

## **PAULA G. COBLE**

Associate Professor  
College of Marine Science  
University of South Florida  
140 Seventh Avenue South  
St. Petersburg, FL 33701  
727-553-1631  
727-553-1189 FAX  
pcoble@marine.usf.edu

### **EDUCATION**

**University of Washington**, Seattle, WA

Postdoctoral Fellow, School of Oceanography, 1989-1992

Worked to develop new 3-D Fluorescence spectroscopy techniques for analysis and characterization of organic matter in natural waters – resulting in paper in *Nature*

Drs. Mary Jane Perry and John Hedges, Advisors

**Massachusetts Institute of Technology/Woods Hole Oceanographic Institution**, Woods Hole, MA

PhD in Oceanography, 1990

“Marine bacteria as a source of dissolved fluorescence in the ocean”

Dr. Robert B. Gagosian, Advisor

**University of Delaware, College of Marine Studies**, Lewes, DE

M.S Biological Marine Studies, 1977

”Tidal variation in phytoplankton production”

Dr. Jonathan Sharp, Advisor

**Mount Holyoke College**, South Hadley, MA

B.S Biology-Geology 1973 (Magna cum laude with Honors)

### **ADMINISTRATIVE EXPERIENCE**

**Program Scientist**, Earth-Sun System Division Education, Science Mission Directorate, NASA Headquarters, Washington, DC  
2004-2005

**Founder and Executive Producer**, Project Oceanography  
1995-2003

**Founding Director, COSEE Florida (Center for Ocean Sciences Education Excellence)**  
2002-2003

## RESEARCH AND TEACHING

*Associate Professor, College of Marine Science*, University of South Florida,  
St. Petersburg, FL  
1998-2005

*Assistant Professor, Dept. of Marine Science*, University of South Florida,  
St. Petersburg, FL  
1992-1998

Research interests include carbon cycling, fluorescence of dissolved organics in seawater, laser fluorescence sensor development, marine organic geochemistry, ocean color, chemistry and biology of subsurface particle layers in low oxygen waters, biogeochemistry of the ocean, marine denitrification.

P.I. or co-P.I. on \$3.5 million in research and education grants

Courses Taught:

Dynamics and Cycling of Organic Carbon in Natural Waters

Biogeochemistry

Chemical Oceanography

Scientist in the Classroom

Summer Oceanography Workshop for Teachers (Team taught)

*Research Associate*, School of Oceanography, University of Washington  
1991-1992

*Postdoctoral Research Associate*, School of Oceanography, University of Washington  
1989-1991

*Graduate Research Assistant*, Woods Hole Oceanographic Institution  
1983-1989

*Research Associate*, Bigelow Laboratory for Ocean Sciences, W. Boothbay Harbor, ME  
1976-1983

## GRADUATE STUDENTS ADVISED

*Masters Degree*

R. Michael Swaine (1996)

Robyn Conmy (1999)

Antoya Stovall-Leonard (2003)

Ana Arellano

*Ph.D. Degree*

Carlos Del Castillo (1998)

Jennifer Boehme (2000)

Robyn Conmy (2008)

Lore Ayoub (with P. Hallock Muller)(2009)

Kelli Dixon (with G. Vargo)(2009)

*Post-Doctoral Associate*

Aaron Timperman (1995-97)

Carlos Del Castillo (1998-00)

Jennifer Boehme (2000-01)

**STUDENT  
COMMITTEES**

*Masters Degree Committees - 5*

*Ph.D. Degree Committees - 15*

**EDITORIAL  
FUNCTIONS**

*Assoc. Editor:* Marine Chemistry (1997-2004)

*Co-editor,* Marine Chemistry Special Issue on CDOM, 2004

*Reviewer:* National Science Foundation; Limnology and  
Oceanography; Deep-Sea Research; Journal of Geophysical Research,  
Estuarine, Coastal and Shelf Science; Marine Chemistry; Geochimica et  
Cosmochimica Acta, NASA, NOAA, Continental Shelf Research

**PROFESSIONAL  
SERVICE**

AGU Ewing Medal Committee Chair, 2008-2010

AGU Ewing Medal Committee Member, 2006-2008

OOI Steering Committee Member, 2006-2009

North American Carbon Program Science Steering Group 2009-2012

*Secretary,* AGU Ocean Sciences Section, Marine Geochemistry, 2000-2004

*Program Committee,* AGU Fall Meeting, San Francisco, 2000-2002.

*Co-convenor,* Two special sessions, 2002 Ocean Sciences Meeting, Honolulu,  
HI

*Advisory Board Member,* National Ocean Science Bowl, 1997-1999

*Member,* SeaWiFS Science Team, 1997-2001

*Chair,* Membership Committee, The Oceanography Society, 1999-2002

*Member,* NOPP Education Advisory Ad Hoc Committee (2002-present)

*Invited Participant:* NOAA National Ocean Exploration Education

Workshop, Sept. 4-6, 2002, Charleston, SC

*Member:* NMEA, AGU, ASLO, TOS

*Participant,* COSEE (Center for Ocean Science Excellence in Education)  
Workshop

*Session Chair,* AGU 1998 Fall Meeting, San Francisco

*Invited participant,* CORE Workshop on K-12 Education and Outreach,  
Washington, D.C. June 1996

*Secretary,* American Women in Geosciences (AWG), South Florida Chapter.  
1994-1995.

