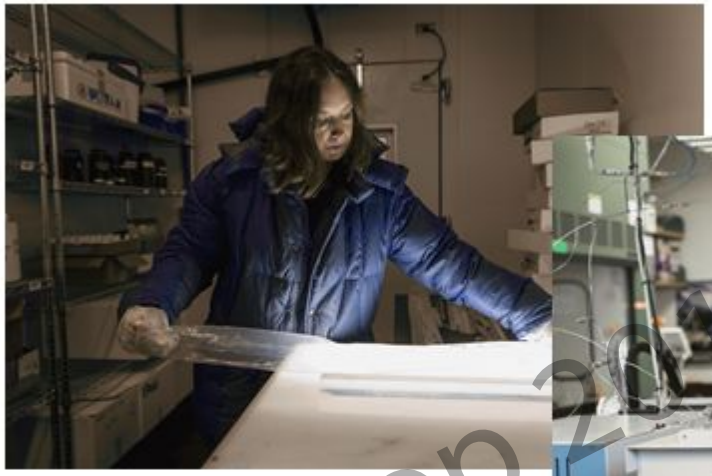
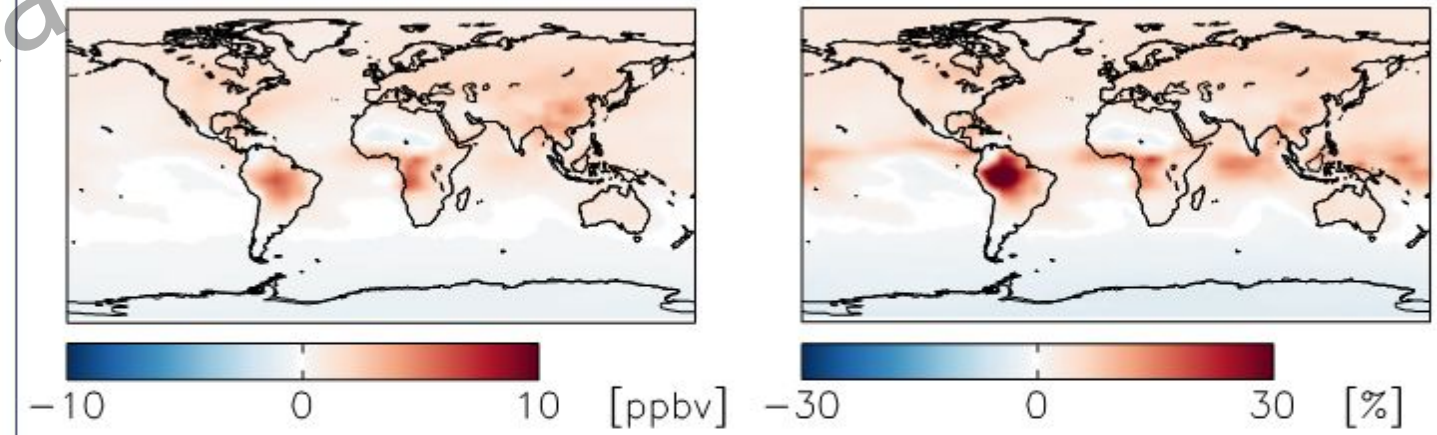
Becky Alexander
Professor
U. of Washington



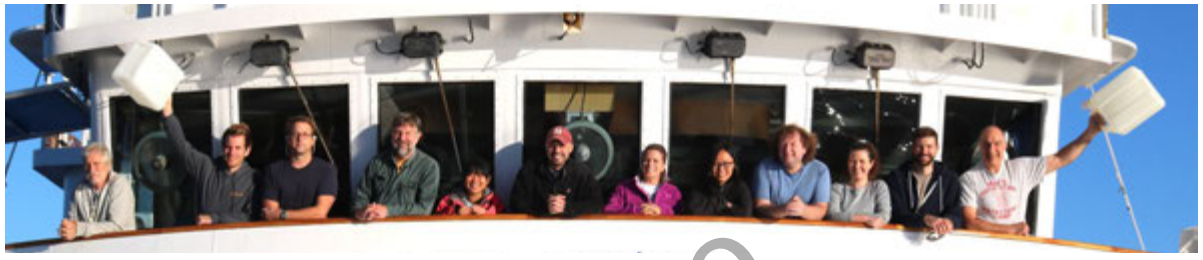
- Atmospheric chemistry
  - Aerosol formation
  - Tropospheric reactive halogens
  - Oxidation Mechanisms
  - Global chemical transport modeling

- Chemistry-climate interactions
  - Ice-cores
  - History of e.g., biogenic sulfur deposition
  - Chemistry-climate modeling

ΔOzone



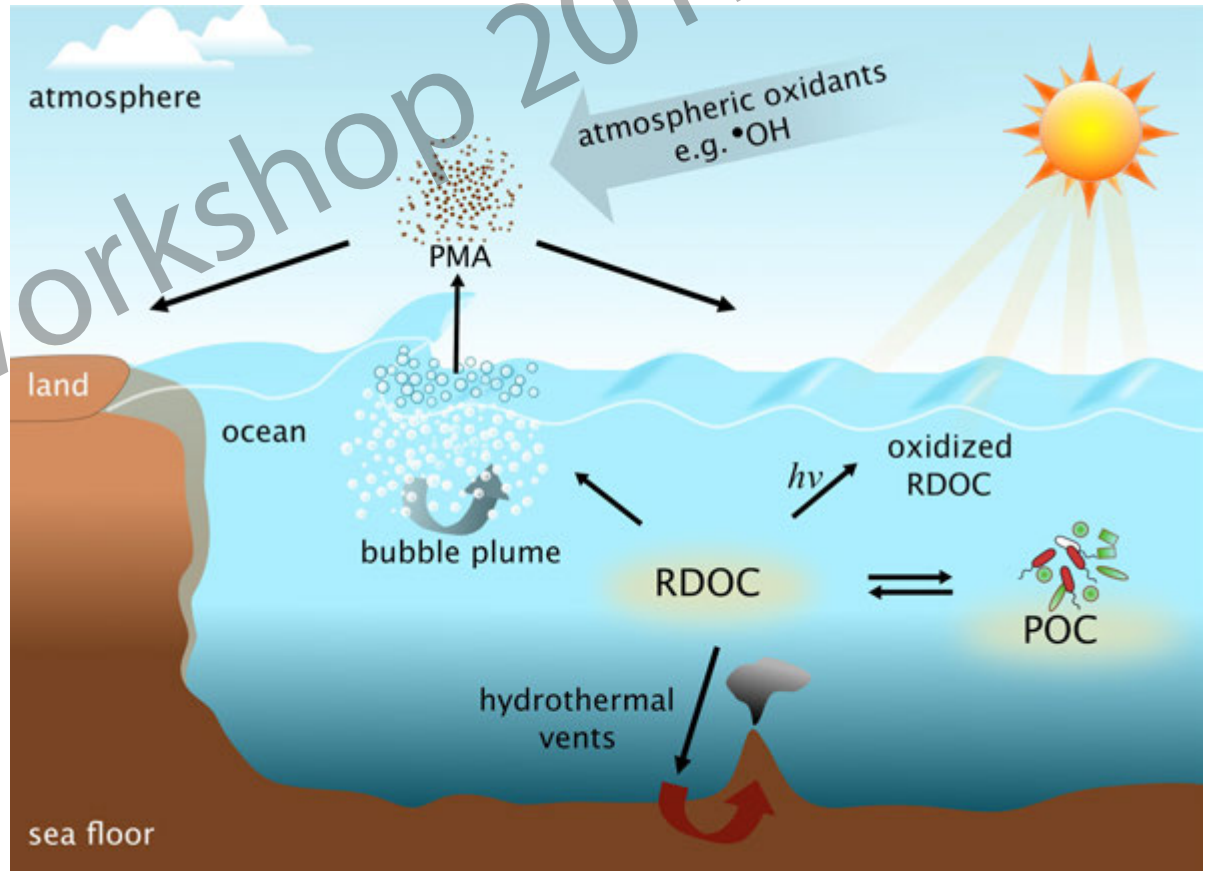
Steve Beaupré
Assistant Professor
Stony Brook University



Beaupré, et al. (2019) Science Advances, in press

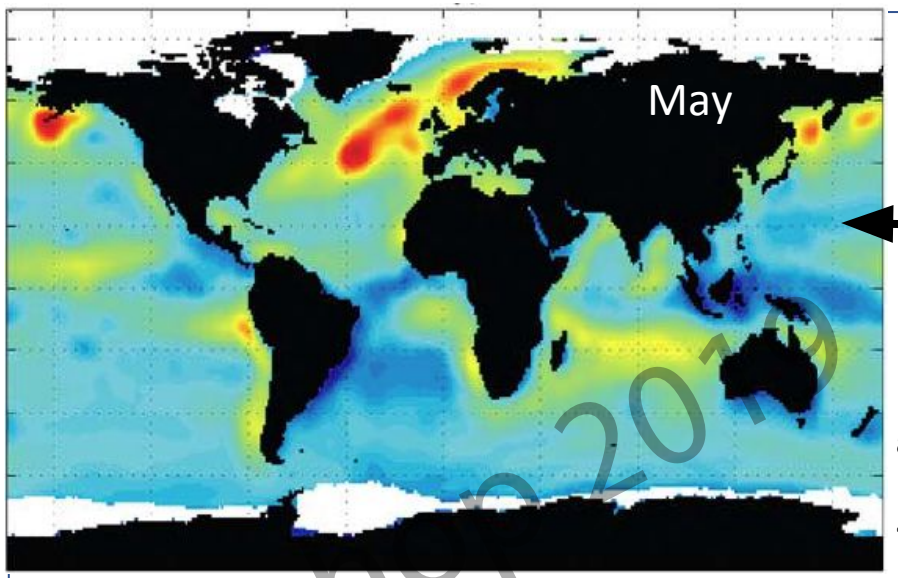
Biogeochemistry of organic matter

- ***Rates of transformations:***
  photochemical, microbiological, thermal
- ***Rates of transport:***
  air-sea exchange, circulation
- ***Isotopic characterizations:***
  Stable- and Radiocarbon (^{13}C, ^{14}C)
- ***Minimizing Uncertainties and Errors***



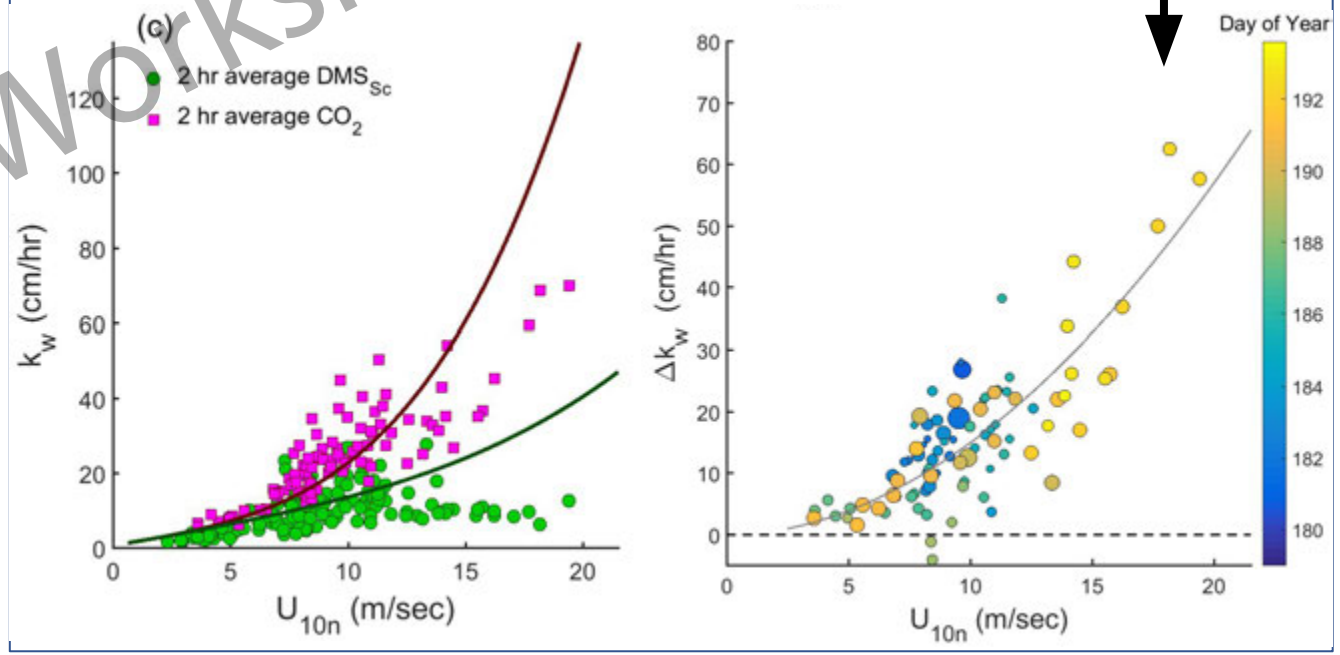
Tom Bell
Senior Research Scientist
University of California, Irvine and
Plymouth Marine Lab., UK!

- **Interests:**
  - **marine biogeochemistry of trace gases;**
  - **controls on air/sea gas transfer (K);**
  - **atmospheric gas and particle composition and processing**
  - **ship emissions and impacts**
- **Global SOLAS flux products and integration**
- **UK SOLAS representative**
- **Hosting international Gas Transfer at Water Surfaces meeting (Plymouth, UK, 2020).**



Global DMS database and sea-to-air flux estimate (Lana et al 2011)

Use of different gases to assess bubble contribution to gas transfer (Bell et al., 2017)



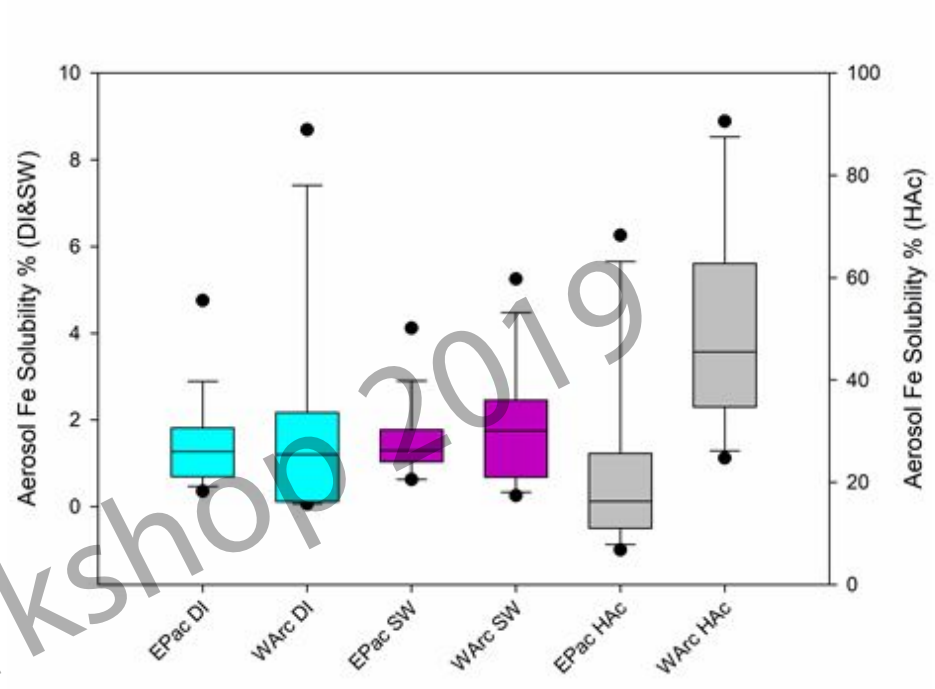
Cliff Buck

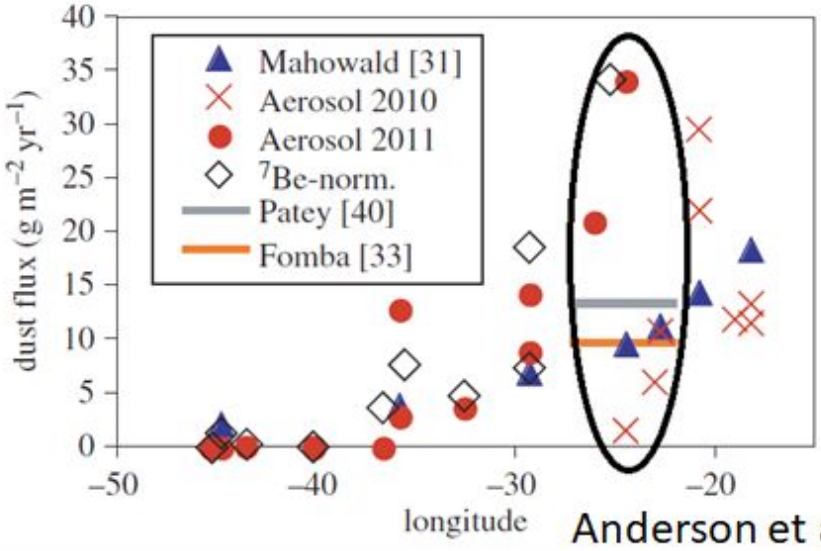
Associate Professor

UGA/Skidaway Institute

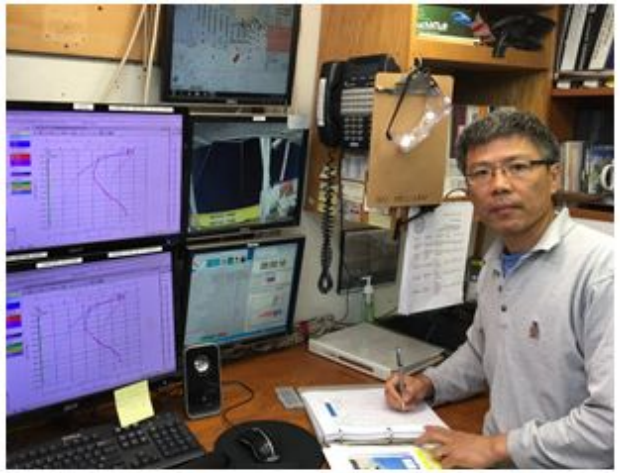
@tracemetalclean

- Atmospheric deposition
  - Wet, dry, and total
- Aerosol fractional solubility
- Time-Series: Marine particle dynamics and atmospheric deposition
- Trace element biogeochemistry





Anderson et al., 2016

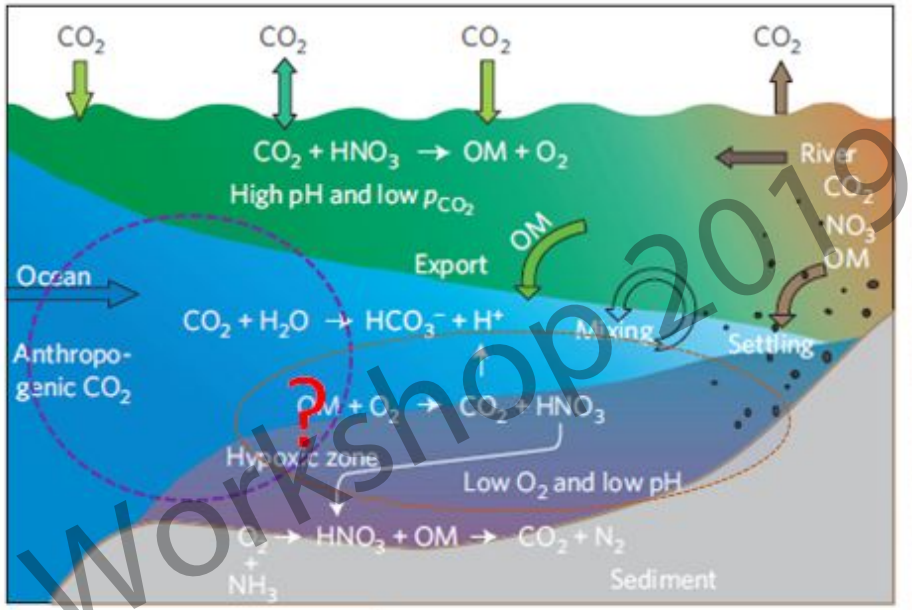


Wei-Jun Cai

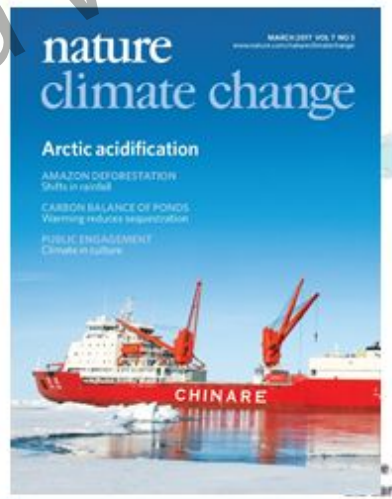
Professor

University of Delaware

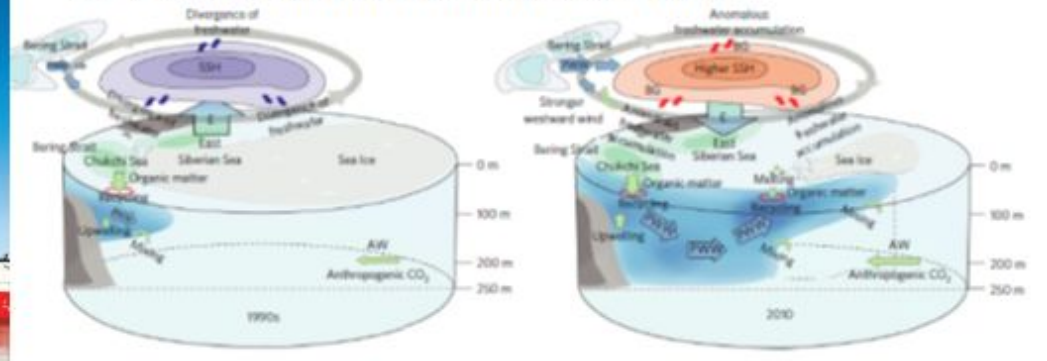
Interaction between Ocean Acidification and coastal eutrophication/hypoxia (Cai et al. 2011, Nat. Geosci)



- *Air-sea CO_2 flux measurements*
- *Carbon cycle in coastal waters and the Arctic Ocean*
- *Hypoxia and acidification in estuarine & coastal waters*
- *Instrumentation and sensor development for ocean carbon cycle research*
- *Thermodynamics of marine CO_2 system.*



Qi et al. 2017, Nat. Climate Change



e 4 | Schematic representation of the extent of Ω_{arag} change driven by environmental and climate changes in the western Arctic Ocean between arly 1990s and 2010s. Over the past two decades global warming and climate changes have caused rapid environmental changes in the Arctic Ocean,

Victoria Coles

Associate Professor

UMCES

- Physical oceanographer and BGC modeller
- USCLIVAR process study and model improvement panelist - provide links between OCB and USCLIVAR efforts in improving understanding of mesoscale air-sea fluxes.
- Favorite color: Oligotrophic ocean blue

Question: Are model parameterizations of air-sea fluxes appropriate to resolving small scale temporal and spatial variations in ocean and atm physics and BGC? (Ans: Probably not.)

