

Cole W. Matson, Ph.D.
Curriculum Vitae

TITLE/ADDRESS: Associate Professor
Graduate Program Director
Department of Environmental Science
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EDUCATION:

- 2005-2009 Postdoctoral Research Associate, Integrated Toxicology and Environmental Health Program, Nicholas School of the Environment, Duke University.
Advisor: Richard T. Di Giulio, Ph.D.
Focus: Aquatic Environmental Toxicology
- 2004-2005 Postdoctoral Research Associate, Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas.
Advisor: John W. Bickham, Ph.D.
Focus: Evolutionary Toxicology
- 1999-2004 Ph.D., Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas.
Advisor: John W. Bickham, Ph.D.
Dissertation: Combining environmental chemistry, somatic biomarkers, and population genetics: An innovative approach in wildlife ecotoxicology.
- 1997-1999 M.S., Zoology, Texas Tech University, Lubbock, Texas.
Advisor: Robert J. Baker, Ph.D.
Thesis: Characterization of the mitochondrial DNA control region of *Clethrionomys*, and its use as a genotoxicological marker.
- 1992-1996 B.S., Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas.

EMPLOYMENT:

- 2017-present *Associate Professor*, Department of Environmental Science, Baylor University
- 2023-present *Graduate Program Director*, Environmental Science, Baylor University
- 2011-2017 *Assistant Professor*, Department of Environmental Science, Baylor University
- 2009-2011 *Executive Director*, Center for the Environmental Implications of NanoTechnology (CEINT), Duke University
- 2005-2009 *Postdoctoral Research Associate*, Nicholas School of the Environment, Duke University, Laboratory of Dr. Richard T. Di Giulio
- 2004-2005 *Postdoctoral Research Associate*, Department of Wildlife and Fisheries Sciences, Texas A&M University, Laboratory of Dr. John W. Bickham
- 2002-2004 *Graduate Research Assistant*, NIEHS Superfund Basic Research Program, Department of Wildlife and Fisheries Sciences, Texas A&M University, Laboratory of Dr. John W. Bickham
- 1999-2002 *Graduate Teaching Assistant*, Laboratory Instructor, *Natural History of the Vertebrates* WFSC302, Texas A&M University
- 1997-1999 *Graduate Research Assistant*, Department of Biological Sciences, Texas Tech University, Laboratory of Dr. Robert J. Baker

MAJOR INTERESTS:

Aquatic Toxicology, Biomarkers, Conservation Genetics, Ecotoxicology, Environmental Genomics, Environmental Toxicology, Evolutionary Toxicology, Gene Expression, Molecular Ecology, Multiple Stressors, Nanotoxicology, Population Genetics, Wildlife Toxicology

SOCIETY AFFILIATION:

Society of Environmental Toxicology and Chemistry
South Central Society of Environmental Toxicology and Chemistry

FELLOWSHIPS:

- 2005-2007 Postdoctoral NIEHS Training Grant Fellowship, Integrated Toxicology and Environmental Health Program, Duke University
- 1997-1998 Chancellor's Endowed Fellowship, Texas Tech University
- 1996 National Science Foundation, REU Summer Fellowship, Department of Oceanography, Texas A&M University

COURSES TAUGHT:

- *Ecology for a Changing World* ENV 2307/2407, Baylor University
- *Environmental Toxicology* ENV 4370/4170, Baylor University
- *Advanced Environmental Toxicology* ENV 5370, Baylor University
- *Field Techniques for Environmental Science* ENV 3210/3310, Baylor University
- *Fundamentals of Toxicology* BIO/ENV 4344, Baylor University
- *Seminar on Environmental Topics: Evolutionary Toxicology* ENV 4102, Baylor University
- *Seminar on Environmental Topics* ENV 4102, Baylor University
- *Seminar on Current Advances in Environmental Science* ENV 5102, Baylor University
- Guest Lecturer, *Environmental Toxicology* ENV 212, Duke University
- Guest Lecturer, *Natural History of the Vertebrates* WFSC 302, Texas A&M University
- Laboratory Instructor, *Natural History of the Vertebrates* WFSC 302, Texas A&M University

GRANT SUPPORT:

Decoding the role of altered biotransformation pathways in the rapid adaptation of Gulf killifish to legacy pollutants: Using differential population sensitivity to understand chemical vulnerability. September 2023-August 2026. R. Lavado, PI; C.W. Matson, Co-PI. NIH 1R15ES034885. \$418,702.

