

**Heidi M. Sosik**

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**Date of Birth:** May 3, 1965

**Place of Birth:** Abington, PA

**Nationality:** USA

**EDUCATION:**

S.B.: Civil Engineering, Massachusetts Institute of Technology, 1987.

S.M.: Civil Engineering, Massachusetts Institute of Technology, 1988.

Ph.D.: Oceanography, University of California, San Diego, Scripps Institution of Oceanography, 1993.  
"Phytoplankton Photophysiology and Optical Modeling of Primary Production: Laboratory Results and Field Studies in the California Current System".

**PROFESSIONAL EXPERIENCE:**

Senior Scientist, Woods Hole Oceanographic Institution, 2008-present.

Associate Scientist, Woods Hole Oceanographic Institution, 1999-2008.

Assistant Scientist, Woods Hole Oceanographic Institution, 1996-1999.

Postdoctoral Scholar, Woods Hole Oceanographic Institution, 1993-1996.

Graduate Research Fellow, Scripps Institution of Oceanography, 1988-1993.

Graduate Research Assistant, Massachusetts Institute of Technology, 1987-1988.

Teaching Assistant, Massachusetts Institute of Technology, 1986-1987.

**AWARDS:**

Fellow of The Oceanography Society, 2018.

The Stanley W. Watson Chair for Excellence in Oceanography, 2017.

CINAR Fellowship in Quantitative Fisheries and Ecosystem Science, 2016.

Arons Award for Excellence in Teaching, Advising and Mentoring, 2015.

WHOI Senior Scientist Leadership Prize, 2013.

NASA Agency Honor Award / Group Achievement, ICESCAPE Team, 2012.

WHOI Coastal Ocean Institute / Ocean Life Institute Fellow, 2003.

ONR Young Investigator Program Award, 1997.

Presidential Early Career Award for Scientists and Engineers, 1996.

NASA New Investigator Program Award, 1996.

DOE Global Change Distinguished Postdoctoral Fellowship, 1994.

Who's Who Among Students in American Universities and Colleges, 1994.

Woods Hole Oceanographic Institution Postdoctoral Scholar Award, 1993.

ONR Student Oceanography Award, 1993.

NASA Graduate Student Researchers Program Award, 1991.

NSF Graduate Fellowship, 1988.

Woods Hole Oceanographic Institution Summer Student Fellowship, 1986.

Sea Grant Fellowship for Undergraduate Research, 1986.

National Merit Scholar, 1983.

**PROFESSIONAL AFFILIATIONS:**

American Geophysical Union (AGU)

The Oceanography Society (TOS)  
Association for the Sciences of Limnology and Oceanography (ASLO)  
Society for Women in Marine Science (SWMS)

**RESEARCH INTERESTS:**

Phytoplankton ecology and photophysiology; physical forcing and regulation of phytoplankton biomass and production; modeling of marine primary production; modeling of phytoplankton physiology and population dynamics; relationships between phytoplankton and water column optical properties; scaling from single cells to global systems; bio-optical oceanography; remote sensing of phytoplankton; Harmful Algal Bloom ecology and mitigation; instrument development and observing systems; informatics solutions for ocean data; automated image analysis and machine learning for image classification

**PROFESSIONAL ACTIVITIES:**

*National and International Activities:*

Member, SCOR WG 154, Integration of Plankton-Observing Sensor Systems to Existing Global Sampling Programs (P-OBS), 2017-present.

Member, Ocean Time-Series Committee, Ocean Carbon and Biogeochemistry Program, 2016-present.  
Steering Committee Lead for Working Group on Phytoplankton Taxonomy, Ocean Carbon and Biogeochemistry program, 2016-present.

Invited participant, ACT (Alliance for Coastal Technologies) Harmful Algal Bloom Technologies Workshop, Moss Landing, CA, 30 January-1 February, 2017.

Member, ICES Working Group on Phytoplankton and Microbial Ecology (WGPME), 2016-present.  
NASA Ocean Biology and Biogeochemistry Program's Working Group on Field Campaigns, 2014-present.

Steering Committee, ASM-AGU joint colloquium on microbes and climate change convened 2016.  
Elected Secretary of AGU Ocean Science Section, 2014-2018.

Invited participant, Life in a Turbulent Environment, Radcliffe Institute for Advanced Study Workshop. Cambridge, MA, 19-20 February 2014.

Invited plenary speaker, EarthCube End-User Domain Workshop for Ocean Ecosystem Dynamics. Woods Hole, MA, 7-8 October 2013.

Invited participant, CINAR Shelfbreak Ecosystem Workshop, Warwick, RI, January 7-8, 2013.

Member, Northeast Sentinel Monitoring Steering Committee Pelagic Working Group, 2013-2016.

Invited member, NSF Ocean Observatories Initiative Pioneer Array Sampling Strategy Focus Group, 2012

Advisory Board, NSF Research Coordination Network, RCN: OceanObsNetwork, 2012-2016.

Editorial Board, *Methods in Oceanography*, 2012-present.

Workshop co-organizer, CINAR Workshop on Climate and Ecosystem Change in the NW Atlantic, Woods Hole, 1-3 March 2011.

Convenor group and steering committee, OCB Scoping Workshop: A Biogeochemical Flux program aligned with the Ocean Observatories Initiative, 23-25 May 2011.

Invited participant, NASA Apparent Optical Property Workshop, San Diego, CA, 8-10 December 2010.

Workshop co-organizer, Individual Cell and Particle Analysis in Oceanography, 20 Years Later, Bowdoin College, Brunswick, ME, 15-17 June 2010.

Invited participant, CANON autonomous samplers workshop, MBARI, Monterey, CA, 14-15 April 2010.

NASA Biodiversity and Ecological Forecasting Team, 2011-2015.

Steering committee, Workshop on Marine Biodiversity Observations sponsored by the Joint Subcommittee on Ocean Science and Technology - Ocean Partnerships, Biodiversity Working Group (JSOST-OP-BWG), 2010-2011.

NASA GEO-CAPE Science Working Group (Decadal Survey mission planning), 2009-present.

Invited participant, NASA-sponsored Apparent Optical Properties Workshop, Santa Barbara, CA, 13-15 January 2009.

Invited participant, Department of Energy Carbon Cycling & Biosequestration Workshop (Biological Cycling of Carbon in Ocean Environments Breakout), Denver, CO, 17-18 March 2008.

Invited participant, NASA-sponsored Inherent Optical Properties Round Robin Intercomparison Workshop, University of New Hampshire, 5-9 September 2007.

Invited plenary speaker, "AquaFluo" International Meeting on Chlorophyll Fluorescence in Aquatic Sciences, Nove Hradý, Czech Republic, 28 May – 1 June 2007.

International Working Group on "Remote detection of phytoplankton functional types" (International Ocean Colour Coordinating Group-sponsored), 2006-2010.

NASA Carbon Cycle and Ecosystems Management Operations Working Group (advance/strategic planning group), 2006-2010.

Special Session Convener, AGU/ALSO Ocean Sciences Meeting, Honolulu, HI, February 20-24, 2006.

NSF ORION Design and Implementation Workshop, Salt Lake City, UT, March 27-30, 2006.

Invited participant, ALPS (Autonomous and Lagrangian Platforms and Sensors) II Workshop (NSF), Stevenson, Washington, November 1-3, 2005.

Invited participant, NASA Ocean Color Bio-optical Algorithm Mini workshop (OCBAM) workshop, University of New Hampshire, September 27-29, 2005.

International Ocean Colour Coordinating Group (SCOR-sponsored), 2005-2009.

SCOR Panel on New Technologies for Observing Marine Life, 2004-2008.

International Census of Marine Microbes, Open Ocean and Coastal Systems Working Group, 2005.

NOAA Coastal Ocean Applications and Science Team, 2004-2009.

Invited plenary speaker, Gordon Research Conference on Marine Microbes: Picophytoplankton, from ecology to genomics, 6-10 June 2004, Roscoff, France.

Invited participant, CoOP Workshop on Coastal Ocean Observatories, 12-13 November 2004, Chicago, IL.

Invited instructor, Workshop on Real-time Coastal Observing Systems for Ecosystem Dynamics & Harmful Algal Blooms, Villefranche-sur-Mer, France, June 11-21, 2003.

Associate Editor, *Limnology and Oceanography*, 2003-present.

Associate Editor, *Limnology and Oceanography: Methods*, 2002-2008.

North East Observing System, participating scientist.

LEO-15 Science Committee, 2003 – 2005.

National Academy of Sciences Review Committee for NASA's Earth Science Enterprise Applications Program Plan, 2002.

Invited participant, CoOP Workshop entitled Coastal ocean processes and observatories: Advancing coastal research, Savannah, GA, May 7-9, 2002.

ASLO Publications Committee Working Group, 2002.

Ocean Optics XVI Planning Committee, 2001-2002.

NASA SIMBIOS Science Team 2000-2003.

NASA SeaWiFS/Ocean Color Research Team 1998-present.

Invited plenary session speaker, Ocean Optics XIV, Kailua-Kona, Hawaii, November 10, 1998.

Invited session chair, ASLO Aquatic Sciences Meeting, Santa Fe, NM February 10-14, 1997.

Invited session chair, Ocean Optics XIII, Halifax, Nova Scotia, Canada, October 22-25, 1996.

Invited participant, NASA-SeaWiFS Ocean Absorption Workshop, Scripps Institution of Oceanography, December 9-13, 1996.

*WHOI (Non Education Related):*

Biology Department Staff Review Committee, 2016.  
Biology Department Search Committee, committee chair, 2014-2015.  
Search Committee for Chief Development Officer Search Committee, 2014.  
Search Committee for Director of Technology Transfer Office, 2013.  
Library Users Committee, 2011-2015.  
CINAR Advisory Group, 2009-present.  
Technology Innovation Proposal Review Panel, 2008.  
Martha's Vineyard Coastal Observatory, Chief Scientist, 2006-present.  
Biology Department Staff Review Committee, 2009-2011.  
Chapman Lecture Series on Coastal Ocean Processes, Steering Committee, 2006-2009.  
Coastal Ecosystem Research Initiative (COI-sponsored) Steering Committee, 2006-2009.  
Staff Committee, 2005-2007.  
Gender Equity Program Advisory Committee, Co-Chair, 2004-2010; member 2010-present.  
Access to the Sea Task Force, Steering Committee, 2003-2004.  
Martha's Vineyard Coastal Observatory Science, Oversight Committee, 2003-present.  
Biology Department Hiring Committee, 2003-2009.  
Coastal Ocean Institute Study Committee, 2002.  
Ocean Life Institute Advisory Committee, 2001-2002.  
Mellon Proposal Review Panel, 2001.  
Ketchum Award Selection Committee, 2001.  
WHOI Partnership Program, 1998-2006, 2012-present.  
Marine Operations Committee, 1998-2001.  
Rinehart Coastal Research Center Panel, 1998.  
Biology Department Chair Search Committee, 1996.  
Marine Mammal Biologist Search Committee, 1996.  
Biology Department Technical Staff Review Committee, 1995, 2000 and 2007.