**UNIVERSITY  
SERVICE**

*Member,* Dean's Advisory Council, 2008-2010

*Member,* Dean's Advisory Council, 2001-2003

*Chair,* Student Recruitment Committee, 1999-2002

*Member,* Multi-Campus Environmental Task Force, 1998-1999

*Member,* Faculty Recruitment Committee, 1996-97

*Chair*, Ad Hoc Committee for Marine Science Education Degree Program,  
1996-1999

Center for Ocean Technology Search Committees (5), 1995

Workshop on Math and Science Education, Clearwater Beach, FL, 1995

Seminar Committee, 1992-2001

Curriculum Committee, 1992-1999

Search Committee, Director of Poynter Library, 1993-94

## **COMMUNITY SERVICE**

Spoonbill Bowl Volunteer 2007-2009

*Member*, Oasis Program Advisory Board, 2001-2003

*Member*, Friends of Weedon Island Board of Directors, 1998-2003

*Faculty Advisor*, Oceanography Camp for Girls, 1993-2003

*Member*, Sustainable Seas Expedition Education Advisory Committee, 1999 -  
2001

*Member*, Advisory Committee - Pinellas County Educational Distance  
Learning Project, 1999 - 2001

*Science Fair Judge*, Bay Point Elementary Magnet School, 2000

*Presenter*, Mentoring a "Must" for Women's Careers? USF, 2000

*Speaker*, AAUW "Girls + Math + Science = Success", 1999

*Member*, Florida Forum on Ocean Conservation Organizing Committee,  
one-day symposium for the public on ocean issues), 1998

*Member*, Regional Ocean Conference for Students (ROCS) Planning  
Committee, Florida Aquarium, 1998

*Science Fair Judge*, Center for Advanced Technologies, Lakewood High  
School, 1997

*Participant*, Science Mentorship Program, Center for Advanced Technologies,  
Lakewood High School, 1996

*Speaker*, Career Exploration Day (YWCA), 1996

*Speaker*, T.E.E.R. Environmental Day at Bay Point School, 1995

*Speaker*, AAUW "Women Hands-On Career Activity Day," 1994

*Mentor*, Motivator Program, Bay Point School, 1994

*Invited Participant*, "Female Forum: Girls Look to the Future," Great  
Explorations Museum, St. Petersburg, FL, 1993-1994

*Faculty Advisor*, Summer Science Internship Program, Mt. Holyoke College  
Training Program, 1993-1996

## **HONORS AND AWARDS**

Town & Gown (Project Oceanography), USF, 2002

Finalist, Water Vision Media, (Project Oceanography), 1998

Environmental Excellence Award (Project Oceanography), 1996

College of Fisheries and Ocean Sciences Postdoctoral Fellowship (UW), 1989

Ida Green Fellowship (M.I.T.), 1983

Magna cum laude with Honors (Mt. Holyoke College), 1979

National Merit Certificate, 1969

## SCIENCE PUBLICATIONS

Para, J., **P. G. Coble**, B. Charrie`re, M. Tedetti, C. Fontana, and R. Sempe`re. 2010. Fluorescence and absorption properties of chromophoric dissolved organic matter (CDOM) in coastal surface waters of the Northwestern Mediterranean Sea (Bay of Marseilles, France). *Biogeosciences Discuss.*, 7, 5675–5718, doi:10.5194/bgd-7-5675-2010. In review.

**Coble, P.G.** 2010. CDOM EEM Analyses Using Conventional Spectral and Peak-picking Techniques OR Human Visualization Analysis. (In preparation for book: *Aquatic Organic Matter Fluorescence*, Cambridge University Press. J. Lead, A. Baker, P. Coble, and R. Spencer, eds.)

Spencer, R.G.M., A. Baker, and **P.G. Coble**. 2010. Sample Collection and Preparation for Absorbance and Fluorescence Analyses of Dissolved Organic Matter. (In preparation for book: *Aquatic Organic Matter Fluorescence*, Cambridge University Press. J. Lead, A. Baker, P. Coble, and R. Spencer, eds.)

Milbrandt, E.C., **P.G. Coble**, R.N. Conmy, A.J. Martignette, and J. Siwicke. 2010. Chromophoric dissolved organic matter production in shallow, subtropical estuaries and export to the eastern Gulf of Mexico. *Limnol. Oceanogr.* 55: 2037-2051.

Robbins, L.L., Coble, P. G., Clayton, T., and Cai, W.J., 2009, Terrestrial and Coastal Carbon Fluxes in the Gulf of Mexico Workshop, St. Petersburg, FL, USA 6–8 May 2008 USGS Open File Report 2009-1070.

Conmy, R.N., P.G. Coble, J.P. Cannizzaro, and C.A. Heil. 2009. Influence of extreme storm events on West Florida Shelf CDOM distributions. *J. Geophys. Res.* 114: G00F04, doi:10.1029/2009JG000981.

Ayoub, L., P. Hallock, and **P. Coble**. 2009. Colored Dissolved Organic Material Increases Resiliency of Coral Reefs by Controlling Exposure to UVR, p. 572-576. In: *Proceedings of the 11th International Coral Reef Symposium*, Ft. Lauderdale, Florida, 7-11 July 2008.

Nelson, N.B., and **P.G. Coble**. 2009. Optical Analysis of Chromophoric Dissolved Organic Matter, p. 79-96 In: Wurl, O., **Practical Guidelines for the Analysis of Seawater**, CRC Press.

