

## CV Ian Salter

Faroe Marine Research Institute  
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**Profession** Chemical Oceanographer, Ph.D.

**Current position** Research Scientist, Faroe Marine Research Institute

**Education**

2007	Ph.D. in oceanography, National Oceanography Centre, Southampton, United Kingdom.
2002	Bachelor of Science with Honours Chemistry, Oceanography University of Liverpool, United Kingdom

**Employments**

2017 - present	Research associate at the Faroese Marine Research Institute (Havstovan), Faroe Islands Subject: Marine Ecosystem monitoring
2017- present	Research associate scientist at Alfred-Wegener-Institute, Germany. Frontiers in Arctic Monitoring work package leader
2017 - 2018	Tenured Professor; Ministère de l'enseignement supérieur et de la recherche, Université Pierre et Marie Curie, Laboratoire Arago, Banyuls sur Mer Subject: Role of plankton diversity in regulating biogeochemical fluxes
2014 - 2017	Tenured Research Scientist; at Alfred Wegener Institut for Polar and Marine Research, HGF MPG, Joint Research Group Deep Sea Ecology and Technology, Bremerhaven, Germany.
2013 - 2014	Visiting Scholar at Old Dominion University, Virginia, United States Subject: Degradation of natural POM by Arctic bacterial communities and functional ecology
2009 - 2014	Tenured Professor; Ministère de l'enseignement supérieur et de la recherche, Université Pierre et Marie Curie, Laboratoire Arago, Banyuls sur Mer Subject: Role of plankton diversity in regulating biogeochemical fluxes
2008 - 2009	Post-doctoral fellow; (Université Paris 6) Laboratoire Arago, UPMC, Banyuls-Sur-Mer Subject: Analysis of bacterial community structure at a NW Mediterranean time-series station
2007 - 2008	Post-doctoral fellow; (NERC) National Oceanography Centre, University, Southampton Subject: Experimental design to ascertain unperturbed metabolic rates of bacterioneuston

**Awards** 2008 University of Pierre et Marie Curie Post-doctoral Fellowship

### Teaching Experience

2009 - 2013	DISCO (UPMC) Microbial Biogeochemistry European Masters
2009 - 2013	QUALECO (UPMC) Indicators of water quality European Masters
2009 - 2013	ENVMON (UPMC) Environmental Monitoring European Masters
2012	Invited teacher at Austral Summer School, Concepcion, Chile

### Administrative Responsibilities and Professional Services

- National co-ordinator for biological parameters for the French Coastal Time-Series Network (SOMLIT)  
<http://somlit.epoc.u-bordeaux1.fr/fr/>
- Scientific project manager NW Mediterranean Time-Series  
[http://sooob.obs-banyuls.fr/fr/personnels\\_techniques/ian\\_salter.html](http://sooob.obs-banyuls.fr/fr/personnels_techniques/ian_salter.html)

- Member of Scientific steering committee for LIA MOREFUN Banyuls-Concepcion – International Laboratory [www.liamorefun.fr](http://www.liamorefun.fr)
- Member of Scientific steering committee for AtlantOS <https://www.atlantos-h2020.eu/>
- Associate committee member for Southern Ocean Observing System eEOV SCOR WG proposal
- Working group leader Frontiers in Arctic marine Monitoring (FRAM) multidisciplinary ocean observing system
- Permanent Member of Scientific Council of Laboratoire Arago
- Member of local evaluation committee for coastal boat fleet
- Reviewer for national funding agencies: ANR (France), NERC (UK), NSF (USA)
- Journal Reviewer for: Polar Biology, Deep-Sea Research I and II, Limnology and Oceanography, Limnology and Oceanography Letters, Biogeosciences, Geomarine Letters, Journal of Environmental Radioactivity, Frontiers in Microbiology, ISME journal, Nature
- Ph.D. Jury / committee: 2013-Aurore Mollevin, Université d'Angers, 2014-Katsia Pabortsavia, 2017 – Nolwenn Lemaitre, Université de Bretagne Occidentale

## Supervision of Students and responsibility for technical staff

### Masters students

- 2010 Aaron Hartnell: Role of inorganic particles on microbial trophic dynamics
- 2016 Marion Farvoul: Comparison of diatom counting techniques in sediment trap samples

