

CURRICULUM VITAE

GARY K. OSTRANDER

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EDUCATION

Seattle University	B.S. Biology (Magna Cum Laude)	1980
Illinois State University	M.S. Biology	1982
University of Washington	Ph.D. Ocean and Fisheries Science (Aquatic Toxicology)	1986

PROFESSIONAL EXPERIENCE

1986 - 1989 NIH Postdoctoral Fellow, Department of Pathology, School of Medicine, University of Washington, Seattle, WA

1986 - 1990 Staff Scientist, Pacific Northwest Research Foundation, Seattle, WA

1988 - 1990 Research Assistant Professor, Department of Biology, Seattle University, Seattle, WA

1990 - 1993 Assistant Professor, Department of Zoology, Oklahoma State University, Stillwater, OK

1993 - 1996 Associate Professor with Tenure, Department of Zoology, Oklahoma State University, Stillwater, OK

1994 - 1998 Adjunct Associate Professor, Department of Biochemistry and Molecular Biology, Oklahoma State University, Stillwater, OK

1995 - 1996 Director, Oklahoma Water Resources Research Institute, State of Oklahoma

1995 - 1996 Director, The Environmental Institute, Oklahoma State University, Stillwater, OK

1995 - 1996 Associate Dean of the Graduate College, Oklahoma State University, Stillwater, OK

1996 - 2003 Associate Dean for Research, School of Arts and Sciences, Johns Hopkins University, Baltimore, MD

2003 - 2004 Vice-Dean for Research and Graduate Education, Krieger School of Arts and Sciences, Johns Hopkins University, Baltimore, MD

1997 - present Research Professor, Department of Biology, Johns Hopkins University, Baltimore, MD

1997 - present Research Professor, Division of Comparative Medicine, School of Medicine, Johns Hopkins University, Baltimore, MD

1998 - present Chair, Graduate Board, Johns Hopkins University, Baltimore, MD

2001 - present Associate Provost for Research, Johns Hopkins University, Baltimore, MD

CURRENT GRANTS

Howard Hughes Medical Institutes, Principal Investigator, 2002 Undergraduate Biological Sciences Education Program. Total costs: \$2,200,000. Support Period 9/1/03 - 8/31/07.

National Oceanographic and Atmospheric Administration. Development of Biomarkers for Coral Reef Health. Sub-award from grant to Dr. Robert Richmond. Total costs: \$115,000. Support Period 11/1/02 - 10/31/05.

PROFESSIONAL ACTIVITIES

Organized a Symposium entitled "Environmental Perturbations and Fish Behavior", for the Fifth Biennial Conference on the Ecological and Evolutionary Ethology of Fishes. May 1985, University of Guelph, Canada.

Organized a Symposium entitled "Cancer: Fish as Models for Understanding Environmental Carcinogenesis" for the 12th Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 1991, Seattle, WA

Organized a Symposium entitled "Ecotoxicology of Aquatic Tropical Environments" for the Fourth World Congress and 25th Annual Meeting of the Society for Environmental Toxicology and Chemistry.

14-18 November 2004. Portland, OR.

Distinguished Visiting Scientist (8/04 – 9/04) Korean Science and Technology Foundation (KOSF)
National Glycobiology Center/National Glycobiology Center. South Korea.

Visiting Scientist (1/90 - 3/90), Laboratory of Dr. Lawrence A. Loeb, Gottstein Memorial Cancer Research
Laboratory, University of Washington, Seattle, WA.

Participant:: American Association for Cancer Research Workshop, "Histopathology of Neoplasia",
July, 1994.

Co-Organizer: Mini-symposium on Cancer and Cancer Diagnostics. Oklahoma State University,
Stillwater, OK July, 1996

Editor: Editorial Board for *Aquatic Toxicology 1996- present*; Book Reviews Section Editor of *Aquatic
Toxicology*, 1991-1996; *Encyclopedia of Life Support Systems*, 1995-1999.

Ad Hoc reviewer for 12+ NIH site-visits and study sections.

Reviewer for NSF, USDA, EPA, NIH, Nature Conservancy, Biomedical Research Council of Singapore,
National SeaGrant, NOAA and USGS grant programs.

Board of Directors, National Institutes for Water Resources, 1995 - 1996

Inter-American Water Resources Network's Advisory Council, 1995 - 2000

International Affairs Committee for Society of Environmental Toxicology and Chemistry, 1995 - 1998

Participant:: Leadership Skills Assessment for Professional Development, June 1997

Advisory Board, National Aquarium in Baltimore, 1997 - present

PEW Fellow Nominee in Marine Conservation 1997/98

Steering Committee for the Policy Center for Marine Biosciences and Technology/ECOS, 1999 - present

AAU Task Force on Federal Graduate Education Programs, 2000 - present

Selection Committee, 2001 Council of Graduate Schools/University Microfilms International Distinguished
Dissertation Award.

Oversight Committee, Maryland Space Grant Consortium, 2002-present

Executive Committee (Association of Graduate Schools) of the Association of American Universities,
2003 - present

Member: Alpha Sigma Nu, Sigma Xi, American Association for Cancer Research, Society of
Environmental Toxicology and Chemistry, American Association for the Advancement of Science

PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC JOURNALS

(published abstracts not listed)

Ostrander, G.K. 1982. Discovery of an isolated colony of rock iguanas. *Bahamas Naturalist*
6(2):22-24.

Ostrander, G.K. and Lamon, M.S. 1983. An analysis of successive spawns of orange chromides,