**Coble, P.** 2008. Oceanography – Cycling Coloured Carbon. *Nature Geoscience* 1: 575-6.

**Coble, P.G.** 2007. Marine Optical Biogeochemistry – The Chemistry of Ocean Color. *Chem. Rev.* 107(2): 402-418.

**Coble, P.G.** C. Hu, R.W. Gould, Jr., G. Chang, and A.M. Wood. 2004. Colored Dissolved Organic Matter in the Coastal Ocean: An Optical Tool for Coastal Zone Environmental Assessment and Management. *Oceanography* 17: 50-59.

Coble, P.G.; R. Zepp, R. Zika. 2004. CDOM in the ocean: transformation processes and their effects on optical properties. *Mar. Chem.* 89: 1-2.

Boehme, J., **P.G. Coble**, R. Conmy, A. Stovall-Leonard. 2004. Examining CDOM fluorescence variability using principal component analysis: seasonal and regional modeling of three-dimensional fluorescence in the Gulf of Mexico. *Mar. Chem.* 89: 3-14.

Conmy, R.N., **P.G. Coble**, R.F. Chen, G.B. Gardner. 2004. Optical properties of colored dissolved organic matter in the Northern Gulf of Mexico. *Mar. Chem.* 89: 127-144.

Chen, R.F., P. Bissett, **P. Coble**, R. Conmy, G.B. Gardner, M.A. Moran, X. Wang, M.L. Wells, P. Whelan, G. Zepp. 2004. Chromophoric dissolved organic matter (CDOM) source characterization in the Louisiana Bight. *Mar. Chem.* 89: 257-272.

Conmy, R.N., **P.G. Coble**, C.E. Del Castillo. 2004. Calibration and performance of a new in situ multi-channel fluorometer for measurement of colored dissolved organic matter in the ocean. *Cont. Shelf Res.* 24: 431-442.

Murphy, K., J. Boehme, **P. Coble**, J. Cullen, P. Field, W. Moore, E. Perry, R. Sherrell and G. Ruiz. 2004. Verification of mid-ocean ballast water exchange using naturally occurring coastal tracers. *Mar. Poll. Bull.* 48: 711-730.

Jolliff, J., J. J. Walsh, R. He, R. H. Weisberg, A. Stovall-Leonard, **P.G. Coble**, R.N. Conmy, C. Heil, B. Nababan, H. Zhang, C. Hu, and F.E. Muller-Karger. 2003. The Dispersal of the Suwannee River plume over the West Florida Shelf: Simulation and observation of the optical and biochemical consequences of a flushing event. *Geophysical Research Letters*, **30**, (13) 1709.

Sivaprakasam, V., R.F. Shannon, C. Luo, **P.G. Coble**, J.R. Boehme, D.K. Killinger. 2003. Development and Initial Calibration of a Portable Laser-Induced Fluorescence System Used for In Situ Measurements of Trace Plastics and Dissolved Organic Compounds in Seawater and the Gulf of Mexico. *App. Optics* 42:6747.

Del Castillo, C.E., **P.G. Coble**, R.N. Conmy, F.E. Muller-Karger, L. Vanderbloomen, and G.A. Vargo. 2001. Multispectral In-situ Measurements of Organic Matter and Chlorophyll Fluorescence in Seawater: Documenting the Intrusion of the Mississippi River Plume in the West Florida Shelf. *Limnol. Oceanogr.* 46: 1836-43.

Boehme, J.E., and **P.G. Coble**. 2000. Characterization of colored dissolved organic matter using high-energy laser fragmentation. *Environ. Sci. Tech.* 34: 3283-3290.

Del Castillo, C.E., and **P.G. Coble**. 2000. Seasonal variability on the colored dissolved organic matter during the 1994-95 NE and SW monsoons in the Arabian Sea. *Deep-Sea Res.* 47: 1563-1579.

Del Castillo, C.E., F. Gilbes, **P.G. Coble**, and F.E. Muller-Karger. 2000. On dispersal of riverine colored dissolved organic matter over the West Florida Shelf. *Limnol. Oceanogr.* 45: 1425-1432.

Del Castillo, C.E., **P.G. Coble**, J.M. Morell, J.M. Lopez, and J.E. Corredor. 1999. Analysis of the optical properties of the Orinoco River Plume by absorption and fluorescence spectroscopy. *Mar. Chem.* 66: 35-51.

Wood, A.M., **P.G. Coble**, M. Lipsen. 1999. Fluorescence-based characterization of Synechococcous community structure in the Arabian Sea during the Southwest Monsoon and Fall intermonsoon period. *Deep Sea Res.* 46: 1769-1790

Guay, C.K., G.P. Klinkhammer, K.K. Falkner, R. Benner, **P.G. Coble**, T.E. Whitledge, B. Black, F.J. Bussell, and T.A. Wagner. 1999. High-resolution measurements of dissolved organic carbon in the Arctic Ocean by in situ fiber-optic spectrometry. *Geophys. Res. Lett.* 26(8): 1007

**Coble, P.G.** and A.T. Timperman. 1998. Fluorescence detection of proteins and amino acids in capillary electrophoresis using a post-column sheath flow reactor. *J. Chromatogr. A* 829: 309-315.

**Coble, P.G.**, C.E. DelCastillo, and B. Avril. 1998. Distribution and optical properties of CDOM in the Arabian Sea During the 1995 Southwest Monsoon. *Deep-Sea Res. Pt. II* 45: 2195-2223.