### Ph.D. students – project supervision

- 2012 - 2016 Valentina Paz Valdés Castro (co-supervisor): Biogeochemical role of zooplankton in nitrogen and phosphorous cycling in the ocean. Cotutelle Universidad de Concepción (Chile) / Université Pierre et Marie Curie (France)
- 2013 - 2016 Mathieu Rembauville (primary supervisor): Importance of species diversity in regulating carbon and biomineral fluxes from iron-fertilised productivity in the Southern Ocean. Université Pierre et Marie Curie (France)
- 2014 - 2018 Andreas Rogge (co-supervisor): Nutrient fluxes from particles in polar environments. University Bremen / Alfred Wegner Institute (Germany)
- 2016 - 2019 Eduard Fadeev (primary supervisor): Dynamics of particle-attached bacteria and Archaea in the Arctic Ocean. University Bremen / Alfred Wegner Institute (Germany)

### Ph.D. students – committee supervision

- 2012 - 2016 Soumaya Boussabat: Observation of plankton community structure and links with biogeochemical cycles of major elements (C, N, P, and Si) in the Gulf of Lion. Supervisor: Bernard Queguiner (Institut Méditerranéen d'Océanologie, France)
- 2015 - 2018 Helga van der Jagt: The role of zooplankton in the biological carbon pump. Supervisor: Morten Iversen (MARUM, University Bremen)

### Ph.D. students – Thesis committee/examination

- 2013 Aurore Mollevin (Université d'Angers, France). Biomass of planktonic foraminifer and their impact on the biological carbon pump.
- 2014 Katsiaryna Pabortsava (University of Southampton, UK). Downward particle export and sequestration fluxes in the oligotrophic Atlantic Ocean.
- 2017 Nolwenn Lemaitre (University of Western Brittany, France). Approche multi-proxy ( $^{234}\text{Th}$ , Baxs,  $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ ) des flux d'export et de reminéralisation du carbone et des éléments nutritifs N, Si, éléments traces métalliques associés à la pompe biologique en Atlantique Nord

### Post-doctoral fellows

- 2016 - 2019 Christian Wolf (AtlantOS). Use of autonomous samplers in an Automated Arctic Microbial Observatory.

### Responsibility for technical staff

- 2010 - 2013 Cyrielle Tricoire (Université Pierre et Marie Curie, France), Technician for biological measurements in coastal time-series
- 2010 - 2013 Eric Maria (Université Pierre et Marie Curie, France). Technician for chemical and physical measurements in coastal time-series site
- 2015 - 2018 Theresa Hargesheimer (Alfred Wegener Institute, Germany). Technician for Arctic Microbial Observatory
- 2016 - 2018 Nadine Knüppel (Alfred Wegener Institute, Germany). Technician 1 for Arctic particle flux observatory
- 2016 - 2018 Elizabeth Bonk (Alfred Wegener Institute, Germany). Technician 2 for Arctic particle flux observatory

<b>Language capacity</b>	English	Native
	French	Good
	German	Basic
	Faroese	Basic

### Funded Research Projects

#### Lead PI – Funded

- 2010 - 2012 POPPYMED (AO INSU LEFE-CYBER). Uptake rates of phosphorous substrates by defined plankton functional groups
- 2011 - 2012 MOLDIV (LOMIC Microproject). Microbial diversity at time-series station in the NW Mediterranean
- 2010 - 2011 SEDPRES (LOMIC Microproject). Optimisation of nucleic acid extraction chemistry in hyper-saline formaldehyde preservatives
- 2013 - 2014 EXPLAIN (AO INSU LEFE-CYBER). Export of Plankton functional types from Austral Island blooms naturally fertilized by iron
- 2017 - 2019 COD-e-DNA (Fiskimálaráðið). Environmental DNA as a diagnostic tool for tracking diversity and biomass of demersal fish with a special focus on Atlantic cod populations on the Faroe Bank
- 2018 - 2020 FAMEOS (Granskingar ráðið). Integrating environmental DNA-based estimates of diversity with essential ocean variables on the Faroese Shelf

#### Co-PI/(Partner) Funded

- 2013 - 2014 PROMO (CONICYT-CNRS LIA). Provenance and reactivity of organic matter in contrasting ecosystems. (Lead PIs: Ruben Escribano and Fabien Joux)
- 2011 - 2014 KEOPS2 (AO-INSU). Kerguelen Ocean and Plateau Compared Study. (Lead PI: Stéphane Blain)
- 2010 - 2013 SPEciMed (AO-INSU MISTRALS). Structures of Planktonic Ecosystems in the North-West Mediterranean. (Lead PI: Bernard Quéguiner)
- 2014 - 2019 FRAM (Helmholtz Infrastructure Project) Frontiers in Arctic Monitoring.  
WP4.1 (lead coordinator) Particle flux and autonomous sampler observatory  
WP4.4 (co-coordinator) Nutrient Biogeochemical sensors  
WP4.5 (co-coordinator) Microbial Observatory
- 2015 - 2019 AtlantOS (EU Horizon 2020).  
Optimising and Enhancing the Integrated Atlantic Ocean Observing system.  
WP3: Enhancement of autonomous observing networks  
Task 3.1 Work Package Coordination  
Task 3.2 OceanSITES biogeochemistry  
WP6 Cross-cutting issues and emerging networks  
Task 6.2 Common metrology and best practices

