MATI KAHRU

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BIOGRAPHICAL SKETCH

PROFESSIONAL PREPARATION

Tartu University	Tartu, Estonia	Biology	1978 Dipl.Biol.CumLaude
Shirshov Inst. of Oceanology	Moscow, Russia	Biol. Oceanography	1982 Ph.D.
Kiel University	Kiel, Germany	Biol. Oceanography	1985, 1989 postdoc.

APPOINTMENTS

2009-present: Research Oceanographer, Scripps Institution of Oceanography, UCSD, USA

2010-present: Visiting Researcher, Stockholm University, Sweden

2006-2009: Project Scientist, Scripps Institution of Oceanography

1997-2006: Specialist, Scripps Institution of Oceanography

1994-1997: Assoc. Research Biologist, Scripps Institution of Oceanography

1992-1994: Researcher, Remote Sensing Lab, Stockholm University, Sweden

1991-1992: Oceanographer, Swedish Meteorological and Hydrological Institute, Sweden

1986: Visiting Scientist, Scripps Institution of Oceanography

1978-1991: Research Associate, Estonian Marine Institute, Tallinn, Estonia

FIVE RELEVANT PUBLICATIONS

Kahru, M., Z. Lee, and B. G. Mitchell (2017), Contemporaneous disequilibrium of bio-optical properties in the Southern Ocean, *Geophys. Res. Lett*., 44, doi:10.1002/2016GL072453. PDF

Kahru, M. (2016), Ocean productivity from space: Commentary, *Global Biogeochem. Cycles*, 31, doi:10.1002/2016GB005582. PDF

Kahru, M., Z. Lee, B.G. Mitchell and C.D. Nevison (2016), Effects of sea ice cover on satellite-detected primary production in the Arctic Ocean, *Biology Letters*, 12: 20160223, http://dx.doi.org/10.1098/rsbl.2016.0223

Kahru, M., R. Elmgren and O. Savchuk (2016), Changing seasonality of the Baltic Sea, *Biogeosciences*, 13, 1009–1018, doi:10.5194/bg-13-1009-2016. PDF

Kahru, M., V. Brotas, M. Manzano-Sarabia, and B. G. Mitchell (2010), Are phytoplankton blooms occurring earlier in the Arctic? Global Change Biology, doi: 10.1111/j.1365-2486.2010.02312.x. PDF

OTHER PUBLICATIONS

Kahru, M., M.G. Jacox and M.D. Ohman (2018), CCE1: Decrease in the frequency of oceanic fronts and surface chlorophyll concentration in the California Current System during the 2014-2016 northeast Pacific warm anomalies, *Deep-Sea Research* I, doi: https://doi.org/10.1016/j.dsr.2018.04.007.

Kahru, M., R. Elmgren, E. di Lorenzo and O.P. Savchuk (2018), Unexplained interannual oscillations of cyanobacterial blooms in the Baltic Sea, *Scientific Reports*, 8:6365 doi:10.1038/s41598-018-24829-7.

Kahru, M., M.G. Jacox and M.D. Ohman (2018), CCE1: Decrease in the frequency of oceanic fronts and surface chlorophyll concentration in the California Current System during the 2014-2016 northeast Pacific warm anomalies, Deep-Sea Research I, doi: https://doi.org/10.1016/j.dsr.2018.04.007.

Cloern, J.E., P.C. Abreu, J. Carstensen, L. Chauvaud, M. Kahru, et al. (2016), Human activities and climate variability drive fast-paced change across the World's estuarine-coastal ecosystems, *Global Change Biology*, 22, 513-529, doi: 10.1111/gcb.13059.

Stukel, M.R., M. Kahru, C. R. Benitez-Nelson, M. Décima, R. Goericke, M. R. Landry, and M. D. Ohman (2015), Using Lagrangian-based process studies to test satellite algorithms of vertical carbon