*Other outside WHOI (Other than Attendance at Society/National Meetings):*

Associate Editor

Editorial Board, *Methods in Oceanography*, 2012-2016.  
*Limnology and Oceanography*, 2003-present.  
*Limnology and Oceanography: Methods*, 2002-2008.

Reviewer for Journals and National Agencies:

Aquatic Microbial Ecology  
Cytometry  
Deep-Sea Research  
eLife  
EOS  
Estuaries and Coasts  
Geophysical Research Letters  
Global Biogeochemical Cycles  
Journal of Geophysical Research  
Journal of Phycology  
Journal of Physical Oceanography  
Journal of Plankton Research

Limnology and Oceanography  
Limnology and Oceanography Bulletin  
Limnology and Oceanography: Methods  
Marine Ecology Progress Series  
Marine Technology Society Journal  
Methods in Oceanography  
Nature Microbiology  
PLOS One  
Proceedings of the National Academy of Sciences  
Remote Sensing  
Remote Sensing of the Environment  
Science Advances  
UNESCO  
NASA, NSF, Sea Grant, NOAA, NERC (UK), NSERC (Canada), CICEET, Israeli Binational  
Science Foundation, Marine Science and Technology Foundation

**Intensive Courses and Study Institutes:**

Jacques Monod Conference on Marine Eco-systems Biology, 21-25 June 2015, Roscoff, France.  
Radcliffe Institute Workshop on “Life in a Turbulent Environment”, 19-20 February 2015,  
Cambridge, MA.  
Gordon Research Conference on Marine Microbes: From genes to global cycles, 4-9 July 2010,  
Tilton, NH.  
AquaFluo – Chlorophyll fluorescence in Aquatic Sciences, 29 May – 1 Jun 2007, Nove Hradý,  
Czech Republic.  
Gordon Research Conference on Marine Microbes: Picophytoplankton, from ecology to genomics,  
6-10 June 2004, Roscoff, France.  
Workshop on Real-time Coastal Observing Systems for Ecosystem Dynamics & Harmful Algal  
Blooms, Villefranche-sur-Mer, France, June 11-21, 2003.  
Analysis of Single Cells in the Marine Phytoplankton Workshop, Alfred Wegener Institute for Polar  
and Marine Research, Bremerhaven, Germany, April 15-21, 2002.  
Intensive course on Estimation of Primary Production from Remotely-Sensed Data on Ocean Color,  
Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada, November 9-12,  
1992.  
Brookhaven Symposia in Biology No. 37, Primary Productivity and Biogeochemical Cycles in the  
Sea, Brookhaven National Laboratory, June 2-6, 1991.  
NATO Advance Study Institute on Individual Cell and Particle Analysis in Oceanography,  
Acquafredda di Maratea, Italy, October 21-30, 1990.  
Friday Harbor Laboratory, Bio-Optical Oceanography course, July 24-August 26, 1989.

“Real Science” episode on phytoplankton (nationally aired PBS series), 1996.  
November Learning Global Climate Educators conference, 2008 (invited presenter)

**PARTICIPATION IN EDUCATION PROGRAM:**

Joint Program in Biological Oceanography Curriculum Committee, 2016-2017.  
Joint Committee for Biological Oceanography, 2000-2012.  
Joint Program in Biological Oceanography Comprehensive Examination Committee, 1997-2001.  
Joint Program in Biological Oceanography Curriculum Committee, 1997-2000.  
Summer Student Fellowship Committee, 1995-1997.

Courses taught:

Topics in Phytoplankton Biology: Bio-Optical Oceanography, Spring 1996. (WHOI)  
Topics in Phytoplankton Biology: History of Biological Oceanography, Spring 1998. (WHOI)  
Satellite Remote Sensing in Biological Oceanography, Summer 1999. (Cornell University / Shoals Marine Laboratory)  
Biological Oceanography, Spring 2000. (WHOI)  
Satellite Remote Sensing in Biological Oceanography, Summer 2000. (Cornell University / Shoals Marine Laboratory)  
Topics in Phytoplankton Biology: Aquatic Photosynthesis, Fall 2000. (WHOI)  
Biological Oceanography, Spring 2001. (WHOI)  
Satellite Remote Sensing in Biological Oceanography, Summer 2001. (Cornell University / University of New Hampshire)  
Topics in Quantitative Marine Science: Ocean Biological-Physical Interactions, Spring 2006. (WHOI)  
Topics in Quantitative Marine Science: Linking Models and Observations in Marine Planktonic Ecosystems, Spring 2008. (WHOI)  
Topics in Biological Oceanography: Historical Developments in Biological Oceanography, Spring 2011. (WHOI)  
Topics in Phytoplankton: Phytoplankton Ecology, Fall 2012. (WHOI)

Joint Program advisees:

Bethany Fowler (2018-present)  
Kevin Archibald (2017-present)  
Bennett Lambert (2012-present)  
Emily Brownlee (2010-2017)  
Kristen Hunter-Cevera (2009-2014)  
Lorraine Thomas (2006-2008)  
Welkin Pope (2000-2001)  
Rebecca Green (1995-2002)  
Yale Passamani (1997-1998)  
Matthew Sullivan (1998)

Other Student Committee activity:

Alison Chase (University of Maine, thesis committee)  
Alexis Fischer (chair of exam committee, thesis defense chair)  
Deepa Rao (Academic Advisory Committee)  
Hayley Evers-King (University of Cape Town, external thesis examiner)  
Laura Harred (TAMU, thesis committee)  
Sara Rosengard (exam committee)  
Greg Kettler (MIT, thesis committee)  
Michael Brosnahan (chair of thesis defense)  
Elizabeth Halliday (proposal defense chair)  
Catherine Brown (Laboratoire d'Océanographie de Villefranche, external thesis examiner)  
Abigail Heithoff (Academic Advisory Committee)  
Sophie Clayton (Interdisciplinary Advisory Committee, thesis committee)  
Andrew Barton (MIT, thesis committee)

Melanie Fewings (thesis committee)  
Brittan Hlista (MS thesis committee, University of Illinois)  
Erin Sweeney (reviewer for MS thesis)  
Charles Stock (examiner for MIT general exam)  
Emily Lilly (proposal defense chair, thesis defense chair)  
Lisa Moore (MIT, thesis committee)  
Claudia Benitez (proposal defense committee)  
Elizabeth Mann (proposal defense chair)  
Mario Sengco (proposal defense chair and thesis defense chair)  
Heather Bouman (Dalhousie U., external thesis reviewer)  
Deborah Fripp (thesis defense chair)  
Lisa Garland (thesis defense chair)

### **SUPERVISION AT WHOI:**

#### Research Associates

Linda Martin Traykovski (2003-2009)  
Emily Peacock (2015-present)  
Alexi Shalapyonok (2017-present)

#### Research Assistants

Anne Canaday (1996-2001)  
Brittan Rabinovitch (Hlista) (2002-2007)  
Melissa Patricia (2006-2008)  
E. Taylor Crockford (2008-present)  
Emily Peacock (2009-2015)  
Bethany Fowler (2018)

#### Joint Program students

Rebecca Green (1996-2002)  
Yale Passamaneck (1997-1998)  
Matthew Sullivan (1998)  
Welkin Pope (2000-2001)  
Lorraine Thomas (2006-2008)  
Kristen Hunter-Cevera (2009-2014)  
Emily Brownlee (2010-2017)  
Bennett Lambert (2012-present)  
Kevin Archibald (2017-present)  
Bethany Fowlwer (2018-present)

#### Summer Students/Guest Students

Benjamin Halpern (1995, 1997)  
Ashwini Deshpande (1997-1998)  
Amy Apprill (1999)  
Diane Poehls (1999)  
Danielle Harvey (1999)  
Erdem Karakoylu (2000)  
Elise Zipkin (2003)  
Sarah Srodulski (2004)  
Kacie Li (2005)  
Emily Brownlee (2009)  
Emily Moberg (2010)  
Yolimar Rivera Vazquez (2012)

Marco Bellacicco (2013)  
Anna Nisi (2013)  
Jessica Sandoval (2014)  
Sasha Kramer (2015)  
Matthew Ball (2016)  
Craig Dawes (2017)

Volunteer students

Elizabeth Knox (2012)  
Louis Kilfoyle (2016)

Guest Investigators, foreign

Tatiana Churilova (1999, 2001, 2003)  
Vadym Suyetin (1999)  
Vyacheslav Suslin (2003)  
Michele DuRand (2009)  
Paul Snelgrove (2009)

Guest Investigators, national

Steven Lohrenz (2001-2002, 2010)  
Michele DuRand (2003-2005, 2008-2010)  
J. Ru Morrison (2003-2004, 2008-2010)  
Kristen Hunter-Cevera (2014-present)

Post-doctoral investigators

Michele DuRand (1995-2003)  
Linda Martin Traykovski (1997-2003)  
J. Ru Morrison (1999-2003)  
Samuel Laney (2006-2009)  
Ian Carroll (2012-2014)  
Kristen Hunter-Cevera (2014; 2016)  
Mattias Cape (2014-2016)  
Emily Brownlee (2017)

**CRUISE PARTICIPATION:**

R/V Endeavor, NES-LTER, January 31– February 5, 2018.  
R/V Tioga, MVCO, many 1 day trips, 2004-present.  
R/V Gulf Challenger, MVCO, 6 day trips, 2007-2009.  
SS/V Corwith Cramer, Middle Atlantic Bight, June 22 – July 1, 2007.  
R/V John Martin, Monterey Bay, September 4-15, 2006.  
R/V Oceanus, New England shelf/Sargasso Sea, October 1-14, 2002.  
R/V Connecticut, FRONT AVPPO mooring cruise, 13 November 2001.  
R/V Endeavor, Sargasso Sea, October 1 – 16, 2001.  
R/V Endeavor, Sargasso Sea, May 31 - June 14, 2001.  
R/V Connecticut, FRONT AVPPO deployment cruise, 6-10 December 2001.  
R/V Endeavor, GLOBEC Gulf of Maine process cruise, December 5 – 14, 1999.  
R/V Oceanus, GLOBEC Gulf of Maine process cruise, October 19 - 28, 1998.  
R/V Revelle, JGOFS Southern Ocean Process II, February 13 – March 19, 1998.  
R/V Endeavor, GLOBEC Gulf of Maine process cruise, October 7 - 17, 1997.  
R/V Knorr, Coast Mixing and Optics Experiment, April 23 - May 13, 1997.  
R/V Oceanus, Coastal Mixing and Optics Experiment, January 5 - January 7, 1997.  
R/V Seward Johnson, Coastal Mixing and Optics Experiment, August 17 - September 7, 1996.  
R/V Trepang, Black Sea, June 7-23, 1996.