- Etroplus maculatus*. *Transactions of the Illinois Academy of Science* 76(1&2):161-163.
- Ostrander, G.K.** and Ward, J.A. 1985. The role of the pelvic fins during courtship and spawning in the orange chromide, *Etroplus maculatus*. *Environmental Biology of Fishes* 13(3):200-207.
- Holmes, E.H., **Ostrander, G.K.** and Hakomori, S.I. 1985. Enzymatic basis for the accumulation of glycolipids with X and dimeric X determinants in human lung cancer cells(NCI-H69). *Journal of Biological Chemistry* 260(12):7619-7627.
- Holmes, E.H., **Ostrander, G.K.**, and Hakomori, S. 1986. Biosynthesis of the sialyl Le^x determinant carried by type 2 chain glycosphingolipids (IV³NeuAcIII³Fuc³Lc₄, VI³NeuAcV³Fuc³Lc₆, and VI³NeuAcIII³V³Fuc₂nLc₆) in human lung carcinoma PC-9 cells. *Journal of Biological Chemistry* 261:3737-3743.
- Holmes, E.H., **Ostrander, G.K.**, Clausen, H., and Graem, N. 1987. Oncofetal expression of Le^x carbohydrate antigens in human colonic adenocarcinomas: Regulation through type 2 core chain synthesis rather than fucosylation. *Journal of Biological Chemistry* 262:11331-11338.
- Holmes, E.H., Hakomori, S.I. and **Ostrander, G.K.** 1987. Synthesis of Type 1 and 2 lacto series glycolipid antigens in human colonic adenocarcinoma and derived cell lines is due to activation of a normally unexpressed β 163N-acetylglucosaminyltransferase. *Journal of Biological Chemistry* 262:15649-15658.
- Ostrander, G.K.**, Scribner, N.K., and Rohrschneider, L.R. 1988. Inhibition of *v-fms*-induced tumor growth in nude mice by castanospermine. *Cancer Research* 48:1091-1094.
- Ostrander, G.K.**, Levery, S.B., Hakomori, S., and Holmes, E.H. 1988. Isolation and characterization of the major acidic glycosphingolipids from the liver of the English sole (*Parophrys vetulus*): presence of a novel ganglioside with a forssman antigen determinant. *Journal of Biological Chemistry* 263:3103-3110.
- Ostrander, G.K.**, Levery, S.B., Hakomori, S., Eaton, H.L., Salyan, M.K. and Holmes, E.H. 1988. Isolation and characterization of four major neutral glycosphingolipids from the liver of the English sole (*Parophrys vetulus*): presence of a novel branched lacto-ganglio-iso-globo hybrid structure. *Journal of Biological Chemistry* 263:18716-18725.
- Ostrander, G.K.**, Landolt, M.L., and Kocan, R.M. 1988. The ontogeny of coho salmon (*Oncorhynchus kisutch*) behavior following embryonic exposure to benzo(a)pyrene. *Aquatic Toxicology* 13:325-46
- Ostrander, G.K.**, M.L. Landolt and Kocan, R.M. 1989. Life history study of coho salmon (*Oncorhynchus kisutch*) following embryonic exposure to benzo(a)pyrene. *Aquatic Toxicology* 15:109-126.
- Ostrander, G.K.**, Anderson, J.J., Landolt, M.L., Fisher, J. and Kocan, R.M. 1990. Decreased performance of coho salmon (*Oncorhynchus kisutch*) and rainbow trout (*Salmo gairdneri*) emergence behaviors following embryonic exposure to benzo(a)pyrene. *Fishery Bulletin* 88:551-555.
- Jenner, N.K., **Ostrander, G.K.**, Kavanagh, T., Rabinovitch, P., Livesy, J., and Holmes, E.H. 1990. A flow cytometric comparison of DNA content, glutathione, and peroxide levels in hepatocytes of English sole from areas of differing water quality. *Archives of Environmental Contamination and Toxicology* 19:807-815.
- Malins, D.C., **Ostrander, G.K.**, Haimanot, R. and Williams, P. 1990. A novel DNA lesion in neoplastic livers of feral fish: 2,6-diamino-4-hydroxy-5-foramidopyrimidine. *Carcinogenesis* 11:1045-1047.
- Malins, D.C. and **Ostrander, G.K.** 1991. Perspectives in Aquatic Toxicology. *Annual Review of Pharmacology and Toxicology* 31:371-399.
- Ostrander, G.K.**, Bozlee, M., Fukuda, M., Dell A., Thomas-Oates, J.E., Levery, S.B., Hakomori, S. and Holmes, E. 1991. Isolation and characterization of the major glycosphingolipids from the liver of the rainbow trout (*Oncorhynchus mykiss*): identification of an abundant source of 9-O-Acetyl GD₃. *Archives of Biochemistry and Biophysics* 284:413-421.
- Ostrander, G.K.** and Holmes, E.H. 1991. Characterization of a CMPNeuAc:lactosylceramide α 263 sialyltransferase from rainbow trout hepatoma (RTH-149) cells. *Comparative Biochemistry and Physiology* 98:87-95.
- Fenderson, B.A., **Ostrander, G.K.**, Hausken, Z., Radin, N.S., and Hakomori, S.I. 1992. Effects of PDMP, an inhibitor of glucosylceramide synthetase, on glycolipid expression in a fish embryo. *Experimental Cell Research* 198:362-366.
- Ostrander, G.K.**, Blair, J.B., Stark, B.A., Hurst, J. 1993. Response of rainbow trout liver to partial

- hepatectomy. *Aquatic Toxicology* 25:31-42.
- Ostrander, G.K.**, Kuehn, R.L., Berlin, K.D., and Hawkins, W.E. 1995. Anthropogenic contaminants and fish health along an urban waterway. *Environmental Toxicology and Water Quality* 10(3):207-215.
- Mercref, Y., **Ostrander, G.K.**, and El Rassi, Z. 1995. Capillary electrophoresis of carboxylated carbohydrates. 1. Selective precolumn derivatization of gangliosides with UV absorbing and fluorescent tags. *Journal of Chromatography*. 695:83-95.
- Mercref, Y., **Ostrander, G.K.**, and El Rassi, Z. 1995. Capillary electrophoresis of carboxylated carbohydrates. 2. Selective precolumn derivatization of sialo-oligosaccharides derived from gangliosides with 7-aminonaphthalene-1,3-disulfonic acid fluorescing tag. *Electrophoresis*. 16:1499-1504.
- Ostrander, G.K.**, Mayes, M.L. 1995. International partnership and site development on foreign soil: development of field courses. *National Issues in Higher Education*. 44:184-192.
- Ostrander, G.K.**, Blair, J.B., Stark, B.A., Marley, G.M., Bales, W.D., Veltri, R.W., Hinton, D.E., Okihiro, M., Ortego, L.S., Hawkins, W.E. 1995. Long-term primary culture of epithelial cells from rainbow trout (*Oncorhynchus mykiss*) liver. *In Vitro Cellular & Developmental Biology*. 31:367-378.
- Kuehn, R.L., Berlin, K.D., Hawkins, W.E., and **Ostrander, G.K.** 1995. Anthropogenic contaminants and fish health near three oil refineries. *Journal of Toxicology and Environmental Health*. 46:101-116.
- Ostrander, G.K.**, Hawkins, W.E., Kuehn, R.L., Jacobs, S.D., Berlin, K.D., Pigg, J. 1995. Epizootic of peripheral nerve sheath tumors in feral gizzard shad (*Dorosoma cepedianum*). *Carcinogenesis*. 16:1529-1535.
- Jacobs, A.D. and **Ostrander, G.K.** 1995. Etiological studies of subcutaneous neoplasms in feral gizzard shad, *Dorosoma cepedianum*. *Environmental Toxicology and Chemistry*. 14:1781-1787.
- Blair, J.B., **Ostrander, G.K.**, Miller, M.M., Hinton, D.E. 1995. Isolation and characterization of biliary epithelial cells from rainbow trout liver. *In Vitro Cellular & Developmental Biology*. 31:778-787.
- Hawkins, W.E., Gregory, D.G., Jacobs, A.D and **G.K. Ostrander**. 1996. Unusual dermal hemangiopericytoma in a white bass, *Monrone chrysops*. *Journal of Aquatic Animal Health*. 8:150-154.
- Meehan, W. and **Ostrander, G.K.** 1997. Coral Bleaching: A potential biomarker of environmental stress. *Journal of Toxicology and Environmental Health*. 50:529-552.
- Z. El Rassi, Postlewait, Mecref, Y., and **G.K. Ostrander**. 1997. Capillary electrophoresis of carboxylated carbohydrates. III. Selective precolumn derivatization of glycosaminoglycan disaccharides with 7-aminoaphthalene-1,3-disulfonic acid fluorescing tag for ultra-sensitive laser induced fluorescence detection. *Analytical Biochemistry*. 244:283-290.
- Cao, Y., Blair, J.B., and **Ostrander, G.K.** 1997. The initial report of the establishment of primary liver cell cultures from medaka (*Oryzias latipes*). *The Journal of Fish Biology-Medaka*. 8:47-56.
- Schehl, C.M and **Ostrander, G.K.** 1997. Germline mutation of *BRCA1* in a Japanese ovarian cancer family. *Journal of the National Cancer Institute*. 89:1547-1548.
- Jordán-Dahlgren, E., Cortés, J., Smith, S.R, Parker, C, Oxenford, H.A., Varela, R., Lano, M., Capelo, J.C., Velazques, Y., Ruiz, R., Rodríguez, R., van Tussenbroek, B., Singh, J.G., George, S., Smith, A., Buchan, K., Koltes, K.H., Tschirsky, J.J., Feller, I.C., García, J.R., Smith, C., Winter, A., Geraldles, F.X., Gayle, P.M.H., Woodley, J., Haley, M., Herrera-Silveira, J.A., Ramírez-Ramírez, J., Sánchez-Arguelles, R.D, Gerace, D., **Ostrander, G. K.**, Smith, G., Ryan, J., Miller, J.L., Laysoo, R.S., Bonair, K., Alleng, G., Garzón-Ferreira, J., Bone, D., Penchaszadeh, P., Ogden, J.C., Zieman, J., Kyerve, B., Wiebe, W., Alcolado, P.M., Sosa, M., Gómez, R., García-Parrado, P., Menéndez, L. 1997. Physiography and setting of CARICOMP sties: a pattern analysis. *Proc. 8th Int. Coral Reef Sym.* 1:647-650.
- Woodley, J.D., Smith, S.R., Garzón-Ferreira, J, Kolter, K., Alcolado, P., Bonair, K., Bone, D., Buchan, K., Bush, P., DeMeyer, K., García, J.R., García-Parrado, P., Gayle, P., Gerace, D., Geraldles, F.X., Jordán-Dahlgren, E., Knobbe, E., Klein, E., Laydoo, R, Losada, F., Menéndez, G., **Ostrander, G.K.**, Oxenford, H., Parker, C, Pors, L.P.J.J., Ruiz-Renteria, F., Ryan, J., Tschirky, J., and R. Varela. 1997. CARICOMP monitoring of coral reefs. *Proceedings of the 8th International Coral Reef Symposium*. 1:651-656.
- Woodley, J.D., Bone, D., Buchan, K., Bush, P., DeMeyer, K., Garzón-Ferreira, J., Gayle, P., Gerace, D., Grober, L., E., Klein, Koltes, K., Losada, F., McField, M.D., McGrath, T., Menedes, J.M.,