A comprehensive petrochemical vulnerability index for improved decision-making and marine biodiversity risk assessment in the Gulf of Mexico Large Marine Ecosystem. January 2018 – December 2019. B. Polidoro (Arizona State Univ.), PI; Co-PIs, K. Carpenter (Old Dominion Univ.), C.W. Matson. GoMRI-VI: #G-231822. \$626,097. Baylor \$173,542.

Immersed in the wetlands: An environmental academy for educators. January 2018 – July 2020. S.M. Nesmith, PI; Co-PIs, C.J. Wynveen, B.W. Brooks, W.C. Hockaday, C.W. Matson. EPA EE1604. \$121,333.

Center for the Environmental Implications of NanoTechnology (CEINT). September 2013 – August 2021. M.R. Wiesner (Duke University), PI; M. Hochella, Co-PI; R.T. Di Giulio, Co-PI; K. Jones, Co-PI; G.V. Lowry, Co-PI; Baylor Co-Is, C.W. Matson (Baylor PI) and R.S. King. NSF & EPA DBI-1266252. \$15,000,000; Baylor \$400,000.

Influence of chelating ligands for the aggregation, dissolution and bioavailability of soluble nanomaterials. May 2011 – April 2014 (ext. April 2015). H. Hsu-Kim (Duke University), PI; Co-PIs, C.W. Matson and R.T. Di Giulio. NSF CBET 1066781. \$337,419; Baylor \$119,065.

Birds as indicators of contaminant exposure in the Great Lakes: Chromosomal damage assessment via flow cytometry. July 2013 – June 2015 (ext. August 2015). C.W. Matson, PI; Co-Is, T. Custer and C. Custer (USGS). University of Michigan Water Center / Fred A. and Barbara M. Erb Family Foundation, Tier I. \$50,000.

REFEREED BOOK CHAPTERS:

2. Oziolor, E.M., **C.W. Matson**. 2018. Adaptation in polluted waters: Lessons from killifish, in: Burggren, W., Dubansky, B. (Eds.), *Development and Environment*. Heidelberg: Springer.
1. Oziolor, E.M., **C.W. Matson**. 2015. Evolutionary toxicology: Population adaptation in response to anthropogenic pollution, in: Riesch, R., Tobler, M., Plath, M. (Eds.), *Extremophile Fishes – Ecology, Evolution, and Physiology of Teleosts in Extreme Environments*. Heidelberg: Springer.

REFEREED JOURNAL ARTICLES:

ResearcherID: F-7992-2010; ORCID: 0000-0002-6472-9357; Scopus: 7006943349

Baylor Student/Postdoc Authors are underlined.

Published

81. Perrotta, B., M. Simonin, B. Colman, S. Anderson, E. Baruch, B. Castellon, **C.W. Matson**, E.S. Bernhardt, R.S. King. 2023. Chronic engineered nanoparticle exposure alters insect emergence and results in metal flux from aquatic ecosystems into riparian food webs. *Environmental Science & Technology*. DOI: 10.1021/acs.est.3c00620
80. Possamai, B., J.A. Back, C.M. Mansfield, Z.S. Moran, **C.W. Matson**. 2023. Estimating the influence of carbonates in the stable isotopic values of suspended particulate organic matter: Implications in ecological studies. *Aquatic Sciences*, 85: 42. DOI: 10.1007/s00027-023-00941-3
79. Tseng, C.Y., C.M. Custer, T.W. Custer, P.M. Dummer, N. Karouna-Renier, **C.W. Matson**. 2023. Multi-omics responses in tree swallow (*Tachycineta bicolor*) nestlings from the Maumee Area of Concern, Maumee River, Ohio. *Science of the Total Environment*, 856: 159130. DOI: 10.1016/j.scitotenv.2022.159130
78. Woodyard, M., B.A. Polidoro, **C.W. Matson**, R.A. McManamay, S. Saul, K.E. Carpenter, T.K. Collier, R. Di Giulio, R.D. Grubbs, C. Linardich, J.A. Moore, I.C. Romero, D. Schlenk, K. Strongin. 2022. A comprehensive petrochemical vulnerability index for marine fishes in the Gulf of Mexico. *Science of the Total Environment*, 820: 152892.
77. Franco, M.E., A.J. Ramirez, K. Johanning, **C.W. Matson**, and R. Lavado. 2022. In vitro-in vivo biotransformation and phase I metabolite profiling of benzo[a]pyrene in Gulf killifish (*Fundulus grandis*) populations with different exposure histories. *Aquatic Toxicology*, 243, 106057. DOI: 10.1016/j.aquatox.2021.106057