R/V David Starr Jordan, Pre-FORAGE 9203, March 12 - April 7, 1992.  
R/V David Starr Jordan, CalCOFI 9202, January 28 - February 13, 1992.  
R/V New Horizon, CalCOFI 9110, September 28 - October 12, 1991.  
R/V Sproul, Southern California, August 27 - 29, 1991.  
R/V New Horizon, Ocean Optics Closure, August 23 - 28, 1990.  
R/V Oceanus, Sargasso Sea, June 1987.  
R/V Gyre, Woods Hole, MA to Dakar, Senegal, September 1986.

#### PAPERS IN REFEREED JOURNALS AND BOOKS:

Muller-Karger, F., E. Hestir, C. Ade. K. Turpie, D. Roberts, D. Siegel, R. Miller, D. Humm, N. Izenberg, M. Keller, F. Morgan, R. Frouin, A. Dekker, R. Gardner, J Goodman, B. Schaeffer, B. Franz, N. Pahlevan, A. Mannino, J. Concha, S.G.Ackleson, K. Cavanaugh, A. Romanou, M. Tzortziou, E. Boss, R. Pavlick, A. Freeman, C. Rousseaux, J. Dunne, M. Long, E. Klein, G.A. McKinley, R. Letelier, M. Kavanaugh, M. Roffer, J. Goes, A. Bracher, K.R. Arrigo, H. Dierssen, X. Zhang, F. Davis, B. Best, R. Guralnick, J. Moisan, H.M. Sosik, R. Kudela, C.B. Mouw, A. Barnard, S. Palacios, C. Roesler, E. Drakou, and W. Appeltans. 2018. Satellite sensor requirements for monitoring essential biodiversity variables of coastal ecosystems. *Ecological Applications*. doi:[10.1002/eap.1682](https://doi.org/10.1002/eap.1682)

Kalmbach, A., Sosik, H. M., Dudek, G., & Girdhar, Y. 2017. Learning Seasonal Phytoplankton Communities with Topic Models. In *OCEANS MTS/IEEE*. Anchorage. In press.

Olson, R.J., A. Shalapyonok, D.J. Kalb, S.W. Graves and H.M. Sosik. 2017. Imaging FlowCytobot modified for high throughput by in-line acoustic focusing of sample particles. *Limnology and Oceanography: Methods*. DOI: [10.1002/lom3.10205](https://doi.org/10.1002/lom3.10205).

Kalmbach, A., Y. Girdhar, H.M. Sosik, and G. Dudek. 2017. Phytoplankton hotspot prediction with an unsupervised spatial community model. In *2017 IEEE International Conference on Robotics and Automation (ICRA)* (pp. 4906–4913). IEEE. <http://doi.org/10.1109/ICRA.2017.7989568>.

Campbell, L., D.W. Henrichs, E.E. Peacock, J. Futrelle, and H.M. Sosik. 2017. Imaging FlowCytobot provides novel insights on phytoplankton community dynamics. In Proenca, L. A. O. and Hallegraeff, G. (eds). *Proceedings of the 17th International Conference on Harmful Algae*. International Society for the Study of Harmful Algae and Intergovernmental Oceanographic Commission of UNESCO 2017. ISBN 978-87-990827-6-6.

Hunter-Cevera, K.R., M.G. Neubert, R.J. Olson, A.R. Solow, A. Shalapyonok and H.M. Sosik. 2016. Physiological and ecological drivers of early spring blooms of a coastal phytoplankton. *Science*. 354: 326-329. doi:[10.1126/science.aaf8536](https://doi.org/10.1126/science.aaf8536)

Lambert, B.S., R.J. Olson, and H.M. Sosik. 2016. A fluorescence-activated cell sorting subsystem for the Imaging FlowCytobot. *Limnology and Oceanography: Methods*. 15: 94–102, DOI: [10.1002/lom3.10145](https://doi.org/10.1002/lom3.10145)

Brownlee, E.F., R.J. Olson, and H.M. Sosik. 2016. Microzooplankton community structure investigated with imaging flow cytometry and automated live-cell staining. *Marine Ecology Progress Series*. 550: 65–81. <https://doi.org/10.3354/meps11687>

Smith, Jr., W.O, D.J. McGillicuddy, Jr., E.B. Olson, V. Kosnyrev, E.E. Peacock, and H.M. Sosik. 2016. Mesoscale variability in intact and ghost colonies of *Phaeocystis antarctica* in the Ross Sea: Distribution and abundance. *Journal of Marine Systems*. [10.1016/j.jmarsys.2016.05.007](https://doi.org/10.1016/j.jmarsys.2016.05.007)

Valente, A., S. Sathyendranath, V. Brotas, S. Groom, M. Grant, M. Taberner, D. Antoine, R. Arnone, W.M. Balch, K. Barker, R. Barlow, S. Bélanger, J.-F. Berthon, S. Besiktepe, V. Brando, E. Canuti, F.

Chavez, H. Claustre, R. Crout, R. Frouin, C. García-Soto, S.W. Gibb, R. Gould, S. Hooker, M. Kahru, H. Klein, S. Kratzer, H. Loisel, D. McKee, B.G. Mitchell, T. Moisan, F. Muller-Karger, L. O'Dowd, M. Ondrusek, A.J. Poulton, M. Repecaud, T. Smyth, H.M. Sosik, M. Twardowski, K. Voss, J. Werdell, M. Wernand, and G. Zibordi. 2016. A compilation of global bio-optical in situ data for ocean-colour satellite applications. *Earth System Science Data*. doi:10.5194/essd-8-235-2016.

Brosnahan, M.L., L. Velo-Suarez, D.K. Ralston, S.E. Fox, T.R. Sehein, A. Shalapyonok, H.M. Sosik, R.J. Olson, and D.M. Anderson. 2015. Rapid growth and concerted sexual transitions by a bloom of the harmful dinoflagellate *Alexandrium fundyense* (Dinophyceae). *Limnology and Oceanography*. 60: 2059–2078.

Zhang, X., Y. Huot, A. Bricaud, and H.M. Sosik. 2015. Inversion of spectral absorption coefficients to infer phytoplankton size classes, chlorophyll concentration, and detrital matter. *Applied Optics*. 54: 5805-5816.

Hunter-Cevera, K.R., A.F. Post, and H.M. Sosik. 2015. Diversity of *Synechococcus* at the Martha's Vineyard Coastal Observatory: Insights from culture isolations, clone libraries, and flow cytometry. *Microbial Ecology*. DOI 10.1007/s00248-015-0644-1.

Laney, S.R. and H.M. Sosik. 2014. Phytoplankton assemblage structure in and around a massive under-ice bloom in the Chukchi Sea. *Deep-Sea Research Part II*. 105:30-41.

Arrigo, K.R., D.K. Perovich, R.S. Pickart, Z.W. Brown, G.L. van Dijken, K.E. Lowry, M.M. Mills, M.A. Palmer, W.M. Balch, N.R. Bates, C.R. Benitez-Nelson, E. Brownlee, K.E. Frey, S.R. Laney, J. Mathis, A. Matsuoka, B.G. Mitchell, G.W.K. Moore, R.A. Reynolds, H.M. Sosik, and J.H. Swift. 2014. Phytoplankton blooms beneath the sea ice in the Chukchi Sea. *Deep-Sea Research Part II*. 105:1-16.

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## **PAPERS PRESENTED AT MEETINGS AND INVITED LECTURES:**

### Meeting Presentations:

Sosik, H.M., S. Beaulieu, C. Chen, P. Fratantoni, R. Ji, S. Lentz, J. Llopiz, S. Menden-Deuer, M. Neubert, D. Richardson, T. Rynearson, R. Stanley. NES-LTER: A new Long Term Ecological research site on the Northeast US Shelf. 2018 Symposium of the Society for Women in Marine Science, Narragansett, RI, 24 March 2018.

Sosik, H.M., J. Futrelle, L. W. Kilfoyle, and E. Peacock. A workflow to enable insights into plankton ecology from large image datasets: Automated analysis, classification, and quantification of taxon-resolved abundance and biomass from Imaging FlowCytobot. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Brownlee, E., M.D. Johnson, D.J. Beaudoin, R.J. Olson, H.M. Sosik. Interplay of temperature and genetic composition on the seasonal size distributions of the mixotrophic ciliate, *Mesodinium*, on the New England Shelf. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Hunter-Cevera, K.R., M. Neubert, E. Peacock, and H.M. Sosik. Environmental drivers of seasonal microdiversity patterns in a temperate *Synechococcus* population. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Futrelle, J. and H.M. Sosik. Machine learning approaches for automated taxonomic classification of plankton images from Imaging FlowCytobot. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Beaulieu, S., H.M. Sosik, E. Brownlee, A. Voorhis, S. Ruzicka, J. Futrelle, A. Shipunova, E. Peacock, and C. Dawes. Biodiversity indicators are big data: Developing a reproducible indicator for microzooplankton diversity. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Dawes, C.D.R., E. Brownlee, E. Peacock, S. Beaulieu, and H.M. Sosik. New insights to the diversity of ciliates across space and over time in the Northeast U.S. Shelf Large Marine Ecosystem. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Cape, M.R, H.M. Sosik, F. Straneo, and M.A. Charrette. Characterizing phytoplankton community response to glacial meltwater export from the Greenland ice sheet. 2018 Ocean Sciences Meeting, Portland, OR, 11-16 February 2018.

