

Kenneth J. Voss

University of Miami

Curriculum Vitae

Standard Format

1. Date: 12/21/2016

PERSONAL

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6. Current Academic Rank: Professor, Department of Physics

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8. Secondary or Joint Appointments:
Adjunct Principal Investigator, Bigelow Laboratory for Ocean Sciences,
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9. Citizenship: U.S.

10. Visa Type (if non-citizen): NA

HIGHER EDUCATION

11. Institutional (institution; degree; date conferred):

Washington State University	B.S., Physics	1979
Texas A&M University	Ph.D., Physics	1984

12. Non-Institutional (description; dates): none

13. Certification, licensure (description; board or agency; dates): none

EXPERIENCE

14. Academic (institutions; rank/status; dates):

University of Miami, Chairman, Physics Dept., 6/07-5/13.

University of Miami, Professor, 8/99- present.

University of Miami, Associate Professor, 8/93-8/99.

Kenneth J. Voss

University of Miami, Assistant Professor, 8/89-8/93.

Institute of Marine Resources, Scripps Institution of Oceanography, Univ. of Cal. San Diego, Assistant Research Optical Oceanographer, 8/87-8/89.

Visibility Laboratory, Scripps Institution of Oceanography, Univ. of Cal. San Diego, Visiting Assistant Research Physicist, 8/86-7/87.

Visibility Laboratory, Scripps Institution of Oceanography, Univ. of Cal. San Diego, Postgraduate Research Physicist, 8/84-7/86.

Texas A&M University, Graduate Research Associate, 1/84 - 5/84.

15. Non-Academic (employers: title: responsibilities: dates):

Rockwell International, Richland, WA, Criticality Safety Engineer, 6/79-9/79.

16. Military: none

PUBLICATIONS

17. Books and monographs published: none.

18. Juried or refereed journal articles and exhibitions:

90) K. J. Voss and L. Belmar Da Costa, "Polarization properties of FEL lamps as applied to radiometric calibration", *Applied Optics*, 55, 8829-8832 (2016).

89) M. Wang, W. Shi, L. Jiang, and K. Voss, "The NIR- and SWIR-based on-orbit vicarious calibrations for satellite ocean color sensors", *Optics Express*, 20437- 20453 (2016).

88) A. Valente, 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, G. Zibordi, "A compilation of global bio-optical in situ data for ocean-colour satellite applications", *Earth Syst. Sci. Data*, 8, 235-252 (2016).

87) Y. Fan, W. Li, K. J. Voss, C. K. Gatebe, K. Stamnes, "Neural network method to correct bidirectional effects in water-leaving radiance", *Applied Optics*, 55, 10-21 (2016).

86) G. Zibordi, F. Melin, K. Voss, B. C. Johnson, B. Franz, E. Kwiatkowska; J-P. Huot, M. Wang, D. Antoine, "System Vicarious Calibration for Ocean Color Climate Change Applications:

- Requirements for In Situ Data”, *Remote Sensing of the Environment*, 159,361-369 (2015).
- 85) M. Wang, W. Shi, L. Jiang, X. Liu, S. Son, and K. Voss, “Technique for monitoring performance of VIIRS reflective solar bands for ocean color data processing”, *Optics Express*, 23, 14446-14460 (2015)
- 84) Z.P. Lee, J. Wei, K. Voss, M. Lewis, A. Bricaud, Y. Hout, “Effective hyperspectral absorption coefficient of “pure” seawater in the 350-500 nm range”, *Applied Optics*, 54, 546-558 (2015).
- 83) R. P. Aryal, K. J. Voss, P. A. Terman, W. C. Keene, J. L. Moody, E. J. Welton, and B. N. Holben, “Radiative properties of aerosols in near-surface air and the atmospheric column over the western North Atlantic Ocean at Bermuda”, *Atmospheric Chemistry and Physics*, 14,7617-7629 (2014).
- 82) R. Aryal, P. Terman, and K. J. Voss, “Comparison of two filter-based reflectance methods to measure the light absorption by atmospheric aerosols”, *J. Atmosph. and Oceanic Technology*, 31, 923-929 (2014).
- 81) J. L. Moody, W. C. Keene, O. R. Cooper, K. J. Voss, R. Aryal, S. Eckhardt, B. Holben, J. R. Maben, M. A. Izaguirre, and J. N. Galloway, “Flow climatology for physicochemical properties of dichotomous aerosol over the Western North Atlantic Ocean at Bermuda”, *Atmos. Chem. Phys.*, 14, 691-717, (2014).
- 80) M. Wang, X. Liu, L. Tan, L. Jiang, S. Son, W. Shi, K. Rausch, and K. Voss, “Impacts of VIIRS SDR performance on ocean color products”, *J. Geophys. Res.*, 118, 1–14, doi:10.1002/jgrd.50793 (2013).
- 79) J. Wei, R. Van Dommelen, M. R. Lewis, K. J. Voss, “A new instrument for measuring the high dynamic range radiance distribution in near-surface sea water”, *Optics Express*, 20, 27024-27038 (2012).
- 78) T. Dickey et al. (P. Bhandari, L. Logan, K.Voss), “Introduction to special section on Recent advances in the study of optical variability in the Near-Surface and Upper Ocean, *J. Geophys. Res.* 117, C00H20, doi:10.1029/2012JC007694 (2012).
- 77) A.C.R. Gleason, K. J. Voss, H. R. Gordon, M. Twardowski, J. Sullivan, C. Trees, A. Weidemann, J-F. Berthon, D. Clark, and Z-P. Lee, “Detailed validation of the bidirectional effect in various Case I and Case II waters”, *Optics Express*, 20, 7630 – 7645 (2012).
- 76) Z. Xu, D. K. P. Yue, L. Shen, and K. J. Voss, “Patterns and statistics of in-water polarization under conditions of linear and nonlinear ocean surface waves”, *J. Geophys. Res.* 116, C00H12, doi:10.1029/2011JC007350 (2011).
- 75) F. Melin, G. Zibordi, J.-F. Berthon, S. Bailey, B. Franz, K. Voss, S. Flora, M. Grant, “Assessment of MERIS Reflectance Data as Processed with SeaDAS over the European Seas,” *Optics Express*, **19**, 25657 - 25671 (2011).

