

## CURRICULUM VITAE

### **Andrew S. Kane**

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#### **Associate Professor**

Department of Environmental and Global Health  
College of Public Health and Health Professions  
University of Florida, Gainesville, FL

#### **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

**RESEARCH INTERESTS:** Environmental pathology, infectious diseases and toxicology of aquatic organisms. Specific emphasis is placed on application of aquatic models for environmental and public health studies, and the effects of contaminant and water quality stressors on host/pathogen interactions. Current research projects focus on seafood safety in the Gulf of Mexico following the Deepwater Horizon oil spill, low-level outcomes of environmental endocrine disrupting chemicals including behavioral toxicology, aquaculture-based protein production in Haiti, and discerning environmental reservoirs for non-tuberculous mycobacteria in Florida waterways. Additional interests include dynamic scientific outreach through teaching use of computer-based multimedia.

#### CURRENT ADACEMIC AFFILITATIONS

2007-present	Associate Professor of Environmental and Global Health College of Health and Health Professions University of Florida, Gainesville, FL
2007-present	Graduate Faculty-College of Public Health and Health Professions Graduate School, University of Florida, Gainesville, FL
2009-present	Joint Associate Professor, College of Veterinary Medicine Department of Physiological Sciences and Center for Environmental and Human Toxicology
2011-present	Joint Associate Professor, College of Medicine, Department of Medicine, Division of Mycobacteriology, University of Florida, Gainesville, FL
2011-present	Graduate Faculty-School of Natural Resources and Environment Graduate School, University of Florida, Gainesville, FL

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**PRIOR FACULTY AFFILIATIONS**

1993-2000	Assistant Professor 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
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, College Park, MD
1999-2008	Graduate Faculty System-wide Program in Toxicology University of Maryland System, College Park, MD
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

## MAJOR ACADEMIC TASKS

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
2008-2012	Associate Chair, Department of Environmental and Global Health College of Public Health and Health Professions 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, Am Institute of Fisheries Research Biologists
1992	Sigma Xi, Maryland Chapter
1993	Schwartz Academic Achievement Award, Univ MD School of Medicine
1995	Faculty Development Award, University of Maryland System
2012	Elected Member, Delta Omega (Public Health Honorary Society, Beta Upsilon Chapter)
2012	Faculty Enhancement Award, University of Florida

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>
2008	Reviewer, Final Research Report, Universidad Nacional de Colombia
2010	Reviewer, <i>European Association of Fish Pathologists Journal</i>
2010	Editor, Proceedings of the Sixth International Symposium on Aquatic Animal Health
2011	Reviewer, <i>Diseases of Aquatic Organisms</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
2012-2013	US AID, Haiti WINNER program. Cul de Sac, Haiti.

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## CAMPUS ACTIVITIES

1993-2006	Mentor, UMB Discovering Careers at University Center
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
2008	Reviewer, UF/IFAS FAES/CRIS proposals, Gainesville, FL
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
2009-2011	Member, College of Public Health and Health Professions Research Committee, UF

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2011	Member, College of Public Health and Health Professions Research Subcommittee to establish enhanced college-wide research profile, UF
2011	Member, College of Public Health and Health Professions Research Subcommittee for Research Day keynote lecturer, UF
2012-2013	Member, College of Public Health and Health Professions Tenure and Promotions Committee, UF
2013-present	Member, College of Public Health and Health Professions Collaboration Committee, UF
2013-present	Member, College of Public Health and Health Professions Blended Learning Team, 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
2011	Session Leader, 97 <sup>th</sup> Annual Meeting of the American Society for Microbiology, Southeastern Branch, Gainesville, FL

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## NATIONAL AND INTERNATIONAL ACTIVITIES