76. Franco, M.E., K. Johanning, **C.W. Matson**, and R. Lavado. 2022. Reduced biotransformation of polycyclic aromatic hydrocarbons (PAHs) in pollution-adapted Gulf killifish (*Fundulus grandis*). *Science of the Total Environment*, 806: 150854. DOI: 10.1016/j.scitotenv.2021.150854
75. Nesmith, S., C. Walter, S. Cooper, **C. Matson**, T. Emerson, M. Mullins, J. Daniel, and P. Martens. 2021. Water, river, and community: Bridging community, environment, and outreach through a unique transdisciplinary university-based course. *Connected Science Learning*, 3(4). <https://www.nsta.org/connected-science-learning/connected-science-learning-july-august-2021/water-river-and-community>
74. Polidoro, B., **C.W. Matson**, M.A. Ottinger, D.A. Renegar, I.C. Romero, D. Schlenk, J.P. Wise, J. Beltrán González, P.C. Bruns, K.E. Carpenter, D. Cobian Rojas, T.K. Collier, T.F. Duda, P. González-Díaz, R.T. Di Giulio, D. Grubbs, J.C. Haney, J. Incardona, G. Horta-Puga, C. Linardich, J.A. Moore, D. Pech, S. Perera Valderrama, G. Ralph, K. Strongin, A.H. Ringwood, B. Würsig. 2021. A multi-taxonomic framework for assessing relative petrochemical vulnerability of marine biodiversity in the Gulf of Mexico. *Science of the Total Environment*, 763: 142986. DOI: 10.1016/j.scitotenv.2020.142986
73. Perrotta, B.G., M. Simonin, J. Back, S. Anderson, C. Bergemann, B.T. Castellon, B.P. Colman, **C.W. Matson**, E.S. Bernhardt, R.S. King. 2020. Copper and Gold Nanoparticles Increase Nutrient Excretion Rates of Primary Consumers. *Environmental Science & Technology*, 54: 10170–10180.
72. Burket, S.R., M.V. Wright, L.F. Baker, C.K. Chambliss, R.S. King, **C.W. Matson**, B.W. Brooks. 2020. Periphyton, bivalves and fish in effluent-dependent stream mesocosms differentially accumulate pharmaceuticals. *Science of the Total Environment*, 745: 140882. DOI: 10.1016/j.scitotenv.2020.140882
71. Custer, C.M., T.W. Custer, P.M. Dummer, S. Schultz, C.Y. Tseng, N. Karouna-Renier, **C.W. Matson**. 2020. Legacy and contaminants of emerging concern (CECs) in tree swallows along an agricultural to industrial gradient: Maumee River, OH. *Environmental Toxicology and Chemistry*, 39: 1936–1952.
70. Avellan, A., M. Simonin, S. Anderson, N.K. Geitner, N. Bossa, E. Spielman-Sun, E.S. Bernhardt, B.T. Castellon, B.P. Colman, J.L. Cooper, M. Ho, M. Hochella, H. Hsu-Kim, S. Inoue, R.S. King, S. Laughton, **C.W. Matson**, B.G. Perrotta, C.J. Richardson, J.M. Unrine, M.R. Wiesner, G.V. Lowry. 2020. Differential Reactivity of Copper- and Gold-based Nanomaterials Controls their Seasonal Biogeochemical Cycling and Fate in a Freshwater Wetland Mesocosm. *Environmental Science & Technology*, 54: 1533-1544.
69. Sutherland, G.E., M.E. Franco, **C.W. Matson**, R. Lavado. 2020. Oxidative potential of chemical mixtures extracted from contaminated Galveston Bay, TX seafood using a human cell co-culture model. *Archives of Environmental Contamination and Toxicology*, 78: 149-162.
68. Geitner, N.K., C.O. Hendren, G. Cornelis, R. Kaegi, J. Lead, G. Lowry, I. Lynch, B. Nowack, E. Petersen, E. Bernhardt, S. Brown, W. Chan, C. de Garidel-Thoron, J. Hanson, S. Harper, K. Jones, F. von der Kammer, A. Kennedy, J. Kidd, **C.W.**

