

CURRICULUM VITAE

Andrew S. Kane, Ph.D.

Associate Professor

University of Florida
College of Public Health and Health Professions
Department of Environmental and Global Health

Director

UF Aquatic Pathobiology Laboratories
Emerging Pathogens Institute

EDUCATION

1981	B.S.	Cornell University
1985	M.S.	Ohio State University
1993	Ph.D.	University of Maryland

MAJOR INTERESTS: Environmental pathology, infectious disease and toxicology of aquatic organisms with emphasis on regional fauna and captive fish species. Specific focus is placed on sublethal indices of disease, effects of contaminant and water quality stressors, and application of aquatic models for human health. Additional interests include dynamic outreach through traditional classes as well as the use of interactive, computer-based multimedia.

FACULTY POSITIONS

1986-1992	Research Associate Department of Pathology University of Maryland School of Medicine Baltimore, MD
1993-present	Assistant Professor (adjunct after 12/03) Department of Pathology University of Maryland School of Medicine Baltimore, MD
1993-1999	Envirovet Faculty: Program in Aquatic Animal Medicine and Environmental Toxicology College of Veterinary Medicine University of Illinois Urbana, IL

FACULTY POSITIONS, continued

1994-2008	Graduate Faculty Graduate School University of Maryland at Baltimore Baltimore, MD
1994-2008	Graduate Faculty Marine Estuarine Environmental Science Program University of Maryland System
1999-2008	Graduate Faculty System-wide Program in Toxicology University of Maryland System
2000-2008	Associate Research Scientist University of Maryland, College of Ag. & Natural Resources Department of Veterinary Medicine, College Park, MD
2000-2003	Assistant Professor University of Maryland School of Medicine Department of Medicine. Baltimore, MD
2000-2004	Assistant Professor, Adjunct University of Maryland School of Medicine Department of Epidemiology and Preventive Medicine. Baltimore, MD
2004-2008	Associate Professor, Adjunct University of Maryland School of Medicine Department of Epidemiology and Preventive Medicine. Baltimore, MD
2004-2008	Assistant Professor The Johns Hopkins University Department of Art as Applied to Medicine. Baltimore, MD
2007-present	Associate Professor University of Florida College of Health and Health Professions, Gainesville, FL
2007-present	Graduate Faculty Graduate School, University of Florida, Gainesville, FL

MAJOR ACADEMIC TASKS

1986-1992	Facility Research Coordinator Aquatic Pathobiology Center Department of Pathology University of Maryland School of Medicine Baltimore, MD
1993-1998	Associate Director Aquatic Pathobiology Center Department of Pathology University of Maryland School of Medicine Baltimore, MD
1999-2007	Director Aquatic Pathobiology Center Department of Veterinary Medicine, University of Maryland, College Park MD; Department of Epidemiology & Preventive Medicine University of Maryland, Baltimore MD
2008-present	Director Aquatic Pathobiology Laboratories Emerging Pathogens Institute University of Florida Gainesville, FL

PROFESSIONAL MEMBERSHIPS

1980-present	American Fisheries Society (AFS)
1984-1990	AFS Fish Culture Section
1986-present	AFS Fish Health Section
1984-1993	American Institute of Fisheries Research Biologists
1991-present	Society of Environmental Toxicology and Chemistry
1998-2003	American College of Toxicology
1998-present	International Association for Aquatic Animal Medicine

HONORS AND AWARDS

1980	Phi Sigma Omicron, Cornell University
1986	Skinner Memorial Award, American Institute of Fisheries Research Biologists
1992	Sigma Xi, Maryland Chapter
1993	Schwartz Academic Achievement Award, University of Maryland School of Medicine
1995	Faculty Development Award, University of Maryland System

EDITORIAL TASKS

1993-2007	Reviewer, <i>Life Sciences</i>
1993-2007	Reviewer, <i>Toxicologic Pathology</i>
1995-1996	Editorial Assistant, <i>Aquatic Toxicology</i> , G. Rand, editor (Taylor and Francis Publishing Co.)
1996-2006	Reviewer, <i>Journal of Aquatic Animal Health</i>
1996-2007	Book Review Editor, <i>Aquatic Toxicology</i> (International peer-reviewed journal; primary in field)
1998	Editor, Proceedings of the Third International Symposium on Aquatic Animal Health
2002-2007	Reviewer, <i>Estuaries</i>
2002-2007	Reviewer, <i>Environmental Research</i>

CONSULTANCIES

1981	Lund's Fishery, Cape May, NJ
1986-present	National Aquarium in Baltimore, Baltimore, MD
1990-present	House of Tropicals, Glen Burnie, MD
1993-1998	New England Aquarium, Boston, MA
1994-1998	Multimedia content consultant, Password, Inc., Baltimore, MD
1998-present	Florida Department of Environmental Protection, University of South Florida, St. Petersburg, FL
1998-2000	Pathology media consultant, Grasso & Associates, Baltimore, MD
2009-present	Christianville Fish Farm, Gressier, Haiti

CAMPUS ACTIVITIES

1993-2006	Mentor, UMB Discovering Careers at UniversityCenter
1993-2006	Advisor, Independent electives for medical and graduate students
1994-2007	Reviewer, American Cancer Society Institutional Resource Grant (IRG) Review Committee, UMB
1994	Ad Hoc Reviewer, Special Research Initiative Support (SRIS) Study Section #5, Designated Research Initiative Committee, UMB
1994	Mentor, Shriver Center at UMBC
1995-2000	Mentor, SANDALS Program, in coordination with the College of Notre Dame of Maryland and the Baltimore City School System
1996-2000	Member and Reviewer, Animal Care and Use Committee, UMB
1996-2000	Interim Webmaster, Department of Pathology, UMB
1996-2007	Contributor, Graduate "Survival" Series, UMB Graduate School
1999-2001	Mentor, Howard Hughes Medical Institute Fellow
2001, 2002	Guest Teacher on 'Animals and the Environment,' Center for Young Children, University of Maryland College Park
2002	Mentor, Park School Senior Independent study
2002	Mentor, Morgan State University, NIH BRIDGES Program
2007	Member, Emerging Pathogens Institute Search Committee for Institute Business Manager, UF
2008	Member, Emerging Pathogens Institute Search Committee for Molecular Microbiologist, UF
2008	Member, Emerging Pathogens Institute Search Committee for Plant Pathologist, UF
2008	Member, College of Public Health and Health Professions Search Committee for Director of Environmental Health Program, UF
2009	Reviewer, Florida Agricultural Experiment Station Grant Awards
2009	Member, College of Public Health and Health Professions Search Committee for Vectorborne Disease Specialist, Environmental Health Program, UF

REGIONAL ACTIVITIES

- | | |
|--------------|---|
| 1993-2006 | Outreach Instructor, Maryland Science Week Program, Baltimore, MD |
| 1993-2006 | Community Liaison, University Center Outreach Program, UMB |
| 1995-2007 | Member, Aquatic Animal Health Committee, Maryland Department of Agriculture, Aquaculture Division |
| 1995 | Graduate Fellowship Peer Panel Reviewer. Life Sciences Study Section, U.S. Environmental Protection Agency, Washington, DC |
| 1997-2007 | Member, Technical Advisory Committee, Council on <i>Pfiesteria</i> , Fish Lesions and the Chesapeake Bay, Maryland Department of Natural Resources, Annapolis, MD |
| 1997-2007 | Member, Strategic Planning Group for Harmful Algal Blooms and Chesapeake Bay Health, State of Maryland |
| 2007-present | Member, Aquatic Animal Health Program, University of Florida |

NATIONAL AND INTERNATIONAL ACTIVITIES

- | | |
|-----------|--|
| 1999-2002 | Chair, Co-Organizer and Host, Third International Symposium on Aquatic Animal Health, August 30 th – September 3 rd , 1998, Renaissance Harborplace Hotel, Baltimore, MD |
| 1998 | Co-Organizer, East Coast Fish Health and Sampling Workshop, sponsored by MD Department of Natural Resources, Oxford, MD. |
| 1998 | Advisory Committee Member, Pollution Responses in Marine Organisms (PRIMO) meeting, April, 25-29, Williamsburg, VA |
| 1998 | Invited Contributor and Workshop Leader, Workshop to Standardize <i>Pfiesteria</i> Monitoring Protocols, 14-15 December, Silver Spring, MD |
| 1999-2002 | Advisor, Fourth International Symposium on Aquatic Animal Health, August 2002, New Orleans, LA |
| 2001 | Co-Instructor, Aquatic Toxicology Short Course. National University of Colombia, Bogota, Colombia. |
| 2001 | Invited speaker, 3 rd International Symposium on Aquaculture. National University of Colombia, Bogota, Colombia |
| 2001 | Program Co-Organizer, 22 nd Annual Meeting of the Society of Environmental Toxicology and Chemistry. |
| 2003-2006 | Advisor, Fifth International Symposium on Aquatic Animal Health, held in San Francisco, 2006. |

NATIONAL AND INTERNATIONAL ACTIVITIES, continued

- 2007-2010 Host and Co-Organizer, 6th International Symposium on Aquatic Animal Health to be held in Tampa 2010.
- 2007-2010 Chair, International Meeting Oversight Committee, American Fisheries Society, Fish Health Section.
- 2008 Reviewer, International Foundation for Science, Stockholm, Sweden.
- 2008 Scientific Content Contributor (gross pathology/fish health images), National Geographic Television, Washington, DC.
- 2009 Reviewer, Salton-Kennedy Grant Program, US Department of Commerce, National Oceanic and Atmospheric Administration.
- 2009-present Member, PPHP pilot research team to evaluate water quality, fish production and public health issues in Grassier, Haiti.
- 2010 Session developer and chair: Measuring Biotic Outcomes of Environmental Stress in Aquatic Animals. 31st Annual meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR.

TEACHING ACTIVITIES

- 1979-1980 Lecturer, Biology (undergraduates), Department of Biological Sciences, Cornell University, Ithaca, NY.
- 1981 Teaching Assistant, Intertidal Marine Biology, Shoals Marine Laboratory, Appledore Island, MA
- 1984-1985 Assistant Scientist, Fisheries and Oceanography. Sea Education Association Woods Hole, MA.
- 1985 Coursemaster and Instructor, Aquaculture (graduate students) Ohio State University, Division of Fisheries and Wildlife Management, Columbus, OH.
- 1986-1988 Science Coordinator and Educator (secondary education students and undergraduates) Lady Maryland Foundation, Baltimore, MD.
- 1990-2000 Lecturer, Aquatic Parasitology (graduate students), University of Maryland System
- 1993-1996 Coursemaster and Host, Pathology Seminar Series (PATH 618), Department of Pathology, UMB, Baltimore, MD
- 1993-2000 Laboratory Instructor, Sophomore Pathology/Medical Curriculum (medical and graduate students), UMB, Baltimore, MD
- 1993-2000 Lecturer, Aquatic Pathobiology (graduate students) (PATH 606), UMB, Baltimore, MD
- 1993-2000 Instructor, Envirovet Program, University of Illinois.