Neubert, M.N, K.R. Hunter-Cevera, H.M. Sosik, 2017. Climate change and the bloom dynamics of a coastal phytoplankter. Sixth International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, Tucson, AZ, 20-22 October 2017.

Dawes, C.D.R., E. Brownlee, E. Peacock, S. Beaulieu, and H.M. Sosik. New insights to the diversity of ciliates across space and over time in the Northeast U.S. Shelf Large Marine Ecosystem. 89th National Technical Association Conference, Baltimore, MD, 20-22 Sep 2017.

Dawes, C.D.R., E. Brownlee, E. Peacock, S. Beaulieu, and H.M. Sosik. New Insights to the Diversity of Ciliates Across Space and Over Time in the Northeast U.S. Shelf Large Marine Ecosystem. Ocean Sciences Meeting, Portland, OR, 11-16 Feb. 2018.

Brownlee, E.F., R.G. Gast, and H.M. Sosik. Seasonality in ciliate communities characterized by morphotype and genotype. 15th International Congress of Protistology, Prague, Czech Republic, 30 Jul-4 Aug 2017.

Sosik, H.M., S. Beaulieu, C. Chen, P. Fratantoni, R. Ji, S. Lentz, J. Llopiz, S. Menden-Deuer, M. Neubert, D. Richardson, T. Rynearson, R. Stanley. NES-LTER: A new Long Term Ecological research site on the Northeast US Shelf. OCB Summer Workshop, Woods Hole, MA, 26-29 June 2017.

Sosik, H.M. Resetting the baseline for phytoplankton in situ measurements: Can we routinely measure phytoplankton diversity and size? Keynote Address, International Ocean Colour Science Meeting, Lisbon, Portugal, 15-18 May 2017.

Sosik, H.M. Life in the plankton, stories from automated submersible microscopy and flow cytometry, AMS Keynote Lecture at Annual Meeting of the Society for Integrative and Comparative Biology, 4-8 January 2017, New Orleans, LA.

Sosik, H. M., R. J. Olson, E. F. Brownlee, M. L. Brosnahan, E. T. Crockford, E. E. Peacock, and A. Shalapyonok. Advances in automated plankton imaging, AGU 2016 Fall Meeting, San Francisco, CA, 12-16 December 2016.

Sosik, H.M. Transition of Imaging FlowCytobot to operational support for harmful algal bloom mitigation and research. NERACOOS Fall Meeting, Portsmouth, NH, 7 December 2016.

Sosik, H.M., R.J. Olson, E.F. Brownlee, B.S. Lambert, M.L. Brosnahan, E.T. Crockford, E.E. Peacock, and A. Shalapyonok. Advances in Imaging FlowCytobot: Extended deployment and measurement capabilities. Ocean Optics Conference 2016, Victoria, British Columbia, Canada, 23-29 October 2016.

Campbell, L. and H.M. Sosik. Imaging FlowCytobot provides novel insights on phytoplankton community dynamics. 17th International Conference on Harmful Algae, Florianópolis, Santa Catarina, Brazil, 9-14 October 2016.

Sosik, H.M. Imaging FlowCytobot: An automated submersible imaging flow cytometer for plankton observations. NOAA Ecosystem Science and Management Working Group meeting, Woods Hole, MA. 11 May 2016.

Sosik, H.M., E.E. Peacock, E.T. Crockford, and R.J. Olson. Seasonal anomalies as proxies for phytoplankton community response to climate trends on a temperate continental shelf. NASA Ocean Color Research Team meeting, Silver Spring, MD, 2-4 May 2016.

Lohrenz, S.E, H.M. Sosik, and E.T. Crockford. Optical assessments of variability in phytoplankton communities in a dynamic coastal margin. NASA Ocean Color Research Team meeting, Silver Spring, MD, 2-4 May 2016.

Sosik, H.M. High resolution time series of plankton communities: From early warning of harmful blooms to sentinels of climate change. Ocean Outlook Conference, Woods Hole, MA, 6-8 April 2016.

Sosik, H.M. Phytoplankton time series at the Martha's Vineyard Coastal Observatory. International Council for the Exploration of the Sea (ICES) Working Group on Phytoplankton and Microbial Ecology (WGPME) Annual Meeting. Boothbay Harbor, ME, 5-6 April 2016.

Sosik, H.M., L. Campbell, and R.J. Olson. High resolution time series of plankton communities: From early warning of harmful blooms to sentinels of climate change. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Cape, M.R., H.M. Sosik, and F. Straneo. Greenland glacial fjord dynamics and impacts on nutrient supply and phytoplankton community structure. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Smith, W., D.J. McGillicuddy, E. Olson, H.M. Sosik, and E. Peacock. A missing link? -- -- Mesoscale distributions of colonial *Phaeocystis antarctica* and its ghost colonies in the Ross Sea. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Orenstein, E.C., P.M. Morgado, E. Peacock, H.M. Sosik, and J.S. Jaffe. Mining big data sets of plankton images: a zero-shot learning approach to retrieve labels without training data. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Preischel, H., H.M. Sosik, S. Lawrence, A. Lucchese, J. Genzer, J.L. Steichen, and A. Quigg. Fine scale phytoplankton diversity of Galveston Bay: Imaging FlowCytobot provides insight into microbial community dynamics. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Hunter-Cevera, K.R., H.M. Sosik, K. Hammar, and A. Post. Seasonal diversity patterns of a coastal *Synechococcus* population. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Lohrenz, S.E., H.M. Sosik, E.T. Crockford, and S. Chakraborty. Time-series hyperspectral and multi-spectral radiometric measurements at the Martha's Vineyard Coastal Observatory. AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Kramer, S.J., H.M. Sosik, and C.R. Roesler. Determining phytoplankton community structure from ocean color at the Martha's Vineyard Coastal Observatory (MVCO). AGU/ASLO 2016 Ocean Sciences Meeting. New Orleans, LA, 21-26 February 2016.

Preischel, H., Sosik, H.M., Steichen, J., Genzer, J. and Quigg, A. Bioindicators for freshwater inflows: Phytoplankton diversity. 10th State of the Bay Symposium. 20 Years of Successfully Preserving Galveston Bay, Galveston, TX. 13-14 January 2016.

Sosik, H.M. Ocean observing for plankton: Needs and methods, NSF Research Coordination Network, RCN: OceanObsNetwork Annual Meeting, San Francisco, CA, 13 December 2015.

Preischel, H., Sosik, H.M., Steichen, J., Genzer, J. and Quigg, A. Fine scale phytoplankton diversity of Galveston Bay: Imaging FlowCytobot grants insight into microbial community dynamics. Coastal and Estuarine Research Federation 2015, Portland, OR. 5-9 November 2015.

Sosik, H.M. 2015. Patterns of change in plankton communities: From observations to understanding. Society for Women in Marine Science Research Symposium, MIT, Cambridge, MA, 10 October 2015.

Sosik, H.M. 2015. Plankton traits from flow cytometry and imaging-in-flow cytometry. OCB Scoping Workshop, Trait-based Approaches to Ocean Life, Waterville Valley, NH, 5-8 October 2015.

Sosik, H.M. 2015. Phytoplankton characterization with Imaging FlowCytobot. GEO-CAPE Oceans Science Working Group data synthesis workshop, Durham, NC, 2-3 September 2015.

Anderson, D.A., D.J. McGillicuddy, Jr., B.A. Keafer, M.L. Bronsnahan, C.A. Scholin, G.J. Doucette, H.M. Sosik, and R. Olson. In situ, autonomous monitoring of toxic *Alexandrium* populations using two novel biosensors. International Conference on Underwater Sciences, Technology and Education, Hong Kong, 19-22 August 2015.

- Hunter-Cevera K.R., Sosik, H.M., Neubert, M.G., Solow A.S., Olson, R.J. and A. Shalapyonok. Division rates of a marine cyanobacterium from cell size distributions and a matrix population model. Ecological Society of America Annual Meeting, Baltimore, MD, 9-14 August 2015.
- Sosik, H.M., E.E. Peacock, E.T. Crockford and R.J. Olson. Seasonal anomalies as proxies for phytoplankton community response to climate trends on a temperate continental shelf. OCB Summer Workshop, Woods Hole, MA, 20-23 July 2015.
- Sosik, H.M., E.E. Peacock, and R.J. Olson. Parasitic infection and regulation of a coastal diatom: Insights from a long duration, high resolution time series of plankton images. Jacques Monod Conference on Marine Eco-systems Biology, Roscoff, France, 21-25 June 2015.
- Sosik, H.M. In situ observation capabilities and strategies for phytoplankton composition to support development and validation of satellite PFT algorithms. International Ocean Colour Science Meeting, San Francisco, CA 15-18 June 2015.
- Sosik, H.M., E.E. Peacock, E.T. Crockford and R.J. Olson. Seasonal anomalies as proxies for phytoplankton community response to climate trends on a temperate continental shelf. International Ocean Colour Science Meeting, San Francisco, CA 15-18 June 2015.
- Sosik, H.M., E.E. Peacock, and R.J. Olson. Parasitic infection and regulation of a coastal diatom: Insights from a long duration, high resolution time series of plankton images. ASLO Aquatic Sciences Meeting, Granada, Spain, 23-27 February 2015.
- Hunter-Cevera, K.R., H.M. Sosik, M.G. Neubert, A.F. Post, A.S. Solow, R.J. Olson, and A. Shalapyonok. Annual abundance cycle of temperate *Synechococcus* determined by seasonal changes in division rate. ASLO Aquatic Sciences Meeting, Granada, Spain, 23-27 February 2015.
- Piera, J., L. Campbell, H.M. Sosik, S. Anglès, E. Torrecilla, and A.M. Sánchez. Sampling requirements to characterize the variance on multiscale processes in aquatic ecology. ASLO Aquatic Sciences Meeting, Granada, Spain, 23-27 February 2015.
- Bronsnahan, M.L., R.J. Olson, H.M. Sosik, D.K. Ralston, and D.M. Anderson. Application of in situ imaging-in-flow cytometry for the study of the harmful dinoflagellate *Alexandrium fundyense*. ASLO Aquatic Sciences Meeting, Granada, Spain, 23-27 February 2015.
- Sosik, H.M. Bloom dynamics to climate change: Multi-scale observations of phytoplankton with autonomous flow cytometry. International Conference on Mediterranean Sea Marine Research: Scientific Priorities and Societal Challenges, Hammamet, Tunisia, 18-20 November 2014.
- Anderson, D.A., D.J. McGillicuddy, Jr., B.A. Keafer, M.L. Bronsnahan, C.A. Scholin, G.J. Doucette, H.M. Sosik, and R.J. Olson. Use of the Environmental Sample Processor (ESP) and Imaging Flowcytobot (IFCB) in studies of toxic *Alexandrium* blooms in estuaries and coastal waters. The 16<sup>th</sup> International Conference on Harmful Algae, Wellington, New Zealand, 27-31 October 2014.
- Sosik, H.M. New insights into phytoplankton blooms from multi-scale observations with autonomous flow cytometry, Ocean Optics Conference, Portland, ME, 27-31 October 2014.
- Sosik, H.M. PFTs from microscopy, flow cytometry, and genetic analysis. International Ocean Colour Coordinating Group workshop on “Phytoplankton composition from space: towards a validation strategy for satellite algorithms”, Portland, ME, 25-26 October 2014.
- Carroll, I.T., M.G. Neubert, and H.M. Sosik. Analysis of in situ monitoring data for near-shore microalgae communities obtained by imaging flow-cytometry: integrating machine-learning into a state-space model of phytoplankton abundance. Ecological Society of America, Sacramento, CA, 10-15 August 2014.