## Peer-reviewed publications

Publication statistics Summary (google scholar: 25.03.2021)

Publications	45
In Review	3
Citations	2159
h-index	22
i10 index	33

(Ph.D. student marked by \*)

45. Fadeev, E., Cardozo-Mino, M.G., Rapp, J.Z., Bienhold, C., Salter, I., Salman-Carvalho, V., Molari, M., Tegetmeyer, H.E., Buttigieg, P.L., Boetius, A. 2021. Comparison of Two 16S rRNA Primers (V3-V4 and V4-V5) for Studies of Arctic Microbial Communities. *Frontiers in Microbiology*. <https://doi.org/10.3389/fmicb.2021.637526>
44. Nöthig, E.M., Lalande, C., Fahl, K., Metfies, M., Salter, I., Bauerfeind, E. 2020. Annual cycle of downward particle fluxes on each side of the Gakkel Ridge in the central Arctic Ocean. *Philosophical Transactions of the Royal Society A*. <https://doi.org/10.1098/rsta.2019.0368>
43. Daniel, A., Laës-Huon, A., Barus, C., Beaton, A.D., Blandfort, D., Nathalie, G., Knockaert, M., Muraron, D., Salter, I., Woodward, E.M.S., Greenwood, N., Achterberg, E.P. 2020. Toward a Harmonization for Using in situ Nutrient Sensors in the Marine Environment. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2019.00773>
42. Engel, A., Bracher, A., Dinter, T., Endres, S., Grosse, J., Metfies, K., Peeken, I., Piontek, I., Salter, I., and Nöthig, E. M. 2019. Inter-Annual Variability of Organic Carbon Concentration in the Eastern Fram Strait During Summer (2009–2017). *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2019.00187>
41. Mikan, M.P., Harvey, R., Timmins-Schiffman, E., Riffle, M., May, D.H., Salter, I., Noble, W.S., Nunn, B.L. 2019. Metaproteomics reveal that rapid perturbations in organic matter prioritize functional restructuring over taxonomy in western Arctic Ocean microbiomes. *The ISME journal* 2019. <https://doi.org/10.1038/s41396-019-0503-z>
40. Salter, I., Joensen, M., Kristiansen, R., Steingrund, P., Vestergaard, P. 2019. Environmental DNA concentrations are correlated with regional biomass of Atlantic cod in oceanic waters. *Nature Communications Biology*. <https://doi.org/10.1038/s42003-019-0696-8>
39. Rembauville, M., Blain, S., Manno, Cl., Tarling, G., Thompson, A., Wolff, G., Salter, I. 2018. The role of diatom resting spores in pelagic-benthic coupling in the Southern Ocean. *Biogeosciences*, Vol 15, No 10. <https://doi.org/10.5194/bg-15-3071-2018>
38. Rembauville, M., Salter, I., Dehairs, F., Miquel, J-C., Blain, S. 2018. Annual particulate matter and diatom export in a high nutrient, low chlorophyll area of the Southern Ocean. *Polar Biology*, Vol 41, No 1. <https://doi.org/10.1007/s00300-017-2167-3>
37. Rogge, A., Flintrop, C. M., Iversen, M. H., Salter, I., Fong, A. A., Vogts, A., Waite, A. M. 2018. Hard and soft plastic resin embedding for single-cell element uptake investigations of marine-snow-associated microorganisms using nano-scale secondary ion mass spectrometry. *Limnology and Oceanography: Methods*. Vol 16, No 8. <https://doi.org/10.1002/lom3.10261>
36. Salter, I. 2018. Seasonal variability in the persistence of dissolved environmental DNA (eDNA) in a marine system: The role of microbial nutrient limitation. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0192409>
35. Salter, I., Bienhold, C, Metfies, K., Bienhold, C., Wekerle, C., Wolff, C. Next generation sequencing of preserved sediment trap samples: An approach to link plankton biodiversity, climate variability and marine ecosystem services in the Arctic. *Frontiers in Marine Science*. Submitted
34. Wekerle, C., Krumpfen, T., Dinter, T., von Appen, W. J., Iversen, M. H., Salter, I. 2018. Properties of sediment trap catchment areas in Fram Strait: Results from lagrangian modeling and remote sensing. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2018.00407>
33. Fadeev, E\*, Salter, I., Schourup-Kristensen, V., Nöthig, E. M., Metfies, K., Engel, A., Piontek, J., Boetius, A., Bienhold, C. 2018. Microbial Communities in the East and West Fram Strait During Sea Ice Melting Season. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2018.00429>
32. Rogge, A\*, Flintrop, M. C., Iversen, M.H., Salter, I., Fong, A.A., Vogts, A., Waite, A.M. 2018. Hard and soft plastic resin embedding for single-cell element uptake investigations of marine-snow-associated