- 1999-2002 Chair, Co-Organizer and Host, Third International Symposium on Aquatic Animal Health, August 30<sup>th</sup>-September 3<sup>rd</sup>, 1998, 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 *Pfiesteria* 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<sup>rd</sup> International Symposium on Aquaculture. National University of Colombia, Bogota, Colombia
- 2001 Program Co-Organizer, 22<sup>nd</sup> 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.
- 2007-2010 Host and Co-Organizer, 6<sup>th</sup> International Symposium on Aquatic Animal Health, Tampa 2010.
- 2007-2010 Chair, International Meeting Oversight Committee, American Fisheries Society, Fish Health Section.
- 2007 Reviewer, National Science Foundation, Biological Oceanography Program.
- 2008 Reviewer, International Foundation for Science, Stockholm, Sweden.
- 2008 Scientific Content Contributor, 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.
- 2009 Reviewer, National Institutes of Health, NIH R13/U13 competition.
- 2010 Session Chair: Measuring Biotic Outcomes of Environmental Stress in Aquatic Animals. 31<sup>st</sup> Annual meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR.

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## TEACHING ACTIVITIES

- 1985 Coursemaster, Aquaculture (graduate course) 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 course), University of Maryland System
- 1993-1996 Coursemaster, Pathology Seminar Series (PATH 618), Department of Pathology, University of Maryland Medical School, Baltimore, MD
- 1993-2000 Laboratory Instructor, Sophomore Pathology/Medical Curriculum (medical and graduate students), University of Maryland, Baltimore, MD
- 1993-2000 Lecturer, Aquatic Pathobiology (PATH 606), University of Maryland, Baltimore, MD
- 1993-2000 Instructor, Envirovet Program, University of Illinois.
- 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), University of Maryland, Baltimore, MD
- 2000-2007 Lecturer, Introduction to Diseases of Animals (ANSC 412), University of Maryland, College Park, MD
- 2001-2003 Coursemaster, Scientific Communication (VM 8814), University of Maryland, College Park, MD
- 2001-2007 Lecturer, Wildlife Diseases (ANSC 252), University of Maryland, College Park, MD
- 2000-2007 Lecturer and Laboratory Instructor, Anatomy of Domestic Animals (ANSC 211), University of Maryland, College Park, MD
- 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, Science Communication Techniques (MEES 602/608S), University of Maryland, College Park, MD



TEACHING ACTIVITIES, CONTINUED

2008-2012	Lecturer, Diseases of Warmwater Fishes, College of Vet Medicine, UF
2008-present	Lecturer, Fish Anatomy and Physiology. Aquatic Animal Clerkship Program, College of Veterinary Medicine, UF
2008-present	Lecturer, Bacterial Diseases of fish. Aquatic Animal Clerkship Program, College of Veterinary Medicine, UF
2008-present	Lecturer, Undergraduate Honors Program, College of Public Health and Health Professions, UF
2008-present	Coursemaster, Aquatic Systems and Environmental Health (PHC 6301; Section 4858), College of Public Health and Health Professions, UF
2009	Lecturer, Public Health Issues in Haiti: Not Too Far From Home, Public Health Concepts, PHC 4101, UF (Summer & Spring Semesters)
2012	Coursemaster, Scientific Communications in Environmental Health. PHC 6937, Section 7133.

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 Membership (UMB): Vallen Emory (graduated 1998), Tina Armstrong (graduated 1999), Suzanne Jacobson (graduated 1999), Lance Yonkos (graduated 2005).
1993-2008	Ph.D. Advisor (UMB/UMCP) for: Pedro Del Valle (graduated 1999), Jim Salierno (graduated 2005), Jaime Gonzalez (graduated 2004), Pravhakar Reddy (graduated 2007), Roberta Garcia (graduated 2007), Cindy Stine (graduated 2008), Ron Miller (graduated 2008).
2000-2001	Mentor, Kristen Vance, Howard Hughes Medical Institute Undergraduate Fellow.
2002	Mentor, Park School Graduate Intern Program, Lea Schleimer, UM
2002-2003	Mentor, Claude McKay and Terrance Perkins, Morgan State University, NIH BRIDGES Undergraduate Program

