

CURRICULUM VITAE

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I- Education

1968 B.A., University of Pennsylvania

1975 Ph.D., Duke University

II- Professional Background

1964-1968 Research Technician, University of Pennsylvania
1966 Research Technician, Scripps' Institute of Oceanography
1968-1970 Peace Corps Volunteer
1970-1972 Teaching Assistant, Duke University
1972-1973 Research Assistant, Duke University Marine Laboratory
1974-1975 Teaching Assistant, Duke University Marine Laboratory
1975-1978 Postdoctoral Research Associate, Duke University Marine Laboratory
1977 Postdoctoral Research Associate, North Carolina State University
1978-1983 Assistant Professor, University of Maryland, Horn Point Environmental
Laboratory
1979-present Adjunct Research Associate, Duke University Marine Laboratory
1981-present Adjunct Assistant Professor, Fundacao Universidade de Amazonas
1983-1994 Associate Professor, University of Maryland, Horn Point Environmental
Laboratory
1994-present Professor, University of Maryland, Horn Point Laboratory

III- Research

A. Areas of professional expertise

My primary research interests are atmospheric deposition, terrestrial nutrient processing, aquatic nutrient cycling, and primary productivity. I have concentrated primarily on terrestrial and aquatic systems in the basins of Atlantic estuaries and in the Amazon River floodplain, but I have also investigated periphyton and macrophytes as well as the benthic

microflora of carbonate sands on coral reefs. Processes examined are atmospheric deposition, historical land use changes, stream chemistry, nutrient processing in streams and estuaries, and primary productivity. Common tools are GIS, remote sensing, water chemistry monitoring, and hydrochemical modeling.

B. Peer-Reviewed Publications

- Fisher, T. R., R. F. Coburn, and R. E. Forster. 1969. Carbon monoxide diffusion capacity in the bullhead catfish. *J. Appl. Physiol.* 25: 161-169
- Fisher, T. R. 1975. Bioenergetics, growth, and reproduction of the solitary tunicate *Styela plicata*. Ph.D. thesis, Duke University.
- Fisher, T. R. 1976. Oxygen uptake of the solitary tunicate *Styela plicata*. *Mar. Biol.* 41: 361-369
- Hayne, D.W., A. Witherspoon, and T. R. Fisher. 1977. Algal diversity and transport in small streams. pps. 593-606, IN: D. L. Correll (ed), Proceedings of a Workshop on Watershed Research in Eastern North America. Smithsonian Press.
- Fisher, T. R. 1978. Plankton and primary production in aquatic systems of the Central Amazon Basin, IN: A. Riggs III, collected papers of the Amazon IV Alpha Helix Expedition. *J. Comp. Biochem. Physiol.* 62A: 31-38 (also appeared in Portuguese in *Suppl. Acta Amazonica* 8: 43-54)
- Fisher, T. R., E. B. Haines, and R. J. Volk. 1979. A comment on the calculation of atom percent enrichment of stable isotopes. *Limnol. Oceanogr.* 24: 593-595
- Fisher, T. R., and P. E. Parsley. 1979. Amazon lakes: water storage and nutrient stripping. *Limnol. Oceanogr.* 24: 547-553
- Fisher, T. R., P. R. Carlson, and R. T. Barber. 1980. Some problems in the interpretation of ammonium uptake kinetics. *Mar. Biol. Lett.* 2: 33-44
- Fisher, T. R., P. R. Carlson, and R. T. Barber. 1981. Sediment nutrient regeneration in three North Carolina estuaries. *Est. Coastal Mar. Sci.* 14: 101-116
- Fisher, T. R., P. R. Carlson, and R. T. Barber. 1982. Carbon and nitrogen productivity in three North Carolina estuaries. *Est. Coastal Mar. Sci.* 15: 621-644
- Melack, J. M., P. Kilham, and T. R. Fisher. 1982. Responses of phytoplankton to experimental fertilization with ammonium and phosphate in an African soda lake. *Oecologia* 52: 321-326
- Fisher, T. R., J. M. Melack, B. Robertson, E. Hardy, and L. Fernando. 1983. A diel study of water chemistry, phytoplankton, and zooplankton in an Amazon River floodplain lake, Lago Calado (Brazil). *Acta Amazonica* 13: 475-487
- Yarbro, L. A., P. R. Carlson, J. P. Chanton, T. R. Fisher, and W. M. Kemp. 1983. A sediment budget for the Choptank River estuary in Maryland, USA. *Est. Coastal Mar. Sci.* 17: 555-570
- Melack, J. M., and T. R. Fisher. 1983. Diel oxygen variations and their ecological implications in Amazon floodplain lakes. *Arch. Hydrobiol.* 98: 422-442
- Fisher, T. R. and K. M. Morrissey. 1985. A new method for the recovery of ammonium from natural waters for the measurement of ¹⁵N composition in isotope dilution experiments. *Mar. Chem.* 16: 11-21
- Williams, S. L. and T. R. Fisher. 1985. Kinetics of nitrogen-15 labelled ammonium uptake by *Caulerpa cupressoides* (Chlorophyta). *J. Phycol.* 21: 287-296
- Fisher, T. R. 1985. Nitrogen and phosphorus inputs to Chesapeake Bay. pps. 58-62 IN: V. Chase (ed.) The Chesapeake: prologue to the future. Proc. Ches. Bay Symp. NMEA Conf. National Aquarium, Balt. MD.
- Harding, L. W., B. W. Meeson, and T. R. Fisher. 1985. Photosynthesis patterns in Chesapeake Bay phytoplankton: short- and long-term responses of P-I curve parameters to light. *Mar. Ecol. Prog. Ser.* 26: 99-111
- Harding, L. W., B. W. Meeson, and T. R. Fisher. 1985. Patterns of photosynthetic carbon metabolism in light - limited phytoplankton. *Mar. Biol.* 89: 121-133

