers, NY (Oct 2004).

Participant of the Hudson River Foundation workshop on sediment transport in the Hudson River (Nov 2003)

Co-Chair of the ISAES 2007 session on “Databases, maps, and tools for exploring Antarctica” (Aug 2007)

Convener of the AGU fall meeting session on “Dynamic Processes of Estuaries” (2002).

Reviewer for *Geophysical Research Letters*, *Geochemistry*, *Geophysics*, *Geosystems*, *Journal of Quaternary Sciences*, *Journal of Environmental and Engineering Geophysics*, *Marine Geology*, *Water Research*, *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*, *Geological Society of America Bulletin*, *Estuarine, Coastal and Shelf Sciences*.

Reviewer for grant proposals of the National Science Foundation, City University of New York, Hudson River Foundation, and the Swiss National Science Foundation.

PROFESSIONAL SOCIETIES

Deutsche Geophysikalische Gesellschaft (since 1993).

American Geophysical Union (since 1995).

Society of Exploration Geophysicists (since 1998).

European Association of Geoscientists and Engineers (since 1998).

Estuarine Research Foundation (since 2005).

PUBLIC OUTREACH

- Presented “Exploring the Southern Ocean” during the Polar Fair at the Maryland Science Center, Baltimore (4.-5. April 2009).
- Created river bottom visualizations for History Channel show “Super City: New York” (22. September 2008).
- Lectured on Liberty Science Center Hudson River cruise (October 2007).
- Demonstrated 3D-visualization and GIS (including GoogleEarth) during Lamont Open House (2001-2007).
- Presented the Benthic Mapping Project at the Columbia University Community Open House (2004).
- Prepared information and interactive material including GIS examples and 3D-visualization for the 2005 Hudson River Snapshot Day (high school program).
- Provided material and demonstrated for the ABC local news: “Lessons on the Hudson River” (22. July 2005).
- Gave public lectures at Closter Nature Society (2005) and Liege of Naturalists, Sterling Forest State Park Visiting Center (2005).

PEER REVIEWED JOURNAL ARTICLES

- Ryan, W.B.F., Carbotte, S.M., Coplan, J.O., O'Hara, S., Melkonian, A., Arko, R., Weissel, R.A., Ferrini, V., Goodwillie, A., **Nitsche, F.**, Bonczkowski, J. and Zemsky, R., 2009. Global Multi-Resolution Topography synthesis. *Geochem. Geophys. Geosyst.*, 10: Q03014.
- Nitsche, F.O.**, Jacobs, S., Larter, R.D. and Gohl, K., 2007. Bathymetry of the Amundsen Sea Continental Shelf: Implications for Geology, Oceanography, and Glaciology. *Geochemistry, Geophysics, Geosystems*, 8: Q10009, doi:10.1029/2007GC001694.
- Larter, R.D., Gohl, K., Hillenbrand, C.D., Kuhn, G., Deen, T.J., Dietrich, R., Eagles, G., Johnson, J.S., Livermore, R.A., **Nitsche, F.O.**, Pudsey, C.J., Schenke, H.W., Smith, J.A., Udintsev, G. and Uenzelmann-Neben, G., 2007. West Antarctic Ice Sheet Change Since the Last Glacial Period. *Eos Trans. AGU*, 88(17): 189-196.
- Nitsche, F.O.**, Ryan, W.B.F., Carbotte, S.M., Bell, R.E., Slagle, A., Bertinado, C., Flood, R., Kenna, T. and McHugh, C., 2007. Regional patterns and local variations of sediment distribution in the Hudson River Estuary. *Estuarine, Coastal and Shelf Science*, 71, 259-277.
- Slagle, A.L., Ryan, W.B.F., Carbotte, S.M., Bell, R., **Nitsche, F.O.** and Kenna, T., 2006. Late-stage estuary infilling controlled by limited accommodation space in the Hudson River. *Marine Geology*, 232: 181-202.
- Strayer, D.L., H.M. Malcom, R.E. Bell, S.M. Carbotte, and **F.O. Nitsche**, 2006. Using geophysical information to define benthic habitats in a large river. *Freshwater Biology*, 51: 25-38.
- Nitsche, F.O.**, Bell, R.E., Carbotte, S.M., Ryan, W.B.F., Flood, R.D., Ferrini, V., Slagle, A., McHugh, C.M.G., Chillrud, S., Kenna, T., Strayer, D.L. and Cerrato, R.M., 2005. Integrative acoustic mapping reveals Hudson River sediment processes and habitats. *EOS Transactions AGU*, 86: 225, 229.
- Nitsche, F.O.**, R. Bell, S.M. Carbotte, W.B.F. Ryan, and R. Flood, 2004: Process-related classification of acoustic data from the Hudson River Estuary. *Marine Geology*, 209, 131-145.
- Carbotte, S.M., R.E. Bell, W.B.F. Ryan, C.M.G. McHugh, A. Slagle, **F. Nitsche**, and J. Rubenstone, 2004: Environmental change and oyster colonization within the Hudson River estuary linked to Holocene climate. *Geo-Marine Letters*, 24, 212-224.
- Spitzer, R., **Nitsche, F.O.**, Green, A.G. and Horstmeyer, H., 2003, Efficient acquisition, processing and interpretation strategy for shallow 3D seismic surveying: A case study. *Geophysics*, 68, 1792-1806.