Brink K.K., C. Flagg, D. Young, **P.G. Coble**, B. Jones, J. Kindle, M. Wood, D. Phinney, C. Yentsch, R. Arnone and C. Lee. 1997. Seasonal and spatial variability of the upper ocean response to monsoonal forcing: Arabian Sea intensive surveys. *EOS Vol.* 79:13.

**Coble, P.G.** 1996. Characterization of marine and terrestrial DOM in seawater using excitation-emission matrix spectroscopy. *Mar. Chem.* 51: 325-346.

**Coble, P.G.**, and M.M. Brophy. 1994. Investigation of the geochemistry of dissolved organic matter in coastal waters using optical properties. *SPIE Vol.* 2258, *Ocean Optics XII*, pp. 377-389.

Prahl, F.G., and **Coble, P.G.** 1994. Input and behavior of dissolved organic carbon in the Columbia River Estuary. In: *Change in fluxes in estuaries: Implications from science and management*. Joint ECSA/ERF Conference. Polytechnic SW, Plymouth, England. 13-18 Sept. 1992.

**Coble, P.G.**, C.A. Schultz, and K. Mopper. 1993. Fluorescence and contouring analysis of DOC intercalibration experiment samples: A comparison of techniques. *Mar. Chem.* 41: 173-178.

**Coble, P.G.**, R.B. Gagosian, L.A. Codispoti, G.E. Friederich, and J. Christensen. 1991. Vertical distribution of dissolved and particulate fluorescence in the Black Sea. *Deep-Sea Res.*, 38 (Suppl.), S985-S1001.

**Coble, P.G.**, and R.B. Gagosian. 1991. The nature and distribution of fluorescent dissolved organic matter in the Black Sea and the Cariaco Trench. In: E. Izdar and J. Murray, eds. *Black Sea Oceanography*. Kluwer Academic. Netherlands.

**Coble, P.G.**, S. Green, R.B. Gagosian, and N. Blough. 1990. Characterization of dissolved organic matter in the Black Sea by fluorescence spectroscopy. *Nature* 348: 432-435.

**Coble, P.G.** 1990. Marine bacteria as a source of dissolved fluorescence in the ocean. Ph.D. Thesis, MIT/WHOI, WHOI-90-05.

Christensen, J.P., T.T. Packard, F.Q. Dortch, H.J. Minas, J.C. Gascard, C. Richez, and **P.C. Garfield**. 1989. Carbon oxidation in the deep Mediterranean Sea: Evidence for dissolved organic carbon source. *Global Biogeochem. Cycles* 3: 315-336.

Packard, T.T., M. Denis, M. Rodier, and **P.C. Garfield**. 1988. Deep ocean metabolic CO<sub>2</sub> production: An estimate from ETS activity. *Deep-Sea Res.* 35: 371-382.

Packard, T.T., H.J. Minas, B. Coste, R. Martinez, M.C. Bonin, J. Gostan, **P. Garfield**, J. Christensen, Q. Dortch, M. Minas, G. Copin-Montequet, C. Copin-Montequet, and P. Roca. 1988. Formation of the Alboran oxygen minimum zone. *Deep-Sea Res.* 35: 1111-1118.

Packard, T.T., **P.C. Garfield**, and L.A. Codispoti. 1983. Oxygen consumption and denitrification below the Peruvian Upwelling. In: E. Seuss and J. Thiede, eds. *Coastal Upwelling: Its Sediment Record*. Pt. A Plenum Press, pp. 147-173.

**Garfield, P.C.**, T.T. Packard, G.E. Friederich, and L.A. Codispoti. 1983. A subsurface particle maximum layer and enhanced microbial activity in the secondary nitrite maximum of the northeastern tropical Pacific Ocean. *J. Mar. Res.* 41: 747-768.

Packard, R.T., **P.C. Garfield**, and R. Martinez. 1983. Respiration and respiratory enzyme activity in aerobic and anaerobic cultures of the marine denitrifying bacterium *Pseudomonas perfectomarinus*. *Deep-Sea Res.* 30: 227-243.

Blasco, D., T.T. Packard, and **P.C. Garfield**. 1982. Size dependence of growth rate, respiratory electron transport system activity and chemical composition in marine diatoms in the laboratory. *J. Phycol.* 18: 58-63.

Jones, V., **P.C. Garfield**, and T.T. Packard. 1981. ETS and nitrate reduction measurements in the Oregon upwelling system. July 1973. Bigelow Laboratory for Ocean Sciences Tech. Rept. #19.

**Garfield, P.C.**, T.T. Packard, and L.A. Codispoti. 1978. Particulate protein in the Peru upwelling system. *Deep-Sea Res.* 26A: 623-639.

**Garfield, P.C.** and T.T. Packard. 1978. Biological data from JOINT-II, R/V Melville Leg IV, May 1977. CUEA Tech. Rept. #53, 185p.

**Garfield, P.C.** 1977. Tidal variations in phytoplankton production. M.S. Thesis, University of Delaware, 110p.

## EDUCATION AND OUTREACH PUBLICATIONS

Rom, E.L., W. Cruickshank, A. Burnett, J.S. Cleveland, **P.G. Coble**, M. Kaplan, S. Schoedinger, B. Wallace. 2006. Improving Ocean Education by Implementing the U.S. Ocean Action Plan's Directives.