TEACHING ACTIVITIES, CONTINUED

1993-2000	Mentor, Governor's Commission for the Enhancement of Science Education, Baltimore, MD.
1994-2007	Co-coursemaster, Scientific Writing and Communication. Dept. of Art as Applied to Medicine, Johns Hopkins University.
1999-2001	Lecturer, Modern Microscopy and Imaging Techniques (PATH 712), UMB
2000-2007	Lecturer, Introduction to Diseases of Animals (ANSC 412), UMCP
2001-2003	Coursemaster, Scientific Communication (VM 8814), UMCP
2001-2007	Lecturer, Wildlife Diseases (ANSC 252), UMCP
2000-2007	Lecturer and Laboratory Instructor, Anatomy of Domestic Animals (ANSC 211), UMCP
2001-2007	Lecturer, Aquaculture Course (ANSC 489/688; MEES 698), UMCP
2002-2006	Coursemaster, Applied Toxicology (NURS 735; TOXI 735), UMB School of Nursing
2003-2007	Coursemaster, Scientific Communication Techniques (MEES 602/608S)
2007-present	Coursemaster, Water Biology (PHC 6937; Section 4858) College of Public Health and Health Professions, UF
2008-present	Lecturer, Diseases of Warmwater Fishes, College of Veterinary Medicine, UF
2008	Lecturer, Fish Anatomy and Physiology. Aquatic Animal Clerkship Program, College of Veterinary Medicine, UF
2008	Lecturer, Bacterial Diseases of fish. Aquatic Animal Clerkship Program, College of Veterinary Medicine, UF
2009	Lecturer, Bacterial Diseases of Fish. Aquatic Animal Clerkship Program, College of Veterinary Medicine, UF
2009	Lecturer, Public Health Issues in Haiti: Not Too Far From Home, Public Health Concepts, PHC 4101, UF (Summer & Spring Semesters)

GRADUATE and UNDERGRADUATE MENTORING

1993-1999	M.S. Advisory Committee Member (UMB) for: Lance Yonkos (graduated 1999).
1993-2007	M.S. Advisor (UMB/UMCP) for: Jaime González (graduated 1997), Lance Yonkos (graduated 2003), Lisa Melewski (graduated 2001) Geoffrey Gipson (graduated 2003), Cindy Stine (graduated 2003), Carmel Smith (graduated 2007).
1993-1998	M.S. Mentor (Johns Hopkins University) for John Dorn (graduated 1997), William Scavone (graduated 1998).
1993-2008	Ph.D. Advisory Committee Member (UMB) for: Vallen Emory (graduated 1998), Tina Armstrong (graduated 1999), Suzanne Jacobson (graduated 1999), Jared Ackers (changed programs), Lance Yonkos (graduated 2005), Ron Miller (UMCP 2008).
1993-2008	Ph.D. Advisor (UMB/UMCP) for: Pedro Del Valle (graduated 1999), Roberta Garcia (graduated 2007), Jim Salierno (graduated 2005), Jaime Gonzalez, Pravhakar Reddy (graduated 2007), Sara Pollack (changed programs), Cindy Stine (graduated 2008).
2000-2001	Howard Hughes Medical Institute Undergraduate Fellow, Kristen Vance
2002	Park School Graduate Intern Program Mentor for Lea Schleimer
2002-2003	Morgan State University, NIH BRIDGES Program Mentor for Claude McKay and Terrance Perkins (undergraduates)
2008-2009	Mentor, Special Graduate Research Project, Melissa McClain, UF MPH Program
2008-present	Ph.D. Advisor (UF IDP Program) for Stephanie Yarnell
2009-present	Mentor, Public Health Honors Program students Jacob Shumac and Monique Ellsworth
2010-present	Mentor, Public Health Honors Program student Will Bledsoe

GRANTS and CONTRACTS

- 1991-1992 Resource Facility Improvement Grant, NIH #1 G20 RR06059/01, Louis DeTolla, P.I., National Center for Research Resources, National Institutes of Health. \$298,166.
- 1993-1994 President's DRIF Award. Andrew S. Kane, P.I., University of Maryland School of Medicine. Development of Interactive Educational Software on Aquatic Pathobiology. \$13,000.
- 1993-1994 American Cancer Society Institutional Research Grant, #IRG-147L. Andrew S. Kane, P.I. University of Maryland School of Medicine. Development and Evaluation of In Vitro Procedures Using Fish to Assess Metabolic Capacity and Carcinogenicity of Benzo(a)pyrene. \$9,520.
- 1994-1995 Maryland Sea Grant, Program Development Award. Andrew S. Kane, P.I. Production and Mastering of a Computer-based Multimedia Program for Studying Fish Anatomy, Health and Necropsy. \$9,990.
- 1995 Special Research Initiative Support (SRIS). Andrew S. Kane, P.I. University of Maryland School of Medicine. Investigation in Phase I Biotransformation in Fish. \$10,500.
- 1995 Faculty Development Fund Award. University of Maryland System. Andrew S. Kane P.I. Discovery-based Computer Training Modules for the Classroom and Laboratory. \$2,372.
- 1995-2000 U.S. Army, Directorate for Health, Safety and the Environment. Martin Marietta subcontract. Andrew S. Kane, P.I. Fish Pathology Studies, Biomonitoring and Community Relations at Aberdeen Proving Ground, Maryland. \$74,218, \$58,569 and \$110,000 (competitive renewals).
- 1996-1998 Maryland Industrial Partnerships. Andrew S. Kane, P.I. Software Development of an HIV/AIDS Multimedia Outreach Program. \$109,875.

GRANTS and CONTRACTS, continued

- 1996-1999 National Institutes of Environmental Health Sciences (5-RO1-ES06217). Andrew S. Kane, P.I. Mechanisms Underlying Segment-specific Nephrotoxicity. \$293,341.
- 1997-2000 Northeast Regional Aquaculture Center (USDA subcontract). Andrew S. Kane, P.I. Expansion of the FishGuts Fish Anatomy, Health and Necropsy Software Training Program. \$71,491.
- 1997-2001 Maryland Sea Grant, Program Development Award (competitive renewal in 1999). Andrew S. Kane, P.I. Collaborative Fish Health/Pfiesteria Outreach for the Worldwide Web. \$18,800.
- 1997-1998 Competitive Grants Program, College of Agriculture and Natural Resources. Dennis Burton and Andrew S. Kane, Co-P.I.s Development of a Histological Atlas to Illustrate Normal Tissue Conditions of the Fathead Minnow. \$14,250.
- 1998-1999 Competitive Grants Program, College of Agriculture and Natural Resources. Dan Fisher and Andrew S. Kane, Co-P.I.s Examination of a Chronic Sediment Toxicity Problem in the Wye River Using Suborganismal, Organismal, Population and Community Indicators of Stress. \$40,000.
- 1998-1999 Maryland Department of Natural Resources. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$5,000.
- 1998-1999 National Oceanographic and Atmospheric Administration/National Marine Fisheries Service. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$5,000.
- 1998-1999 Northeastern Regional Aquaculture Center. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$3,000.
- 1998-1999 US Geological Survey. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$2,500.
- 1998-1999 US Environmental Protection Agency. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$5,700.
- 1998-1999 US Department of Agriculture. Andrew S. Kane, P.I. Support for the Third International Symposium on Aquatic Animal Health. \$7,450.

GRANTS and CONTRACTS, continued

- 1998-1999 US Environmental Protection Agency. Andrew S. Kane, P.I. Effects of Nutrient Enrichment on Opportunistic Pathogens. \$84,674.
- 1998-2003 National Institutes of Environmental Health Sciences. Andrew S. Kane, Co-P.I. Core Facility for Toxic Dinoflagellate Culture. \$866,763.
- 1999-2000 US Army Center for Environmental Health. Andrew S. Kane, P.I. Phase I behavioral monitoring of harmful algal blooms and other water quality perturbations. \$12,500
- 2000-2001 U.S Army Center for Environmental Health. Andrew S. Kane, P.I. Phase II (renewal) behavioral monitoring of harmful algal blooms and other water quality perturbations. \$168,000
- 2000-2003 US Environmental Protection Agency/ECOHAB. Andrew S. Kane, P.I. Behavioral toxicology and pathology of early exposure to toxic *Pfiesteria*-like organisms. \$413,889.
- 2001-2002 Joint Institute for Food Safety and Food Nutrition (JIFSAN). Andrew S. Kane, P.I. Pilot study to investigate kinetic profiles and residues of drugs used in finfish aquaculture. \$8,000
- 2001-2002 Maryland Agriculture Experiment Station (MAES). Kinetic biotransformation profiles of antimicrobials used in aquaculture: Pilot study support. \$12,000.
- 2001-2003 U.S. Environmental Protection Agency. Andrew S. Kane, P.I. Development of a descriptive field guide to fish lesions. \$30,000.
- 2001-2003 Maryland Agriculture Experiment Station (MAES). Andrew S. Kane, P.I. FishGuts 2.0 Bacteriology Section: A new multimedia tool for Maryland Aquaculture. \$40,000.
- 2002-2004 Maryland Agriculture Experiment Station (MAES). Andrew S. Kane, P.I. Mycobacteriosis in Chesapeake Bay Striped Bass. \$40,000.
- 2002-2003 Maryland Sea Grant. Arthur Popper, P.I.; Andrew S. Kane, Co-P.I., Pilot Study to Investigate Biological Effects of Acoustical Stress in Fish. \$8,000.
- 2002-2004 Joint Institute for Food Safety and Food Nutrition (JIFSAN). Andrew S. Kane, P.I. Facilitating Needed Drug Approvals for Aquaculture: In Vitro Metabolic Profiles to Characterize and Predict Drug Residues in Finfish. \$132,000

GRANTS and CONTRACTS, continued

- 2003-2007 National Oceanographic and Atmospheric Administration (NOAA). Andrew S. Kane, PI. Striped Bass Stock Health Assessment: Mycobacteriosis Prevalence and Distribution. \$465,168.
- 2004-2007 Centers for Disease Control and Prevention (CDC). Andrew S. Kane, PI. Pocomoke Fish Health and Regional Outreach Program. \$511,230
- 2007-2010 US Environmental Protection Agency. Dan Fisher, PI; Andrew S. Kane, Co-PI. Transport, fate and ecological effects of steroids in poultry litter. \$699,736.
- 2008-2009 Department of Commerce. Andrew S. Kane, PI. Diagnostics on deformed fish in support of St. Lucie Fish Health Study. \$14,985
- 2008-2011 National Science Foundation. David Barber, PI; Andrew S. Kane, Co-PI. Fate and toxicity of metallic nanoparticles in aquatic organisms. \$299,122.
- 2009-2010 Department of Commerce (NIST). Andrew S. Kane and Winn Philips, PIs. "Aquatic Animal Health Facility: Measuring Environmental Outcomes of Biotic Stress." \$1,267,086.
- 2010-2011 Department of Commerce / NOAA. Andrew S. Kane PI. "Investigation of Responses to Stress in fish." \$76,035.
- 2010-2012 University of Florida – Opportunity Fund Award. Andrew S. Kane, PI. "Epidemiology and environmental reservoirs of mycobacteria in Florida." \$85,610.