- microorganisms using nano-scale secondary ion mass spectrometry. *Limnology and Oceanography: Methods* (2018). <https://doi.org/10.1002/lom3.10261>
31. Salter, I. 2018. Seasonal persistence of dissolved environmental DNA (eDNA) in a marine system: The role of microbial nutrient limitation. *PLoS ONE* (2018). <https://doi.org/10.1371/journal.pone.0192409>
  30. \*M. Rembauville, S. Blain, C. Manno, G. Tarling, A. Thompson, G.A. Wolff, Salter, I. 2017. The role of diatom resting spores for pelagic-benthic coupling in the Southern Ocean. *Biogeosciences Discussions*: (2017). <https://doi.org/10.5194/bg-2017-414>
  29. H. Hátún, J. Ólafsson, K. Azetsu-Scott, R. Somavilla, F. Rey, C. Johnson, M. Mathis, U. Mikolajewicz, P. Coupel, J-É. Tremblay, S. Hartman, S.V. Pacariz and I. Salter, 2017. The Subpolar gyre regulates silicate concentrations in the North Atlantic. *Nature Scientific Reports* 7, Article number 14576. <https://doi.org/10.1038/s41598-017-14837-4>
  28. Schiebel, R., Spielhagen R. F., Garnier, J., Hagemann, J., Howa, H., Jentzen, A., Martínez-García, A., Meilland, J., Michel E., Repschläger, J., Salter, I., Yamasaki, M., Haug, G. 2017. Modern planktic foraminifers in the high-latitude ocean. *Marine Micropaleontology*: 136, 1-13 (2017) <https://doi.org/10.1016/j.marmicro.2017.08.004>
  27. \*Rembauville, M., Salter, I., Dehairs, F., Micquel, J-C., Blain, S. 2017. Annual particulate matter and diatom export in a high nutrient low chlorophyll regime upstream of the Kerguelen Plateau. *Polar Biology*: (2017). <https://doi.org/10.1007/s00300-017-2167-3>
  26. Constable A., et al. (incl. Salter, I) 2016. Developing priority variables (“ecosystem Essential Ocean Variables” – eEOVs) for observing dynamics and change in Southern Ocean ecosystems. *Journal of Marine Systems*: 161, 26-41 (2016). <https://doi.org/10.1016/j.jmarsys.2016.05.003>
  25. \*Rembauville, M., Manno, C., Tarling, G.A., Blain, S., Salter, I. 2016. Strong contribution of diatom resting spores to deep sea carbon export fluxes in the naturally iron-fertilized waters downstream of South Georgia. *Deep-Sea Research Part I*: 115, 22-35 (2016). <https://doi.org/10.1016/j.dsr.2016.05.002>
  24. \*Rembauville, M., Blain S., Capparos J., Salter, I. 2016. Particulate matter stoichiometry driven by microplankton community structure in summer in the Indian Sector of the Southern ocean. *Limnology and Oceanography*: 61(4), 1301-1321 (2016). <https://doi.org/10.1002/lno.10291>
  23. \*Rembauville, M., Meilland J., Ziveri, P., Schiebel R., Blain, S., Salter, I. Planktonic foraminifer and coccolith contribution to carbonate export fluxes over the central Kerguelen Plateau. *Deep Sea Research Part I*: 111, 91-101 (2016). <https://doi.org/10.1016/j.dsr.2016.02.017>
  22. Galand, P., Salter, I., Kalenitchenko, D. 2015. Ecosystem productivity is associated to bacterial phylogenetic distance in surface marine waters. *Molecular Ecology*: 24(23), 5785-5795 (2015). <https://doi.org/10.1111/mec.13347>
  21. Kopf, A. et al. (incl. Salter, I) 2015. The ocean sampling day consortium. *Gigascience Commentary*: 4(1), 27 (2015). <https://doi.org/10.1186/s13742-015-0066-5>
  20. \*Rembauville, M., Blain, S., Armand, L., Quéguiner, B., Salter, I. 2015. Export fluxes in a naturally iron-fertilized area of the Southern Ocean – Part 2: Importance of diatom resting spores and faecal pellets for export. *Biogeosciences*: 12, 3171-3195 (2015). <https://doi.org/10.5194/bg-12-3171-2015>
  19. \*Rembauville, M., Salter, I., Leblond N., Gueneugues A., Blain, S. 2015. Export fluxes in a naturally iron-fertilized area of the Southern Ocean – Part 1: Seasonal dynamics of particulate organic carbon export from a moored sediment trap. *Biogeosciences*: 12, 3153-3170 (2015). <https://doi.org/10.5194/bg-12-3153-2015>
  18. Salter, I., Galand, P., Fagervold, S., Lebaron, P., Obernosterer, I., Oliver, M., Suzuki, M., Tricoire, C. 2015. Seasonal dynamics of active SAR11 ecotypes in the oligotrophic Northwest Mediterranean Sea. *The ISME Journal*: 9(2) 347-360 (2015). <https://doi.org/10.1038/ismej.2014.129>
  17. Salter, I., Schiebel, R., Movellan, A., Lampitt, R.S., Wolff, G.A. 2014. Carbonate counter pump stimulated by natural iron fertilization in the Polar Frontal Zone. *Nature Geoscience*: 7(12), 885-889 (2014). <https://doi.org/doi:10.1038/ngeo2285>
  16. Hugoni, M., Taib, N., Debross, D., Domaizon, I., Jouan Dufournel, I., Bronner, G., Salter, I., Agogué, H., Mary, I., Galand, P. 2013. Structure of the rare archaeal biosphere and seasonal dynamics of active ecotypes in surface coastal waters. *Proceedings of the National Academy of Sciences of the United States of America*: 110(15) 6004-6009 (2013). <https://doi.org/10.1073/pnas.1216863110>
  15. Salter, I., Kemp, A.E.S., Moore, C.M., Lampitt R., Wolff, G.A., Holtvoeth, J. 2012. Diatom resting spore ecology drives enhanced carbon export from a naturally iron fertilized bloom in the Southern Ocean.