- Nagelkerken, I., **Ostrander, G.K.**, Pors, L.P.J.J., Rodríguez, A., Rodríguez, R., Ruiz-Renteria, F., Smith, G., Tschirky, J., Alcolado, P., Bonair, K., Garcia, J.R., Geraldes, F.X., Guzman, H., Parker, C., and S.R. Smith. 1997. Studies of Caribbean coral bleaching 1995-96. *Proceedings of the 8th International Coral Reef Symposium*. 1:673-678.
- Mechref, Y., **G.K. Ostrander** and Z. El Rassi. 1997. Capillary electrophoresis of carboxylated carbohydrates. IV. Adjusting the separation selectivity by controlling the electrolyte ionic strength at reduced electroosmotic flow and subambient temperature. *Journal of Chromatography A*. 792: 75-82.
- Getter, D.R., Hawkins, W.E., Means, J.C. and **Ostrander, G.K.** 1998. Pigmented subcutaneous spindle cell tumors in gizzard shad (*Dorosoma cepedianum*): Occurrence in two additional lakes and further investigations into the etiology of the lesions. *Environmental Toxicology and Chemistry*. 17:2282-2287.
- Schehl, C.M. and **Ostrander, G.K.** 1998. Lack of germline mutations indicates the retinoblastoma (*Rb*) gene is not involved in hereditary predisposition to ovarian cancer in Japanese women. *Gynecologic Oncology*. 70:440-442.
- Fabacher, D.L., Little, E.E. and **Ostrander, G.K.** 1999. Tolerance of an albino freshwater fish to ultraviolet-B radiation. *Environmental Science & Pollution Research*. 6(2):69-71.
- Meehan, W.J., Spencer, J.P.E., Rannels, D.E., Welch, D.R., Knobbe, E.T., and **Ostrander, G.K.** 1999. Hydrogen peroxide induces oxidative damage in rate type II pulmonary epithelial cells. *Environmental and Molecular Mutagenesis*. 33:273-278.
- Kopecky, L.J. and **Ostrander, G.K.** 1999. Isolation and primary culture of viable multicellular endothelial isolates from hard corals. *In Vitro Cellular & Developmental Biology*. 35:616-624.
- Ostrander, G.K.**, Armstrong, K.M., Knobbe, E.T., Gerace, D., Scully, E.P. 2000. Rapid transition in the structure of a coral reef community: the effects of coral bleaching and physical disturbance. *Proceedings of the National Academy of Sciences, USA*. 97:5297-5302.
- Zhang, M.Q., **Ostrander, G.K.**, and El Rassi, Z. 2000. Capillary electrochromatography with novel stationary phases IV. Retention behavior of glycosphingolipids on porous and non-porous octadecyl sulfonated silica. *Journal of Chromatography A*. 887(1-2):287-297.
- Malins, D.C., Polissar, N.K., **Ostrander, G.K.**, Vinson, M.A. 2000. Single 8-oxo-guanine and 8-oxo-adenine lesions induce striking changes in the backbone structure of a 25-base DNA strand. *Proceedings of the National Academy of Sciences, USA* 97(23), 12442-12445.
- Rotchell, J.M., Blair, J.B., Shim, J.-K. and **Ostrander, G.K.** 2001. Cloning of the *Retinoblastoma* cDNA from the Japanese medaka (*Oryzias latipes*) and preliminary evidence of mutational alterations in chemically-induced retinoblastomas. *Gene*, 263:231-237.
- Rotchell, J.M., Unal, E., Van Beneden, R.J., **Ostrander, G.K.** 2001. *Retinoblastoma* gene mutations in chemically-induced liver tumor samples of Japanese medaka (*Oryzias latipes*). *Marine Biotechnology*. 3:S44-S49.
- Rotchell, J.M., Lee, J.-L., Chipman, J.K. and **Ostrander, G.K.** 2001. Structure, expression and activation of fish *ras* genes. *Aquatic Toxicology*. 55:1-21.
- Rotchell, J.M., B. Scoggins, J.B. Blair, and **Ostrander, G.K.** 2001. Isolation and characterization of the retinoblastoma protein from fish. *Comparative Biochemistry and Physiology-B*. 130:385-391.
- Domart-Coulon, I.J., Ebert, D.C., Scully, E.P., Calimlim, P.S. and **Ostrander, G.K.** 2001. Aragonite crystallization in primary cell cultures of multi-cellular isolates from a hard coral, *Pocillopora damicornis*. *Proceedings of the National Academy of Sciences, USA* 98:11885-11890.
- Scully, E.P. and **Ostrander, G.K.** 2001. Laboratory models for the study of coral pathologies. *Hydrobiologia*. 460:91-95.
- Rotchell, J.M. and **Ostrander, G.K.** 2003. Molecular markers of endocrine disruption in aquatic organisms. *Journal of Toxicology and Environmental Health, Part B*. 6:453-495.
- Fleming, M.A., Potter, J., Ramirez, C.J., **Ostrander, G.K.**, Ostrander, E.A. 2003. Understanding missense mutations in the *BRCA1* gene: An evolutionary approach. *Proceedings of the National Academy of Sciences, USA*. 100:1151-1156.
- Domart-Coulon, I.J., Sinclair, C.S., Hill, R.T., Tambutte, S., Puvarel, S., **Ostrander, G.K.** 2004. A basidiomycete fungus isolated from the skeleton of healthy *Pocillopora damicornis* hard coral

- selectively stimulates the short-term survival of coral skeletogenic cells. *Marine Biology*. In Press
Published on line in November 2003.
- Ramirez C.J., Fleming M.A. Potter J.D. **Ostrander G.K.**, Ostrander E.A. 2004. Marsupial BRCA1: conserved regions in mammals and the potential effect of missense changes. *Oncogene*; 23(9): 1780-1788.
- Mailins, D.C., Anderson, K.M., Polissar, N.L., **Ostrander, G.K.**, Knobbe, E.T., Green, V.M., Gilman, N.K., and Spivak, J.L.. 2004. Models of DNA structure are highly predictive of myelodysplastic syndrome. *Proceedings of the National Academy of Sciences, USA*. 101:5008-5011.
- Ostrander, G.K.**, Cheng, K.C., Wolfe, M.J., and Wolf, J.C. 2004. Shark cartilage, cancer, and the growing threat of pseudoscience. *Cancer Research* 64:8485-8491.
- Richmond, R. Downs, C.A., Rongo, T., Rougee, L., Mandiola, W., Holbrook, J. **Ostrander, G.K.** Cellular diagnostics reveals a quantifiable response in hard corals to various anthropogenic insults *In Situ: Analysis of six watersheds on Guam*. In Review.