- Matson**, C. Metcalf, J. Pedersen, W.J.G.M. Peijnenburg, J.T.K. Quik, S.M. Rodrigues, J. Rose, P. Sayre, M. Simonin, C. Svendsen, R. Tanguay, N. Tefenkji, T. van Teunenbroek, G. Thies, Y. Tian, J. Rice, A. Turner, J. Liu, J. Unrine, M. Vance, J.C. White, M.R. Wiesner. 2020. Harmonizing across environmental nanomaterial testing media for increased comparability of nanomaterial datasets. *Environmental Science Nano*, 7: 13-36.
67. Scott, W.C., S.P. Haddad, G.N. Saari, C.K. Chambliss, **C.W. Matson**, B.W. Brooks. 2019. Influence of salinity and pH on bioconcentration of ionizable pharmaceuticals by the Gulf killifish, *Fundulus grandis*. *Chemosphere*, 229: 434-442.
66. Oziolor, E.M., N.M. Reid, S. Yair, K.M. Lee, S. Guberman VerPloeg, P.C. Bruns, J.R. Shaw, A. Whitehead, **C.W. Matson**. 2019. Adaptive introgression enables evolutionary rescue from extreme environmental pollution. *Science*, 364: 455-457.
- Selected as one of the NIEHS 2019 Papers of the Year***
65. Oziolor, E.M., T.R. Gregory, J.W. Bickham, J. St. Leger, **C.W. Matson**. 2019. Cetacean genome size diversity. *Marine Mammal Science*, 35(3): 1133-1140.
64. Brady, S.P., E. Monosson, **C.W. Matson**, J.W. Bickham. 2019. Fundamental and applied pursuits in evolutionary toxicology are mutually beneficial: A reply to Hahn (2018). *Evolutionary Applications*, 12(2): 353-353.
63. Geitner, N.K., J.L. Cooper, A. Avellan, B.T. Castellon, B.G. Perrotta, N. Bossa, M. Simonin, S. Anderson, S. Inoue, M.F. Hochella Jr., C.J. Richardson, E.S. Bernhardt, G.V. Lowry, P.L. Ferguson, **C.W. Matson**, R.S. King, J.M. Unrine, M.R. Wiesner, H. Hsu-Kim. 2018. Size-based differential transport, uptake, and mass distribution of ceria (CeO₂) nanoparticles in wetland mesocosms. *Environmental Science and Technology*, 52: 9768-9776.
62. Colman, B.P., L.F. Baker, R.S. King, **C.W. Matson**, J.M. Unrine, S.M. Marinakos, D.E. Gorka, E.S. Bernhardt. 2018. Dosing, not the dose: comparing chronic and pulsed silver nanoparticle exposures. *Environmental Science and Technology*, 52: 10048-10056.
61. Watkins, P.S., B.T. Castellon, C. Tseng, M.V. Wright, **C.W. Matson**, G.P. Cobb. 2018. Validation of a sulfuric acid digestion method for inductively coupled plasma mass spectrometry quantification of TiO₂ nanoparticles. *Bulletin of Environmental Contamination & Toxicology*, 100: 809-814.
60. Oziolor, E.M., J.N. Apell, Z.C. Winfield, J.A. Back, S. Usenko, **C.W. Matson**. 2018. Polychlorinated biphenyl (PCB) contamination in Galveston Bay, Texas: Comparing concentrations and patterns in sediments, passive samplers, and fish. *Environmental Pollution*, 236: 609-618.
59. Wright, M.V., **C.W. Matson**, L.S. Baker, B.T. Castellon, P.S. Watkins, R.S. King. 2018. Titanium dioxide nanoparticle exposure reduces algal biomass and alters algal assemblage composition in wastewater effluent-dominated stream mesocosms. *Science of the Total Environment*, 626: 357-365.
58. Custer, T.W., C.M. Custer, P.M. Dummer, E. Bigorgne, E.M. Oziolor, N. Karouna-Renier, S. Schultz, R.A. Erickson, K. Aagaard, **C.W. Matson**. 2017. EROD activity,

