

Curriculum Vitae

Dr Lars Boehme

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PERSONAL INFORMATION

Birth May 5, 1975 in Wilhelmshaven, Germany

Citizenship German

Family status married

Children 2

ACADEMIC EDUCATION

Nov. 2008 Doctor of Philosophy, University of St Andrews, Scotland, UK, Advisors: M. Fedak (SMRU) and M. Meredith (BAS)
(Thesis: *The Frontal System of the Antarctic Circumpolar Current: Marine Mammals as Ocean Explorers.*)

12/2004-11/2007 PhD candidate at Sea Mammal Research Unit, University of St Andrews, St Andrews, UK
Activities: Using data obtained from CTD tags deployed on southern elephant seals and other sources to observe changes of water masses in the Southern Ocean. Developing methods to check the quality of CTD data.

Oct. 2003 Diplom in Physical Oceanography, Christian-Albrechts Universität Kiel, Germany, Advisor: U. Send
(Diploma thesis: *Quality Control of Profiling Float Data in the Subpolar North Atlantic*)

1996-2003 Christian-Albrechts Universität Kiel, Germany, Undergraduate and graduate program in Physical Oceanography.

PROFESSIONAL EXPERIENCE

- 02/2012-present** MASTS Lecturer at Scottish Oceans Institute, University of St Andrews, St Andrews, UK
- 12/2007-01/2012** Research Fellow at Sea Mammal Research Unit, University of St Andrews, St Andrews, UK
- 01/2007-03/2007** Oceanographic Watch Keeper for British Antarctic Survey, Cambridge, UK
- 11/2003-11/2004** Research Scientist at Leibniz-Institut for Marine Sciences, Kiel, Germany

RESEARCH GRANTS

Investigator

- 10/10 -02/14** Ocean processes over the Weddell Sea shelf using seal tags
PI: K. Nicholls (BAS), M. Fedak (SMRU), CO-I: L. Boehme (SMRU)
Funding: £500k, St Andrews: **£64,558.50**

Collaborator

- 2010** A Novel Temperature and Salinity Dataset for Northern High Seas (ATLAS)
PI: S. Josey (NOC), CO-I: M. Meredith (BAS)
Funding: £25k
- 2007** South Atlantic Variability Experiment (SAVEX)
PI: M. Fedak (SMRU), CO-I: M. Meredith (BAS)
named staff, major role in develop, formalise and writing the proposal
Funding: £500k

STIPENDS AND AWARDS

- 2010** IPY Oslo Stipend to early career polar scientists
- 2006** Best oral presentation at postgraduate conference
School of Biology, University of St Andrews

IMPACT

- 2010** Invited to present at the University Court meeting, St Andrews, UK
2010 Invited to present at the Scottish Science Advisory Council, St Andrews, UK
2009 Invited to present at the OceanObs'09 meeting, Venice, Italy
2008- Work featured in the NERC Knowledge exchange brochure
2008- Providing ocean data to the Global Ocean Observing system and forecasting agencies via the Global Telecommunication System
2008 Invited to present at the Royal Society, London, UK
2005- Work presented in several newspaper articles, radio shows and public talks
2005 Work featured in Nature, 438, pp. 402-403, 2005

TEACHING

Guest lectures in different courses (e.g. Marine Mammal Science) at the School of Biology (e.g. Marine mammal environments, Introduction to Oceanography)

GRADUATE STUDENTS

Graduated:

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|---------------|---|------|
| Jerome Couvat | MRes, University of St Andrews, supervisor "20,000 leagues across the sea: modeling two-dimensional habitat use of Southern elephant seals" | 2011 |
| Amy Baker | MRes, University of St Andrews, supervisor "Explanatory variables influencing the winter ecology of Weddell seals in the southern Weddell Sea" | 2011 |

PROFESSIONAL SERVICE

Refereeing: Aquatic Biology; Deep-Sea Research, Part I & Part II; Geophysical Research Letters; Journal of the Royal Society Interface; National Research Foundation; Nature; Oecologia; PLOS; Polar Research; Scientific Committee on Oceanic Research (SCOR);

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (AGU), European Geosciences Union (EGU), Association of Polar Early Career Scientists (APECS)

