

GENERAL INFORMATION

Born: December 16, 1974
Nationality: US Citizen
Current Position: Assistant Professor - Oregon State University
Contact Information: College of Oceanic & Atmospheric Sciences
Oregon State University
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RESEARCH INTERESTS

Phytoplankton physiology, nitrogen fixation, phosphorus cycling, elemental stoichiometry, hyperspectral absorbance, attenuation and fluorescence, harmful algal blooms, numerical approaches to modeling phytoplankton-mediated processes and utilization of remote sensing tools to explore habitat variability

EDUCATION

Ph.D. Biological Oceanography, Oregon State University, Corvallis, OR. 2001-2006
Advisors: Dr. Ricardo Letelier and Dr. Yvette Spitz
M.S. Biology, University of Alabama in Huntsville, Huntsville, AL. 1999-2001
Advisors: Dr. Ronald Ritschard and Dr. Richard McNider
B.S. Biology, University of Alabama in Huntsville, Huntsville, AL. 1994-1998

ACADEMIC POSITIONS

Assistant Professor, Oregon State University, Corvallis, OR 2009-present
Postdoctoral Research Associate, Oregon State University, Corvallis, OR 2006-2009

FELLOWSHIPS, GRANTS, HONORS, SOCIETIES

National Academy of Science Kavli Fellow 2010
OSU Distinguished Dissertation Award 2007
Agouon Summer Microbiology Course Participant 2006
AGU Outstanding Student Poster/Oral Presentation Award 2006
NASA Earth System Science Fellowship 2005-2006
Yerex Graduate Fellowship, First Alternate (OSU) 2005

FELLOWSHIPS, GRANTS, HONORS, SOCIETIES (CONTINUED)

NASA Space Grant (OSU)	2001-2003
Thomas James Dimopoulos Environmental Fellowship (UAH)	2000-2001
American Society of Limnology and Oceanography, member	2004-present
American Geophysical Union, member	2005-present

ACTIVITIES, OUTREACH AND SERVICE

INVITED SEMINARS

Lamont Doherty Ocean Observatory (2009)
Hatfield Marine Science Center (2008)
University of California Santa Cruz (2007)

CONFERENCES, WORKSHOPS

Spectrofluorometry workshop, Granada, Spain (2010)
Session chair, Ocean Sciences, Portland, Oregon (2010)
Invited participant, Canadian Institute For Advanced Research (CIFAR) Panel
Discussion of Nitrogen cycling in the Anthropocene (2009)

OUTREACH

Oregon Coastal and Aquatic Marine Science Teachers Workshop (2010)
Saturday Academy Mentor (2010)
COSEE Pacific Partnership Summer Workshop Faculty, Newport, Oregon (2010)
Participation in Oregon State University Discovery Days (2008, 2009)
Expert Speaker: Salem Sustainability Film Series, “Addicted to Plastic” (2009)
Generation of a web-based image gallery for the Center for Microbial
Oceanography: Research and Education)
http://cmore.soest.hawaii.edu/microscopy/cmore_microscopy.html (2009)

SERVICE

NOAA Global Climate Change Proposal Review Panelist (2009)
OSU Committees: Radiation Safety Committee (2009/2010), Instructional
Programs Committee (2005/2006), Promotion and Tenure Committee
(2004) and Student Advisory Committee (2005)
Reviewer for *Science*, *Marine Chemistry*, *Ecosystems*, *Limnology and
Oceanography*, *ICES Journal of Marine Science*, *Limnology and
Oceanography: Methods*, *Marine Ecology Progress Series*, *Progress in
Oceanography*, *Proceedings of the National Academy of Science*, *the
Long-term Estuary Assessment Group*, *NOAA*, and *the National Science
Foundation*

RESEARCH FUNDING

FUNDED PROPOSALS

- “Taxon-Specific variability of organic matter production and remineralization potential”, NSF, 03/10 – 02/12, \$413,035. PIs: White (OSU), Paytan (UCSC)
- “Primary Productivity as a Function of Absorption, Pigment-based Phytoplankton Diversity and Particle Size Distributions.”, NASA, 7/10-6/12, \$353,225, PI: White (OSU)
- “Center for Microbial Oceanography: Research and Education”, NSF, 06/10-05/15, \$686,279, PIs: Karl (UH, lead institution); Letelier, White (OSU), et al.
- “MERHAB 2007: Integrated HAB Monitoring and Event Response for Coastal Oregon Sponsoring Agency”, NOAA MERHAB , 08/07-07/12, \$2,861,021, PIs: White (OSU), Wood (UO), Peterson (NOAA), Hunter (ODFW)
- “Primary productivity in the Ross Sea: Subcontract through Rutgers”, NSF, 6/10-12/12, \$219,777. PIs: Milligan and White (OSU)
- “Development and Validation of Satellite Bloom Detection Products for Coastal Oregon”, NOAA CIOSS, 4/1/09-3/31/2011, \$118,623, PI: White (OSU)

