

CURRICULUM VITAE: Gary N. Cherr

Office Address

University of California Davis Bodega Marine Laboratory
PO Box 247
Bodega Bay, CA 94923
Office: (707) 875-2051
FAX: (707) 875-2009
E Mail: gnycherr@ucdavis.edu
<http://bml.ucdavis.edu/research/faculty/gary-cherr/>

Home Address

4971 Acacia Way
Penngrove, CA 94951
(707) 664-8284

Education and Training:

B.A. Biology, Sonoma State University, 1979
Ph.D. Zoology, University of California, Davis 1984
National Institutes of Health Postdoctoral Fellow, Department of Obstetrics and Gynecology, School of Medicine, University of California, Davis, 1983-1986.

Areas of Specialization: reproductive physiology, reproductive and developmental biology and toxicology, sperm cell physiology, embryo defense mechanisms, biochemistry and cell biology of environmental stress, endocrine disruption, environmental toxicology

Appointments:

Director Emeritus (2022-present), UC Davis Bodega Marine Laboratory
Professor Emeritus (2019-present), UC Davis Departments of Environmental Toxicology and Nutrition
Director (2009-2022), UC Davis Bodega Marine Laboratory
Professor (1999-2019), UC Davis Departments of Environmental Toxicology and Nutrition

Professional Experience:

Director, Bodega Marine Laboratory, 2009-2022
Interim Director, Bodega Marine Laboratory, 2007-2008
Professor VIII, Departments of Environmental Toxicology and Nutrition, Bodega Marine Laboratory, 2019-2022
Professor VII, Departments of Environmental Toxicology and Nutrition, Bodega Marine Laboratory, 2012-2015
Professor V, Departments of Environmental Toxicology and Nutrition, Bodega Marine Laboratory, 2009-2012
Professor IV, Departments of Environmental Toxicology and Nutrition, Bodega Marine Laboratory, 2006-2009
Professor III, Departments of Environmental Toxicology and Nutrition, Bodega Marine Laboratory, 1999-2006
Research Biologist I, Bodega Marine Laboratory and Dept. Environmental Toxicology, University of California, Davis, 1999
Associate Research Biologist III, Bodega Marine Laboratory and Dept. Environmental Toxicology, University of California, Davis, 1997-1999
Lecturer, Division of Biological Sciences, University of California Davis, 1995-1997
Associate Research Biologist II, Bodega Marine Laboratory and Dept. Environmental Toxicology, University of California, Davis, 1995-1997
Associate Research Biologist I, Bodega Marine Laboratory, University of California, Davis, 1993-1995
Assistant Research Biologist IV, Bodega Marine Laboratory, University of California, Davis, 1991-1993.

Halozyme EX2073
Merck v. Halozyme
PGR2025-00030

Assistant Research Biologist III, Bodega Marine Laboratory, University of California, Davis, 1989-1991.
Assistant Research Biologist II, Bodega Marine Laboratory, University of California, Davis, 1986-1989
Postdoctoral Fellow, National Institutes of Health, Department of Obstetrics & Gynecology, School of Medicine, University of California, Davis 1984-1986
Research Assistant, Department of Animal Science, University of California, Davis, 1980-1983
Teaching Assistant, Department of Zoology, University of California, Davis, 1979-1982
Research Associate, Department of Fish and Game, California, 1979

Graduate Group Membership

Pharmacology and Toxicology, UC Davis
Molecular, Cellular, & Integrative Physiology, UC Davis