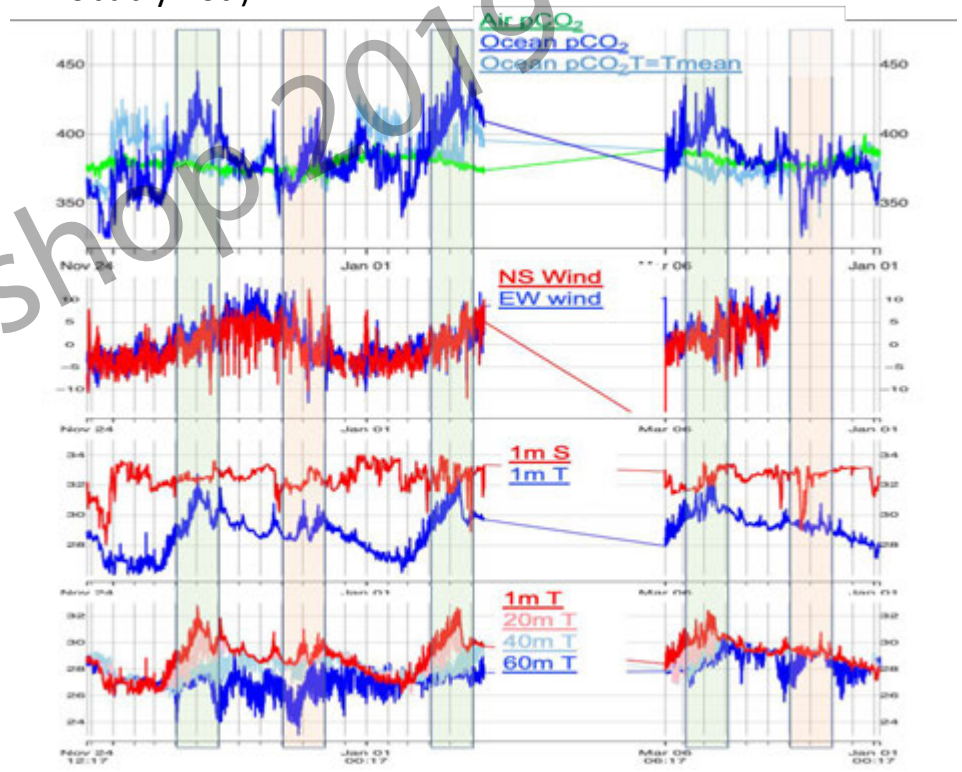


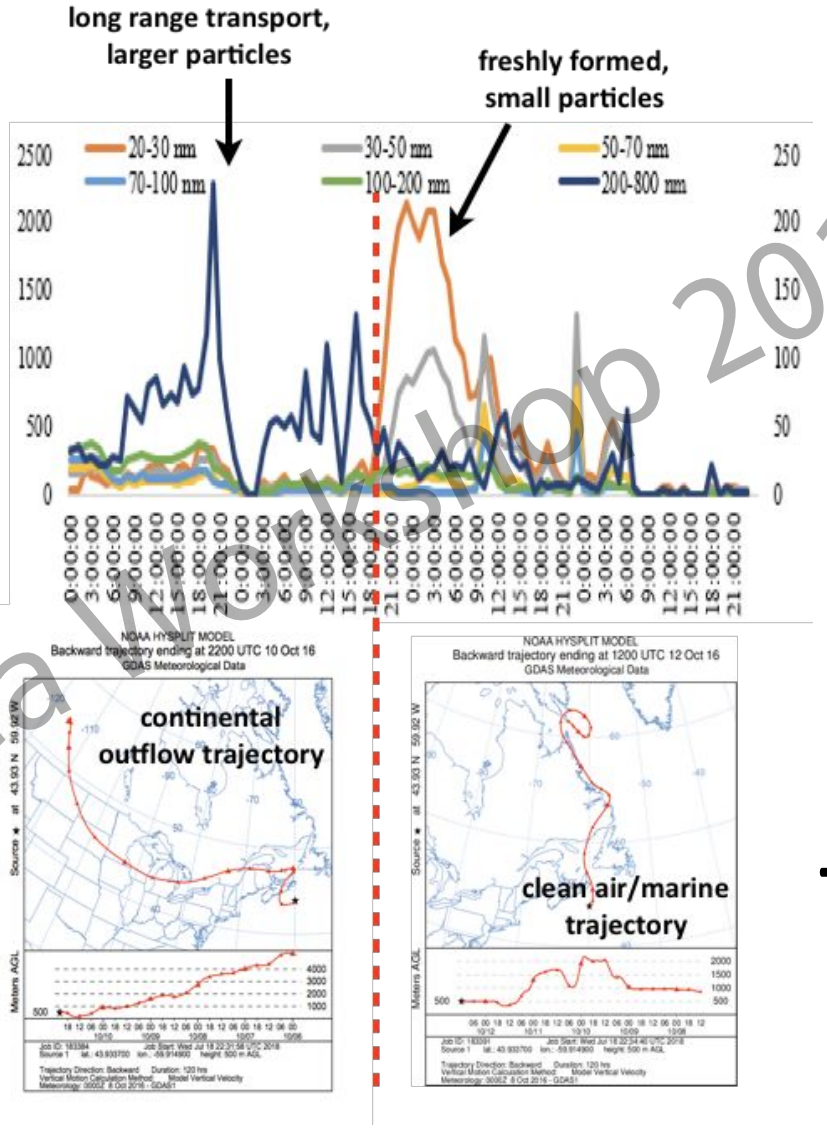
Figure 4: Time series plots from the BOBOA mooring in the Bay of Bengal of: (A) pCO_2 in the water, in the air and with the temperature effect removed; (B) zonal and meridional wind;(C) surface temperature and salinity (D) water column temperature down to 60 meters depth.

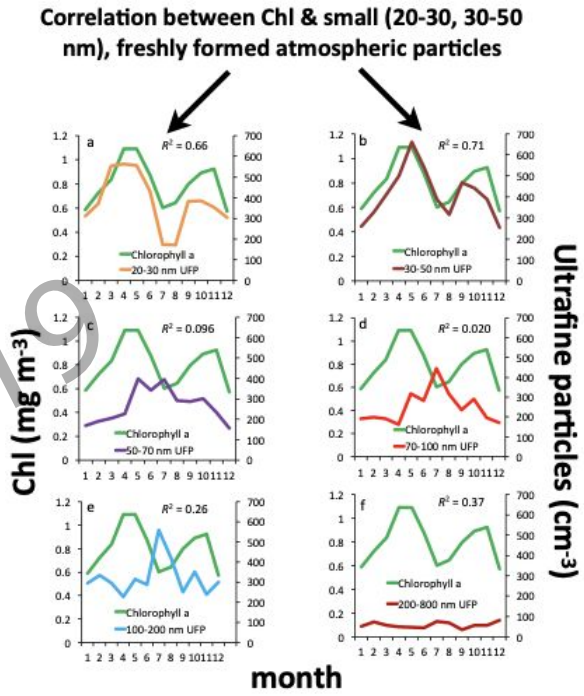
Susanne Craig

Senior Scientist

NASA Goddard Ocean Ecology Laboratory

- **Research areas:** PACE ocean color satellite mission, ocean optics, phytoplankton ecology, phytoplankton community composition, machine learning
- **Research questions:** Phytoplankton -associated VOC production & relationships with SOA formation
- **Establishment of synergistic ocean-atmosphere measurement sites (NASA Wallops Flight Facility)**





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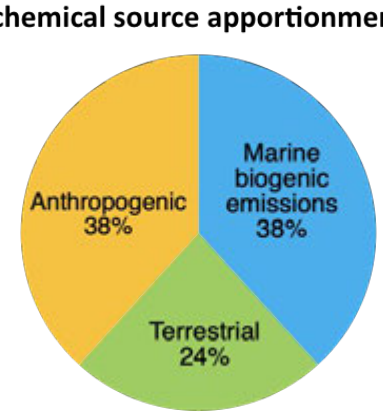
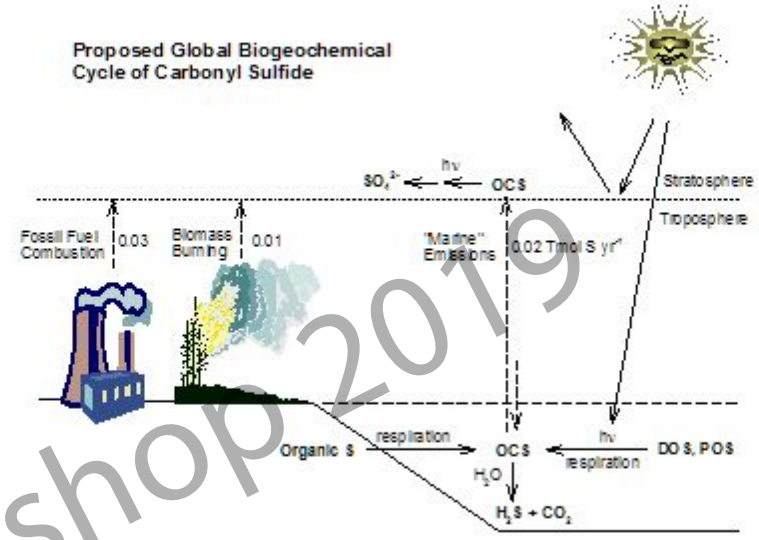
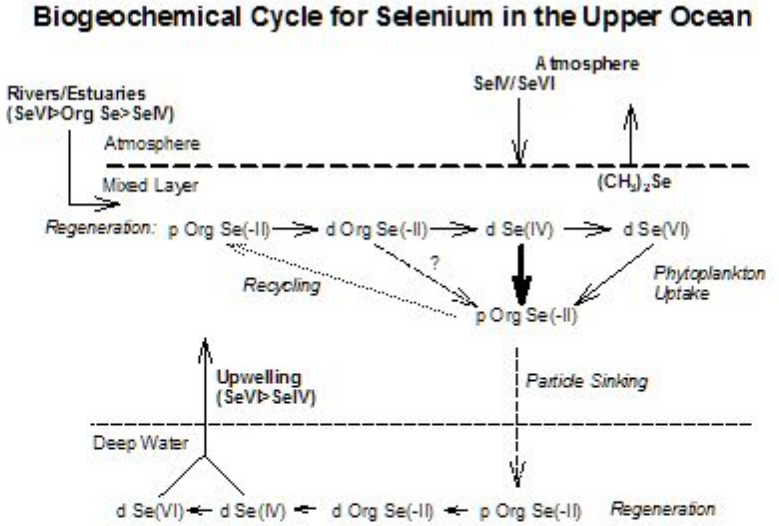


Greg Cutter
Professor
Old Dominion Univ.

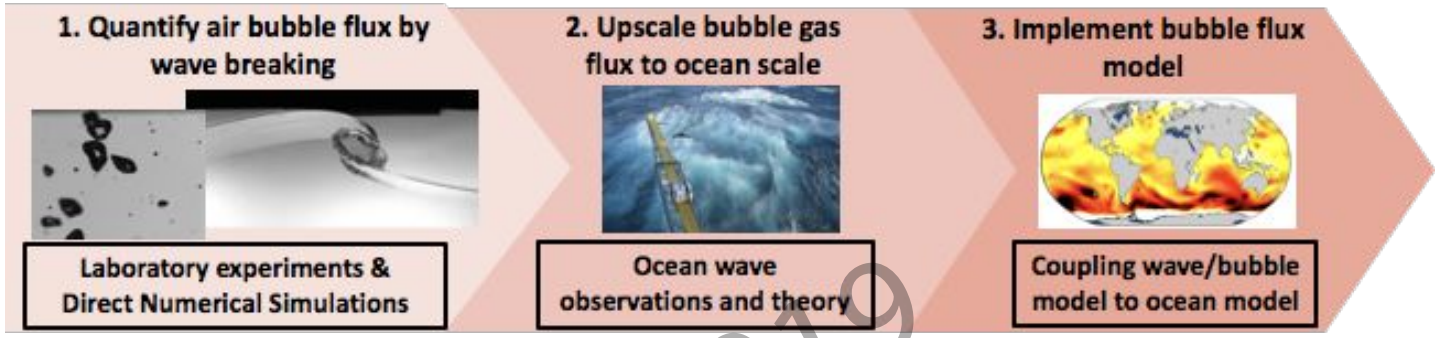
- *Trace element biogeochemisty*
- *H_2S and OCS cycling in the surface ocean*
- *Air-sea exchange of gases and particles*
- *Concerns/topics:*
  - *Methods to more accurately measure all fluxes*
  - *Constraining air-sea fluxes on relevant temporal and spatial scales*



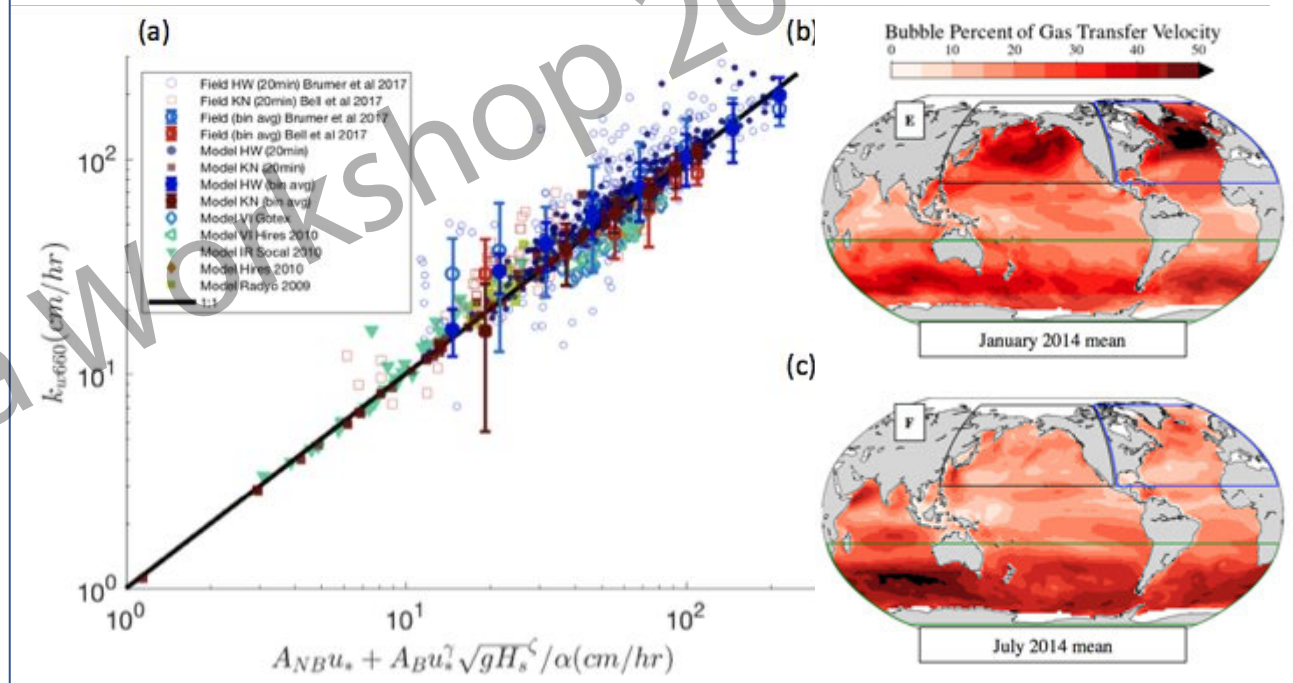


Luc Deike

Assistant Professor
Princeton University



- **Interests:** Small scale processes controlling mass exchange at the ocean-atmosphere interface
- **Bubble mediated gas transfer parameterization** based on bubble dynamics and statistics in turbulence under breaking waves and wave statistics models
- **Spray generation by breaking waves and bursting bubbles**, effect of the surface physico-chemistry on droplet formation mechanisms



$$k_{w,660} = k_{w,660}\left(\frac{Sc}{660}\right)^{1/2} = \mathrm{k_{nb}} + \mathrm{k_b} = A_{nb}u_* + \frac{A_b}{\alpha}u_*^{5/3}\left(\sqrt{gH_s}\right)^{4/3}$$

Deike and Melville 2018, GRL; Reichl and Deike, in review 2019

Bob Duce
University Distinguished Professor Emeritus
Texas A&M University

Closely involved with the development and early operation of both international SOLAS and US SOLAS.

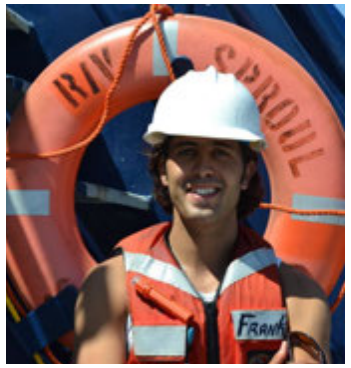
Conducted research on air/sea exchange since the early 60s.

Currently co-chairing a UN Working Group on The Atmospheric Input of Chemicals to the Ocean - more than 20 peer reviewed scientific papers have resulted.

Currently developing plans for a workshop, bringing together management and policy people with air/sea interaction chemists.

Workshop will take place in October, 2020 in Port Elizabeth, South Africa. It will address the potential importance of the deposition of biomass burning derived and other nutrients into the Mozambique Channel and the southwest Indian Ocean, including potential management and governance issues resulting from these inputs.

Some old air/sea chemistry photos

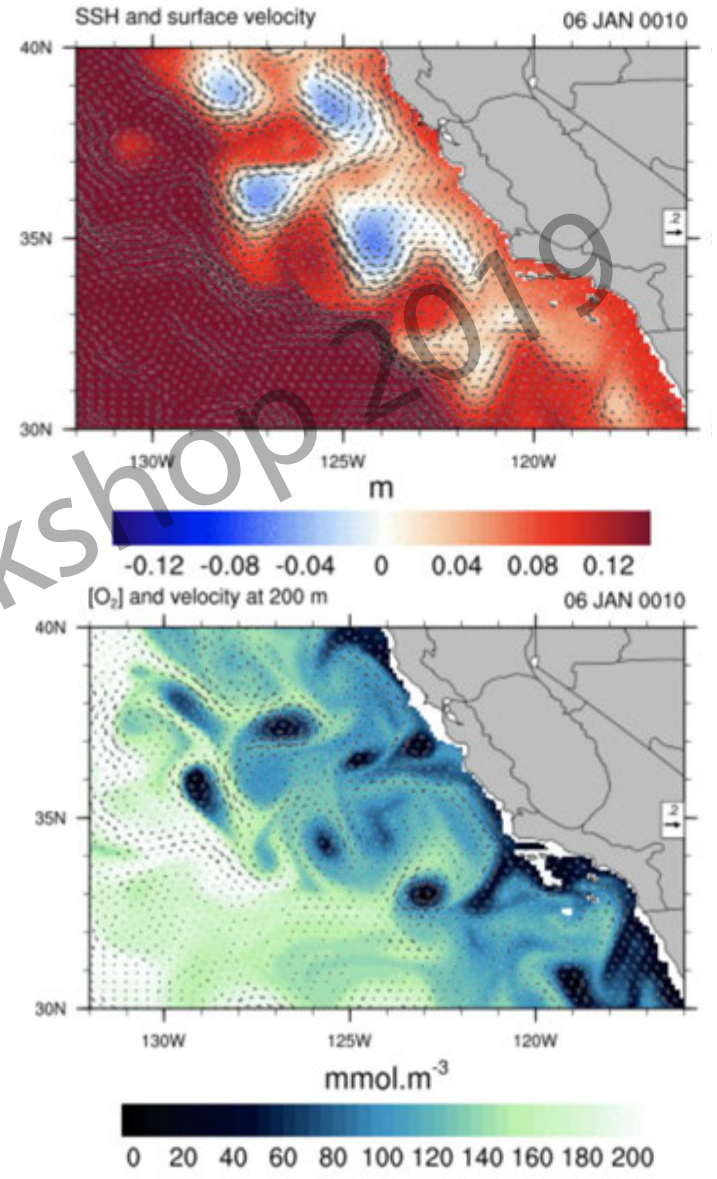


Yassir Eddebbar

Postdoctoral Scholar
Scripps Institution of Oceanography

*landing right about now

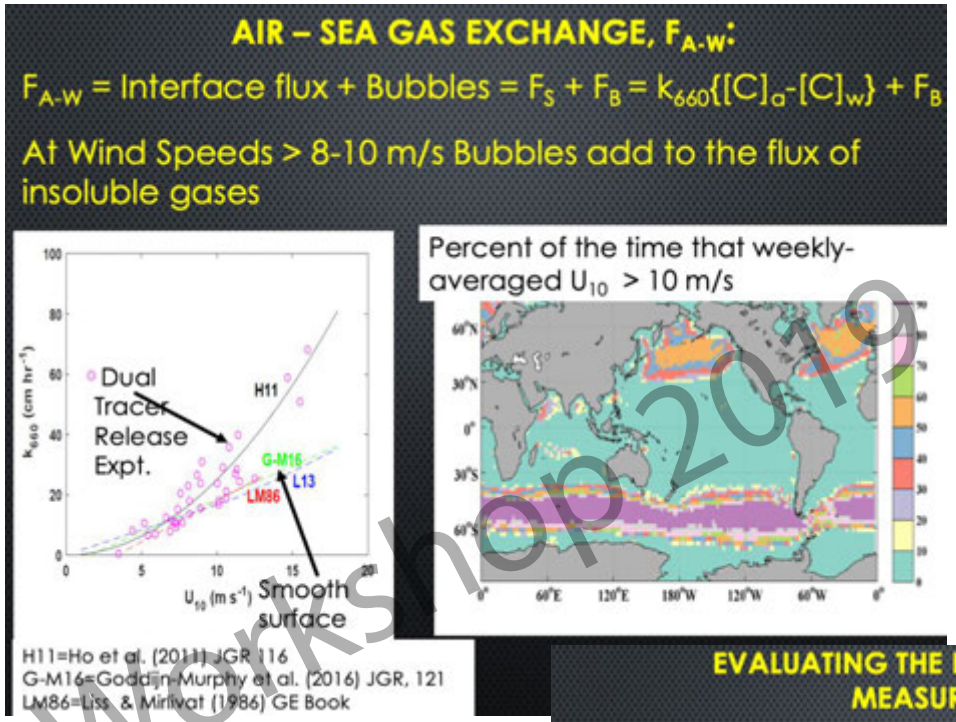
- ***Areas of research:*** Ocean oxygen and carbon coupling to climate and ocean circulation, from global to mesoscale.
- **Tools:** Global climate and eddy-resolving models & analysis of available observations.
- ***Favorite Movie:*** Naked Gun

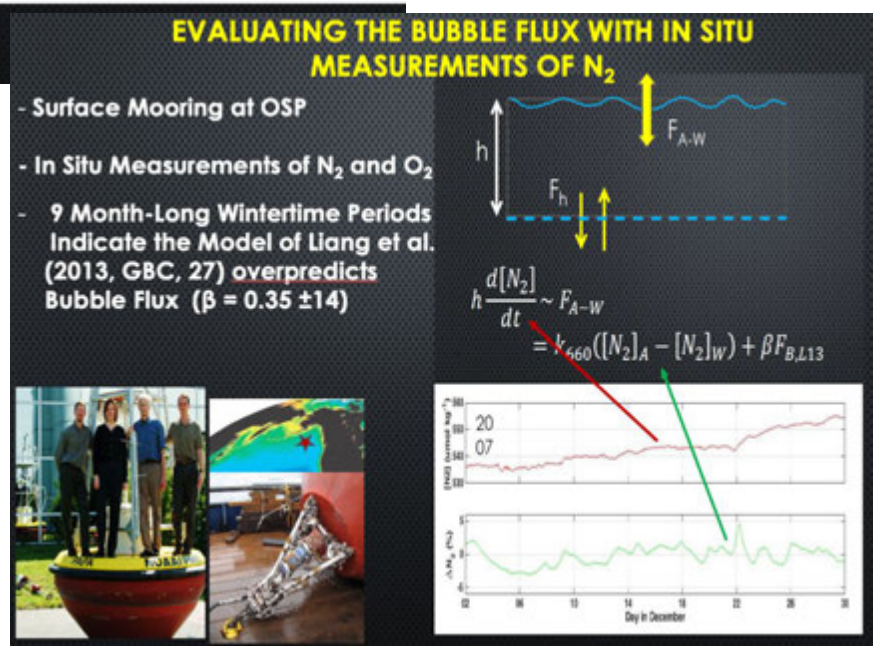


Steven Emerson
Professor Emeritus
U. of Washington

I have been studying the ocean's biological pump using in situ oxygen measurements on profiling floats. A key parameter for determining the biologically-produced, air-sea O_2 flux is evaluating the role of bubbles. The bubble flux in the air-sea exchange model of Liang et al. (2013) was calibrated using in situ N_2 measurements on a surface mooring at OSP.