Manuscripts in Preparation

- Sinclair, C.S., Richmond, R., **Ostrander, G.K.** Key to long life?: Scleractinian coral telomeres capped with vertebrate-like telomere repeats.
- E. P. Scully, C. Sinclair, **Ostrander, G.K.** Environmental assessment of coral reefs: the role of toxicology.

BOOKS

- Malins, D.C. and Ostrander, G.K.** (editors) 1994. *Aquatic Toxicology: Molecular, Biochemical, and Cellular Perspectives*. Lewis Publishers, 516pp ISBN, 0-87371-545-4.
- Ostrander, G.K.** (editor). 1996. *Handbook of Techniques in Aquatic Toxicology-Volume 1*. Lewis Publishers/CRC Press, 686pp, ISBN, 1-56670-149-X.
- Ostrander, G.K.** & Brocksmith, R. 1997. *The Fishes of San Salvador*. Oklahoma State University 54pp, ISBN, 0-93509-64-8.
- Ostrander, G.K.** (editor) 2000. *The Handbook of Experimental Animals: The Laboratory Fish*. Academic Press. 678pp, ISBN, 0-12-529650-9.
- Ostrander, G.K.** (editor). 2005. *Handbook of Techniques in Aquatic Toxicology-Volume 2*. Lewis Publishers/CRC Press. 788pp. ISBN 1-56670-664-5. In Press

WHITEPAPER

- Ostrander, G.K.**, S.L. Salzberg, C.Downs, K. Heidelberg, J.C. Venter, & C.M. Fraser. Sequencing the genome of the coral, *Porites lobata*. Submitted NHGRI on October 10, 2003.

OTHER PUBLICATIONS

(published abstracts not listed)

- Strickland, R.N., Grosse, D.J., Stubbin, A.I., **Ostrander, G.K.**, and Sibley, T.H. 1985. Definition and characterization of data needs to describe the potential effects of increased atmospheric CO₂ on marine fisheries from the northeast Pacific Ocean. Carbon Dioxide Research Program, U.S. Department of Energy, Washington D.C. 139 pp.
- Ostrander, G.K.** 1988. Symbiotic Relationships in Marine Aquaria. *Northwest Aquaria* 10:11-13.
Note: This paper was voted best "Marine Article" and was runner-up for best "Overall Article"

- by the Federation of American Aquarium Societies for articles published in 1988.
- Ostrander, G.K.** and Malins, D.C. 1990. Chronic fish toxicity: the complementary nature of field and laboratory studies with reference to Puget Sound, USA. In: *Basic Science in Toxicology: The Proceedings of the Vth International Congress of Toxicology* (G.N. Volans, J. Sims, F.M. Sullivan, and P. Turner eds.) pp.174-183. Invited Paper.
- Ostrander, G.K.** and Kuehn, R.L. 1993. Evaluation of water, sediments, morphometrics, and liver histopathology of channel catfish collected from impacted and reference sites along the Arkansas River, Tulsa, OK. Technical Report, U.S. Fish and Wildlife Service. 68 pp.
- Ostrander, G.K.** and Kuehn, R.L. 1993. Initial findings on the status of fish health collected from impacted sites in Oklahoma. Technical Report, U.S. Geological Survey. 25 pp.
- Van Beneden, R.J. and **Ostrander, G.K.** 1994. Expression of Oncogenes and Tumor Suppressor Genes in Teleost Fishes. In: *Aquatic Toxicology: Molecular Biochemical, and Cellular Perspectives* (D.C. Malins and G.K. Ostrander eds.) Lewis Publishers, pp. 295-326.
- Ostrander, G.K.** 1994. Baseline studies of coral reef fish assemblages around San Salvador Island, Bahamas: Initial preparation for potential bleaching events. Proceedings of the 26th Annual Meeting of the Association of Marine Laboratories of the Caribbean. pp.183-196.
- Ostrander, G.K., Fekete, A., Shim, J.-K., Hawkins, W.E., Blair, J.B. 1994. Preliminary studies using the medaka (*Oryzias latipes*) to study the function of the retinoblastoma tumor suppressor gene. U.S. Army Technical Report.
- Ostrander, G.K.**, Shim, J.-K., Cooper, D., Gregory, D.G., Blair, J.B. 1995. Expression of the retinoblastoma suppressor gene, message, and protein product in the medaka (*Oryzias latipes*). U.S. Army Technical Report.
- Ostrander, G.K.** & J.B. Blair. 1997. The role of growth factors during teleost carcinogenesis. In: *Spontaneous Animal Tumors: A Survey* (L. Rossi, R. Richardson & J. Harshbarger editors). pp. 73-78.
- Ostrander, G.K.**, Blair, J.B., Scoggins, B. 1997. Modulation and expression of tumor suppressor genes by environmental agents. Final Report, U.S. Army Medical Research and Materials Command 143pp.
- Gerace, D.G., **Ostrander, G.K.**, and Smith, G 1998. San Salvador, Bahamas. In: *Caribbean Coastal Marine Productivity (CARICOMP): Coral Reef, Seagrass, and mangrove Site Characteristics* (B. Kjerfve, editor), UNESCO Paris, France, 229-245.
- Ostrander, G.K.**, Parker, R., and W.E. Hawkins. 1999. Persistent expression of tumors in Lake of the Arbuckles gizzard shad: a summary of eight years of study. *Park Science*. 19:34-36.
- Ostrander, G.K.**, Geter, D.R., Hawkins, W.E., Means, J.C. 1998. Further studies of fish neoplasms at the Lake of the Arbuckles Chickasaw National Recreation Area. Final Report. U.S. Department of the Interior. 27 pp.
- Ostrander, G.K.** 2000. Book Review: *Pandora=s Poison*. *Chemical & Engineering News* 78(41):57-58.
- Ostrander, G.K.** 2000. Continued Expression of Malignant Neoplasms in Gizzard Shad: Ten Years Later. Final Report, U.S. Department of the Interior. 34 pp.
- Scully, E.P. and **Ostrander, G.K.** 2001 Corals and Phase Shift. *Trends in Ecology & Evolution*. 16(3):126-127.
- Osborn, T.R. and **Ostrander, G.K.** 2003. Orientation of sea fans perpendicular to the flow. *Handbook of Scaling Methods in Aquatic Ecology: Measurement, Analysis, Simulation*. (L. Seuront and P.G. Strutton, eds) CRC Press 321-328
- Ostrander, G.K.** and Rotchell, J.M. 2004. Fish models of carcinogenesis. *Biochemistry and Molecular Biology of Fishes - Volume 6*. In Press.
- Sinclair C.S., Richmond, R.H., Knobbe, E.T. Basslear, C. and **Ostrander, G.K.** 2005. Passive dosimeters for measurement of ultraviolet radiation in aquatic environments. In: (G.K. Ostrander, editor) *Handbook of Techniques in Aquatic Toxicology-Volume 2*. Lewis Publishers/CRC Press. Chapter 29, pp 525-533.
- Ostrander, G.K.**, Di Giulio, R., Hinton, D., Miller, M. Fish Carcinogenesis. *The Toxicology of Fishes To be submitted 5/04. Draft Available*