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2008-2009	MPH Mentor, Special Graduate Research Project, Melissa McClain, College of Public Health and Health Professions, UF
2008-2011	Ph.D. Advisor, Stephanie Yarnell (UF IDP Program, graduated 2011).
2009-present	Advisor, Public Health Honors Program. Jacob Shumac, Monique Ellsworth, William Bledsoe, Destini Barnes, Jaclyn Pine
2010-2012	M.S. Advisor, Marie Pascale St. Martin Francois, Winner Program Scholar, School of Natural Resources and Environment, UF (graduated 2012)
2011-present	Ph.D. Mentor, Soojin Joen, School of Natural Resources and Environment, UF
2011-2013	MS. Co-Advisor, Mark Menn, Environmental Toxicology Program, University of South Alabama
2011-2013	Ph.D. Advisory Committee Member: Becky Lazensky (VetMed), College of Veterinary Medicine, UF
2011-present	Ph.D. Advisory Committee Member: Candice Lavelle, College of Veterinary Medicine, UF
2011-present	Ph.D. Advisory Committee Member: Alex Weppleman, Environmental and Global Health, College of Public Health and Health Professions, UF
2012-present	MPH Advisor, Kaitlyn Summerfield, Catherine McDermott, Andrea Ramirez, Sydney Heyter.
2012-2013	M.S. Research Mentor, Ida Øglænd, University of Stavanger, Norway
2012-present	Ph.D. Advisor, Makyba Charles, Environmental and Global Health Program, College of Public Health and Health Professions, UF
2013-present	M.S. Co-Advisor, Felipe Sanchez (Animal Science), Institute for Food and Agricultural Sciences, UF
2013-present	Ph.D. Advisory Committee Member, Luke Trimmer-Smith (Biology), College of Liberal Arts and Sciences, UF

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## 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.
- 1996-1999 National Institutes of Environmental Health Sciences (5RO1-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.

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GRANTS and CONTRACTS, continued

- 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.
- 1998-2000 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, PI. 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, PI. 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

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GRANTS and CONTRACTS, continued

- 2001-2002 Maryland Agriculture Experiment Station (MAES). Andrew S. Kane, PI. Kinetic biotransformation profiles of antimicrobials used in aquaculture: Pilot study support. \$12,000.
- 2001-2003 U.S. Environmental Protection Agency. Andrew S. Kane, PI. Development of a descriptive field guide to fish lesions. \$30,000.
- 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, PI; 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.
- 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.
- 2008-2010 Department of Commerce. Andrew S. Kane, PI. Diagnostics on deformed fish in support of St. Lucie Fish Health Study. \$14,985
- 2009-2010 Department of Commerce (NIST). Andrew S. Kane, PD; Winn Philips, Institutional PI. "Aquatic Animal Health Facility: Measuring Environmental Outcomes of Biotic Stress." \$1,267,086.
- 2009-2012 National Science Foundation. Nancy Denslow, PI; Andrew S. Kane, Co-I. Fate and toxicity of metallic nanoparticles in aquatic organisms. \$299,122.
- 2010-2011 Department of Commerce / NOAA. Andrew S. Kane PI. "Investigation of Responses to Stress in fish." \$76,035.

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GRANTS and CONTRACTS, continued

- 2010-2012 University of Florida – Opportunity Fund Award. Andrew S. Kane, PI. “Epidemiology and environmental reservoirs of mycobacteria in Florida.” \$85,610.
- 2011-2016 National Institutes of Health, NIEHS 5RO1. Andrew S. Kane, PI/Project Leader. “Seafood Hydrocarbon Residues and Coastal Community Health;” \$1,569,827 (under U19 ES020683 “Health Impact of Deepwater Horizon Spill in Eastern Gulf Coast Communities, J. Glenn Morris, PI, \$6,502,816).
- 2012-2013 FL Fish and Wildlife Conservation Commission (sub-award through Univ South Florida). Andrew S. Kane, PI. “Effect of Deepwater Horizon Oil Spill on Fish Communities.” \$86,132.
- 2012-2013 Faculty Enhancement Opportunity Award, UF. Andrew S. Kane, PI. “Professional Development and Environmental Health Training in Haiti.” \$36,079.
- 2012-2013 Institute for Food and Agricultural Sciences, UF. Andrew S. Kane, PI. “Recovery of Apalachicola Bay Oyster Resources.” \$110,000.