Sosik, H.M. Novel insights from multiscale plankton time series at the Martha's Vineyard Coastal Observatory. National Association of Marine Laboratories - Organization of Biological Field Stations (OBFS-NAML) 2014 Joint Meeting, Woods Hole, MA, 20-24 September 2014.

Sosik, H.M., E.E. Peacock, and R.J. Olson. Plankton time series at the Martha's Vineyard Coastal Observatory. OCB Summer Workshop, Woods Hole, MA, 21-24 July 2014.

Hunter-Cevera K.R., Sosik, H.M., Neubert, M.G., Post, A.F., Solow A.S., Olson, R.J. and A. Shalapyonok. *Synechococcus* population dynamics and diversity on the New England Shelf. Gordon Research Conference, Marine Microbes, Waltham, MA, 22-27 June, 2014.

Brownlee, E.F, H.M. Sosik, and R.J. Olson. Automated imaging to examine ciliate communities. Joint Aquatic Sciences Meeting, Portland, OR, 18-23 May 2014.

Sosik, H.M, and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. NASA Biodiversity and Ecological Forecasting Team Meeting. Silver Spring, MD, 7-9 May 2014.

Sosik, H.M, and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. NASA Ocean Color Research Team Meeting. Silver Spring, MD, 5-7 May 2014.

Feng, H., Sosik, H.M., and T. Moore. Ten year practice of satellite ocean color and aerosol product validation in the US northeastern coastal region using AERONET-Ocean Color measurements. NASA Ocean Color Research Team Meeting. Silver Spring, MD, 5-7 May 2014.

Futrelle, J.M., Maffei, A.R. Sosik, H.M., and S. Gallager, S. Lightweight, flexible approaches for disseminating high volume, active data sets. 2014 Ocean Science Meeting, Honolulu, HI, 23-28 February 2014.

Laney, S.R. and Sosik, H.M. Using imaging flow cytometry to examine diatom assemblages in the Chukchi Sea. 2014 Ocean Science Meeting, Honolulu, HI, 23-28 February 2014.

Brosnahan, M.L, David K. Ralston, Heidi M. Sosik, Robert J. Olson, and Donald M. Anderson. New insights into the behavior of *Alexandrium fundyense* life cycle stages through imaging flow cytometry. 7<sup>th</sup> Symposium on Harmful Algal of the US. Sarasota, FL, 27-31 October 2013.

Sosik, H.M., Futrelle, J., and A. Maffei. Partnerships drive informatics solutions for biological imaging at ocean observatories. EarthCube End-User Domain Workshop for Ocean Ecosystem Dynamics. Woods Hole, MA, 7-8 October 2013.

Sosik, H.M. and R.J. Olson. Seasonality, interannual variability, and multi-year trends in phytoplankton of the New England Shelf. OCB Summer Workshop, Woods Hole, MA, 22-25 July 2013.

Sosik, H.M. Biogeochemistry - laboratory and field instruments for carbon stocks and rates. International Ocean Colour Science Meeting, Darmstadt, Germany, 6-8 May 2013.

Sosik, H.M, and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. International Ocean Colour Science Meeting, Darmstadt, Germany, 6-8 May 2013.

Feng, H., Sosik, H.M., and T. Moore. Assessment of MODIS-Aqua ocean color and aerosol products in the US northeastern coastal region using AERONET-Ocean Color measurements. International Ocean Colour Science Meeting, Darmstadt, Germany, 6-8 May 2013.

Sosik, H.M., and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. NASA Biodiversity and Ecological Forecasting Team Meeting. Arlington, VA, 23-25 April 2013.

Lambert, B.S, R.J. Olson, H.M. Sosik, and R. Stocker. Enabling image-based cell sorting via microfluidic technologies. Microscale Interactions in Aquatic Environments, L'Ecole de Physique des Houches, France, 10-15 March 2013.

Sosik, H.M., E.E. Peacock, and R.J. Olson. Automated phytoplankton imaging provides unique perspective on interactions in natural communities. ASLO Aquatic Sciences Meeting, New Orleans, LA, 17-22 February 2013.

Richardson, T.L., J.A. Swanstrom, E.A., Abernathy, S.K. Tazik, E.A. Goldman, T.J. Shaw, H.M. Sosik, and M.L. Myrick, Development of sensors for the in situ classification of phytoplankton using spectral fluorescence signatures and imaging multivariate optical computing. ASLO Aquatic Sciences Meeting, New Orleans, LA, 17-22 February 2013.

Hunter-Cevera, K.R., H.M.Sosik, M.G. Neubert, A.R. Solow, R.J. Olson, and A. Shalapyonok. Synechococcus population growth rates from a matrix population model: Validation and field studies. ASLO Aquatic Sciences Meeting, New Orleans, LA, 17-22 February 2013.

Sosik, H.M. and R.J. Olson. Advancing access to new technology for sustained high resolution observations of plankton: From bloom dynamics to climate change, AGU Fall Meeting, 3-7 December 2012.

Sosik, H.M, J. Futrelle, and A. Maffei. Partnerships drive informatics solutions for biological imaging at ocean observatories, AGU Fall Meeting, 3-7 December 2012.

Sosik, H.M. and J. Futrelle. Informatics solutions for large ocean optics datasets. Ocean Optics XXII. Glasgow, Scotland, 8-12 October 2012.

Piera, J., L. Campbell, H.M. Sosik, L. Harred, R.J. Olson, Torrecilla, E.1, and Ballabrera, J. Do we need photonic-based instruments to characterize multiscale processes in marine environments? Ocean Optics XXII. Glasgow, Scotland, 8-12 October 2012.

Kalb, D.M., R.J. Olson, H.M. Sosik, M.E. Piyasena, S.W. and Graves. 2012. A high flow rate acoustic focusing capillary: Enhancing flow cytometry for remote plankton monitoring. Cyto2012, the XXVII Annual Meeting of the Society for the Advancement of Cytometry, Leipzig, Germany, 23-27 June 2012.

Sosik, H.M. and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. 2012 NASA Biodiversity and Ecological Forecasting Team Meeting. Seattle, WA, 25-27 Apr 2012.

Sosik, H.M. and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. 2012 NASA Ocean Color Research Team Meeting. Seattle, WA, 23-25 Apr 2012.

Goldman, E.A., Swanstrom, J.A., Abernathy, E.A., Richardson, T.L., Sosik, H.M., Shaw, T.J., and Myrick, M.L. 2012. A ship-based instrument for the discrimination of phytoplankton taxa using spectral fluorescence signatures and imaging multivariate optical computing (IMOC). 2012 Ocean Sciences Meeting, Salt Lake City, UT. 20-24 February 2012.

Palacios, S.L., Peterson, T.D., Sosik, H.M., and R.M. Kudela. 2012. Discriminating phytoplankton taxa starting from first principles of aquatic optics and ending at remote sensing imagery. 2012 Ocean Sciences Meeting, Salt Lake City, UT. 20-24 February 2012.

Futrelle, J. and H.M. Sosik. 2012. Imaging FlowCytobot Dashboard: web-based summarization, browsing, and access to near-realtime phytoplankton imagery. 2012 Ocean Sciences Meeting, Salt Lake City, UT. 20-24 February 2012.

Henrichs, D.W., Christopher, S., Sosik, H. M., Olson, R.J., and Campbell, L. 2011. Automated classification from Imaging FlowCytobot provides successful early warning of *Karenia brevis* blooms along the Texas coast. 6th Symposium on Harmful Algae in the US. Austin, TX. 13-17 November 2011.

Sosik, H.M. and H. Feng. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf. 2011 NASA Carbon Cycle and Ecosystems Joint Science Workshop. Alexandria, VA. 3-6 October 2011.

Sosik, H.M. and R. J. Olson. Plankton time series from automated submersible flow cytometry and cell imaging. Plankton 2011 Symposium, Plymouth, UK, 22-23 September 2011.

Sosik, H.M., R.J. Olson, and L. Campbell. Automated submersible flow cytometry: Transforming a specialized research instrument into a broadly accessible tool. OCB Summer Workshop, Woods Hole, 18-21 July 2011.

Sosik, H.M., Bio-optical technologies, prospects in a GBF-OOI program, GBF-OOI OCB Scoping Workshop, Woods Hole, MA, 23-25 May 2011.

Feng, H. and H.M Sosik. Seasonal to interannual variability in phytoplankton biomass and diversity on the New England Shelf: in situ time series for validation and exploration of remote sensing algorithms. MODIS Science Team Meeting, Adelphi, MD, May 18-20, 2011.

Sosik, H.M. and R. J. Olson. Automated submersible flow cytometry for characterizing phytoplankton community composition. ASLO 2011, San Juan, PR, 13-18 February 2011.