- Smith, L. K. and T. R. Fisher. 1986. Nutrient fluxes and sediment oxygen demand associated with the sediment - water interface of two aquatic environments. pps. 343-366 IN: K. J. Hatcher (ed.) Sediment Oxygen Demand: Processes, Modeling and Measurement. Institute of Natural Resources, Univ. of Georgia, Athens, Ga.
- Harding, L. W., B. W. Meeson, and T. R. Fisher. 1986. Phytoplankton production in two East Coast estuaries: photosynthesis-light functions and patterns of carbon assimilation in Chesapeake and Delaware Bays. *Est. Coastal Shelf Sci.* 23: 773-806
- Harding, L. W., T. R. Fisher, and M. A. Tyler. 1987. Adaptive responses of photosynthesis in phytoplankton: specificity to time-scale of change in light. *Biol. Oceanogr.* 4: 403-437
- Fisher, T. R., and R. D. Doyle. 1987. Nutrient cycling in Chesapeake Bay. pps. 49-53 IN G. B. Mackiernan (ed.) Dissolved Oxygen in the Chesapeake Bay: processes and effects. MD Sea Grant Pub. no. UM-SG-TS-87-03
- Fisher, T. R., K. M. Morrissey, P. R. Carlson, L. F. Alves, and J. M. Melack. 1988. Nitrate and ammonium uptake by plankton in an Amazon floodplain lake. *J. Plankton Res.* 10:7-29
- Morrissey, K. M. and T. R. Fisher. 1988. Regeneration and uptake of ammonium by plankton in an Amazon floodplain lake. *J. Plankton Res.* 10: 31-48
- Fisher, T. R., L. W. Harding, D. W. Stanley, and L. G. Ward. 1988. Phytoplankton, nutrients, and turbidity in the Chesapeake, Delaware, and Hudson River estuaries. *Est. Coastal Shelf Sci.* 27: 61-93
- Fisher, T. R., R. D. Doyle, and E. R. Peele. 1988. Size-fractionated uptake and regeneration of ammonium and phosphate in a tropical lake. *Verh. Internat. Verein Limnol.* 23: 637-641
- Melack, J. M. and T. R. Fisher. 1988. Denitrification and nitrogen fixation in an Amazon floodplain lake. *Verh. Internat. Verein Limnol.* 23: 2232-2236
- Fisher, T. R. and L. F. Alves. 1989. Comment on P. Fearnside's "A prescription for slowing deforestation in Amazonia". *Environment Magazine* 31(7):4.
- Muller-Karger, F. E., C. R. McClain, T. R. Fisher, and W. E. Esaias. 1989. Pigment distribution in the Caribbean Sea: observations from space. *Progress in Oceanography* 23: 23-64
- Mulholland, P. J., C. N. Dahm, M. B. David, D. M. DiToro, T. R. Fisher, H. F. Hemond, I. Kogel-Knabner, H. M. Meybeck, J. L. Meyer, and J. R. Sedell. 1990. What are the temporal and spatial variations of organic acids at the ecosystem level? pps. 315-330 IN: E. M. Perdue and E. T. Gjessing (eds.) Organic Acids in Aquatic Ecosystems Dahlem Konferenzen. Chichester: John Wiley & Sons Ltd.
- Melack, J. M. and T. R. Fisher. 1990. Comparative limnology of tropical floodplain lakes with an emphasis on the central Amazon. *Acta Limnol. Brasil.* 3: 1-48
- Fisher, T. R., L. F. W. Lesack, and L. K. Smith. 1991. Input, recycling, and export of N and P on the Amazon floodplain at Lake Calado. pps. 34-53 IN: H. Tiessen, D. Lopez-Hernandez, and I. H. Salcedo (eds.), Phosphorus Cycles in Terrestrial and Aquatic Ecosystems. Regional Workshop 3: South and Central America. SCOPE Regional Workshop Proc., Maracay, Venezuela
- Melack, J. M., S. Sippel, D. Valeriano, and T. R. Fisher. 1991. Environmental conditions and change on the Amazon floodplain: an analysis with remotely sensed imagery. pps 377-387 IN: 24th International Symposium on Remote Sensing of Environment, Rio de Janeiro, Brazil, 27-31 May, 1991.
- Fisher, T. R., and D. R. S. Lean. 1992. Interpretation of radiophosphate dynamics in lake water. *Can. J. Fish. Aquatic Sci.* 49: 252-258
- Fisher, T. R., E. R. Peele, J. A. Ammerman, and L. W. Harding. 1992. Nutrient limitation of phytoplankton in Chesapeake Bay. *Mar. Ecol. Prog. Ser.* 82: 51-63
- Fisher, T. R. and M. A. Moline. 1992. Seasonal plant cover on the Amazon River floodplain determined with aerial videography and image analysis, pps. 207-216 IN: C. H. Blazquez (ed.), Color Aerial Photography in the Plant Sciences and Related Fields. Proc. 13th Biennial Workshop on Color Aerial Photography and Videography in the Plant Sciences, Amer. Soc. Photogram. Remote Sensing, Bethesda, MD, 230 pps.
- Fisher, T. R., W. R. Boynton, P. Sampou. 1993. Nitrogen and Phosphorus Loadings, pps. 25-27 IN: W. H. Bell (ed.), 1992 CEES Annual Report
- Doyle, R. D. and T. R. Fisher. 1994. Nitrogen fixation by periphyton and plankton on the Amazon floodplain at Lake Calado. *Biogeochem.* 26: 41-66