FIELD EXPERIENCE

- Jan./Mar. 2011** RRS Ernest Shackleton 054, Weddell Sea, Chief Scientist, Responsibility: Deploying satellite tags on Weddell seals
- Sep./Nov. 2009** Husvik, South Georgia, Chief Scientist, Responsibility: Deploying satellite tags on southern elephant seals
- Jan./Mar. 2009** Husvik, South Georgia, Chief Scientist, Responsibility: Deploying satellite tags on southern elephant seals
- Sep./Nov. 2008** Husvik, South Georgia, Chief Scientist, Responsibility: Deploying satellite tags on southern elephant seals
- Jan./Mar. 2008** Husvik, South Georgia, Chief Scientist, Responsibility: Deploying satellite tags on southern elephant seals
- Jan./Mar. 2007** RRS Ernest Shackleton 036, Weddell Sea, Responsibility: CTD, Deploying satellite tags on weddell seals and southern elephant seals
- Jan./Feb. 2005** Husvik, South Georgia, Responsibility: Deploying satellite tags on southern elephant seals
- Dec. 2004 /Jan. 2005** RRS James Clark Ross 116, Scotia Sea, Responsibility: Satellite Relay Data Loggers
- Aug./Sep. 2004** RRS Charles Darwin 161, North Atlantic, Responsibility: Moorings, CTD, ADCP
- Jun./Jul. 2004** FS Meteor M62/1a, Atlantic, Responsibility: PIES
- Jun. 2002** FS Alkor, Baltic Sea, Responsibility: CTD, ADCP
- Jan./Feb. 2002** RV l'Atalante, Atlantic, Responsibility: CTD, Salinometer
- Jan. 2001** FS Poseidon P267, North Atlantic, Responsibility: CTD, Salinometer
- Oct./Nov. 1999** FS Meteor M45/5b, Canary Islands, Responsibility: CTD
- Aug./Sep. 1999** FS Poseidon P255/1, North Atlantic, Responsibility: CTD, Salinometer
- Jun./Jul. 1999** FS Meteor M45/2, North Atlantic, Responsibility: CTD
- Sep. 1998** FS Alkor, Baltic Sea, Responsibility: CTD

OTHERS

- Computer skills** Platforms: UNIX, Linux, Windows (95/98, NT, XP)
Programs: MATLAB, StarOffice, MS Office
Languages: FORTRAN, L^AT_EX, HTML
- Other skills** Home Office personal licence holder, Animals (Scientific Procedures) Act 1986.
Medical Certificate for Service at Sea (Other services)
Certificate for training according to chapter VI, Section A-VI, 1.1 to 1.7 of STCW Code A (9h45) ('survival at sea')
Licence to operate any motor-equipped yacht.
Radiotelephone Operator's Restricted Certificate for marine VHF
Radioamateur licence class 1 (CEPT) with callsign DL9LB and MM0DWF
Radioamateur licence for the British Antarctic Territory with callsign VP8DIF
Diving Skills: Nitrox Diver (BSAC), Sports Diver (BSAC)
Guiding: Lecturer and Zodiac driver on several cruise ships in the Arctic and Antarctic
- Languages** German (native), English (fluent), French (rudimentary)
- Memberships** Radio Society of Great Britain (RSGB), GMDX Group, Kingdom Amateur Radio Society (KARS), Scottish Aeromodellers Association (SAA)