PRESENTATIONS AT REGIONAL, NATIONAL, AND INTERNATIONAL MEETINGS

(Seminars not included)

- Ostrander, G.K.** and Ward, J.A. 1982. The role of the pelvic fins during courtship and spawning in the orange chromide, *Etroplus maculatus*. Annual Animal Behavior Society Meetings, Duluth MN.
- Ostrander, G.K.** and Ward, J.A. 1983. The role of the pelvic fins during courtship and spawning in the orange chromide, *Etroplus maculatus*. Fourth Biennial Conference on the Ethology and Behavioral Ecology of Fishes. Normal, IL.
- Fast, D., **Ostrander, G.K.**, Landolt, M.L., and Stober, Q. 1984. Photobehavioral responses of the intragravel developmental stages of chum salmon (*Oncorhynchus keta*), coho salmon (*O. kisutch*) and migratory and resident rainbow trout (*Salmo gairdneri*). Animal Behavior Society Meetings, Cheney, WA.
- Landolt, M.L., Holmes, E.H., and **Ostrander, G.K.** 1985. Preneoplastic cellular changes associated with exposure to environmental contaminants in Puget Sound, Washington. **Invited paper**. Third International Symposium on Responses of Marine Organisms to Pollutants. Plymouth, U.K.
- Holmes, E.H., **Ostrander, G.K.**, and Hakomori, S. 1985. Enzymatic basis for the synthesis of glycolipids with X and dimeric X determinants in human lung cancer cells (NCI-H69). Federation Meetings, American Society of Biological Chemists, Anaheim, CA.
- Ostrander G.K.**, Anderson, J.J., and Landolt, M.L. 1985. Application of a probability model for the effects of toxicants on fish behavior to the emergence behavior of benzo(a)pyrene exposed coho salmon (*Oncorhynchus kisutch*). Fifth Biennial Conference on the Ecological and Evolutionary Ethology of Fishes. Guelph, Ontario, Canada.
- Ostrander, G.K.**, Holmes, E.H., Hakomori, S., and Levery, S.B. 1987. Identification and characterization of the sialic acid containing glycosphingolipids of the English sole (*Parophrys vetulus*). Federation Meetings, American Society of Biological Chemists. Philadelphia, PA.
- Ostrander, G.K.**, Craft, L.L., Shaw, S., and Grosse, D.J. 1987. Activities of the commensal urchin crab (*Percnon gibbesi*) following eradication of the host species (*Diadema antillarum*). **Invited Paper**. XX International Ethology Conference, Madison, WI.
- Holmes, E.H. and **Ostrander, G.K.** 1988. A crucial enzymatic change for the accumulation of type 2 chain antigen in human cancer. **Invited Paper**. U.S.-Japan Program on "Cancer Cell Membranes: Aberrant Glycosylation and Other Critical Molecular Events", Honolulu, Hawaii.
- Levery, S.B., Eaton, H.L., **Ostrander, G.K.**, Holmes, E.H., Salyan, M.E.K., and Hakomori, S. 1988. Characterization of a novel 8-sugar glycosphingolipid from English sole liver. XIVth Intl. Carbohydrate Symp., Stockholm, Sweden.
- Ostrander, G.K.** and Malins, D.C. 1989. Chronic fish toxicity. **Plenary Speaker**. Ecotoxicology Symposium, Vth International Toxicology Congress, Brighton, England.
- Ostrander, G.K.**, Bozlee, M., Fukuda, M., Dell, A., Thomas-Oates, J.E., and Holmes, E.H. 1990. Glycolipid biosynthesis in rainbow trout liver: Characterization of the major glycolipids and status of an α 263 sialyltransferase associated with synthesis of the major gangliosides GM₃ and 9-O-Acetyl-GD₃. International Symposium on the Biological Function of Glycosphingolipids, Santa Barbara, CA.
- Ostrander, G.K.** 1990. Carcinogen induced alterations in salmonid behavior. 79th Annual Meeting of the Oklahoma Academy of Science, Tulsa, OK.
- Ostrander, G.K.**, Blair, J.B., Hurst, J.G., and Stark, B.A. 1991. Increased DNA synthesis and mitosis in rainbow trout liver following partial hepatectomy. 12th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, WA.
- Kuehn, R., Berlin, D., and **Ostrander, G.K.** 1991. Preliminary Studies on hydrocarbons of selected Oklahoma waters. 80th Annual Meeting of the Oklahoma Academy of Science, Durant, OK.
- Ostrander, G.K.**, Shim, J.K, Hawkins, W.W., and Walker, W. 1992. A vertebrate model for investigation of retinoblastoma. 83rd Annual Meeting of the American Association for Cancer Research, San Diego, CA.
- Kuehn, R., Berlin, K.D., and Ostrander, G.K. 1992. Contaminants and Fish Health near an abandoned oil refinery. 13th Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 8-12, Cincinnati, OH.

- Ostrander, G.K.**, Kuehn, R.L, Jacobs, A.D., Hawkins, W.H., and Berlin, K.D. 1993. Tumor epizootics in feral fish. **Invited paper.** 2nd Annual Meeting of the Oklahoma Clean Lakes Association. April 14-16, Kingston, OK.
- Fekete, A., Shim, J.-K., Blair, J.B., Hawkins, W.E., and **Ostrander, G.K.** 1993. Characterization of probes to *Rb* generated in a small fish. 84th Annual Meeting of the American Association for Cancer Research, May 19-22, Orlando, FL.
- Jacobs, A., Kuehn, R., and **Ostrander, G.K.** 1993. Further studies of etiology of neurofibroma in gizzard shad (*Dorosoma cepedianum*) residing in Arbuckle Lake, Southcentral Oklahoma. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 14-18, Houston, TX
- Kuehn, R., Berlin, K.D., and **G.K. Ostrander.** 1993. Response of catfish to anthropogenic contaminants in an industrialized river. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 14-18, Houston, TX.
- Ostrander, G.K.** 1993. Neoplastic changes in freshwater fishes: Correlation with oil refining. 14th Annual Meeting of the Society of Environmental Toxicology and Biochemistry. November 14-18, Houston, TX.
- Ostrander, G.K.** Stark, B.A., Hendricks, J., Bauman, P.C., Wirgin, I., and Vogelbein, W.K., Ganglioside alterations in association with liver neoplasia. 85th Annual Meeting of the American Association for Cancer Research, April 9 - 12, San Francisco, CA.
- Jacobs, A. and **Ostrander, G.K.** 1994. An epizootic of peripheral nerve sheath tumors in gizzard shad, *Dorosoma cepedianum* residing in Lake of the Arbuckles. Southwestern Association of Naturalists. Emporia State University, April 21, Emporia, KS.
- Ostrander, G.K.** 1994. Baseline studies of coral reef fish assemblages around San Salvador Island, Bahamas: Initial preparation for potential bleaching events. Proceedings of the 26th Annual Meeting of the Association of Marine Laboratories of the Caribbean. June 13, San Salvador, Bahamas
- Ostrander, G.K.** 1994. *Rb* gene expression in a fish model: Initial studies of retinoblastomas and hepatocellular carcinomas. AACR Histopathology of Neoplasia Workshop, July 17-24, Keystone, CO
- Ostrander, G.K.** 1994. Toxicant mediated expression of oncogenes and tumor suppressor genes during fish neoplasia. **Plenary Speaker.** International Symposium of Aquatic Animal Health, September 19-22, Seattle, WA
- Mayes, M.L. and **G.K. Ostrander.** 1994. International partnership and site development on foreign soil: tropical marine biology on San Salvador Island, The Bahamas. Seventeenth Annual Off-Campus Credit Programs Conference, October 2-5, Orlando, FL.
- Ostrander, G.K.** & J.B. Blair. 1995. Growth factor involvement in piscine carcinogenesis. 1st World conference on Spontaneous Animal Tumors, April 28-30, Genoa, Italy. **Invited Speaker.**
- Geter, D.R., Hawkins, W.E., Kuehn, R.L., Jacobs, A.D., **Ostrander, G.K.** 1995. Pigmented subcutaneous spindle cell tumors in native gizzard shad. Mechanisms and Prevention of Environmentally Caused Cancers, October 21-25, Santa Fe, NM.
- Ostrander, G.K.** *Rb* gene expression in retinoblastomas and other eye tumors in a small fish. EMBO Workshop on Medaka and Zebrafish Development, February 25 - March 6, 1996. Wurzburg, Germany. **Invited Presentation.**
- Geter, D.R., Hawkins, W.E., **Ostrander, G.K.** 1996. Pigmented subcutaneous spindle cell tumors in native gizzard shad. 87th Annual Meeting of the American Association for Cancer Research, April 20 - 24, Washington, D.C.
- Ostrander, G.K.** 1996. Retinoblastoma - A tumor suppressor gene. Minisymposium on Cancer and Cancer Diagnostics, July 18-19, Stillwater, OK.
- Ostrander, G.K.** 1996. Coral reef bleaching: a potential sentinel of tropical ecosystem health. Coral Reef Forum. National Press Club, November 20, 1996, Washington, D.C.
- Geter, D.R., Hawkins, W.E., **Ostrander, G.K.** 1997. Pigmented subcutaneous spindle cell tumors in gizzard shad. 61st Annual Meeting of the Mississippi Academy of Sciences, 21 February, Biloxi, MS
- Schehl, C.M., Suzuki, Y., **Ostrander, G.K.** 1997. Retinoblastoma (*Rb*) gene sequence mutations and predisposition to ovarian cancer in Japanese women. 88th Annual Meeting of the American