- 74) M. Lewis, J. Wei, R. Van Dommelen, and K. J. Voss, “Quantitative estimation of the underwater radiance distribution”, *J. Geophys. Res.*, **116**, C00H06, doi:10.1029/2011JC007275 (2011).
- 73) Y. You, G. W. Kattawar, K. J. Voss, P. Bhandari, J. Wei, M. Lewis, C. Zappa, and H. Schultz, “Polarized light field under dynamic ocean surfaces: numerical modeling compared with measurements”, *J. Geophys. Res.*, **116**, C00H05, doi:10.1029/2011JC007278 (2011).
- 72) Z. Lee, K. Du, K. J. Voss, G. Zibordi, B. Lubac, R. Arnone, and A. Weidemann, “An IOP-centered approach to correct the angular effects in water-leaving radiance”, *Applied Optics*, **50**, 3155-3167 (2011).
- 71) H. Zhang and K. J. Voss, “On Hapke photometric model predictions on reflectance of closely packed particulate surfaces”, *Icarus*, **215**, 27-33 (2011).
- 70) P. Bhandari, K. J. Voss, L. Logan, and M. Twardowski, “The variation of the polarized downwelling radiance distribution with depth in the coastal and clear ocean”, *J. Geophys. Res.*, **116**, C00H10, doi:10.1029/2011JC007320 (2011).
- 69) P. Bhandari, K. J. Voss, and L. Logan, “An instrument to measure the downwelling polarized radiance distribution in the ocean,”, *Optics Express*, **19**, 17609-17620 (2011).
- 68) T. D. Dickey, G. W. Kattawar, and K. J. Voss, “Shedding new light on light in the ocean”, *Physics Today*, **64**, April, 44-49 (2011).
- 67) K. J. Voss, A. C. R. Gleason, H. R. Gordon, G. W. Kattawar, and Y. You, “Observation of non-principal plane neutral points in the in-water upwelling polarized light field”, *Opt. Expr.*, **7**, 5942-5952 (2011).
- 66) A. Smirnov et al. (including K. J. Voss), “Maritime aerosol network as a component of AERONET- first results and comparison with global aerosol models and satellite retrievals”, *Atmos. Meas. Tech.*, **4**, 583-597 (2011).
- 65) K. J. Voss, S. McLean, M. Lewis, C. Johnson, S. Flora, M. Feinholz, M. Yarbrough, C. Trees, M. Twardowski, D. Clark, “An example crossover experiment for testing new vicarious calibration techniques for satellite ocean color radiometry”, *J. Atm. and Oceanic. Techn.*, **27**, 1747-1759 (2010).
- 64) K. J. Voss and N. Souaidia, “POLRADS: polarization radiance distribution measurement system”, *Optics Express*, **18**, 19672-19680 (2010).
- 63) V. Banzon, H. R. Gordon, C. P. Kuchinke, D. Antoine, K. J. Voss, and R. H. Evans, “Validation of a SeaWiFS dust-correction methodology in the Mediterranean Sea: Identification of an algorithm-switching criterion”, *Remote Sensing of Environment*, **113**, 2689—2700 (2009). doi10.1016/j.rse.2009.08.007.
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- 61) H. R. Gordon, M. R. Lewis, S. D. McLean, M. S. Twardowski, S.A. Freeman, K. J. Voss, and G. C. Boynton, "Spectra of particulate backscattering in natural waters", *Optics Express*, 2009, **17**: 16192-16208.
- 60) H. Zhang and K. J. Voss, "Bi-directional reflectance and polarization measurements on packed surfaces of benthic sediments and spherical particles", *Optics Express*, 2009, **17**:5217-5231 (doi:10.1364/OE.17.005217).
- 59) C. P. Kuchinke, H.R. Gordon, L.W. Harding, Jr., and K.J Voss, "Spectral optimization for constituent retrieval in Case 2 waters II: Validation study in the Chesapeake Bay", *Remote Sensing of Environment*, 2009, **113**:610-621 (doi:10.1016/j.rse.2008.11.002).
- 58) K. J. Voss, A. Morel, and D. Antoine, "Detailed validation of the bidirectional effect in various Case 1 waters for application to ocean color imagery", *Biogeosciences*, **4**, 781-789 (2007).
- 57) K. J. Voss and H. Zhang, "Bi-directional reflectance study on particulate layers: effects of pore liquid absorption coefficient", *Journal of Quant. Spectroscopy and Radiative Transfer*, **105**, 405-413 (2007).
- 56) H. Zhang and K. J. Voss, "Bidirectional reflectance study on dry, wet, and submerged particulate layers: effect of pore liquid refractive index and translucent particle concentrations," *Appl. Opt.*, **45**, 8753-8763 (2006).
- 55) K. J. Voss and H. Zhang, "Bidirectional reflectance of dry and submerged Labsphere Spectralon plaque," *Appl. Opt.* **45**, 7924-7927 (2006).
- 54) K. J. Voss and A. L. Chapin, "Upwelling radiance distribution camera system, NURADS", *Optics Express*, 2005, **13**: 4250 – 4262.
- 53) K. J. Voss and A. Morel, "Bidirectional reflectance function for oceanic waters with varying chlorophyll concentrations: Measurements versus predictions", *Limnology and Oceanography*, 2005, **50**: 698-705.
- 52) H. Zhang and K. J. Voss, "Comparisons of BRDF Measurements on prepared particulate surfaces and radiative transfer models", *Applied Optics*, 2005, **44**: 597 – 610.
- 51) D. Stramski, E. Boss, D. Bogucki, K. J. Voss, "The role of seawater constituents in light backscattering in the Ocean", *Progress in Oceanography*, 2004, **61**: 27-563.
- 50) T. X. Xhao, O. Dubovik, A. Smirnov, B. N. Holben, J. Sapper, C. Pietras, K. J. Voss, and R. Frouin, "Regional Evaluation of an advanced very high resolution radiometer (AVHRR) two channel aerosol retrieval algorithm", *J. Geophys. Res.*, 2004, **109**:doi:10.1029/2003JD003817.
- 49) H. Du and K. J. Voss, "Effects of point spread function on calibration and radiometric accuracy of CCD camera", *Applied Optics*, 2004, **43**: 665 - 670.

- 48) H. Zhang, K. J. Voss and R. P Reid, “Determining the influential depth for surface reflectance of sediment by BRDF measurements”, *Optics Express*, 2003, **11**: 2654 - 2665.
- 47) K. J. Voss, C. D. Mobley, L. K. Sundman, J. Ivey, and C. Mazell, “The spectral upwelling radiance distribution in optically shallow waters”, *Limnol. and Oceanogr*, 2003, **48**: 364-373.
- 46) H. Zhang, K. J. Voss, R. P. Reid, and E. Louchard, “Bi-directional reflectance measurements of sediments in the vicinity of Lee Stocking Island, Bahamas”, *Limnol. and Oceanogr*, 2003, **48**: 380 - 389.
- 45) C. D. Mobley, H. Zhang, and K. J. Voss, “Effects of optically shallow bottoms on upwelling radiances: bidirectional reflectance distribution function effects”, *Limnol. and Oceanogr*, 2003, **48**: 337 - 345.
- 44) A. W. Decho, T. Kawaguchi, M. A. Allison, E. Louchard, R. P. Reid., C. Stephens, K. J. Voss., R. Wheatcroft, B. B. Taylor., ”Sediment properties influencing up-welling spectral reflectance signatures: the “biofilm gel effect”, *Limnol. and Oceanogr*, 2003, **48**: 431 - 443.
- 43) T. X. Zhao, I Laszlo, B. N. Holben, C. Pietras, and K. J. Voss, “Validation of two-channel VIRS retrievals of aerosol optical thickness over ocean and quantitative evaluation of the impact from potential subpixel cloud contamination and surface wind effect, *J Geophys. Res.* 108(D3), 4106, doi:10.1029/2002JD002346, 2003.
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- 39) P.K. Quinn, D.J. Coffman, T.S. Bates, T.L. Miller, J.E. Johnson, K. Voss, E.J. Welton, C. Neusüss, “Dominant Aerosol Chemical Components and Their Contribution to Extinction During the Aerosols99 Cruise Across the Atlantic”, 2001, *J. Geophys. Res.*, **106**, 20783 – 20810.
- 38) B. N. Holben, D.Tanre, A.Smirnov, T.F.Eck, I.Slutsker, N.Abuhassan, W.W.Newcomb, J.Schafer, B.Chatenet, F.Lavenue, Y.J.Kaufman, J.Vande Castle, A.Setzer, B.Markham, D.Clark, R.Frouin, R.Halthore, A.Karnieli, N.T.O’Neill, C.Pietras, R.T.Pinker, K.Voss, G.Zibordi, “An emerging ground-based aerosol climatology:

- Aerosol Optical Depth from AERONET”, 2001, J. Geophys. Res., **106**, 12067 - 12097.
- 37) K. J. Voss, A. Chapin, M. Monti, and H. Zhang, “An instrument to measure the Bi-directional reflectance distribution function (BRDF) of surfaces”, 2000, Applied Optics, **39**, 6197 - 6206.
- 36) J. M. Ritter and K. J. Voss, “A new instrument to measure the solar aureole from an unstable platform”, J. Atm. And Ocean. Techn. 2000, **17**: 1040 – 1047.
- 35) E. J. Welton, K. J. Voss, H. R. Gordon, H. Maring, A. Smirnov, B. Holben, B. Schmid, J. M. Livingston, P. B. Russell, P. A. Durkee, P. Formenti, M. O. Andreae, “Ground-based Lidar Measurements of Aerosols During ACE-2: Instrument Description, Results, and Comparisons with other Ground-based and Airborne Measurements”, 2000, Tellus, **52**: 635 - 651.
- 34) B. Schmid, J. M. Livingston, P. B. Russell, P. A. Durkee, H. H. Jonsson, D. R. Collins, R. C. Flagan, J. H. Seinfeld, S. Gasso, D. A. Hegg, E. Ostrom, K. J. Moone, E. J. Welton, K. J. Voss, H. R. Gordon, P. Formenti, and M. O. Andreae, “Clear sky closure studies of lower tropospheric aerosol and water vapor during ACE-2 using airborne sunphotometer, airborne in-situ, space-borne, and ground based measurements”, 2000, Tellus, **52**: 567 - 593.
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- 32) C. Hu and K. J. Voss, “Measurement of solar stimulated fluorescence in natural waters”, 1998, Limnol. and Ocean., **43**: 1198 - 1206.
- 31) K. J. Voss, W. M. Balch, K. A. Kilpatrick, “Scattering and attenuation properties of *Emiliana huxleyi* cells and their detached coccoliths”, 1998, Limnol. and Ocean., **43**: 870-876.
- 30) K. D. Moore, K. J. Voss, and H. R. Gordon, “Spectral reflectance of Whitecaps: Instrumentation, calibration, and performance in coastal waters”, 1998, J. Atm. and Ocean. Techn., **15**: 496-509.
- 29) J. S. Bartlett, K. J. Voss, S. Sathyendranath, and A. Vodacek, “Raman scattering by pure water and seawater”, 1998, Applied Optics, **37**: 3324 - 3332.
- 28) Y. Liu and K. J. Voss, “Polarized radiance distribution measurements of skylight: II. experiment and data”, 1997, Applied Optics, **36**: 8753 - 8764.
- 27) C. Hu and K. J. Voss, “*In situ* measurement of Raman scattering in clear ocean water”, 1997, Applied Optics, **36**: 6962 - 6967.
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- 25) K. J. Voss and Y. Liu, “Polarized radiance distribution measurements of skylight: I. system description and characterization”, 1997, Applied Optics, **36** :6083-6094.