- Nitsche, F.O.**, A.G. Green, H. Horstmeyer and F. Bücker 2002.
Late Quaternary depositional history of the Reuss delta, Switzerland: constraints from high-resolution seismic reflection and georadar surveys. *Journal of Quaternary Science*, 17, 131-143.
- Cunningham, A.P., R.D. Larter, P.F. Barker, K. Gohl, and **F.O. Nitsche**, 2002.
Multichannel seismic investigation of the Bellingshausen Gravity Anomaly and West Antarctic continental margin near 95°W. In: J.A. Gamble, D.N.B. Skinner and S. Henrys (Editors), Antarctica at the close of a millennium. *Royal Society of New Zealand Bulletin* 35, pp. 201-205.
- Cunningham, A.P., R.D. Larter, P.F. Barker, K. Gohl and **F.O. Nitsche**, 2002.
Tectonic evolution of the Pacific margin of Antarctica: 2. Structure of Late Cretaceous - Early Tertiary plate boundaries in the Bellingshausen Sea from seismic reflection and gravity data. *Journal of Geophysical Research*, 107(B12), EPM6-1 to EPM 6-20.
- Larter, R.D., A.P. Cunningham, P.F. Barker, K. Gohl and **F.O. Nitsche**, 2002.
Tectonic evolution of the Pacific margin of Antarctica: 1. Late Cretaceous tectonic reconstructions. *Journal of Geophysical Research*, 107(B12), EPM 5-1 to EPM 5-19.
- Musil, M., H.R. Maurer, A.G. Green, H. Horstmeyer, **F.O. Nitsche**, D. Vonder Mühl and S. Springman, 2002.
Shallow seismic surveying of an Alpine rock glacier. *Geophysics*, 67, 1701-1710.
- Nitsche, F.O.**, Monin, G., Marillier, F., Graf, H. and Ansoerge, J., 2001.
Reflection seismic study of Cenozoic sediments in an overdeepened valley of northern Switzerland - the Birrfeld area. *Eclogae Geologicae Helvetiae*, 94, 363-371.
- Spitzer, R., A.G. Green and **F.O. Nitsche**, 2001.
Minimizing field operations in shallow 3-D seismic reflection surveying. *Geophysics*, 66, 1761-1773.
- Spitzer, R., **F.O. Nitsche** and A.G. Green, 2001.
Reducing source-generated noise in shallow seismic data using linear and hyperbolic tau-p transformations. *Geophysics*, 66, 1612-1621.
- Nitsche, F.O.**, A. Cunningham, R.D. Larter and K. Gohl., 2000.
Sedimentation processes in the Bellingshausen Sea and their variations along the continental margin. *Marine Geology*, 162, 277-302.
- Larter, R.D., A.P. Cunningham, P.F. Barker, K. Gohl and **F.O. Nitsche**, 1999.
Structure and tectonic evolution of the West Antarctic continental margin and Bellingshausen Sea, *Korean Journal of Polar Research*, 10, 125-133.
- Nitsche, F.O.**, and K. Gohl, 1997.
Sedimentation processes along the Bellingshausen Sea continental margin, *Terra Antarctica*, 4, 27-28.
- Gohl, K., **F.O. Nitsche** and H. Miller, 1997.
Seismic and gravity data reveal Tertiary interplate subduction in the Bellingshausen Sea, southeast Pacific. *Geology*, 25, 371-374.