REVIEWED PUBLICATIONS

2011

- Roquet, F., J.-B. Charrassin, S. Marchand, **L. Boehme**, M. Fedak, G. Reverdin and C. Guinet., 2011: Validation of hydrographic data obtained from animal-borne satellite-relay data loggers, *Journal of Atmospheric and Oceanic Technology*, Vol. 28, No 6, pp 787-801, doi: 10.1175/2010JTECHO801.1
- Meredith, M.P., I. A. Renfrew, **L. Boehme**, M. Biuw and M. A. Fedak, 2011: Seasonal evolution of the upper-ocean adjacent to the South Orkney Islands, Southern Ocean: results from a "lazy biological mooring", *Deep Sea Research Part II: Topical Studies in Oceanography*, Vol. 58 (13-16), pp 1569-1579, doi:10.1016/j.dsr2.2009.07.008
- Grist, J., S.A. Josey, **L. Boehme**, M.P. Meredith, F.J. M. Davidson, G.B. Stenson, M.O. Hammill, 2011: Temperature imprint of high latitude Atlantic boundary currents revealed by marine mammal-borne sensor and Argo data, *Geophysical Research Letters*, 38, L15601, doi:10.1029/2011GL048204.
- Field, I.C., R.G. Harcourt, **L. Boehme**, P. J. N. de Bruyn, J.-B. Charrassin, C.R. McMahon, M.N. Bester, M.A. Fedak, M.A. Hindell, 2011: Refining instrument attachment: epoxying instruments to phocid seals has negligible impact if applied correctly., *Marine Mammal Science*, doi: 10.1111/j.1748-7692.2011.00519.x

2010

- Boehme, L.**, & 22 co-authors, 2010: Biologging in the global ocean observing system, in *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Vol. 2)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.cwp.06
- Claustre, H., & 22 **co-authors**, 2010: Guidelines Towards an Integrated Ocean Observation System for Ecosystems and Biogeochemical Cycles, in *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Vol. 1)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.pp.14
- Roemmich, D., & 12 **co-authors**, 2010: Integrating the Ocean Observing System: Mobile Platforms, in *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Vol. 1)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.pp.33
- Charrassin, J.-B., & 30 **co-authors**, 2010: New Insights into Southern Ocean Physical and Biological Processes Revealed by Instrumented Elephant Seals in *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Vol. 2)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.cwp.15

2009

- Boehme, L.**, P. L. Lovell, M. Biuw, F. Roquet, J. Nicholson, S. E. Thorpe, M. Meredith and M. A. Fedak, 2009: Animal-borne CTD-Satellite Relay Data Loggers for real-time oceanographic data collection., *Ocean Science*, 5, 685-695

2008

- Nicholls K. W., **L. Boehme**, M. Biuw and M. A. Fedak, 2008: Wintertime ocean conditions over the southern Weddell Sea continental shelf, Antarctica., *Geophysical Research Letters*, 35, L21605, doi: 10.1029/2008GL035742
- Boehme, L.**, M. P. Meredith, S. E. Thorpe, M. Biuw and M. Fedak, 2008: The ACC frontal system in the South Atlantic: monitoring using merged Argo and animal-borne sensor data., *Journal of Geophysical Research*, 113, C09012, doi: 10.1029/2007JC004647
- Boehme, L.**, S.E. Thorpe, M. Biuw, M. Fedak and M.P. Meredith, 2008: Monitoring Drake Passage with elephant seals: Frontal structures and snapshots of transport. *Limnology & Oceanography*, 53, 2350-2360
- Charrassin, J.-B., M. Hindell, S. R. Rintoul, F. Roquet, S. Sokolov, M. Biuw, D. Costa, **L. Boehme**, P. Lovell, R. Coleman, R. Timmermann, A. Meijers, M. Meredith, Y.-H. Park, F. Bailleul, M. Goebel, Y. Tremblay, C.-A. Bost, C. R. McMahon, I. C. Field, M. A. Fedak, and C. Guinet, 2008: Southern Ocean frontal structure and sea-ice formation rates revealed by elephant seals. *Proceedings of the National Academy of Science*, Vol. 105, no. 33, pp 11634-11639 doi: 10.1073/pnas.0800790105

before 2007

- Biuw, M., **L. Boehme**, C. Guinet, M. Hindell, D. Costa, J-B. Charrassin, F. Roquet, F. Bailleul, M. Meredith, S. Thorpe, Y. Tremblay, B. McDonald, Y-H. Park, S. Rintoul, N. Bindoff, M. Goebel, D. Crocker, P. Lovell, J. Nicholson, F. Monks and M.A. Fedak, 2007, Variations in behaviour and condition of a Southern Ocean top predator in relation to in-situ oceanographic conditions. *Proceedings of the National Academy of Science*, August 21, 2007, Vol 104, No. 34, pp 13705-13710 doi: 10.1073/pnas.0701121104
- Boehme, L.** and U. Send, 2005: Objective analyses of hydrographic data for referencing profiling float salinities in highly variable environments., *Deep Sea Research Part II*, Vol 52/3-4, pp 651-664, doi: 10.1016/j.dsr2.2004.12.014.
- Boehme, L.**, 2003: Quality Control of Profiling Float Data in the subpolar North Atlantic. Diploma thesis, Christian-Albrechts-Universität Kiel, 79pp.