INNOVATIONS

- 1987 Flow-through dosing system to expose small aquatic organisms to changing pH, salinity and temperature (UMAB School of Medicine). Kane et al., *Water Research* 22(10):231-237.
- 1980 Benthic venturi sampler (Cornell Biological Field Station).
- 2002 Video-based behavioral toxicology system for tracking fish movement in response to environmental stressors.

PUBLICATIONS - Refereed Journal articles

- Kane, A.S.**, T.M. Stockdale and D.L. Johnson. 1985. 3-Trifluoromethyl-4-nitrophenol (TFM) control of tadpoles in culture facilities. *Progressive Fish-Culturist*. 47(4):231-237.
- Kane, A.S.**, R.O. Bennett and E.B. May. 1988. A flow-through dosing system to expose small aquatic organisms to varying pH, salinity and temperature. *Water Research*. 22(10):1339-1344.
- Kane, A.S.**, R.O. Bennett and E.B. May. 1988. Effect of changing pH and salinity on Chesapeake Bay striped bass larvae. In: *Understanding the Estuary, Advances in Chesapeake Bay Research*, Chesapeake Research Consortium, Baltimore, MD. March 29-31. CRC Publication No. 129. United States Environmental Protection Agency CBP/TRS 24/88.
- Kane, A.S.** and D.L. Johnson. 1989. Use of 3-trifluoromethyl-4-nitrophenol (TFM) to selectively control frog larvae in fish production ponds. *Progressive Fish-Culturist*. 51:207-213.
- Kane, A.S.**, R.O. Bennett and E.B. May. 1990. Effect of hardness and salinity on striped bass larval survival. *North American Journal of Fisheries Management* 10(1):67-71.
- Kane, A.S.**, R. Reimschuessel and M.M. Lipsky. 1992. Impact of tadpoles on warmwater fish pond production. *Fisheries*. 17(2):36-39.
- Kane, A.S.**, W.W. Day, R. Reimschuessel and M.M. Lipsky. 1993. TFM (3-trifluoromethyl-4-nitrophenol) toxicity and hepatic microsomal UDP-glucuronyltransferase activity in adult and larval bullfrogs. *Aquatic Toxicology*. 27:51-60.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich and M.M. Lipsky. 1993. Recovery of histological lesions in the gills of brown bullheads exposed to copper. *Marine Environmental Research*. 35:198-199.
- Kane, A.S.**, M.W. Kahng, R. Reimschuessel and M.M. Lipsky. 1994. Comparative kinetics of TFM (3-trifluoromethyl-4-nitrophenol)-UDP-glucuronyltransferase in several species of fish. *Transactions of the American Fisheries Society*. 123:217-222.

PUBLICATIONS, continued

- Muhvich, A.G., R.T. Jones, **A.S. Kane**, R.S. Anderson and R. Reimschuessel. 1995. Effects of chronic copper exposure on macrophage chemiluminescent response and gill histology in goldfish (*Carassius auratus* L.). *Fish and Shellfish Immunology* 5:251-264.
- Råbergh, C.M., **A.S. Kane**, R. Reimschuessel and M.M. Lipsky. 1995. Viability and induction of tyrosine aminotransferase in rainbow trout hepatocytes cultured on laminin and polylysine in a serum-free medium. *Methods in Cell Science* 17:207-215.
- Kane, A.S.**, J.E. Whaley, J. Paul and R. Reimschuessel. 1977. Angler Outreach for Fish Pathology Studies at a U.S. Army Superfund Site. *Proceedings of the International Association for Aquatic Animal Medicine* 28:95-103.
- Kane, A.S.** 1995. Multimedia as a training tool for fish anatomy and necropsy. *Lab Animal*. 47:48-50.
- Kane, A.S.** 1995. Multimedia update: Advances in computer-based applications relevant to fish and fish health. *Annual Review of Fish Disease*. 5:79-84.
- Kane, A.S.**, J.F. González and R. Reimschuessel. 1996. Fish and amphibian models used in toxicology. *Lab Animal*. 25(6):33-38.
- DeTolla, L.J., S. Srinivas, B.R. Whitaker, C. Andrews, B. Hecker, **A.S. Kane**, and R. Reimschuessel, 1996. Guidelines for the Care and Use of Fish in Research. *Inst. Laboratory Animal Resources*. 37: 159-173.
- Kane, A.S.**, S. Thohan and M. Weiner. 1998. Tissue Slice Technology for Assessing Alterations in Fish Hepatic Phase I and Phase II XME Activity. *Marine Environmental Research*. 46:61-65.
- Kane, A.S.**, D. Oldach and R. Reimschuessel. 1998. Fish Lesions in Chesapeake Bay: *Pfiesteria*-like Dinoflagellates and Other Etiologies. *Maryland Medical Journal*, 47(3):106-112.
- Marselas, G.A., M. K. Stoskopf, M. J. Brown, **A. Kane** and R. Reimschuessel. 1998. Abdominal Ascites in Electric Eels (*Electrophorus electricus*) Associated with Hepatic Hemochromatosis and Elevated Water pH. *J. Zoo and Wildlife Medicine*. 29(4):413-418.
- Trifillis, A.L., Del Valle, M. Lipsky, X. Cui, C. Ruegg and **A.S. Kane**. 1998. Cultured rabbit renal proximal straight tubular cells are more susceptible to mercuric chloride than convoluted tubular cells. *Renal Toxicology*. 11(2):133-138.
- Jiang, Q., L. DeTolla, N. Van Rooijen, I.S. Singh, B. Fitzgerald, M.M. Lipsky, **A.S. Kane**, A.S. Cross and J.D. Hasday. 1998. Febrile-range temperature modifies early systemic tumor necrosis factor alpha expression in mice challenged with bacterial endotoxin. *Infection and Immunity*. 67(4):1539-1546.

PUBLICATIONS, continued

- Kane, A.S.**, Thohan, S. and M. Weiner M. 1998. Tissue slice technology for assessing alterations in fish hepatic phase I and phase II XME activity. *Marine Environmental Research* 46(1-5):61-63.
- Jacobson, S.V., M. Trucksis, **A.S. Kane** and R. Reimschuessel. 1999. Superoxide production in *Mycobacterium*-stimulated goldfish (*Crassius auratus*) phagocytes following copper exposure. *J. Vet. Res.* 60(6): 669-675.
- Talaat, A.M., Trucksis, M., **A.S. Kane** and R. Reimschuessel. 1999. Pathogenicity of *Mycobacterium fortuitum* and *mycobacterium smegmatis* to Goldfish (*Crassius auratus*) model. *Veterinary Microbiology* 66:151-164.
- McDowell, A.G., **A.S. Kane**, and R. Reimschuessel. 1999. Chronic renal damage in largemouth bass, *Micropterus salmoides*, due to a monogenetic trematode infection. Pages 25-27 in 1999 Proceedings of the International Association of Aquatic Animal Medicine, Boston, MA.
- Yonkos, L.T. and **A.S. Kane**. 1999. Development of a digital atlas of fathead minnow histology. *Lab Animal*. 28(2):39-42.
- Kane, A.S.**, A. Baya, R. Reimschuessel, K.M. St. Pe, C.A. Poukish and C.P. Driscoll. 1999. Field sampling and necropsy examination of fish. *Virginia Journal of Science* 50(4):345-364.
- Yonkos, L.T., Fisher, D.J., Reimschuessel, R., and **Kane, A.S.** 2000. Atlas of Fathead Minnow Normal Histology. An online publication of the University of Maryland Aquatic Pathobiology Center (<http://aquaticpath.umd.edu/fhm>).
- Yonkos, L.T., D.J. Fisher, D.A. Wright and **A.S. Kane**. 2000. Pathology in fathead minnows (*Pimephales promelas*) exposed to chlorine dioxide and chlorite. *Marine Environmental Research* 50:267-271.
- González, J., P.Del Valle, S. Thohan and **A.S. Kane**. 2000. Effects of waterborne nitrite on phase I-II biotransformation in channel catfish. *Marine Environmental Research* 50:29-32.
- Kane, A.S.**, M.J. Dykstra, E.J. Noga, R. Reimschuessel, A. Baya, C. Driscoll and H.W. Paerl and J. Landsberg. 2000. Etiologies, observations and reporting of estuarine finfish lesions. *Marine Environmental Research* 50:473-477.
- Dykstra, M.J. and **A.S. Kane**. 2000. *Pfiesteria piscicida* and ulcerative mycosis of Atlantic menhaden; current status of understanding. *Journal of Aquatic Animal Health* 12:18-25.
- Salice C.J., Rokous J.S., **Kane A.S.**, Reimschuessel R. 2001. New nephron development in goldfish (*Carassius auratus*) kidneys following repeated gentamicin nephrotoxicosis. *Comparative Medicine* 52:56-59, 2001