- Global Biogeochemical Cycles*: 26, GB1014 (2012). <https://doi.org/10.1029/2010GB003977>
14. Hernandez-Sanchez, M., Planquette, H., Mills, R., Pancost, R., Hepburn, L., Salter, I., Smith, T. 2011. Quantifying export production in the Southern Ocean: implications for the Baxs proxy. *Paleoceanography*: 26 (2011). <https://doi.org/10.1029/2010PA002111>
  13. Salter, I., Bottjer, D., Christaki, U., Catala, P. 2011. Estimating the effect of inorganic particle concentration on virus-bacteria-flagellate dynamics. *Environmental Microbiology*: 13(10), 2768-2777 (2011). <https://doi.org/10.1111/j.1462-2920.2011.02547.x>
  12. Wolff, G., Billel, D., Holtvoeth, J., Bett, B., Fitzgeorge-Balfour, T., Fisher, E., Cross, I., Salter, I., Boorman, B., Hughes, J., King, N., Jamieson, A., Bagley, P., Challain, F. 2011. Natural iron fertilisation and the impact of enhanced carbon export on deep-sea ecosystems. *PLoS ONE*: 6(6), e20697 (2011). <https://doi.org/10.1371/journal.pone.0020697>
  11. Salter, I., Lampitt R., Kemp, A., Gledhill M. 2010. The association between biogenic and inorganic minerals and the amino acid composition of settling particles. *Limnology and Oceanography*: 55(5), 2207-2218 (2010). <https://doi.org/10.4319/lo.2010.55.5.2207>
  10. Lampitt, R., Salter I., de Cuevas, B.A., Hartman, S., Larkin, K.E., Pebody, C. 2010. Long-term variability of downward particle flux in the deep Northeast Atlantic: causes and trends. *Deep-Sea Research Part II*: 57(15) 1346-1361 (2010). <https://doi.org/10.1016/j.dsr2.2010.01.011>
  9. Salter, I., Zubkov, M.V., Warwick, P., Burkill, P. 2009. Marine bacteria can increase the rate of evaporation and gas transfer by metabolising insoluble surfactants from the air-water interface. *FEMS Microbiology Letters*: 294(2), 225-231 (2009). <https://doi.org/10.1111/j.1574-6968.2009.01572.x>
  8. Lampitt, R., Salter I., Johns, D. 2009. Radiolarian as major exporters of organic carbon. *Global Biogeochemical Cycles*: 23, GB1010 (2009). <https://doi.org/10.1029/2008GB003221>
  7. Pollard, R., Salter I., Richard J. Sanders, R., et al. 2009. Natural Iron fertilisation enhances deep-water carbon flux in Southern Ocean. *Nature*: 457, 577-580 (2009). <https://doi.org/10.1038/nature07716>
  6. Lampitt, R., Boorman, B., Brown, L., Lucas, M., Salter, I., Sanders, R., Saw, K., Seeyave, S., Thomalla, S., Turnewitsch, R. 2008. Particle export from the euphotic zone: Estimates using a novel drifting sediment trap, 234Th and new Production. *Deep-Sea Research Part I*: 55(11), 1484-1502 (2008). <https://doi.org/10.1016/j.dsr.2008.07.002>
  5. Salter, I., Lampitt, R., Sanders, R., Poulton, A., Kemp, A., Boorman, B., Saw, K., Pearce, R. 2007. Estimating carbon, silica, and diatom export from a naturally fertilised phytoplankton bloom in the Southern Ocean using PELAGRA: A novel drifting sediment trap. *Deep-Sea Research Part II*: 54(18-20), 2233-2259 (2007). <https://doi.org/10.1016/j.dsr2.2007.06.008>
  4. Marsh, R., Mills, R., Salter, I., Green, D., Taylor, S. 2007. Controls on sediment geochemistry in the Crozet Region. *Deep-Sea Research Part II*: 54(18-20), 2260-2274 (2007). <https://doi.org/10.1016/j.dsr2.2007.06.004>
  3. Planquette, H., Statham, P., Fones, G., Charette, M., Moore, M., Salter, I., Nedelec, F., Taylor, S., French, M., Baker, A., Mahowald, N., Jickells, T. 2007. Dissolved iron in the vicinity of the Crozet Plateau. *Deep-Sea Research Part II*: 54(18-20), 1999-2019 (2007). <https://doi.org/10.1016/j.dsr2.2007.06.019>
  2. Charette, M., Gonnee, M., Morris, P., Statham, P., Fones, G., Planquette, H., Salter, I., Garabato, A. 2007. Radium isotopes as tracers of iron sources fuelling a Southern Ocean phytoplankton bloom. *Deep-Sea Research Part II*: 54(18-20) 1989-1998 (2007). <https://doi.org/10.1016/j.dsr2.2007.06.003>
  1. Kemp, A., Pearce, R., Grigorov, I., Rance, J., Lange, C., Quilty, P., Salter, I. 2006. Production of giant marine diatoms and their export at oceanic frontal zones: Implications for Si and C flux from stratified oceans. *Global Biogeochemical Cycles*: 20(4), GB4S04 (2006). <https://doi.org/10.1029/2006GB002698>

