

affiliation: Department of Earth Sciences, Uppsala University, Sweden.
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Academic Qualifications

Ph.D. in Geobiosphere Sciences Mar. 2009 – Jun. 2013
 Lund University, Sweden. (240 ECTS)

M.Sc. in Earth Sciences, with high merit Aug. 2005 – Sep. 2007
 Vrije Universiteit Amsterdam, the Netherlands. (122 ECTS)

B.B.E. in Civil Engineering Aug. 2001 – Jul. 2005
 Hogeschool van Amsterdam, the Netherlands. (240 ECTS)

Employment History

Researcher (*forskare*) (full-time) May 2019 – present
 Principal investigator, funded by the Swedish Research Council (Vetenskapsrådet).
 Department of Earth Sciences, Uppsala University, Sweden.

Guest researcher (*chercheur invité*) Feb. 2019 – May 2019
 Laboratoire d'Océanologie et de Géosciences, Université du Littoral Côte d'Opale,
 Wimereux, France.

Researcher (*chercheur*) (full-time) Oct. 2017 – Jan. 2019
 Laboratoire des Sciences du Climat et de l'Environnement (LSCE),
 Université Paris-Saclay, Gif-sur-Yvette, France.

Researcher (*forskare*) (full-time) Oct. 2016 – Sep. 2017
 Principal investigator, funded by the Swedish Research Council (Vetenskapsrådet).
 Department of Earth Sciences, Uppsala University, Sweden.

International Postdoc Fellowship (full-time) Sep. 2014 – Sep. 2016
 Principal investigator, funded by the Swedish Research Council (Vetenskapsrådet).
 Department of Earth Sciences, Vrije Universiteit Amsterdam, the Netherlands.

Lab technician, palaeomagnetic laboratory (full-time) Jun. 2014 – Sep. 2014
 Department of Geology, Lund University, Sweden. & Jul. 2013 – Dec. 2013

Ph.D. candidate (full-time) Mar. 2009 – Jun. 2013
 Department of Geology, Lund University, Sweden.
 (with three month extension for teaching duties)

Dutch to English translator (part-time) Feb. 2008 – Feb. 2009
 Own company, Amstelveen, the Netherlands.

Junior advisor in Soil Remediation (full-time) May 2008 – Feb. 2009
 Wareco, Amstelveen, the Netherlands.

Internship (full-time) Jan. 2004 – Jun. 2004
 Dura Vermeer Infrastructuur, Amsterdam, the Netherlands.

Internship (full-time) Aug. 2003 – Jan. 2004
 Amsterdam Ingenieursbureau, the Netherlands.

Web designer (full-time) Sep. 2000 – Aug. 2001
 MerchandisingDirect.com, Amsterdam, the Netherlands.

General Skills

Language proficiency

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
English	Native	Native	Native
Dutch	Fluent	Fluent	Fluent
Swedish	Fluent	Good	Fluent
German	Good	Poor	Good
French	Good	Poor	Moderate
Japanese	Basic	Poor	Basic

Computer competencies

Matlab, HTML, Javascript, PHP, MySQL, AutoCAD, Linux.

General geoscience competencies

- * Palaeomagnetism (cryogenic magnetometers, magnetic susceptibility, mineral magnetism)
- * Clean lab environment and sample preparation work (column chemistry for isotope geochemistry)
- * TIMS, IRMS and AMS analysis
- * Grain size analysis (laser and sedigraph)
- * Fieldwork: sea-going expeditions, land-based mobile boring machine operation, ice-based lake sediment coring
- * Software writing and data analysis.

Other relevant skills

Driving License B. Administrative and organisational experience in running own company. Experience in living abroad. I also built and ran a now-defunct free and open-access job listings website on a voluntary basis.

Teaching and Supervision

Teaching qualifications achieved

Teaching and Learning in Higher Education May 2013
Teaching qualification course at Lund University (5 ECTS)

Courses taught

Sedimentology and Stratigraphy (B.Sc. level) Feb. 2015, 2016
Vrije Universiteit Amsterdam.
Lectures (in Dutch) on “Introduction to Palaeomagnetism” for first year students.

Global and Regional Marine Geology (M.Sc. level) Mar. 2012, 2013
Lund University.
Average teaching evaluation score: 90%. Lectures on Baltic Sea marine geology and lectures on grain size analysis as an NADW proxy. Supervision of subsampling at sea, grain size analysis and palaeomagnetic measurements.

Subsoil mapping (B.Sc. level) May 2010, 2011, 2012. Aug. 2010, 2011, 2012
Lund University.
Teaching in the field (in Swedish) about glacial and post-glacial sediment sequences formed in an isostatically active, pro-glacial environment with dynamic sea-level evolution. Instructing the use of a mobile boring machine down to depths of 8 m, description and interpretation of retrieved sediment sequences.