PUBLICATIONS, continued

- Thohan, S., Zurich, ML-C., Chung, H., Weiner, M., **Kane, A.S.** and Rosen, GM. 2001. Tissue Slices Revisited: Evaluation and Development of a Short-Term Incubation for Integrated Drug Metabolism. *Drug Metabolism and Disposition*, 29:1337-1342.
- van der Schalie, W.H., Shedd, T., Widder, M., **Kane, A.S.**, Silbergeld, E., Reimschuessel, R., Poli, M., Sarabun, C., Burkholder, J., Glasgow, H.. 2001. *Real-time monitoring for toxicity caused by harmful algal blooms and other water quality perturbations*. US Environmental Protection Agency EPA/600/R-01/103, November 2001.
- Del Valle, P.L., Trifillis, A., Ruegg, C.E. and **Kane, A.S.** 2002. Characterization of glucose transport by cultured rabbit kidney proximal convoluted and proximal straight tubule cells. *In Vitro: Cellular and Developmental Biology-Animal* 38(4):218-227.
- Reimschuessel R., C.M. Giesecker, C. Driscoll, A. Baya, **A.S. Kane**, V. S. Blazer, J.J. Evans, M. L. Kent, J.D.W. Moran, and S.L. Poynton. 2003. Myxosporean plasmodial infection, associated with ulcerative lesions in young-of-the-year Atlantic menhaden *Brevoortia tyrannus* (Latrobe) (Clupeidae) in a tributary of the Chesapeake Bay, and possible links to *Kudoa clupeidae*. *Diseases of Aquatic Organisms*, 53:143-166.
- Brown, SB, Evans, R.E., Vandenbyllardt, L., Finnsen, K.W., Palace, V.P., **Kane, A.S.** Yarechewski, A.Y. and Muir, D.C.G. 2003. Altered thyroid status in lake trout (*Salvelinus namaycush*) exposed to co-planar 3,3',4,4',5-pentachlorobiphenyl. *Aquatic Toxicology* 67:75-85.
- Choich, J., Salierno, JD., Silbergeld, E.K., and **Kane, A.S.** 2004. Altered brain activity in brevetoxin-exposed bluegill, *Lepomis macrochirus*, visualized using *in vivo* ¹⁴C 2-deoxyglucose labeling. *Environmental Research*, 94:192-197.
- Stine, C.B., Smith, D.L., Vogelbein, W.K., Harshbarger, J.C., Gudla, P.R., Lipsky, M.L., and **Kane, A.S.** 2004. Morphometry of hepatic neoplasms and altered foci in killifish, *Fundulus heteroclitus*. *Toxicologic Pathology* 32:4 375-383.
- Smith, M.E., **Kane, A.S.** and Popper, A.N. 2004. Acoustical stress and hearing sensitivity in fishes: Does the linear threshold shift hypothesis hold water? *Journal of Experimental Biology*, *Journal of Experimental Biology* 207(20):3591-3602.
- Kane, A.S.**, Salierno, J.D., Gipson, G.T., Molteno and Hunter, C. 2004. Novel video-based movement analysis system to discern behavioral toxicology of fish. *Water Research* 38:3993-4001.
- Smith, M.E., **Kane, A.S.** and Popper, A.N. 2004. Noise-induced stress response and hearing loss in goldfish (*Carassius auratus*). *Journal of Experimental Biology*, 207:427-435.

PUBLICATIONS, continued

- Salierno, J.D., Shields, J.D., Snyder, N.S., Murphy, A.Z. and Kane, A.S. 2004 (abstract). Altered Fos expression as a biomarker of neuronal stress associated with harmful algal bloom exposure in mummichog, *Fundulus heteroclitus*. *Harmful Algae* 3:245.
- Salierno, J.D., Shields, J.D., Snyder, N.S., Murphy, A.Z. and **Kane, A.S.** 2004. Altered Fos expression as a biomarker of neuronal stress associated with harmful algal bloom exposure in mummichog, *Fundulus heteroclitus*. *Harmful Algae* 3:245.
- Kane, A.S.** 2005. Striped Bass Stock Health Assessment: Mycobacteriosis prevalence and distribution. Proceedings of the 2005 Chesapeake Bay Fisheries Research Symposium, pages 17-22. Published by NOAA Chesapeake Bay Office, Annapolis, MD
- Stine, C.B., Baya, A.M., Salierno, J.D., Kollner, M. and **Kane, A.S.** 2005. Mycobacterial infection in laboratory-maintained menhaden (*Brevoortia tyrannus*). *Journal of Aquatic Animal Health* 17(4):380-385.
- Lauer, L.E., McCarthy, M.M., Jong, J. and **Kane, A.S.** 2006. Sex differences in neuronal morphology in the killifish hypothalamus. *Brain Research*, 1070:145-149.
- Salierno, J.D. and Kane, A.S. 2005. Behavioral responses of individual and groups of killifish, *Fundulus heteroclitus*, exposed to a predation threat. *Comparative Behavior*. *In prep.*
- Salierno, J.D., Snyder, N.S., Murphy, A.Z., Poli, M., Hall, S., Baden, D. and **Kane, A.S.** 2006. Harmful Algal Bloom Toxins Alter c-Fos Protein Expression in the Brain of Killifish, *Fundulus heteroclitus*. *Aquatic Toxicology* 78:350-357.
- Kane, A.S.**, Stine, C.B., Hungerford, L., Matsche, M., Driscoll, C.P. and Baya, A.M. 2007. Mycobacteria as Environmental Portents in Chesapeake Bay Fishes. *Emerging and Infectious Diseases*. 13(2) February 2007.
- Salierno, J.D., Shields, J.D., Murphy, A.Z. and **Kane, A.S.** 2007. Altered c-Fos expression as a measure of neuronal stress in mummichog, *Fundulus heteroclitus*, exposed to *Pfiesteria shumwayae* and *Chaetoceros concavicornis*. *Marine Biology* 152:835-843.
- Popper, A.N., Halverson, M.B., **Kane, A.S.**, Miller, D.L., Smith, M.E., Song, J., Stein, P. and Wysocki, L.E. 2007. The effects of high-intensity, low-frequency active sonar on rainbow trout. *J. Acoust. Soc. Am.* 122(1):623-635.
- Salierno, J.D., Gipson, G.T. and **Kane, A.S.** 2008. Quantitative movement analysis of social behavior in mummichog, *Fundulus heteroclitus*. *Journal of Ethology* 26:35-42.
- Witte, C.L., Sredl, M.J., **Kane, A.S.**, and Hungerford, L.L. 2008. Epidemiologic analysis of factors associated with local disappearances of native ranid frogs in Arizona. *Conservation Biology* 22(2): 375-383.
- Garcia, R.J., **Kane, A.S.**, Petullo, D. and Reimschuessel, R. 2008. Localization of oxytetracycline in *Chlamydomonas reinhardtii*. *Journal of Phycology* 44:1282-1289.
- 17 α -ethinylestradiol alters reproductive behaviors, circulating hormones, and sexual morphology in male fathead minnows (*Pimephales promelas*). *Environmental Toxicology and Chemistry*. 28(5):953-961.

- Gonzalez JF, Reimschuessel R, Shaikh B and **Kane AS**. 2009. Kinetics of hepatic phase I and II biotransformation reactions in eight finfish species. *Marine Environmental Research* 67:183-188.
- Salierno DJ and **Kane AS**. 2009. 17 α -Ethinylestradiol alters reproductive behaviors, circulating hormones, and sexual morphology in fathead minnows. *Environmental Toxicology and Chemistry* 28(5):953-961.
- Stine CB, **Kane AS** and Baya AM. 2010. Mycobacteria isolated from Chesapeake Bay Fishes. *Journal Fish Diseases* 33: 39-46.
- Gonzalez JF, Shaikh B, Reimschuessel R, and **Kane, AS**. 2010. *In vitro* kinetics of hepatic albendazole suloxidation in channel catfish, tilapia and rainbow trout, and induction of EROD activity in ABZ-dosed channel catfish. *Journal Veterinary Pharmacology and Therapeutics* 32:429-435.
- Yonkos' LT, Fisher, DF, Van Veld, PA, **Kane, AS**, McGee BL and Staver KW. 2010. Poultry litter-induced endocrine disruption in fathead minnow, sheepshead minnow and mummichog laboratory exposures. *Environmental Toxicology and Chemistry* 29(10):2328-2340.
- Miller, R.A., Pelsor, F.R., **Kane, A.S.**, Petullo, D.M. and Reimschuessel, R. 2010. A novel population pharmacokinetics approach for modeling oxytetracycline after multiple doses in rainbow trout using microbiological and liquid chromatography methods. *Aquaculture. In press.*
- Salierno, JD and **Kane, AS** 2010. Alterations in schooling, shoaling, and startle response behaviors resulting from exposures to harmful algal bloom neurotoxins, brevetoxin and saxitoxin in mummichog, *Fundulus heteroclitus*. *Comparative Behavior. In review.*

MONOGRAPHS, CHAPTERS AND BOOKS

- Kane, A.S.**, R.O. Bennett, J.H. Resau, J. Cottrell, R. Reimschuessel, E.B. May, M. Streb, R. Hutchinson and M.M. Lipsky. 1991. Comparison of cell, tissue and whole organism bioassays to assess inorganic metals in the aquatic environment. Pages 409-424 in: Goldberg, A.M., editor. *Alternative Methods in Toxicology*, Volume 8. Mary Ann Liebert, Inc., NY.
- Reimschuessel, R. and **A.S. Kane**. 1993. Normal histology of the teleost; a laboratory guide, 28 pp. APC Press (UMB), Baltimore, MD.
- Muhvich, A.G., **A.S. Kane**, T. Hopkins and R. Reimschuessel. 1993. Lazarite alters copper-induced in vivo priming of goldfish macrophages. Pages 101-110 in: J.S. Stolen and T.C. Fletcher, editors. *Modulators of Fish Immune Responses: Models for Environmental Toxicology*. SOS Publishing, Fairhaven, CT.
- Kane, A.S.** and S. Thohan. 1996. Use of fish hepatic tissue slices to evaluate alterations due to environmental exposure. Pages 371-391 in: G. Ostrander, editor. *Methods in Aquatic Toxicology*. Lewis Publishers, Boca Raton, FL.
- Kane, A.S.**, S.V. Jacobson and R. Reimschuessel. 1996. Construction and use of a large scale dosing system to expose fish to waterborne toxicants. Pages 589-607 in: G. Ostrander, editor. *Methods in Aquatic Toxicology*. Lewis Publishers, Boca Raton, FL.
- Kane, A.S.**, Salierno, J.D. and Brewer, S.K. 2005. Fish models in behavioral toxicology: automated techniques, updates and perspectives. In Ostrander, G.K., ed. *Methods in Aquatic Toxicology*, Volume 2. Lewis Publishers, Boca Raton, FL.