## Other publications

Salter, I., Eliassen, S. K., Jacobsen, S. 2020. Variability in the relationship between in situ fluorescence and chlorophyll-a concentration in Faroese waters (2002-2019): Recommendations for database management. Havstovan no. 20-02. Technical Report. <http://www.hav.fo/PDF/Ritgerdir/2020/TechRep2002.pdf>

## Conference Presentations (Lead Author)

Salter, I., Lampitt, R.S., Kemp, A.E.S (2004) Biogenic silica fluxes in the bathypelagic North-East Atlantic. 13-17 September 2004 Liverpool, Challenger Conference for Marine Science, University Liverpool/

- Proudman Oceanographic Laboratory (Oral).
- Salter, I., Lampitt, R., Sanders, R., Boorman, B., Saw, K (2006) Estimating Particle Export from a naturally fertilised Iron Bloom in the Southern Ocean: PELAGRA, a novel drifting sediment trap. Challenger Conference for Marine Science, Oban, Scotland, UK (Oral).
- Salter, I., Lampitt, R., Sanders, R. (2006) Diatom, carbon and silicon export from a natural iron fertilisation experiment. ASLO/AGU/TOS Ocean Sciences Meeting, 20-24 February, Honolulu, Hawaii, USA (Poster).
- Salter, I., Pollard, R.T., Sanders, R., Lucas M., Statham, P., Lampitt, R.S. (2008) Deep-water carbon and diatom fluxes from a naturally iron-fertilised phytoplankton bloom in the polar frontal zone of the Southern Ocean. ASLO/AGU/TOS Ocean Sciences Meeting, 2-7 March, Orlando, Florida, USA (Oral).
- Salter, I. (2008) Particle flux in the northeast Atlantic and the Southern Ocean. Dissertations in Chemical Oceanography International Symposium (DISCO XXV) Honolulu, Hawaii (Oral).
- Salter, I., Zubkov, M.V., Warwick P.E., Burkhill, P.H. (2009) Marine bacterioplankton can increase evaporation and gas transfer by metabolizing insoluble surfactants from the air-seawater interface. 22-23 June 2009 Paris, IMBER SOLAS Meeting (Oral).
- Salter, I., Lampitt, R.S., Kemp, A.E.S., Wolff, G.A., Holtvoeth, J. (2009) The effect of diatom community structure on the biological carbon pump: Results from a naturally-fertilised region of the Southern Ocean (2009). AGU Chapman Conference: Biological carbon pump of the Ocean, 1-4 September 2009, Brockenhurst, Hampshire, England.
- Salter, I. (2011) Diatom resting spore ecology drives enhanced carbon export from a naturally iron-fertilized bloom in the Southern Ocean. Modelling and Synthesis of Southern Ocean Natural Iron Fertilization. Woods Hole Oceanographic Institute, 27-29 June, Woods Hole, Massachusetts, USA. (poster).
- Salter, I., Galand, P.E., Catala, P., Courties, C., Fagervold, S.K., Lebaron, P., Obernosterer, I., Oliver, M., Suzuki, M.T., Tricoire, C. (2014) Phosphorous utilisation by microbial populations in the NW Mediterranean. ASLO/AGU/TOS Ocean Sciences Meeting 23-28 February, Honolulu, Hawaii, USA.
- Nielsdottir, Salter I., Normen Lochthofen, Laura Wischewski, Daniel Schotz, Eva-Maria Nöthig (2014) FRAM Ocean Observing System: planned efforts for integrated water column biogeochemistry. EGU, 13-17 April, Vienna, Austria.
- Salter, I., Schiebel, R., Ziveri, P., Movellan, A., Lampitt, R., Wolff, G. (2015) Aquatic Sciences Meeting. Carbonate counter pump stimulated by natural iron fertilisation in the polar frontal zone. 22-27 February, Granada, Spain.