PEER REVIEWED BOOK SECTIONS

- Nitsche, F.O.**, Carbotte, S., Ryan, W. and Bell, R., 2005. A seabed classification approach based on multiple acoustic sensors in the Hudson River Estuary. In: D.M. FitzGerald and J. Knight (Eds.), *High-resolution morphodynamics and sedimentary evolution of estuaries*. Coastal Systems and Continental Margins. Springer, Netherlands, pp. 33-55.
- Nitsche, F.O.**, K. Gohl, K. Vanneste and H. Miller, 1997. Seismic expression of glacially deposited sequences in the Bellingshausen and Amundsen Seas, West Antarctica. In: P. F. Barker and A. K. Cooper (eds.), *Geology and seismic stratigraphy of the Antarctic margin, part 2*, Antarctic Research Series, 71. AGU, Washington, D.C., 95-108.

Gohl, K., **F.O. Nitsche**, K. Vanneste, H. Miller, N. Fechner, L. Oszko, C. Hübscher, E. Weigelt and A. Lambrecht, 1997. Tectonic and sedimentary architecture of the Bellingshausen and Amundsen Sea basins, SE Pacific, by seismic profiling. In: C. A. Ricci (ed.), *The Antarctic Region: Geological evolution and processes*. Terra Antarctica Publications, Siena, Italy, 719-723.

REPORTS AND SELECTED OTHER PUBLICATIONS

- Nitsche, F.O.** and Kenna, T.C., 2007. Distribution, timing, and dynamic of deposition in the Hudson River Estuary. Hudson River Foundation, Final report 008/05A, Lamont-Doherty Earth Observatory of Columbia University, Palisades, 70 pp.
- Bell, R.E., Flood, R.D., Carbotte, S.M., Ryan, W.B.F., **Nitsche, F.O.**, Chillrud, S., Arko, R., Ferrini, V., Slagle, A., Bertinato, C. and Turrin, M., 2004. Hudson River Estuary Program Benthic Mapping Project New York State Department of Environmental Conservation Phase II-Final Report, Lamont-Doherty Earth Observatory.
- Bell, R. E., Flood, R. D., Carbotte, S. M., Ryan, W. B. F., **Nitsche, F. O.**, Chillrud, S., Arko, R., Ferrini, V., Slagle, A., Bertinato, C., and Turrin, M., 2003. Hudson River Estuary Program Benthic Mapping Project New York State Department of Environmental Conservation Phase II-Report 1. Lamont-Doherty Earth Observatory, Palisades, NY USA. 285 pp.
- Ladd, J.W., R. Bell, E. Blair, H. Bokuniewicz, S. Carbotte, R. Cerrator, S. Chillrud, V. Lynn Ferrini, R. Flood, N.P. Maher, C. McHugh, **F. Nitsche**, W. Ryan, D. Stayer, J. Thissen, and R. Versteeg. 2002. Mapping the Hudson Estuary submerged lands. *Clearwaters* 32: 5- 7.
- Green, A.G., M. van der Veen, R. Gross, M. Grasmück, F. Lehmann, H. Horstmeyer and **F. Nitsche**, 2000. New geophysical methods applied to geomechanics and hydrology. *Felsbau*, 18, 112-118.