FILMS/AUDIOVISUAL PRODUCTIONS

Computer-based educational multimedia:

- Kane, A.S. and R.W. Gray. 1996. About *FishGuts* (Introductory Chapter) in: *FishGuts: A Multimedia Guide to the Art and Science of Fish Necropsy*. Ed. A.S. Kane, APC Press, University of Maryland at Baltimore, Baltimore, MD.
- Kane, A.S. and R. Reimschuessel. 1996. Fish Anatomy in: *FishGuts: A Multimedia Guide to the Art and Science of Fish Necropsy*. Ed. A.S. Kane, APC Press, University of Maryland at Baltimore, Baltimore, MD.
- Kane, A.S. 1996. Taking a Case History in: *FishGuts: A Multimedia Guide to the Art and Science of Fish Necropsy*. Ed. A.S. Kane, APC Press, University of Maryland, Baltimore, Baltimore, MD.
- Kane, A.S. and R. Reimschuessel. 1996. Necropsy Techniques in: *FishGuts: A Multimedia Guide to the Art and Science of Fish Necropsy*. Ed. A.S. Kane, APC Press, University of Maryland at Baltimore, Baltimore, MD.
- Reimschuessel, R. and A.S. Kane. 1996. Sample Fish Diagnostic Cases in: *FishGuts: A Multimedia Guide to the Art and Science of Fish Necropsy*. Ed. A.S. Kane, APC Press, University of Maryland at Baltimore, Baltimore, MD.

Armstrong, T., R.F. Loane and A.S. Kane. 1996. *Save Crystal Lake: A middle- and high school environmental teaching software application*. Password, Incorporated, Baltimore, MD.

Kane, A.S. *LifeChoice Mall: An Experiential Multimedia Outreach Pilot for Adolescents on HIV and AIDS*. 1996. In collaboration with Password, Incorporated, and The Maryland Industrial Partnerships.

WEBSITE DEVELOPMENT

Outreach Developer and Content Specialist. FishGuts: A multimedia guide to the art and science of fish anatomy, health and necropsy.

Outreach Developer and Content Specialist. Centers for Disease Control and Prevention project, University of Maryland Department of Epidemiology and Preventive Medicine.

Outreach Developer and Content Specialist. Centers for Disease Control and Prevention project, University of Maryland Department of Epidemiology and Preventive Medicine; project-specific site focusing on fish health, mycobacteriosis and the Pocomoke River.

Interim Webmaster. University of Maryland Department of Pathology.

Educational Outreach Developer. University of Maryland System: Fish Health in Chesapeake Bay.

Outreach Developer. University of Maryland Aquatic Pathobiology Center website.

Outreach Developer. Third International Symposium on Aquatic Animal Health. (<http://aquaticpath.php.ufl.edu/isaah3>).

Subject Matter Expert and Developer. Digital Atlas of Normal Fathead Minnow Histology: (<http://aquaticpath.php.ufl.edu/fhm>)

Outreach Developer: US EPA EMPACT study on biomonitoring harmful algal blooms

Outreach Developer: Florida Marine Research Institute (<http://floridamarine.org>)

Outreach Developer. University of Florida Aquatic Pathobiology Laboratory website (<http://aquaticpath.php.ufl.edu>).

Outreach Developer. Sixth International Symposium on Aquatic Animal Health. (<http://aquaticpath.php.ufl.edu/isaah6>).

ABSTRACTS

- Kane, A.S.** and D.L. Johnson. 1987. Use of 3-trifluoromethyl-4-nitrophenol (TFM) to selectively control frog larvae in fish production ponds. Presented at the American Fisheries Society 117th Annual Meeting, Winston-Salem, NC. September, 1987.
- Kane, A.S.**, R.O. Bennett and E.B. May. 1988. Effect of changing pH and salinity on Chesapeake Bay striped bass larvae. Presented at Understanding the Estuary, Advances in Chesapeake Bay Research, Chesapeake Research Consortium, Baltimore, MD. March, 1988.
- Kane, A.S.**, R.O. Bennett and M.M. Lipsky. 1989. Effect of hardness and salinity on striped bass larval survival. Presented at the Eastern Fish Health Workshop, American Fisheries Society Fish Health Section, Annapolis, MD. July, 1989.
- Kane, A.S.**, R.O. Bennett, J.H. Resau, J. Cottrell, R. Reimschuessel, E.B. May, M. Streb, R. Hutchinson and M.M. Lipsky. 1990. Comparison of cell, tissue and whole organism bioassays to assess inorganic metals in the aquatic environment. Presented at the 7th International CAAT (Center for Alternatives to Animal Testing) Symposium, Johns Hopkins University, Baltimore, MD. November, 1990.
- Kane, A.S.**, R. Reimschuessel and M.M. Lipsky. 1990. Impact of Tadpoles on Warm Water Fish Pond Production. Presented at the American Fisheries Society 120th Annual Meeting, Pittsburgh, PA. August, 1990.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich, R.O. Bennett, E.B. May and M.M. Lipsky. 1990. Histological changes in the gills and kidneys of brown bullheads exposed to copper. Presented at the 1990 Chesapeake Bay Research Conference, Baltimore, MD. December, 1990.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich and M.M. Lipsky. 1991. Fish respiratory epithelial response to sublethal copper levels. Presented at the Society of Toxicology and Chemistry, Seattle, WA. November, 1991.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich and M.M. Lipsky. 1991. Recovery of histological lesions in the gills of brown bullheads exposed to copper. Presented at the 6th International Symposium on Responses of Marine Organisms to Pollutants, Woods Hole, MA. April, 1991.
- Kane, A.S.**, W.W. Day, R. Reimschuessel and M.M. Lipsky. 1993. The lampricide TFM: potential mechanism as a selective amphibicide and regulatory implications. Presented at the Eastern Fish Health and American Fisheries Society Fish Health Section Workshop, Auburn, AL. June, 1992.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich and M.M. Lipsky. 1992. Sublethal copper toxicity in fish. Presented at the Mid-Atlantic Veterinary Pathology Conference, Windsor, MD, March 1992.
- Reimschuessel, R., **A.S. Kane**, A.G. Muhvich and M.M. Lipsky. 1992. Repair of copper-induced lesions in the brown bullhead. Presented at the Eastern Fish Health and American Fisheries Society Fish Health Section Workshop, Auburn, AL. June, 1992.

ABSTRACTS, continued

- Kane, A.S.**, W.W. Day, R. Reimschuessel and M.M. Lipsky. 1992. Toxicity of the lampricide TFM in amphibian larvae: potential model for the ontogenetic capacity for glucuronidation. Presented at the 13th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 1992.
- Muhvich, A., **A.S. Kane**, T. Hopkins, and R.Reimschuessel. Lazarite alters copper-induced *in vivo* priming of goldfish macrophages. Presented at: Modulators of Fish Immune Responses: Models for Environmental Toxicology/ Biomarkers. Breckenridge, Colorado, September, 1993.
- Kane, A.S.** 1993. Comparative UDP-glucuronyltransferase kinetics with the lampricide TFM (3-trifluoromethyl-4-nitrophenol) in several species of freshwater fish. Presented at the Society of Environmental Toxicology and Chemistry for November 1993.
- Kane, A.S.**, M.W. Kahng, R. Reimschuessel, P.T. Nhamburo and M.M. Lipsky. Use of UDP-Glucuronyltransferase kinetics *in vitro* to assess relative toxicity of aqueous phenols in fish. Presented at World Congress on Alternatives and Animal use in the Life Sciences, Baltimore, MD, November, 1993.
- Palace, V.P., J.F. Klavercamp and **A.S. Kane**. 1993. Phase I and Phase II metabolic enzyme activities and oxidative stress in lake trout from Lake Ontario. Presented at the Society of Environmental Toxicology and Chemistry for November 1993.
- Reimschuessel, R. and **A.S. Kane**. 1993. A possible teleost model for polycystic kidney disease. Presented at the 24th Annual Conference of the International Association for Aquatic Animal Medicine, Chicago, IL. May, 1993.
- Reimschuessel, R. and **A.S. Kane**. 1993. Volatile organic compounds in newly constructed PVC piping systems for maintaining aquatic animals. Presented at World Congress on Alternatives and Animal use in the Life Sciences, Baltimore, MD, November, 1993.
- Råbergh, C., A.M. Enright, **A.S. Kane** and M.M. Lipsky. 1993. Attachment and primary culture of rainbow trout hepatocytes for use in toxicological research: toxicity of chloroform and carbon tetrachloride. Presented at World Congress on Alternatives and Animal use in the Life Sciences, Baltimore, MD, November, 1993.
- Kane, A.S.** and M.M. Lipsky. 1994. *In vitro* glucuronyltransferase kinetics to assess the relative toxicity of aqueous phenols in fish. Presented at the International Association of Aquatic Animal Medicine, Napa, CA, May 1994.
- Kane, A.S.** and S.L. Poynton. 1994. DeskTop Parasites: Application of computer-enhanced photomicroscopy. Proceedings of the 25th Annual Meeting of the International Association of Aquatic Animal Medicine, Napa, CA, May 1994.