- chromosomal damage, and oxidative stress in response to contaminants exposure in tree swallow (*Tachycineta bicolor*) nestlings from Great Lakes Areas of Concern. *Ecotoxicology*, 26: 1392-1407.
57. Brady, S.P., E. Monosson, **C.W. Matson**, J.W. Bickham. 2017. Evolutionary toxicology: Toward a unified understanding of life's response to toxic chemicals. *Evolutionary Applications*, 10: 745-751.
56. Oziolor, E.M., A.N. Carey, **C.W. Matson**. 2017. A non-destructive BFCOD assay for *in vivo* measurement of cytochrome p450 3A (CYP3A) enzyme activity in fish embryos and larvae. *Ecotoxicology*, 26: 809-819.
55. Oziolor, E.M., W. Howard, R. Lavado, **C.W. Matson**. 2017. Induced pesticide tolerance results from detoxification pathway priming. *Environmental Pollution*, 224: 615-621.
54. Oziolor, E.M., J.W. Bickham, **C.W. Matson**. 2017. Evolutionary toxicology in an omics world. *Evolutionary Applications*, 10: 752-761.
53. Jiang, C., B.T. Castellon, **C.W. Matson**, G.R. Aiken, H. Hsu-Kim. 2017. Relative contributions of copper oxide nanoparticles and dissolved copper to Cu uptake kinetics of Gulf killifish (*Fundulus grandis*) embryos. *Environmental Science and Technology*, 51: 1395-1404.
52. Oziolor, E.M., K. De Schamphelaere, **C.W. Matson**. 2016. Evolutionary toxicology: Meta-analysis of evolutionary events in response to chemical stressors. *Ecotoxicology*, 25: 1858-1866.
51. **Matson, C.W.**, A.J. Bone, M. Auffan, T. Lindberg, M.C. Arnold, H. Hsu-Kim, M.R. Wiesner, R.T. Di Giulio. 2016. Silver toxicity across salinity gradients: The role of dissolved silver chloride species (AgCl_x) in Atlantic killifish (*Fundulus heteroclitus*) and Japanese medaka (*Oryzias latipes*) early life-stage toxicity. *Ecotoxicology*, 25: 1105-1118.
50. Oziolor, E.M., B. Dubansky, W.W. Burggren, **C.W. Matson**. 2016. Cross-resistance in Gulf killifish (*Fundulus grandis*) populations resistant to dioxin-like compounds. *Aquatic Toxicology*, 175: 222-231.
49. Baker, L.F., R.S. King, J.M. Unrine, B.T. Castellon, G.V. Lowry, **C.W. Matson**. 2016. Press or pulse exposures determine the environmental fate of cerium nanoparticles in stream mesocosms. *Environmental Toxicology and Chemistry*, 35: 1213-1223.
48. Nesmith, S.M., C.J. Wynveen, E. Dixon, B.W. Brooks, **C.W. Matson**, W.C. Hockaday, M.A. Schaum, J. DeFillipo. 2016. The impact of a wetland academy on educators' environmental education attitudes and efficacy. *International Journal of Science Education, Part B: Communication and Public Engagement*, 6: 303-324.
47. Park, S.-Y., J. Chung, B.P. Colman, **C.W. Matson**, Y. Kim, B.-C. Lee, P.-J. Kim, K. Choi, J. Choi. 2015. Ecotoxicity of bare and coated silver nanoparticles in the aquatic midge, *Chironomus riparius*. *Environmental Toxicology and Chemistry*, 34: 2023-2032.
46. Bigorgne, E., T.W. Custer, P.M. Dummer, R.A. Erickson, N.K. Karouna-Renier, S. Schultz, C.M. Custer, W.E. Thogmartin, **C.W. Matson**. 2015. Chromosomal