flux in the eastern North Pacific Ocean, *J. Geophys. Research*, 120, 1-15, doi:10.1002/2015JC011264.
Kahru, M., R.M. Kudela, C.R. Anderson, B.G. Mitchell (2015), Optimized merger of ocean chlorophyll algorithms, *IEEE Geoscience and Remote Sensing Lett.*, 12, doi: 10.1109/LGRS.2015.2470250. PDF
Kahru, M., and R. Elmgren (2014), Multidecadal time series of satellite-detected accumulations of cyanobacteria in the Baltic Sea, *Biogeosciences*, 11, 3619-3633, doi:10.5194/bg-11-3619-2014. PDF
Kahru, M., Z. Lee, R. M. Kudela, M. Manzano-Sarabia and B.G. Mitchell (2015), Multi-satellite time series of inherent optical properties in the California Current, *Deep-Sea Research* II, 10.1016/j.dsr2.2013.07.023. PDF
Kahru, M., R.M. Kudela, M. Manzano-Sarabia and B. G. Mitchell (2012), Trends in the surface chlorophyll of the California Current: Merging data from multiple ocean color satellites, *Deep-Sea Research. II*, http://dx.doi.org/10.1016/j.dsr2.2012.04.007. PDF
Kahru, M., E. Di Lorenzo, M. Manzano-Sarabia and B. G. Mitchell, Spatial and temporal statistics of sea surface temperature and chlorophyll fronts in the California Current, *J. Plankton Research*, 2012; doi: 10.1093/plankt/fbs010. PDF
Kahru, M., S.T. Gille, R. Murtugudde, P. Strutton, M. Manzano-Sarabia, H. Wang and B.G. Mitchell (2010), Global correlations between winds and ocean chlorophyll, *J. Geophys. Res*., 115, C12040. PDF

ADDITIONAL PUBLICATIONS ON HABS

Kahru, M., B.G. Mitchell. Spectral reflectance and absorption of a massive red tide off Southern California. *J. Geophys. Res*., 103, C10, 21,601-21,609, 1998.
Kahru, M., B.G. Mitchell, A. Diaz, M. Miura. MODIS Detects a Devastating Algal Bloom in Paracas Bay, Peru. *EOS, Trans. AGU*, 85, 45, 465-472, 2004.
Kahru. M., B.G. Mitchell, A. Diaz, Using MODIS medium-resolution bands to monitor harmful algal blooms, *Proc. of SPIE*, 5885 (SPIE, Bellingham, WA, 2005) · 0277-786X/05/$15 · doi: 10.1117/12.615625, 2005, 6 p.
Babin, M., J.J. Cullen, C.S. Roesler, P.L. Donaghay, G.J. Doucette, M. Kahru, M.R. Lewis, C.A. Scholin, M.E. Sieracki, H.M. Sosik. New approaches and technologies for observing harmful algal blooms. *The Oceanography Journal*, 18, 2, 210-227, 2005.
Kahru, M., O.P. Savchuk, and R. Elmgren, Satellite measurements of cyanobacterial bloom frequency in the Baltic Sea: Interannual and spatial variability. *Marine Ecology Progress Series*, 343, 15-23, doi: 10.3354/meps06943, 2007.

SYNERGISTIC ACTIVITIES

-Development of software for satellite data processing and visualization;
-Teaching of satellite oceanography and invited lectures on satellite oceanography around the world (). The following courses since 2009: Florida Gulf Coast University, Fort Myers, Florida, 19-20 October 2016; GEOMAR, Kiel, Germany, 19 March 2018, AWI, Bremerhaven, Germany, 15 June 2016, AWI Colloquium; Hanse-Wissenschaftskolleg Delmenhorst, Germany, June 1-29, 2016; UABC, Ensenada, Baja California, México, 19-August-2016; Pukyong National Universitry, Busan, Korea, 30 Nov - 2 Dec, 2015; International training course, NANO, Nippon-POGO, Ensenada, Baja California, México, 19 Jan - 6 Feb, 2015; IOCCG Summer Lecture Series, Villefranche-sur-Mer, France, Jul-Aug-2014, http://www.ioccg.org/training/SLS_2014.html; NOWPAP/PICES/WESTPAC Joint Training Course on Remote Sensing Data Analysis, Oct 21-25, 2013 at Ocean University of China in Qingdao; University of Bremen, Bremen, Germany, 10-24 Sept. 2012, International Summer School in the ECE framework "Climate Change in the Marine Realm", http://www.awi.de/climateschool; NOWPAP/PICES/WESTPAC Joint Training Course on Remote Sensing Data Analysis, Vladivostok, Russia, 2011; Bert Bolin Centre's Arctic Climate Summer School, Abisko, Sweden, 2011; Observatoire Oceanologique de Villefranche, Universite Pierre et Marie Curie, France, 2010; Universidad Autónoma de Sinaloa, Mazatlán, México,

2010; International Summer School "Observing the Arctic: A window to Climate Change", Svalbard, Norway, 2009; Environmental Administration of Finland (SYKE), Finland, 2009; Universidad Autónoma de Baja California Sur, México, 2009.

GRADUATE STUDENTS:
(Total PhD students = 2; Total MS students = 1):
Advisor for: S. Nommann (Ph.D., University of Stockholm), M. Manzano (Ph.D., 2008, CIBNOR, Mexico), M. Carter (M.S., 2009, University of San Diego).