ABSTRACTS, continued

- Kane, A.S.**, R.W. Gray and R. Reimschuessel. 1994. FishGuts: An interactive fish necropsy and histopathology computer training program. Presented at the International Association of Aquatic Animal Medicine, Napa, CA, May 1994. Proceedings of International Assoc. for Aquatic Animal Medicine 1994, 25, 130.
- Rokous, J., **A.S. Kane** and R. Reimschuessel. 1994. Renal regeneration and development following repeated gentamicin nephrotoxicosis. Presented at the International Association of Aquatic Animal Medicine, Napa, CA, May 1994.
- Råbergh, C., **A.S. Kane**, R. Reimschuessel and M.M. Lipsky. 1995. Mechanisms of toxicity of carbon tetrachloride and chloroform in primary culture of rainbow trout hepatocytes. Presented at Society of Toxicology, Baltimore, MD, March 1995. The Toxicologist 1995 15:191
- Kane, A.S.** 1995. Computer innovations for technical outreach training and "digital confocal microscopy." American Fisheries Society Fish Health Section/Eastern Fish Health Disease Conference, Syracuse, NY, July 1995.
- Bell, T.A., **A.S. Kane**, J. Turnbull, R. Reimschuessel. Measured copper uptake in liver and skeletal muscle of fed and non-fed tilapia (*Oreochromis niloticus*). American Fisheries Society Fish Health Section/Eastern Fish Health Disease Conference, Syracuse, NY, July 1995.
- Kane, A.S.** and R. Reimschuessel. 1995. Aquatic facility design: Housing and husbandry considerations for aquatic laboratory animals. Presented at the American Association for Laboratory Animal Science, Baltimore, MD, October 1995.
- Kane, A.S.**, S. Thohan and M. Weiner. 1995. Tissue slice technology for assessing alterations in fish hepatic phase I and phase II XME metabolism. Presented at Society of Environmental Toxicology and Chemistry, Second International Congress, Vancouver, BC, November 1995.
- Kane, A.S.**, R.W. Gray and R. Reimschuessel. 1995. Software Training for Environmental Toxicology. Presented at Society of Environmental Toxicology and Chemistry, Second International Congress, Vancouver, BC, November 1995.
- Kane, A.S.**, R. Reimschuessel, J. Whaley and J. Paul. 1996. Environmental Outreach and Fish Pathology Studies at a U.S. Army Superfund Site. Presented at Society of Environmental Toxicology and Chemistry, Washington, D.C., November 1996.
- Salice, C.J., J. Rokous, **A.S. Kane** and R. Reimschuessel. 1996. New nephron development in goldfish following repeated gentamicin nephrotoxicosis. Presented at Society of Environmental Toxicology and Chemistry, Washington, D.C., November 1996.
- Whaley, J.E., Reimschuessel, R. **Kane, A.S.** 1996. Fish Health Survey for Environmental Monitoring at an U.S. Army Superfund Site: Impact Assessment and Community Outreach. Proceedings of International Assoc. for Aquatic Animal Medicine 1996, 27, 61.

ABSTRACTS, continued

- Del Valle, P.D., M.L. Haasch, W. Mulbry, **A.S. Kane** and J.O. Nelson. 1997. Cloning and partial sequence of a glutathione S-transferase from channel catfish: expression and tissue distribution. Society of Toxicology Annual Meeting, 1997.
- Trifillis, A.L., **A.S. Kane**, M. Lipsky, X. Cui and C. Ruegg. 1997. Cultured rabbit renal proximal straight tubular cells are more susceptible to mercuric chloride than convoluted tubular cells. Experimental Biology (FASEB), New Orleans, LA, April 1997.
- Kane, A.S.** 1997. Computers in research and teaching. Experimental Biology (FASEB), New Orleans, LA, April 1997.
- Salice, CJ, J Rokous, **AS Kane**, R. Reimschuessel. New Nephron Development in Goldfish Kidneys Following Repeated Gentamicin Nephrotoxicosis. Society of Environmental Toxicology and Chemistry, Washington DC. Nov. 17-21, 1996
- Kane, A.S.** Oldach, D. and R. Reimschuessel. 1998. Fish lesions in Chesapeake Bay: *Pfiesteria*-like dinoflagellates and other etiologies. Third International Symposium on Aquatic Animal Health, Baltimore, MD
- Reimschuessel, R, **A.S. Kane** and G. Vasta. 1998. The light microscopic appearance of the *Pfiesteria*-like dinoflagellate "Sheperd's Crook" with Hematoxylin and Eosin. Third International Symposium on Aquatic Animal Health, Baltimore, MD
- Gonzalez, J.F, P. Del Valle, S. Thohan and **A.S. Kane**. 1998. Effects of waterborne nitrite on phase I-II biotransformation in channel catfish (*Ictalurus punctatus*). Third International Symposium on Aquatic Animal Health, Baltimore, MD
- Del Valle, A. Trifillis and **A.S. Kane**. 1998. Effects of antiviral drugs Cidofovir and Foscarnet on the sodium-glucose cotransporter in cultured rabbit kidney proximal convoluted and proximal straight tubular cells. American College of Toxicology, Orlando, FL.
- Yonkos, L.T., **Kane, A.S.** and Reimschuessel, R. 1998. Fathead Minnow Histological Atlas: Worldwide Web Outreach and Utilization. 3rd International Symposium on Aquatic Animal Health, Baltimore, MD Sept 1998
- McDowell, A.G., **A.S. Kane**, and R. Reimschuessel. 1999. Chronic renal damage in largemouth bass, *Micropterus salmoides*, due to a monogenetic trematode infection. International Association of Aquatic Animal Medicine, Boston, MA.
- Yonkos, L.T., D.J. Fisher, D.A. Wright and **A.S. Kane**. 1999. Pathology in fathead minnows (*Pimephales promelas*) exposed to chlorine dioxide and chlorite. PRIMO 10 (Pollution Responses in Marine Organisms), Williamsburg, VA.
- A.S. Kane**, M.J. Dykstra, E.J. Noga, R. Reimschuessel, A. Baya, C. Driscoll and H.W. Paerl. 1999. Observations and Reporting of Estuarine Finfish Lesions: *Pfiesteria* and Other Etiologies. PRIMO 10 (Pollution Responses in Marine Organisms), Williamsburg, VA.

ABSTRACTS, continued

- Kane, A.S.** Oldach, D. and R. Reimschuessel. 2000. Fish lesions in Chesapeake Bay: *Pfiesteria*-like dinoflagellates and other etiologies. Ninth International Conference on Harmful Algal Blooms, Hobart, Tasmania.
- Kane, A.S.**, Shedd, T.R., Widder, M.W., Gipson, G.T., Danley, D.L., van der Schalie, W.H. and Reimschuessel, R.. 2000. Real-time monitoring for toxicity caused by harmful algal blooms and other water quality perturbations. Ninth International Conference on Harmful Algal Blooms, Hobart, Tasmania.
- Silbergeld, E.K., Eldefrawi, A.E., Sass, J.B., El-Nabawi, A., Choich, J., Sathyanarayana, S., Brewer, V, Conrad, S, Eilers, P., **Kane, A.S.**, Oldach, D, Hall, S., and Morris, J.G. 2000. *Pfiesteria piscicida*: Identifying toxins associated with a novel human neurotoxic syndrome. Ninth International Conference on Harmful Algal Blooms, Hobart, Tasmania.
- Melewski, L.E., McCarthy, M.M. and **A.S. Kane**. 2000. Sexual dimorphism in the teleost brain: A possible indicator of endocrine disruptor exposure. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Nashville, TN.
- Kane, A.S.**, Gipson, G.T., Shedd, T.R., Widder, M.W., Poli, M.A., van der Schalie, W.H., Reimschuessel, R. 2000. Real-time monitoring of toxic harmful algal blooms and other water quality perturbations: laboratory validation studies. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Nashville, TN.
- Reimschuessel, R, Baya, A, Poynton S, **Kane, AS**, Blazer V, Evans, JJ, Kent, M and Driscoll C. Myxosporidian Infection Associated With Lesions In Young Menhaden, *Brevoortia tyrannus*, (Latrobe) In The Pocomoke River. Eastern Fish Health Workshop, Plymouth, Mass. April 12, 2000.
- Pritchett, C.L., R. Reimschuessel, **A. Kane**, and M. Trucksis. Identification of an AraC-like molecule in *Mycobacterium marinum* linked to virulence in the goldfish model. 100th annual meeting of the American Society for Microbiology Los Angeles, CA, May 12-25, 2000.
- Reimschuessel, R., Giesecker C., Baya, A., Poynton S. , **Kane, A.S.** Blazer V, Evans J.J. Kent M., Moran J.D.W., Driscoll C. Myxosporidian Infection Associated With Lesions In Young Menhaden, *Brevoortia tyrannus* (Latrobe), In The Pocomoke River. CDC National Conference on *Pfiesteria*: from Biology to Public Health, Stone Mountain Georgia, October 18-20, 2000
- Reimschuessel, R., C. Giesecker, A. Baya, S. Poynton, **A.S. Kane**, V Blazer, J. J. Evans, M. Kent, J. D. W. Moran, C. Driscoll. -Monitoring Results Of Lesions In Young Menhaden, *Brevoortia tyrannus* (Latrobe), in Chesapeake Bay: 1999 and 2000. 26th Annual Eastern Fish Health Workshop, Shepardstown, WV, Apr. 22-27, 2001.

ABSTRACTS, continued

- Kane, A.S.**, Gipson, G.T., Shedd, T.R., Widder, M.W., Poli, M.A., J. Choich, E.K. Silbergeld, Reimschuessel, R., and van der Schalie, W.H. 2001. Biomonitoring for toxicity caused by harmful algal blooms and other water quality perturbations. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.
- Stine, C.B, Smith, D., and **Kane, A.S.** Stereology to quantitate prevalence and volume of hepatic foci in a estuarine fish, *Fundulus heteroclitus*. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.
- Kane, A.S.**, Gipson, G.T., Shedd, Salierno, J.D., Ingling, A., Molteno, T., and Little, E.E. 2001. A novel system to quantitate fish behavior in response to low-level stress. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.
- Offutt, T., Baya, A, Roscher, R, **Kane, A.S.**, Driscoll, C. and Klontz. 2002. An Epidemiologic Survey of Bacterial Pathogens Affecting Striped Bass and Tilapia. Aquaculture America 2002 Meeting, San Diego, CA.
- Stine, C.B., Smith, D., Vogelbein W.K., Harshbarger, J.C. and **Kane, A.S.** 2002. Morphometric Evaluation of Hepatic Lesions in Killifish, *Fundulus heteroclitus*, Exposed to Polyaromatic Hydrocarbons. Fourth International Symposium on Aquatic Animal Health, New Orleans, LA.
- Salierno, J.T., Gipson, G.T. and **Kane, A.S.** 2002. Quantitative Analysis of Fish Swimming and Startle Behaviors in Response to Low Level Stressors. Fourth International Symposium on Aquatic Animal Health, New Orleans, LA.
- Gonzalez, J.F., Reimschuessel, R., Shaikh, B., and **Kane, A.S.** 2002. In Vitro Metabolic Profiles to Characterize and Predict Drug Residues in Aquacultured Finfish. Fourth International Symposium on Aquatic Animal Health, New Orleans, LA.
- Salierno, J.D., Shields, J.D., Snyder, N.S., Murphy, A.Z. and **Kane, A.S.**. 2003. Altered Fos expression as a biomarker of neuronal stress associated with harmful algal bloom exposure in mummichog, *Fundulus heteroclitus*. Second National Symposium on Harmful Algal Blooms, Woods Hole, MA.
- Salierno, J.D., Murphy A.Z., Shields, J.D. and **Kane, A.S.** 2004. Behavioral and Neurological Biomarkers of Stress Exposure in a Fish Model. Society of Toxicology. Baltimore, MD.
- Kane, A.S.**, Salierno, JD and McGlone, PD. 2004. Predator avoidance response in individual and groups of killifish: A novel tool for behavioral toxicology. Society for Environmental Toxicology and Chemistry, Portland, OR.
- Kane A.S.**, A Baya, C Stine, L Hungerford, M Matsche, L Pieper, C Driscoll. 2004. Striped Bass Stock Health Assessment: Mycobacteriosis Prevalence and Distribution. NOAA's: Chesapeake Bay Fisheries Research Program Symposium, Patuxent National Wildlife Refuge, Laurel, MD.