Mar. Tech. Soc. 39(4)

Keener-Chavis, P. and **P.G. Coble**. 2006. Exploration and Discovery: Essential Elements in Earth and Space Science Literacy. Mar. Tech. Soc. 39(4)

**Coble, P.G.**; T. Greely, M. Hewitt, C. Leard. 2002. Project Oceanography: Enhancing Middle School Science Education Nationwide Via Instructional Television. AMS Symposium on Education. 11.

Project Oceanography, 2001. Vol. IV, Numbers 1-28. Dept. Marine Science, USF, St. Petersburg, FL. 300p. (approx.). Videotapes and written materials.

Coble, PG. T. Greely, T. Christner, R. Cooper. 2000. Project oceanography: Underwater science in the service of education. Diving for Science in the 21st Century. pp. 1-4.

Walker, S. H., P.G. Coble, and F.L. Larkin. 2000. Ocean Sciences Education for the 21st Century. Oceanography 13: 32-39.

Project Oceanography, 2000. Vol. III, Numbers 1-29. Dept. Marine Science, USF, St. Petersburg, FL. 300p. (approx.). Videotapes and written materials.

Coble, P.G. and J.A. Rasure. 1999. Project Oceanography: bringing Oceanography from the ocean, the laboratory, and space to students in the Middle School classroom. Oceans '99 MTS/IEEE Conference Proceedings p. 1267-1269.

Project Oceanography, 1999. Vol. III, Numbers 1-29. Dept. Marine Science, USF, St. Petersburg, FL. 377p. Videotapes and written materials.

Tebbens, S.F., P.G. Coble, and T. Greely, 1998. "Teaching Marine Science to the Next Generation: from summer camps to weekly nationwide distance learning broadcasts" EOS Vol. 79:11.

Brink K.K., R. Arnone, P.G. Coble, C. Flagg, B. Jones, J. Kindle, C. Lee, D. Phinney, M. Wood, C. Yentsch, and D. Young. 1998. Monsoons boost biological productivity in Arabian Sea. Earth in Space 10(9): 1-16.

Project Oceanography, 1998. Vol. II, Numbers 1-29. Dept. Marine Science, USF, St. Petersburg, FL. 293p. Videotapes and written materials.

Project Oceanography, 1997. Vol. I, Numbers 1-28. Dept. Marine Science, USF, St. Petersburg, FL. 193p. Videotapes and written materials.

## **INVITED LECTURES AND WORKSHOPS**

**Coble, P.G.**, L. Robbins, S. Lohrenz, and W. Cai. 2009. Proposed Gulf of Mexico Intensive Study on Carbon Fluxes. AGU Spring Meeting, Vancouver, May 23-28, 2009.

**Coble, P.G.** 2009. Fluorescence Spectroscopy of CDOM. Laboratoire de Microbiologie G ochimie et Ecologie Marines (LMGEM), Centre d'Oc anologie de Marseille, Universit  de la M diterran e. FRANCE. October 2009.

**Coble, P.G.** 2009. Fluorescence Spectroscopy of CDOM. MERMEX Meeting, Villefranche Sur Mer, FRANCE. October 2009.

**Coble, P.G.** 2009 CDOM EEM Analyses Using Conventional Spectral and Peak-picking Techniques OR Human Visualization Analysis. AGU Chapman Conference on Aquatic Organic Matter Fluorescence, Birmingham, UK. October 20-24, 2008.

Spencer, R.G.M., A. Baker, and **P.G. Coble**. 2009. Sample Collection and Preparation for Absorbance and Fluorescence Analyses of Dissolved Organic Matter. AGU Chapman Conference on Aquatic Organic Matter Fluorescence, Birmingham, UK. October 20-24, 2008.

**Coble, P.G.**, and L. Robbins. 2009. Report on the NSF Scoping Workshop on Terrestrial and Coastal Carbon Fluxes and Exchanges in the Gulf of Mexico, Carbon Cycle Science Steering Committee and Interagency Working Group Meeting, NSF Headquarters, Washington, D.C. Dec. 9, 2008.

**Coble, P.G.**, and L. Robbins. 2009. Report on the NSF Scoping Workshop on Terrestrial and Coastal Carbon Fluxes and Exchanges in the Gulf of Mexico, OCB Workshop, Woods Hole, MA Jul. 21-24, 2008.

Coble, P.G. 2007. CDOM 101: Overview of Sources and Sinks, Spectral Properties and Measurements of CDOM. Charlotte Harbor National Estuary Program CDOM Workshop. May 28-29, 2007. Punta Gorda, FL.

Coble, P.G. 2006. Next Generation CDOM Research – Exploiting *in situ*, synoptic, continuous, high resolution and hyperspectral optical signals from Ocean Observatories and Satellites, AGU Fall Meeting, San Francisco, CA Dec. 11-15, 2006.

Coble, P.G. 2003. Fluorescence Spectroscopy in Oceanography. Invited Seminar at Biological and Chemical Sensors Workshop, July 2003, Woods Hole, MA.

Coble, P.G. 2003. Investigations of CDOM in Natural Waters, Stanford University, Oct. 2003.

Invited Seminar at CDOM Workshop, July 2002, Woods Hole, MA

Invited Seminar at NERI, Copenhagen, DENMARK Oct. 2002

Invited Seminar at FAMU, Tallahassee, FL Sept. 2002

Coble, P.G., C.E. Del Castillo, R.N. Conmy and F.E. Muller-Karger. Distribution and Cycling of CDOM in the Eastern Gulf of Mexico Using Multispectral In-situ Fluorometry. Ocean Optics XV, Oct. 16-20, 2000. Monte Carlo, Monaco.