(Emerson et al., 2019, Air-sea gas transfer: Determining bubble fluxes with in situ N_2 observations, JGR, 124, doi:10.1029/2018JC014786)



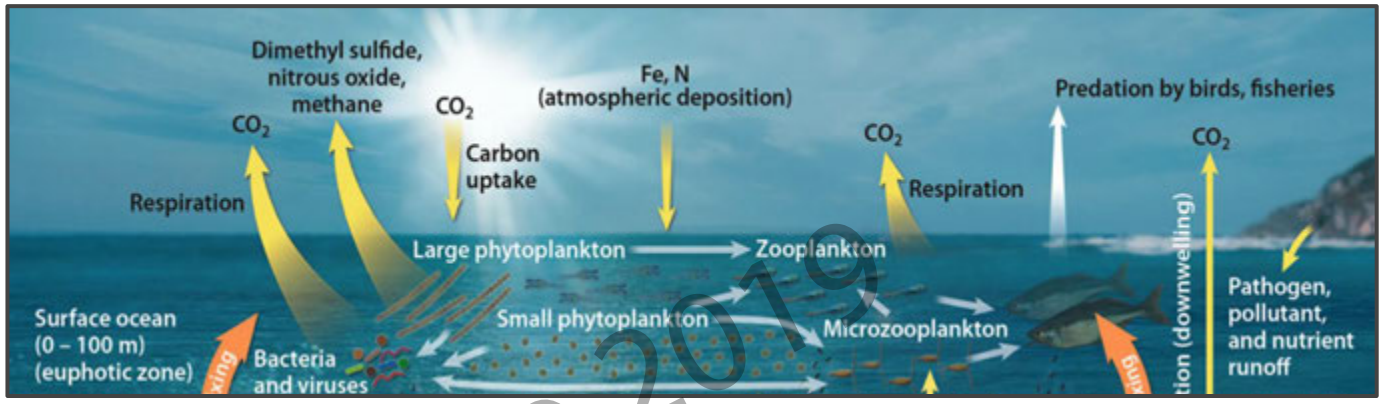


Sheri Floge

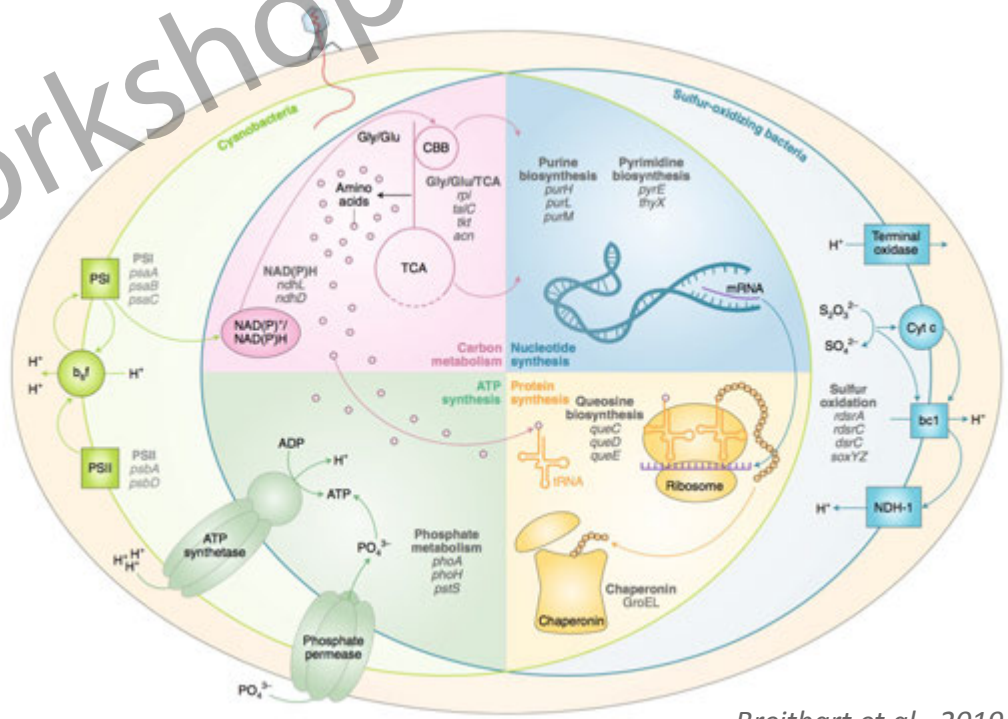
Assistant Professor
Wake Forest University

The role of marine viruses in:

- Phytoplankton physiology
- DMS/P production
- Aerosol formation
- Marine C and N cycling



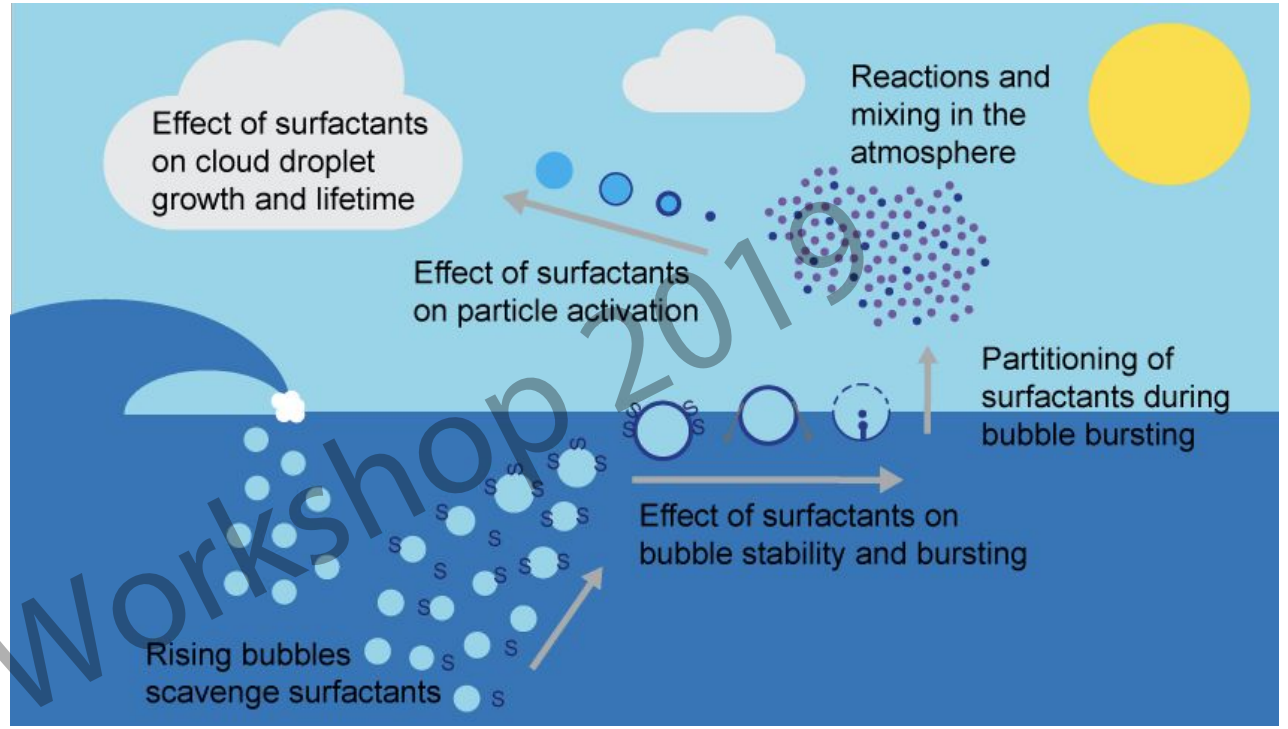
Oak Ridge National Laboratory

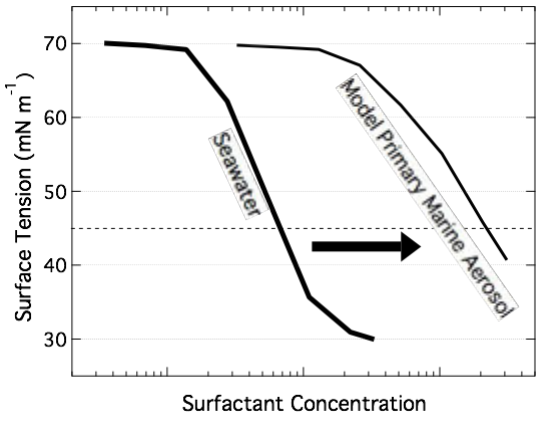


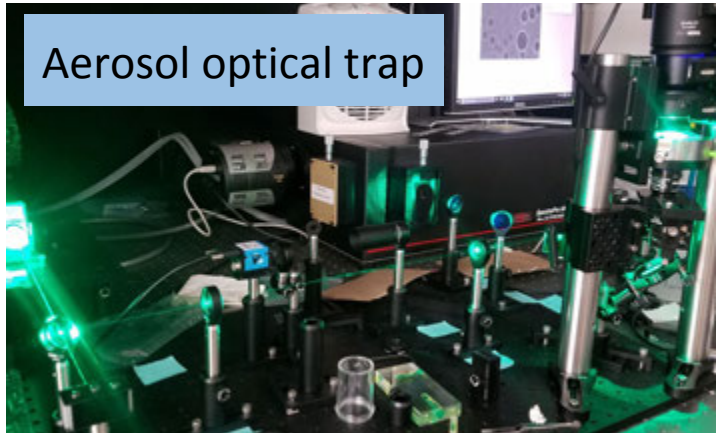
Breitbart et al., 2019

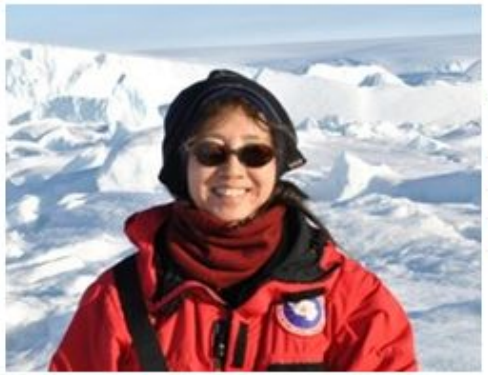
Amanda Frossard
Assistant Professor
University of Georgia

- **Surfactants:** chemical composition, surface tension, partitioning between seawater and aerosol, affect on primary marine aerosol production and growth of particles into cloud droplets
- **Aerosol particles:** sources, composition, hygroscopic growth, cloud condensation nuclei
- **Instrument/method development**









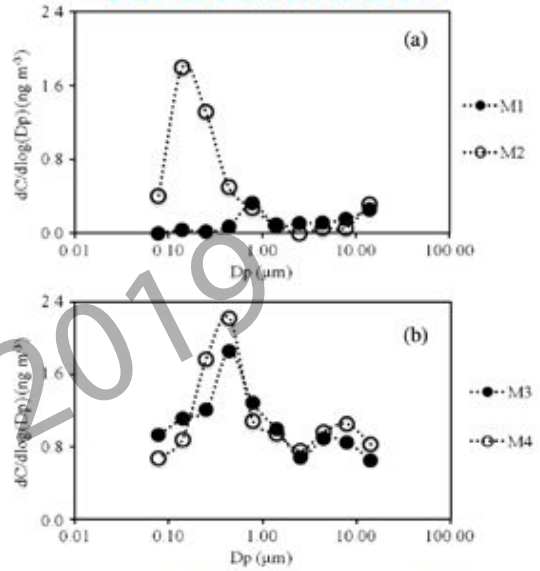
Yuan Gao
Professor
Rutgers University

Research Interests:

- **Chemical and physical properties of atmospheric dust (size distributions, composition, Fe oxidation states and solubility, surface morphology)**
- **Atmospheric deposition of nutrients to the high-latitude oceans and impacts on ocean biogeochemical cycles**
- **Aerosol-marine ecosystem interactions (dust, sulfur, nitrogen and organics)**
- **Air-coastal sea chemical exchange and interactions with urban air pollution**

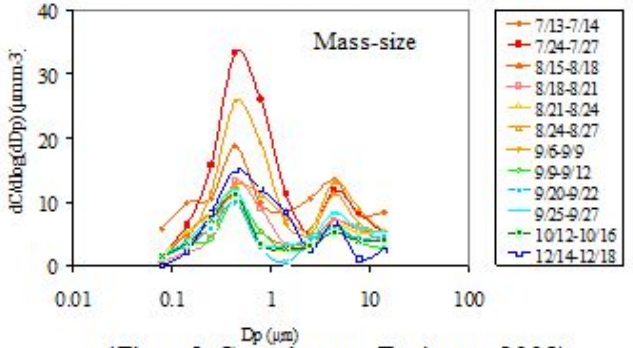
Southern Ocean and Coastal Antarctica

Size of Dissolvable Fe



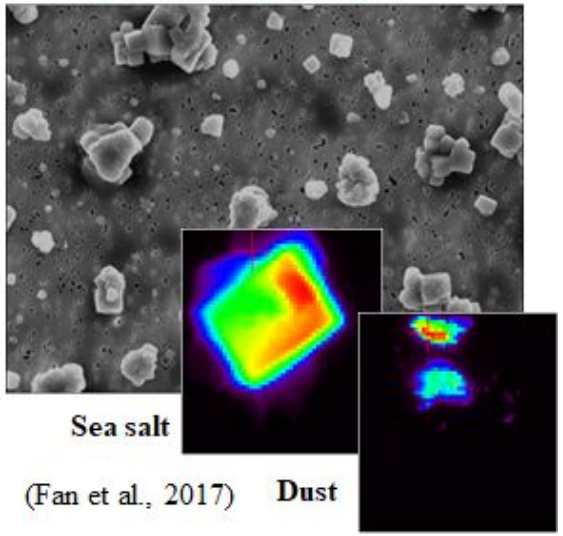
(Gao et al., JGR-Atmospheres, 2013)

US Northeast Coast



(Zhao & Gao, Atmos. Environ., 2008)

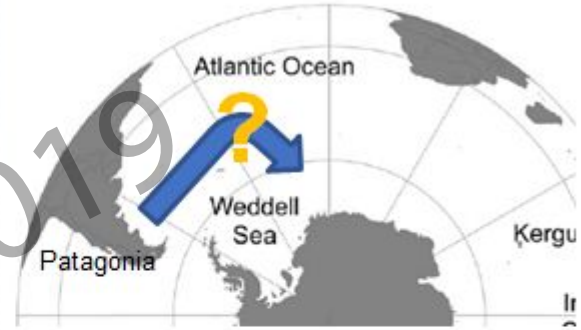
Individual Particles



(Fan et al., 2017)

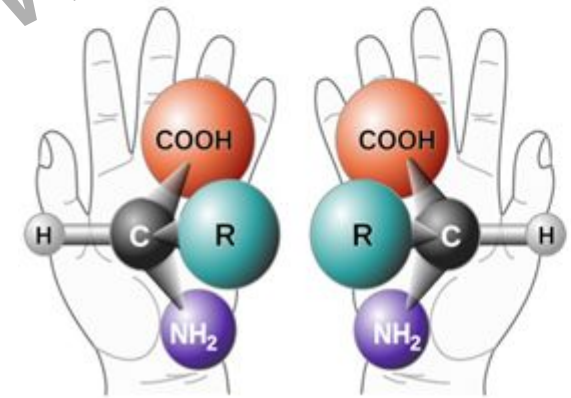
Santiago Gassó
Associate Res. Sc.
NASA/University of Maryland

High Latitude Transport

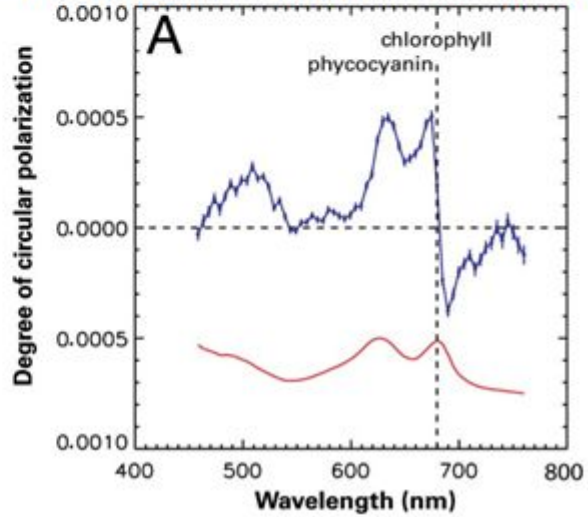


- *Remote Sensing of Aerosols difficult to detect: high latitude dust and biogenic aerosols*
- *Aerosol Transport and production at high latitudes (Geotraces, CLIC, PAGES)*
- *Exploring detection of chiral aerosols*
- *SOLAS Steering Committee Member*

Chiral Molecule



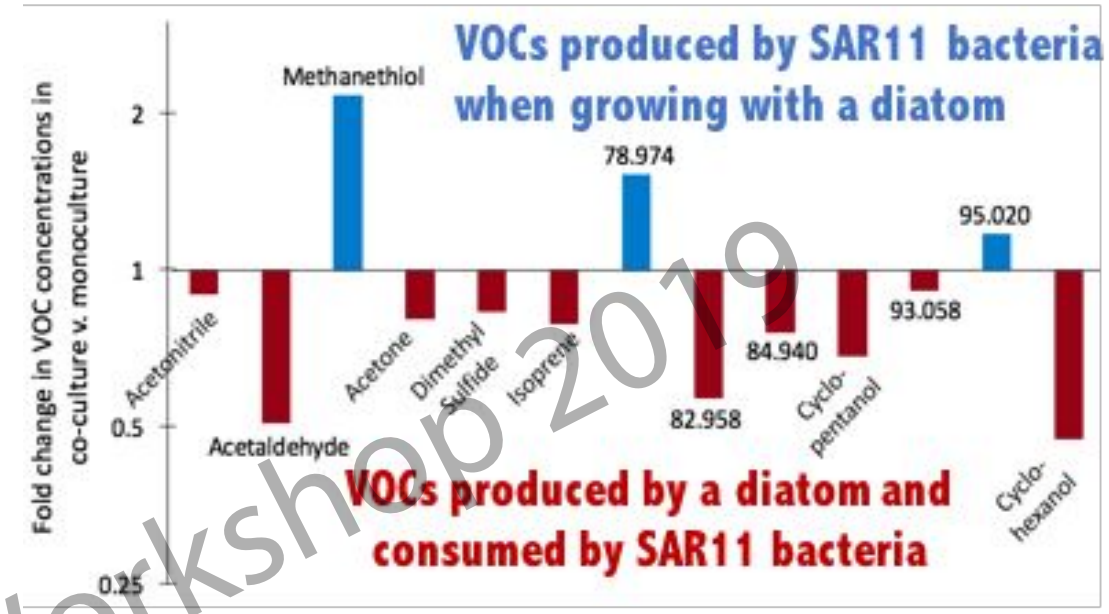
Cyanobacteria Circular Polarization

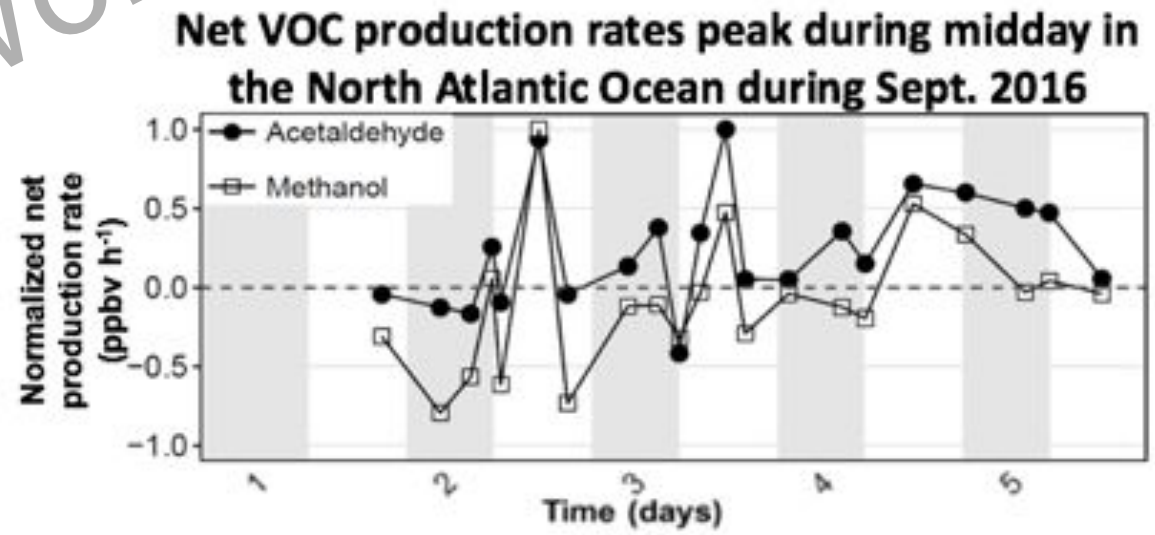


Kimberly Halsey
Associate Professor
Dept. of Microbiology
Oregon State University