- 24) B. J. Frew and K. J. Voss, "Measurement of the Point Spread Function in a layered system", 1997, *Applied Optics*, **36**: 3335-3337.
- 23) X. Li, H. Maring, D. Savoie, K. Voss and J. M. Prospero, "Dominance of mineral dust in aerosol light-scattering in the North Atlantic trade winds", 1996, *Nature*, **380**: 416-419.
- 22) Y. Ge, K. J. Voss, and H. R. Gordon, "In situ measurements of inelastic scattering in Monterey Bay using solar Fraunhofer lines", 1995, *J. Geophys. Res.*, **100**: 13,227 - 13,236.
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- 19) K. J. Voss and R. W. Austin, "Beam Attenuation Measurement Error Due to Small -Angle Scattering Acceptance", 1993, *J. Atmosph. and Ocean. Techn.*, **10**: 113-121.
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- 16) H.R. Gordon, K. J. Voss, and K. A. Kilpatrick, "Angular distribution of fluorescence from phytoplankton", 1993, *Limnol. and Oceanography*, **38**: 1582- 1586.
- 15) K. J. Voss, "A spectral model of the beam attenuation coefficient in the ocean and coastal areas", 1992, *Limnol. and Oceanography*, **37**: 501-509.
- 14) K. J. Voss and J. S. Schoonmaker, "Temperature dependence of beam scattering in young sea ice", 1992, *Applied Optics*, 1992, **31**: 3388-3389.
- 13) K. J. Voss, "Simple empirical model of the oceanic Point Spread Function", 1991, *Applied Optics*, **30**: 2647-2651.
- 12) J. W. McLean and K. J. Voss, "Point Spread Function in Ocean Water: comparison between theory and experiment", 1991, *Applied Optics*, **30**: 2027-2030.
- 11) W. M. Balch, P. M. Holligan, S. G. Ackleson, and K. J. Voss, "Biological and optical properties of mesoscale coccolithophore blooms in the Gulf Of Maine", 1991, *Limnol. and Oceanography*, **36** : 629-643.
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 - 8) K. J. Voss, “Electro-optic camera system for measurement of the underwater radiance distribution”, 1989, *Optical Engineering*, **28**: 241-247.
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 - 5) G. Zibordi and K. J. Voss, “Geometric and spectral distribution of sky radiance: comparison between simulations and field measurements”, 1989, *Rem. Sens. of the Environ.*, **27**:343-358.
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 - 3) E. S. Fry and K. J. Voss, “Measurement of the Mueller matrix for phytoplankton”, 1985, *Limnol. and Oceanogr.*, **30**: 1322-1326.
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 - 1) J. R. Bottiger, K. J. Voss, and E. S. Fry, “Polarized light scattering by small particles”, 1982, *Aerosol Science and Technology*, **1**: 317-327.
19. Other works and publications:
- 35) G. Zibordi and K. J. Voss ,“In situ Optical radiometry in the visible and near infrared, in *Optical Radiometry for Oceans Climate Measurements*, Elsevier Physical Sciences Series, November, 2014.
 - 34) G. Zibordi and K. J. Voss “Requirements and strategies for In Situ radiometry in Support of Satellite Ocean Color”, in *Optical Radiometry for Oceans Climate Measurements*, Elsevier Physical Sciences Series, November, 2014.
 - 33) G. Zibordi and K. J. Voss, “Field Radiometry and Ocean Color Remote Sensing”, in *Oceanography from Space*, Barale, Gower, and Alberotanza ed., Springer, New York, 2010.
 - 32) H. Zhang and K. J. Voss, “Bi-directional reflectance measurements of closely packed natural and prepared particulate surfaces” in *Light Scattering Reviews*, Vol. 3, pgs. 279-327, 2008.
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- 29) N. Souaidia, D. Moyer, G. Meister, S. Pellicori, E. Waluschka, and K. Voss, "MODIS Polarization ray tracing analysis", Proc. Soc. Photo-Optical Instrumentation Engineers, 2005, **5888**: 140-147.
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- 21) J. P. Doyle and K. J. Voss, 3D Instrument Self-Shading Effects on in-water multidirectional radiance measurements, Proceedings of Ocean Optics XV, 2000, 10 pgs.
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 - 4) C. C. Trees and K. J. Voss, “Optoacoustic spectroscopy and its application to molecular and particle absorption.” Ocean Optics X. Proc. Soc. Photo-Optical Instrumentation Engineers, 1990, **1302**: 149-156.
 - 3) K. J. Voss, “Radiance distribution measurements in coastal water”, Ocean Optics IX, Proc. Soc. Photo-Optical Instrumentation Engineers, 1988, **925**: 56-66.

- 2) K. J. Voss, J. W. Nolten, and G. D. Edwards, “Ship Shadow effects on apparent optical properties.” *Ocean Optics VIII, Proc. Soc. Photo-Optical Instrumentation Engineers*, 1986, **637**: 186-190.
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Abstracts

- K. Voss, B. C. Johnson, M. Yarbrough, A. Gleason, S. Flora, M. Feinholz, “Progress on MOBY-Net and MOBY-Refresh”, *Ocean Optics XXIII, Victoria, Canada.*, October, 2016.
- P. Zuidema, R. Delgadillo, S. Kramer, J. Prospero, K. Voss, “Long-range Saharan dust observations made in south Florida during the summers of 2014 and 2015”, *AGU Fall meeting, San Francisco, Ca.* December, 2015.
- K. Voss, D. Clark, M. Feinholz, S. Flora, H. Gordon, B. C. Johnson, J. Mueller, M. Yarbrough “Experimental nLw and Lw products from the Marine Optical Buoy (MOBY)”, *Ocean Optics XXII, Portland, Me.*, October, 2014.
- C. Johnson, D. Clark, M. Feinholz, S. Flora, H. Gordon, J. Mueller, A. Parr, K. Voss, M. Yarbrough, “MOBY Uncertainties”, *Ocean Optics XXII, Portland, Me.*, October, 2014.
- P. Bhandari, K. J. Voss, L. Logan, “The variation of the polarized downwelling radiance distribution with depth in coastal water, *Ocean Optics XX, Anchorage, Al.* October, 2010.
- A. Gleason, K. Voss, and H. Gordon, “Measuring and Modeling the Polarized Upwelling Radiance Distribution in Clear and Coastal Waters, *Ocean Optics XX, Anchorage, Al.* October, 2010.
- A. Smirnov, B. Holben, A. Macke, P. Croot, S. Sakerin, Y. Courcoux, T. Smyth, T. Zielinski, G. Zibordi, M. Harvey, R. Losno, J. Sciare, V. Radionov, P. Quinn, N. Nelson, J. Goes, K. Krishna, Moorthy, C. Duarte, K. Voss, D. Covert, N. Nalli, S. Gulev, I. Slutsker, D. Giles, N. O’Neill, T. Eck, “Maritime Aerosol Network as a component of AERONET – First Steps”, *IGARSS 2010, Honolulu, Ha.*, July 2010.
- K. J. Voss, P. Bhandari, L. Logan, “Polarized radiance distribution in the near surface region”, *2010 Ocean Sciences Meeting, Portland, Or.*, February 2010.
- A. C. Gleason, K. J. Voss, H. R. Gordon, J. M. Sullivan, M. S. Twardowski, “Validation of a “Universal” Particulate Scattering Phase Function with Measurements and Simulation of Upwelling Hemispherical Radiance Distributions”, *2010 Ocean Sciences Meeting, Portland, Or.*, February 2010.
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- A. Smirnov, B. Holben, D. M. Giles, N. T. O’Neill, I. Slutsker, T. F. Eck, P. L. Croot; A. Macke, S. M. Sakerin, T. J. Smyth, G. Zibordi, T.