- damage and EROD induction in tree swallows (*Tachycineta bicolor*) along the Upper Mississippi River, Minnesota, USA. *Ecotoxicology*, 24: 1028-1039.
45. Bone, A.J., **C.W. Matson**, B.P. Colman, X. Yang, J.N. Meyer, R.T. Di Giulio. 2015. Silver nanoparticle toxicity to early life stage Atlantic killifish (*Fundulus heteroclitus*) and *Caenorhabditis elegans*: A comparison of mesocosm, microcosm and conventional laboratory studies. *Environmental Toxicology and Chemistry*, 34: 275-282.
44. Keane, M., J. Semeiks, A.E. Webb, Y.I. Li, V. Quesada, T. Craig, L.B. Madsen, S. van Dam, D. Brawand, P.I. Marques, P. Michalak, L. Kang, J. Bhak, H.-S. Yim, N. Grishin, N.H. Nielsen, M.P. Heide-Jørgensen, E.M. Oziolor, **C.W. Matson**, G. Church, G. Stuart, J. Patton, C. George, R. Suydam, K. Larsen, C. López-Otín, M.J. O'Connell, J.W. Bickham, B. Thomsen, J.P. de Magalhães. 2015. Insights into the evolution of longevity from the bowhead whale genome. *Cell Reports*, 10: 112-122.
43. Sparling, D.W., J.W. Bickham, D. Cowman, G.M. Fellers, T. Lacher, **C.W. Matson**, L. McConnell. 2015. In situ effects of pesticides on amphibians in the Sierra Nevada. *Ecotoxicology*, 24: 262-278.
42. Auffan, M., **C.W. Matson**, J. Rose, M. Arnold, O. Proux, B. Fayard, W. Liu, P. Chaurand, M.R. Wiesner, J.-Y. Bottero, R.T. Di Giulio. 2014. Salinity-dependent silver nanoparticle uptake and transformation by Atlantic killifish (*Fundulus heteroclitus*) embryos. *Nanotoxicology*, 8: 167-176.
41. Blickley, T.M., **C.W. Matson**, W.N. Vreeland, D. Rittschof, R.T. Di Giulio, and P. McClellan-Green. 2014. Dietary CdSe/ZnS quantum dot exposure in estuarine fish: Bioavailability, oxidative stress, reproduction, and maternal transfer. *Aquatic Toxicology*, 148: 27-39.
40. Colman, B.P., B.P. Espinasse, C.J. Richardson, **C.W. Matson**, G.V. Lowry, D.E. Hunt, M.R. Wiesner, E.S. Bernhardt. 2014. Emerging contaminant or an old toxin in disguise? Silver nanoparticle impacts on ecosystems. *Environmental Science and Technology*, 48: 5229-5236.
39. Oziolor, E.M., E. Bigorgne, L. Aguilar, S. Usenko, and **C.W. Matson**. 2014. Evolved resistance to PCB- and PAH-induced cardiac teratogenesis, and reduced CYP1A activity in Gulf killifish (*Fundulus grandis*) populations from the Houston Ship Channel, Texas. *Aquatic Toxicology*, 150: 210-219.
38. Unrine, J.M., B.P. Colman, A.J. Bone, A.P. Gondikas, **C.W. Matson**. 2012. Biotic and abiotic interactions in aquatic microcosms determine fate and toxicity of Ag nanoparticles: Part 1 – Aggregation and Dissolution. *Environmental Science and Technology*, 46: 6915-6924.
37. Bone, A.J., B.P. Colman, A.P. Gondikas, K.M. Newton, K.H. Harrold, R.M. Cory, J.M. Unrine, S.J. Klaine, **C.W. Matson**^{*}, R.T. Di Giulio. 2012. Biotic and abiotic interactions in aquatic microcosms determine fate and toxicity of Ag nanoparticles: Part 2 – Toxicity and Ag speciation. *Environmental Science and Technology*, 46: 6925-6933. ^{*}corresponding author
36. Lowry, G.V., B.P. Espinasse, A.R. Badireddy, C. Richardson, B. Reinsch, L.D. Bryant, A.J. Bone, A. Deonaraine, S. Chae, M. Therezien, B.P. Colman, H. Hsu-Kim, E.