## International and National Collaborations

(Project partners, co-authors on publications and proposals)

### Australia

- Armand, Leanne (Macquarie University, Australia)  
 Constable, Andrew (Australian Antarctic Division, Australia)  
 Trull, Thomas (CSIRO, Australia)

### Africa

- Lucas, Mike (University of Cape Town, South Africa)  
 Thomalla, Sandy (CSIR, South Africa)

### Europe

- Achterberg, Eric (Geomar, Kiel)  
 Beaton, Alexander (National Oceanography Centre, UK)  
 Blain, Stephane (Université Pierre et Marie Curie, France)  
 Catala, Philippe (Observatoire Océanologique du Banyuls sur Mer, France)  
 Christaki, Urania (LOG, Wimereux, France)  
 Fagervold, Sonja (Observatoire Océanologique du Banyuls, France)  
 Ganeshram, Raja (University of Edinburgh, UK)  
 Galand, Pierre (Observatoire Océanologique du Banyuls, France)  
 Gasol, Josep (Institut de Ciències del Mar-CSIC, Barcelona, Spain)  
 Gledhill, Martha (Geomar, Kiel)  
 Gregori, Gerald (Institut Méditerranéen d'océanologie, France)

Iversen, Morten (Marum, Bremen)  
Kemp, Alan (National Oceanography Centre, UK)  
Lampitt, Richard (National Oceanography Centre, Southampton)  
Lebaron, Philippe (Observatoire Océanologique du Banyuls)  
Leblond, Nathalie (Laboratoire d'Océanographie de Villefranche, France)  
Leu, Eva (NIVA, Norway)  
Mary, Isabelle (Clermont University, France)  
Mahaffey, Claire (University of Liverpool)  
Manno, Clara (British Antarctic Survey, UK)  
Marie, Dominique (Station Biologique du Roscoff, France)  
Mills, Rachel (National Oceanography Centre, UK)  
Moreau, Herve (Laboratoire d'Océanographie de Villefranche, France)  
Mowlem, Matthieu (National Oceanography Centre, UK)  
Planquette, Helene (Université de Bretagne, Occidentale, France)  
Pollard, Raymond (National Oceanography Centre, UK)  
Poulton, Alex (National Oceanography Centre, UK)  
Pujo-Pay, Mireille (Observatoire Océanologique du Banyuls, France)  
Quéguiner, Bernard (Institut Méditerranéen d'océanologie, France)  
Raimbault, Patrick (Institut Méditerranéen d'océanologie, France)  
Sautor, Benoit (Université Bordeaux, France)  
Savoie, Nicholas (Université Bordeaux, France)  
Sanders, Richard (National Oceanography Centre, UK)  
Schiebel Ralf (MPI für chimie, Mainz)  
Statham, Peter (National Oceanography Centre, UK)  
Stoeck, Thorsten (Ecology University of Kaiserslauten)  
Tarling, Geraint (British Antarctic Survey, UK)  
Torres-Valdez, Sinhue (National Oceanography Centre, UK)  
Venables, Hugh (British Antarctic Survey, UK)  
Wolff, George (University of Liverpool, UK)  
Ziveri, Patrizia (Institut de Ciència i Tecnologia Ambientals, Spain)  
Zubkov, Mikhail (National Oceanography Centre, Southampton)

