



Oregon State
University

Marnie Jo Zirbel

College of Earth, Ocean, and Atmospheric Sciences

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541-829-9526

EDUCATION

M.S., Environmental/ Marine and Estuarine Science, Western Washington University (2001)

B.S., Biology, University of California, San Diego (1997)

RESEARCH POSITIONS

Senior Faculty Research Assistant II, Oregon State University (OSU), 2019-present

Senior Faculty Research Assistant I, OSU, 2007-2019

Faculty Research Assistant, OSU, 2003-2007

Research Assistant, Skidaway Institute of Oceanography, Savannah GA, 2002-2003

Graduate Research Assistant, Shannon Point Marine Laboratory, Anacortes WA, 1999-2001

Research Assistant, Scripps Institution of Oceanography (SIO), La Jolla CA, 1997-1999

FIELDS OF SPECIALIZATION

Calibration, deployment and maintenance of oceanographic instruments

Laboratory and facility management, safety, training, invoicing and budgeting

Water quality analysis of discrete samples for instrument validation and research

Identification and culture of marine organisms

Method development and experimental design

PROFESSIONAL ACTIVITIES

• Online Outreach

Ocean Observatories Initiative. (2023, March 20). *Discrete water sampling*. [Reel]. Instagram. www.instagram.com/reel/CqAAkSijkFN/?igshid=MzRIODBiNWFIZA==

Duncombe, J. (2018). Career Spotlight. *OSU Women in Science Newsletter*, 1(3), 2-3. www.scribd.com/document/432426861/2018-05-wisnewsletter

CEOAS - Oregon State. (2016, March 17). *Sampling the Young's Bay Estuary in the Columbia River*. [Video]. YouTube. www.youtube.com/watch?v=30GpDAjOLDM

• Publications

Benoit-Bird, K.J., **Zirbel, M.J.**, & McManus, M.A. (2008). Diel variation of zooplankton distributions in Hawaiian waters favors horizontal diel migration by midwater micronekton. *Marine Ecology Progress Series*, 367, 109-123.

Zirbel, M.J., Miller, C.B., & Batchelder, H.P. (2007). Staging egg development of marine copepods with DAPI and PicoGreen. *Limnology & Oceanography Methods*, 5, 106-110.

Verity, P.G, **Zirbel, M.J.**, & Nejtgaard, J.C. (2007). Formation of very young colonies by *Phaeocystis pouchetii* from western Norway. *Aquatic Microbial Ecology*, 47, 267-274.

Alderkamp, A-C, Nejstgaard, J.C., Verity, P.G., **Zirbel, M.J.**, Sazhin, A.F., & van Rijssel, M. (2006). Dynamics in carbohydrate composition of *Phaeocystis pouchetii* colonies during spring blooms in mesocosms. *Journal of Sea Research*, 55,169-181.

Nejstgaard, J.C., Frischer, M.E., Verity, P.G, Anderson, J.T, Jacobsen, A., **Zirbel, M.J.**, Larsen, A., Martínez-Martínez, J., Sazhin, A.F., Walters, T., Bronk, D.A., Whipple, S.J., Borrett, S.R., Patten, B.C., & Long, J.D., (2006). Plankton development and trophic transfer in sea water enclosures with nutrients and *Phaeocystis pouchetii* added. *Marine Ecology Progress Series*, 321,99-121.

Zirbel, M.J., Veron, F., & Latz, M.I. (2000). The reversible effect of flow on the morphology of *Ceratocorys horrida* (Peridinales, Dinophyta). *Journal of Phycology*, 36, 46-58.

- **Cover Photo Credits**

Miller, C.B. & Wheeler, P.A. (2012). *Biological Oceanography*. Blackwell.

Müller, K. (Ed.). (2000). *Journal of Phycology*, 36(1).

- **OSU Positions**

2018-2023: OOI Senior Technician. Maintenance, calibration and deployment of oceanographic and meteorological sensors on coastal moorings. Training students and technicians. Standardization of calibration files in MATLAB. Discrete water sampling and analysis for instrument validation.
Dr. Jonathan Fram, CEOAS

2018-2023: CEOAS Plankton Facility Manager. Maintenance and calibration of HPLC, flow cytometer, spectrophotometer and fluorometer for marine sample analysis. Convert unstructured instrument data to semi-structured formats in MATLAB and VBA. Management of budget, grant writing, invoices, shipping, lab safety training and chemical hygiene plan.

<https://fees.oregonstate.edu/Public/BrowseExternal.aspx?ID=9659>

Dr. Ricardo Letelier, CEOAS

2018-2020: Dabob Bay WA, Netarts and Newport OR. Field sampling for water quality at oyster hatcheries. Conversion and analysis of instrument data at various temporal scales in MATLAB. Measurements of nutrients and sulfide; microscopy of oyster and shrimp larvae. Field safety management for students and staff.

Dr. G. Waldbusser, CEOAS

2016-2017: Point Sal CA. Deploy AcroBat towed underwater vehicle for CTD data from transects through internal waves. Construct, test, deploy and recover moored instruments.