OTHER PUBLICATIONS

- Boehme, L., M. Biuw, M. Fedak, K. Nicholls, S. Thopre, and M. Meredith, 2008**, Animals as exploratory underwater vehicles. in Proceedings of the International Workshop on Autonomous Underwater Vehicle Science in Extreme Environments held at the Scott Polar Research Institute, K.J. Collins and G. Griffiths, eds., London: Society for Underwater Technology, pp 55-62.
- Boehme, L., 2004** , Argo Quality Control in Highly Variable Enviroments. Argonautics, 5, 2-3.
- The GyroScope Team, 2004** Report on Sensor Behaviour. Deliverable No.19 for GyroScope Project European Commission Contract.

The GyroScope Team, 2004 Seasonal evolution of the thermocline structure of the upper waters in the eastern subpolar gyre. Deliverable No.26 for GyroScope Project European Commission Contract.

CONTRIBUTIONS TO CONFERENCES AND WORKSHOPS

Workshop Organiser (*L. Boehme*)

MASTS Workshop on Fluorometry, Chlorophyll and Oxygen measurements from Animal-borne platforms, St Andrews, UK, 3-4 October, 2011.

Invited Talk (*L. Boehme, E. M. Biuw, M. Fedak, M. Meredith, S. Thorpe*)

A circumpolar snapshot of the Southern Ocean by animal-borne sensors. Oral presentation, *Geophysical Research Abstracts*, Vol. 8, Abstract EGU06-A-07559, Vienna, Austria, April, 2006.

CONFERENCE PRESENTATIONS

- Boehme et al.** (*L. Boehme, T. Photopoulou, M. Arthun, K. Nicholls, M A Fedak,)*
Changes in the diving behaviour of Weddell seals in physical-oceanographic rather than geographic space. Oral presentation, *19th Biennial Conference on the Biology of Marine Mammals*, Tampa, US, November, 2011.
- Couvat et al.** (*J. Couvat, L. Boehme, J. Matthiopoulos, T. Photopoulou*)
20,000 leagues under the sea: tracking elephant seals in the Southern Ocean. Poster, *19th Biennial Conference on the Biology of Marine Mammals*, Tampa, US, November, 2011.
- Baker et al.** (*A. Baker, L. Boehme, M A Fedak, T. Photopoulou*)
Environmental variables influencing Weddell seal (*Leptonychotes weddellii*) haulout behavior during austral winter in the Weddell Sea. Poster, *19th Biennial Conference on the Biology of Marine Mammals*, Tampa, US, November, 2011.
- Boehme et al.** (*L. Boehme, P. Lovell, M A Fedak*)
Animal platforms for monitoring marine systems, dynamics and habitats. Oral presentation, *MASTS Annual Science Meeting*, Edinburgh, UK, August, 2011.
- Boehme et al.** (*L Boehme, M A Fedak, S Thorpe, M Meredith*)
The ACC frontal system in the South Atlantic, detailed insights from animal-borne sensors and Argo floats. Oral presentation, *International Polar Year: Oslo Science Conference*, Oslo, Norway, June, 2010.
- The MEOP partners** (*The MEOP partners*)
The MEOP Project: Marine Mammals Exploring the Oceans Pole to Pole. Oral presentation, *International Polar Year: Oslo Science Conference*, Oslo, Norway, June, 2010.
- Fedak and Boehme** (*M. Fedak and L. Boehme*)
Post-moult and post-breeding foraging movements of Southern elephant seals from South Georgia in relation to individual, bathymetric and oceanographic features: results from MEOP UK. Oral presentation, *International Polar Year: Oslo Science Conference*, Oslo, Norway, June, 2010.
- Close et al.** (*S. Close, A. Naveira Garabato, E. McDonagh, L. Boehme, B. King, M. Fedak*)
Southern Ocean Variability from Seal-Mounted Sensors and Argo Floats. Oral presentation, *International Polar Year: Oslo Science Conference*, Oslo, Norway, June, 2010.
- Fedak et al.** (*M. A. Fedak, M. Bester, M. Biuw, D. P. Costa, L. Boehme, C. Guinet, M. Hammill, K. Kovacs, C. Lydersen, M. Muelbert, O. Anders Nøst, J. Ploetz, G. Stenson, A. Rosing-Asvid, M. Hindell*)
MEOP: An Example Of A Large-Scale Investigation Of Marine Animal Habitats. Poster, *AGU 2010 Ocean Sciences Meeting*, Portland, USA, February, 2010.
- Fedak et al.** (*M. A. Fedak and L. Boehme*)
Post-moult and post-breeding foraging movements of southern elephant seals from South Georgia in relation to sex, bathymetry and oceanographic features: results from MEOP UK. Oral presentation, *18th Biennial Conference on the Biology of Marine Mammals*, Quebec, Canada, October, 2009.