- Zielinski, N. Nelson, P. Quinn, K. J. Voss, Y. Courcoux, N. R. Nalli, E. Joseph, D. Covert, S. Belanger, C. MacLellan, L. Bariteau, R. Dunn,” Maritime Aerosol Network as a component of AERONET – a satellite validation tool over the ocean, Fall AGU meeting, San Francisco, Ca., December 2009.
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- A. Smirnov, B.N.Holben, D.M.Giles, N.T.O’Neill, I.Slutsker, T.F.Eck, P.Croot, A.Macke, S.M.Sakerin, T.J.Smyth, M.Harvey, G.Zibordi, T.Zielinski, J.I.Goes, P.K.Quinn, N.B.Nelson, C.Duarte, R.Losno, J.Sciare, Y.Courcoux, K.Voss, D.Covert, N.Hendiarti, “Maritime Aerosol Network as a component of AERONET – relevance to SOLAS”, SOLAS Open Science Meeting, November 2009.
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- K. J. Voss, P. Terman, R. Aryal, J. Timmerman, J. Moody, B. Keene, “Spectral absorption and scattering of Aerosols over Bermuda in Spring 2007”, AGU Joint Assembly, Ft. Lauderdale, Fl., June 2008.
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- and submerged particulate layers, Ocean Optics XVIII, Montreal, Ca. October, 2006.
- P. Dubuisson, L. Duforet, R. Frouin, K. J. Voss, and D. Antoine, Estimating aerosol altitude from reflectance measurements in the O2 A-band, Ocean Optics XVIII, Montreal, Ca. October, 2006.
- N. Souaidia and K. J. Voss, Polrads: Polarization upwelling radiance distribution measurements, Ocean Optics XVIII, Montreal, Ca. October, 2006.
- K. J. Voss and H. R. Gordon, Spectral Variation of the Volume Scattering Function for a Junge Distribution of Spherical Particles, 2006 Ocean Sciences Meeting, February, Honolulu, Hawaii.
- P. V. Banzon, C. Kuchinke, D. Antoine, R. Evans, H. R. Gordon, and K. J. Voss, Performance of a Dust-Compensation Algorithm for Ocean Color Data in SeaDAS: Initial Results, 2006 Ocean Sciences Meeting, February, Honolulu, Hawaii.
- C. P. Kuchinke, H. R. Gordon, K. J. Voss, B. A. Franz, and L. W. Harding, Jr., Atmospheric correction and ocean property retrieval using coupled models – the Benefits and problems in coastal waters, 2006 Ocean Sciences Meeting, February, Honolulu, Hawaii.
- N. Souaidia, D. Moyer, G. Meister, S. Pellicori, E. Waluschka, and K. Voss, MODIS Polarization ray tracing analysis, SPIE, San Diego, Ca., July, 2005.
- H. Zhang and K. J. Voss, “Comparison of measured and modeled BRDF and Transmission of prepared particulate layers”, Ocean Optics XVII, Freemantle, Australia, October, 2004.
- K. J. Voss and A. Chapin, “A New upwelling radiance distribution camera system, NURADS”, Ocean Optics XVII, Freemantle, Australia, October, 2004.
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- H. Zhang, K. J. Voss, and E. Louchard, “Determining the influential depth for surface reflectance of sediment by BRDF measurements”, Ocean Optics XVI, Santa Fe, N. M., November 2002.
- J. E. Prentice, A. D. Weidemann, W. S. Pegau, K. J. Voss, M. Lee, E. Shybanov, O. Martynov, A. Laux, A. Briggs, G. Chang, “Laboratory comparisons of optical scattering instrumentation, Ocean Optics XVI, Santa Fe, N.M., November, 2002.
- K. J. Voss and D. Phinney, “Light scattering measurements in the coastal zone, Gulf of Mexico”, 2002 AGU Ocean Sciences Meeting,, Honolulu, Hi., February 11-15, 2002.
- K. J. Voss, H. Zhang, and A. Chapin, “Bi-directional reflectance distribution functions (BRDF) of Benthic Surfaces in the Littoral Zone, Ocean Optics XV, Monaco, October 16-20, 2000.

- C. D. Mobley, L. Sundman, H. Zhang, and K. J. Voss, "Effects of optically shallow bottoms on water leaving radiances", Ocean Optics XV, Monaco, October 16-20, 2000.
- J. P. Doyle and K. J. Voss, "3D Instrument Self-Shading effects on in-water multi-directional radiance measurements", Ocean Optics XV, Monaco, October 16-20, 2000.
- K. J. Voss and H. Zhang, "The Bi-directional reflectance distribution function of several benthic surfaces", 2000 AGU Ocean Sciences Meeting, San Antonio, Texas, January 24-28, 2000.
- P. J. Flatau, G. Mitchell, A. Subramaniam, E. Welton, K. Markowicz, J. Nolan, M. Kahru, K. Voss, M. Reynolds, T. Nakajima, M. Miller, J. Wieland, "Comprehensive ocean color measurements during the 1999 INDOEX project", 2000 AGU Ocean Sciences Meeting, San Antonio, Texas, January 24-28, 2000.
- E. Welton, P. J. Flatau, K. J. Voss, H. R. Gordon, K. Markowicz [4], J. R. Campbell, J. D. Spinhirne, "Measurements of the Vertical Distribution of Aerosols and Clouds During INDOEX 1999 Using Micro-pulse Lidars", 1999 AGU Fall Meeting, San Francisco, December 13-17, 1999.
- P. J. Flatau, G. Mitchell, A. Subramaniam, J. Wieland, E. Welton, K. Markowicz, J. Nelson, K. Voss, H. Gordon, R. Reynolds, M. Miller, T. Nakajima, K. Rutledge, M. Kahru "Ocean Color and Aerosols", 1999 AGU Fall Meeting, San Francisco, December 13-17, 1999.
- B. Schmid, P.B. Russell, J.M. Livingston, S. Gasso, D. Hegg, D. Collins and J. Seinfeld, E. Ostrom, K. Noone, P.A. Durkee, E.J. Welton, K. Voss, V.N. Kapustin, T.S. Bates and P.K. Quinn. "Clear column closure studies of urban-marine and mineral-dust aerosols using aircraft, ship, satellite and ground-based measurements in ACE-2" International Conference and Workshops on Aerosols, Radiation budget - Land surfaces - Ocean color : the contribution of POLDER and new generation spaceborne sensors to global change studies. January 18 – 22, 1999, Meribel (France).
- K.J. Voss, A. Chapin, M. Monti, "An Instrument to Measure the In-situ Bi-directional Reflectance of Benthic Surfaces", Ocean Optics XIV, Kona, Hawaii, November 1998.
- H. R. Gordon, K. J. Voss, J. W. Brown, R. E. Evans, D. K. Clark, L. Kovar, M. Feinholz, M. Yarbrough, "SeaWiFS Calibration initialization : Preliminary Results", Ocean Optics XIV, Kona, Hawaii, November 1998.
- E.M. Louchard, R.P. Reid, K. J. Voss, C. H. Mazel, M. P. "Optical properties of shallow water sediments: all sediments are not created equal, Ocean Optics XIV, Kona, Hawaii, November 1998.
- B. Schmid, J. Livingston, P. Russell, P. Durkee, E. Welton, K. Voss, P. Formenti, M. Andreae, S. Gasso. "Three Dimensional Investigation of Lower Tropospheric Aerosol and Water Vapor during ACE-2 by Means of Airborne Sunphotometry", CAGP, Seattle, August 1998.

