

Sophie N. Chu

Research Scientist III

NOAA Pacific Marine Environmental Laboratory

7600 Sand Point Way NE, Seattle, WA 98115

Tel: 206-526-6828

Email: sophie.chu@noaa.gov

Education

Ph.D., Chemical Oceanography, Massachusetts Institute of Technology – Woods Hole Oceanographic Institution (WHOI), Joint Program in Oceanography/Applied Ocean Science and Engineering, 2011 – 2017, (Advisor: Dr. Zhaohui Aleck Wang)

B.S., Chemical Engineering, Minor in Earth and Environmental Engineering, Columbia University in the City of New York, Fu Foundation School of Engineering and Applied Science, 2005 – 2009

Professional and Research Experience

Research Scientist III, University of Washington (UW) Joint Institute for the Study of the Atmosphere and Ocean (JISAO) – National Oceanic and Atmospheric Administration (NOAA) Pacific Marine Environmental Laboratory (PMEL), Seattle, WA, April 2019 – present

Postdoctoral Research Associate, UW JISAO – NOAA PMEL, Seattle, WA, March 2017 – March 2019

Graduate Research Assistant, Marine Chemistry and Geochemistry, WHOI, Woods Hole, MA, June 2011 – February 2017

Senior Technician and Lab Manager, Department of Medicine, Columbia University Medical Center, New York, NY, August 2009 – June 2011

Undergraduate Research Assistant, Department of Chemical Engineering, Columbia University, New York, NY, January 2008 – August 2009

National Science Foundation (NSF) Research Experiences for Undergraduate intern, Department of Meteorology, Ocean University of China, May 2008 – July 2008

Relevant Publications

Chu, SN, AJ Sutton, SR Alin, N Lawrence-Slavas, D Atamanchuk, JB Mickett, JA Newton, C Meinig, S Stalin, A Tengberg (2020). Field evaluation of a low-powered, profiling $p\text{CO}_2$ system in coastal Washington. *Limnol. Oceanogr.: Meth.*, DOI: 10.1002/lom3.10354.

Song, S, ZA Wang, ME Gonnee, KD Kroeger, SN Chu, D Li (2020). Contribution and effects of organic alkalinity on carbonate chemistry in coastal waters influenced by intertidal salt marshes. *Geochim. Cosmochim. Acta*, 275, 123-129, DOI: 10.1016/j.gca.2020.02.013.

Chu, SN, ZA Wang, ME Gonnee, KD Kroeger, and NK Ganju (2018). Deciphering the dynamics of inorganic carbon export from intertidal salt marshes using high-frequency measurements. *Mar. Chem.*, 206, 7-18, DOI:10.1016/j.marchem.2018.08.005.

Wang, ZA, KD Kroeger, NK Ganju, ME Gonnee, and SN Chu (2016). Intertidal salt marshes as an important source of inorganic carbon to the coastal ocean, *Limnol. Oceanogr.*, 61(5), 1916-1931, DOI: 10.1002/lno.10347.

Chu, SN, ZA Wang, SC Doney, GL Lawson, and KA Hoering (2016). Changes in

anthropogenic carbon storage in the Northeast Pacific in the last decade, *J. Geophys. Res. Oceans*, 121, 4618-4632, DOI:10.1002/2016JC011775.

Wang, ZA, FN Sonnichsen, AM Bradley, KA Hoering, TM Lanagan, **SN Chu**, TR Hammar, and R Camilli (2015). **An in-situ sensor technology for simultaneous spectrophotometric measurements of seawater total dissolved inorganic carbon and pH**, *Environ. Sci. Tech.*, 49(7), 4441-4449, DOI: 10.1021/es504893n.

Wang, ZA, **SN Chu**, and KA Hoering (2013). **High-frequency spectrophotometric measurements of total dissolved inorganic carbon in seawater**, *Environ. Sci. Tech.*, 47(14), 7840-7, DOI: 10.1021/es400567k.

Other publications

Chu, SN, H Zhang, C Maher, JD McDonald, X Zhang, SM Ho, B Yan, S Chillrud, F Perera, P Factor, and RL Miller (2013). **Prenatal and postnatal polycyclic aromatic hydrocarbon exposure, airway hyperreactivity and beta 2 adrenergic receptor function in sensitized mouse offspring**, *J. Toxicol.*, DOI: 10.1155/2013/603581.

Niedzwiecki, M, H Zhu, L Corson, G Grunig, PH Factor, **SN Chu**, H Jiang, and RL Miller (2012). **Prenatal exposure to allergen, DNA methylation, and allergy in grandoffspring mice**, *Allergy*, 67(7), 904-10, DOI:10.1111/j.1398-9995.2012.02841.x.

Chu, SN, S Sands, MR Tomasik, PS Lee, and VF McNeill (2010). **Ozone oxidation of surface-adsorbed polycyclic aromatic hydrocarbons (PAHs): Role of PAH-surface interaction**, *J. Am. Chem. Soc.*, 132(45), 15968–75, DOI: 10.1021/ja1014772.

Academic Awards

NSF Graduate Research Fellowship Program, 2012 – 2016

Link Foundation Ocean Engineering and Instrumentation Ph.D. Fellowship, 2013 – 2014

NSF Research Experience for Undergraduates (REU), 2008

Synergistic Activities

- **Reviewer**, NSF Ocean Technology and Interdisciplinary Coordination Program; NSF Chemical Oceanography; Sea Grant; *Environmental Science & Technology*; *Estuarine, Coastal and Shelf Science*; *Limnology and Oceanography: Methods*; *Frontiers in Marine Science*; *Journal of Geophysical Research: Oceans*
- **Steering Committee**, NOAA Ocean Acidification Program Community Meeting and Mini-Symposium, March 2019 – Jan 2020
- **Mentor**, Global Ocean Acidification – Observing Network (GOA-ON) Pier2Peer, 2018 – present; JISAO REU, Summer 2018 – 2019, WHOI Summer Student Fellow, Summer 2011 – 2016
- **Trainer and Advisory Committee**, The Ocean Foundation Advanced Training on Ocean Acidification for “GOA-ON in a box” in Mauritius (August 2017), Hawaii (August 2018), Colombia (January 2019)
- **Chair**, Society for Women in Marine Science (SWMS), 2015 – 2017, **Steering Committee** 2014 – present; **Seattle Chapter Chair**, 2017 – present