

BIOGRAPHICAL SKETCH

Stephen D. Archer

Bigelow Laboratory for Ocean Sciences,
P.O. Box 380, 60 Bigelow Drive,
East Boothbay, ME 04544
Tel. (207) 315 2567 Extn. 314
Email. sarcher@bigelow.org

Position:

Senior Research Scientist
Director Bigelow Analytical Services

A. PROFESSIONAL PREPARATION

Liverpool University, UK.	BSc. (Hons) 1985
University of St Andrews, UK.	PhD. 1989
University of Southampton & British Antarctic Survey, UK.	Postdoctoral Position 1992-1995
Plymouth Marine Laboratory, UK.	Postdoctoral Position 1997- 2000

B. APPOINTMENTS

Senior Research Scientist	Bigelow Laboratory for Ocean Sciences	2012 – present
Research Faculty	Colby College (concurrent)	2012 – present
Director	Bigelow Analytical Services	2013 - present
NERC Merit Scientist	Plymouth Marine Laboratory, UK.	2010 - 2011
NERC Senior Scientist	Plymouth Marine Laboratory, UK.	2002 - 2010
Scientist – Open-ended	Plymouth Marine Laboratory, UK.	2001 – 2002

C. PUBLICATIONS

Recent publications:

1. Hopkins FE, Nightingale PD, Stephens JA, Moore CM, Richier S, Cripps GL, **Archer SD**. (2020) Dimethylsulfide (DMS) production in polar oceans may be resilient to ocean acidification. *Biogeosciences*. 17: 163–186.
2. Grasso I, **Archer SD**, Burnell C, Tupper B, Rauschenberg C, Kanwit K, Record N. (2019) The hunt for red tides: Deep learning algorithm forecasts shellfish toxicity at site scales in coastal Maine. *Ecosphere*, 10(12): e02960.10.1002/ecs2.2960
3. Goode, AG, Fields DM, **Archer SD**, Martínez JM. (2019). Physiological responses of *Oxyrrhis marina* to a diet of virally infected *Emiliana huxleyi*. *PeerJ*, 7, e6722.
4. **Archer SD**, Posman KM, DeStefano J, Harrison A, Ledina A, Cheff EM, Witt DM. (2019). A fluorescent approach to determine bromoperoxidase activity in microalgae and planktonic communities using aminophenyl fluorescein. *Frontiers in Marine Science* 6: Article 68.
5. Cree CHL, Airs R, **Archer SD**, Fitzsimons MF (2018) Measurement of methylamines in seawater using solid phase microextraction and gas chromatography. *Limnology and Oceanography: Methods*. doi.org/10.1002/lom3.10255.

Five other publications:

1. **Archer SD**, Suffrian K, Posman K, Bach LT, Matrai PA, Countway PD, Ludwig A, Riebesell U. (2018) Processes that drive decreased dimethyl sulfide production in response to ocean acidification in subtropical waters. *Frontiers in Marine Science*. 5, Article 245.

2. **Archer SD**, Stefels J, Airs RL, Lawton T, Smyth TJ, Rees AP, Geider RJ. (2017) Limitation of DMSP synthesis at high irradiance in natural phytoplankton communities. *Limnology and Oceanography*, 63: 227-242.
3. Gilg IC, **Archer SD**, Floge SA, Fields DM, Vermont AI, Leavitt AH, Wilson WH, Martínez Martínez J. (2016) Differential gene expression is tied to photochemical efficiency reduction in virally-infected *Emiliana huxleyi*. *Marine Ecology-Progress Series* 555: 13-27
4. Six K, Kloster S, Ilyina T, **Archer SD**, Zhang K, Maier-Ernst E. (2013) Amplified global warming by altered marine sulfur emissions induced by ocean acidification. *Nature Climate Change*, 3: 975-978.
5. Carpenter LJ, **Archer SD**, Beale R. (2012) Ocean-atmosphere trace gas exchange, Critical Review. *Chemistry Society Reviews*, 41: 6473-6506.

D. SYNERGISTIC ACTIVITIES

1. Session convener: Ocean Carbon Biogeochemistry Summer Workshop, Woods Hole, 2018: The world of microzooplankton: ocean carbon movers and shakers.
2. Co-organizer: Maine DMR Amnesic Shellfish Poison Workshop, April 2018, Bigelow Laboratory.
3. Lecturer: Marine Biotxin Detection Workshop. 9th US Symposium on Harmful Algae, 2018, Baltimore.
4. Cited for 'Outstanding Service as a Reviewer' by the Association for the Sciences of Limnology and Oceanography (ASLO), L&O Bulletin, July 2012.
5. Panel member of UK NERC Peer Review College 2009-2012. Proposal review and assessment.

E. TEACHING / ADVISORY ROLES

1. Undergraduate teaching:

2016, 2017, 2018: Taught the 4-credit course: *Ocean Biogeochemistry on a Changing Planet* as a component of the Bigelow Semester in Residence Program in collaboration with Colby College.

Regular mentor for the NSF REU program and for Colby College students.

2. Thesis advisor and postgraduate-scholar sponsor

Postdoctoral Fellows advised:

Dr Ruth Airs, PML, UK
 Dr Mark Breckels, PML and U. Essex, UK
 Dr Frances Hopkins, PML, UK
 Dr Susan Kimmance, PML, UK
 Dr Mariella Ragni, PML and U. Essex, UK
 Dr Kerstin Suffrian, Bigelow Lab., USA

PhD/MSc Students advised:

Mark Breckels, (PhD) PML and U. Essex, UK
 Charlotte Cree (PhD), Plymouth University, UK
 Nicola Lewis (PhD), PML and U. Essex, UK
 Claire Evans (MSc), Plymouth University, UK
 Diane Halahan (MSc), Plymouth University, UK

Honors Thesis Advisor

Kathryn Moore, Colby College, USA, 20