- Fisher, T. R. and A. J. Butt. 1994. The role of N and P in Chesapeake Bay Anoxia, pps. 1-43, IN: S. Nelson and P. Elliott (eds.), Perspectives on Chesapeake Bay: Advances in Estuarine Sciences, STAC.
- Conley, D. J., W. M. Smith, J. C. Cornwell, and T. R. Fisher. 1995. Transformation of particle-bound phosphorus across the land-sea interface. *Est. Coastal Shelf Sci.* 40: 161-176.
- Glibert, P. M., D. J. Conley, T. R. Fisher, L. W. Harding, Jr., and T. C. Malone. 1995. Dynamics of the 1990 winter/spring bloom in Chesapeake Bay. *Mar. Ecol. Prog. Ser.* 122:27-43
- Fisher, T. R., J. M. Melack, J. Grobbellar, and R. W. Howarth. 1995. Nutrient limitation of phytoplankton and eutrophication of estuarine and marine waters. pps. 301-322 IN: H. Tiessen (ed.) Phosphorus cycling in Terrestrial and Aquatic Ecosystems. SCOPE, Wiley.
- Malone, T. C., D. J. Conley, T. R. Fisher, P. M. Glibert, L. W. Harding, and K. G. Sellner. 1996. Scales of nutrient limited phytoplankton productivity in Chesapeake Bay. *Estuaries* 19: 371-385
- Williams, M. R., T. R. Fisher, and J. M. Melack. 1996. Chemical composition and deposition of rain in the central Amazon, Brazil. *Atmos. Envir.* 31: 207-217
- Williams, M. R., T. R. Fisher, and J. M. Melack. 1997. Solute dynamics in soil water and groundwater in a central Amazon catchment undergoing deforestation. *Biogeochem.* 38: 303-335
- Fisher, T. R., J. D. Hagy, and E. J. Rochelle-Newall. 1998. Dissolved and particulate organic carbon in Chesapeake Bay. *Estuaries* 21: 215-229
- Fisher, T. R., K.-Y. Lee, H. Berndt, J. A. Benitez, and M. M. Norton. 1998. Hydrology and chemistry of the Choptank River basin in the Chesapeake Bay drainage. *Water Air Soil Poll.* 105: 387-397
- Rochelle-Newall, E. J., T. R. Fisher, C. Fan, and P. M. Glibert. 1999. Dynamics of chromophoric dissolved organic matter and dissolved organic carbon in experimental mesocosms. *Int. J. Rem. Sens.* 20: 627-641
- Fisher, T. R., A. B. Gustafson, K. Sellner, R. Lacuture, L. W. Haas, R. Magnien, R. Karrh, and B. Michael. 1999. Spatial and temporal variation in resource limitation in Chesapeake Bay. *Mar. Biol.* 133: 763-778
- Lee, K.-Y., T. R. Fisher, T. E. Jordan, D. L. Correll, and D. E. Weller. 2000. Modeling the hydrochemistry of the Choptank River basin using GWLF and Arc/Info: 1. Model calibration and validation. *Biogeochem.* 49: 143-173
- Norton, M. G. M. and T. R. Fisher. 2000. The effects of forest on stream water quality in two coastal plain watersheds of the Chesapeake Bay. *Ecol. Engin.* 14: 337-362
- Fisher, T. R., D. Correll, R. Costanza, J. T. Hollibaugh, C. S. Hopkinson, R. W. Howarth, N. Rabalais, J. E. Richey, C. Vorosmarty, R. Wiegert. 2000. Synthesizing Drainage Basin Inputs to Coastal Systems, pps. 81-101 IN: J. E. Hobbie (ed.) Estuarine Science: A Synthetic Approach to Research and Practice, Island Press, Washington, DC, 539 pps.
- Lee, K.-Y., T. R. Fisher, and E. Rochelle-Newall. 2001. Modeling the hydrochemistry of the Choptank River basin using GWLF and Arc/Info: 2. Model Application. *Biogeochem.* 56: 311-348
- Rochelle-Newall, E. J. and T. R. Fisher. 2002. Chromophoric dissolved organic matter and dissolved organic carbon in Chesapeake Bay. *Mar. Chem.* 77: 23-41
- Rochelle-Newall, E. J. and T. R. Fisher. 2002. Production of chromophoric dissolved organic matter (CDOM) fluorescence: an investigation into the role of phytoplankton. *Mar. Chem.* 77: 7-21
- Fisher, T. R., A. B. Gustafson, G. R. Radcliffe, K. L. Sundberg, and J. C. Stevenson. 2003. A long-term record of photosynthetically active radiation (PAR) and total solar energy at 38.6° N, 78.2° W. *Estuaries* 26: 1450-1460
- Benitez, J. A. and T. R. Fisher. 2004. Historical land cover conversion (1665-1850) in the Choptank watershed, Eastern USA. *Ecosystems* 7: 219-232
- Mustard, J. F. and T. R. Fisher. 2004. Land use and hydrology. pps. XX-XX, IN: Gutman, G., Janetos, A.C., Justice, C.O., Moran, E.F., Mustard, J.F., Rindfuss, R.R., Skole, D., Turner II, B.L., Cochrane, M.A. (Eds.), Observing, Monitoring and Understanding Trajectories of Change on the Earth's Surface Series : Remote Sensing and Digital Image Processing, Vol. 6, Kluwer Pub., 480 pps. ISBN: 1-4020-2561-0
- Mustard, J. F., R. S. Defries, T. R. Fisher, and E. Moran. 2004. Land use and land cover change pathways and impacts. pps. XX-XX, IN: Gutman, G., Janetos, A.C., Justice, C.O., Moran, E.F., Mustard, J.F., Rindfuss, R.R., Skole, D., Turner II, B.L., Cochrane, M.A. (Eds.), Observing, Monitoring and Understanding Trajectories of Change on the Earth's Surface Series : Remote Sensing and Digital Image