ABSTRACTS, continued

- Kane A.S.**, A Baya, C Stine, L Hungerford, M Matsche, L Pieper, C Driscoll. 2004. Striped Bass Stock Health Assessment: Mycobacteriosis Prevalence and Distribution. NOAA's: Chesapeake Bay Fisheries Research Program Symposium, Patuxent National Wildlife Refuge, Laurel, MD.
- Kane, A.S.**, and Salierno, J.D. 2005. Alterations in schooling, shoaling, and startle response behaviors in mummichog, *Fundulus heteroclitus*, resulting from exposures to the harmful algal bloom neurotoxins, brevetoxin and saxitoxin. Measuring Behavior 2005. 5th International Conference on Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- Kane, A.S.**, Salierno, J.D. and Gipson, G.T. 2005. A video-based movement analysis system to quantify behavioral stress responses of individual and groups of fish. Measuring Behavior 2005. 5th International Conference on Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- Kane, A.S.**, and Salierno, J.D. 2005. Behavioral responses of individual and groups of killifish, *Fundulus heteroclitus*, exposed to a visual predation threat. Measuring Behavior 2005. 5th International Conference on Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- Kane, AS**, CB Stine and AM Baya. 2005 Mycobacteriosis in wild-caught, laboratory-maintained menhaden: a case study. 30th Annual Eastern Fish Health Workshop, Shepherdstown, WV, June 13-17.
- Baya, A, C Stine, J Abel, K Roscher, R Paramadhas, A Ferrero-Perez and **AS Kane**. 2005. Life is never dull at College Park: Case studies. 30th Annual Eastern Fish Health Workshop, Shepherdstown, WV, June 13-17.
- Stine, CB, **AS Kane**, M Sigrist and AM Baya. 2005. Gross observations from a Chesapeake Bay field survey. 30th Annual Eastern Fish Health Workshop, Shepherdstown, WV, June 13-17.
- Garcia, R, **Kane, AS**, and Reimschuessel, R. 2006. Localization of oxytetracycline in *Chlamydomonas reinhardtii*. Presented at the 6th International Symposium on Aquatic Animal Health, San Fransisco, CA.
- Stine CB, AM Baya, M Matsche, C Driscoll, L Pieper, K Rosemary, JM Jacobs, L Hungerford and **AS Kane**. 2006. Mycobacteria prevalence, microbiology and parasitology of striped bass and gametes from the Chesapeake Bay, USA. Fifth International Symposium on Aquatic Animal Health, San Francisco, CA, September 2-6.
- Stine CB, AM Baya, JD Salierno and **AS Kane**. Mycobacterial infection in laboratory-maintained Atlantic menhaden. 2006. Fifth International Symposium on Aquatic Animal Health, San Francisco, CA, September 2-6.
- Kane AS**, L Hungerford, CB Stine, M Matsche, C Driscoll, L Pieper, K Rosemary, J Jacobs and AM Baya. 2006. Mycobacteriosis in Chesapeake Bay fishes. Fifth International Symposium on Aquatic Animal Health, San Francisco CA, September 2-6.

- Kane AS**, JD Salierno, CB Stine, M Sigrist, J Yen and AM Baya. 2006. Effects of hypoxia on mycobacterial disease progression in hybrid striped bass. Fifth International Symposium on Aquatic Animal Health, San Francisco CA, September 2-6.
- Stine CB, **AS Kane**, M Matsche, L Pieper, K Rosemary, J Jacobs, J Abel, C Driscoll and AM Baya. 2006. Microbiology of gametes and age 0-3 striped bass (*Morone saxatilis*). USGS/NOAA Mycobacteriosis in Striped Bass Workshop, Annapolis, MD, May 9-11.
- Matsche MA, L Pieper, CB Stine, **AS Kane**, AM Baya, K Rosemary, C Driscoll and JM Jacobs. 2006. Survey of gametes and juvenile striped bass (*Morone saxatilis*) for Mycobacteriosis from the Chesapeake Bay: sampling methods, external lesions and histopathology. USGS/NOAA Mycobacteriosis in Striped Bass Workshop, Annapolis, MD, May 9-11.
- Kane AS**, CB Stine, L Hungerford, M Matsche, C Driscoll, L Pieper, K Rosemary, J Jacobs and AM Baya. 2006. Mycobacteriosis in juvenile Atlantic menhaden. USGS/NOAA Mycobacteriosis in Striped Bass Workshop, Annapolis, MD, May 9-11.
- Kane AS**, L Hungerford, CB Stine, M Matsche, C Driscoll and AM Baya. 2006. Mycobacteriosis in Chesapeake Bay fishes: perspectives and questions. USGS/NOAA Mycobacteriosis in Striped Bass Workshop, Annapolis, MD.
- Salierno, JD and **AS Kane**. 2007. Reproductive behaviors link biochemical and morphological changes in fathead minnows exposed to 17 α -ethinylestradiol. Presented at Society of Environmental Toxicology and Chemistry (SETAC), Milwaukee, WI.
- Kane AS**, CB Stine, M Matsche, L Hungerford, Kotetishvili, M and AM Baya. 2008. Mycobacteria in Chesapeake Bay Fishes: Prevalence, Risk Factors and Clinical Observations. International Association of Aquatic Animal Medicine. Pomezia, Italy.
- Griffitt R, Ryan R, Smith CL, **Kane AS** and Barber D. 2010. Effects of chronic exposure to nanoparticulate silver in zebrafish. 31st Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Portland, OR.
- Kane AS**, Reese, D and Browder JA. 2010. Fish deformities in Florida's St Lucie Estuary System. 31st Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Portland, OR.
- Yarnell SC, Wellehan JFX, Qiu Y, Blackburn J, Morris JG, Lauzardo M, Askhin D, Johnson JA and **Kane AS**. 2010. Non-tuberculous mycobacteria in Florida. Emerging Pathogens Institute Research Day.
- Kane AS**, Reese, D and Browder JA. 2010. A case study of fish deformities in the St Lucie Estuary System, Florida, USA. 6th International Symposium on Aquatic Animal Health, Tampa, FL.
- Stephens JK, Koroly MJ and Kane AS. 2010 High school modules to discern effects of environmental stress using an oyster model. 6th International Symposium on Aquatic Animal Health, Tampa, FL.
- Yarnell SC, Wellehan JFX, Qiu Y, Blackburn J, Morris JG, Lauzardo M, Askhin D, Johnson JA and **Kane AS**. 2010. Environmental mycobacteria in Florida, USA. 6th International Symposium on Aquatic Animal Health, Tampa, FL.

OTHER SYMPOSIA AND WORKSHOPS

- 1989 Workshop Organizer and Co-Leader, "Aquatic Animal Models: Current Research and Husbandry Issues." AALAS Baltimore, MD, April 1989
- 1994 Workshop Co-Leader; half-day symposium on "Aquatic Microscopic Anatomy and Pathology." Annual meeting of the Society of Environmental Toxicology and Chemistry, Washington, D.C., November 1996.
- 1995 Workshop Co-Chair and Seminar Leader; "The Wet, The Wild and The Captive: Laboratory Fish Medicine." 46th Annual meeting of The American Association for Laboratory Animal Science, Baltimore, MD, October 1995.
- 1995 Workshop Leader; Clinical Laboratory in Aquatic Animal Medicine. 46th Annual meeting of The American Association for Laboratory Animal Science, Baltimore, MD, October 1995.
- 1996 Workshop Leader; half-day symposium on "The Art of Science Outreach; Perspectives on Platform, Poster and Written Presentations, and Application of Computer-based Multimedia." Annual meeting of the Society of Environmental Toxicology and Chemistry, Washington, D.C., November 1996.
- 1998 Workshop Facilitator; two day meeting on fish, water and plankton sampling for *Pfiesteria* activity sponsored by NOAA, Silver Spring, MD, December 1998.
- 2001 Co-organizer, lecturer and wet lab instructor: "National Capital Area Branch of the American Association of Laboratory Animal Science Aquatics Workshop. Laurel, MD. February 28, 2001
- 2002 Workshop organizer and leader; "Pond-side fish health and diagnostics." Presented as part of the University of Maryland Systemwide aquaculture outreach group for Maryland Aquafarmers. UMCP, August 2002.
- 2008 Invited Panelist; Emerging Contaminants in the Aquatic Environment. Water Institute Symposium, University of Florida, Gainesville, FL

MEDIA AND OTHER OUTREACH

- 2001 New Center Studies Aquatic Organisms at Avrum Gudelsky Veterinary Center. Outlook Campus Newspaper, UMCP
- 2001 Tuberculosis in Chesapeake Bay Striped Bass. Nightline, Maryland Public Television.
- 2002 Turtles, Tortoises or Terrapins? Ask Annie Show, NBC Syndicated broadcast.
- 2002 The Successful Home Aquarium. Maryland Ag Day, UMCP.
- 2003 Infectious diseases in The Chesapeake Bay. University of Maryland Television (with cable-syndicated broadcasts). Interview can be viewed online:
http://128.8.55.13:8080/ramgen/researchingmaryland/rmd03/rmd_aquaticpathobiologylab_040303.rm
- 2003 Good Fish, Bad Fish: Fish disease issues, regional aquaculture projects, and tasty new recipes. Maryland Ag Day, UMCP