Microbial controls on VOC cycling in the surface ocean

- VOCs are actively cycled between phytoplankton and bacterioplankton
- **Decoupling of the VOC cycle can lead to VOC accumulation and possible sea-air emission**
- Culture studies show a wide range of VOCs produced by algae and consumed by heterotrophs
- **We found that ~20% of gross carbon fixation was transferred to bacteria in the form of VOCs**

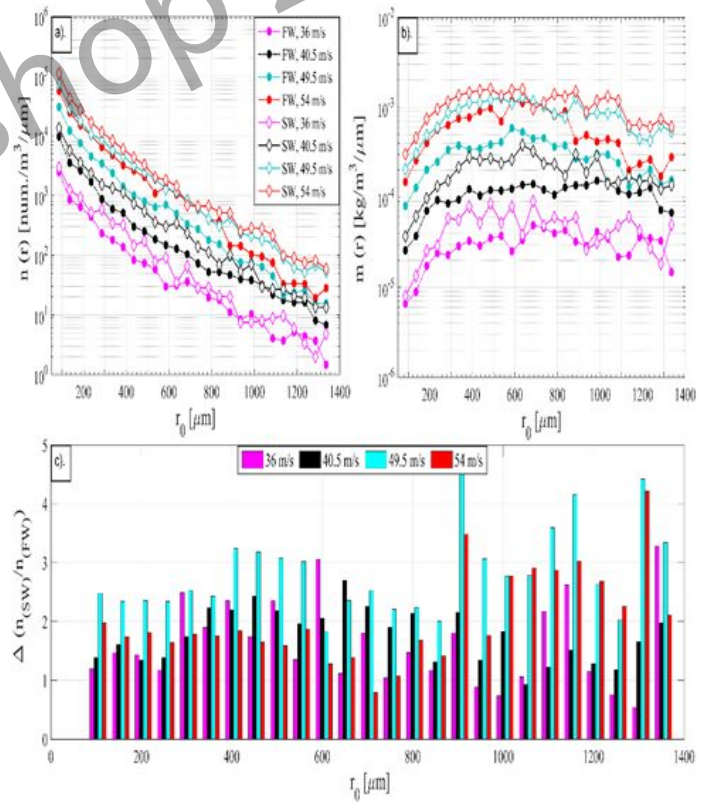




Brian Haus
Professor
University of Miami

Research Interests

- Experimental studies of air-sea interactions
- Fluxes in extreme winds
- Sea-spray generation
- Coastal wind and wave fields
- Radar remote sensing
- Coastal resilience

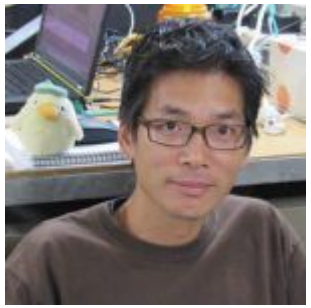


Cassandra Gaston
Assistant Professor
RSMAS/University of Miami

Air/Sea Exchange of Aerosols

- ***Deposition of soluble nutrients from aerosols:*** *aerosol sources, long-range transport*
- ***Rates of Aerosol Chemical Aging:*** *particle acidity and nutrient solubility*
- ***Production of Aerosols from Aquatic Ecosystems***
- ***Long-Term Aerosol Measurements of African Dust at Barbados and in South America***

Barbados Atmospheric Chemistry Observatory (BACO) used to document the long-range transport of African dust to the Atlantic Ocean.

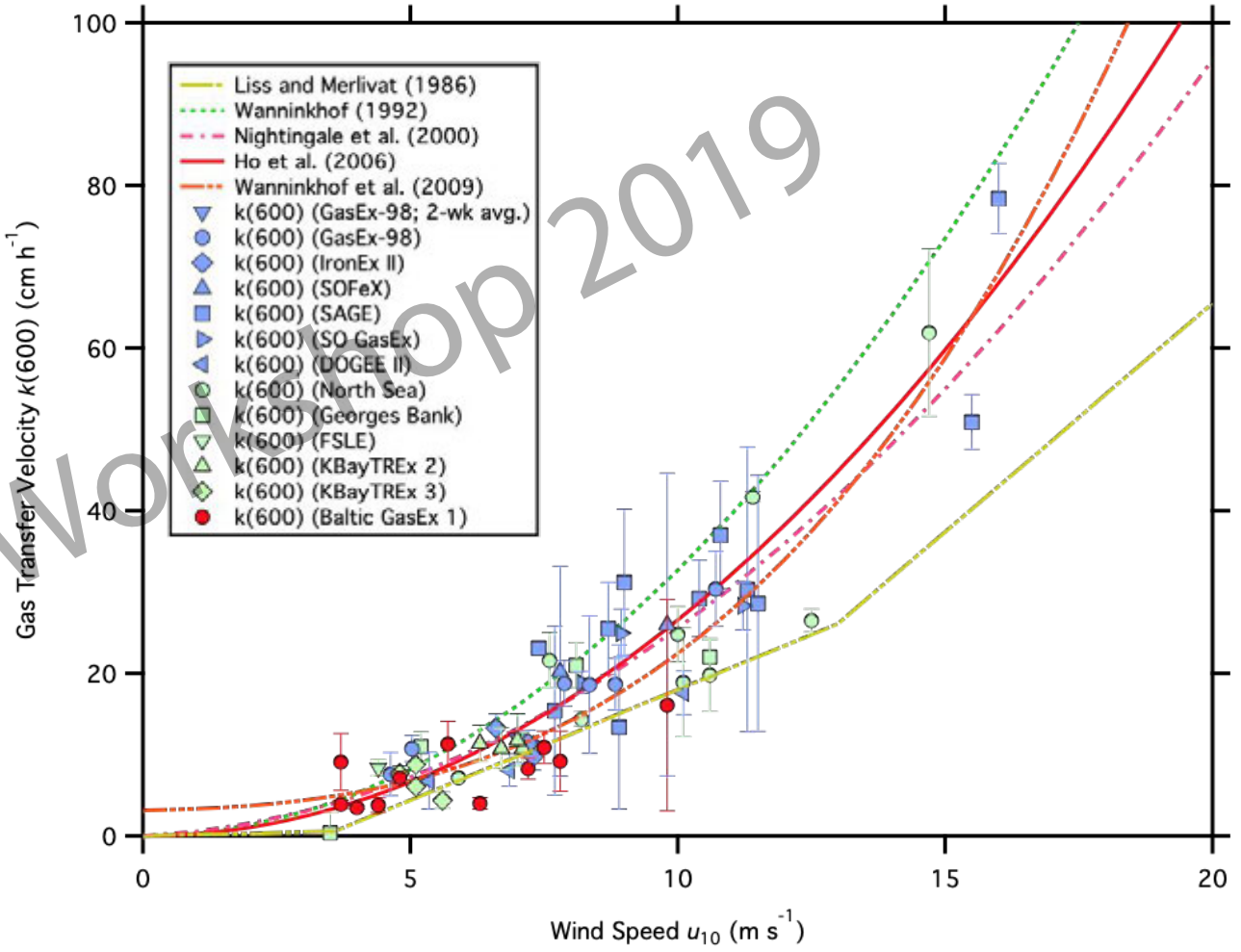


David Ho
Professor
University of Hawaii

Air-Sea Gas Exchange
- Open ocean
- Inland seas (surfactants, fetch)
- Coastal ocean
- Coral reefs (shallow water)

Carbon cycle
- Global (rain effects)
- Mangroves (blue carbon)

Favorite font
- Gill Sans

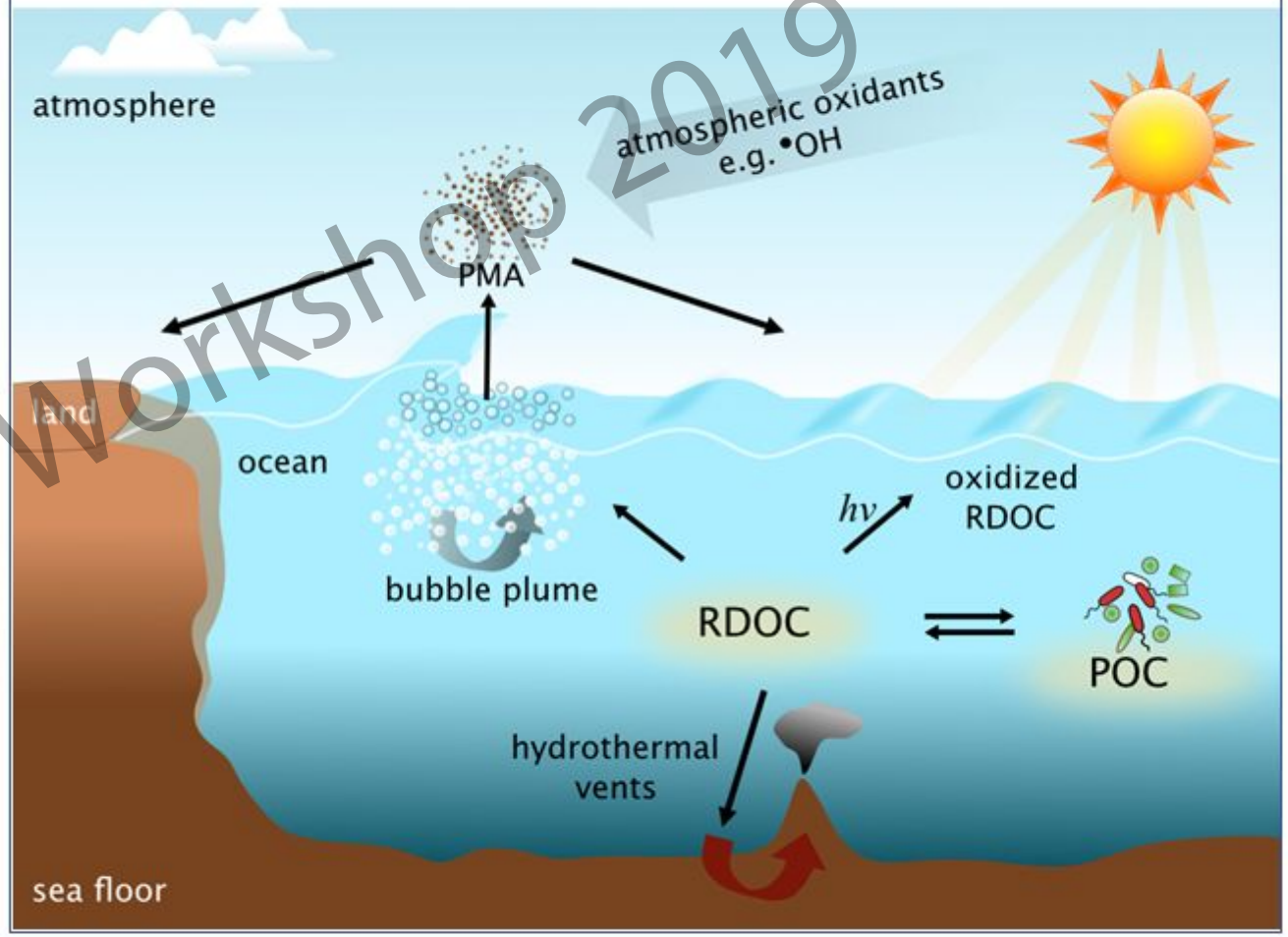


Bill Keene

Research Professor (ret.)
University of Virginia

- Size- and composition-resolved production of primary marine aerosol
- Multiphase chemical evolution of marine air
- Halogen radical chemistry
- Atmospheric deposition
- Environmental implications
- Biogeochemical cycles

Beaupré, et al., Oceanic efflux of ancient marine dissolved organic carbon in primary marine aerosol, *Sci. Adv.*, 2019, in press.



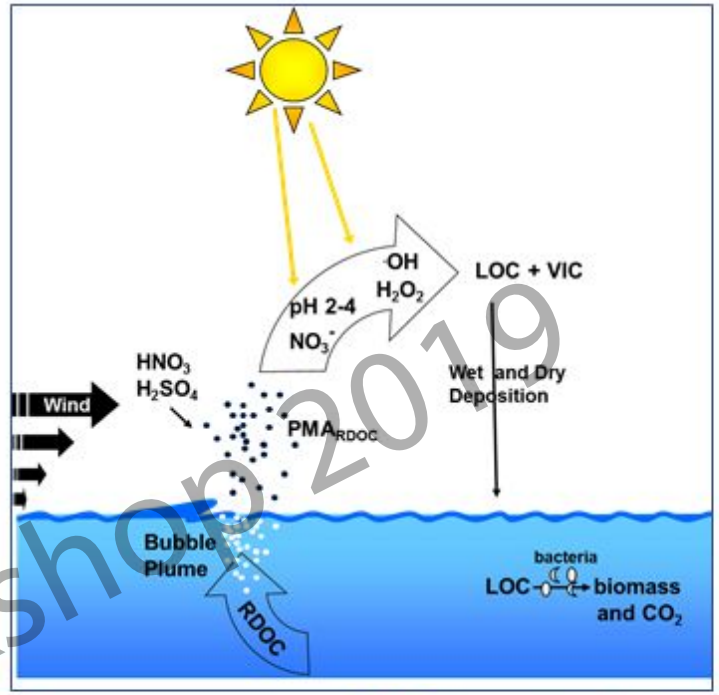
David Kieber

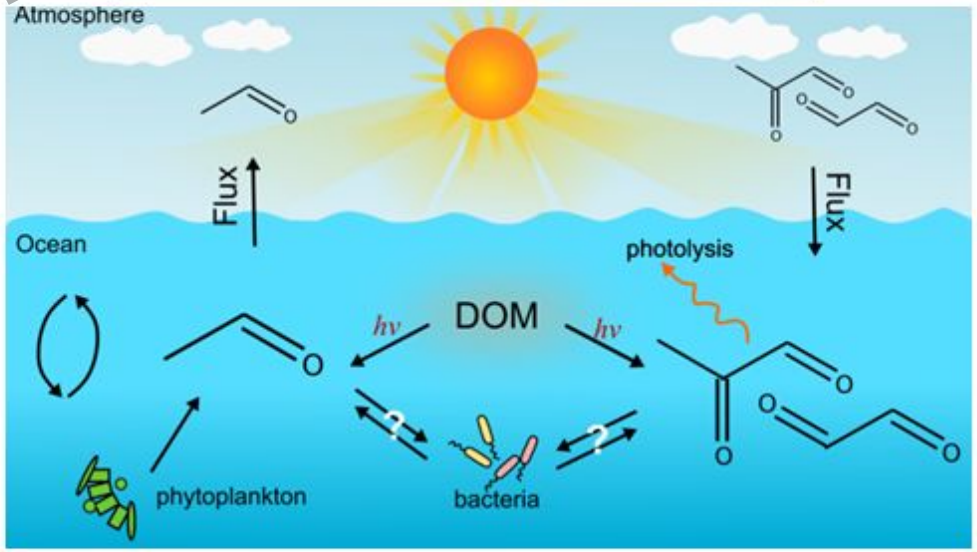
University Distinguished Professor
SUNY College of Environmental
Science and Forestry

Marine Organic Biogeochemistry Research Interests:

- Photochemistry
- Marine Carbon and Sulfur Cycles
- Primary Marine Aerosols
- Microbial Ecology
- Harmful Algal Blooms

UV Rules





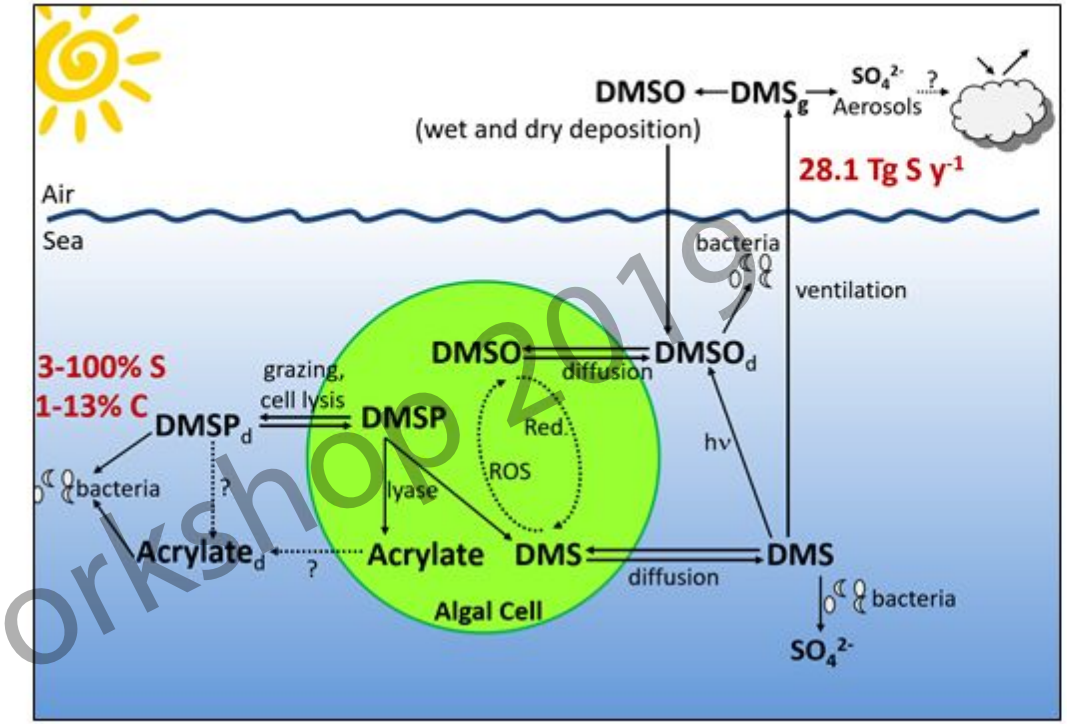
Joanna Kinsey

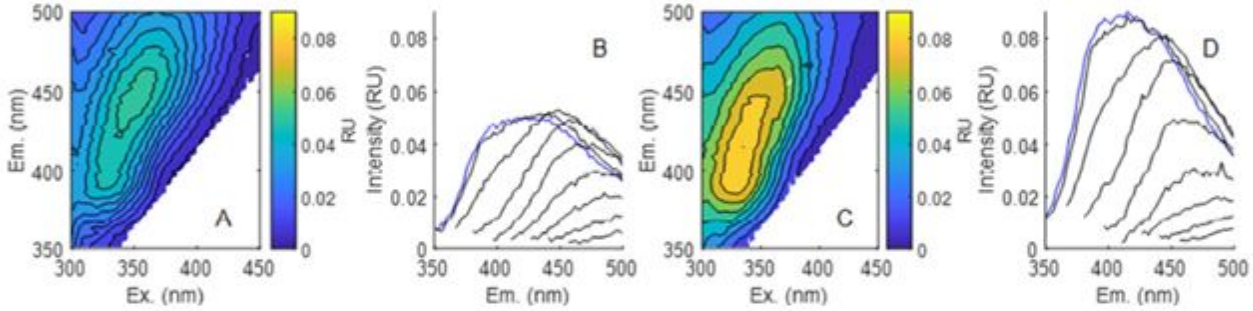
Assistant Professor
Quinnipiac University

Marine carbon and sulfur biogeochemical cycling

- *Photochemical and biological transformations of DMS(P)(O) and acrylate*
- *Microbial-mediated autochthonous CDOM production*

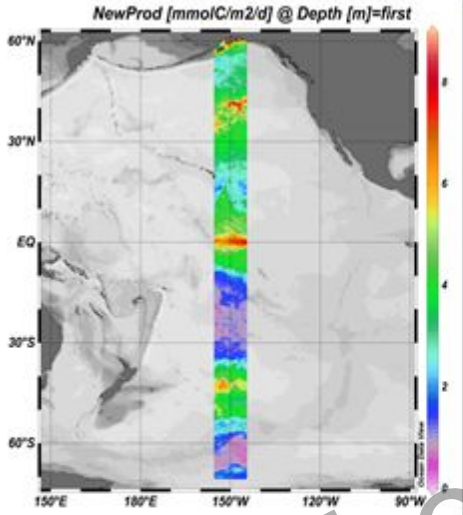
Harmful algal blooms

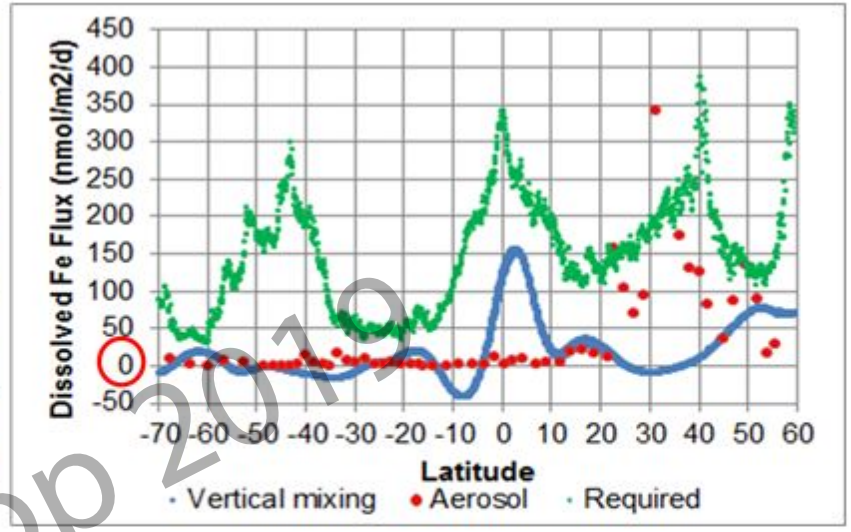


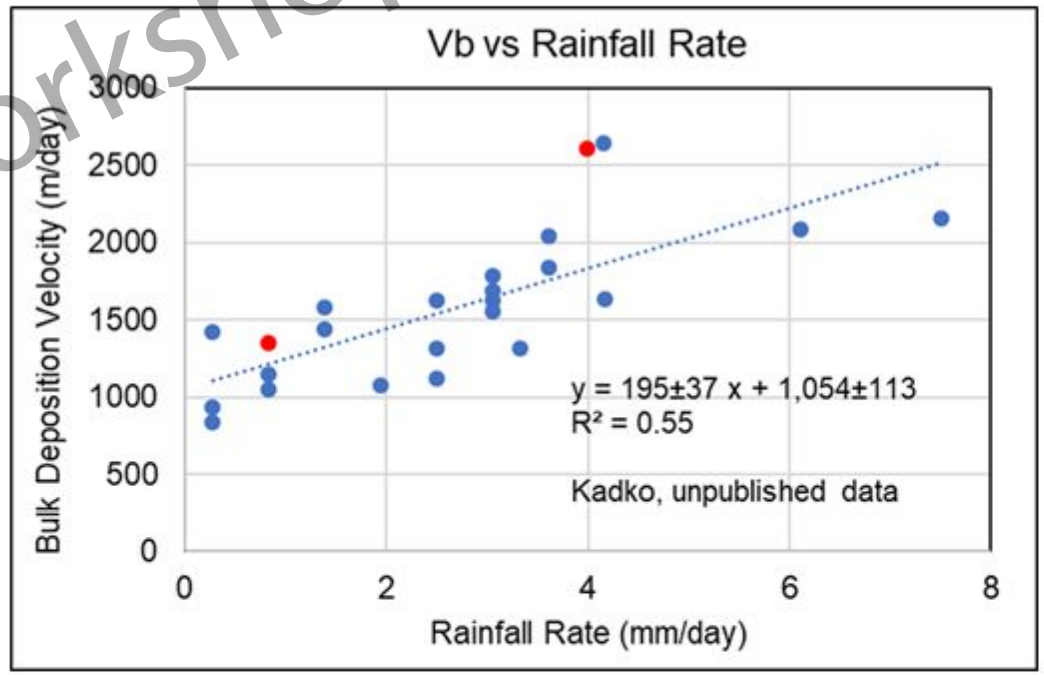


William Landing
Professor
Florida State University
Earth, Ocean and Atmospheric Science

- Aerosol chemistry and solubility.
- Quantifying aerosol flux from the atmosphere to the oceans.
- Atmospheric deposition of biologically-essential trace elements and its impact on upper ocean productivity.
- CLIVAR and GEOTRACES oceanographic sections of trace elements.