- E. J. Welton, K. J. Voss, H. Maring, "Preliminary Lidar results from the aerosol characterization experiment 2 (ACE-2)", AGU Fall Meeting program, Pg. F107, 1997.
- J. Ritter, K. J. Voss, H. R. Gordon, D. Clark, L. Koval, "Solar Aureole measurements of volcanic aerosol in the Killauea Plume", AGU Fall Meeting program, Pg. F109, 1997.
- X. Li, H. Maring, K. Rhoads, E. Welton, K. Voss, B. Doddredge, J. Merrill, J. M. Prospero, "Condensation Nuclei in the marine boundary layer in the tropical Atlantic ocean: relation to air mass characteristics", AGU Fall Meeting program, Pg. F124, 1997.
- E. J. Welton, K. J. Voss, and J. M. Prospero, "Radiative Characteristics of Specific Aerosols in a Maritime Environment", AGU Spring Meeting program, Pg. S88, 1997.
- J. M. Ritter, K. J. Voss, and H. G. Gordon, "A new instrument for shipborne radiometric measurements of the solar aureole", AGU Spring Meeting, pg. S92, 1997.
- K. J. Voss and Y. Liu, "Polarized radiance distribution measurements of skylight for passive remote sensing of aerosol optical properties", OSA Technical digest Series, Vol. 5 pp.
- K. D. Moore, K. J. Voss, and H. G. Gordon, "Measurement of the Spectral Reflectance of Whitecaps in the Open Ocean", AGU Ocean Sciences meeting program, 1996.
- C. Hu and K. J. Voss, "Inelastic scattering in clear ocean water", AGU Ocean Sciences meeting program, 1996.
- K. J. Voss, "PSF measurements in the littoral zone", OSA Annual Meeting Program, 1995, 56.
- Yi Liu and K. J. Voss, "Polarization measurement of the spectral radiance distribution using a CCD camera system (RADS-II)", OSA Annual Meeting Program, 1995, 48.
- K. J. Voss, Y. Ge, and C. Hu, "Solar stimulated DOM fluorescence, measurements compared with model results.", EOS, Trans. Amer. Geophys. Union, 1994 Ocean Sciences Meeting, 233.
- W. S. Pegau, K. J. Voss, and J. R. V. Zaneveld, "Closure of inherent optical properties at Lake Pend Oreille." EOS, Trans. Amer. Geophys. Union, 1994 Ocean Sciences Meeting, 102.
- K. J. Voss, D. P. Snowden, J. M. Prospero, and M. A. Izaguirre, "Atmospheric Spectral Optical Depth Measurements in Bermuda and Barbados during 1992 and 1993." EOS, Trans. Amer. Geophys. Union, 1993, **74**: 110.
- Y. Ge, K. J. Voss, and H. R. Gordon, "Measurement of inelastic scattering in Monterey Bay." OSA Techn. Digest, 1993.
- Y. Ge, H. R. Gordon, K. J. Voss, "Effect of Raman scattering on Fraunhofer lines in the ocean." OSA Techn. Digest, 1991, **17**:144.
- R. A. Maffione, R. C. Honey, R. A. Brown, and K. J. Voss, "Results of in situ closure measurements over long pathlengths in the ocean." OSA Techn. Digest 1991, **17**:157.

- K. J. Voss and W. Balch, "Modification of scattering and beam attenuation properties by Coccolithophore blooms." EOS, Trans. Amer. Geophys. Union, 1990, **71**: 108.
- S. G. Ackleson and K. J. Voss, "What happened to the euphotic layer during the 1989 Gulf of Maine Coccolithophore bloom." EOS, Trans. Amer. Geophys. Union, 1990, **71**: 108.
- C. C. Trees and K. J. Voss, "Spectral absorption measurements of phytoplankton cultures using optoacoustic spectroscopy." EOS, Trans. Amer. Geophys. Union, 1990, **71**: 133.
- K. J. Voss, "In-situ measurement of the point spread function of ocean water." Optics News, 1989, **15**:A-39.
- K. J. Voss, "Radiance distribution measurements in case 2 waters." EOS, Trans. Amer. Geophys. Union, 1988, **68**:1682.
- K. J. Voss and C. C. Trees, "Differential optoacoustic absorption of pure water." EOS, Trans. Amer. Geophys. Union, 1988, **68**:1683.
- C. C. Trees and K. J. Voss, "Differential optoacoustic spectroscopy (DOAS) in phytoplankton absorption and production measurements." EOS, Trans. Amer. Geophys. Union, 1988, **68**: 1694.
- K. J. Voss, J. S. Schoonmaker, and G. D. Gilbert, "Beam scattering measurements in young sea ice." EOS, Trans. Amer. Geophys. Union, 1988, **69**:1279.
- C. C. Trees and K. J. Voss, "Absorption measurements of phytoplankton using optoacoustic spectroscopy." EOS, Trans. Amer. Geophys. Union, 1988, **69**: 1109.
- K. J. Voss and R. W. Austin, "Modelling the radiance distribution in the upper ocean." EOS, Trans. Amer. Geophys. Union, 1986, **66**: 1322.
- K. J. Voss, "Electro-optic radiance distribution camera system." EOS, Trans. Amer. Geophys. Union, 1986, **67**: 969.
- K. J. Voss and E. S. Fry, "Light scattering polarization matrix of oceanwater." EOS, Trans. Amer. Geophys. Union, 1984, **64**: 1039.
20. Other works submitted for publication:
- A. Tonizzo, M. Twardowski, S. McLean, K. Voss, M. Lewis, C. Trees, "Closure and uncertainty assessment for ocean color reflectance using measured volume scattering functions and reflective tube absorption coefficients with novel correction for scattering", submitted Applied Optics, 9/16.
- K. J. Voss, H. R. Gordon, S. Flora, B. C. Johnson, M. Yarbrough, M. Feinholz, T. Houlihan, "A method to extrapolate the diffuse upwelling radiance attenuation coefficient to the surface as applied to the Marine Optical Buoy (MOBY)", submitted to J. Atm. and Ocean. Tech., 12/16.

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PROFESSIONAL

21. Funded Research Performed (all grants active in the last five years).

PI, Marine Optical Buoy (MOBY) operations through NPP launch, NOAA, 2/1/11- 5/30/13, \$1,413,504.

Co-PI, (PI- Paquita Zuidema, RSMAS) Acquisition of instrumentation for an integrated South Florida Cloud-Aerosol- Rain-Observing system, NSF, \$1,118,270.

PI, Analysis of the in-water and sky radiance distribution data acquired during the RadYO project, ONR, 10/1/10-9/30/13, \$100,000.

PI, Polarization of water leaving radiance as relevant to the GLORY-APS data, NASA, 1/1/11-12/31/14, \$56,893.

PI, Developing a low-cost, in-water stereo-video camera for use in fishery independent surveys, NMFS, 7/1/13-9/30/14, \$43,173.

CURRENT RESEARCH SUPPORT

PI, Marine Optical Buoy (MOBY) Operations and Technology Refresh: 3 and 2/3 years, NOAA, 2/1/12 – 11/30/16, \$9,185,465

PI, Developing a MOBY-NET instrument, suitable for a federation network for Vicarious Calibration of Ocean Color Satellites, NASA, 9/15/14-9/14/17, \$2,790,796.

PI, Marine Optical Buoy (MOBY) Operations and Technology Refresh, NOAA, 2/1/16 – 9/30/20, \$13,293,951.

PENDING RESEARCH SUPPORT: None

22. Editorial responsibilities:

Topical Editor for Applied Optics, Sept. 1994 – Dec. 2000

Review articles for Applied Optics, Journal of Geophysical Research, Limnology and Oceanography, Optics Express, GRL, and other journals.

23. Professional and Honorary Organizations (member; officer; date):

Optical Society of America

(Chairman, Atmospheric and Oceanic Optics Technical Group, 1994-1995)

(Vice Chairman, Atmospheric and Oceanic Optics Technical Group, 1993)

American Association for the Advancement of Science

American Geophysical Union

Optical Society of San Diego (Director 1986-1988, Treasurer 1988-1989)

The Oceanography Society

24. Honors and Awards:

Provost's Award for Scholarly Activity, Spring 2015.

Elected Fellow of the Optical Society of America, October 2003, "For significant contributions to oceanic and atmospheric optics, particularly in the development of novel experiments and instrumentation".

1979 Washington State University B. S. Cum Laud,
Honors program graduate.
1989 Knight Junior Fellowship, University of Miami

Invited to present a poster, and attend the ONR 50th anniversary ceremony (as one of approximately 10 young investigators selected nationally) (1996).

Student (Dr. Hu) won the outstanding student paper award at Ocean Optics XIII (1996), an international meeting held every other year.

Student (Dr. Welton) won an outstanding student paper award, in Atmospheric Sciences, at Fall American Geophysical Union Meeting (1997).

Student (Dr. Zhang) was an honorable mention for outstanding student paper award at Ocean Optics XVII (2004), an international meeting held every other year.

Student (Puru Bhandari) won the outstanding student paper award at Ocean Optics XX (2010), an international meeting held every other year.

Polly Cooper Outstanding Advisor of the Year, April 2008, for UM Sailing Club.

25 Post-Doctoral Fellowships: none.

26. Other Professional Activities

External reviewer, University of Maryland Baltimore County Physics Department, Spring 2016.

Team member, NOAA VIIRS Calibration/Validation Team.

Associate Team Member Sentinel 3 Validation Team (ESA/EUMETSAT)

Invited participant, Lidar Observations of Optical and Physical Properties, NURC, La Spezia, Italy, Nov, 2011.

Kenneth J. Voss

Participated in Remote Sensing Theory Proposal Review Panel, NASA, Univ. of Maryland, 2/2011

Team member, NASA GLORY Science Team,.

Participated in National Oceanographic Partnership Program Panel review, June 16-17, Washington D.C.

External Review Panel for NRL Research Option, December 2, 2009, Washington, D.C.

Planning Committee, Ocean Optics XX, October 2010, Anchorage, Alaska.