#### North America

Bottjer, Daniele (SOEST, Hawaii, USA)  
Furhman, Jed (USC, CA, USA)  
Harvey, Rodger (Old Dominion University, VA, USA)  
Macgregor, Barbara (UNC, USA)  
Lalande, Catherine (Université Lavale, Canada)  
Oliver, Matthew (University of Delaware, USA)  
Scholin, Christopher (MBARI, USA)  
Ziervogel, Kai (University of New Hampshire, USA)

#### South America

Escribano, Rubens (Universidad de Concepción, Chile)  
Pantoja, Silvio (Universidad de Concepción, Chile)  
Fernandez, Camila (Universidad de Concepción, Chile)

#### Media Outreach

2015 "L'enrichissement en fer des océans est moins efficace que prévu pour stocker le dioxyde de carbone"  
La Recherche  
2015 Sediment Traps in Iron Fertilization study McLane April Newsletter  
2014 Press release  
2014 "Eisendüngung nur bedingt wirksam" Interview Radio Bremen  
2014 „Eisen in Meer hilft nicht“ Frankfurter Rundschau  
2014 "Zooplankton untergräbt Klimaeffekt durch Eisendüngung"  
2014 "Study Casts Doubt on Iron Seeded Ocean carbon Storage" reportingclimatescience.org  
2014 "Fertilizar océanos para que tengan más plancton no mitiga el cambio climático" El Periódico



- 2014 "Complexities of Carbon Lowering" The Scientist Magazine
- 2014 "Iron's mixed blessing for health of oceans" Eco Business
- 2014 "Favorecer el crecimiento de fitoplancton no mitiga, como esperaban los cient"ABC.es
- 2014 "Los científicos cuestionan el aumento artificial de plankton en los océanos" La Razon (ESP)
- 2014 „Weniger gespeichertes Kohlendioxid durch Eisendünger?" Scinexx
- 2014 "Southern Ocean: Iron fertilization might be less efficient for deep-ocean carbon dioxide storage" Innovations Report
- 2014 "Southern Ocean: Iron fertilization might be less efficient for deep-ocean carbon dioxide storage" Justaforum
- 2014 "Southern Ocean: Iron fertilization might be less efficient for deep-ocean carbon dioxide storage" Informationsdiens Wissenschaft
- 2014 "La fertilización de los océanos para mitigare el cambio climático puede ser menos efectiva de lo esperado" Servicio de Información y Noticias Cientificas
- 2014 "Iron fertilization less efficient for deep-sea carbon dioxide storage than previously thought?" Science Daily
- 2014 "Iron fertilization of the Southern Ocean might be less efficient for deep-ocean carbon dioxide storage than previously thought" Nanowerk

## Research Cruise Experience

- 2004 RRS Charles Darwin (CD158) Northeast Atlantic Ocean, Porcupine Abyssal Plain. Sediment trap deployments and pelagic biogeochemistry. (PI: Richard Lampitt)
- 2004 - 2005 RRS Discovery (D285) CROZet circulation, iron fertilization and Export production experiment (CROZEX), Southwest Indian Sector of the Southern Ocean. Sediment trap deployments and pelagic biogeochemistry. (PI: Richard Sanders)
- 2008 RRS Discovery (D332) WOCE hydrographic section AR7. Pelagic biogeochemistry. (PI: Sheldon Cooper)
- 2009 - 2012 (multiple). Nereis II. Northwest Mediterranean. Microbial time-series work. (PI: Ian Salter)
- 2013 USCG Healy (HLY1301) Hanna Shoal, Chukchi Sea, Arctic. Pelagic and sedimentary microbial biogeochemistry. (PI: Lee Cooper)
- 2014 RV Polarstern (ARKXXVII/1 PS83) Fram Strait, Arctic. Sediment trap deployments and pelagic biogeochemistry. (PI: Ingo Schewe)
- 2015 RV Polarstern (ARKXXIX/2 PS93.2) Fram Strait, Arctic. Sediment trap deployments and pelagic biogeochemistry. (PI: Thomas Soltwedel)
- 2016 RV Polarstern (PS99) Fram Strait, Arctic. Sediment trap deployments and pelagic biogeochemistry. (PI: Thomas Soltwedel)

## Scientific Techniques and Skills

### Autonomous Technology

- (i) Autonomous water samplers
  - McLane RAS-500
  - Greeneyes Aquamonitor
- (ii) Sediment traps
  - McLane time-series sediment traps
  - KUM time-series sediment traps
  - Neutrally buoyant sediment traps

### Cruise Gear

- (i) CTD
- (ii) Marine Snow Catcher
- (iii) In-situ pumping systems
- (iv) Underway nutrient analysers

### Analytical Skills

- (i) Molecular biology techniques
- (ii) Organic geochemistry
- (iii) Inorganic particulate chemistry