Moberg, E.A. and H.M. Sosik. Automated calculation of cell volume from 2D images of phytoplankton with complex shapes. ASLO Meeting, San Juan, Puerto Rico, 13-18 February 2011.

Sosik, H.M. Phytoplankton, single cells to global processes. The Future of the Oceans symposium, MIT, Cambridge, MA, 2-3 November 2010.

Campbell, L., H.M. Sosik, and R.J. Olson. Automated imaging-in-flow analysis from Imaging FlowCytobot provides successful early warning of harmful algal blooms in the Gulf of Mexico. 14th International Conference on Harmful Algae, Hersonissos, Crete, 1-5 November 2010.

Hendrichs, D.W., P.S. Scott, K.A. Steidinger, R.M. Errera, A. Abraham, H.M. Sosik, R.J. Olson, and L. Campbell. A tale of two morphotypes: A new species of *Prorocentrum* exhibits two distinct morphologies. 14th International Conference on Harmful Algae, Hersonissos, Crete, 1-5 November 2010.

Sosik, H.M., L. Campbell, and R.J. Olson. Recent advances in automated underwater plankton observations with Imaging FlowCytobot. Ocean Optics XX, Anchorage, AK, 27 September – 1 October 2010.

Hunter-Cevera, K.R., Sosik, H.M., M. Neubert, R.J. Olson, A. Solow. Coastal *Synechococcus* growth rates from cell size distributions and a matrix population model. 95<sup>th</sup> Ecological Society of America Annual Meeting, Pittsburgh, PA, 1-6 August 2010.

Sosik, H.M. and R.J. Olson. Diatom community structure on the New England Shelf: Time series observations with automated submersible imaging flow cytometry. Gordon Research Conference on Marine Microbes, Tilton, NH, 4-9 July 2010.

- Hunter-Cevera, K.R., Sosik, H.M., M. Neubert, R.J. Olson, A. Solow. Coastal *Synechococcus* growth rates from cell size distributions and a matrix population model. Gordon Research Conference on Marine Microbes, Tilton, NH, 4-9 July 2010.
- Sosik, H.M. Flow cytometry and imaging to assess phytoplankton structure and population dynamics. Workshop on Individual Cell and Particle Analysis in Oceanography, 20 Years Later, Bowdoin College, Brunswick, ME, 15-17 June 2010.
- Sosik, H.M. and R.J. Olson. Automated Submersible Flow Cytometry: Transforming a specialized research instrument into a broadly accessible tool. 2010 NASA Ocean Color Research Team meeting, New Orleans, LA, 11-13 May 2010.
- Sosik, H.M. HAB case studies: Current automated capabilities and future needs. MBARI CANON Workshop on Automated Sampling, Monterey, CA, 14-15 April 2010.
- Sosik, H.M. and R.J. Olson. Diatom community structure: Seasonal and interannual variability on the New England Shelf, 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb 2010.
- Brownlee, E.F., Sosik, H.M., and R.J. Olson. Seasonal variability in ciliates of the New England Shelf, 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb 2010.
- Laney, H.M. Sosik, and S., R.J. Olson. Diatoms favor their younger daughters. 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb 2010.
- Campbell, L., H.M. Sosik, R.J. Olson, and E.J. Buskey. Observation to prediction of harmful algal blooms on the Texas coast: automated analysis from Imaging FlowCytobot provides early warning for successful response, 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb 2010. (Sosik presented)
- Sosik, H.M. and R.J. Olson. Automated Submersible Flow Cytometry: Transforming a specialized research instrument into a broadly accessible tool. ONR Environmental Optics Symposium, Portland, OR, 19-20 February 2010.
- Sieracki, M.E. Benfield, M., Hanson, A., Davis, C., Pilskalns, C.H., Checkley, D., Sosik, H.M., Ashjian, C., Culverhouse, P., Cowen, R., Lopes, R., Balch, W., Irigoien, X. Optical plankton imaging and analysis systems for ocean observation. OceanObs'09, Venice, Italy, 21-25 September 2009.
- Sosik, H.M. and R.J. Olson. Plankton analysis by automated submersible imaging-in-flow cytometry: Transforming a specialized research instrument into a broadly accessible tool. 2009 NASA Ocean Color Research Team meeting, New York, NY, 4-6 May 2009.
- Laney, H.M. Sosik, and R.J. Olson. Examining cell-specific growth and division in phytoplankton using time-lapse photomicrography. ASLO Meeting, Nice, France, 25-30 January 2009.
- Campbell, L., R.J. Olson, and H.M. Sosik. Automated continuous analysis of phytoplankton community composition by Imaging FlowCytobot reveals bloom dynamics and provides early warning of a harmful algal bloom. ASLO Meeting, Nice, France, 25-30 January 2009.
- Sosik, H.M. and R.J. Olson. Biological and physical forcing of picophytoplankton on the New England Shelf: Insights from submersible flow cytometry at the Martha's Vineyard Coastal Observatory. AGU 2008 Fall Meeting, San Francisco, CA, 15-19 December 2008.
- Sosik, H.M. and R.J. Olson. Phytoplankton community regulation on the New England Shelf: Insights from automated submersible flow cytometry. Ocean Optics XIX, Pascoli Italy, 6-10 October 2008.



Sosik, H.M. and R.J. Olson. Seasonal variability in phytoplankton carbon and size structure at the Martha's Vineyard Coastal Observatory. Ocean Carbon and Biogeochemistry Science Workshop, Woods Hole, 21-24 July 2008.

Campbell, L., R.J. Olson, H.M. Sosik, and K. Wiles. Imaging FlowCytobot provides early warning of the first diarrhetic shellfish poison (DSP)-producing algal bloom in the Gulf of Mexico. Gulf of Mexico Alliance 1st Annual Monitoring Forum, St. Petersburg, FL, 2 – 5 June 2008.

Sosik, H.M. and R.J. Olson. Seasonality and temperature regulation of *Synechococcus*: New insights from submersible flow cytometry emphasize differences between shelf and open ocean ecotypes. *Prochlorococcus* 20th Anniversary Colloquium, MIT, Cambridge, MA, 30-31 May 2008.

Campbell, L., R.J. Olson, H.M. Sosik, K. Wiles, C. Hyatt, and E. Buskey. Imaging FlowCytobot: a new imaging and automated classifier system for HAB detection and successful early warning in the Gulf of Mexico. University of Kalmar, Sweden, 22 May 2008.

Campbell, L. R.J. Olson, H.M. Sosik, A. Abraham, J. Deeds, K. White, H. Granade, C. Hyatt, and E. Buskey. Imaging FlowCytobot provides early warning of the first diarrhetic shellfish poison (DSP)-producing algal bloom in the Gulf of Mexico. Texas Bays & Estuaries Annual Conference, Port Aransas, TX, 17 April 2008.

Sosik, H.M., S.J. Lentz, J.L. Wilkin, and R.J. Olson. Seasonality in phytoplankton blooms at the Martha's Vineyard Coastal Observatory. NASA Carbon Cycle and Ecosystems Joint Science Workshop, Adelphi, MD, 28 April – 2 May 2008.

Morrison, J.R., H. Feng, H.M. Sosik, R. Arnone, D. Vandemark, and P. Lyon. Updates on satellite ocean color validation activities at Martha's Vineyard Coastal Observatory using in-situ measurements. NASA Carbon Cycle and Ecosystems Joint Science Workshop, Adelphi, MD, 28 April – 2 May 2008.

Sosik, H.M. and R.J. Olson. Submersible flow cytometry for time series observation of phytoplankton community dynamics. 2008 Ocean Sciences Meetings, Orlando, FL, 2-7 March 2008.

Lyon, P. E., R. A. Arnone, Z. Lee, P. M. Martinolich, H. Sosik, D. Vandemark, H. Feng, R. Morrison (2008). Potential Satellite for Monitoring Bio-Optical Properties: Quality Assessment of Ocean Color Monitor Data in the Coastal Zone. 2008 Ocean Sciences Meetings, Orlando, FL, 2-7 March 2008.

Campbell, L. R.J. Olson, and H.M. Sosik. Imaging and classification system for harmful algal bloom detection. Gulf of Mexico Coastal Ocean Observing System (GCOOS), New Orleans, October 2007.

Buskey, E.J., D.-H. Min, L. Campbell, R.J. Olson, H.M. Sosik, and A.F. Amos. 2007. The UTMSI Pier: Instrumentation to keep a finger on the pulse of the Mission Aransas National Estuarine Research Reserve. National Estuarine Research Reserve System Annual Meeting. Shepherdstown, WV, 22-26 October 2007.

Sosik, H.M. and R.J. Olson. New insights in phytoplankton ecology from automated submersible flow cytometry. Gordon and Betty Moore Foundation 3rd Annual Marine Microbiology Investigator Symposium. University of California, San Diego, 16-19 July 2007. Invited guest speaker.

Sosik, H.M. and R.J. Olson. Submersible flow cytometry for monitoring phytoplankton community structure, AquaFluo: Chlorophyll fluorescence in aquatic sciences, Nove Hrad, Czech Republic, 28 May – 1 June 2007.

Lyon, P., R. Arnone, R. Gould, Z. Lee, P. Martinolich, S. Ladner, B. Casey, H. Sosik, D. Vandemark, Automated validation of satellite derived coastal optical products. SPIE Optics and Photonics Meeting, San Diego, CA, 26 - 30 August 2007.

Sosik, H.M. and R.J. Olson. Seasonality in phytoplankton communities at the Martha's Vineyard Coastal Observatory. 2007 NASA Ocean Color Research Team meeting, Seattle, WA, 11-13 April 2007.

Hlista, B.L. and H.M. Sosik. Food-limited reproduction in the North Atlantic right whale as determined by satellite ocean color data. 2007 NASA Ocean Color Research Team meeting, Seattle, WA, 11-13 April 2007.

Morrison, J.R., H. Feng, D. Vandemark, H. Sosik, R. Arnone, P. Lyon, S. Ladner. 2007. Use of the Martha's Vineyard Coastal Observatory (MVCO) to assess ocean color products in North East coastal waters. 2007 NASA Ocean Color Research Team Meeting, Seattle, WA, 11-13 April 2007.