Invited Presentation on Project Oceanography at MARE Strategic Planning Workshop, Rutgers University, New Brunswick, NJ. Sept. 13-15, 2000.

Distribution and optical properties of colored dissolved organic matter in the Ocean, College of Marine Science, USF. Sept. 1, 2000.

Invited Participant and Presenter, Ballast Water Verification Workshop, Smithsonian Environmental Research Center, Edgewater, MD. Aug. 3-4, 2000.

Distribution and Cycling of CDOM in the Eastern Gulf of Mexico using Multispectral in-situ Fluorometry. SEAWiFS Science Team Meeting, May 15-19, 2000. Durham, NH.

Coble, P.G. 1993. Fluorescence of DOM: Implications for development of in situ instrumentation. In: Autonomous Bio-Optical Observing Systems (ABOOS) Symposium Proceedings, Monterey, CA. April 6-10, 1992.

NASA/EPA Workshop on Remote Sensing in Coastal Inland Waters  
Invited to participate as an expert on measurement of organic matter, mixing processes, and sensors.  
Dec. 1996, Washington, D.C.

Coastal Oceanography and Littoral Warfare Symposium  
Office of Naval Research, San Diego, CA. Aug. 2-6, 1993

Coastal Water Clarity Workshop  
Office of Naval Research, San Diego, CA. Aug. 17-19, 1992.

## **PUBLISHED ABSTRACTS AND PRESENTATIONS**

**Coble, P.G.**, and R. Conmy. 2008. Sources and Cycling of CDOM and DOC in the Gulf of Mexico. AGU Fall Meeting, San Francisco, CA. Dec. 15-19, 2008

Conmy, R.N., and **P.G. Coble**. 2008. Detection of Groundwater Discharge in a Subtropical Estuarine System using CDOM fluorescence measurements. AGU Fall Meeting, San Francisco, CA. Dec. 15-19, 2008.

Conmy, R.N., C. Heil, and **P.G. Coble**. 2008. Estimating Dissolved Organic Nitrogen from CDOM on the West Florida Shelf. AGU Fall Meeting, San Francisco, CA. Dec. 15-19, 2008.

L. K. Dixon, **P.G. Coble**, and R.N. Conmy. 2008. Development of a PARAFAC model of Gulf of Mexico CDOM fluorescence: A tool for quantitative evaluation of dissolved organic carbon properties and processes. 2008 NASA Carbon Cycle and Ecosystems Joint Science Workshop. Apr. 28 – May 2, 2008. University of Maryland Inn and Conference Center, Adelphi, MD.

P. Coble, B. Dixon, and R. Conmy. 2008. Spatial Variability in CDOM Concentrations in Coastal Regions: Influences of Rainfall and Watershed Characteristics. 2008 NASA Carbon Cycle and

Ecosystems Joint Science Workshop. Apr. 28 – May 2, 2008. University of Maryland Inn and Conference Center, Adelphi, MD.

L. K. Dixon, P.G. Coble, and R.N. Conmy. 2008. Development of a PARAFAC model of Gulf of Mexico CDOM fluorescence: A tool for quantitative evaluation of dissolved organic carbon properties and processes. NSF OCB Scoping Workshop on Terrestrial and Coastal Carbon in the Gulf of Mexico. May 6-8, 2008. St. Petersburg, FL.

R.N. Conmy and P.G. Coble. 2008. Temporal and spatial patterns in optical properties of CDOM on Florida's Gulf Coast: Shelf to Stream to Aquifer. NSF OCB Scoping Workshop on Terrestrial and Coastal Carbon in the Gulf of Mexico. May 6-8, 2008. St. Petersburg, FL.

R.N. Conmy and P.G. Coble. 2008. Temporal and spatial patterns in optical properties of CDOM on Florida's Gulf Coast: Shelf to Stream to Aquifer. 2008 NASA Carbon Cycle and Ecosystems Joint Science Workshop. Apr. 28 – May 2, 2008. University of Maryland Inn and Conference Center, Adelphi, MD.

R.N. Conmy and P.G. Coble. 2008. Latitudinal dependency of terrestrial CDOM: IOP differences between watersheds that supply the West Florida Shelf. 2008 Ocean Sciences Meeting. Mar. 3-7, 2008. Orlando, FL.

P.G. Coble and R.N. Conmy. 2008. Dynamics of CDOM and Carbon in the Gulf of Mexico. 2008 Ocean Sciences Meeting. Mar. 3-7, 2008. Orlando, FL.

R.N. Conmy, P.G. Coble, A.J. Pyrtle. 2007. Characterization of surface waters and groundwater in Tampa Bay, FL: A spectroscopic and radioisotopic approach. AGU Fall Meeting, San Francisco, CA. Dec. 10-14, 2007.

C. S. Moses, P. Coble, D. Palandro, C. Hu. 2007. SCUBA nauts International: Education through experience for the next generation of Earth explorers. Annual GLOBE Conference, San Antonio, TX. July 30 – Aug. 3, 2007.

Conmy, R.N., P.G. Coble and C. Heil. 2007. Seasonal Variations in CDOM on the SW Florida Shelf: Spectral Properties and Distribution Patterns. Winter ASLO Meeting, Santa Fe, NM Feb. 5-9, 2007.