- Meredith et al.** (*M. P. Meredith, K. Nicholls, I. A. Renfrew, L. Boehme, M. Biuw, M. A. Fedak*)
Seasonal evolution of the upper-ocean adjacent to the South Orkney Islands, Southern Ocean: results from a "lazy biological mooring". Poster, *18th Biennial Conference on the Biology of Marine Mammals*, Quebec, Canada, October, 2009.
- Roquet et al.** (*F. Roquet, J.-B. Charrassin, Y.-H. Park, M. Fedak, M. Biuw, L. Boehme, C. Guinet*)
On the quality of hydrographic data collected in the Southern Ocean by instrumented elephant seals. Oral presentation, *EGU General Assembly 2009*, Abstract EGU2009-8895, Vienna, Austria, April, 2009.
- Charrassin et al.** (*J.B. Charrassin, S. R. Rintoul, F. Roquet, M. Hindell, S. Sokolov, L. Boehme, D. Costa, R. Timmerman, R. Coleman, C. Guinet, the SEaOS Team*)
Elephant seals reveal Southern Ocean frontal structure and sea ice formation rates. Oral presentation, *EGU General Assembly 2008*, Abstract EGU2008-A-04236, Vienna, Austria, April, 2008.
- Nicholls et al.** (*K. Nicholls, L. Boehme, M. Biuw, M., M. Fedak*)
Wintertime oceanographic data from the southern Weddell Sea using tagged Weddell seals. Oral presentation, *EGU General Assembly 2008*, Abstract EGU2008-A-06245, Vienna, Austria, April, 2008.
- Biuw et al.** (*M. Biuw, K. Nicholls, L. Boehme, M. Fedak*)
Ice and shine: How ice movements and day-length influence the dive and haulout patterns of Weddell seals. Oral presentation, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.
- Patterson et al.** (*T. A. Patterson, M. Biuw, M. V. Bravington, L. Boehme, D. P. Costa, C. Guinet, M. Fedak, M. Hindell*)
State space methods for modelling habitat-dependent movement of southern elephant seals. Oral presentation, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.
- Thompson et al.** (*D. Thompson, L. Boehme, C. Blight, M. Fedak, D. Bowen, M. Hammill, G. Stenson*)
How many seals were there? Effects of ice ages on the size and distribution of grey seal populations. Oral presentation, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.
- Photopoulos et al.** (*T. Photopoulos, M. Biuw, L. Thomas, L. Boehme, M. Fedak*)
Behavioural changes of a long-ranging diver in response to in situ oceanographic characteristics: Inferences from highly compressed data. Oral presentation, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.
- Boehme et al.** (*L. Boehme, M. Biuw, C. Guinet, D. Costa, M. Hindell, M. Fedak*)
Mapping changes of the condition of elephant seals in physical-oceanographic rather than geographic space. Poster, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.
- Charrassin et al.** (*J.-B. Charrassin, M. Hindell, F. Roquet, M. Biuw, D. Costa, S. Rintoul, L. Boehme, R. Coleman, A. Meijers, Y.-H. Park, M. Meredith, M. Fedak, F. Bailleul, Y. Tremblay, C.-A. Bost, P. Lovell, C. McMahon, I. Field, C. Guinet*)

Elephant seals collect new hydrographic data at high latitudes in the Southern Ocean. Poster, *17th Conference on the Biology of Marine Mammals*, Cape Town, South Africa, September, 2007.