Sosik, H.M. and R.J. Olson. New Technologies to Acquire Time Series of Phytoplankton Community Structure: Submersible Imaging-in-Flow Cytometry and Automated Taxonomic Classification. Ocean Optics XVIII, Montreal, Canada, 19-23 October 2006.

Plueddemann, A., J. Trowbridge, H. Sosik. Coastal Ecosystem Research in the Northwest Atlantic. Oceans 06 MTS/IEEE, Boston, 18-21 September 2006.

Feng, H., Vandemark, D., R. Morrison, and H. Sosik. Satellite ocean color validation and aerosol data validation at Martha's Vineyard Coastal Observatory. Oceans 06 MTS/IEEE, Boston, 19-23 September 2006.

Sosik, H.M., R.J. Olson, M. Fewings, B. Hlista, S. Lentz, J.H. Trowbridge, J. Wilkin, J. Campbell, H. Feng, J.R. Morrison, and D. Vandemark. Physical controls on phytoplankton communities of the New England shelf. 2006 NASA Ocean Color Research Team meeting.

Sosik, H.M. and R.J. Olson. Do Biological and Physical Interactions in the Coastal Ocean Really Support a Constant "Lawn" of Small Phytoplankton? 2006 AGU/ASLO Ocean Sciences Meeting.

Olson, R.J. and H.M. Sosik. Imaging FlowCytobot: Long term automated monitoring of nano- and microplankton. 2006 AGU/ASLO Ocean Sciences Meeting.

Feng, H., D. Vandemark, R. Morrison, H. Sosik, B. Holben. Evaluation of satellite ocean color products at Martha's Vineyard Coastal Observatory using SeaPRISM measurements. 2006 AGU/ASLO Ocean Sciences Meeting.

Campbell, J., D. Aurin, S. Bailey, P. Bontempi, M. Dowell, R. Frouin, H. Feng, P. Lyon, C. McClain, S. Maritorena, T. Moore, R. Morrison, J. O'Reilly, H. Sosik, C. Trees, J. Werdell. The chlorophyll algorithm revisited: results of the OCBAM Workshop. 2006 AGU/ASLO Ocean Sciences Meeting.

Sosik, H.M. and R.J. Olson. Time series observations of phytoplankton community structure. "The Evolution of Aquatic Photoautotrophs" Symposium at Rutgers University, 2006.

Sosik, H.M. and R.J. Olson. Automated Taxonomic Classification of Plankton Images from Imaging FlowCytobot. WHOI/LANL Mini-symposium on Image Understanding, 2005.

Sosik, H.M. Marine microbial communities from single cells to ocean basins: New views from underwater microscopes and earth-orbiting light meters. 2005 MIT Earth System Initiative Symposium.

Sosik, H.M. and R.J. Olson. Automated submersible flow cytometry and imaging-in-flow cytometry: Time series observations of pico- to microphytoplankton. 2005 NOPP Ecogenomics meeting.

Sosik, H.M., R.J. Olson, J.H. Trowbridge, D. Vandemark, and H. Feng. Time series of optical properties and phytoplankton at the Martha's Vineyard Coastal Observatory. 2005 NASA Ocean Color Research Team meeting.

Sosik, H.M. and R.J. Olson. Automated submersible flow cytometry and imaging-in-flow cytometry: Time series observations of pico- to microphytoplankton. 2005 SCOR Panel on New Technologies for Observing Marine Life meeting.

Sosik, H.M. and R.J. Olson. Continuous flow cytometry of picophytoplankton to microphytoplankton. 2005 International Census of Marine Microbes Open Ocean and Coastal Systems Working Group meeting.

Sosik, H.M., R.J. Olson, and A. Shalapyonok. Phytoplankton dynamics on the New England inner shelf: Time series observations at the Martha's Vineyard Coastal Observatory. 2004 AGU Fall meeting.

Olson, R.J. and H.M. Sosik (presenter). A new submersible imaging-in-flow instrument to monitor nano-and microplankton: Imaging FlowCytobot. 2004 AGU Fall Meeting.

Sosik, H.M. New insights into phytoplankton dynamics from optical observations. 2004 ASLO/TOS Ocean Research Conference.

Sosik H.M., R.J. Olson, and A. Shalapyonok. Phytoplankton dynamics on the New England inner shelf: Time series observations at the Martha's Vineyard Coastal Observatory. 2004 ASLO/TOS Ocean Research Conference.

Sosik, H.M., Picophytoplankton Physiology in the field from continuous flow cytometry measurements. 2004 Gordon Research Conference Series on Marine Microbes.

Sosik, H.M., R.J. Olson, and A. Shalapyonok. Time series monitoring of coastal phytoplankton: abundance and growth rates from submersible flow cytometry. 2004 NSF ORION workshop.

Sosik, H.M., J.H. Trowbridge, S.J. Lentz, and J.L. Wilkin. Physical forcing and seasonal variability in phytoplankton at the Martha's Vineyard Coastal Observatory. NASA Ocean Color Research Team meeting 2004.

Sosik, H.M., R.J. Olson, and A. Shalapyonok. Automated Submersible Flow Cytometry for Characterizing Coastal Phytoplankton Assemblages. 2003 Workshop on The Next Generation of in situ Biological and Chemical Sensors in the Ocean.

Olson, R.J. and H.M. Sosik. Flow cytometric approaches for monitoring phytoplankton population dynamics and physiology. 2003 Workshop on The Next Generation of in situ Biological and Chemical Sensors in the Ocean.

Sosik, H.M., R.J. Olson, M.G. Neubert, A. Shalapyonok, and A.R. Solow. Growth rates of coastal phytoplankton from time-series measurements with a submersible flow cytometer. 2003 ASLO Aquatic Sciences Meeting.

Olson, R.J. and H.M. Sosik. Imaging in flow to improve the resolution of pump-during-probe measurements of phytoplankton photosynthetic characteristics. 2003 ASLO Aquatic Sciences Meeting.

Sosik, H. M., J. R. Morrison, J. Campbell, D. Vandemark, M. Dowell, S. Gallager, and W. McGillis. 2003. Bio-optical measurements at the Martha's Vineyard Coastal Observatory. 2003 NASA Ocean Color Research Team Meeting.

Morrison, J. R. and H. M. Sosik. 2003. Inherent optical properties in New England coastal waters: decomposition into contributions from optically important constituents. 2003 NASA Ocean Color Research Team Meeting.

Martin Traykovski, L. V., W. L. Miller and H. M. Sosik. 2003. A new approach to evaluation spatial variability of photochemistry based on characterization of optical water types from satellites. 2003 NASA Ocean Color Research Team Meeting.

Sosik, H. M., R. J. Olson, M. G. Neubert, A. Shalapyonok, and A. R. Solow. 2002. Time series observations of a phytoplankton community monitored with a new submersible flow cytometer. *Ocean Optics XVI*.

Morrison, J. R and Sosik, H. M. 2002. Inherent optical properties in New England coastal waters: decomposition into contributions from optically important constituents. *Ocean Optics XVI*.

Green, R. E., H. M. Sosik, and R. J. Olson. 2002. The contribution of phytoplankton and non-phytoplankton particles to inherent and apparent optical properties in New England continental shelf waters. *Ocean Optics XVI*.

Martin Traykovski, L. V., W. L. Miller and H. M. Sosik. 2002. A new approach to evaluation spatial variability of photochemistry based on characterization of optical water types from satellites. *Ocean Optics XVI*.

Morrison, J. R. and H. M. Sosik. 2002. Time series measurements and algorithm development at the FRONT site on the New England continental shelf. 2002 SIMBIOS Science Team Meeting.

Sosik, H. M. and R. J. Olson. Phytoplankton and iron limitation of photosynthetic efficiency in the Southern Ocean during late summer. Phytoplankton Productivity Conference, University of Wales - Bangor UK, March 18-22, 2002.

Sosik, H. M, R. J. Olson, M. G. Neubert, and A. R. Solow. Time series observations of a phytoplankton community monitored with a new submersible flow cytometer. Phytoplankton Productivity Conference, University of Wales - Bangor UK, March 18-22, 2002.

Sosik, H.M, R. J. Olson, M. G. Neubert, and A. R. Solow. Time series observations of a phytoplankton community monitored with a new submersible flow cytometer. Analysis of Single Cells in the Marine Phytoplankton, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany, April 15-21, 2002.

Olson, R. J. and H. M. Sosik. 2001. An in situ flow cytometer for the optical analysis of individual particles in coastal waters. Abstract, 2001 ASLO Aquatic Sciences Meeting.

Karaköylü, E. and H. M. Sosik. 2001. Bio-optical modeling of phytoplankton production on the continental shelf. Abstract, 2001 ASLO Aquatic Sciences Meeting.

Morrison, J. R. and H. M. Sosik. Time series measurements and algorithm development at the FRONT site on the New England continental shelf. 2001 SIMBIOS Science Team Meeting.

Sosik, H. M. and J. R. Morrison. 2000. Analysis and visualization of inherent optical properties of the Gulf of Maine observed from a towed vehicle. *Ocean Optics XV*.

DuRand, M. D., H. M. Sosik, and R. J. Olson. 1999. Diel variations in single-cell and bulk optical properties during the Coastal Mixing and Optics Experiment. Abstract, 2000 AGU Ocean Sciences Meeting. EOS 80: OS26.

Green, R. E., H. M. Sosik, M. D. DuRand, and R. J. Olson. 1999. Toward closure between single particle and bulk optical properties during the Coastal Mixing and Optics Experiment. Abstract, 2000 AGU Ocean Sciences Meeting. EOS 80: OS118.

Olson, R. J, H. M. Sosik, and A. Shalapyonok. 1999. Phytoplankton and variable fluorescence in the Southern Ocean during late summer. Abstract, 2000 AGU Ocean Sciences Meeting. EOS 80: OS199.