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.

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**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.
- 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.
- 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 Aquatic Pathobiology Laboratory (<http://aquaticpath.phhp.ufl.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
- 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., Finnson, 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, J.D., Silbergeld, E.K., and **Kane, A.S.** 2004. Altered brain activity in brevetoxin-exposed bluegill, *Lepomis macrochirus*, visualized using *in vivo* <sup>14</sup>C 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.
- 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.
- Salierno JD and Kane AS. 2009. 17 $\alpha$ -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.
- 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.
- Kane AS**, Song J, Halverson MB, Miller DL, Salierno JD, Wysocki LE, Zeddies D and Popper AN. 2010. Exposure of fish to high-intensity sonar does not induce acute pathology. *Journal of Fish Biology* 76:1825-1840.
- Salierno JD, Pollack SJ, Van Veld PA, Ottinger MA, Yonkos LT and **Kane AS**. 2012. Steroid hormones and anthropogenic contaminants in poultry litter leachates. *Water, Air, and Soil Pollution*. 223:2181-2187.
- Miller, R.A., Pelsor, F.R., **Kane, A.S.**, and Reimschuessel, R. 2012. Oxytetracycline pharmacokinetics in rainbow trout during and after an orally administered medicated feed regimen. *Journal of Aquatic Animal Health* 24:121-128.
- Weber, DN, Hesselbach R, **Kane AS**, Petering DH, Petering P, and Berg CA. 2013. Fathead minnows as a classroom model for human health. *The American Biology Teacher*. 75(3):203-209.
- Griffitt RJ, Lavelle CM, Kane AS, Denslow ND, Barber DS. 2013. Chronic nanoparticulate silver exposure results in tissue accumulation and transcriptomic changes in zebrafish. *Aquatic Toxicology* 130-131:192-200.

- 
- Bisesi Jr JH, Merten J, Liu K, Parks AN, Ferguson PL, Afrooz N, **Kane AS**, Glenn JB, Klaine SJ, Saleh N and Sabo-Attwood T. 2013. Tracking and Quantification of Single-Walled Carbon Nanotubes in Fish Using Near Infrared Fluorescence. *Environmental Science and Technology*, *In Review*.
- Wickliffe J, Overton E, Frickel S, Howard J, Wilson M, Nguyen D, Gauthé D, Blake D, Elferink K, Ansari S, Trapido E, Roberts S, Stuchal L, Munson J, Mathews A and **Kane AS**. 2013. Emerging Risks of Environmental PAHs: Analytical Advances, and Risk Assessment and Communications. *Environmental Health Perspectives*. *In Review*.
- Yarnell SC, Wellehan JFX, Johnson JA, Wallace R and **Kane AS**. 2013. Nontuberculous Mycobacteria Detected Using Novel qPCR Probes. *PLoS One*. *In Prep*.
- Yarnell SC, Wellehan JFX, Qiu Y, Blackburn J, Morris JG, Lauzardo M, Ashkin D, Johnson JA and **Kane AS**. 2013. Nontuberculous Mycobacteria in Florida Surface and Municipal Waters. *Applied and Environmental Microbiology*. *In Prep*.

## 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. Pages 559-590 in Ostrander, G.K., ed. *Methods in Aquatic Toxicology*, Volume 2. Lewis Publishers, Boca Raton, FL.
- Kane, A.S.** and Brooks R. 2011. Field identification guide for common inshore fishes caught along the northern Gulf of Mexico. APL Press, Gainesville, 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, 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.
- Interim Webmaster. University of Maryland Department of Pathology.
- Educational Outreach Developer. University of Maryland: 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>).
- Aquatic Systems and Environmental Health (course modules for PHC 6301):  
e.g., <http://aquaticpath.php.ufl.edu/aseh2012/wk7.html>

### **Outreach for funded projects:**

- Fish Lesions and Observations (US EPA): <http://aquaticpath.php.ufl.edu/lesionsguide>
- Fish Deformities in the St Lucie River (NOAA): <http://aquaticpath.php.ufl.edu/deformities>
- Quantitative Macrophage Assessment to Discern Environmental Exposure and Immune Function in Silver Porgy (NOAA): <http://aquaticpath.php.ufl.edu/macrophages>

---

## 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.**, 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.

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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., Gieseke 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. Gieseke, 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. 26<sup>th</sup> Annual Eastern Fish Health Workshop, Shepardstown, WV, Apr. 22-27, 2001.