Boehme et al. (*L. Boehme, M. Meredith, S. Thorpe, E. M. Biuw, M. Fedak*)

The dynamic frontal system around South Georgia, Southern Ocean. Oral presentation, *Challenger Conference for Marine Science*, Oban, Scotland, September, 2006.

Biuw et al. (*M. Biuw, L. Boehme, M. Hindell, C. Guinet, M. Fedak*)

Impacts of environmental change on population trends in a large Southern Ocean predator, the southern elephant seal (*Mirounga leonina*). Oral presentation, *Challenger Conference for Marine Science*, Oban, Scotland, September, 2006.

Fedak et al. (*M. Fedak, P. Lovell, J. Nichol森, E. M. Biuw, L. Boehme, K. Kovacs*)

Enlisting marine mammals as oceanographic explorers: unique CTD profilers for IPY. Poster, *Geophysical Research Abstracts*, Vol. 8, Abstract EGU06-A-08935, Vienna, Austria, April, 2006.

Biuw et al. (*E. M. Biuw, L. Boehme, C. Guinet, J. Charrassin, M. Hindell, D. Costa, M. Fedak*)

Oceanographic influences on animal behaviour: The movements and diving behaviour of Southern elephant seals in a physical context. Oral presentation, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS14D-06, Honolulu, USA, February, 2006.

Boehme et al. (*L. Boehme, M. Meredith, S. Thorpe, E. M. Biuw, M. Fedak*)

The ACC Frontal System around South Georgia, Southern Ocean. Oral presentation, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS14D-03, Honolulu, USA, February, 2006.

Boehme et al. (*L. Boehme, P. Lovell, E. M. Biuw, S. Thorpe, M. Meredith, M. Fedak*)

Remote Quality Control of Hydrographic Data From Animal-Borne Sensors. Poster, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS15G-02, Honolulu, USA, February, 2006.

Biuw et al. (*E. M. Biuw, M. Hindell, J.-B. Charrassin, L. Boehme, T. Patterson, F. Bailleul, D. P. Costa, C. Guinet, M. Fedak*)

Down to Detail: The Movement and Diving Behaviour of Southern Elephant Seals in a Physical Context Revealed By New Oceanographic Instruments. Oral presentation, *16th Biennial Conference on the Biology of Marine Mammals*, San Diego, USA, December, 2005.

Fedak et al. (*M. Fedak, M. Meredith, S. Rintoul, Y.-H. Park, L. Boehme, J.-B. Charrassin, D. P. Costa, M. Hindell, N. Bindoff, C. Guinet, M. E. Biuw*)

the SEaOS project: Southern Elephant seals as Oceanographic Samplers. Poster, *16th Biennial Conference on the Biology of Marine Mammals*, San Diego, USA, December, 2005.

Boehme, L. and T. Avsic Evolution and spreading of Labrador Sea Water in the subpolar North Atlantic over the last decade. Poster, *CLIVAR Workshop*, Kiel, Germany, September, 2004.

Boehme, L. and U. Send Quality Control of Profiling Floats in the North Atlantic. Poster, *EGU 2004, 1st General Assembly*, Nice, France, April, 2004.

Desaubies, Y., C. Grit, Y. Izenic, U. Send and L. Boehme Experience of delayed mode quality control for float salinity data in the Atlantic. Oral presentation, *First Argo Science Workshop*, Tokyo, Japan, November, 2003.

The GyroScope Team GyroScope: Development of a real time in situ observing system in the North Atlantic Ocean, by an array of Lagrangian profiling floats . Poster, *First Argo Science Workshop*, Tokyo, Japan, November, 2003.

OTHER PRESENTATIONS

More than 30 presentations at seminars, workshops and meetings.

More than 10 public talks.