Manuscripts in press:

Lee, K.-Y. and T. R. Fisher. in press. What is a Hydrochemical Model? pps. xx-xx, Wiley Encyclopedia of Water. John Wiley and Sons.

Manuscripts submitted for publication:

Newell, R.I.E. T.R. Fisher, R.R. Holyoke, and J.C. Cornwell. 2004. Influence of eastern oysters on N and P regeneration in Chesapeake Bay, USA. In: The comparative Roles of Suspension Feeders in Ecosystems. R Dame and S. Olenin (Eds.) NATO Science Series: IV - Earth and Environmental Sciences. Kluwer, Netherlands (Jan. 2004)

Rochelle-Newall, E. J. and T. R. Fisher. 3 dimensional excitation-emission spectra of chromophoric dissolved organic matter in Chesapeake Bay. sub. to Mar. Chem.

Rochelle-Newall, E. J., T. R. Fisher, G. Radcliffe. Wet deposition of atmospheric CNP on a Delmarva coastal plain basin. sub. to Atmos. Envir.

Fisher, T. R., A. B. Gustafson, H. L. Berndt, L. Walstad, and L. Haas. The surface mixed layer of Chesapeake Bay, USA. submitted to Estuaries

Benitez, J. A. and T. R. Fisher. Land cover history (1850-2000) and its effect on current landscape patterns in the Choptank watershed, Eastern USA. sub. to Ecosystems.

Traband, J. J. Aand T. R. Fisher. Physical forcing and anthropogenic impacts on an oligohaline marsh. sub. to Wetlands (sub. Oct. 2003, revised & resub. Oct. 2004)

Williams, M. R., T. R. Fisher, K. N. Eshleman, W. C. Boynton, W. M. Kemp, C. F. Cerco, S.-C. Kim, R. R. Hood, D. A. Fiscus, and G. Radcliffe. An integrated modeling system for management of the Patuxent River estuary and basin, Maryland, USA. sub. to Int. J. Remote Sens. (Jan. 2004)

Fisher, T. R., J. A. Benitez, K.-Y. Lee, and A. J. Sutton. History of land cover change and biogeochemical impacts in the Choptank River basin in the mid-Atlantic region of the US. sub. to Int. J. Remote Sens. (Jan. 2004)

Fisher, T. R., J. D. Hagy III, W. R. Boynton, and M. R. Williams. An analysis of cultural eutrophication in the Choptank and Patuxent River estuaries of Chesapeake Bay. sub. to Limnol. Oceanogr. (Mar. 2004)

Book Reviews:

Fisher, T. R. 1981. Review of E. Olausson and I. Cato. Chemistry and Biogeochemistry of Estuaries. Ecology 62: 1126-1127

Fisher, T. R. 1983. Review of F. Schiemer. Limnology of Parakrama Samudra - Sri Lanka. Quart. Rev. Biol. 59: 195

Fisher, T. R. 1985. Review of E. J. Carpenter and D. G. Capone. Nitrogen in the Marine Environment. Ecology 66: 315-316

Meeting Abstracts: (last five years)

Fisher, T. R., E. J. Rochelle-Newall, M. E. Mallonee, R. W. Warren, and A. B. Gustafson. Nitrate uptake in the plume of Chesapeake Bay and adjacent shelf waters. ASLO Abstract, Feb. 1997

Rochelle-Newall, E. J., T. R. Fisher, M. E. Mallonee, F. E. Hoge, M. Williams, and A. Vodacek. Chromophoric dissolved organic matter in the mouth, plume, and adjacent coastal shelf region of Chesapeake Bay, USA. ASLO Abstract, Feb. 1997

M. M. Norton and T. R. Fisher. The influence of landuse and soil drainage spatial patterns on stream nutrient concentrations. AGU Spring Meeting, May 1997

Fisher, T. R., M. M. Norton, K.-Y. Lee, and J. A. Benitez. Hydrology and chemistry of coastal plain streams in the Chesapeake Bay drainage. BIOGEOMON conf., Phila. Pa. June 1997

M. G. Mayers and T. R. Fisher. The impact of forest on stream water quality draining agricultural lands in coastal plain drainages of Chesapeake Bay. EMECS conf., Aug. 1997