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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.

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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. 5<sup>th</sup> 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. 5<sup>th</sup> 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. 5<sup>th</sup> 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. 30<sup>th</sup> 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. 30<sup>th</sup> 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. 30<sup>th</sup> 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 6<sup>th</sup> 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 $\alpha$ -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. 31<sup>st</sup> 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. 31<sup>st</sup> 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. 6<sup>th</sup> 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. 6<sup>th</sup> 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. 6<sup>th</sup> International Symposium on Aquatic Animal Health, Tampa, FL.

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ABSTRACTS, continued

- Yarnell SC, Wellehan JFX, Qiu Y, Blackburn J, Lauzardo M, Askhin D, Johnson JA, Morris JG and **Kane AS**. 2010. Nontuberculous mycobacteria in Florida surface and drinking waters. Emerging Pathogens Institute Research Day.
- Kane AS**, Crozier GF, Grattan L, Mayer B and Morris JG. 2011. Ecosystem health as a basis for human health: Lesions learned from the Deepwater Horizon oil spill. Society for Environmental Toxicology and Chemistry, Special session on environmental outcomes of the Deepwater Horizon oil spill, Pensacola, FL.
- Yarnell SC, Wellehan JFX, Johnson JA, and **Kane AS**. 2011. Nontuberculous mycobacteria in Florida. 97<sup>th</sup> Annual Meeting of the American Society for Microbiology, Southeastern Branch. Gainesville, FL.
- Romero IC, Hollander DJ, Patterson W, Quintana-Rizzo E, **Kane AS**, Murawski S, Pebbles EB, Ellis G, Goddard EA, Zenzola N, Means Z and Torres JJ. 2012. Organic geochemical evidence for oil spill impacts on fish in the Gulf of Mexico: Comparative and quantitative analyses of polycyclic aromatic hydrocarbons. Association for the Sciences of Limnology and Oceanography. Salt Lake City, UT
- Kane AS, St. Martin P, Pine W, Adesogan A and Redden E. 2012. Sustainable feed production to support tilapia aquaculture in Haiti. Emerging Pathogens Institute 2012 Research Day, Gainesville, FL; and Opening Celebration of UF Public Health Research Laboratory (President and Rosalynn Carter, attending), Gressier, Haiti.
- Kane AS**, Roberts S, Munson J, Stuchal L, Charles MKS, Weil R, Shakeel A, Wickliffe J and Overton E. 2012. Analyses of inshore-harvested seafood from the Gulf of Mexico: Addressing public health and community needs after the Deepwater Horizon oil spill. 33<sup>rd</sup> Annual Meeting of the Society for Environmental Toxicology and Chemistry, Long Beach, CA.
- Kane AS**, Brooks R and Mathews AE. 2012. Inshore fish identification guide and plated seafood portion guides to support seafood risk assessment studies in northern Gulf of Mexico communities. 33<sup>rd</sup> Annual Meeting of the Society for Environmental Toxicology and Chemistry, Long Beach, CA.
- Bisesi JH, Merten J, Parks AN, Ferguson PL, **Kane AS** and Sabo-Attwood T. 2012. Examining single walled carbon nanotube distribution in live fish during gavage and feeding studies using near infrared fluorescence detection. 33<sup>rd</sup> Annual Meeting of the Society for Environmental Toxicology and Chemistry, Long Beach, CA.
- Kane AS**, Roberts S, Munson J, Stuchal L, Charles MKS, Weil R, Shakeel, A, Wickliffe J and Overton E. 2013. Analyses of inshore-harvested seafood from the Gulf of Mexico: Addressing public health and community needs after the Deepwater Horizon oil spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA
- Kane AS**, Brooks R and Mathews AE. 2013. Inshore fish identification guide and plated seafood portion guides to support seafood risk assessment studies in northern Gulf of Mexico communities. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA