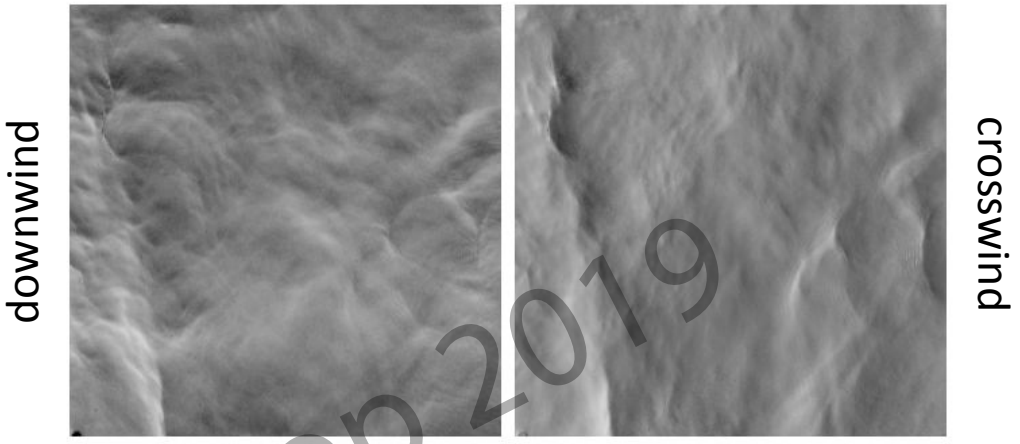




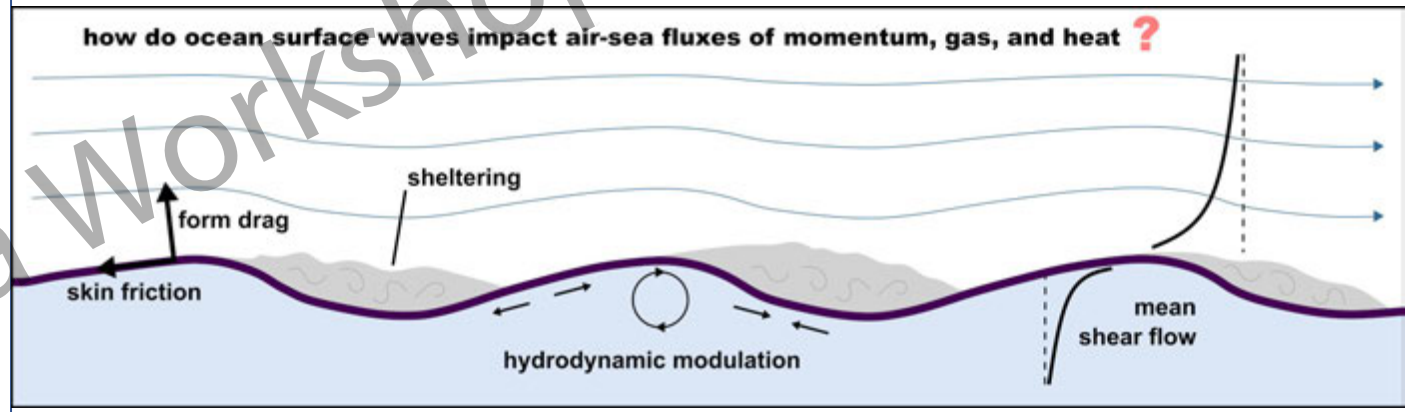
Nathan Laxague

Postdoctoral Research Scientist

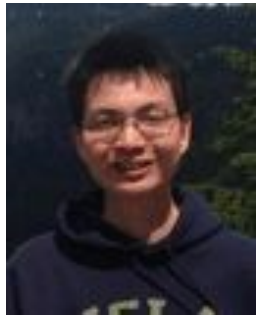
Lamont-Doherty Earth Observatory of Columbia University



- **I study geophysical fluid mechanical processes near to the atmosphere-ocean interface.**
- **Focus: observations of ocean surface waves in order to describe their role in air-sea interaction.**
- **Recently funded to investigate the impact of surfactants on gravity-capillary waves.**
- **This is my favorite color.**



As dynamical models improve in sophistication and resolution, it is imperative for observational techniques to do the same.



Jun-Hong Liang

Assistant Professor

Louisiana State University

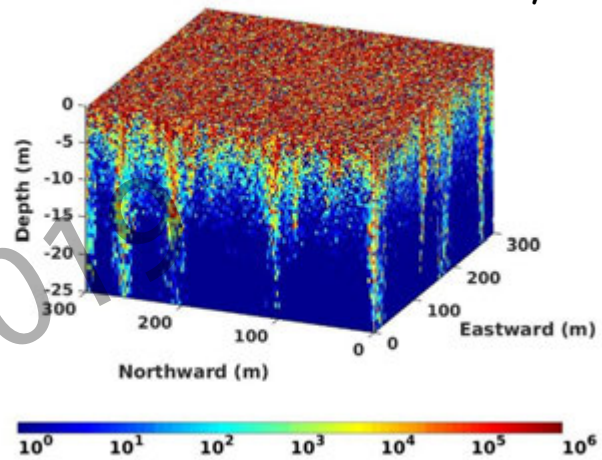
Research Interests

- Gas flux parameterization including the effect of gas bubbles
- Upper ocean turbulence; parameterization of horizontal dispersion and vertical mixing for particulate and dissolved materials
- Modeling of sinking particles (the upside-down problem of bubbles)

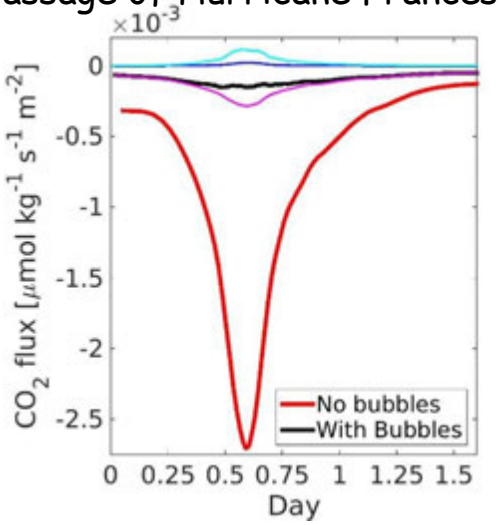
Development of computer models to simulate the concurrent evolution of turbulent ocean currents, gas bubbles (using Lagrangian particles), and dissolved gases.

Synthesis of model solutions and observations to study bubble-mediated gas transfer

Simulated bubble number density



Simulated air-sea CO_2 flux during the passage of Hurricane Frances (2004)



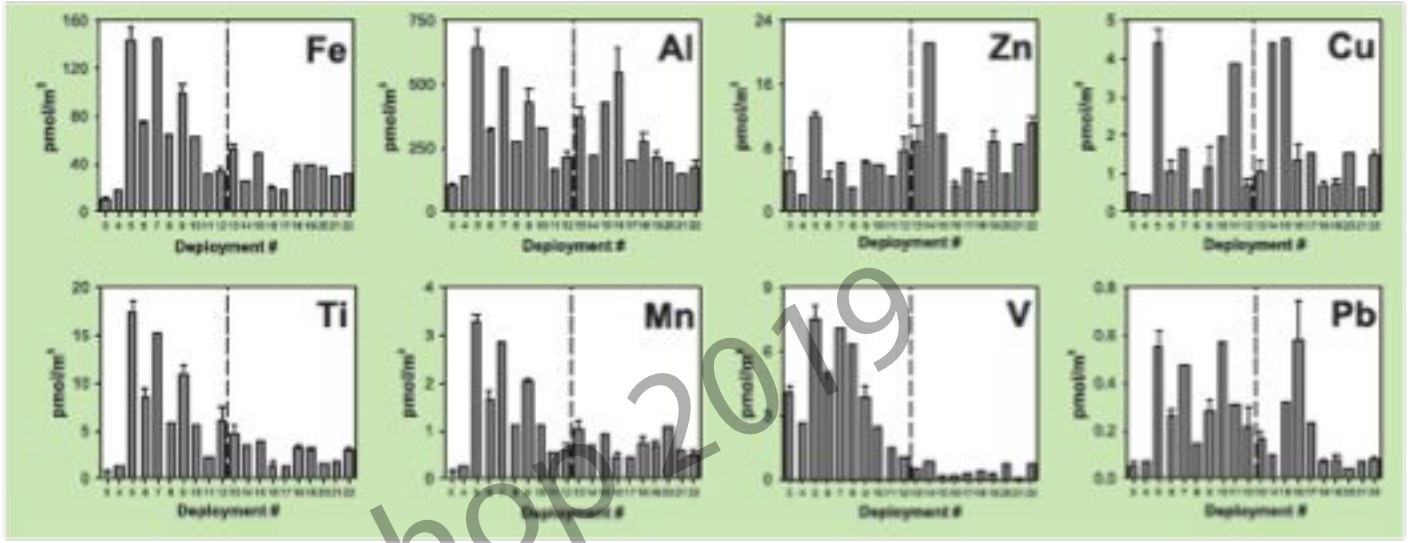
Chris Marsay

Post-doctoral Research Associate

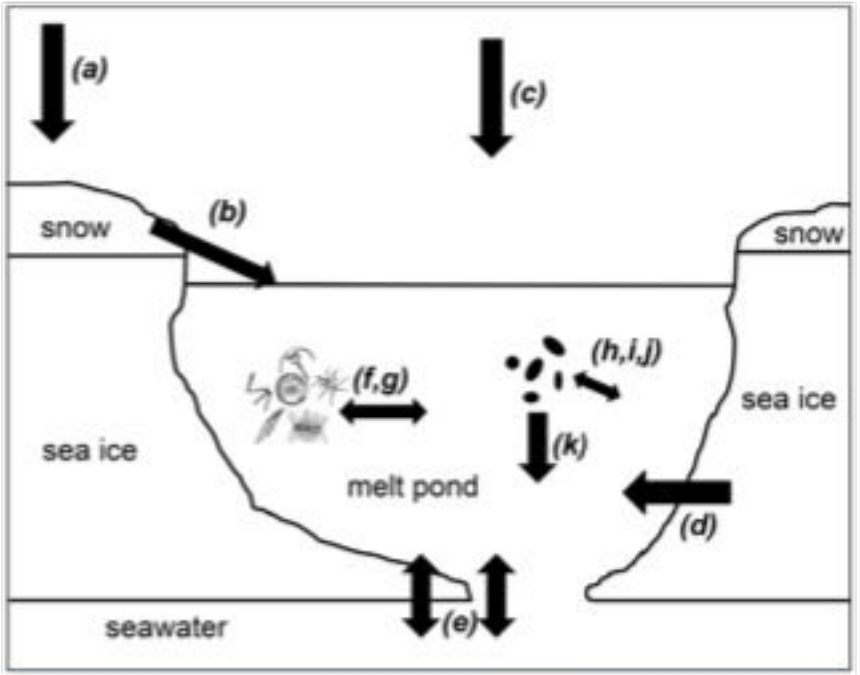
Skidaway Institute of Oceanography, UGA

Interests:

- Quantifying rates of dry and wet atmospheric deposition of trace elements to the surface ocean.
- Improving understanding of controls on solubility/bioavailability of aerosol trace elements.
- Constraining the full biogeochemical effects of TE atmospheric deposition – i.e. dissolution versus scavenging of TEs; enhancement of primary production versus toxicity from pollutant elements.



Aerosol TE concentrations measured during GEOTRACES GP15 (Alaska to Tahiti).



Schematic of processes influencing TE concentrations in Arctic melt ponds (Marsay et al., 2018).

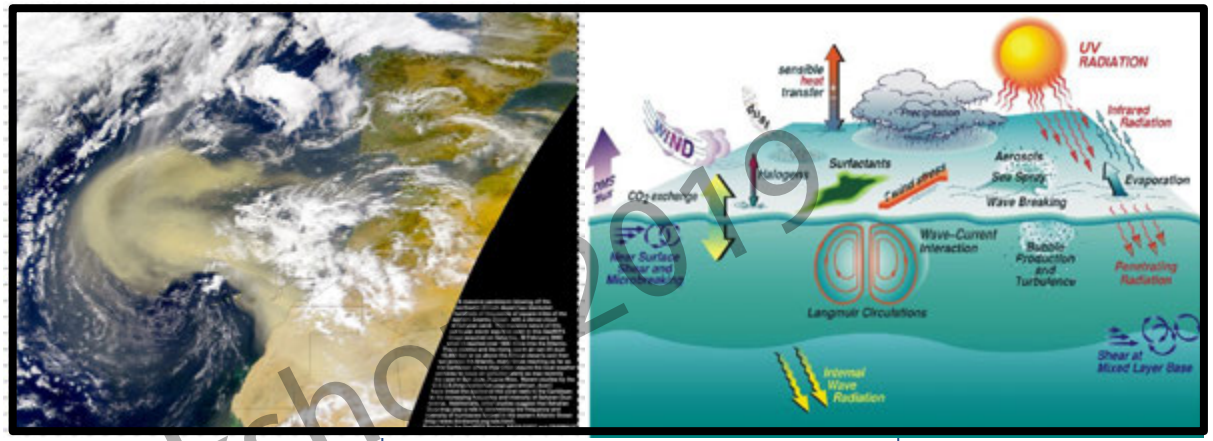
Patricia "Paty" Matrai
Senior Research Scientist
Bigelow Laboratory for
Ocean Sciences (Maine)

- phytoplankton production of DMS/P
- marine primary organic aerosols
- Arctic Ocean primary production
- autonomous over and under Arctic sea ice measurements (even CO_2!)
- physical & phytopk-bacteria interactions
- remote sensing & ocean models: validation
- microplastics rates
- experiments!!

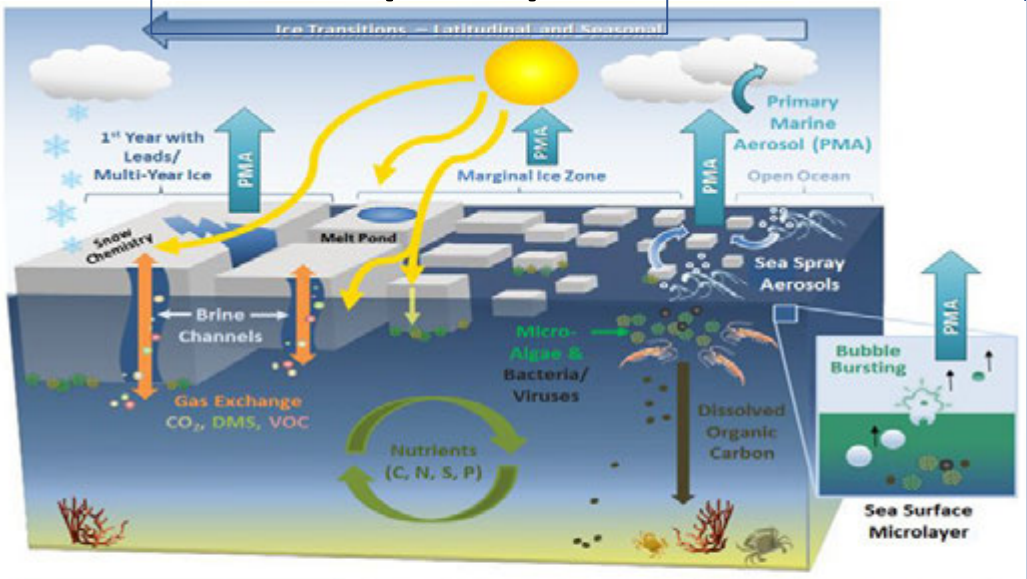
- IGAC pre-SOLAS, international SOLAS, US SOLAS, IGBP-SC (for SOLAS)

SOLAS rocks

From here (2001 and before)



to here (2019)!



Nicholas Meskhidze

Professor

NC State University

Iron biogeochemistry

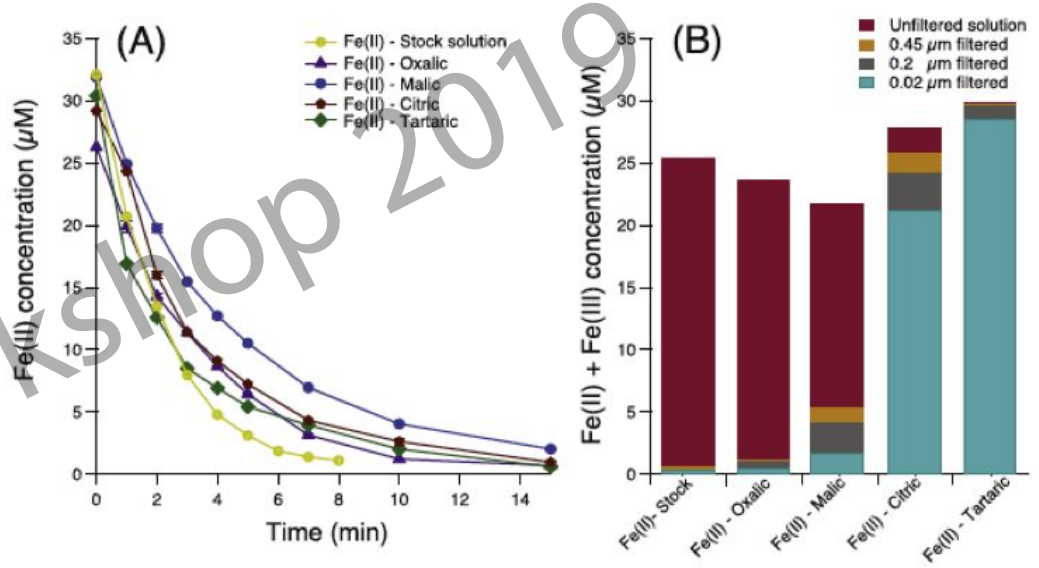
- Proposed atmospheric mobilization of mineral Fe
- Developed Fe dissolution scheme and implemented in the model
- ➢ **Iron Speciation and Residence Time at the Atmosphere-Ocean Interface**

Sea Spray emissions

- Developed wind speed dependent size-resolved parameterization for the organic enrichment
- Developed the first instrument capable of measuring size-selected seasalt fluxes
- ➢ **What controls CCN number in the remote marine boundary layer**

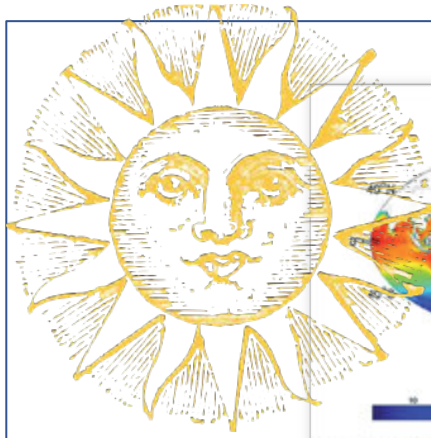
Perspective on Identifying and Characterizing the Processes Controlling Iron Speciation and Residence Time at the Atmosphere-Ocean Interface

Nicholas Meskhidze[1*], Christoph Völker[2], Hind A. Al-Abadleh[3], Katherine Barbeau[4], Matthieu Bressac[5], Clifton Buck[6], Randelle M. Bundy[7], Peter Croot[8], Yan Feng[9], Akinori Ito[10], Anne M. Johansen[11], William M. Landing[12], Jingqiu Mao[13], Stelios Myriokefalitakis[14], Daniel Ohnemus[6], Benoît Pasquier[15], Ying Ye[2]



Bill Miller
Professor
University of Georgia

- Marine Photochemistry
  - Redox and ROS, Carbon, Metals, Optics, Trace Gases, DOM Bioavailability
- Photochemistry from Space, algorithms and global models
- Original IGBP SOLAS Science Plan, PI Canadian SOLAS, US SOLAS rep, NSF Program Officer ChemOCE
- My favorite color is UV



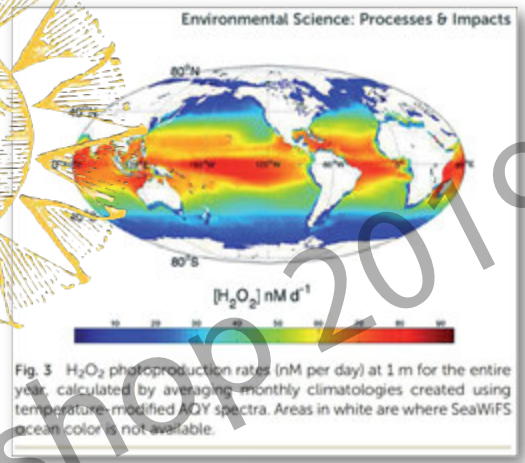
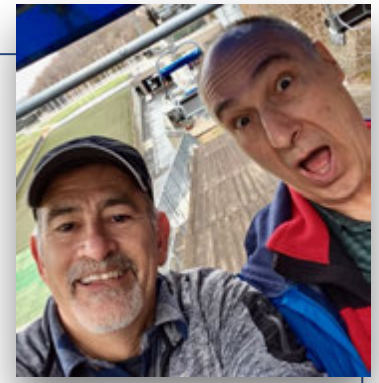
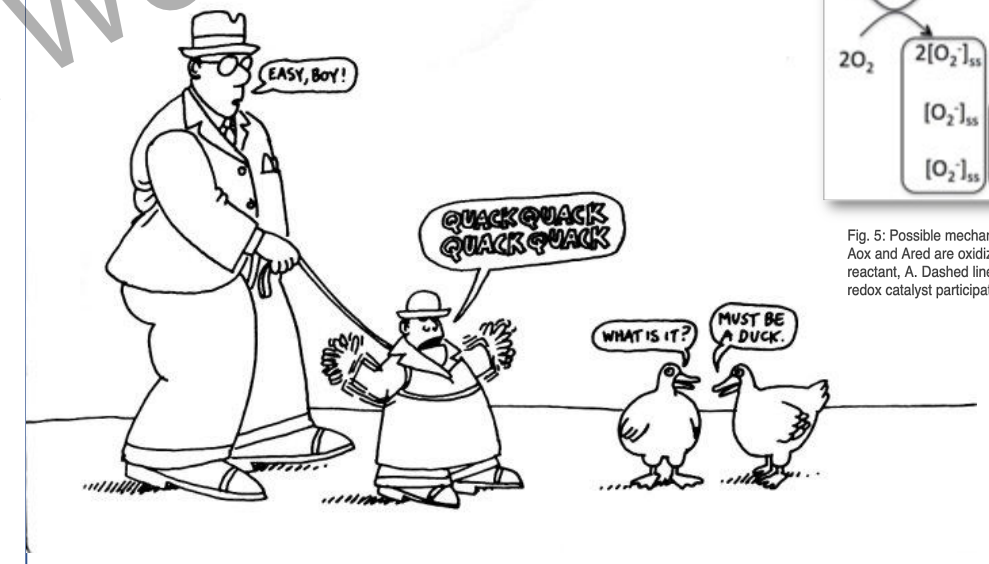