E. J. Rochelle-Newall, and T. R. Fisher. Dynamics of chromophoric dissolved organic matter and dissolved organic carbon in Chesapeake Bay and adjacent shelf waters. sub. to ECSA28 International Symposium on Remote Sensing of Coasts and Estuaries, St. Andrews Scotland, Sept. 1997

Gustafson, A. B., T. R. Fisher, and L. Haas. Indicators of light and nutrient limitation of phytoplankton in Chesapeake Bay. ERF, Oct. 1997, Providence, RI

Lee, K.-Y., T. R. Fisher, T. E. Jordan, D. W. Correll, and D. E. Weller. Modelling the hydrochemistry of the Choptank River Basin, ASLO, St. Louis, MO, June 1998

Lee, K.-Y. and T. R. Fisher. A modelling tool for hydrochemistry using GWLF and GIS. AGU Western Pacific Geophysics Meeting, Taiwan, Aug. 1998

Rochelle-Newall, E. and T. R. Fisher. In situ production of CDOM: algae vs. bacteria. 8th Int. Symp. Microb. Ecol., Nova Scotia, Canada, 1998

Gustafson, A. B., T. R. Fisher, L. W. Haas, and L. Walstadt. The surface mixed layer of Chesapeake Bay. ASLO Abstract, Feb. 1999

Berndt, H. L. and T. R. Fisher. The effects of watershed nutrient inputs on estuarine algal communities in the Choptank River tributary of the Chesapeake Bay, USA. ASLO Abstract, Feb. 1999

Fisher, T. R., J. A. Benitez, H. Berndt, and K.-Y. Lee. Land use change and nutrient export from coastal plain basins in the Chesapeake drainage. ERF Abstract, Sept. 1999

Lee, K.-Y. and T. R. Fisher. Modelling the hydrochemistry of the Choptank River basin using GWLF and Arc/Info: II. Model Application. ERF Abstract, Sept. 1999

Benitez, J. A., K.-Y. Lee, and T. R. Fisher. Nutrient export in response to land use changes in the Choptank River watershed: 150 year historical trends. ERF Abstract, Sept. 1999

Rochelle-Newall, E. J., T. R. Fisher, R. DelVecchio, and N. V. Blough. Chromophoric dissolved organic matter in Chesapeake Bay. ERF Abstract, Sept. 1999

Williams, M. R. and T. R. Fisher. Solute loading to a floodplain lake in the Central Amazon, Brazil: effects of land use change. ERF Abstract, Sept. 1999

Fisher, T. R., A. B. Gustafson, G. M. Radcliffe, L. Haas, R. Karrh, and D. Jasinski. Indicators of resource limitation of phytoplankton in estuarine waters. ERF Abstract, Sept. 1999

Lee, K.-Y. and T. R. Fisher. 2000. Spatial and temporal enhancement of GWLF for modeling nutrient export using GIS. Abstract, Amer. Soc. Photo. Remote Sensing, Wash. DC, May 2000

Liboni, A. R., K.-Y. Lee, and T. R. Fisher. 2000. Integration of the hydrochemical model GWLF (Generalized Watershed Loading Functions) in the ArcView environment. Abstract, Amer. Soc. Photo. Remote Sensing, Wash. DC, May 2000

Rochelle-Newall, E. J., T. R. Fisher, and G. Radcliffe. 2000. Wet deposition of atmospheric N, P, and C in a coastal plain basin of the Mid-Atlantic region. European Geophysical Union, Nice, France, April, 2000

Rochelle-Newall, E. J. and T. R. Fisher. 2000. 3 dimensional excitation-emission spectra of chromophoric dissolved organic matter in Chesapeake Bay. Ocean Optics XV abstract, Monaco

Benitez, J. A. and T. R. Fisher. 2000. Historical changes in land use and nutrient yield coefficients in the Choptank River basin. Invited paper. American Chem. Soc., Aug 2000

T. R. Fisher. 2000. The effect of agricultural land use on export of N and P from the Choptank River basin. Invited paper. Abstract, American Chem. Soc., Aug. 2000

J. A. Benitez, T. R. Fisher, and K. Y. Lee. 2000. 150 years of land use, land use intensity, and estimated nutrient export from the Choptank River basin. Abstract, SCOR Symp. Eutrophication, Nat. Acad. Sciences, Wash, DC, Oct. 2000

E. J. Rochelle-Newall, T. R. Fisher. and G. Radcliffe 2000. Wet deposition of atmospheric CNP on a Delmarva coastal plain basin. Abstract, NADP National Meeting, Saratoga Springs, NY, Oct. 2000

Fisher, T.R., J. A. Benitez, and K.-Y. Lee. 2001. Land use intensity and eutrophication of the Choptank River estuary. Invited Abstract, Amer. Soc. Limnol. Oceanogr. Albuquerque, NM, Feb. 2001