- Kane AS**, Pine J, James MO, Romero IC, Hollander DJ and Patterson WF. Submitted October 2013. Splenic macrophage aggregates as potential biomarker of exposure in red snapper samples from the northern Gulf of Mexico post-DWH oil spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL
- Romero IC, Hollander DJ, Brooks GR, Patterson WF, Murawski S, Ross SW, Torres JJ, **Kane AS**, Schwing P, Quintana-Rizzo E, Larson RA, Goddard EA and Zenzola N. Submitted October 2013. Tracking the persistence of polycyclic aromatic hydrocarbons from the Deepwater Horizon blowout: From deep-sea sediments to fish communities, northern Gulf of Mexico, USA. Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL
- Smeltz M, Glicksman L, Zhong G, Rowland-Faux L, James MO, **Kane AS** and Patterson WF. Submitted October 2013. Exploring factors impacting the activity of a polycyclic aromatic hydrocarbon exposure biomarker, EROD, in livers of finfish from the Gulf of Mexico. Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL
- Charles MKS, Stuchal LD, Roberts SM, Matthews AE, Brumback BA, Brooks R and **Kane AS**. Submitted October 2013. Food frequency questionnaire to discern seafood consumption patterns in northern Gulf of Mexico communities as relevant to the DWH oil spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL
- Kane AS**, Irani T, Lindsey A, Roberts SM, Stuchal LD, Munson J, Overton EJ, Ansari S and Wickliffe JK. Submitted October 2013. Vocabulary of DWH oil spill seafood toxicology: Optimizing communications and comprehension for Gulf of Mexico coastal residents. Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL

#### 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.



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- 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
- 2011 “Food Microbiology” Session Leader, 97<sup>th</sup> Annual Meeting of the American Society for Microbiology, Southeastern Branch, Gainesville, FL
- 2011 “Tilapia Aquaculture in Haiti.” Invited contributor to special session of World Aquaculture Society International Meeting, New Orleans, LA
- 2011 “Ecosystem Health as a Basis for Human Health” Lesions Learned from the Deepwater Horizon Oil Spill.” Society for Environmental Toxicology and Chemistry, Focused Topic Meeting on Gulf Oil Spill, Pensacola Beach, FL.
- 2012 “Bridging Environmental and Public Health Issues in the Wake of the Deepwater Horizon oil spill” (*invited*). Duke University Superfund Research Center, Integrated Toxicology and Environmental Health Program, Washington Duke Conference Center, Durham, NC.

## 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. Hour-long interview with University of Maryland Television (with cable-syndicated broadcasts).
- 2004 Good Fish, Bad Fish: Fish disease issues, regional aquaculture projects, and tasty new recipes. Maryland Ag Day, UMCP
- 2011 UF Research Team To Study Effects of Gulf Oil Spill. The Gainesville Sun (Nathan Crabbe reporting 7/7/2011).
- 2011 "Improving Military Readiness" Armed Forces Health Surveillance Center Contributions in Haiti. Contribution to the Henry M. Jackson Foundation for the Advancement of Military Medicine, 2011 Annual Report.

## 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.

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- 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, Education, and Urban Environmental Justice Issues, 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
- 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 10<sup>th</sup> 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

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INVITED PRESENTATIONS, continued

- 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 System-wide aquaculture outreach group, in collaboration with Maryland Sea Grant, for Maryland Aquafarmers and Water Gardeners. UMCP, College Park, MD.
- 2005 “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: 5<sup>th</sup> 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: 5<sup>th</sup> 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: 5<sup>th</sup> 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.