Conmy, R.N., P.G. Coble, and C. Heil. 2007. Seasonal Variations in CDOM on the SW Florida Shelf: Spectral Properties & Distribution Patterns. NASA Ocean Color Team Meeting. Apr. 11-13, 2007. Seattle, WA

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Distribution and Cycling of CDOM in the Eastern Gulf of Mexico Using Multispectral In-situ Fluorometry

Paula G. Coble, Carlos E. Del Castillo, and Robyn N. Conmy

College of Marine Science, University of South Florida, 140 Seventh Ave. S., St Petersburg, FL 33701

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Coble, P.G., C.E. DelCastillo, and B. Avril. Distribution and Optical Properties of DOM in the Arabian Sea During the 1995 Summer Monsoon. Presented at the 1997 JGOFS Arabian Sea Data Workshop, July 7-17, 1997, Durham, NH.

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Coble, P.G., E.T. Peltzer, and F.G. Hoge. Properties and distribution of DOC and FDOM in the Equatorial Pacific. ASLO Santa Fe, NM. Feb. 10-14, 1997.

Boehme, J.R., and P.G. Coble. UV Fluorescence Contouring of Dissolved Organic Matter in the Tampa Bay Estuary. ASLO Santa Fe, NM. Feb. 10-14, 1997.



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Zsoldos, H., T. Greely, P. Coble, and C. Kelly. The Oceanography Camp for Girls: A model to enhance science education. NSTA National Convention. St. Louis, MO. 1996.

Coble, P.G., and C. Del Castillo. Distribution and characterization of dissolved organic matter in the Arabian Sea during 1995 winter and 1996 summer monsoon periods: I. Distribution and optical properties. AGU/ASLO Ocean Sciences Meeting. San Diego, CA. Feb. 1996.

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Coble, P.G. and T. Greely. Oceanography Camp for Girls. National Science Foundation Conference: Women & Science. Washington, D.C. Dec. 13-15, 1995.

Coble, P.G. Measurement and reactivity of organic materials in natural waters. ACS, San Diego, CA. Mar. 13-18, 1994.

Coble, P.G. Optical characterization of gelbstoff in the Gulf of Mexico. ASLO Ocean Sciences Meeting, San Diego, CA Feb. 21-25, 1994.

Coble, P.G., and M.M. Brophy. 1994. Investigation of the geochemistry of dissolved organic matter in coastal waters using optical properties. SPIE Ocean Optics XII, Bergen, Norway. June 13 - 15, 1994.

Coble, P.G. Fluorescence spectroscopy of DOM in natural waters. 1993. Gordon Conference on Chemical Oceanography. Aug. 15-20, 1993. Kimball Union Academy, Meriden, N.H.

Coble, P.G., and L.M. Mayer. 1992. Distribution and spectral characterization of fluorescent DOM in coastal regions. ASLO Santa Fe, Feb. 9-14, 1992.

Coble, P.G. 1992. Fluorescence of DOM: Implications for development of in situ instrumentation. Autonomous Bio-Optical Observation Systems Symposium, to be held in Monterey, CA. April 6-10, 1992. (Invited overview paper)

Prahl, F., and P.G. Coble. 1992. Input and behavior of dissolved organic carbon in the Columbia River Estuary. Joint ECSA/ERF Conf. on "Change in fluxes in estuaries: Implications from science and management", Polytechnic SW, Plymouth, England. Sept. 13-18, 1992.

Coble, P.G. 1991. Characterization of dissolved organic matter using total fluorescence spectroscopy. American Chemical Society National Meeting, Atlanta, GA, April 14-19, 1991.

Coble, P.G. 1991. Characterization and tracking of DOM using total fluorescence spectroscopy. The Oceanography Society Meeting, St. Petersburg, FL. March 24-28, 1991.

Coble, P.G., S. Green, R.B. Gagosian, and N. Blough. 1990. The color of DOM in the ocean - it's not just a noise, it's a signal. EOS 61(2): 136.

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Garfield, P.C., and R.B. Gagosian. 1988. Marine denitrifying bacteria as a source of fluorescent DOM: I. Flavins. 1998 AGU/ASLO Ocean Sciences Meeting, New Orleans, LA. Jan. 18-22, 1988.

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Garfield, P.C., and R.B. Gagosian. 1987. Marine denitrifying bacteria as a source of fluorescent compounds in the ocean. Gordon Conference on Chemical Oceanography. Aug. 1987. Kimball Union Academy, Meriden, N.H.

Garfield, P.C., and R.B. Gagosian. 1986. Cariaco Trench 1986 - Fluorescent compounds from denitrifying bacteria. EOS 67(4): 1067.

Zafiriou, O.C., Q.S. Hanley, and P.C. Garfield. 1986. Cariaco Trench 1986: Nitric oxide in the water column and culture isolates. EOS 67(4): 1067.

Garfield, P.C., T.T. Packard, G.E. Friederich, and L.A. Codispoti. 1982. Elevated microbial metabolic rates and an associated particle maximum in the secondary nitrite maximum of the eastern tropical North Pacific Ocean. AGU/ASLO Ocean Sciences Meeting, Feb. 16-19, 1982. San Antonio, TX.

Martinez, R., T.T. Packard, and P.C. Garfield. 1982. Respiration and respiratory enzyme activity in aerobic and anaerobic cultures of the marine denitrifying bacterium, *Pseudomonas perfectomarinus*. AGU/ASLO Ocean Sciences Meeting, Feb. 16-19, 1982. San Antonio, TX.

Packard, T.T., and P.C. Garfield. 1980. Biochemical basis of oxygen consumption and its use in mapping BOD in seawater. C&EN.