- Benitez, J. A., T. R. Fisher, and K.-Y. Lee. 2001. Historical land cover change in the Choptank basin and hydrochemical consequences. Invited Abstract, AGU meeting, Boston, MA, May 2001
- Benitez, J. A., and T. R. Fisher. 2001. Land cover changes in the Choptank basin (1660-2000): the basis for estimating historical changes in nutrient export. Abstract, ERF meeting, St. Petersburg, FL, Oct. 2001
- Fisher, T. R., J. A. Benitez, and K.-Y. Lee. 2001. Historical reconstruction of nutrient export from the Choptank Basin (1660-2000). Abstract, ERF meeting, St. Petersburg, FL, Oct. 2001
- Gustafson, A. B., T. R. Fisher, G. M. Radcliffe, and L. Haas. 2001. Effects of atmospheric deposition on phytoplankton in Chesapeake Bay. Abstract, ERF meeting, ST. Petersburg, FL, Oct. 2001
- Mustard, J. F., T. R. Fisher, S. D. Prince, A. J. Soja, and A. J. Elmore. 2001. The trajectories and impacts of land use and land cover change: a global synthesis. Abstract, AGU, San Francisco, CA, Dec. 2001
- T. R. Fisher, W. R. Boynton, and J. D. Hagy. 2002. Watershed nutrient inputs, phytoplankton accumulation, and C stocks in Chesapeake Bay. Abstract. AGU, San Ferancisco, CA, Dec. 2002
- T. R. Fisher, W. R. Boynton, J. D. Hagy. 2003. The history of cultural eutrophication in the Choptank and Patuxent tributaries of Chesapeake Bay. Abstract, ASLO, Salt Lake City, UT, Feb. 2003
- T. R. Fisher, J. A. Benitez, and K.-Y. Lee. 2003. History of land cover change and biogeochemical impacts in the Choptank River basin in the mid-Atlantic region of the US. Abstract, Studying Land Use Effects in Coastal Zones with Remote Sensing and GIS (Aug. 2003, Kemer, Turkey)
- Williams, M. R., T. R. Fisher, K. N. Eshleman, W. C. Boynton, W. M. Kemp, C. F. Cerco, S.-C. Kim, R. R. Hood, D. A. Fiscus, and G. Radcliffe. 2003. An integrated modeling system for management of the Patuxent River estuary and basin, Maryland, USA. Abstract, Studying Land Use Effects in Coastal Zones with Remote Sensing and GIS (Aug. 2003, Kemer, Turkey)
- Fisher, T. R. 2003. Effect of hydric soils on delivery of groundwater nitrate to streams on Delmarva. Abstract, Eastern Shore Soil Nutrient Forum, WREC, Oct 2003
- Fisher, T. R. 2004. The long-term and short-term land-use perspective; thoughts about what needs to be done. Abstract, AERS meeting, Salisbury MD, March 2004

C. Contracts and Grants

- Society of Sigma Xi grant-in-aid of research, 1972
- Duke University graduate research award, 1973
- UNESCO travel award to present lectures on marine science at four institutions in South America, 1976
- NSF grant for scientific research, marine chemistry program, 1977-1979
- Southern Regional Education Board grant for use of uncommon facilities, 1977-1978
- Md. Dept. Natural Resources, Coastal Zone Management Contract, 1979-1981
- NSF travel grant for initiation of an international research project, 1979
- NSF grant for scientific research, ecosystem studies program, 1979-1981
- NSF grant for scientific research, ecosystem studies program, 1981-1984
- NSF grant for scientific research, marine chemistry program, 1981-1983
- NOAA grant for use of HYDROLAB, national undersea research program, 1984-1985
- NSF grant for scientific research, ecosystem studies program, 1985-1986
- NASA grant for student thesis support, 1985-1988
- US Fish and Wildlife Service contract, 1986-1989
- Md. Dept. Natural Resources, Tidewater Administration contract, 1987-1988
- NSF grant for scientific research, ecosystem studies program, 1987-1990
- NOAA grant for use of AQUARIUS, national undersea research program, 1987-1988
- NSF grant for scientific research, ecosystem studies program, 1988-1995
- National Geographic Society grant for scientific research, 1989-1991
- MD Dept. Environment, nutrient limitation bioassays, 1990-1995
- NSF grant for scientific research, ecosystem studies program, continuing funds, 1991
- MD Dept. Natural Resources, nutrient limitation bioassays, 1995-2003
- US Fish and Wildlife Service contract, 1992-1997
- NASA grant, SeaWiFS program, 1993-1997
- NASA grant, LCLUC program, 1997-2004
- EPRI contract, Aquatic program, 1998-1999
- EPA grant, Effects of Atmospheric N Deposition, 1999-2000

MD Dept. of Natural Resources, supplemental funds for Effects of Atmospheric N deposition, 1999-2000
MD Dept. of Natural Resources, supplemental funds for examining nutrient distributions in Ches. Bay. 2000-2001
MD Dept. of Environment, Nutrient criteria for MD and DE streams, lakes and estuaries, 2000-2001
MD Dept. of Environment, Development of a coupled modeling system for the Patuxent basin, 2001-2004
US Dept. of Agriculture, Forest Service, Effectiveness of CREP: reducing nutrient loads to Chesapeake Bay, 2002-2004
Clayton Fund, Web Access for Water Quality Data on Maryland's Eastern Shore, 2003-2004
US Dept. of Interior, USGS, GIS Metadata Capacity Development for the UMCES, 2003-2004
MD Dept. of Environment (through VIMS), Development of Coliform TMDLs for Shellfish Growing Waters in the Chesapeake Bay, 2003-2006