INVITED PRESENTATIONS

- 1989 "Use of Cell and Explant Culture Techniques in Aquatic Toxicology," Maryland Department of The Environment, Toxic Operations Center, Baltimore, MD.
- 1993 "Role of Phase II enzymes in selective toxicity of phenols in aquatic organisms," U.S. Environmental Protection Agency, Duluth, MN.
- 1993 "Conjugation of phenolic substrates in fish and aquatic amphibians," Comparative Medicine Seminar, Johns Hopkins University. Baltimore, MD.
- 1994 "Selective toxicity and conjugation of organic xenobiotics in aquatic organisms." U.S. Fish and Wildlife Service, Patuxant Wildlife Research Center, Laurel, MD.
- 1994 "Computer-enhanced photomicroscopy techniques." University of Maryland School of Medicine, Department of Pathology, Baltimore, MD.
- 1994 "In vitro assessment of species-specific metabolic capacity in fish using liver tissue slices and microsomes." Society of Environmental Toxicology and Chemistry, 15th annual meeting, Denver, CO.
- 1994 "Fish as laboratory animals: general anatomy and physiology." American Association for Laboratory Animal Science, 45th annual meeting, Pittsburgh, PA.
- 1994 "Water quality and husbandry requirements for fish in the laboratory." American Association for Laboratory Animal Science, 45th annual meeting, Pittsburgh, PA.
- 1994 "Application of computer-based multimedia for effective communication and scientific outreach." Armed Forces Institute of Pathology, Bethesda, MD.
- 1995 "Effectiveness of computer software for training students in fish anatomy and necropsy." 51st Annual Northeast Fish and Wildlife Conference, Ocean City, MD.
- 1995 "Applications in computer-based education: Advances in educational software." American Animal Hospital Association, Denver, CO.
- 1995 "Methods to biologically monitor health and effects of environmental contamination in aquatic organisms." Symposium on Applied Research and Education Addressing Urban Environmental Justice Issues Applicable to Baltimore, Maryland. Baltimore, MD
- 1995 Aquatic facility design: Housing and husbandry considerations for aquatic animals. Presented at the American Association for Laboratory Animal Science, Baltimore, MD.
- 1996 "Tissue slice technology for assessing alterations in fish hepatic phase I and phase II XME activity." Fourth International Symposium on Alternatives in the Assessment of Toxicity. Edgewood Research, Development and Engineering Center, Department of the Army, Edgewood, MD.
- 1996 "Innovative Technologies in Aquatic Pathobiology." Invited speaker for Capitol Chapter Branch meeting of the American Association for Laboratory Animal Science, Baltimore, MD.
- 1997 "Fish Lesions in Chesapeake Bay." Maryland Sea Grant Extension Program, Wye Education Center, Queenstown, MD.
- 1998 "Chesapeake Bay Fish Health: Current Issues and Where We Are Going." 1998 Aquaculture Exposition, Ocean City, MD

INVITED PRESENTATIONS, continued

- 1998 “Fish Lesions Observed from the Chicamacomico River, Maryland.” Special Session on Toxic Dinoflagellates; Annual Meeting of the Tidewater Chapter of the American Fisheries Society, Solomons, MD
- 1998 “The Story Starts in the Water: *Pfiesteria* and Fish Lesions in the Chesapeake Bay.” University of Maryland Colloquium on Science for Office of Student Research, Baltimore, MD
- 1998 “Scientific Research: What, Why and How.” McNair Post-Baccalaureate Achievement Program, Coppin State College, Baltimore, MD
- 1998 “The Science Behind Good Fish Health in Aquaculture.” Presentation Leader for “Aquaculture in Action” workshop sponsored by National Sea Grant, Maryland Sea Grant and the Chesapeake Bay Trust. Carroll Co., MD
- 1998 “Fish Lesion Sampling and Identification: A Strategy for the US Eastern Seaboard.” Presented at the East Coast Fish Health and Sampling Workshop, sponsored by Maryland Department of Natural Resources, Oxford, MD. and the National Oceanographic and Atmospheric Administration.
- 1998 Interstate sampling strategies for sampling Chesapeake Bay finfish: A hands-on workshop and laboratory session presented for the Delaware Division of Environmental Water Quality.
- 1999 “Scientific Presentation: Professional Outreach Methodology and Form.” Workshop presented for graduate students and international attendees of the 10th Conference of PRIMO (Pollution Responses in Marine Organisms), College of William and Mary, Gloucester, VA
- 2000 “Fish Pathology and Angler Outreach Studies in the Chesapeake Bay.” Tri-Service Ecological Risk Assessment Work Group, Aberdeen Proving Ground, Edgewood Area, Aberdeen Proving Ground, MD
- 2001 “Differential Causes of Fish Events: Fish Kills, Ulcers and Abnormal Behavior.” National Conference on Pfiesteria: From Biology to Public Health, sponsored by Centers for Disease Control and Prevention. Atlanta, GA.
- 2002 “Fish Health Evaluation,” part of “Pond-side fish health and diagnostics.” Presented as part of the University of Maryland Systemwide aquaculture outreach group for Maryland Aquafarmers. UMCP, College Park, MD.
- 2002 “Digital Presentation Skills.” Summer Fellowship Program, VA-MD Regional College of Veterinary Medicine, College Park Campus, College Park, MD.
- 2002 “Biotransformation kinetics predicts fish responses to drugs.” Center for Veterinary Medicine, US Food and Drug Administration, Laurel, MD
- 2003 “Fish Health and Disease.” Presented as part of the University of Maryland Systemwide aquaculture outreach group, in collaboration with Maryland Sea Grant, for Maryland Aquafarmers and Water Gardeners. UMCP, College Park, MD.

INVITED PRESENTATIONS, continued

- 2004 “Striped Bass Stock Health Assessment: Mycobacteriosis Prevalence and Distribution.” 2004 Chesapeake Bay Fisheries Research Program. Sponsored by NOAA at the Patuxent Wildlife Refuge Visitor’s Center, Laurel, MD.
- 2004 “Motivational Strategies to Activate Career Opportunities in Science.” College Park Scholars-Life Sciences Program, UMCP, College Park, MD
- 2004 “Mycobacteriosis and Other Infectious Diseases in Chesapeake Bay Fish.” College Park Scholars-Life Sciences Program, UMCP, College Park, MD
- 2005 “An update on striped bass health in the Chesapeake Bay” 2005 Chesapeake Bay Fisheries Research Program. Sponsored by NOAA, Patuxent Wildlife Refuge Visitor’s Center, Laurel, MD.
- 2005 “A video-based movement analysis system to quantify behavioral stress responses of individual and groups of fish.” Measuring Behavior 2005: 5th International Conference in Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- 2005 “Alterations in schooling, shoaling, and startle response behaviors in mummichog, *Fundulus heteroclitus*, resulting from exposures to the harmful algal bloom neurotoxins, brevetoxin and saxitoxin.” Measuring Behavior 2005: 5th International Conference in Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- 2005 “Behavioral responses of individual and groups of killifish, *Fundulus heteroclitus*, exposed to a visual predation threat.” Measuring Behavior 2005: 5th International Conference in Methods and Techniques in Behavioral Research. Wageningen, The Netherlands.
- 2006 “Fish health issues in the Chesapeake Bay: An integrated vantage point.” Center for Urban Environmental Research and Education, University of Maryland Baltimore County, Catonsville, MD.
- 2006 “Mycobacteriosis and other diseases in Chesapeake Bay fishes.” Chesapeake Biological Laboratory, Solomons, MD.
- 2006 “Health and diagnostics of captive fish species in research.” AALAS, National Capital Area Branch annual meeting, September 13, 2006 Turf Valley Conference Center, Ellicott City, MD.
- 2007 “Ulcerative mycosis of Chesapeake Bay Atlantic Menhaden.” Regional Workshop on Fish Health in the Chesapeake Bay, sponsored by the Chesapeake Bay Foundation. National Conservation Training Center, Shepherdstown, WV.
- 2008 “17 α -Ethinylestradiol Alters Reproductive Behavior and Physiology in Fathead Minnows.” Seminar Series in Toxicology, College of Pharmacy, University of Florida, Gainesville, FL
- 2008 “Emerging Contaminants in the Aquatic Environment.” Water Institute Symposium, University of Florida, Gainesville, FL

INVITED PRESENTATIONS, continued

- 2008 “Environmental Change and Fish Health.” CEED Group (Changing Environments and Emerging Infectious Diseases, supported by UF International Center), University of Florida, Gainesville, FL
- 2008 “Stress and Environmental Mycobacteriosis: The Beginning of the Story.” IFAS Program in Fisheries & Aquatic Sciences, School of Forest Resources and Conservation, University of Florida, Gainesville, FL
- 2008 “Environmental Mycobacteria: Fish Tell Part of the Story.” Aquatic Animal Health Seminar Series, College of Veterinary Medicine, University of Florida, Gainesville, FL
- 2009 “Manure, Parasites, and Fish with Tuberculosis.” Public Lecture Series. Whitney Laboratory for Marine Bioscience. St. Augustine, FL
- 2010 “Non-Tuberculous Mycobacteria in Florida.” Emerging Pathogens Institute Research Day. Gainesville, FL
- 2010 “Fish Deformities and Stress in the St. Lucie Estuary System.” Water Research Institute Symposium. Gainesville, FL
- 2010 “Environmental Mycobacteria: Implications for Human and Wildlife Diseases.” University of Florida, Department of Microbiology and Cell Science, Institute of Food and Agricultural Sciences. Gainesville, FL

The Aquatic Pathobiology Program: Physical plant and animal facilities.

(<http://aquaticpath.php.ufl.edu/facilities>)

Construction of the new Aquatic Pathobiology Laboratory (APL), UF Building 1379, is now complete. Thanks to a construction grant from NIST, the facility has doubled its footprint and now contains approximately 7,000 square feet of specialized animal facility, wet- and dry laboratory space, a molecular diagnostics suite, offices, and other specialized support space. Designed by Dr. Kane, the facility has a dedicated central water filtration and distribution system, 1,800-gallon saltwater carboy system, computer-controlled behavioral toxicology exposure system, isolated acclimation and exposure rooms, small- and large-animal necropsy rooms, computer-controlled dusk/dawn lighting system, and over 3,000 gallons of flow-through, static, and static-renewal exposure and maintenance aquaria. The facility also houses UF’s Marine Animal Disease Laboratory. Together with the University’s Center for Environmental and Human Toxicology and the Aquatic Animal Health Program, the APL provides unique research and teaching facilities to UF and the region. The facility is supported through the UF Emerging Pathogens Institute, the Institute of Food and Agricultural Sciences, the College of Veterinary Medicine, and the College of Public Health and Health Professions.