- Association for Cancer Research, April 12 - 16, San Diego, CA
- Ostrander, G.K.** 1997. World-wide decline of coral reef ecosystems: an overview and results of a 3-year study in the Bahamas. **Invited Speaker.** 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 16-20, San Francisco, CA.
- Fabacher, D.L., Little, E.E., **Ostrander, G.K.** 1998. Tolerance of albino and wild-type medaka to simulated solar ultraviolet-B radiation. Joint Meeting of the American Society of Limnology and Oceanography and the Ecological Society of America. June 7-12, St. Louis, MO.
- Geter, D.R., Hawkins, W.E., Fournie, J.W., **Ostrander, G.K.** 1998. Ocular lesions in an albino strain of Japanese medaka (*Oryzias latipes*) exposed to methylazoxymethanol acetate (MAM-Ac). Third International Symposium on Aquatic Animal Health. 30 August - 3 September. Baltimore, MD.
- Ostrander, G.K.** and Scully, E. 1998. Environmental Perturbations and Coral Reef Ecosystems. **Invited Speaker.** 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry. 15 - 19 November, Charlotte, NC.
- Harshbarger, J. C. and **Ostrander, G.K.** 1999. Elasmobranch Neoplasms. 24th Annual Fish Eastern Fish Health Workshop. 9-11 March. Atlantic Beach, NC.
- Ostrander, G.K.** 1999. Panelist-Session on tuition generating M.S. programs. AAU Annual Arts & Sciences Dean=s Meeting. 2-4 May 1999. Cleveland, OH.
- Harshbarger, J.C. and, **Ostrander, G.K.** 2000. Cancer in sharks, skates, rays and other lower fishes. 91st Annual Meeting of the American Association for Cancer Research, April 1 - 5, San Francisco, CA.
- Rotchell, J.M., Hawkins, W.E., Geter, D.R. and **Ostrander, G.K.** 2000. Retinoblastoma induction in a small fish: isolation and characterization of the retinoblastoma (RB) cDNA from the medaka, (*Oryzias latipes*). 91st Annual Meeting of the American Association for Cancer Research, April 1 - 5, San Francisco, CA.
- Ostrander, G.K.** and Rotchell, J.M. 2000. Chemical carcinogenesis and the induction of retinoblastoma (*Rb*) tumor suppressor gene mutation in the medaka (*Oryzias latipes*). Aquaria Fish Models of Human Disease. **Invited Speaker.** September 21-24, San Marcos, TX.
- Ostrander, G.K.** 2000. Subtle effects of oil on biological systems. National Academy of Sciences, Ocean Studies Board, Committee on Oil and the Sea. **Invited Speaker.** 27 September, Washington, D.C.
- Ostrander, G.K.** 2001. Graduate Education Panel. National Research Conference-McNair 2001: Achieving Scholarship, Leadership, and Excellence in the 21st Century. **Invited Speaker.** 7 March 2001.
- Ostrander, G.K.** 2001. NIH Minority Symposium, Bethesda, MD **Invited Speaker**
- Rotchell, J.M., Van Beneden, R.J., and **Ostrander, G.K.** 2001. Induction of *retinoblastoma (Rb)* tumour suppressor gene mutations and tumourigenesis in medaka (*Oryzias latipes*). Pollutant Responses in Marine Organisms 11, Plymouth, U.K., 12 July.
- Rotcehl, J.M., Winn, R. and **Ostrander, G.K.** 2002. Retinoblastoma (*Rb*) tumour suppressor gene mutations and tumourigenesis in medaka (*Oryzias latipes*): medical and aquatic toxicology applications. 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry. 5 -9 November, Salt Lake City, UT.
- Ostrander, E.A. Ramirez C.J., Fleming M.A. Potter J.D. **Ostrander, G.K.**, Marsupial BRCA1: Conserved regions in mammals and the potential effect of missense changes. American Society of Human Genetics. October 2003
- Ostrander, G.K.** Planning, funding and executing major research initiatives. 84th Annual Meeting of the Eastern Association of College and University Business Officers. **Invited Speaker for Panel Discussion.** 3 November 2003. Baltimore, MD.
- Whitney, R.H., Mower, M.M., Brown, R.K., **Ostrander, G.K.** Effect of thermal applications on duration of experimental atrial fibrillation. Southern Regional Meetings of the Southern Society for Clinical Investigation. 12 February 2004.
- Ostrander, G.K.** 1999. Panelist-Session on hiring and retention of junior and senior faculty. AAU Annual Arts & Sciences Dean=s Meeting. 25-27 April 2004. Nashville, TN.
- C.S. Sinclair, R.H. Richmond and **G.K. Ostrander.** 2004. Molecular analysis of the telomere regions in

scleractinian coral, *Acropora surculosa*. Genomes and Evolution 2004. Pennsylvania State University, Pennsylvania State University, University Park, PA 17-20 June 2004.
 Richmond, R.H., **Ostrander, G.K.**, and C.A. Downs. 2004. Biomarkers of pollutant exposure in reef-building corals and their application to coral reef conservation. Fourth World Congress and 25th Annual Meeting of the Society for Environmental Toxicology and Chemistry. 14-18 November 2004. Portland, OR.