Fig. 3 H_2O_2 photoproduction rates (nM per day) at 1 m for the entire year, calculated by averaging monthly climatologies created using temperature-modified AQY spectra. Areas in white are where SeaWiFS ocean color is not available.

figure from Powers & Miller (2014)



SOLAS Sapporo, Japan



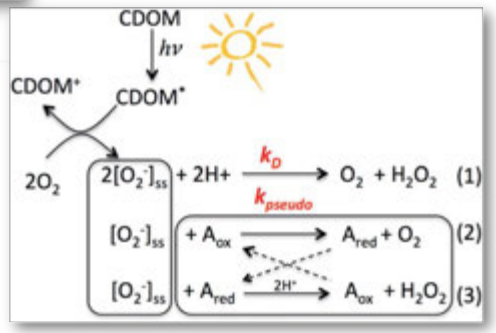
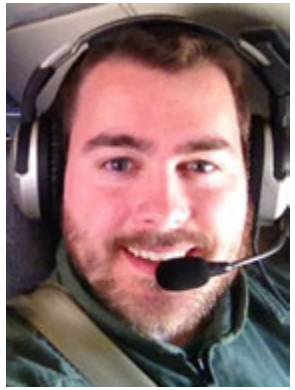
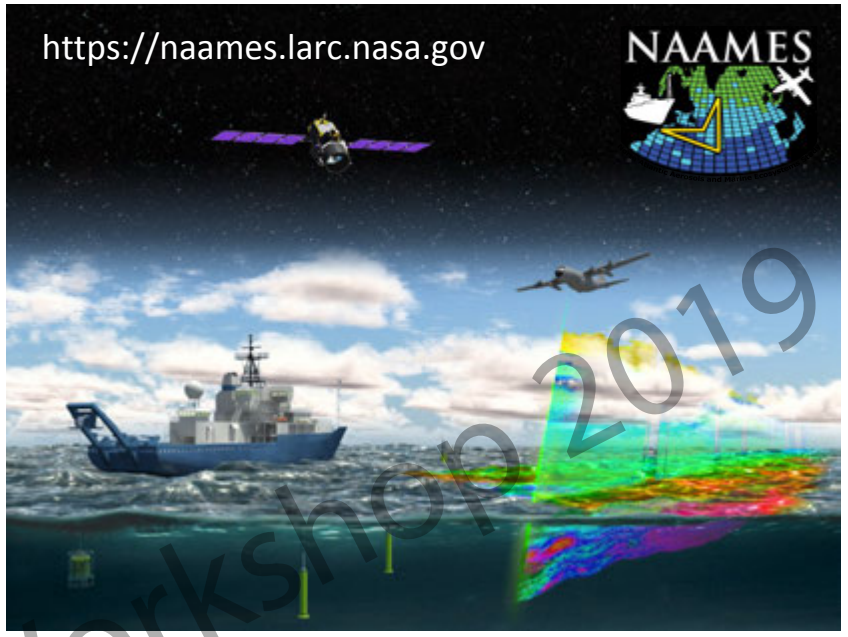


Fig. 5: Possible mechanistic pathways for H2O2 production by O2. Aox and Ared are oxidized and reduced forms respectively of an unidentified reactant, A. Dashed lines represent the possible catalytic cycling of a single redox catalyst participating in both the oxidation and reduction of O2.



Richard Moore

Research Scientist
NASA Langley Research Center
Hampton, Virginia, USA

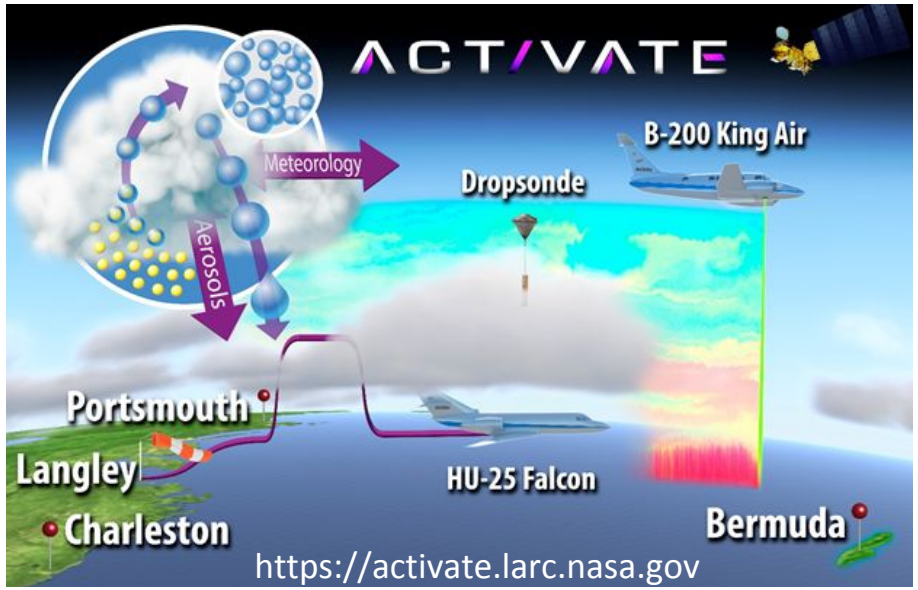


Interests:

- Aerosol-cloud interactions
- Airborne measurement techniques
- Using in situ observations to improve remote sensing retrievals of CCN

Questions:

- How can we close the marine CCN budget (surface sources - losses + entrainment of free tropospheric air)?
- Where do submicron organic aerosols come from?



Dave Ortiz-Suslow
Postdoctoral Associate
Department of Meteorology
Naval Postgraduate School

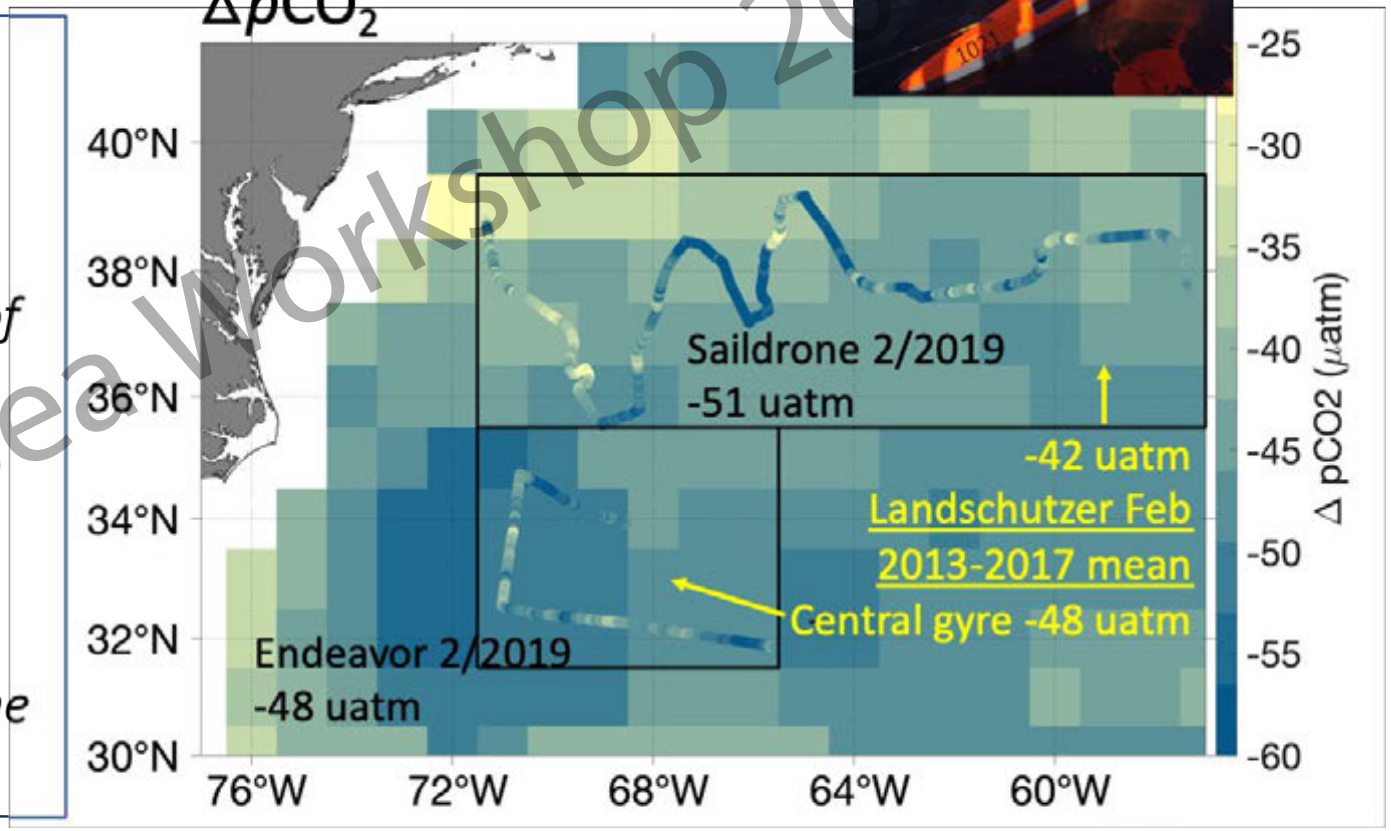
Air-Sea Interaction Physics

- ***background**: Experimental studies of near-surface turbulence, dynamics, and physical mechanisms of interfacial exchange.*
- ***current work:** Atmospheric surface layer structure and turbulence coupling with upper ocean and waves*
- *One time, I had a confrontation with an ostrich while hiking in the Italian Alps.*

Jaime Palter
Associate Professor
University of Rhode Island

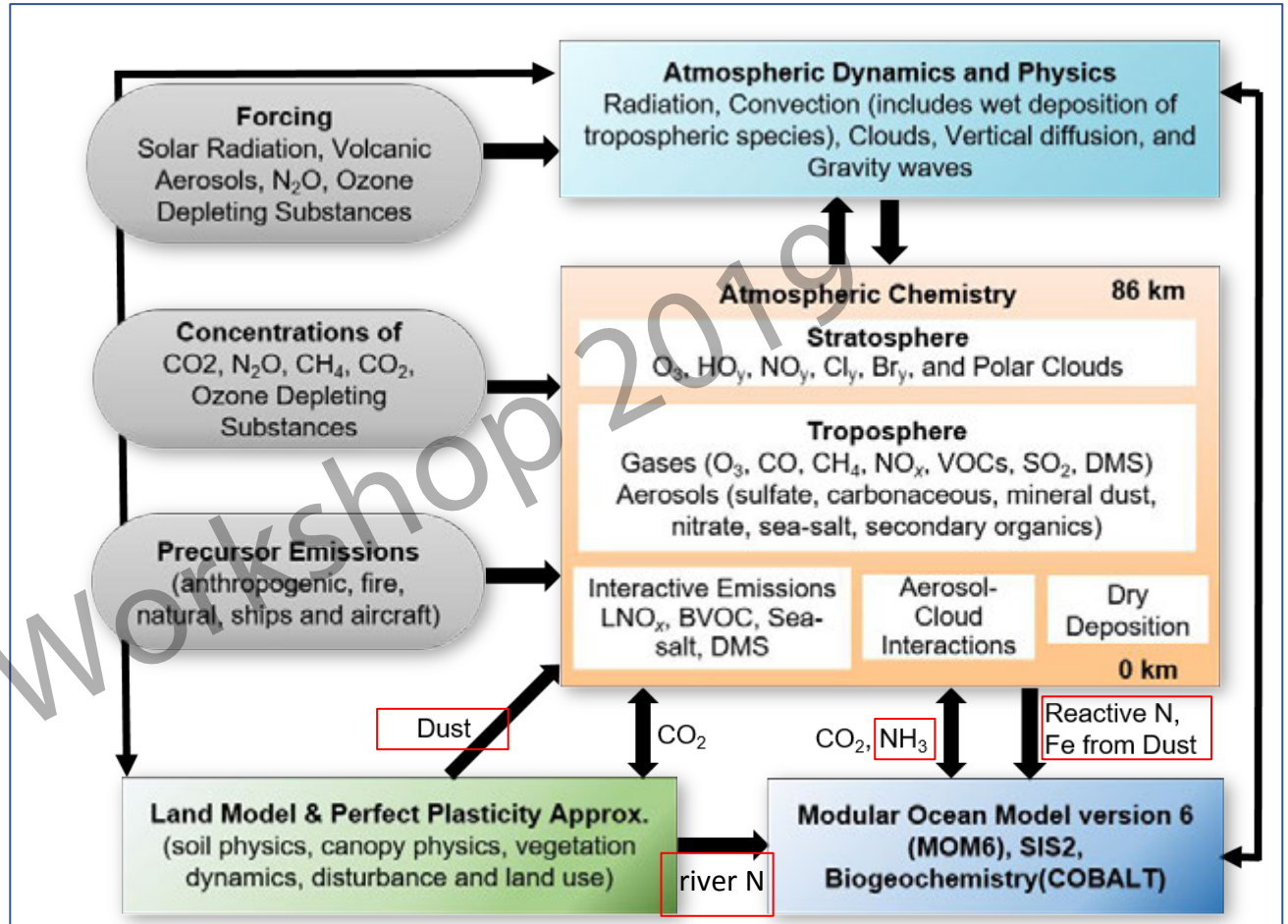
February 2019 Gulf Stream Saildrone Mission

- *Interested in reducing uncertainty in ocean carbon uptake and storage*
- *I believe that **autonomous surface vehicles** (like Saildrone), can be deployed to reduce undersampling of ocean pCO_2 in regions of high space/time variability such as **Western Boundary Currents**.*
- *Our results in the Gulf Stream show the potential of the platform to deliver accurate measurements in the most challenging environment*



Fabien Paulot
NOAA/GFDL

- Member of GFDL - Biogeochemistry, Atmospheric Chemistry, and Ecosystem Division.
  Engaged in CMIP6 activities
- Climate feedbacks mediated by marine aerosols (sea salt, organic carbon)
- Earth System Modeling: bidirectional N coupling between ocean biogeochemical model/atmosphere, sensitivity to acidification, N deposition, seawater NHx.



river N: Minjin Lee
Dust: Paul Ginoux

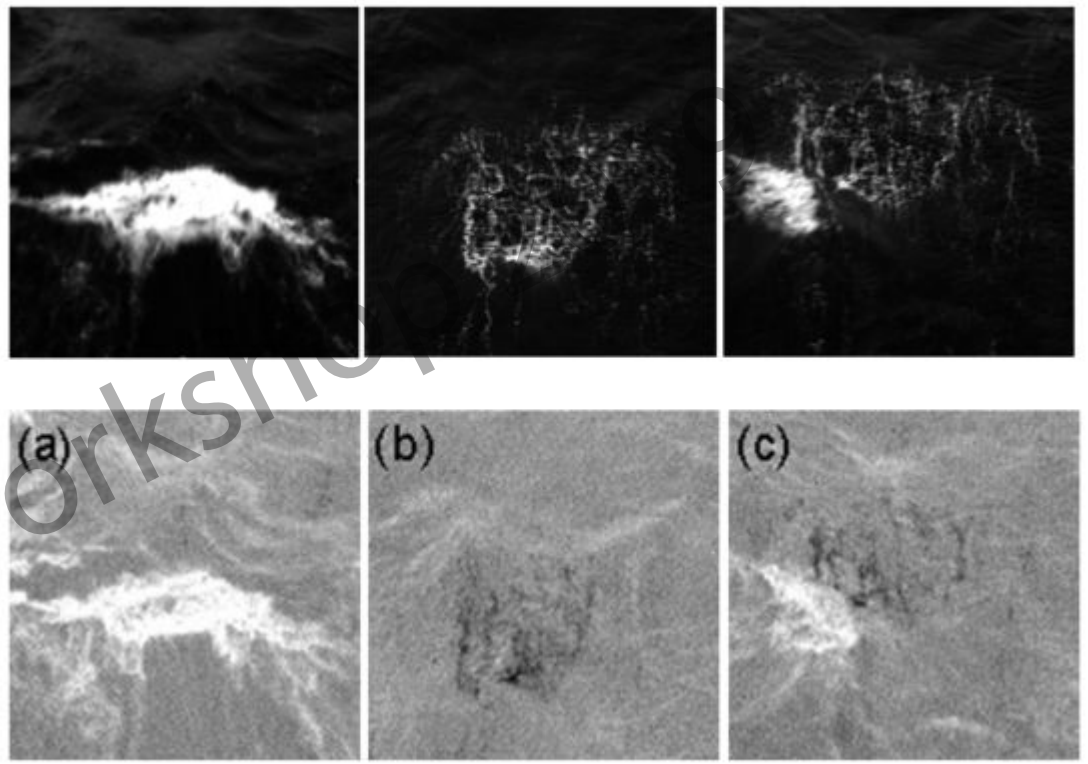
credit: Vaishali Naik

Andrew Peters
Associate Scientist,
Bermuda Institute of Ocean Sciences

- BIOS Tudor Hill Marine Atmospheric Observatory
- Interests: LRTAP, Water vapor isotope tracers, Infrastructure and instrumentation for long-term sampling
- Active in SOLAS “Science and Society” initiatives

Henry Potter
Assistant Professor
Texas A&M
University

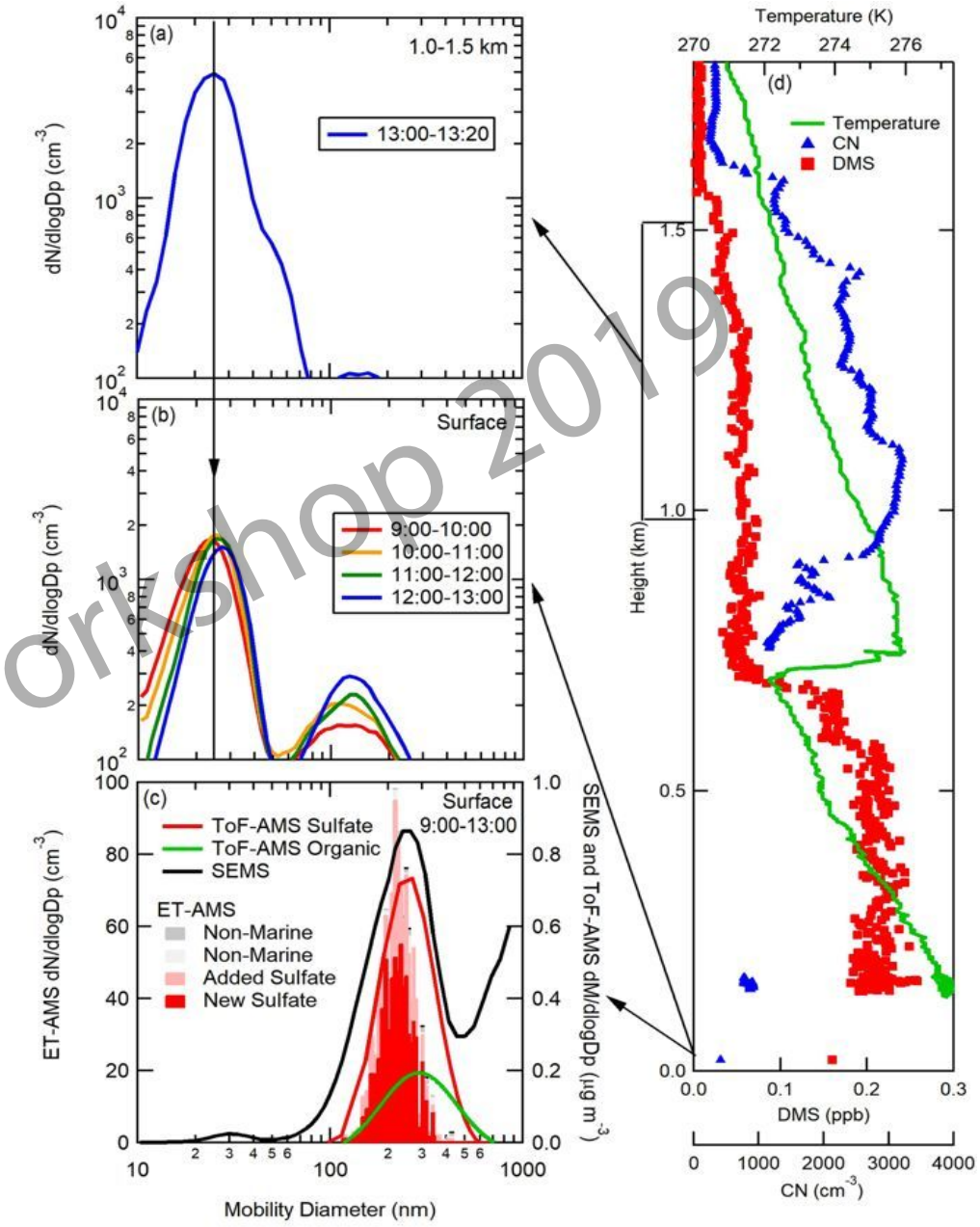
- **I study air-sea exchanges of mass and momentum with particular interest in high wind speeds.**
- **Presently, my research focus is on ocean whitecaps.**
- **My current project is a study of whitecap lifetime using shipboard infrared remote sensing.**



Breaking wave recorded simultaneously in visible (above) and infrared (below)