Students supervised

Maaike Zwier, Vrije Universiteit Amsterdam. (Main supervisor of BSc thesis) 2016
Joakim Robygd, Lund University. (Co-supervisor of MSc thesis) 2014

Fieldwork Experience

Fieldwork

2 day teaching cruise on board R/V Skagerak on the Kattegat.	Mar. 2012
9 day research cruise on board R/V Maria S. Merian on Baltic Sea.	Jul. 2010
3 day winter fieldwork, sediment coring on frozen lake in Halland, Sweden.	Feb. 2010
9 day research cruise on board R/V Professor A. Penck on Baltic Sea.	Nov. 2009
10 day fieldwork, "Arctic Quaternary Geology" course at UNIS, Svalbard.	Jul. 2009
8 day research cruise on board R/V Professor A. Penck on Baltic Sea.	Jun. 2009
3 day research cruise on board R/V Aranda on Baltic Sea.	Apr. 2009

Grant Applications

Funded grant applications (as principal investigator)

€ 400,000	<i>Starting Grant</i> from the Swedish Research Council (VR).	Nov. 2018
€ 340,000	<i>International Postdoc Grant</i> from the Swedish Research Council (VR).	Jun. 2014
€ 4,200	Royal Physiographical Society, Lund, Sweden.	Nov. 2010
€ 3,500	Royal Physiographical Society, Lund, Sweden.	Nov. 2009

Editorial and Review Work

Editorial board membership

Open Quaternary (2018 -)

Manuscripts reviewed for journals

Boreas (2 reviews), Biogeosciences (1), Fennoscandia Archaeologica (2), Geology (1), Geochemistry, Geophysics, Geosystems (3), Geophysical Journal International (1), Radiocarbon (1), The Holocene (1).

Grant applications reviewed

DFG – German Research Foundation (1)

Conferences and Invited Talks

Conference & meeting presentations (as presenting author and/or session convener)

20 th INQUA Congress, Dublin, Ireland. (Talk + Poster + Session convener)	Jul. 2019
European Geosciences Union General Assembly, Vienna, Austria. (Poster)	Apr. 2018
INTIMATE Open Workshop & Conference, Aberystwyth University, Wales. (Talk)	Jun. 2017
American Geophysical Union Fall Meeting, San Francisco, USA. (Poster)	Dec. 2016
12 th International Conference on Palaeoceanography, Utrecht, the Netherlands. (Poster)	Sep. 2016
European Geosciences Union General Assembly, Vienna, Austria. (Talk)	Apr. 2016
IODP expedition 347 post-cruise meeting, Stockholm, Sweden. (Poster)	Sep. 2015
American Geophysical Union Fall Meeting, San Francisco, USA. (Talk)	Dec. 2014
UKSEDI 2014 meeting, London, UK. (Poster)	Mar. 2014
Swedish Marine Sciences Conference, Kalmar, Sweden. (Talk)	Nov. 2012
21 st International Radiocarbon Conference, Paris, France. (Poster)	Jul. 2012
18 th INQUA Congress, Bern, Switzerland. (Poster)	Jul. 2011

Invited talks

Université du Littoral Côte d'Opale, Wimereux, France.	May 2019
Department of Geosciences, Stockholm University, Sweden.	Sep. 2017
Department of Geology, Lund University, Sweden.	Sep. 2017
Marine Science Institute, University of Texas, Port Aransas, United States.	Mar. 2016
Department of Earth Sciences, Vrije Universiteit Amsterdam, the Netherlands.	May 2013
Department of Earth Sciences, University of Liverpool, United Kingdom.	Apr. 2012

Publications

In prep (first author)

27. **B.C. Lougheed**, C. Waelbroeck, N. Vazquez Riveiros, S.P. Obrochta, “An accessible palaeoceanographic data archiving system with graphical user interface.”
26. **B.C. Lougheed**, P. Ascough, A. Dolman, L. Löwemark and B. Metcalfe, in prep. “Evaluating ^{14}C dating skill in deep-sea sediment archives.”