TEACHING EXPERIENCE

- Guest lecturer, Satellite Oceanography (OC 678, Fall 2010, OSU)
- Faculty, COSEE Pacific Partnership Summer Workshop for Community College Instructors, Newport, Oregon (2010)
- Teaching Assistant, Exploring the Deep (OC 103, spring 2005, OSU)
- Teaching Assistant, Biological Oceanography (OC 540, winter 2003, OSU)
Oregon State University, College of Oceanic & Atmospheric Sciences
- Lab Instructor/Teaching Assistant, Introduction to Biology
University of Alabama in Huntsville, College of Science (1999-2000)

STUDENT MENTORING

- Katie Watkins (OSU, 2010 MS, co-advised by A. White, R. Letelier and Y. Spitz)
- Morgaine McKibben (OSU, MS candidate)
- Brian Burkhardt (OSU, MS candidate)
- Mary-Rose Gradoville (OSU, MS candidate, co-advised with R. Letelier)
- Morgan Engle (OSU, Saturday Academy high school intern)
- Sara Ackers (OSU, IDES Program, Summer Intern)

FIELD EXPERIENCE

<i>Cruise</i>	<i>Vessel</i>	<i>Year</i>	<i>Days at Sea</i>
MCDW and Iron in the Ross Sea	R/V NB Palmer	2011	31
BIG-RAPA, C-MORE	R/V Melville	2010	28
Harmful Algal Bloom Monitoring, Oregon Coast	R/V Elakha	2010	2
Hawaii Ocean Time-series 216	R/V KOK	2009	5
C-MORE ST-15B (NPSG)	R/V Kilo Moana	2009	2
Survey of Underwater Plastic and Ecosystem Response, (NPSG, C-MORE)	R/V Kilo Moana	2008	12
Ocean Productivity Perturbation EXperiment (OPPEX)	R/V Kilo Moana	2008	5
GoCAL-4, Nitrogen fixation in the Gulf of California	R/V New Horizon	2008	29
Bloom Ecological Reconnaissance (BLOOMER, C-MORE, NPSG)	R/V Kilo Moana	2007	12
Biogeochemistry of the Upper ocean: Latitudinal Assessment (BULA, C-MORE)	R/V Kilo Moana	2007	11
Nitrogen fixation in the South Pacific, NSF	R/V Kilo Moana	2007	17
GoCAL-3, Alkenone production in the Gulf of California	R/V New Horizon	2005	21
NSF Biocomplexity, Pacific Cruise MP09	R/V Revelle	2003	22
NSF Biocomplexity, NW Atlantic MP04	R/V Seward Johnson	2002	26
Photoheterotrophy at Station ALOHA, P-3	R/V Kilo Moana	2002	4
Coastal Ocean Advances in Shelf Transport, Oregon	R/V Thompson	2001	23

TOTAL 250 days

PUBLICATIONS

REFEREED ARTICLES

Hixon, M., Gregory, S. Robinson, W.D., Baker, S, Batchelder, H., Epps, C. Garcia, T.S., Haig, S. Letelier, R., Lytle, D., Menge, B., Miller, J., Noakes, D. Peterson, W. Rice, J., Rumrill, S., Schreck, C., Suryan, R., Systma, M. and White, A. (2010) Oregon's Fish and Wildlife in a Changing Climate. In: Oregon Climate Change Research Institute, The Oregon Climate Assessment Report K.D. Dello and P.W. Mote (eds). College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.

Watkins-Brandt, K., R. M. Letelier, Y. H. Spitz, M. Church, D. Bottjer and A. E. White. (2010) Enhancement of nitrogen fixation in the oligotrophic North Pacific via inorganic and organic phosphorus additions. In revision for *Marine Ecology Progress Series*.

White, A. E., K. Björkman, E. Grabowski, R. M. Letelier, S. Poulos, B. Watkins, and D. M. Karl (2010) Reply: Challenges remain in the engineering of wave pumps for long

term deployment in the open ocean. *Journal of Oceanic and Atmospheric Technology*. In press.

White, A. E., D. M. Karl, K. Björkman, L. J. Beversdorf, and R. M. Letelier (2010) Production of organic matter by *Trichodesmium* IMS101 as a function of phosphorus source. *Limnology and Oceanography*. **55**: 1755-1767.

Beversdorf, L. J., A. E. White, K. Björkman, R. M. Letelier, and D. M. Karl (2010) Phosphonate metabolism by *Trichodesmium* IMS101 and the production of greenhouse gases. *Limnology and Oceanography*. **55**: 1768-1778.