- Sosik, H. M., M. D. DuRand, and R. J. Olson. 1999. Vertical and temporal variability in phytoplankton and photosynthetic properties on the New England Shelf. Abstract, 2000 AGU Ocean Sciences meeting. EOS 80: OS25.
- Olson, R. J., H. M. Sosik and A. M. Chekalyuk. 1999. Iron limitation in the Southern Ocean: Active fluorescence measurements of phytoplankton populations and individual cells. ASLO Aquatic Sciences Meeting.
- Olson, R. J. and H. M. Sosik. 1999. An in situ flow cytometer for the optical analysis of individual particles in seawater. 1999 ASLO Aquatic Sciences Meeting.
- DuRand, M. D., H. M. Sosik and R. J. Olson. 1998. Size-dependent light scattering and absorption by particles in continental shelf waters: flow cytometric analysis during the Coastal Mixing and Optics Experiment. 1998 AGU/ASLO Ocean Sciences Meeting.
- Green, R. E. and H. M. Sosik. 1998. Vertical and temporal variability in apparent optical properties during the Coastal Mixing and Optics Experiment. 1998 AGU/ASLO Ocean Sciences Meeting.
- Sosik, H. M., R. E. Green and R. J. Olson. 1998. Optical variability in coastal waters of the Northwest Atlantic. Ocean Optics XIV.
- Sosik, H. M., B. S. Halpern and R. J. Olson. 1996. Light absorption and phytoplankton community structure in the Mid-Atlantic Bight. AGU/ASLO 1996 Ocean Sciences Meeting.
- Olson, R. J. H. M. Sosik and A. M. Chekalyuk. 1996. New developments in individual cell analysis: Measurements of photosynthetic characteristics and an in situ flow cytometer. AGU/ASLO 1996 Ocean Sciences Meeting.
- Sosik, H. M. 1995. Sources of variability in estimates of primary production from bio-optical models. TOS Fourth Scientific Meeting.
- Olson, R. J., A. M. Chekalyuk, H. M. Sosik and M. Yu. Gorbunov. 1995. Pump-during-probe technique for measuring photosynthetic characteristics of individual algal cells using flow cytometry and microfluorometry. Extended abstract, 10th International Congress of Photosynthesis, Montpellier, France.
- Mitchell, B. G., M. Vernet, H. M. Sosik, E. Brody and O. Holm-Hansen. 1994. Total and photosynthetically active absorption by Antarctic Phytoplankton. Abstract, AGU 1994 meeting, EOS 75: 200.
- Sosik, H. M. and B. G. Mitchell. 1993. Photosynthetically active absorption and quantum yield in the California Current. TOS Third Scientific Meeting.
- Sosik, H. M., B. G. Mitchell and T. L. Hayward. 1993. Environmental forcing of phytoplankton physiology. ASLO 1993 Annual Meeting.
- Sosik, H. M. 1992. Variability in bio-optical properties of the California Current. NASA Graduate Student Researchers Program Annual Symposium.
- Sosik, H. M. 1991. Variability in phytoplankton optical properties in the California Current. California Cooperative Oceanic Fisheries Investigations Annual Conference.
- Sosik, H. M. 1990. Sources of variability in chlorophyll *a* fluorescence in marine phytoplankton. NATO ASI on Individual Particle Analysis, Acquafredda di Maratea, Italy.
- Sosik, H. M. and B. G. Mitchell. 1990. The effects of growth rate on phytoplankton absorption and pigment characteristics: Nitrogen limitation of *Dunaliella tertiolecta*. AGU/ASLO 1990 Ocean Sciences meeting, EOS 71: 105.

Sosik, H. M., S. W. Chisholm and R. J. Olson. 1988. Analysis of chlorophyll fluorescence in marine phytoplankton: Interpretation of flow cytometric signals. AGU/ALSO 1988 Ocean Sciences meeting, EOS 69: 1107.

Olson, R. J., E. R. Zettler, A. Lewitus, S. W. Chisholm, E. V. Armbrust, M. Gerath and H. M. Sosik. 1986. Abundant red-fluorescing picoplankton in the deep waters of the North Atlantic: Flow cytometric analysis. Abstract, AGU/ASLO 1986 Ocean Sciences meeting.

#### Invited Presentations:

Distinguished Scientist Lecture Series, Marine Biological Laboratory, Woods Hole, MA, 15 September 2017.

Keynote Address, International Ocean Colour Science Meeting, Lisbon, Portugal, 17 May 2017  
AMS Keynote Address, Annual Meeting of the Society for Integrative and Comparative Biology, New Orleans, LA, 6 January 2017.

Rutgers University, New Brunswick, NJ, 7 November 2016.

University of Massachusetts, Dartmouth, 14 October 2016.

NOAA Science Advisory Board Ecosystem Science and Management Working Group (ESMWG) meeting, Woods Hole, MA, 11 May 2016.

International Council for the Exploration of the Sea (ICES) Working Group on Phytoplankton and Microbial Ecology (WGPME) Annual Meeting, Boothbay Harbor, ME, 5 April 2016.

WHOI, Marine Chemistry and Geochemistry Department, Woods Hole, MA, 9 Jan 2016.

Ocean Outlook Conference, Woods Hole, MA, 8 April 2016.

OceanObs RCN Annual Meeting, San Francisco, CA, 13 December 2015.

MIT, Earth, Atmosphere, and Planetary Science Department, Cambridge, MA, 21 October 2015.

Plenary session speaker, Society for Women in Marine Science Research Symposium, Cambridge, MA, 10 October 2015.

International Ocean Colour Science Meeting, Breakout Session on Remote Sensing of Phytoplankton Composition – Possibilities, Applications and Future Needs, San Francisco, CA 16 June 2015.

Plenary session speaker, International Conference on Mediterranean Sea Marine Research: Scientific Priorities and Societal Challenges, Hammamet, Tunisia, 19 November 2014.

Plenary session speaker, Ocean Optics Conference OOXII, Portland, ME, 31 October 2014.

International Ocean Colour Coordinating Group workshop on “Phytoplankton composition from space: towards a validation strategy for satellite algorithms”, Portland, ME, 25-26 October 2014.

National Association of Marine Laboratories - Organization of Biological Field Stations (OBFS-NAML) 2014 Joint Meeting, Woods Hole, MA, 22 September 2014.

McLane Research Laboratories, Inc., Falmouth, MA, 27 March 2014.

EarthCube End-User Domain Workshop for Ocean Ecosystem Dynamics. Woods Hole, MA, 8 October 2013.

Monterey Bay Aquarium Research Institute, Moss Landing, CA, 11 September 2013.

International Ocean Colour Science meeting, Oldenburg, Germany, 7 May 2013.

University of New England, Department of Marine Sciences, 4 February 2013.

University of Massachusetts, Boston, Environmental, Earth, and Ocean Sciences Department, 31 October 2012.

Old Dominion University, Department of Ocean, Earth and Atmospheric Sciences Seminar Series, Norfolk, VI, 26 September 2012.

Duke University Marine Laboratory Seminar Series, Beaufort, NC, 31 August 2011.

GBF-OOI OCB Scoping Workshop, Woods Hole, MA, 23-25 May 2011.  
The Future of the Oceans Symposium, MIT, Cambridge, MA, 2-3 November 2010.  
Workshop on Individual Cell and Particle Analysis in Oceanography, 20 Years Later, Bowdoin College, Brunswick, ME, 15-17 June 2010.  
CANON workshop on Automated Sampling, MBARI, Monterey CA, 15 April, 2010.  
ONR Environmental Optics Symposium, Portland, OR, 20 February 2010.  
Ocean Observing Symposium, Woods Hole, MA, 27 May 2009.  
NASA Ocean Color Research Team Meeting, New York, NY, 4-6 May 2009.  
Gordon and Betty Moore Foundation 3rd Annual Marine Microbiology Investigator Symposium. University of California, San Diego. July 18, 2007.  
AquaFluo Conference: Chlorophyll fluorescence in aquatic sciences, Nove Hradý, Czech Republic, 1 June 1, 2007.  
University of Connecticut, Groton, CT, February 2, 2007.  
MIT Earth System Initiative Symposium. MIT, Cambridge, MA, November 7-8, 2005.  
WHOI/ Los Alamos National Laboratories, Mini-symposium on Image Understanding, Woods Hole, Oct. 27, 2005  
NASA Ocean Color Research Team Meeting, Newport, RI, April 11-13, 2006.  
MIT Earth System Initiative Symposium, Cambridge, MA, November 7-8, 2005.  
Mini-symposium on Image Understanding, Woods Hole, MA, October 26-27, 2005.  
WHOI 75th Anniversary Science Symposium, Woods Hole, MA, September 21-22, 2005.  
NOPP Ecogenomics workshop, Washington, DC, Mar. 7-8, 2005.  
International Census of Marine Microbes Open Ocean and Coastal Systems Working Group meeting, Honolulu, HI, May 10-11, 2005.  
SCOR Panel on New Technologies for Observing Marine Life, Goa, India, February 14-16, 2005.  
AGU Fall Meeting, San Francisco, CA, December 13-17, 2004.  
Gordon Research Conference on Marine Microbes: Picophytoplankton, from ecology to genomics, Roscoff, France, 6-10 June 2004.  
ASLO/TOS Ocean Research Conference, Honolulu, HI, 15-20 February 2004.  
Marine Biological Laboratory, Woods Hole, MA, October 7, 2004.  
Institute of Marine and Coastal Sciences, Rutgers University, September 15, 2003.  
Workshop on Real-time Coastal Observing Systems for Ecosystem Dynamics & Harmful Algal Blooms. Villefranche-sur-Mer, France, June 11-21, 2003.  
ONR History Colloquium, Oceanography: The Making of a Science, WHOI, March 30-31, 2000.  
MIT, Ralph M. Parsons Laboratory, May 7, 1999.  
Plenary session speaker, Ocean Optics XIV, Kalua-Kona, Hawaii, November 10, 1998.  
University of Rhode Island, Graduate School of Oceanography, September 16, 1998.  
ONR Focused Topical Review on Electro-Optical Propagation in the Ocean. Stennis Space Center, MS, January 8-9, 1998.  
University of Massachusetts, Boston, Environmental Science Dept., November 5, 1997.  
EARSel International Colloquium on Photosynthesis and Remote Sensing, Montpellier, France, August 28-30, 1995.  
DOE Workshop on New Research in the Science of Global Change: A Multidisciplinary View, Santa Fe, New Mexico, November 5-9, 1995.  
MIT, Ralph M. Parsons Laboratory, November 4, 1994.  
University of Rhode Island, Graduate School of Oceanography, February 16, 1994.  
Rutgers University, Institute of Marine and Coastal Science, January 20, 1994.  
Rutgers University, Institute of Marine and Coastal Science, June 15, 1993.  
NASA Graduate Student Researchers Program Symposium, May 12-16, 1992.