ABSTRACTS

- Nitsche, F.O.**, S. M. Carbotte, 2008. Data Integration and Shifting Glacier Flow in the WAIS Amundsen Sea Embayment. WAIS/FRISP workshop 2008, Castleton, UK
- Baumgarten, J.M., **Nitsche, F.O.** and Kenna, T., 2008. 20th century deposition in the Tappan Zee section of the Hudson River Estuary: Combining geophysical and geochemical techniques, *Ocean Sciences* 2008, Orlando, FL.
- Nitsche, F.O.**, M. Haberman and T. Kenna, 2007. Detailed Quantification of Estuarine Sediment Deposits in the Hudson River Estuary: An Integrated Approach. 19th Biennial Conference of the Estuarine Research Federation, Providence, Rhode Island.
- Eaton, T.T., C. Cranganu and **F. Nitsche**, 2007. Resistivity profiling and GPR for characterization of urban fill and buried infrastructure. GSA Denver Annual Meeting, Abstract 193-3.
- Jacobs, S., R. Guerrero, B. Huber, P. Mele, **F. Nitsche**, D. Susanto, 2007. Transient Temperatures and Redoubtable Retention in the Amundsen. WAIS meeting 2007, Washington, D.C.
- Nitsche, F.O.**, Jacobs, S., Larter, R.D., and Gohl, K., 2007. New compilation of the Amundsen Sea continental shelf bathymetry. U.S. Geological Survey and The National Academies; USGS OF-2007-1047, Extended Abstract 050, 1-3.
- Nitsche, F.O.**, Jacobs, S., Gohl, K., Gauger, S., Larter, R.D. and Deen, T., 2006. A New Regional Bathymetry Map of the Amundsen Sea, West Antarctica. *Eos Trans. AGU* 87(52): Fall Meet. Suppl., Abstract C41C-0345.
- Jacobs, S., Jenkins, A., **Nitsche, F.O.**, Guerrero, R.A., Shoosmith, D.R., 2006. The East Amundsen Sea and the West Antarctic Ice Sheet. *Eos Trans. AGU* 87(52): Fall Meet. Suppl., Abstract C43B-02.
- Haberman, M., **Nitsche, F.O.**, Kenna, T.C., Bell, R.E. and Ryan, W.B.F., 2006. Quantifying Distribution of Recent Sediment Using XRF Analysis and Seismic Data in the Hudson River Estuary. *Eos Trans. AGU*, 87(52): Fall Meet. Suppl., Abstract H33B-1503.
- Kenna, T., **Nitsche, F.O.**, Sands, E., Bell, R.E., Ryan, W.B.F., Chillrud, S.N. and Ross, J.M., 2006. Application of field portable X-ray fluorescence spectrometry to rapidly measure metal distributions in sediment cores. *Eos Trans. AGU*, 87(52): Fall Meet. Suppl., Abstract H33B-1502.