PRESENTATIONS, SEMINARS, and LECTURES

- The ontogeny of coho salmon behavior following carcinogen exposure.* Biology Department, Illinois State University, Normal IL, 3 May 1985
- The significance of glycosphingolipid alterations preceding spontaneous hepatic neoplasms in the English sole relative to higher mammals.* Marine and Freshwater Biomedical Centers Directors' Meeting, National Institute for Environmental Health Sciences, Research Triangle Park NC, 25 April 1986
- The role of glycosphingolipids during cancer.* Departments of Biology and Chemistry, Seattle University, Seattle WA, October 1987
- Life History Studies of coho salmon following embryonic exposure to the carcinogen benzo(a)pyrene.* Marine-Freshwater Biomedical Center, Oregon State University, Corvallis, OR, 16 November 1990
- Glycosphingolipid alterations during vertebrate chemical carcinogenesis: Efficacy of the rainbow trout model.* Department of Biochemistry and Molecular Biology, Oklahoma State University, Stillwater, OK, 2 November 1990
- Fishes of the Coral Reef.* Natural Science Departments, Pierce College, Tacoma WA, 7 November 1991.
- Expression of the Rb tumor suppressor gene in a novel vertebrate model.* Department of Microbiology and Molecular Genetics, Oklahoma State University, Stillwater, OK, 3 December 1993
- The medaka: A novel vertebrate model for studying the retinoblastoma tumor suppressor gene.* Virginia Institute of Marine Science/College of William and Mary, Gloucester, VA 16 February 1993
- The ontogeny of salmonid behavior: Can it be modulated by chemical carcinogens.* Fish and Wildlife Coop/Zoology Department, University of Minnesota, St. Paul, MN, 13 May 1993
- Series of lectures on coral reef fishes.* Earthwatch, San Salvador, Bahamas. 5-16, August, 1993
- A novel vertebrate model for studying the retinoblastoma tumor suppressor gene.* Tulsa University, Tulsa OK, 24 September 1993
- A unique vertebrate model for studying the retinoblastoma tumor suppressor gene.* Biomedical Program, University of Alaska-Anchorage, Anchorage AK, 1 October 1993
- A novel vertebrate model for studying the retinoblastoma tumor suppressor gene.* Department of Biochemistry, Louisiana State University, Baton Rouge LA, 11 October 1993
- Expression of the retinoblastoma tumor suppressor gene in medaka: A new model for studying tumor promotion.* Penn State University (Hershey Medical Center) Hershey PA, 25 October 1993
- Modulation and expression of tumor suppressor genes by environmental agents.* Research Methods Branch Fifth Annual Review, U.S. Army Biomedical Research and Development Command, Fort Detrick MD, 26 October 1993
- A unique vertebrate model for studying the retinoblastoma tumor suppressor gene.* Department of Veterinary Medicine, Cornell University, Ithaca NY, 12 November 1993
- Environmental perturbations and the ontogeny of fish behavior: A case study with the coho salmon.* Environmental Toxicology Program, Cornell University, Ithaca NY, 12 November 1993
- Coral reef fishes: their behavior and ecology.* A series of four lectures presented to Elderhostel Program. San Salvador, The Bahamas, February 10-15, 1994
- Initial development of the medaka as a model for studying modulation of tumor suppressor genes by environmental agents.* School of the Environment, Duke University, Durham, NC, March 1994
- 3 Lectures in Marine Ecology.* College of the Bahamas (Nassau, The Bahamas). June 10-12, 1994.
- Modulation and expression of tumor suppressor genes by environmental agents.* Sixth Annual Research

- Review, U.S. Army Biomedical Research and Development Command, Fort Detrick MD, 20 September 1994
- High incidence of malignant tumors in Arbuckle Lake gizzard shad: what is the etiology?* Oklahoma State University, 11 November 1994.
- Series of lectures on coral reef fishes.* Earthwatch, San Salvador, Bahamas. 18-26, November, 1994
- 10 Lectures in Ecology and Invertebrate Zoology.* Elderhostel. February 1-10, 1995. San Salvador, Bahamas.
- Initial development of the medaka as a model for studying modulation of tumor suppressor genes by environmental agents.* Department of Zoology and Physiology, Louisiana State University, Baton Rouge, 20 February 1995.
- Initial development of the medaka as a model for studying modulation of tumor suppressor genes by environmental agents.* University of Maine, Orono, Maine, 24 March 1995.
- The retinoblastoma suppressor gene in a fish, the medaka (Oryzias latipes): a unique model for human and environmental cancer.* Gulf Coast Research Laboratory, Ocean Springs, MS, 9 October 1995.
- The significance of color to fishes.* Public Lecture, Oklahoma State University, 7 December 1995
- The medaka (Oryzias latipes): A new and improved model for human and environmental oncology.* Colorado State University, Fort Collins, CO, 29 January 1996.
- Human and non-human environmental carcinogenesis: What can we learn from a fish?* University of Florida-Gainesville, Gainesville, FL, 10 April 1996.
- Mechanisms of Chemical Carcinogenesis in a Fish Experimental Model System.* University of Oklahoma Health Sciences Complex, Oklahoma City, OK 24 April 1996.
- The retinoblastoma tumor suppressor gene in a fish - a unique model for studying human and environmental cancer.* Department of Pathology, George Washington University Medical Center, Washington, D.C. 20 May 1996.
- Human and non-human environmental carcinogenesis: What can we learn from a fish?* Hershey Medical Center, Penn State University, Hershey, PA 21 May 1996.
- Expression of the retinoblastoma tumor suppressor gene in a fish model: Implications for understanding environmental carcinogenesis in humans.* University of Washington, Seattle, WA 11 October 1996
- The significance of color to fishes.* Bahamian Field Station, San Salvador, Bahamas 23 November 1996.
- Expression of the retinoblastoma tumor suppressor gene in a fish model: Implications for understanding environmental carcinogenesis in humans.* Johns Hopkins University, Baltimore, MD 7 March 1997
- Grantsmanship for graduate students and postdocs.* Johns Hopkins University, Baltimore, MD, 25 April 1997.
- The significance of color to fishes.* Bahamian Field Station, San Salvador, Bahamas 6 June 1997.
- Expression of the retinoblastoma tumor suppressor gene in a fish model: Implications for understanding environmental carcinogenesis.* College of Oriental Medicine, Dongguk University, Kyungju City, Korea 22 September 1997.
- Glycosphingolipids: normal and aberrant functioning in higher and lower vertebrates.* College of Oriental Medicine, Dongguk University, Kyungju City, Korea 22 September 1997.
- At the birthplace of Silent Spring...emerging issues of concern.* 35th Anniversary Lecture of the Publication of Silent Spring. Silver Spring, MD 28 September 1997.
- The retinoblastoma tumor suppressor gene in a fish - a unique model for studying human and environmental cancer.* Center for Cancer and Transplantation Biology, Children's National Medical Center. Washington, D.C. 14 November 1997
- Career opportunities in marine biology.* Loch Raven High School Career Day. Baltimore, MD 20 November 1997.
- How fish perceive color.* National Aquarium in Baltimore. 16 January 1998.
- Alternative approaches to studying cancer.* Johns Hopkins University. 19 January 1998.
- Environmental Cancer: What we can learn about humans from a fish.* University of Texas at El Paso. El Paso, TX 24 April 1998.
- Assessment the World-Wide Deterioration of Coral Reef Ecosystems.* Towson University, Baltimore, MD 8 July 1998.
- Environmental Carcinogenesis in North American Fishes: Unusual Neoplasms Among Gizzard Shad of the Mid-Western United States.* Johns Hopkins University, Baltimore, MD 16 October 1998.