Submitted / in review / in discussion

25. **B.C. Lougheed**, in discussion. “SEAMUS (v1.0): a $\Delta^{14}\text{C}$ -enabled, single-specimen sediment accumulation simulator.” *Geoscientific Model Development*, doi:10.5194/gmd-2019-155
24. N.A.G.M. van Helmond, **B.C. Lougheed**, A. Vollebregt, F. Peterse, G. Fontorbe, D.J. Conley, C.P. Slomp, in review. “Recovery from multi-millennial natural coastal hypoxia in the Stockholm Archipelago, Baltic Sea, terminated by modern human activity.”
23. B. Metcalfe, **B.C. Lougheed**, C. Waelbroeck and D.M. Roche, in discussion. “On the validity of foraminifera-based ENSO reconstructions.” *Climate of the Past*, doi:10.5194/cp-2019-9

Published / accepted

22. C. Waelbroeck, **B.C. Lougheed**, N. Vazquez Riveiros, L. Missiaen, et al., in review. “Consistently dated Atlantic sediment cores over the last 40 thousand years.” *Scientific Data*
21. I. Snowball, B. Almqvist, **B.C. Lougheed**, S. Wiers, S.P. Obrochta, E. Herrero-Bervera, in press. “Coring induced sediment fabrics at IODP Expedition 347 Sites M0061 and M0062 identified by anisotropy of magnetic susceptibility (AMS): criteria for accepting palaeomagnetic data.” *Geophysical Journal International*, vol. 217, pp. 1089-1107.
20. **B.C. Lougheed** and S.P. Obrochta, 2019. “A rapid, deterministic age-depth modeling routine for geological sequences with inherent depth uncertainty.” *Paleoceanography and Paleoclimate*, vol. 34, pp. 122-133.
19. S.P. Obrochta, Y. Yokoyama, M. Yoshimoto, S. Yamamoto, Y. Miyairi, G. Nagano, A. Nakamura, K. Tsunematsu, L. Lamair, A. Hubert-Ferrari, **B.C. Lougheed**, V.M.A. Heyvaert, M. De Batist, O. Fujiwara and QuakeRecNankai Team, 2018. “High-precision dating and environmental reconstruction with a lacustrine sequence in the Mt. Fuji region.” *Quaternary Science Reviews*, vol. 200, pp. 395-405.
18. C. Waelbroeck, S. Pichat, E. Böhm, **B.C. Lougheed**, D. Faranda, M. Vrac, L. Missiaen, N. Vazquez Riveiros, P. Burckel, J. Lippold, H.W. Arz, T. Dokken, F. Thil and A. Dapoigny, 2018. “Relative timing of precipitation and ocean circulation changes in the western equatorial Atlantic over the last 45 ky.” *Climate of the Past*, vol. 14, pp. 1315-1330.
17. J.M. Webster, J.C. Braga, M. Humblet, D.C. Potts, Y. Iryu, Y. Yokoyama, K. Fujita, R. Bourillot, T. M. Esat, S. Fallon, W.G. Thompson, A.L. Thomas, H. Kan, H.V. McGregor, G. Hinestrosa, S.P. Obrochta and **B.C. Lougheed**, 2018. “Response of the Great Barrier Reef to sea level and environmental changes over the past 30 ka.” *Nature Geoscience*. doi:10.1038/s41561-018-0127-3
16. **B.C. Lougheed**, B. Metcalfe, U.S. Ninnemann and L. Wacker, 2018. “Moving beyond the age-depth model paradigm in deep-sea palaeoclimate archives: dual radiocarbon and stable isotope analysis on single foraminifera.” *Climate of the Past*, vol. 14, pp. 515-526. **Selected as EGU Highlight Article**
15. N.A.G.M. van Helmond, N. Quintana Krupinski, **B.C. Lougheed**, S.P. Obrochta, T. Andrén and C.P. Slomp, 2017. “Seasonal hypoxia was a natural feature of the coastal zone in the Little Belt, Denmark, during the past 8 ka.” *Marine Geology*, vol. 387, pp 45-57.
14. S.P. Obrochta, T. Andrén, S.Z. Fazekas, **B.C. Lougheed**, I. Snowball, Y. Yokoyama, Y. Miyairi, R. Kondo, A.T. Kotilainen, O. Hyttinen and A. Fehr, 2017. “The undatables: Quantifying uncertainty in a highly expanded Late Glacial - Holocene sediment sequence recovered from the deepest Baltic Sea basin – IODP Site M0063.” *Geochemistry, Geophysics, Geosystems*, doi:10.1002/2016GC006697
13. **B.C. Lougheed**, S.P. Obrochta, C. Lenz, A. Mellström, B. Metcalfe, R. Muscheler, M. Reinholdsson, I. Snowball and L. Zillén, 2017. “Bulk sediment ^{14}C dating in an estuarine environment – How accurate can it be?” *Paleoceanography*, vol. 32, doi:10.1002/2016PA002960.
12. J. Olsen, P. Ascough, **B.C. Lougheed** and P. Rasmussen, 2017. “Radiocarbon dating in estuarine environments.” In: K. Weckström, P.A. Gell, K. Saunders and G. Skillbeck (Eds.), “Applications of

paleoenvironmental techniques in estuarine studies.” *Developments in Paleoenvironmental Research*, Springer Netherlands, doi:10.1007/978-94-024-0990-1.

