



Chiharu Mori, Ph.D.
Environmental Toxicologist

CAPABILITIES

Dr. Chiharu (Chi) Mori is an environmental toxicologist with experience conducting research in academia and as a consultant to numerous industry clients and Federal and State agencies. Her experience includes 1) writing work plans and leading efforts on scientific study, sampling, experimentation, research, analysis and documentation; 2) critical review of published environmental science literature and databases; 3) writing technical/expert reports and publications; 4) presenting findings to clients and to the public at national and international meetings; and 5) managing project staff, budgets and schedules. For industry clients, she has performed extensive literature reviews on scientific topics in support of litigation, regulatory comments and risk assessments. She also provided human and ecological toxicity and risk assessment expertise for expert testimony reports. For Federal/State agencies, she has written project proposals and memos to clients. She has a strong understanding of all steps required during fieldwork and lab work (e.g., sampling, experimentation, research) as well as analysis and documentation of those studies.

Dr. Mori has numerous publications and has presented her findings to clients and to the public, as well as at national and international meetings. Examples of her prior projects include Natural Resource Damage Assessments (NRDAs) for the Deepwater Horizon oil spill and at a Superfund site in Georgia, literature reviews and syntheses of toxicity studies, and providing guidance on a toxicity study evaluating impacts in lake sturgeon. Chi holds a Ph.D. in Environmental Toxicology and a B.S. in Biological Sciences with a minor in Chemistry.

EXPERIENCE

MARINE VENTURES INTERNATIONAL, INC.
ENVIRONMENTAL TOXICOLOGIST

CURRENT

INDEPENDENT CONSULTANT

2016 TO 2018

- ❖ Recruited/assembled experts and devised a research plan and budgets for grant proposals to conduct literature based risk assessment of marine mammals
- ❖ Composed full proposals as co-Principal Investigator for Gulf of Mexico Research Initiative to obtain funding

INDUSTRIAL ECONOMICS, INCORPORATED
ENVIRONMENTAL TOXICOLOGIST/SCIENTIST

2011 TO 2016

- ❖ Worked extensively on various aspects of the Natural Resource Damage Assessment (NRDA) for the Gulf of Mexico Deepwater Horizon BP Oil spill
 - Provided technical support for numerous Technical Working Groups (TWGs) which included various stakeholders such as National Oceanic Atmospheric Administration, National Marine Fisheries Sciences, U.S. Environmental Protection Agency, and state agencies
 - Toxicity TWG: Led 20 or so lab audits to evaluate suitability of laboratories/facilities for variety of Gulf of Mexico fish and invertebrate species
 - Compiled list of principal investigators and commercial laboratories suited to complete audits, screened them, and provided recommendation on which company to conduct the audits
 - Coordinated lab audits with multiple parties (labs, lab auditor, and NOAA client)
 - Reviewed/edited reports from lab auditors and submitted completed reports to NOAA

- Shoreline TWG:
 - Coordinated meetings held remotely among experts
 - Provided literature review to support hypothesis on association between salt marsh and fungi exposed to petroleum related compounds in the Gulf of Mexico
- Benthic TWG: Selected and screened qualified experts and coordinated expert meetings
- Fish TWG: Managed phyto/zooplankton laboratories on their analysis effort and provided support tracking status of their analyses
- Marine Mammal (MM) TWG:
 - Spearheaded environmental field investigations for both dolphin capture study and photo identification studies (including care and release of captured animals, freeze branding animals, tagging animals), data collection of thousands of MM samples (skin/blubber biopsy, blood/serum, urine, milk, dental x-rays, ultrasound images for investigating lung and reproductive (e.g., fetus) impacts) and data (morphological measurements, heart rate)
 - Conducted and wrote technical reports on MM inhalation assessment study (using both coastal and offshore data) to assess health impacts to MM populations within the Gulf of Mexico. Presented findings at client meetings and at international conferences (e.g., SETAC, SRA)
 - Analyzed, interpreted and wrote technical report on protein/RNA expression levels from MM biopsy in association with oil exposure
 - Managed subcontractors with regards to timing of their analysis, provided properly formatted data to the data management team, led data validation effort and solved problems when issues arose
 - Developed agendas for expert/client meetings, invited presenters and provided summaries of meetings
 - Managed restoration planning efforts including 1) Research and strategize on reducing fisheries interaction (e.g., MM bycatch numbers); 2) Expand/enhance MM stranding network capabilities; 3) Decrease noise strategies; and 4) Expand/enhance/designate marine protected areas
 - Researched list of laboratories capable of running adrenal toxicology tests to further understand mechanisms involved in adrenal impacts in marine mammals
 - Maintained positive relationships with clients and outside parties (e.g., academic experts)
- ❖ Provided technical expertise for NOAA on Lake Sturgeon project
 - Provided expertise on study design, experimental control, and dosing methodology to investigate reproductive effects from exposure to polychlorinated biphenyl (PCB) and dioxin compounds
 - Provided technical support on writing of protocols and reports
 - Conducted a lab audit to evaluate suitability of laboratory and facility to pursue this PCB/dioxin exposure study in lake sturgeons
- ❖ Managed a strong team of scientists and won a competitive grant for NRDA case in the state of Georgia
 - Wrote proposal, recruited relevant team members internally and externally and won the project
 - Compiled and critically reviewed relevant environmental science literature on exposure and toxicity of contaminants to MMS
 - Wrote technical memos on the available literature to support the NRDA
 - Provided expertise on exposure and toxicity of contaminants (e.g., PCBs and metals) to MMS