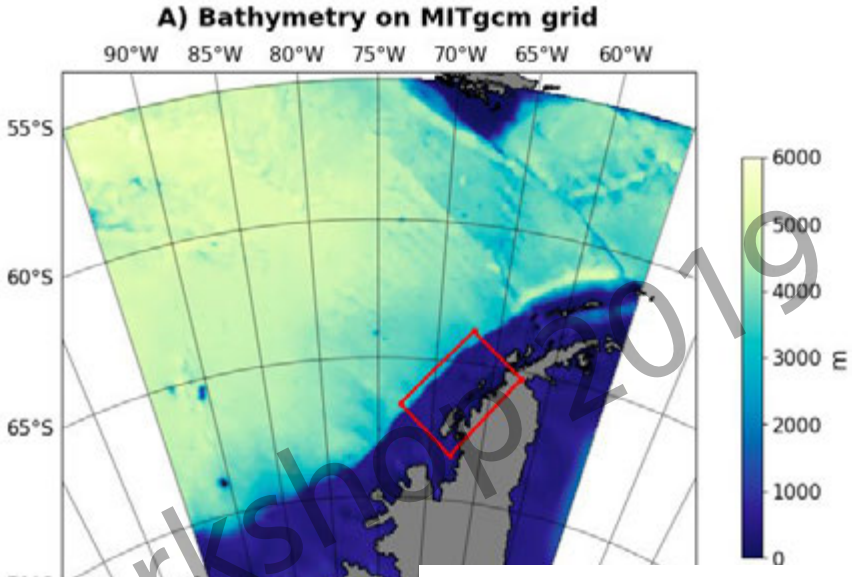
Kevin Sanchez
Postdoc
NASA Langley

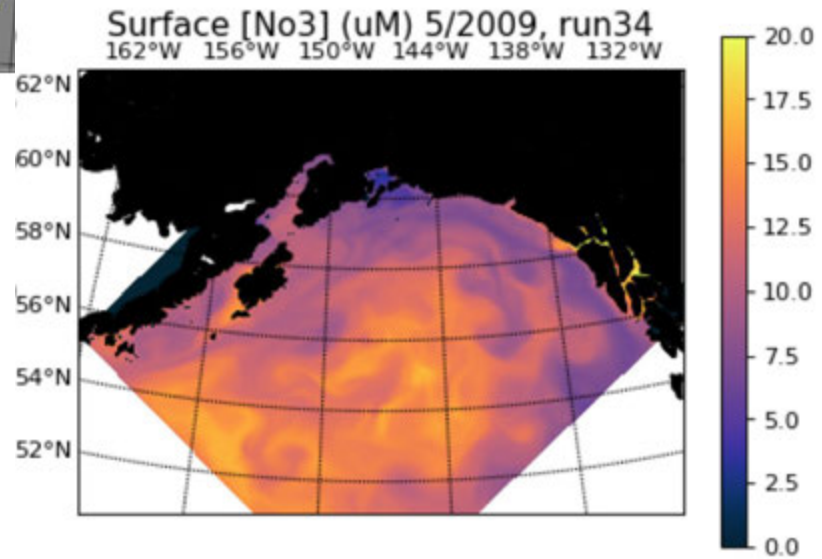
- Aerosol-cloud interactions and feedback effects.
- Marine aerosol composition, sources and formation.
- Boundary layer entrainment of free tropospheric air
- Currently working on identifying marine biological influence on aerosol from satellite measured ocean color



Cris Schultz
postdoc
University of Virginia

- Biogeochemical modeling
- Carbon cycle in polar regions
- Impact of glacial sources of micronutrients in primary production
- Impact of sea ice in air-sea gas transfers



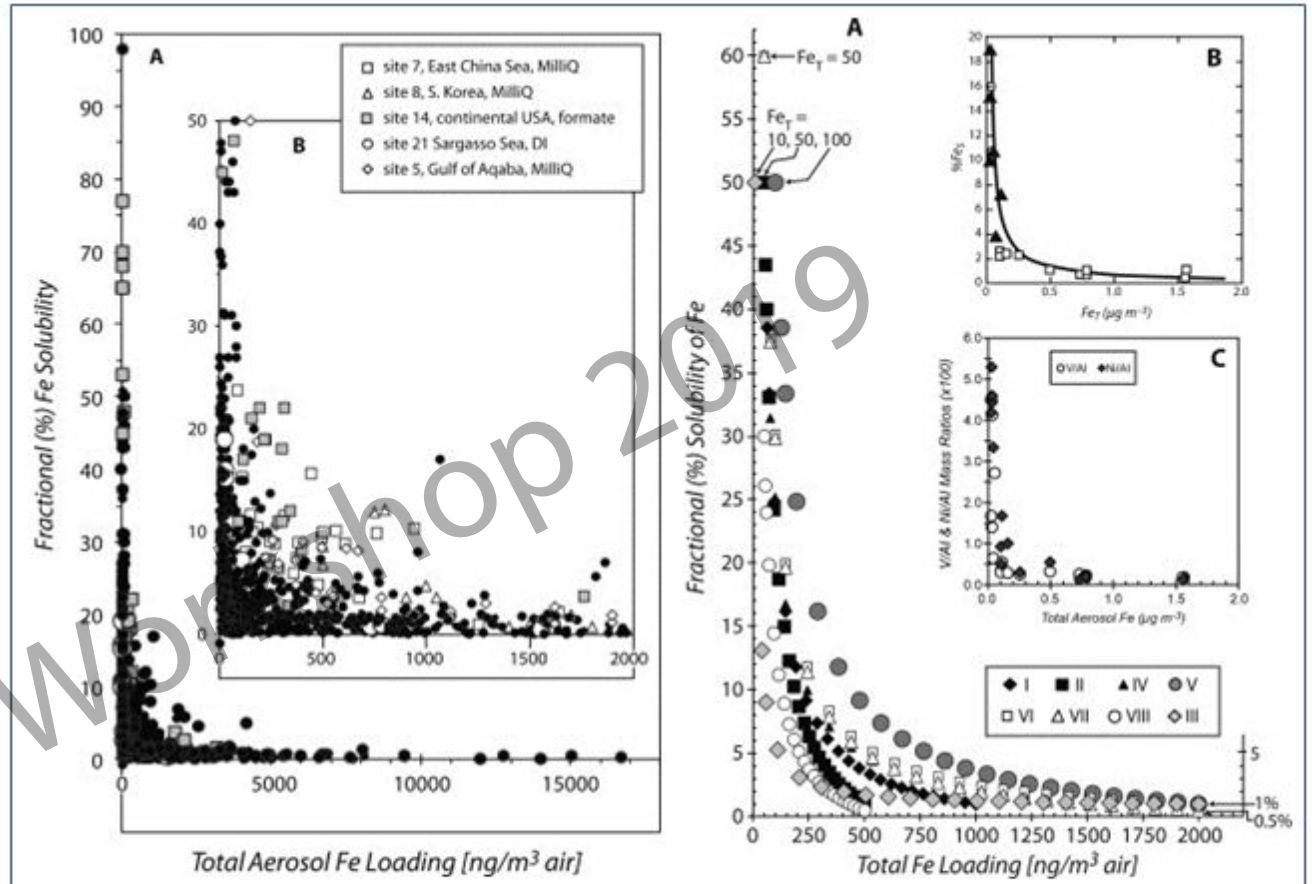


Peter Sedwick

Professor

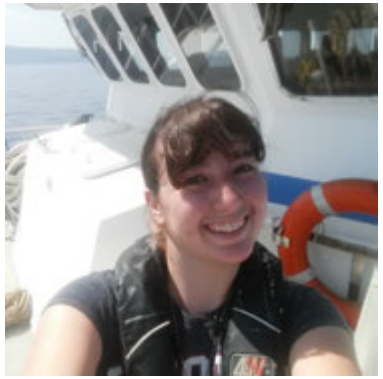
Old Dominion University

- Interests: atmospheric deposition of nutrients and micronutrients to the surface ocean (especially iron)
- Concerns: quantifying aerosol deposition fluxes and seawater dissolution, human impacts, and ocean biogeochemical responses
- Member of GEOTRACES Standards and Intercalibration Committee with responsibility for aerosols



The "fractional solubility" of aerosol iron over the open ocean is interpreted as reflecting a mixture of desert dust (high loading, low fractional solubility) and combustion and/or weathered aerosols (low loading, high fractional solubility).

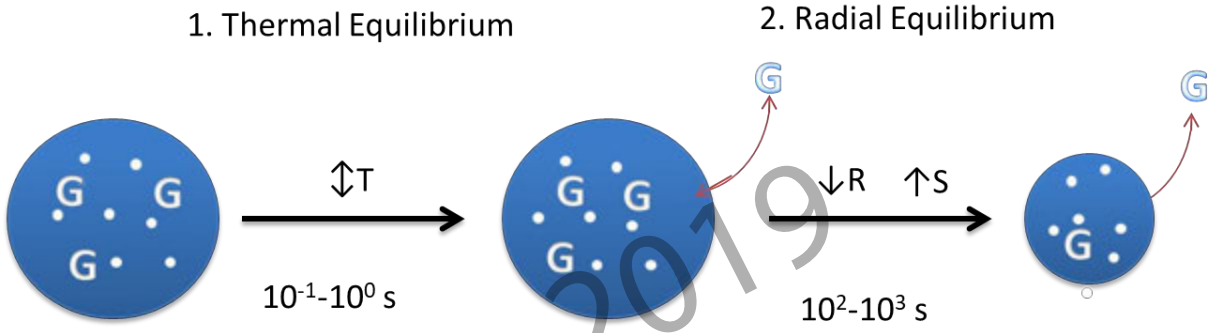
Sholkovitz, E. R., Sedwick, P. N., Church, T. M., Baker, A. R., & Powell, C. F. (2012). Fractional solubility of aerosol iron: Synthesis of a global-scale data set. *Geochimica et Cosmochimica Acta*, *89*, 173-189.



Allison Staniec

PhD Student (5th year)
University of Connecticut

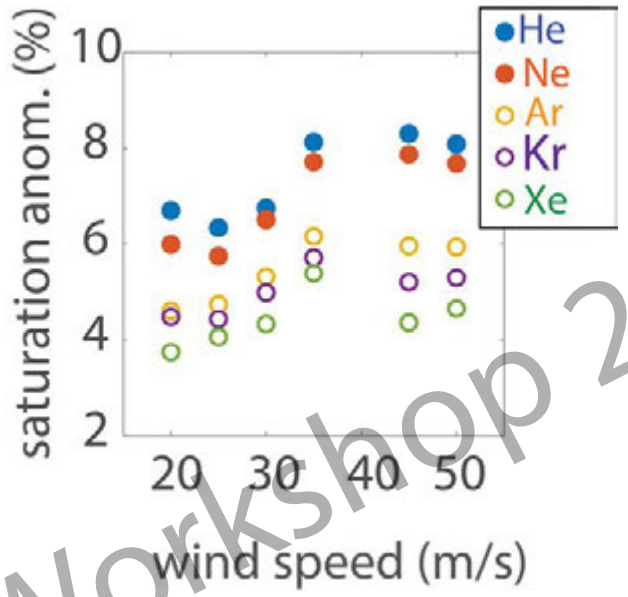
- *Studying air-sea gas exchange via sea spray droplets*
- *Involved in Carbon, Nitrogen sampling in LIS*
- *SOLAS Summer School participant*
- *Advisors: Penny Vlahos, Ed Monahan, Jim Edson*



Rachel Stanley
Assistant Professor
Wellesley College

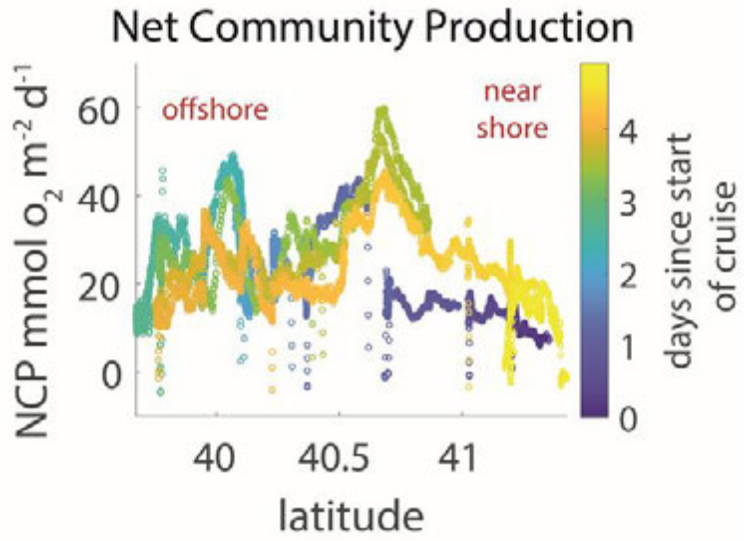
- **Gas tracers used to quantify**
  - **air sea gas exchange from noble gases**
  - **rates of primary productivity from oxygen and argon**
- **At-sea mass spectrometers to get thousands of data points**

I am the SOLAS US National representative so talk to me about your SOLAS questions & ideas



Experiments at the SUSTAIN wind-wave tank with wind speeds up to 50 m/s show an intriguing flattening off of steady state saturation anomalies at very high wind speeds

Net community production, as calculated from O2/Ar measured by a ship-board mass spec, show intricate submesoscale variations in the ocean. Data from the Northeastern Shelf LTER

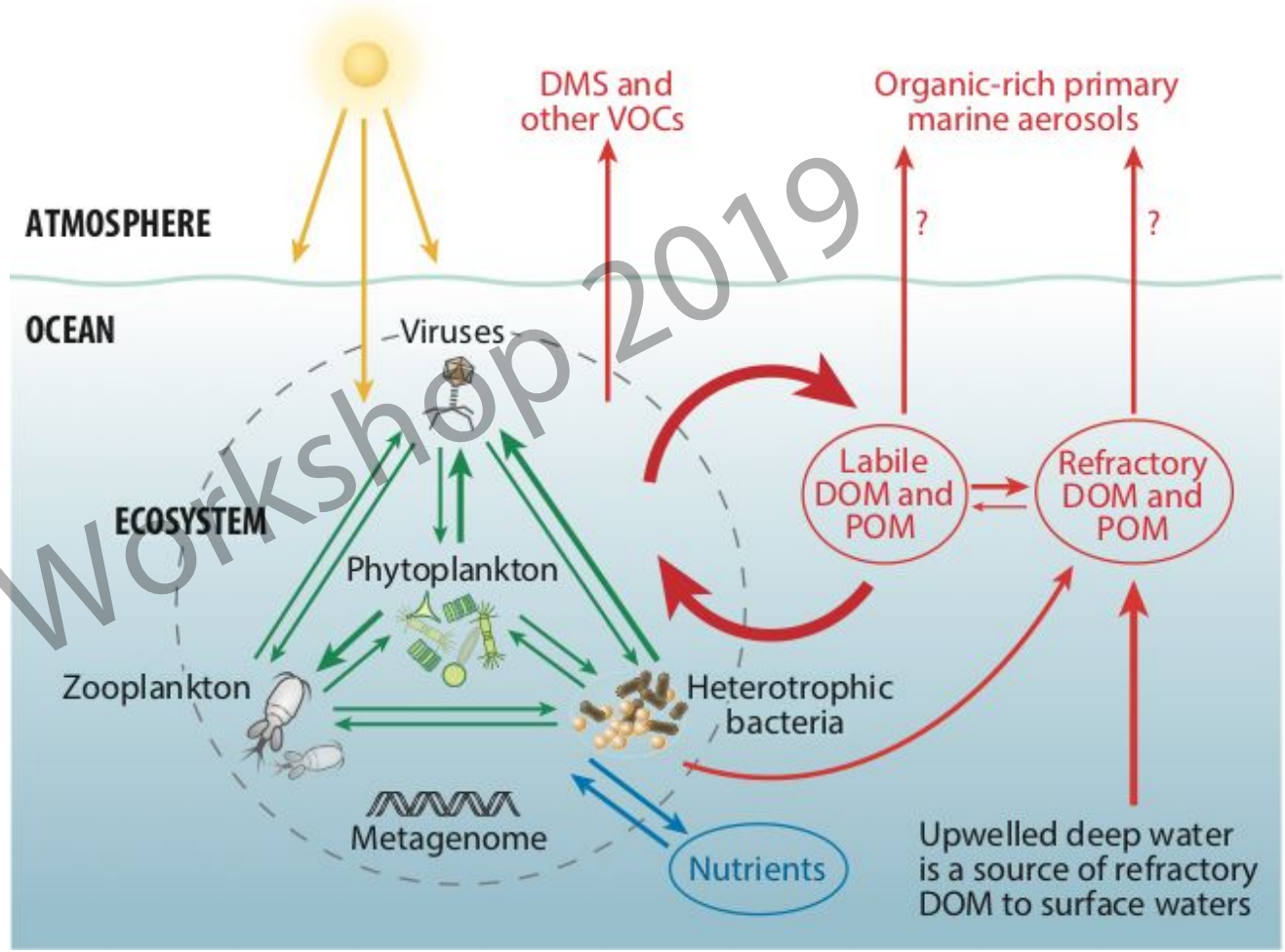



you

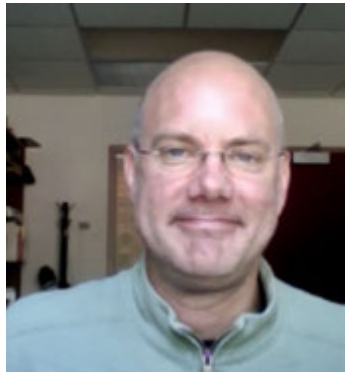
Dan Thornton
Professor
Texas A&M University

Biological Oceanographer with interests in the following:

- **Phytoplankton ecophysiology**
- **Biogeochemistry of C and N**
- **Biogenic aerosols and clouds**
- **Atmospheric ice nucleation**
- **Exopolymers in the ocean**
- **Trace gas biogeochemistry (halocarbons)**



Brooks SD, Thornton DCO (2018) Marine aerosols and clouds. *Annual Review of Marine Science* 10: 289-313

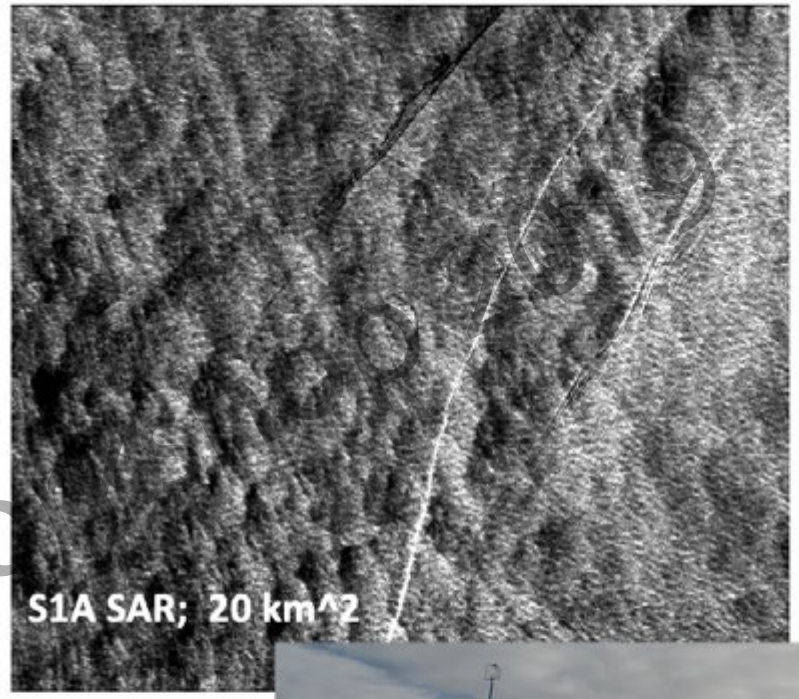


Doug Vandemark

Research Prof.
Univ. of New Hampshire

- Ocean satellite measurements of many flavors
- Ocean wave field characterization
- Air-sea flux investigations
- New and better field sensors and platforms

When, how, and why to push for new and/or finer observations in both the ocean and atmospheric boundary layers?