- Nitsche, F. O.**, T. Kenna, R. E. Bell, W.B.F. Ryan, S. M. Carbotte, S. Chillrud, R. D. Flood, 2005. Combining Data From Bathymetry, Sub-Bottom Profiles, and Sediment Cores to Improve Sediment Budget and Accumulation Rates in the Hudson River. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract OS23A-1528.
- Nitsche, F.O.**, R. Bell, S.M. Carbotte, W.B.F. Ryan, C. Bertinato, and R. Flood, 2004. Variations and Dependency of Sediments and Morphology of the Hudson River Estuary. *Eos. Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract H43A-0359
- Nitsche, F.O.**, R. Bell, S.M. Carbotte, W.B.F. Ryan, and R. Flood, 2003. Process related interpretation of acoustic data from the Hudson River estuary. *Eos. Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract OS52B-0918.
- Nitsche, F.O.**, R. Bell, C. Bertinato, G. Fails, S.M. Carbotte, and W.B.F. Ryan., 2002. Sediment Dynamics Derived From Historic Bathymetry Data of the Hudson River. *Eos. Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract OS21D-02.
- Bertinato, C., **F.O. Nitsche**, W.B. Ryan, S.M. Carbotte, and R. Bell, 2002. GIS as a Tool for Integrated Studies of Dynamic Processes of Estuaries: An Example From the Hudson River Estuary. *Eos. Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract OS22B-0251.
- Bell, R.E., S.M. Carbotte, W.B.F. Ryan, C. McHugh, R.D. Flood, A Slagel, **F.O. Nitsche**, S. Pekar, and J. Rubenstone, 2002. Estuarine Processes and Fluctuations in Oyster Presence Within the Hudson River Estuary During the Holocene. *Eos. Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract OS21D-04.
- Slagle, A., S.M. Carbotte, W.B. Ryan, R. Bell, **F.O. Nitsche**, and C.M. McHugh, 2002. Changes in Depositional Setting Reflect Rising Sea level in Latest Holocene Sediments of the Hudson River. *Eos. Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract OS22B-0250.
- Spitzer, R., **F. O. Nitsche**, A. Green and H. Horstmeyer, 2001. High-resolution 3-D seismic survey applying effective acquisition and new processing strategies. Expanded abstracts of the 71th Annual International Meeting, SEG, San Antonio, U.S.A., 1385-1388.
- Nitsche, F.O.**, G. Monin, T. Angioni, F. Marillier, H. Graf and J. Ansorge, 2000. Reflection seismic study of Cenozoic sediments in the Birrfeld valley, Switzerland. Proceedings of the 6th meeting of the Environmental and Engineering Geophysical Society - European Section (EEGS-ES), Bochum, Germany, SE01.
- Spitzer, R., **F.O. Nitsche** and A.G. Green, 2000. Strategy for Reducing Source-Generated Noise in High-Resolution Seismic Data, Extended abstracts of the 62nd EAGE Conference and Technical Exhibition, Glasgow, United Kingdom, L24.
- Roth, M., R. Spitzer and **F.O. Nitsche**, 1999. Seismic survey across an environment with very high Poisson's ratio, Proceedings of 12th Annual Symposium on the Applications of Geophysics to Environmental and Engineering Problems (SAGEEP), Oakland, U.S.A., 49-55.
- Spitzer, R., **F.O. Nitsche** and A.G. Green, 1999. Reducing field effort in 3-D high resolution seismic surveying. Expanded abstracts of the 69th Annual International Meeting, SEG, Houston, U.S.A., 512-515.
- Roth, M., K. Holliger and **F.O. Nitsche**, 1998. Near-surface waveguides and source-generated noise. Proceedings of the 4th meeting of the Environmental and Engineering Geophysical Society (European Section), Barcelona, Spain , 621-624.
- Spitzer, R., M. van der Veen, **F.O. Nitsche**, H. Horstmeyer, and A.G. Green, 1998. Designing 3-D high resolution seismic surveys. Expanded abstracts of the 68th Annual International Meeting, SEG, New Orleans, U.S.A., 54-57.
- van der Veen, M., H. Bunes, **F. Nitsche**, F. Büker, F. Lehmann and A. Green, 1998. High-frequency sources in shallow seismic experiments. Proceedings of 11th Annual Symposium on the Applications of Geophysics to Environmental and Engineering Problems (SAGEEP), Chicago, U.S.A., 753-760.

THESIS

- Nitsche, F.O., 1998.
Bellingshausen and Amundsen Seas: Development of a sedimentation model (Bellingshausen- und Amundsenmeer: Entwicklung eines Sedimentationsmodells), *Berichte zur Polarforschung*, 258, 143 pp. (Ph.D. thesis, published in German).

Nitsche, F.O., 1994.