11. **B.C. Lougheed** and S.P. Obrochta, 2016. “MatCal: Open source Bayesian ^{14}C age calibration in MatLab.” *Journal of Open Research Software*, vol. 4, e42.
10. M. Moros, T. Joest Andersen, D. Schulz-Bull, K. Häusler, D. Bunke, I. Snowball, A. Kotilainen, L. Zillén, J.B. Jensen, K. Kabel, I. Hand, T. Leipe, H. Arz, **B.C. Lougheed** and B. Wagner, 2016. “Towards an event stratigraphy for Baltic Sea sediments deposited since AD 1900: approaches and challenges.” *Boreas*, vol. 46, pp. 129-142.
9. **B.C. Lougheed**, H.J.L. van der Lubbe and G.R. Davies, 2016. “ $^{87}\text{Sr}/^{86}\text{Sr}$ as a quantitative geochemical proxy for ^{14}C reservoir age in dynamic, brackish waters: Assessing applicability and quantifying uncertainties.” *Geophysical Research Letters*, doi:10.1002/2015GL066983
8. S. Salas-Romero, A. Malehmir, I. Snowball, **B.C. Lougheed** and M. Hellqvist, 2015. “Identifying landslide preconditions in Swedish quick clays-insights from integration of surface geophysical, core sample- and downhole-property measurements.” *Landslides*, vol. 13, pp. 905-923.
7. **B.C. Lougheed**, A. Nilsson, S. Björck, I. Snowball and R. Muscheler, 2014. “A deglacial palaeomagnetic master curve for Fennoscandia - providing a dating template and supporting millennial-scale geomagnetic field patterns for the past 14 ka.” *Quaternary Science Reviews*, vol. 106, pp. 155-166.
6. A.T. Kotilainen, L. Arppe, S. Dobosz, E. Jansen, K. Kabel, J. Karhu, M.M. Kotilainen, A. Kuijpers, **B.C. Lougheed**, et al., 2014. “Echoes from the past: a healthy Baltic Sea requires more effort.” *AMBIO*, vol. 43, pp. 60-68.
5. **B.C. Lougheed**, 2013. “Testing palaeomagnetic and ^{14}C based geochronological methods in the Baltic Sea.” Department of Geology, Lund University. PhD dissertation. ISBN 978-91-86746-85-8. Supervisors: Ian Snowball (main supervisor), Svante Björck, Helena Filipsson, Raimund Muscheler.
4. **B.C. Lougheed**, H.L. Filipsson and I. Snowball, 2013. “Large spatial variations in coastal ^{14}C reservoir age – a case study from the Baltic Sea.” *Climate of the Past*, vol. 9, pp. 1015-1028.
3. **B.C. Lougheed**, I. Snowball, M. Moros, K. Kabel, R. Muscheler, J.J. Virtasalo and L. Wacker, 2012. “Using an independent geochronology based on palaeomagnetic secular variation (PSV) and atmospheric Pb deposition to date Baltic Sea sediments and infer ^{14}C reservoir age.” *Quaternary Science Reviews*, vol. 42, pp. 43-58.
2. L. Jonkers, M.A. Prins, G-J.A. Brummer, M. Konert and **B.C. Lougheed**, 2009. “Experimental insights into laser diffraction particle sizing of fine-grained sediments for use in paleoceanography.” *Sedimentology*, vol. 56, pp. 2192-2206.
1. H. Renssen, **B.C. Lougheed**, J.C.J.H. Aerts, H. de Moel, P.J. Ward and J.C.J. Kwadijk, 2007. “Simulating long-term Caspian Sea level changes: the impact of Holocene and future climate conditions.” *Earth and Planetary Science Letters*, vol. 261, pp. 685-693.

Other published work

3. **B.C. Lougheed**, 2014. “EasyZijder: A suite of MatLab scripts for rapid analysis of palaeomagnetic data produced by 2G Magnetometers.”
2. **B.C. Lougheed**, 2007. “A grain size analysis approach to variations in Iceland-Scotland overflow water during ice rafted debris events.” Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam. MSc Thesis. Supervisor: Maarten Prins.
1. **B.C. Lougheed**, 2006. “Holocene Climate and the Caspian Sea - a Coupled Climate, Hydrological and Sea Level Model Approach”. Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam. MSc Research Project. Supervisor: Hans Renssen. doi:10.5281/zenodo.1228735