Chairman, Ocean Optics XVIV, October 2008, Luca, Italy.

Planning committee, Ocean Optics XVIII, October, 2006, Montreal, Canada.

Team Member, NASA MODIS Algorithm Validation Team

Team Member, NOAA Coastal Applications and Science Team

Team Member, NASA MODIS Science Team

Team Member, NOAA, GOES-R Algorithm Working group team member.

Session Co-convenor, Recent advances in Understanding of Optical Scattering in the Ocean, 2006 Ocean Sciences Meeting, Feb, 2006, Hawaii.

Steering committee member, NASA Ocean Color Radiometric Cal/Val Working Group. 2004 – present.

Presider, “Optical displays from the Laboratory”, Light and Color in the Open Air, Technical meeting, OSA, Sante Fe, N.M., February, 1997.

Presider, “Optical Properties” at Ocean Optics XIII, Halifax, N. S., October 1996.

Allen Prize Committee, Optical Society of America, chairman, 1997.

Technical council representative to organization committee, Optical Society of America, Topical Group Meeting “Light and Color in the Open Air”, 1997.

Participated in ONR Ocean Sciences Program Review (Chicago, Ill.), 1996.

Kenneth J. Voss

Attended ONR workshop on Coastal Benthic Optical Properties, Washington D.C., Jan. 1996.

Participated in NSF Funding Review Panel, Washington D.C., Feb. 1996.

Chairman, Allen Prize committee, Optical Society of America, 1996

Presider, Symposium on Scattering and Absorption: 3, OSA Annual Meeting, September 11-15, 1995, Portland, Or.

Presider, Symposium on Light scattering and beam propagation: 1 and 2, OSA Annual Meeting, October 3-8, 1993, Toronto, Canada.

Presider, Symposium on Closure Measurements in Ocean Optics:1 and 2, OSA Annual Meeting, October 3-8, 1993, Toronto, Canada.

Co-Chairman, Ocean Optics XI, July, 1992, San Diego, Ca.

Presider, Symposium on Underwater Optics: 3, OSA Annual Meeting, November 3-8, 1991 San Jose, Ca.

Invited participant Joint National Academy of Science- Academy of Science USSR Workshop on Remote Sensing, Held in Moscow, USSR, June 10-22, 1991

Co-Chairman, Ocean Optics X, April 16-18, 1990 Orlando, Fl..

Presentations:

2016

“Progress on the new primary ocean color vicarious calibration instrument”, 46th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January. **Invited Talk.**

“Progress on MOBY-Net”, Ocean Color Research Team Meeting, Silver Springs, Maryland, May. **Poster**

“Improving MOBY vicarious calibration products at longer wavelengths”, STAR/JPSS 2016 Annual meeting, College Park, MD, August. **Talk**

“Progress on MOBY-Net and MOBY-Refresh”, Ocean Optics XXIII, Victoria, Canada, October. **Poster**

“The Marine Optical BuoY (MOBY) Technology Refresh and Time Series”, AGU Fall meeting, San Francisco, Ca., December 2016. **Poster**

- 2015 “MOBY: Past, Present, and Future”, International Ocean Color Science Meeting, San Francisco, June, **Invited Plenary talk.**
- “MOBY-NET, an ocean color vicarious calibration system”, Earth Science Technology Forum, June, **talk.**
- “Present Status of MOBY and MOBY-Refresh”, presentation at NOAA STAR JPSS Annual Science Team Meeting, August, 2015. **Talk**
- 2014 “MOBY Status and Refresh”, STAR/NESDIS/NOAA, College Park, Maryland, January . **Invited Talk**
- “Why MOBY and why MOBY-Refresh”, NOAA STAR JPSS Science Team Annual Meeting, May. **Invited Talk**
- “Current and Future Marine Optical Buoy”, NOAA STAR JPSS Science Team Annual Meeting, College Park, Maryland, May. **Poster**
- “Current and Future Marine Optical Buoy”, Ocean Color Research Team Meeting, Silver Springs, Maryland, May. **Poster**
- “Ocean Color Vicarious Calibration, the role of MOBY”, CIMAS Review, Miami, October. **Talk**
- “Experimental nLw and Lw products from the Marine Optical Buoy (MOBY)”, K. Voss, D. Clark, M. Feinholz, S. Flora, H. Gordon, B. C. Johnson, J. Mueller, M. Yarbrough, Ocean Optics XXII, Portland, Me., October. **Poster**
- “MOBY Uncertainties”, C. Johnson, D. Clark, M. Feinholz, S. Flora, H. Gordon, J. Mueller, A. Parr, K. Voss, M. Yarbrough, Ocean Optics XXII, Portland, Me., October. **Poster**
- “In-water Radiometry”, Ocean Optics Protocol Workshop, Portland, Me., October. **Invited Talk**
- 2013 Two presentations at the International Ocean Color Coordinating Group (IOCCG) Vicarious Calibration Workshop, Frascati, Italy, Dec. 2-3, 2013.
- “Current and Future Marine Optical Buoy (MOBY)”, Sentinel 3 Validation Team Meeting (S3VT), Frascati , Italy, Nov. 26-29. **Poster**

“Ocean Color Vicarious Calibration: The Role of Surface Measurements”, STAR/NESDIS/NOAA and ESSIC(University of Maryland), April . **Invited Seminar.**

Participated in the NASA sponsored “Calibration and Validation for Ocean Color Remote Sensing” summer class at the University of Maine, July 8-August 2, 2013 at the Darling Marine Center, University of Maine. Presented 3 lectures:
“Inelastic scattering – Raman, CaCO₃ & other minerals, CDOM”
“Radiometric quantities and their measurement”
“Polarization”

2012 “Current Status of the MOBY satellite calibration site”, 2012 Coast Watch Meeting, Kona, Hawaii, April. **INVITED TALK**

“Analysis of the in-water and sky radiance distribution data acquired during the RaDYO Project”, Littoral Geosciences and Optics Program Review, Denver, CO, September. **INVITED TALK**

“Results on the upwelling polarized and unpolarized radiance distribution, K.J.Voss, A. C. Gleason, and H.R. Gordon, Ocean Color Research Team Meeting, Seattle, Washington, April. **POSTER**

“An improved approach to determining the upwelling radiance attenuation coefficient near the surface for MOBY”, K. J. Voss, H. R. Gordon, and S. Flora, Ocean Optics 2012, Glasgow, Scotland, October. **POSTER**

2011 Invited talk at GLORY Science Team meeting, August

2010 “The SORTIE project: results from crossovers with MOBY, IOP inversions and AOP predictions”, Kenneth Voss, Chuck Trees, Andrew Barnard, Marlon Lewis, Scott McLean, Michael Twardowski, Heidi Dierssen, Ron Zaneveld, Carol Johnson, Dennis Clark, Mark Yarbrough, Stephanie Flora, Mike Feinholz, Giuseppe Zibordi, NASA Ocean Color Science Team Meeting, New Orleans, La, 11-13 May, 2010. **INVITED TALK**

Gleason, A. C. R., K. J. Voss, H. R. Gordon, J. Sullivan, M. Twardowski, “Assessment of an empirical particle scattering phase function for modeling upwelling hemispherical radiance in the ocean”, NASA Ocean Color Science Team Meeting, New Orleans, LA, 11-13 May, 2010. **POSTER**

K. J. Voss, P. Bhandari, L. Logan, “Polarized radiance distribution in the near surface region”, 2010 Ocean Sciences Meeting, Portland, Or., February 2010. **CONTRIBUTED TALK**

A. C. Gleason, K. J. Voss, H. R. Gordon, J. M. Sullivan, M. S. Twardowski,” Validation of a “Universal” Particulate Scattering Phase Function with Measurements and Simulation of Upwelling Hemispherical Radiance Distributions”, 2010 Ocean Sciences Meeting, Portland, Or., February 2010. **POSTER**

K. J. Voss, “Polarized radiance distribution in the near surface region”, ONR Ocean Optics Program Review, Portland, Or., February 2010. **TALK**

A. C. Gleason, K. J. Voss, H. R. Gordon, J. M. Sullivan, M. S. Twardowski,” Validation of a “Universal” Particulate Scattering Phase Function with Measurements and Simulation of Upwelling Hemispherical Radiance Distributions”, MODIS Science Team Meeting, Washington, D.C., January, 2010. **POSTER**

P. Bhandari, K. J. Voss, L. Logan, “The variation of the polarized downwelling radiance distribution with depth in coastal water”, Ocean Optics XX, Anchorage, Ak., October 2010, **TALK (given by Bhandari) and POSTER.**