- Environmental Carcinogenesis in North American Fishes: Unusual Neoplasms Among Gizzard Shad of the Mid-Western United States.* University of Maryland, Chesapeake Biological Laboratory, Solomons, MD. 6 November 1998.
- Environmental Perturbations and Coral Reef Ecosystems.* Hood College, Frederick, MD. 2 February 1999.
- Development a Coral Cell Culture Model.* National Aquarium in Baltimore, Baltimore, MD 27 April 1999.
- Environmental Perturbations and Coral Reef Ecosystems.* Towson University, Baltimore, MD 30 April 1999.
- Color and Coral Reef Fishes.* Johns Hopkins University, Baltimore, MD. 23 November 1999.
- The retinoblastoma tumor suppressor gene is expressed in a novel vertebrate model.* University of Guam, Mangilao, Guam 2 February 2000.
- Field and laboratory studies of Caribbean coral reef communities.* University of Guam Marine Laboratory, Mangilao, Guam. 4 February 2000.
- Cancer in North American gizzard shad: 10 years of study.* Chickashaw National Park, Sulphur, OK 26 June 2000.
- Environmental carcinogenesis in North American Fishes: unusual neoplasms among fishes of the mid-west.* Towson University, Baltimore, MD 26 July 2000.
- Preparing for graduate and medical school.* University of Guam, Mangilao, Guam. 23 February 2001.
- Environmental carcinogenesis in North American fishes: Results of a 10-year study in mid-western North America.* University of Guam Marine Laboratory, Mangilao, Guam. 23 February 2001.
- Panelist, McNair 20001: Achieving Scholarship, Leadership, and Excellence in the 21st Century.* University of Maryland, 8 March 2001.
- Environmental perturbations in aquatic ecosystems: cancer, corals, and cloning suppressor genes.* Department of Biology Colloquium, Johns Hopkins University, Baltimore, MD. 4 April 2001.
- The significance of color among tropical coral reef fishes as it relates to their behavior.* University of Southern Mississippi, Ocean Springs, MI. 28 July 2001.
- Development of a novel vertebrate model for understanding the etiology of a pediatric eye tumor, retinoblastoma.* American Type Tissue Collection (ATCC), Manassas, VA. 6 September 2001.
- Anthropogenic assault on coral reef ecosystems necessitates new approaches to field and laboratory studies.* Center of Marine Biotechnology (University of Maryland), Baltimore, MD. 3 October 2001.
- Recent research from Hopkins on world-wide changes in coral reef ecosystems.* Johns Hopkins Alumni Association, Baltimore, MD. 4 November 2001.
- New approaches to understanding the world-wide deterioration of coral reef ecosystems.* Villanova University, Villanova, PA. 9 November 2001.
- The retinoblastoma (RB) tumor suppressor gene as a model for human environmental carcinogenesis.* Duke University, Durham, NC 20 November 2001.
- Sunken treasure: coral reefs of the world uncovered* Johns Hopkins Alumni Association Chapter Meeting. Seattle, WA 21 March 2002.
- Color me Beautiful.* Johns Hopkins Alumni Association Chapter Meeting. Baltimore, MD 5 April 2002.
- Sunken treasure: coral reefs of the world uncovered* Johns Hopkins Alumni Association Chapter Meeting. New Orleans, LA 19 April 2002.
- Sunken treasure: coral reefs of the world uncovered* Johns Hopkins Alumni Association Chapter Meeting. Raleigh, NC 29 April 2002.
- Development of a novel vertebrate model for understanding the etiology of a human pediatric eye tumor (retinoblastoma) and environmental carcinogenesis* Bloomberg School of Public Health. Johns Hopkins University. Baltimore, MD 6 May 2002.
- The graduate and medical school application process.* Towson University. Baltimore, MD 26 July 2002.
- World-wide deterioration of coral reef ecosystems demands new field and laboratory approaches.* New England Biolabs. Danvers, MA 17 October 2002.
- Recent research from Hopkins on World-Wide Changes in Coral Reef Ecosystems.* Alumni Journeys Fête, The Johns Hopkins Club. Baltimore, MD 3 November 2002.
- Understanding the world-wide decline of coral reef ecosystems: Moving from the field to the laboratory.* National Fish Health Research Laboratory, U.S. Geological Survey, Leetown, WV 5 November

- 2002.
- A novel vertebrate model for understanding the etiology of a human pediatric cancer (retinoblastoma).* Johns Hopkins University, Montgomery County Campus, Rockville, MD 12 November 2002.
- Sunken treasure: coral reefs of the world uncovered* Johns Hopkins Alumni Association Chapter Meeting. Denver, CO 9 February 2003.
- Sunken treasure: coral reefs of the world uncovered* Johns Hopkins Alumni Association Chapter Meeting. Scripps Institution of Oceanography, La Jolla, CA 12 April 2003.
- The graduate and medical school application process.* Towson University. Baltimore, MD 15 July 2003.
- The future of the university.* Meeting of the University Centers for Atmospheric Research, Panel Discussant, Boulder, CO 7 October 2003.
- Leadership Workshop* Johns Hopkins University, Baltimore, MD 30 October 2003.
- Sharks, cancer and the growing threat of pseudoscience.* Alumni Journeys Fête, The Johns Hopkins Club. Baltimore, MD 2 November 2003.
- Sharks, Cancer and the impact of pseudoscience.* The University of Guam Marine Laboratory, Mangilo, Guam. 12 December 2003.
- The significance of color in fishes or why Nemo has stripes.* Johns Hopkins University Alumni Association Meeting, Miami, FL 23 May 2004.
- Applying to graduate school.* Towson University. Baltimore, MD 18 June 2004. *Future trends and opportunities in marine biomarker research.* Pacific Northwest National Laboratory (Batelle/Department of Energy) Sequim, WA 8 July 2004
- The development of a novel vertebrate model for understanding the molecular mechanism of retinoblastoma induction* Dongguk University, Seoul, South Korea. 28 August 2004.
- The development of a novel vertebrate model for understanding the molecular mechanism of retinoblastoma induction.* Dongguk University, Kongju Cityl, South Korea. 5 September 2004.
- Alternative phyletic approaches to elucidating the mechanisms of chemical carcinogenesis.* McDaniel College, Westminster, MD 30 September 2004.
- Sharks cancer, and the growing threat of pseudoscience.* Hood College. 19 October 2004.

TEACHING EXPERIENCE (does not include teaching assistantships)

(#) indicates number of quarters or semesters taught

Illinois State University

Courses: General Biology (2) 1982-83

Course Coordinator: Duties included lecturing, organizing 26 laboratory sections, preparing exams, grading, and supervision of 18 teaching assistants.

Tropical Marine Studies (2) 1983, 1985

This field course was taught on San Salvador Island, Bahamas.

University of Washington

Course: Introduction to Fisheries Science (1) 1984

San Salvador Field Station, San Salvador Island, Bahamas

Course: Tropical Marine Biology (3) 1986, 1987, 1988

Seattle University

Course: Comparative Animal Physiology (1) 1988

Oklahoma State University

Courses: Tropical Biology Seminar (1) 1990; Cancer Biology Seminar (1) 1991;

Ichthyology (3) 1991, 1993, 1995; Tropical Marine Biology Field Course (6) 1991, 1992, 1993, 1994, 1995, 1996; Aquaculture (1) 1992; Proposal Writing (2) 1992, 1994;

Introductory Biology (1) 1993; Molecular/Biochemical Approaches to Aquatic Toxicology Seminar

(1) 1994; Field Course on the Biology of the Galápagos and Ecuador (1) 1995.

Johns Hopkins University

Courses: Tropical Marine Biology (1) 1997, Organized Field Course on the Biology of the Amazon, Galápagos and Ecuador (1) 2001, 2002

Guest Lectures: Ecology, Oceanography, and Biology courses