D. Invited Seminars and Presentations

Invited speaker, UMS Conference on Bioremediation and P Reduction, UMES, September 1994
Invited speaker, Capitol Hill Day School, Washington, DC, Jan. 1997
Participant, Potomac Integrated Project, Interstate Commission on the Potomac River basin, Feb. 1997- present
Participant, STAC workshop on watershed response to changes in nutrient loads, May 1997
Invited speaker, Nutrient Subcommittee, EPA CBP, Harper's Ferry, WV, Feb. 1998
Participant, VA Tributary Strategy workshop, VIMS, April 1998
Invited speaker, Aug 1998. Nutrient inputs, distributions, and cycling in Chesapeake Bay. Ecological Society of America. Baltimore, MD
Invited speaker, Oct. 1998. Linking watersheds and the bay: land use, export, and the biogeochemistry of Chesapeake Bay. American Society of Agronomy. Baltimore, MD
Invited speaker, Dec. 1998. Linking watersheds and the bay: land use, export, and the biogeochemistry of Chesapeake Bay. Dept. of Geology, U. of MD, College Park, MD.
Invited speaker, Dec. 1998. Time scales of land use change in the Choptank River basin. Appalachian Laboratory. Frostberg, MD
Invited speaker, Sept. 1999 MD DNR, Annapolis, MD
Invited speaker, Dec. 1999, CBPO Monitoring subcommittee, Annapolis, MD
Invited speaker, Feb. 2000, CBPO Air subcommittee, Annapolis, MD
Invited speaker, June 2000, AGU meeting, Washington, DC
Invited speaker, Sept. 2000, Data Analysis Workshop, Chesapeake Bay Program, Norfolk, VA
Invited speaker, Oct. 2000, NADP Annual meeting, Saratoga, NY
Invited speaker, Dec. 2000, Implementation Committee, Chesapeake Bay Program
Invited speaker, Jan. 2001, MD DNR Tributary Team Meeting, Annapolis, MD
Invited speaker, Jan. 2001, USGS, Reston, VA
Invited speaker, Feb. 2001, ASLO, Albuquerque, NM
Invited speaker, Mar. 2001 Adkins Arboretum, Greensboro, MD
Invited speaker, May 2001, AGU, Boston, MA
Invited speaker, Aug. 2001, CBPO Air subcommittee, Annapolis, MD
Invited speaker, Nov. 2001, ERF, St. Petersburg, FL
Invited speaker, Jan. 2002, Remote Sensing in Chesapeake Bay, Annapolis MD
Invited speaker, June 2002, CRC Modeling Workshop, Annapolis MD
Invited speaker, Nov. 2002, NASA Science Team meeting, College Park MD
Invited speaker, Dec. 2002, AGU, San Francisco CA
Invited speaker, Feb. 2003, ASLO, Salt Lake City UT
Invited speaker, Aug. 2003, Symposium on Remote Sensing and GIS in the Coastal Zone, Kemer Turkey
Invited speaker, Mar. 2004, AERS, Salisbury MD

E. Symposia Organized/Chaired for Professional Meetings

ASLO Meeting, Feb. 1999, Estuaries and Continental Shelves, Santa Fe, NM
ERF Meeting, Sept. 1999, Land use change and nutrient export to estuaries, Sept. 1999, New Orleans, NM
Resource Limitation Workshop, HPL, May 2001
Planning Committee for Remote Sensing of Land Use Effects in Coastal Zones, Kemer Turkey, Aug. 2003

F. Active Memberships in Professional Societies

ASLO, AGU, AAAS, ASPRS, ERF

IV. Teaching and Training

A. University of Maryland courses

MEES 621, "Ecology of Marine and Estuarine Environments", UMCP, 3 credit lecture course with 15- 30 students, spring semester (team-taught with R. Newell and J. Purcell, 1989-1992.
 MEES 621, "Biological and Chemical Oceanography", IVN, 3 credit lecture course with 15-30 students, spring semester, team-taught with D. Stoecker, 1993-1996.
 MEES 622, 1 credit lab for MEES 621 with 19 students, spring semester, team-taught with D. Stoecker, 1994
 MEES 699, "Nutrient cycling and limitation", HPEL, 3 credit reading course with 2 students, fall semester 1992
 MEES 699F, 1 credit reading courses with various graduate students
 MEES 608J, "Phosphorus Biogeochemistry", 1 credit lecture course with 8 students, team-taught with J. Cornwell, Spring 1997
 MEES 698R, "Ecosystem Ecology", guest lecture on fate of nutrient inputs to Chesapeake Bay, fall 1998
 MEES 698I, "Land Margin Interactions", 4 credit lecture/field course co-taught with Bill Currie and Walt Boynton, fall 2001-fall 2002
 MEES 699 section 0605, "GIS and Remote Sensing", 3 credit course, spring 2002
 MEES 698I, "Land Margin Interactions", 4 credit lecture/field course co-taught with Mark Castro and Walt Boynton, fall 2003

B. Graduate Students supervised

Susan Williams, PhD 1981
 Andrea Figueiredo, MS 1983
 Luiz F. Alves, MS 1983
 Patricia Pinheiro, MS 1985
 Lesley K. Smith, PhD 1988
 Frank Muller-Karger, PhD 1988
 Kevin Morrissey, MS 1989
 Claudia Walters, MS 1990
 Robert Doyle, PhD 1991
 Michael Williams, MS 1992
 Luiz F. Alves, PhD 1993
 Margaret Mayers Norton, PhD 1998
 Brian Jerome, MS in progress
 Lisa Rexrode Vanderbloemen, MS 1998
 Emma Rochelle-Newall, PhD 1999
 Heather Berndt, MS 1999
 Kuang-Yao Lee, PhD 2000
 Jorge Benitez, PhD 2002
 Jason Traband, MS 2003
 Adrienne Sutton, PhD in progress