K. Voss, A. Gleason, H. Gordon, G. Kattawar, Y. You, “The discovery of non-principal-plane neutral points in the in-water upwelling polarized light field”, Ocean Optics XX, Anchorage, AK, October 2010. **TALK and POSTER**

A. Gleason, K. Voss, and H. Gordon, “Measuring and Modeling the Polarized Upwelling Radiance Distribution in Clear and Coastal Waters”, Ocean Optics XX, Anchorage, AK, October, 2010. **POSTER**

R. Van Dommelen, J. Wei, M. Lewis, K. Voss, “Instrumentation, characterization and validation of a high dynamic range radiance camera”, Ocean Optics XX, Anchorage, Ak., October 2010. **POSTER**

G. Zibordi and K. J. Voss, “Field Radiometry and Ocean Color Remote Sensing”, Oceans From Space 2010, Venice, Italy, April, 2010. **Invited Talk (given by Zibordi)**

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- 2009 “Measuring and modeling the upwelling radiance distribution in clear and coastal water, A. C. Gleason, K. J. Voss, H. R. Gordon, 2009, NASA Ocean Color Science Team Meeting, New York, NY, 4-6 May, 2009. **POSTER**
- “Results of MOBY-Sortie crossover and irradiance/radiance inversions: hyperspectral IOP's from AOP's”, Ken Voss, Howard Gordon, Scott McLean, Marlon Lewis, Mike Twardowski, Scott Freeman, Carol Johnson, Stephanie Flora, Michael Feinholtz, Chuck Trees, and many others. NASA Ocean Color Science Team Meeting, New York, NY, 4-6 May, 2009. **POSTER**
- 2008 “Radiometry and Uncertainties from SORTIE (Spectral Ocean Radiance Transfer Investigation and Experiment)”K. Voss, H. Gordon, M. Lewis, S. McLean, M. Twardowski, C. Johnson, S. Flora, M. Feinholz, C. Trees, , Ocean Color Research Team Meeting, College Park, Md., April 2008. **INVITED TALK.**
- Voss, K., H. Gordon, M. Twardowski, Upwelling radiance distribution measurements and modeling during the SORTIE field work, **Poster**, Ocean Color Research Team Meeting, College Park, Md., April 2008.
- K. Voss and H. Gordon, “Enhancements to the water-leaving radiance algorithm: Case II waters BRDF and polarized upwelling radiance distribution”, **Poster**, MODIS/VIRRS Team Meeting, Baltimore, Md., April 2008.
- 2007 “Preliminary Results from SORTIE”, K. Voss, M. Lewis, C. Trees, and others, Ocean Color Research Team Meeting, Seattle, Wa., March 2007.
- 2006 “Further testing/validation of the satellite f/Q correction, Ocean Optics XVIII, Montreal, Canada, October.
- 2002 “An instrumental history of the Scripps Visibility Laboratory” (with R.W.Austin) Invited Talk, Ocean Optics XVI, Santa Fe, N. M. November 2002.
- “Light scattering measurements in the coastal zone, Gulf of Mexico” (with David Phinney), AGU Ocean Sciences, Honolulu, Hi., Feb.
- 2001 “In-water spectral radiance distribution measurements”, Physics of Quantum Electronics, Snowbird, Utah, January, Invited.

- 2000 “Bi-directional reflectance distribution functions (BRDF) of benthic surfaces in the littoral zone” (with H. Zhang and A. Chapin), Ocean Optics XV, Monte Carlo, Monaco, 2000.
- “Upwelling Radiance distribution measurements and the ocean “BRDF””, Oceans from Space 2000, Venice, Italy, 2000.
- “Atmospheric Optical Measurements”, Given in the International SeaKeepers Society, Conference & workshop for government officials, 3/3/2000.
- “The Bi-directional reflectance distribution function of several benthic surfaces” (with H. Zhang), 2000 AGU Ocean Sciences Meeting, San Antonio, Texas, January 24-28, 2000.
- 1999 “An Instrument to Measure the In-situ Bi-directional Reflectance of Benthic Surfaces”, Ocean Optics XIV, Kona, Hawaii, November.
- 1997 “Polarized radiance distribution measurements of skylight for passive remote sensing of aerosol optical properties” (with Y. Liu), OSA Remote Sensing Technical Meeting, OSA Sante Fe. N. M., February.
- 1996 “Inelastic scattering in clear ocean water”, AGU- ASLO Ocean Sciences Meeting, San Diego, Ca., Feb.
- 1995 “Aspects of the Point Spread Function in the Coastal Zone”, Poster presented at Ocean Optics XIII, Halifax, N. S., Oct.
- “PSF measurements in the littoral zone”, OSA Annual Meeting, Portland, Or., Sept.
- “Sun Dogs and Halos: Things to look for in the Boothbay Winter Sky”, Bigelow Laboratory for Ocean Sciences, Boothbay Harbor, Me., July. (Invited)
- 1994 “Aerosol optical depth over the North Atlantic”, Bigelow Laboratory for Ocean Sciences, Boothbay Harbor, Me., July. (Invited)
- “Oceans and atmospheres: an experimentalist view from Miami”, Ispra, Italy, June (Invited).
- “Estimate of the average cosine for the radiance distribution resulting from a point source in the ocean”, SPIE Ocean Optics XII, Bergen, Norway, June.

- “Solar stimulated DOM fluorescence, measurements compared with model results”, AGU/ASLO Ocean Sciences Meeting, San Diego, Ca., February.
- 1993 “Atmospheric Spectral Optical Depth measurements in Bermuda and Barbados during 1992 and 1993”, AGU Fall Meeting, San Francisco, Ca., December
- “Measurement of inelastic scattering in Monterey Bay”, OSA Annual Meeting, Toronto, Canada, October.
- “Inelastic scattering in the “real” ocean”. Bigelow Laboratory for Ocean Sciences, Boothbay Harbor, Me., August. (Invited)
- 1992 “An empirical model of the spectral beam attenuation coefficient in the ocean”, ASLO Aquatic Sciences Meeting, Santa Fe, N. M., February.
- “The next generation in-water radiance distribution camera system”, (with A. L. Chapin), Ocean Optics XI, SPIE, San Diego, Ca., July.
- 1991 “Optical sensing of ocean biological parameters”, Joint National Academy of Science- Academy of Science USSR Workshop on Remote Sensing, Moscow, USSR, June. (Invited)
- “Variation of the point spread function in the Sargasso Sea. Underwater Imaging.” Underwater Imaging, SPIE, San Diego, Ca., July.
- 1990 “Photoacoustic absorption in seawater”, Department of Biological Sciences, Florida International University, February. (Invited).
- “Modification of scattering and beam attenuation properties by Coccolithophore blooms”, (with W. Balch), AGU/ASLO winter meeting, New Orleans, Louisiana, February.
- “Variability of the Point Spread Function in the water column”, Ocean Optics X, SPIE, Orlando, Florida, April.
- “Optoacoustic spectroscopy and its application to molecular and particle absorption”, (with C.C. Trees), Ocean Optics X, SPIE, Orlando, Florida, April.

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- 1989 “In-Situ Measurements of the Point Spread Function of Ocean Water”, OSA annual meeting, Orlando, Florida, October.
- 1988 “Radiance Distribution Measurements in Case 2 Waters” AGU/ASLO winter meeting, New Orleans, Louisiana, January. (Invited).
- “Differential Optoacoustic Absorption of Pure Water,” (with C. Trees), AGU/ASLO winter meeting, New Orleans, Louisiana, January .
- “Radiance Distribution Measurements in Coastal Water.” Ocean Optics IX, SPIE, Orlando Florida, April .
- “Investigations in Ocean Optics”, Food Chain Research Group, Institute of Marine Resources, Scripps Institution of Oceanography, UCSD, May. (Invited)
- Beam Scattering Measurements in young sea ice,” (with J. Schoonmaker and G. Gilbert), AGU/ASLO fall meeting, San Francisco, California, December.
- 1986 “Modelling the Radiance Distribution in the Upper Ocean”,(with R. W. Austin), AGU/ASLO winter meeting, New Orleans, Louisiana, January 1986.
- “Ship Shadow effects on apparent optical properties”,(with J. W. Nolten and G. D. Edwards), Ocean Optics VIII, SPIE, Orlando, Florida, April 1986.
- “Electro-Optic Radiance Distribution Camera System”, AGU/ASLO fall meeting, San Francisco, California, December 1986.
- 1984 “Light Scattering Polarization Matrix of Oceanwater”, (with E. S. Fry), AGU/ASLO, winter meeting, New Orleans, Louisiana, January 1984.
- “Measurement of the Mueller Matrix”, Los Alamos National Laboratory, Biological Division, Los Alamos, New Mexico. (Invited)
- 1983 “The Mueller Matrix of Ocean water”, Netherland Institut voor Onderzoek der Zee, Den Berg, Texel, Netherlands, May 1983. (Invited)