Fabrice Veron*
Professor
University of Delaware
*arriving late monday night

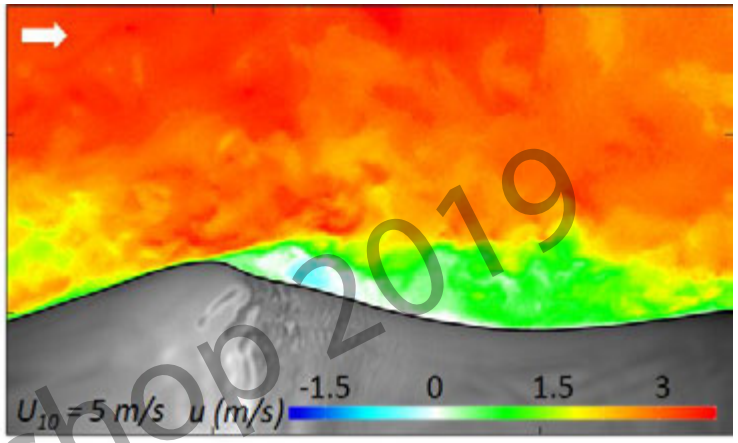
Small scale and wave processes on both sides of the interface

Airflow over waves - Separation & air-sea momentum fluxes

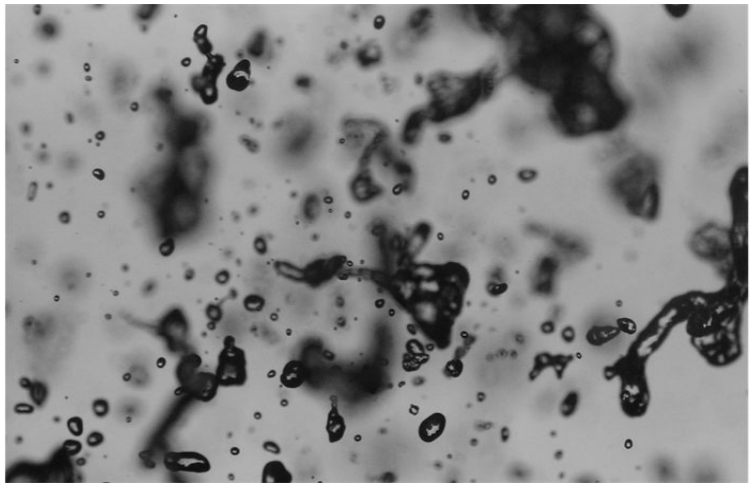
Sea Spray generation by breaking (effects on heat, momentum, and moisture fluxes)

influence of surface turbulence and rain on air-sea gas flux

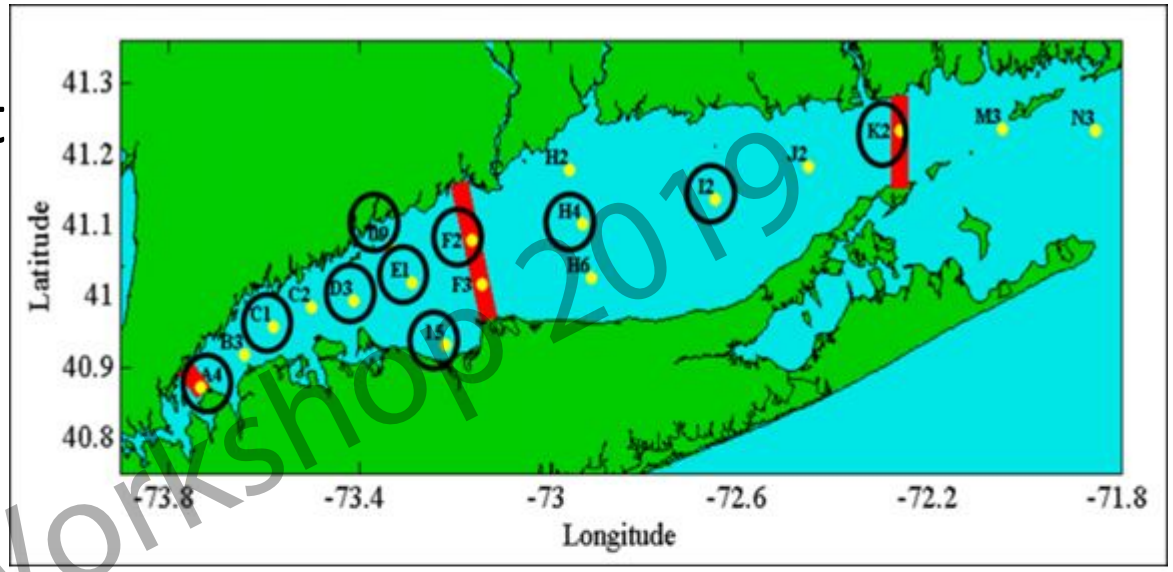
Airflow separation above wind waves



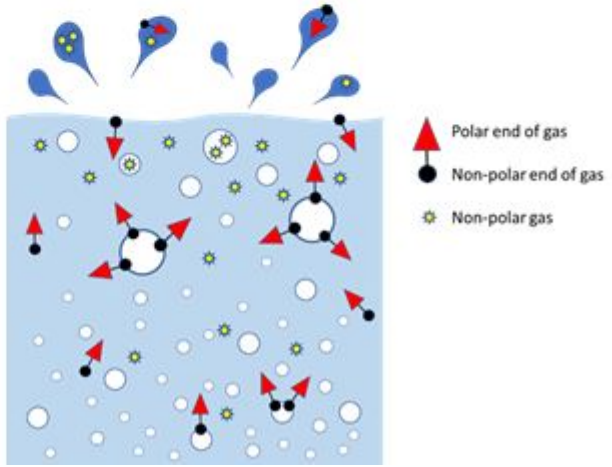
Sea Spray generation and transport



Penny Vlahos
Associate Professor
University of Connecticut



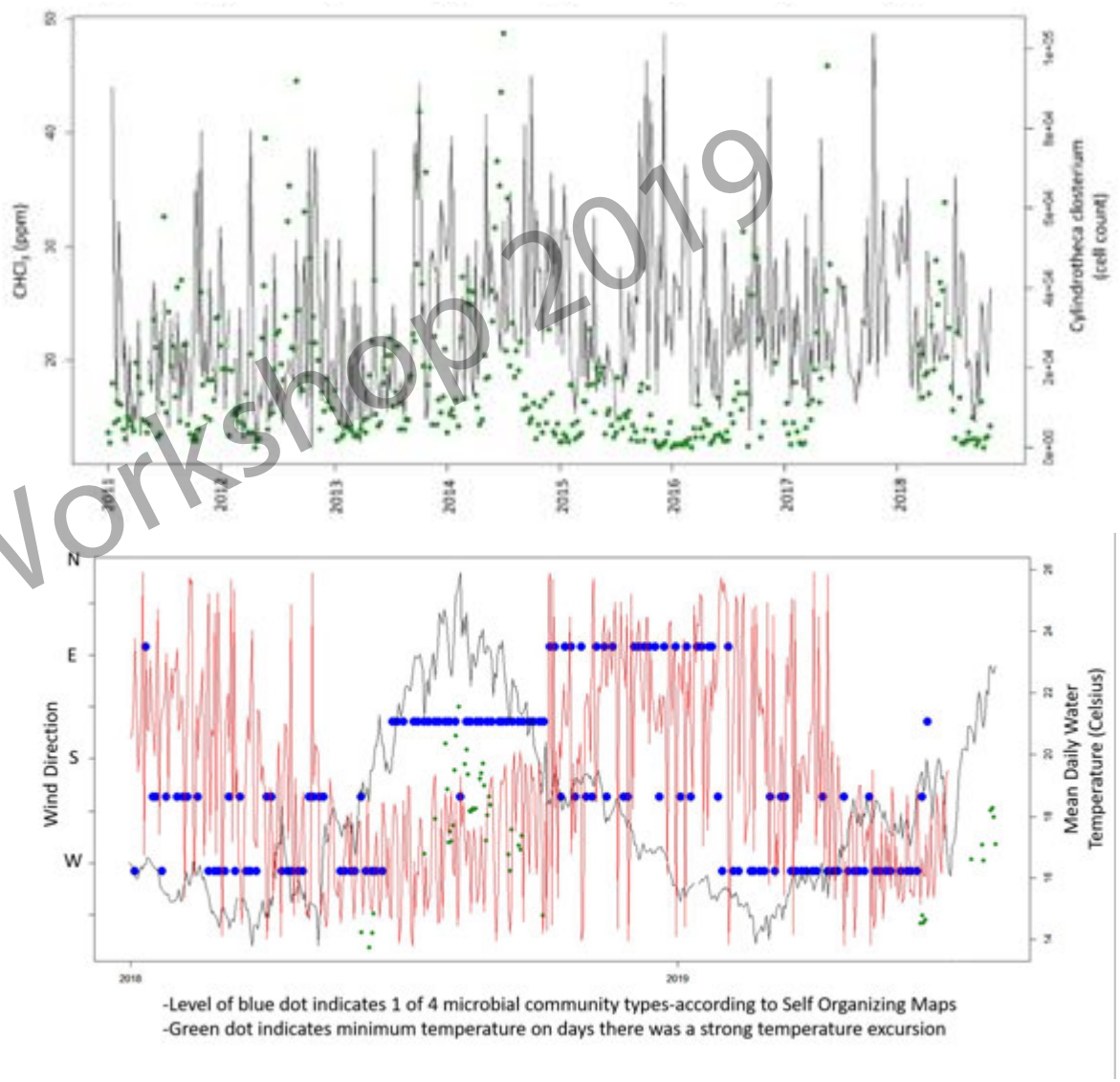
- Member of the OAIC
- Air sea gas exchange
- Biogeochemical cycling
- Contaminant Transport
- Ocean atmosphere coupling



Jesse Wilson
Postdoc
Scripps Institution of Oceanography

- I use various methods to model how environmental and biological time-series in the surface ocean and lower atmosphere are related during different ecosystem states.
- The goal is to assess how physical parameters affect biology which can affect atmospheric gas concentrations.
- I am currently doing this off the Scripps Pier relating 1) microalgae to atmospheric volatile organic compounds and 2) the microbial community to environmental changes (and am working on bringing in net community production).

Relating nonlinear time-series

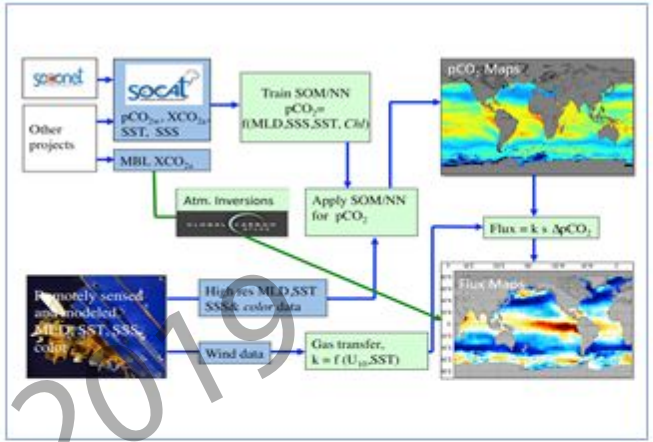


-Level of blue dot indicates 1 of 4 microbial community types-according to Self Organizing Maps
-Green dot indicates minimum temperature on days there was a strong temperature excursion

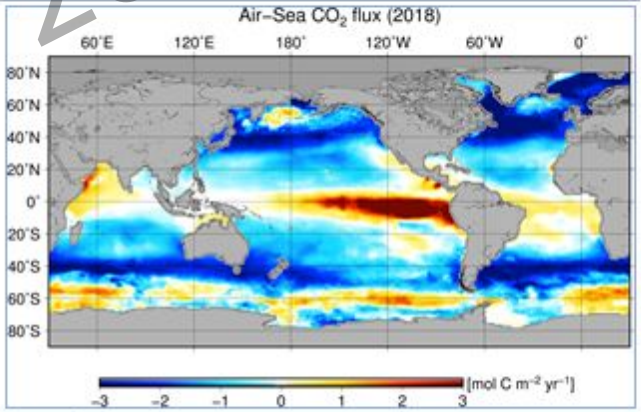
Rik Wanninkhof
NOAA/AOML

- Member IOCCP SC (surface water CO_2 measurements)
- Operational SOOP-CO2 network
- SOCONET reference network ships and moorings (including MBL measurements) [Soconet.info]
- Best Practices
- Creating data products (SOCAT) [SOCAT.info]
- Member IOC-R "thinktank" (IOC/UNESCO)

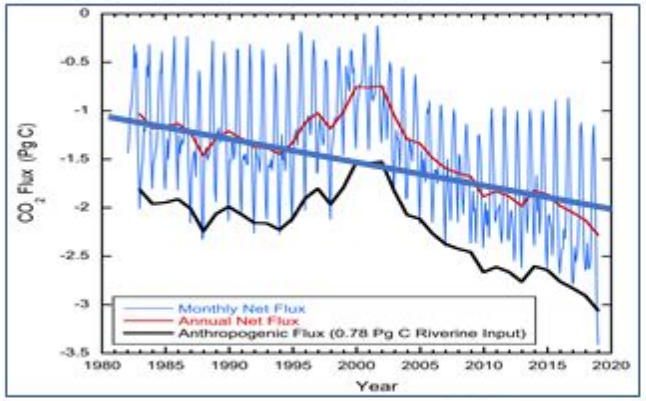
From measurement:



to flux product:



to interpretation and understanding:



Sam Wilson*
Researcher
University of Hawaii
*not present until Tues am

Timetable of relevant activity

2013 Formation of SCOR Working Group 143

2015 Distribution of compressed gas standards

2017 Two intercomparison excercises

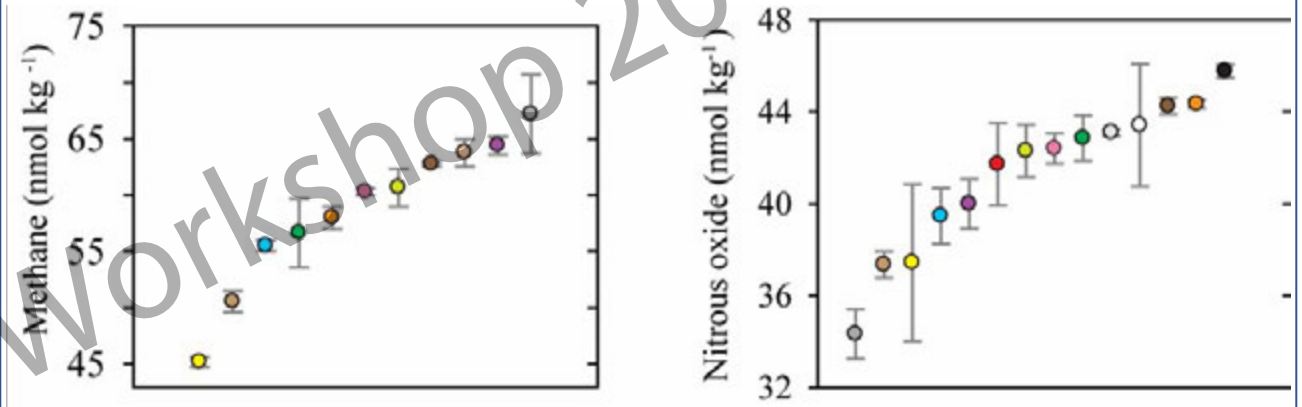
2018 Publication of findings in Biogeosciences

2018 OCB workshop

2019 Writing the pertinent SOPs and workshop report

Intercomparison of methane and nitrous oxide

Plot: Concentrations of dissolved methane and nitrous oxide in the same seawater sample analyzed by independent laboratories



- A single primary cause of variability was not established (calibration, gas extraction/equilibration, sample storage)
- Need for common practices and protocols (SOPs)

An intercomparison of oceanic methane and nitrous oxide measurements

Biogeosciences, 15, 5891–5907, 2018
https://doi.org/10.5194/bg-15-5891-2018

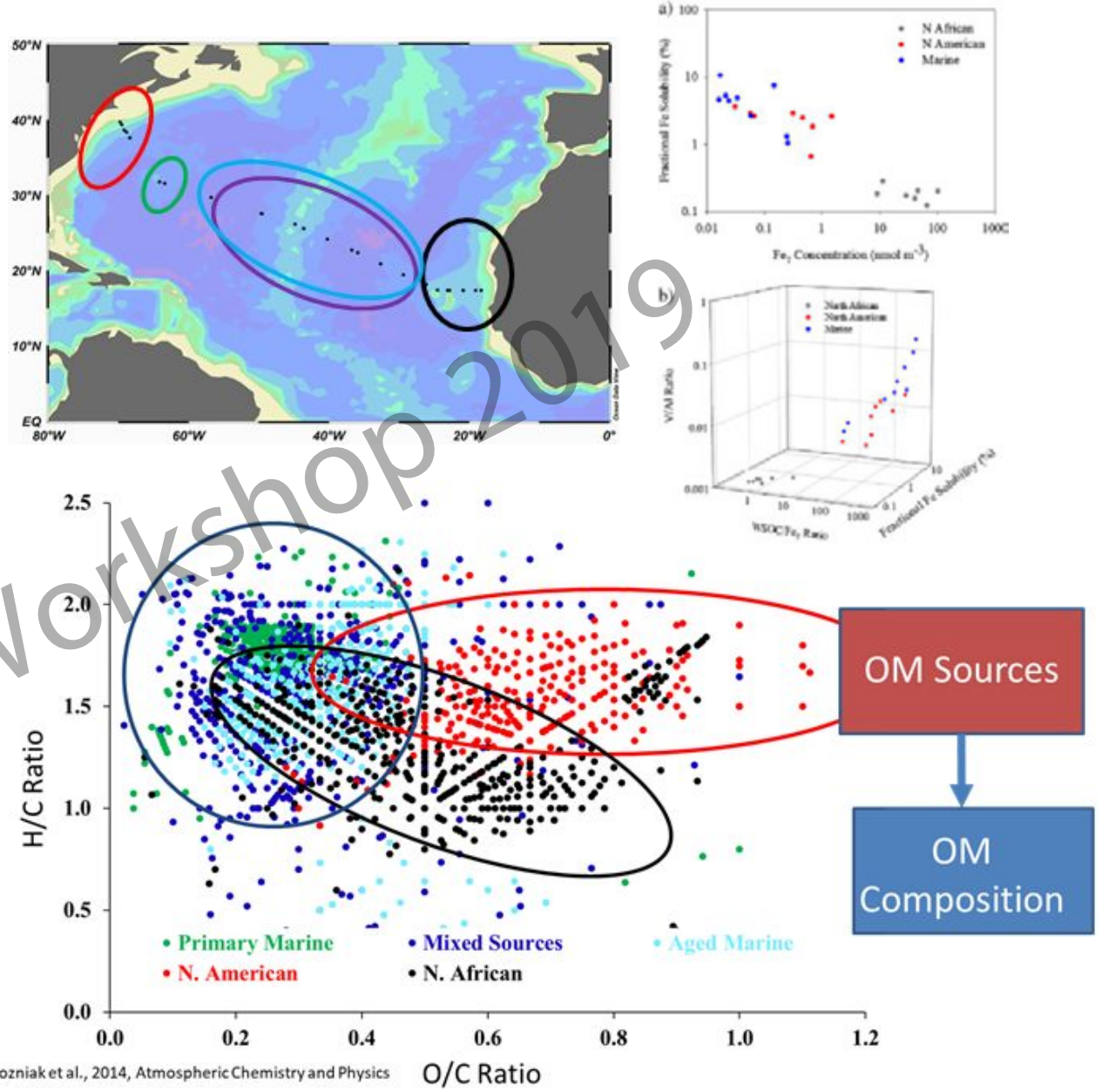
Andrew Wozniak
Assistant Professor
University of Delaware
awozniak@udel.edu

Marine organic geochemist

Role of biology, OM composition for aerosol deposition/emission processes, surface microlayer properties.

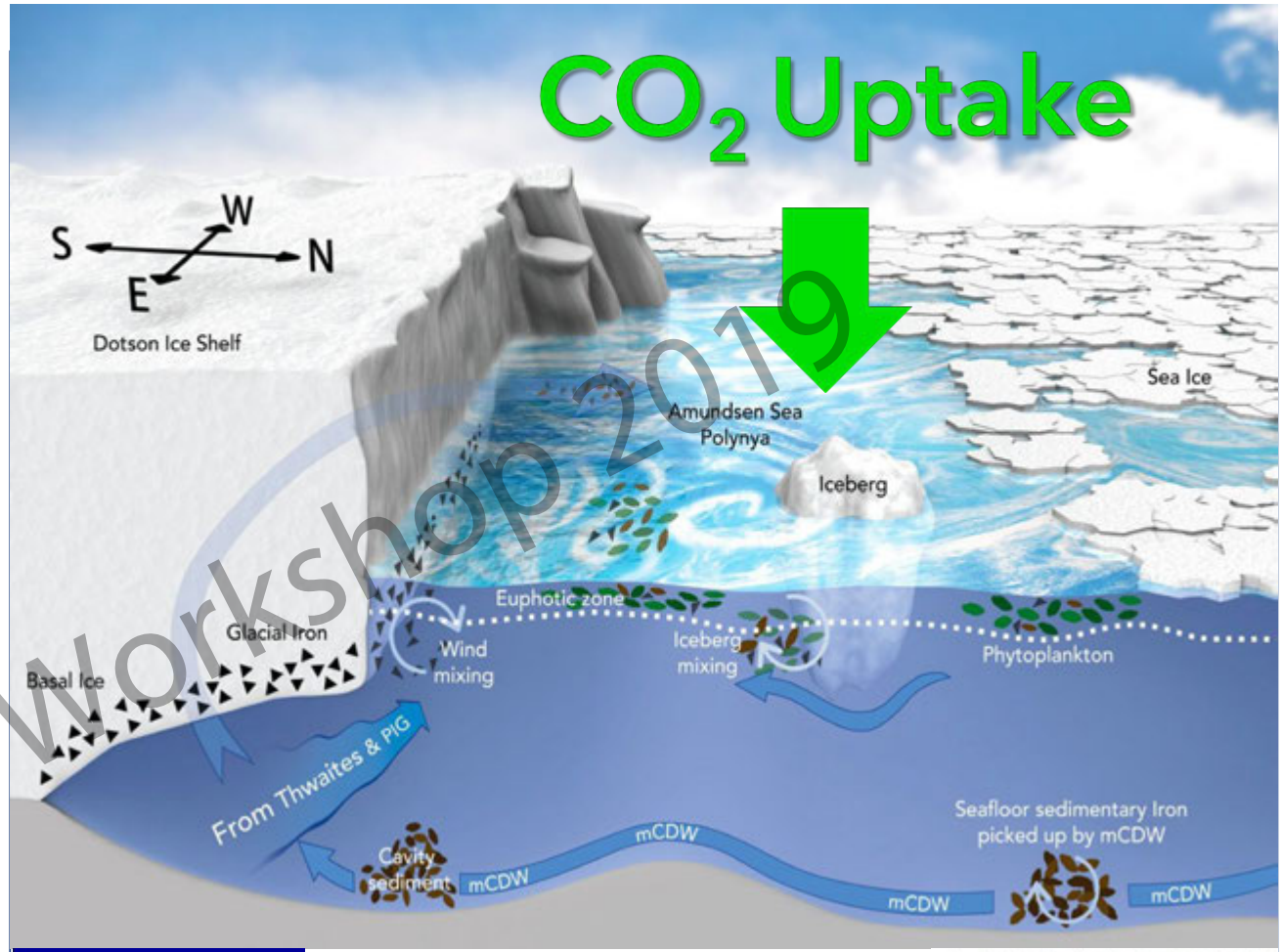
C cycling, rain, aerosols, surface microlayer, VOC diffusive fluxes, FTICR-MS, ^{1}H NMR

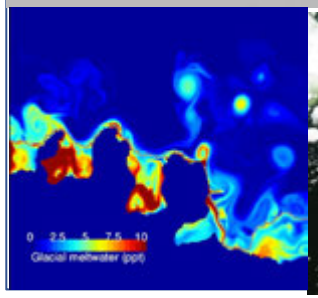
Diffusive air-sea fluxes of OC may be underappreciated in C budgets, cycles.

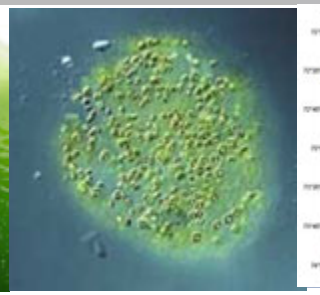


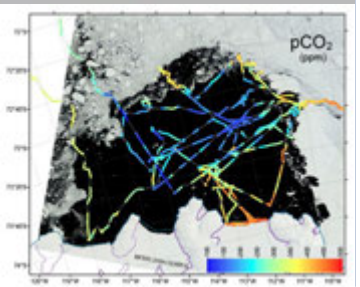
Patricia (Tish) Yager
Professor
University of Georgia

- **OAIC** member
- **Climate change** impacts on NCP, biological pump and **CO_2** uptake
- Biological **hot spots**, **polynyas**
- Sea ice, glacial **meltwater**, Amazon plume









Lauren Zamora

Assistant Research Scientist
Univ. of Maryland / NASA GSFC

- Branched from marine science to studying aerosol-cloud interactions as a NASA contractor; now a big proponent of satellite data and its power to elucidate environmental processes

  - Co-writing a white paper for an upcoming Arctic aircraft mission

  - Recently funded to study how Arctic marine aerosols affect polar clouds

- Favorite colors: Green and IR *(532 and 1064 nm to be precise!)*

Marine-derived aerosols are a major source of cloud condensation nuclei (CCN) and ice nucleating particles (INPs) to polar clouds. In turn, these clouds play a key role in the Arctic energy budget, ultimately impacting sea level, sea ice, regional atmospheric circulation, and weather, even at lower latitudes.