- ❖ EPA project on hard rock mining
 - Managed tasks related to collecting data on fate and transport properties of 67 mining sites (EIS, EAs, etc.)
 - Managed staff involved in this CERCLA part of the project
 - Wrote memos and reports describing findings

GRADIENT CORPORATION

ENVIRONMENTAL TOXICOLOGIST

2008 TO 2010

- ❖ Performed extensive literature reviews on a broad range of scientific topics in support of litigation, regulatory comments, and risk assessments
- ❖ Provided human/ ecological toxicology and risk assessment expertise for expert/testimony reports
- ❖ Authored multiple project proposals and memos to clients
- ❖ List of Projects:
 - Litigation support:
 - Safety/toxicity of a commercial product
 - Association between inhalation of nitrosamines and brain cancer
 - Neurotoxicity of arsenic
 - Exposure levels of several plaintiffs and evaluated effects of arsenic in immune system
 - Summarized health claims of plaintiffs exposed to hydroquinone and glutaraldehyde and determined whether these chemicals have any association with developing leukemia
 - Causal relationship between radiation exposure and risk of acute myelogenous leukemia
 - Evaluated health effects (e.g., IQ decrements, ADHD) claimed by the plaintiffs from lead exposure
 - Evaluated potential health risk of workers who cleaned buildings near a site of major disaster. Critically evaluated scientific literature to identify health effects levels for the plaintiffs' health claims
 - Critically reviewed animal toxicology and human exposure studies on low doses of bisphenol A to determine whether typical human exposures could lead to adverse health effects
 - Completed toxicity section of International Uniform Chemical Information Database (IUCLID 5) on bisphenol A
 - To support registration as a "green" product as part of US EPA's Design for the Environment (DfE) program, toxicological evaluation was performed for product ingredients of interest
 - Regulatory Comments:
 - Evaluated the results of the National Toxicology Program (NTP)'s two-year cancer bioassay on goldenseal (*Hydrastis canadensis*) and provided written comments to NTP
 - Reviewed literature on differences in lead absorption from inhalation vs. ingestion which was used in settlement negotiations for developing measurement methods and target compliance levels
 - Assessed scientific basis for an underlying toxicity criteria, including mutagenicity of compounds
 - Evaluated scientific literature spanning several decades relating to a widely used industrial chlorinated compound. The review provided a basis for scientific opinions on how the understanding of the toxicity of the chlorinated compound evolved over time
- ❖ Performed ecological risk assessment of pharmaceutical compounds by translating in vitro estrogenic assay results from a zebrafish model



HARVARD MEDICAL SCHOOL/IMMUNE DISEASE INSTITUTE
POSTDOCTORAL RESEARCH FELLOW

2006 TO 2008

- ❖ Investigated possible mechanisms involved in autoimmunity of Wiskott Aldrich Syndrome (WAS) by studying thymocyte maturation in WAS protein knockout mice
- ❖ Presented findings internally and externally
- ❖ Managed and trained junior staff in lab techniques

EDUCATION

Ph.D. Environmental Toxicology, University of Connecticut, 2005

B.S. Biology, University of North Carolina at Wilmington, 2001

PUBLICATIONS

Lane S., C. Smith, J. Mitchell, B. Balmer, K. Barry, T. McDonald, C. Mori, P. Rosel, T. Rowles, T. Speakman, F. Townsend, M. Tumlin, R. Wells, E. Zolman, and L. Schwacke. 2015. Reproductive outcome and survival of common bottlenose dolphins sampled in Barataria Bay, Louisiana, USA, following the Deepwater Horizon oil spill. *Proceedings of the Royal Society B*. Volume 282 Issue 1818.

Mori, C., B. Morsey, T. Gorton, M. Levin, and S. De Guise. 2008. Effects of organochlorines, individually and in mixtures, on B cell proliferation in marine mammals and mice. *Journal of Toxicology and Environmental Health Part A*. 71 (4): 266-275.

Levin, M., H. Leibrecht, C. Mori, D. Jessup, and S. De Guise. 2007. Immunomodulatory effects of organochlorine mixtures upon in vitro exposure of peripheral blood leukocytes differ between free-ranging and captive Southern sea otters (*Enhydra lutris*). *Veterinary Immunology and Immunopathology*. 119 (3-4) 269-277.

Mori, C., L. Morsey, M. Levin, P. Nambiar, and S. De Guise. 2006. Immunomodulatory effects of in vitro exposure to organochlorines on T cell proliferation in marine mammals and mice. *Journal of Toxicology and Environmental Health Part A*. 69 (4): 283- 302.

Levin, M.J., B. Morsey, C. Mori, and S. De Guise. 2005. Non-coplanar PCB of human leukocyte phagocytosis: a new mechanism of immunotoxicity. *Journal of Toxicology and Environmental Health Part A*. 68 (22): 1977-1993.

Levin, M.J., B. Morsey, C. Mori, P. Nambiar, and S. De Guise. 2005. PCBs and TCDD, alone and in mixtures, modulate marine mammal but not B6C3F1 mouse leukocyte phagocytosis. *Journal of Toxicology and Environmental Health Part A*. 68 (8) 635-656.

Levin, M.J., B. Morsey, C. Mori, and S. De Guise. 2004. Specific non-coplanar PCB-mediated modulation of bottlenose dolphin and beluga whale phagocytosis upon in vitro exposure. *Journal of Toxicology and Environmental Health Part A*. 67 (19) 1517-1535.

PROFESSIONAL AFFILIATIONS

Society of Toxicology

Society of Environmental Toxicology and Chemistry

Society of Risk Analysis – New England Chapter

Beta Beta Beta Biological Honor Society