Investigations of magnetic anomalies in archaeology using three-dimensional models and cross-correlation (Untersuchungen magnetischer Anomalien in der Archäologie mit dreidimensionalen Modellen und Kreuzkorrelation). Diplomarbeit, University of Kiel, Germany, 95 pp. (master thesis, in German).

INVITED PRESENTATIONS

Nitsche, F.O.

Uncovering the Bottom of the Hudson River Estuary: Morphology and Sediment Distribution. Lige of Naturalists, Sterling Forest State Park Visiting Center. 17.04.2005. (invited talk)

Nitsche, F.O.

Uncovering the Bottom of the Hudson River Estuary: Morphology and Sediment Distribution. Closter Nature Society Seminar Series. 21.01.2005. (invited talk)

Nitsche, F.O., R. Bell, W.B.F. Ryan, S.M. Carbotte.

The Hudson River Benthic Mapping Project - An example of process related classification of sedimentary environments. GeoHab 2004, Galway, Ireland. 05.07.2004 (invited talk)

Nitsche, F.O., W.B.F. Ryan, S. Carbotte, R. Bell and R. Flood

Process Based Classification of the Hudson River Estuary. 1st International Multibeam User Workshop. Bremerhaven, Germany. 30.06.2003. (invited talk)

Nitsche, F.O.

The Hudson River Benthic Mapping Project. Naval Research Laboratory. Washington D.C. 07.03.2003. (invited talk)

Nitsche, F.O.

Shallow Water Sediment Dynamics. Cardiff University, U.K. 26.09.2002. (invited talk)

Nitsche, F.O.

The Hudson River Benthic Mapping Project. Geological Service of Canada, Ottawa, Canada, 15.02.2002. (invited talk)

Nitsche, F.O.

High-resolution reflection seismic surveys in alpine valleys of Switzerland. Lamont-Doherty Earth Observatory of Columbia University, Palisades NY, U.S.A. Dec. 2000. (invited talk).

Nitsche, F.O.

The use of shallow reflection seismic in mapping of glacial and glaciofluvial deposits in Switzerland. Colloquium of the Institute of Geophysics of the University of Lausanne, Switzerland, 1998. (invited talk)

SELECTED OTHER PRESENTATIONS

Nitsche, F.O., M. Haberman and T. Kenna, 2007.

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Dr. William B. F. Ryan

Doherty Senior Scholar
Lamont-Doherty Earth Observatory of Columbia University
61 Route 9W
Palisades, NY 10964, U.S.A.
Phone (845) 365-8312
Fax (845) 365-8156
E-mail: billr@ldeo.columbia.edu

Prof. Dr. Cecilia M. G. McHugh

Professor, School of Earth and Environmental Sciences
Queens College, City University of New York
65-30 Kissena Blvd
Flushing, New York 11367
Phone: (718) 997-3322
Fax: (718) 997-3299
E-Mail: cmmqc@forbin.qc.edu

Dr. Karsten Gohl

Senior Research Scientist
Alfred Wegener Institute for Polar and Marine Research
Columbusstrasse
D - 27568 Bremerhaven, Germany
Phone: ++49 (0)471 4831-1361
Fax: ++49 (0)471 4831-1149
E-Mail: kgohl@awi-bremerhaven.de

Dr. Robin Bell

Senior Research Scientist
Lamont-Doherty Earth Observatory of Columbia University
61 Route 9W
Palisades, NY 10964, U.S.A.
Phone ++1 845 365 8827
Fax: +1 845 365 8719
E-Mail: robinb@ldeo.columbia.edu

Prof. Dr. Alan Green

Chair of Environmental and Engineering Geophysics
Institute of Geophysics, ETH Zürich
ETH-Hönggerberg
CH-8093 Zürich, Switzerland
Phone: ++41 (0)1-633-2657
Fax: ++41 (0)1-633-1065
E-Mail: alan@aug.ig.erdw.ethz.ch