TEACHING

27. Teaching Awards received: none.
28. Phys 101 College Physics
PSC 101 Physical Science
Phys 205 University Physics 1
Phys 206 University Physics 2
Phys 505 Advanced Laboratory
Phys 506 Advanced Laboratory (Electronics)
Phys 552 Optics
Phys 340 Mechanics
Phys 360 Modern Physics
Phys 101(discussion session) Introductory physics
Phys 102(discussion session) Introductory physics
Phys 205(discussion session) Introductory physics
29. Thesis and Dissertations Advising (chairman or committee member: topic: student name: date):

Completed

- Chairman: “Cloud and aerosol optics by polarized micro-pulse lidar and ground based measurements of zenith radiance”, Rodrigo Delgadillo (Ph.D., Physics 2015).
- Chairman: “Comparison of near surface and column-integrated atmospheric aerosol optical properties”, Rudra Aryal (Ph.D., Physics 2012).
- Chairman: “The design of a polarimeter and its use for the study of the variation of downwelling polarized radiance distribution with depth in the ocean”, Purushottam Bhandari (Ph.D., Physics 2011).
- Chairman: “Bi-directional reflectance studies of prepared compact particulate surfaces“, Hao Zhang (Ph.D., Physics, 2004).
- Chairman: “ Comparison of lab based and solar reflectance based calibrations of Aureole camera.” Hong Du (Ph.D., Physics, 2004).
- Chairman: “Lidar measurements of marine aerosols with improved analysis techniques.” David Bates (Ph.D., Physics, 2003).
- Chairman: “Remote measurement of aerosol scattering properties and the development of a novel imaging solar aureole radiometer” Joseph Ritter (Ph.D., Physics, 1998)
- Chairman: “Measurements of aerosol optical properties over the ocean using sunphotometry and lidar”, Ellsworth Welton: (Ph.D., Physics, 1998)
- Chairman: “In situ measurement of inelastic light scattering in natural waters”, Chuanmin Hu: (Ph.D., Physics, 1997)

- Chairman: “Measurement of the polarized radiance distribution”: Yi Liu (Ph.D., Physics, 1996)
- Chairman: “Measurement of inelastic scattering in the Ocean”: Yuntao Ge (Ph. D., Physics, 1993)
- Committee member: “Optical Beam Propagation in Oceanic Turbulence”: Nathan Farwell (Ph.D., Physics, 2014).
- Committee member: “Topographic reconstruction through a wavy interface using a structured-light technique”, Amin Sarafriz (Ph.D., Civil, Architectural and Environmental Engineering, College of Engineering, 2012)
- Committee member: “Application of 3-D Fluorescence and Parafac Modeling in Marine DOM Investigations”, Wilson Mendoza (Ph.D., Marine and Atmospheric Chemistry, RSMAS, 2012)
- Committee member: Jaejin Lee, Ph. D., Physics, Defended 9/2011.
- Committee member: Sara Woods, Ph. D., AMP/RSMAS, Defended 12/2009.
- Committee member: “Experimental and Numerical Studies of Synchronization Competition in a Chua Oscillator”, Zheng Lee (Ph.D., Physics, 2007).
- Committee member: “The Use Of The Parameter Space To Uncover New Structures In Continuous-Time Dynamic Systems Modeled With Sets Of Differential Equations”, Victor Castro (Ph.D., Physics, 2007).
- Committee member: “Spectral Reflectance of Carbonate Sediments and Applications to Shallow Water Remote Sensing”; Eric Louchard (Ph.D., Marine Biology and Fisheries, RSMAS, 2002).
- Committee member: “Molecular Mass and Optical Characterization of Size-Fractionated CDOM in Riverine to Marine Transition Zone”; Eliete Zanardi Lamardo (Ph.D., Marine and Atmospheric Chemistry, RSMAS, 2002).
- Committee member: Thomas Brown (Masters, Electrical Engineering, 2001)
- Committee member: “Polarization properties of the Retinal Nerve Fiber Layer Investigated with Multispectral Imaging Micropolarimetry”, Xiangrun Huang (Ph. D. Med School, 2000)
- Committee member: Roman Chomko (Ph. D. Physics, 1999)
- committee member: Xu Li (Ph.D., Marine and Atmospheric Chemistry, RSMAS, 1998)
- committee member: Ciprian Popoviciu (Ph.D., Physics, 1997)
- committee member: “Retrieval of Aerosol Optical Properties over Land”: Haoyu Yang (Ph.D., Physics, 1996)
- committee member: “Effects of polarization and absorbing aerosols on atmospheric correction in ocean color remote sensing”: Tao Du (Ph.D., Physics, 1996)

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committee member: “Remote Sensing of aerosol properties over the ocean by combining surface and aircraft measurements”: Tianming Zhang (Ph.D., Physics, 1995)

committee member: “Radiative Transfer model for natural fluorescence of phytoplankton in the ocean”: Wei-yan Gong (Ph.D., Physics, 1991)

committee member: “Atmospheric Correction of the second generation ocean color sensors”: Menghua Wang (Ph. D., Physics, 1991)

committee member: “Radiative transfer in spherical shell atmospheres for correction of ocean color remote sensing”: Kuiyuan Ding (Ph. D., Physics, 1993)

Other students:

SERVICE

30. University Committee and Administrative Responsibilities:

Interviewed candidates for High School Honors Days(1992)

Graduate recruitment committee

Graduate Council Subcommittee on Programs and Degrees (Graduate School, 1992-1993)

Goldwater Scholarship selection committee (Arts and Sciences, 1992-1994)

Promotion and Tenure committee (Arts and Sciences, 2001)

UM eNet Steering Committee, 9/00 –2003

Ad-Hoc recruitment committee, Ocean Optics position, Applied Marine Physics, 2001, (RSMAS)

Ad-Hoc promotion committee, Dr. Victor Milenkovic, Computer Science, 2001.

Ad-Hoc promotion committee, Hal Maring, Marine and Atmospheric Chemistry, RSMAS, 2001.

Ad-Hoc reappointment committee, Dennis Savoie, Marine and Atmospheric Chemistry, RSMAS, 2001.

College of Arts and Science, Tenure and promotion review committee, 2002.

University Research Council, 2002-2004.

Chemistry Department Chairman Search Committee, 2003.

Arts and Sciences Budget Committee, 2003-2006.

University Academic Personnel Board, 2005-6.

University S.T.E.M. Committee, 2006.

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Ad-Hoc promotion committee, William Drennan, Marine and Atmospheric Chemistry, RSMAS, 2008.
Ad-Hoc promotion committee, Brian Soden, Marine and Atmospheric Chemistry, RSMAS, 2008.
RSMAS Dean Search Committee, 8/08-/09
Ad-Hoc evaluation committee, Roland Romesier, AMP, RSMAS. 2009
AMP Graduate program review, internal committee, 2009
Evaluation committee, Amy Clement, RSMAS/MPO
Reappointment Committee, Roland Romeiser, RSMAS/AMP
Ad Hoc Promotion committee, Doug Fuller, Geography, 2011
Committee to Review Dean's Office Operations (2012)
Arts and Science Web Committee (2012)
External member Computer Science Tenure and Promotion Committee (Brian Blake) (2012)
Faculty Senate Committee on Professional Conduct (2012-2015)
External member Computer Science Tenure and Promotion Committee (Geoff Sutcliff) (2013)
Graduate School representative to the Faculty Senate (2014-)
Goldwater scholarship nomination committee (2015)
CAS PRISM program review committee (2015)
CAS Foote Fellow applicant review 2015
Faculty Senate Budget and Compensation committee (2016-)
CAS Promotion and Tenure advisory committee (2015-2017)
Graduate Program Review, Internal reviewer, Biomedical Engineering (2016)

31. Community Service:

Mentor for Red Cross summer scholar program: Abiyou Duo, 1990.
Mentor for Community Laboratory Research Program, 1990-91 school year, Peter Strecher.
Science Fair Judge (Epiphany School), 1992-1995.
Soccer Coach, YMCA, Fall 1995, Spring and Fall 1996, Spring and Fall 1997, Spring 1998.
Work with Science teachers at Epiphany School and Our Lady of Lourdes Academy.
Faculty advisor, University of Miami Sailing Club, 2005-2008.
Sailing Coach, La Salle High School, 2005-2008.
Support/Coach, University of Miami Sailing Team, 2009-present.
Faculty Advisor for Exploravision Project for HS students at Lourdes High School (2015)