Moisander, P.H., R. A. Beinart, I. Hewson, A.E. White, K. S. Johnson, C. A. Carlson, J. P. Montoya and J. P. Zehr (2010) Unicellular cyanobacterial distributions broaden the oceanic N₂ fixation domain. *Science*. **327**: 1512-1514.

White, A. E., K. Björkman, E. Grabowski, R. M. Letelier, S. Poulos, B. Watkins, and D. M. Karl (2010) An Open Ocean Trial of Controlled Upwelling Using Wave Pump Technology. *Journal of Oceanic and Atmospheric Technology*. **27**: 385-396.

White, A. E. (2009) New Insights into bacterial acquisition of phosphorus in the surface ocean. *Proceedings of the National Academy of Sciences*. **106**: 21013–21014.

Hewson, I., R. S. Poretsky, S. T. Dyhrman, B. Zielinski, A. E. White, H. J. Tripp, J. P. Montoya, and J. P. Zehr (2009) Microbial community gene expression within colonies of the diazotroph, *Trichodesmium*, from the Southwest Pacific Ocean. *The International Society for Microbial Ecology Journal*, **3**: 1286–1300.

Hewson, I., R. S. Poretsky, R. A. Beinart, A. E. White, T. Shi, S.R. Bench, P. H. Moisander, R. W. Paerl, H. J. Tripp, J. P. Montoya, M. A. Moran, and J. P. Zehr (2009) In situ transcriptomic analysis of the globally important keystone N₂-fixing taxon *Crocospaera watsonii*. *The International Society for Microbial Ecology Journal*, **4**: doi: 10.1038/ismej.2009.8

White, A. E., Y. H. Spitz, and R. M. Letelier (2007) What factors are driving summer phytoplankton blooms in the North Pacific Subtropical Gyre? *Journal of Geophysical Research-Oceans*, **112**: C12006, doi: 10.1029/2007JC004129.

White, A. E., F. G. Prahl, R. M. Letelier, and B. N. Popp (2007) Summer in the Gulf of California: prime habitat for biological N₂ fixation. *Global Biogeochemical Cycles*, **21**: 10.1029/2006GB002779.

White, A. E., Y. H. Spitz, and R. M. Letelier (2006) A numerical model of carbohydrate ballasting for *Trichodesmium* spp. at Station ALOHA. *Marine Ecology Progress Series*, **323**: 35-45.

White, A. E., Y. H. Spitz, D. M. Karl, and R. M. Letelier (2006) Flexible elemental stoichiometry in *Trichodesmium* spp. and its ecological implications. *Limnology and Oceanography*, **51**: 1777-1790.

White, A. E. (2006) Phosphorus physiology and environmental forcing of oceanic cyanobacteria, primarily *Trichodesmium* spp., Oregon State University, Ph.D. Dissertation.

White, A. E. (2001) A numerical model of primary productivity and dissolved oxygen dynamics in Mobile Bay. University of Alabama in Huntsville, Master's Thesis.

SELECTED PROFESSIONAL PRESENTATIONS

White, A.E. et al. (2010) Elemental Stoichiometry of Organic Matter Production by *Trichodesmium* IMS101 as a Function of Phosphorus Source with Emphasis on Phosphonate Utilization and the Production of Greenhouse Gases. Ocean Sciences Meeting, Portland, OR, February 2010 (oral presentation).

White, A.E. et al. (2010) *Invited*: Nitrogen Fixation in the Gulf of California and the Eastern Tropical North Pacific: Interannual Variability of Diazotrophic Productivity, Community Composition and Potentially Limiting Factors. Ocean Sciences Meeting, Portland, OR, February 2010 (oral presentation).

White, A.E. (2009) Invited Speaker, Salem Progressive Film Series showing of Addicted to Plastic. Salem, Oregon, March 2009.

White, A. E., K. Björkman, E. Grabowski, R. M. Letelier, S. Poulos, B. Watkins and D. M. Karl (2008) Assessing the Feasibility and Risks of Using Wave-Driven Upwelling to Enhance the Biological Sequestration of Carbon in Open Oceans. American Geophysical Union Fall Meeting, San Francisco, CA, December 2008 (oral presentation).

White, A., Spitz, Y., Zehr, J., Björkman, K., Karl, D. and Letelier, R. (2008) Physical and Chemical Forcing of Diazotrophic Biomass along a transect from 23°S to 24.75°N, American Society of Limnology and Oceanography, Orlando, Florida, March 2008 (oral presentation).

White, A. E. and R. Letelier (2008) Invited Presentation, Assessing the Feasibility and Risks of Controlled Upwelling. Hatfield Marine Science Seminar Series, Newport, Oregon, November 2008.