## **RESEARCH ACTIVITIES**

Principal Investigator. "Fluorescent Bacterial Pigments: A Source of in situ Fluorescence in Low Oxygen Marine Environments," NSF, \$203,922. 03/01/87 -02/28/90.

Principal Investigator. "Measurement and Characterization of DOM Pools using EEM spectroscopy and HPLC," NSF, \$184,115. 09/01/92 - 04/30/95.

Principal Investigator. "Characterization and Tracking DOM in the Ocean Using Total Fluorescence Spectroscopy," ONR, \$162,241. 12/01/92 - 11/30/94.

Principal Investigator. "Investigation of the Response of the Arabian Sea to the Southwest Monsoon Using Aircraft and Satellite Data," NASA, \$299,927. 05/01/94 - 04/30/97.

Principal Investigator. "Development of Fluorometers for in situ and Moving Platforms," ONR, \$50,144. 06/01/94 - 05/31/95.

Co-Principal Investigator. "The Oceanography Camp for Girls," NSF - Young Scholars Program, \$73,197/year. 05/01/94 - 04/30/95.

Principal Investigator. "Measurement and Characterization of Gelbstoff Optical properties as a Water Mass Tracer in Coastal Regions," ONR, \$214,827. 02/01/95 - 01/31/98.

Co-Principal Investigator. "The Oceanography Camp for Girls," NSF, EHR Activities for Women & Girls, \$99,878. 12/01/95-11/30/96. (with Rose, Greely and Zsoldos)

Co-Principal Investigator. "Summer Workshop in Oceanography for Secondary Science Education," Pinellas County Schools, \$9,000, 6/1/96 - 7/31/96.

Principal Investigator. "The Oceanography Camp for Girls and Teachers," NSF, ESIE Young Scholars/MSTP, \$143,610. 09/15/96-09/14/98.

Principal Investigator. "Hyperspectral Characterization of Gelbstoff for Application to Remote Sensing of Carbon Cycling in Coastal Regions," NASA, \$335,010, 8/15/97 - 8/14/00.

Principal Investigator. "Enhancing K-12 Science Education Via Satellite-Televised Interactive Technologies," \$472,482, ONR-NOPP, 8/15/97 - 8/14/99.

"Enhancing K-12 Science Education Via Satellite-Televised Interactive Technologies", \$125,482, ONR Supplement, 9/15/98-12/31/99.

“Enhancing K-12 Science Education via Satellite-Televised Interactive Technologies” \$698,880, NOPP, 5/1/00 – 9/12/04.

“Sustainable Seas Expedition and Project Oceanography,” (no funds), National Geographic Society and NOAA, 1/1/99 – 12/31/04.

“Hyperspectral Characterization of Gelbstoff for Application to Remote Sensing of Carbon Cycling in Coastal Regions” 8/15/97 - 8/14/00 \$335,010 NASA

“Ocean Science for Cleveland Schools” 10/26/00-05/25/01 \$20,000 Martha Holden Jennings Foundation

Raymond John Wean Foundation. \$10,000 (Awarded) 5/8/00

"Laser Sensor Development for Fluorescence Detection of Natural and Artificial Dissolved Organic Compounds in Seawater" 10/01/95 – 12/31/03 \$2,236,259 ONR (with D. Killinger, USF Tampa)

“Dissolved Organic Carbon in the Mississippi River Plume: Assessing Carbon Fluxes Using Satellite Color Data” 2/1/01-1/31/04 \$111,201 NASA

“GK-12 OCEANS: Ocean Scientist Educator Partnerships Enhancing Science,” \$1,499,998, NSF, 1/03/02 – 12/31/05, co-PI with T. Greely.

“Distribution and Cycling of Dissolved Organic Carbon and Colored Dissolved Organic Carbon on West Florida Shelf,” \$653,390, ONR, 10/1/00-3/30/08

“Florida Center for Ocean Science Education Excellence” \$999,999, NSF, 9/15/02 – 8/31/07

“Scuba Scouts USA of Tampa Bay: Education through experience for the next generation of Earth explorers”, NASA, \$336,939, 5/1/2007 – 4/30/10.

“A Planning Workshop for an Integrated Study of Terrestrial and Coastal Carbon Fluxes and Exchanges in the Gulf of Mexico”, \$38,000, NSF (with Robbins, USGS), 2/1/2007-1/31/2008.

“Geospatial Synthesis of Chromophoric Dissolved Organic Matter Distribution in the Gulf of Mexico for Water Clarity Decision Making,” \$49,785, NASA (subcontract from NCSU), 7/30/09 – 7/29/2011

“Estimate of the Time and Space Scales Associated with Material Exchange across the Land-sea Interface,” \$49,616, NASA, 7/1/10 – 2/28/11

“Identifying water sources to King’s Bay using CDOM optical properties,” \$135,229, Southwest Florida Water Management District, 1/1/10 – 5/31/12

“RAPID Deepwater Horizon Oil Spill: In-situ tracking of oil in seawater and the aging process using spectral fluorescence,” \$200,000, NSF (\$28,862 Coble share, subcontract from Western Environmental Technology Laboratories, Inc.), 6/28/10 – 6/27/11

“North American Carbon Program (NACP) and Ocean Carbon and Biogeochemistry (OCB) Interim Coastal Carbon Synthesis,” \$201,305 (\$67,410 Coble share, subcontracts to WHOI and UAF), NASA, 6/1/10 – 5/31/12