CV Ian Salter

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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-Wegner-Institute, Germany. Frontiers in Arctic Monitoring work package leader
2017 - 2018	Tenured Professor; Ministére de l'enseignement supérieur et de la recherche, Universitie Pierre et Marie Curie, Labarotoire Arago, Banyuls sur Mer Subject: Role of plankton diversity in regulating 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; Ministére de l'enseignement supérieur et de la recherche, Universitie Pierre et Marie Curie, Labarotoire Arago, Banyuls sur Mer Subject: Role of plankton diversity in regulating regulating biogeochemical fluxes
2008 - 2009	Post-doctoral fellow; (Universitie Paris 6)Labaratoire 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

- Member of Scientific steering committee for LIA MOREFUN Banyuls-Concepcion – International Laboratory 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, Universite d'Angers, 2014-Katsia Pabortsavia, 2017 – Nolwenn Lemaitre, Universitié 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 Concepciòn (Chile) / Universitié 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. Universitié 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 (Universitié 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 Britanny, France). Approche multi-proxy (^{234}Th, Baxs, δ^{13}C, δ^{15}N) des flux d'export et de remineralisation du carbone et des éléments nutritifs N, Si, elements 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 (Universitié Pierre et Marie Curie, France), Technician for biological measurements in coastal time-series
2010 - 2013	Eric Maria (Universitié 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 Wegner Institute, Germany). Technician 1 for Arctic particle flux observatory
2016 - 2018	Elizabeth Bonk (Alfred Wegner Institute, Germany). Technician 2 for Arctic particle flux observatory

Language capacity

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 raðið). Integrating environmental DNA-based estimates of diversity with essential ocean variables on the Faroese Shelf
2020 - 2022	Stock eDNA: Application of environmental DNA monitoring for describing stock fluctuations of commercially important demersal fish in Faroese waters.

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 Ecosytems 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-cordinator) 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
2020 - 2024	JERICO-S3 Joint European Research Infrastructure of Coastal Observatories: Science, Service, Sustainability

2021 - 2023	Vir-MAM - Temporal fluctuations from viruses to mammals on the Faroe Shelf
2022 - 2023	UNIFIeD - Unifying Nordic Initiatives and Fostering Involvement on eDNA.
2022 - 2023	COASTDNA - Coastal environmental DNA (eDNA) state and fate: understanding the role of microbial and extracellular processes in the dynamics of eDNA signals from coastal waters
2022 - 2024	FjordProcess - Key processes governing pelagic productivity in sub-arctic North Atlantic fjord ecosystems

Peer-reviewed publications

Publication statistics Summary (google scholar: 6.7.2022)

Publications	50
In Review	2
Citations	2619
h-index	26
i10 index	37

(Ph.D. student marked by *)

50. *Højgaard, D. P., Homrum í, E., Salter, I. 2022.* The prevalence of *Kudoa thyrsites* (Myxozoa, Multivalvulida) in Atlantic Mackerel, *Scomber scombrus* L., in the vicinity of the Faroe Islands. Frontiers in Marine Science. https://doi.org/10.3389/fmars.2022.818507

49. *Von Appen, W.J., Waite, A.M., Bergmann, M., Bienhold, C., Boebel, O., Bracher, A., Cisewski, B., Hagemann, J., Hoppema, M., Iversen, M.H., Konrad, C., Krumpen, T., Lochthofen, N., Metfies, K., Niehoff, B., Noethig, E.M., Purser, A., Salter, I., Schaber, M., Scholz., Soltwedel, T., Torres-Valdes, S., Wekerle, C., Wenzhoefer, F., Wietz, M., Boetius, A. 2021.* Sea-ice derived meltwater stratification slows the biological carbon pump, results from continuous observations. Nature Communications 12, 7309 (2021). https://doi.org/10.1038/s41467-021-26943-z

48. *Weitz, M., Bienhold, C., Metfies, K., Torres-Valdés, S., von Appen, W.J., Salter, I., Boetius, A. 2021.* The Polar night shift: seasonal dynamics and drivers of Arctic Ocean microbiomes revealed by autonomous sampling. ISME Communications 1, 76 (2021). https://doi.org/10.1038/s43705-021-00074-4

47. *Fadeev, E., Rogge, A., Ramondenc, S., Noethig, E.M., Wekerle, C., Bienhold, C., Salter, I., Waite, A.M., Hehemann, L., Boetius, A., Iversen, M.H. 2021.* Sea ice presence is linked to higher carbon export and vertical microbial connectivity in the Eurasion Arctic Ocean. Nature Communications Biology, 4, 1255. https://doi.org/10.1038/s42003-021-02776-w

46. *Tuerena, R. E., Hopkins, J., Buchanan, P. J., Ganeshram, R. S., Norman, L., von Appen, W. J., Tagliabue, A., Doncila, A., Graeve, M., Ludwichowski, K. U., Dodd, P. A., De le Vega, C., Salter, I., Mahaffey, C. 2021.* An Arctic strait of two halves: The changing dynamics of nutrient uptake and limitation across the Fram Strait. Global Biogeochemical Cycles, 35 e2021GB006961. https://doi.org/10.1029/2021GB006961

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., Krumpen, 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. PLoSONE (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., Martinez-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., Debroas, 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., Billet, 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. PLoSONE: 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., Gonneea, 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., Eliasen, 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

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Fagervold, Sonja (Observatoire Oceanologique du Banyuls, France)
Ganeshram, Raja (University of Edinburgh, UK)
Galand, Pierre (Observatoire Océanologique du Banyuls, France)
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North America

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Macgregor, Barbara (UNC, USA)
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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 den fer des oceans est moins efficase que prévu pour stocker le dioxide 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 “Ferilizar océanos para que tengan más plankton 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 fitplancton 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” Informationsdients Wissenschaft
2014 “La fertilización de los océanos para mitigate 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 icrobial 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