Drs. J. Barth & J. Lerczak, CEOAS

2015-2016: OR coast. Shipboard sampling and laboratory analysis of phytoplankton pigments and organic matter concentrations.

Drs. A. White & M. Goni, CEOAS

2015: Young's Bay, Astoria OR. Construct, deploy and recover bottom lander moorings. Calibrate and program CTDs and YSI Exo Sondes.

Dr. J. Lerczak, CEOAS

2013-2014: CA coast. Sampling and identification of squid and other midwater Pacific species. Train post-doc to identify, quantify and subsample tropical Atlantic and Bahamian zooplankton.
Dr. K. Benoit-Bird, Monterey Bay Research Institute (MBARI)

2012: Newport Hydrographic Line, OR coast. Bongo net sampling, experiments in HMSC cold room, laser fluorescence confocal microscopy studies into ontogenic effects of ocean acidification on krill eggs and nauplii.
Drs. J. Peterson & W. Peterson, NOAA / CEOAS

2012: Bering and Chuckchi Seas. Mooring deployment and sampling for HPLC and DIC analysis. Astoria OR. Gas chromatography-FID analysis of methane, analysis of suspended particulate matter.
Dr. F. Prah, CEOAS

2007-2011: CEOAS Laboratory manager, radiation safety compliance contact. Sample collection and productivity experiments at sea, sterile algae culture, instrument calibration and maintenance. International cruise logistics in Fiji, Chile and Canada.
Dr. R. Letelier, CEOAS

2005-2006: Monterey Bay, CA. Acoustic and optical instrument package deployment. Plankton identification and analysis for preserved samples from Hawaii.
Drs. K. Benoit-Bird & T. Cowles, CEOAS

2005-2006: Coastal CA, OR and WA. Shipboard zooplankton and water quality studies. Collection of live euphausiids and copepods for egg production experiments.
Dr. W. Peterson, NOAA / CEOAS

2003-2006: Dabob Bay, WA and coastal OR. Method development for fluorescent staining and confocal microscopy of copepod eggs, sinking rate experiments.
Drs. C. Miller and H. Batchelder, CEOAS

- **Research Experience before OSU**

2002-2003: Espeland Fjord, Norway and coastal Georgia. Phytoplankton and microzooplankton experiments, sterile culture of microalgae.
Dr. Peter Verity, Skidaway Institute of Oceanography

1999-2001: Puget Sound, WA. Method development for microzooplankton grazing and growth.
Dr. Suzanne Strom, Shannon Point Marine Center, WWU

2000: Gulf of Alaska, microzooplankton sampling for NE Pacific GLOBEC.
Dr. Jeffrey Napp, NOAA / NMFS Seattle, WA

1997-1999: Palmer Station, Antarctica. Small boat sampling for phytoplankton composition. Productivity experiments using ^{14}C . Radioisotope and laboratory safety.
NASA Wallops Island. Seatruthing shipboard lidar and airborne remote sensing.
Dr. Maria Vernet, Marine Research Division, SIO

1997-1998: Coastal CA. Captive marine mammal research for diving physiology studies in elephant seals. Training, feeding and animal safety compliance for ring tank facility.
Dr. Gerald Kooyman, Center for Marine Biotech & Biomed, SIO

1996: Weddell Sea Antarctica. Collection and identification of Antarctic invertebrates.
Dr. Kenneth Smith, Marine Biology Research, SIO

1995-1997: Coastal CA. Physiology and bioluminescence studies in dinoflagellates. Sterile culture of microalgae. SCUBA monitoring of bottom-moored bathyphotometer.
Dr. Michael Latz, Marine Biology Research, SIO

- **Certifications and Training**

2023 NAUI CPR & Wilderness First Aid

2006-2018 Radiation Safety, OSU

2004, 2010, 2017 Sea Safety and Survival Training, HMSC OSU

2017 Social Justice Education Initiative Sessions 1&2

2016 CEOAS Forklift safety, OSU

1997 Small boat handling and cold water safety, Palmer Station Antarctica

1996 NAUI Research SCUBA, SIO

HONORS & AWARDS

2010 CEOAS Faculty Research Assistant Award

2001 Poster Award of Recognition, American Society of Limnology and Oceanography

2000 *Journal of Phycology* Provosoli Award for Outstanding Paper

1997 NASA/Maryland Sea Grant College Summer Fellow

PROFESSIONAL SERVICE

2019 HMSC Marine Science Day lab tour guide

2019 OSU Faculty Senator

2018 Louis Stokes Alliances for Minority Participation (LSAMP) volunteer

2018-2023 OSU Promotion & Tenure letters of reference for 5 candidates

2005, 2010, 2016, 2017 Salmon Bowl Science Judge

2004-2006 OC 331 Teaching assistant, zooplankton lab (C. Miller, J. Richman)

SERVICE TO THE PUBLIC

2022-2023 Level 2 Mountain Bike Coach, Corvallis Composite Team

2018 Referee, American Youth Soccer Organization

2004, 2006 Volunteer, Oregon Nonpartisan Voter Registration Drive