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INVITED PRESENTATIONS, continued

- 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  $\alpha$ -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
- 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 “Fish with Tuberculosis.” Public Lecture Series. Whitney Laboratory for Marine Bioscience. St. Augustine, 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
- 2011 “Public Health Efforts in Haiti; UF Panel Talks on the One Year Anniversary of the Earthquake.” Radio interview by WUFT-FM, local National Public Radio Station, Gainesville, FL (aired 1/11/11 and 1/12/11).
- 2011 “Nontuberculous Mycobacteria in Florida Surface and Municipal Waters.” Emerging Pathogens Institute Research Day.
- 2011 “Raising Fish and Cleaning up Drinking Water in Haiti.” Television interview through WUFT-TV Channel 5, Gainesville, FL (aired 1/12/11).
- 2011 “Protein Production and Fish Farming in Haiti.” Workshop in Tilapia Aquaculture in Haiti, International Meeting of the World Aquaculture Society, New Orleans, LA
- 2011 “From the Chesapeake to Okeechobee: Tales of Environmental Mycobacteria.” Merit-NIH National Veterinary Scholars Symposium, Orlando, FL

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INVITED PRESENTATIONS, continued

- 2011 “Environmental Mycobacteria: Environmental Stressors, Reservoirs and Hosts.” School of Natural Resources and Environment, Graduate Seminar Series, Gainesville, FL
- 2011 “UF Research Team Gets \$6.5 Million to Study effects of Oil Spill. Gainesville Sun July 7, 2011.
- 2011 “Aquaculture-based Protein Production in Haiti: Development of Sustainable Feeds.” Public Health Research Facility – Grand Opening Ceremony, Gressier, Haiti.
- 2012 “Bridging environmental and public health issues in the wake of the Deepwater Horizon oil spill.” Duke University Superfund Research Center, Integrated Toxicology and Environmental Health Program, Washington Duke Conference Center, Durham, NC.
- 2012 “Multidisciplinary academic engagement to provide public health support in Haiti.” Association of Public and Land-Grant Universities, Commission on International Activities, Mystic CT.
- 2012 “Aquaculture-based protein to support school-aged children in Haiti: Public health and societal eye-openers in a foreign land.” Graduate Seminar in Food Sciences. UF Institute for Agriculture and Food Science, Gainesville, FL

### **The Aquatic Pathobiology Program: Physical plant and animal facilities.**

The Aquatic Pathobiology Laboratories constitute a 7,000 square foot satellite facility of the UF Emerging Pathogens Institute and the University's Animal Facility, and provide state-of-the-art research infrastructure dedicated to environmental and aquatic animal health. This facility houses specialized animal facility space, wet- and dry laboratory space for water quality analyses, microscopy, and cell and molecular biology; a microbiology suite with BSL2+ capacity; a molecular diagnostics suite; and office space that currently supports 5 full-time faculty, 14 collaborating faculty, 4 postdoctoral associates, 12 graduate students and 4 technical staff. Laboratory faculty, representing multiple departments and units within the Colleges of Public Health and Health Professions, Veterinary Medicine, Medicine, Agriculture and Life Sciences, and the Institute for Food and Agriculture Sciences, bring together a diverse cadre of expertise and capacity including pathogen discovery, pathology, toxicology, risk assessment, disease ecology, GIS, and environmental and clinical microbiology. The animal facility is approved by, and operates under the auspices of, the University's AAALAC-approved Institutional Animal Care and Use Guidelines. The specialized animal facilities have a dedicated central water filtration and distribution system, a circulating 3,000-gallon saltwater carboy system, computer-controlled behavioral toxicology exposure system, isolated negative-pressure acclimation and treatment rooms for both chemical and biological exposures, small- and large-animal necropsy rooms, a computer-controlled dusk/dawn lighting system, and over 3,500 gallons of flow-through, static, and static-renewal exposure and maintenance aquaria. Together with the University's Center for Environmental and Human Toxicology, the Marine Animal Disease Laboratory, the Aquatic Animal Health Program, and the Emerging Pathogens Institute, the Aquatic Pathobiology Laboratories provide unique research and teaching infrastructure at UF.