C. Internships

Jorge Viera da Cunha, The Field School, Washington, DC, January 1995
 Mark Lighten, Wales, UK, fall 1998
 Alessandro Liboni, Italy, spring/summer 1999
 Tony Goodyear, Parkside High School, Salisbury MD, summer 2001-2002 (with Laura Murray)
 Mike Davis, Cambridge MD, summer 2003

V. Outreach and Service

A. Public service

1. State/Regional Service

expert witness for Patuxent Landowners Association, Baltimore, MD, 1985
 advisor to US Fish & Wildlife Service on land use management and stream water quality in Choptank River basin, 1985-present
 PI and participant in Maryland Dept. Environment program on nutrient limitation of phytoplankton populations in Chesapeake Bay, 1990-1995
 member of review committee for positions at the Smithsonian Environmental Research Center, Edgewater, MD, 1992.
 PI and participant in Maryland Dept. Natural Resources program on nutrient limitation of phytoplankton populations in Chesapeake Bay, 1995-present
 participant, Potomac Integrative Analysis Project, Interstate Commission on the Potomac River basin, 1997-present
 participant, STAC and Modeling Subcommittee of EPA Ches. Bay Program workshop on watershed response to changes in nutrient loads, May 1997

invited speaker, Friends of the Upper Choptank, Denton, MD, July 1997
 Chair, promotion committee, Smithsonian Environmental Research Center, Jan. 1998
 invited speaker, Nutrient Subcommittee, EPA CBP, Harper's Ferry, WV, Feb. 1998
 participant, VA Tributary Strategy workshop, VIMS, April 1998
 invited speaker, Earth Day Service of Third Haven Quaker Meeting, Easton, MD, April 1998
 participant, EPA Bay Program Conference, CBL, July 1998
 invited speaker, Sept. 1999 MD DNR, Annapolis, MD
 invited speaker, Dec. 1999, CBPO Monitoring subcommittee, Annapolis, MD
 invited speaker, Feb. 2000, CBPO Air subcommittee, Annapolis, MD
 participant, EPA CBPO Data Analysis Workgroup, June 2000, Sept. 2000
 invited speaker, CBPO Implementation Committee, Dec. 2000
 invited speaker, Annual MD Tributary Team, Jan. 2001
 invited speaker, Adkins Arboretum, Mar. 2001
 invited speaker, Shore Leadership, May 2001
 invited lecturer, Environmental Policy Course, Washington College (Wayne Bell), May 2001
 invited speaker, Choptank tributary team, July 2001
 invited speaker, CBPO Modeling Subcommittee, July 2001
 invited speaker, CBPO Air Subcommittee, Aug. 2001
 invited speaker, Chesapeake Bay Ecology for Educators (Laura Murray), Sept. 2001
 participant, CBPO TMAW workgroup, Sept. 2001
 invited speaker, Talbot League of women voters, Mar. 2002
 invited speaker, TMAW workshop, June 2003
 invited speaker, Choptank Tributary Team, Dec 2003
 invited speaker, Dorchester League of women voters, Mar. 2004

2. Service outside region

advisor to Instituto Nacional de Pesquisas da Amazonia (INPA, Manaus, Brazil) on biogeochemistry and deforestation effects on the Amazon River floodplain, 1979-1990.
 invited participant to workshops of National Research Council, SCOPE, and World Bank on development and eutrophication in the tropics, 1987
 participant, NOAA working group for a 5 year Federal Plan for Ocean Pollution Research, Development, and Monitoring, 1987-1988
 member, steering committee, Antarctic Palmer LTER (Ray Smith, lead PI, UCSB), 1991-present.
 panel member, USDA NRI Competitive Grants Program, aquatic ecosystem studies, 1994
 external examiner, PhD thesis, University of Waterloo, Waterloo, ON, Canada, April, 1997
 panel member, NSF/EPA/USDA water and watersheds program, 1998
 external examiner, PhD thesis, University of South Australia, 1999
 external reviewer, tenure/promotion decision, University of Vermont, 1999
 student poster judge, ASLO meeting, Feb. 2001
 panel member, NASA IDS Program, June 2003

B. University of Maryland (* = current)

member, UMCEES Ship Acquisition Committee
 member, HPEL Analytical Services Committee
 chair, joint UMCEES/Sea Grant Remote Sensing Position Search Committee
 member, UMCEES AEL Faculty Development Committee
 member, UMCP Radiation Safety Committee
 chair, HPEL Safety Board
 member, HPEL Planning Committee
 member, UMCEES Research Vessel Oversight Committee
 co-chair, MEES Oceanography Track Committee
 HPEL Senator to UMCEES faculty Senate
 Secretary of UMCEES Faculty Senate
 chair, CEES Hazardous Materials Committee
 member, HPEL Seminar Committee
 head, LMER Water Column Group
 member, AEL Faculty Development Committee
 member, AEL Faculty Search Committee
 member, AEL Director Search Committee
 member, HPEL CES Committee
 Chair, HPEL 1997 Open House Committee
 Chair, HPL Library Committee

member, HPL Safety Board
member, HPL Facilities and Equipment Committee
member, seminar committee
chair, PPE committee
chair, Library committee
member, Analytical Services Committee
member, Facilities Committee
chair, Seminar Committee 2001-2004 *
member, Education Committee, 2001-2002
member, AL director search committee, 2003-2004