- Bernhardt, **C.W. Matson**, M.R. Wiesner. 2012. Long-term transformation and fate of manufactured Ag nanoparticles in a simulated large scale freshwater emergent wetland. *Environmental Science and Technology*, 46: 7027-7036.
35. Wiesner, M.R., G.V. Lowry, L. Casman, P.L. Bertsch, **C.W. Matson**, R.T. Di Giulio, J. Liu, and M.F. Hochella, Jr. 2011. Meditations on the ubiquity and mutability of nano-sized materials in the environment. *ACS Nano*, 5: 8466-8470.
34. Jung, D., **C.W. Matson**, L.B. Collins, G. Laban, H.M. Stapleton, J.W. Bickham, J.A. Swenberg, and R.T. Di Giulio. 2011. Genotoxicity in Atlantic killifish (*Fundulus heteroclitus*) from a PAH-contaminated Superfund site on the Elizabeth River, Virginia. *Ecotoxicology*, 20: 1890-1899.
33. Rinner, B.P., **C.W. Matson**, A. Islamzadeh, T.J. McDonald, K.C. Donnelly, and J.W. Bickham. 2011. Evolutionary toxicology: contaminant-induced genetic mutations in mosquitofish from Sumgayit, Azerbaijan. *Ecotoxicology*, 20: 365-376.
32. Clark, B.W., **C.W. Matson**, D. Jung, and R.T. Di Giulio. 2010. AHR2 mediates cardiac teratogenesis of polycyclic aromatic hydrocarbons and PCB-126 in Atlantic killifish (*Fundulus heteroclitus*). *Aquatic Toxicology*, 99: 232-240.
31. Cooper, E.M., H.M. Stapleton, **C.W. Matson**, R.T. Di Giulio, and A.J. Schuler. 2010. UV treatment and biodegradation of dibenzothiophene: Identification and toxicity of products. *Environmental Toxicology and Chemistry*, 29: 2409-2416.
30. Givens, G.H., R.M. Huebinger, J.C. Patton, L.D. Postma, M. Lindsay, R.S. Suydam, J.C. George, **C.W. Matson**, and J.W. Bickham. 2010. Population genetics of bowhead whales (*Balaena mysticetus*) in the Western Arctic. *Arctic*, 63(1): 1-12.
29. Wills, L.P., **C.W. Matson**, C.D. Landon, and R.T. Di Giulio, 2010. Characterization of the recalcitrant CYP1 phenotype found in Atlantic killifish (*Fundulus heteroclitus*) inhabiting a Superfund site on the Elizabeth River, VA. *Aquatic Toxicology*, 99: 33-41.
28. **Matson, C.W.**, A.M. Gillespie, C. McCarthy, T.J. McDonald, J.W. Bickham, R. Sullivan, and K.C. Donnelly. 2009. Wildlife toxicology: Biomarkers of genotoxic exposures at a hazardous waste site. *Ecotoxicology*, 18: 886-898.
27. Phillips, C.D., R.G. Trujillo, T.S. Gelatt, M.J. Smolen, R.L. Honeycutt, **C.W. Matson**, J.C. Patton, and J.W. Bickham. 2009. Assessing substitution patterns, rates and homoplasy at HVRI of Steller sea lions, *Eumetopias jubatus*. *Molecular Ecology*, 18: 3379-3393.
26. Sitzlar, M.A., M.A. Mora, J.G.W. Fleming, F.W. Bazer, J.W. Bickham, **C.W. Matson**. 2009. Potential effects of environmental contaminants on P450 aromatase activity and DNA damage in swallows from the Rio Grande and Somerville, Texas. *Ecotoxicology*, 18: 15-21.
25. Barbee, G.C., J. Barich, B. Duncan, J.W. Bickham, **C.W. Matson**, C.J. Hintze, R.L. Autenrieth, G.-D. Zhou, T.J. McDonald, L. Cizmas, D. Norton, and K.C. Donnelly. 2008. *In situ* biomonitoring of PAH-contaminated sediments using juvenile coho salmon (*Oncorhynchus kisutch*). *Ecotoxicology and Environmental Safety*, 71: 454-464.
24. Kenow, K.P., D.J. Hoffman, R.K. Hines, M.W. Meyer, J.W. Bickham, **C.W. Matson**, K.R. Stebbins, P. Montagna, and A. Elfessi. 2008. Effects of methylmercury exposure

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