Graduate Students Supervised as Major Professor

Gayle Garman, Ph.D, Ecology Graduate Group, UC Davis.
D.G. Crosby, Major Professor, Graduated June, 1993
Heidi Blethrow, M.S., Department of Animal Science, UC Davis
W.H. Clark, Jr., Major Professor, Graduated June, 1993
Jill Spangenberg, Ph.D., Pharmacology and Toxicology Graduate Group
G.N. Cherr, Major Professor. Graduated June, 1997
Carol Vines, Ph.D., Pharmacology and Toxicology Graduate Group
G.N. Cherr, Major Professor. Graduated June, 1999
Edward Salinas, Ph.D, Pharmacology and Toxicology Graduate Group
G.N, Cherr, Major Professor. Graduated June, 2004
Amro Hamdoun, Ph.D., Molecular, Cellular, and Integrative Physiology Graduate Group
G.N. Cherr, Major Professor, Graduated June, 2003
Troy Roepke, Ph.D Molecular, Cellular, and Integrative Physiology Graduate Group
G.N. Cherr, Major Professor, Graduated June, 2005
Theodore Tollner, Ph.D., Molecular, Cellular, and Integrative Physiology Graduate Group
G.N. Cherr, Major Professor, Graduated June, 2007.
Elise Fairbairn, Ph.D., Pharmacology and Toxicology graduate Group
G.N. Cherr, Major Professor, Graduated March, 2010.
Nature McGinn, Ph.D. Molecular, Cellular, and Integrative Physiology Graduate Group
G.N. Cherr, Major Professor, Graduated June, 2010
Susanne Brander, Pharmacology and Toxicology Graduate Group
G.N. Cherr, Major professor, Graduated December, 2011

Post-Doctoral Fellows

Dr. Murali C. Pillai (1990-1992)
Dr. Gayle Garman (1993-1994)
Dr. Carol Vines (1999-2002)
Dr. Theodore Tollner (2008-2010)
Dr. Elise Fairbairn (2009-2015)
Dr. Nature McGinn (2010-2012)
Dr. Bryan Cole (2010-2015)
Dr. Cristina Torres Duarte (2015-2019)

Service: Departmental

Seminar Committee, Bodega Marine Laboratory, 1989-1990, 1998-2000, 2002-present
Library Committee, Bodega Marine Laboratory, 1991-1992; 1995-present
Chair, Ph.D. Designated Emphasis in Reproductive Biology, 2000-2007

School of Veterinary Medicine Aquatic Health faculty search, 2008

Service: *System Wide*

Study Section Member for Tobacco-Related Disease Research Program, Office of the President of the University of California, 1990

Steering Committee for University of California at Santa Barbara, Southern California Education Initiative, U.S. Department of Interior, 1990-1994

California Sea Grant College Program Advisory Board Member, 2003-present

California Sea Grant College Program Advisory Board Chair, 2005-present

University of California Marine Council, 2007-2008

Executive Board, Cooperative Institute for Marine Ecosystems and Climate (NOAA and UC San Diego), 2011-2015.

Service: *Non-University*

Science Advisory Board, San Francisco Bay Estuary Project, 1988-1990

Biomonitoring Science Advisory Board, Department of Ecology, State of Washington, 1991-1995

Advisor, US Regional Marine Research Board, Pacific Northwest Region, Washington State Sea Grant College Program, 1992-1993

Protocol Review Committee, Water Resources Control Board, State of California, 1994-present

Technical Review Panel, Department of Ecology, State of Washington, 1998

Toxicity Identification Evaluation Review Committee, US EPA, 1999-2000

Organizer of 2000 Western Regional Developmental Biology Conference, Society for Developmental Biology, Bodega Marine Laboratory

Exxon Valdez Oil Spill Trustee Council Science Panel, 2006-present

State of California Resources Agency Science Sea Grant Advisory Panel, 2007-2010

Technical Advisory Committee, Coastal Conservancy Creosote Removal Project, 2014-present

Community Service:

Lawrence Hall of Science Summer Education Program for junior high and high school students, Summers, 1995-present

Establish Marine Biology Program for 5th and 6th grade students at Penngrove School (Petaluma School District) for project on developing marine organisms, 1996-98

Assist National Oceanic and Atmospheric Administration's National Sanctuary Program in educating high school teachers on herring reproduction in the San Francisco Bay Estuary, Spring, 1996

Petaluma High School Career Day presentations on marine science careers, 2006-2008

Teaching Responsibilities:

UC Davis Molecular and Cellular Biology: Instructor in "Mechanisms of Fertilization" (MCB 251) Fall Quarters. 3 Units

UC Davis Environmental Toxicology/Nutrition 127: "Environmental Stress and Development in Marine Organisms". Summer Session I. 10 Units

UC Davis Pharmacology and Toxicology 230: "Experimental Approaches to Problems in Coastal Toxicology". Special Summer Session. 3 Units.

University of Tokyo, Misaki Marine Station: "Environmental Factors Affecting Development", Spring, 1998, 2002, 2005 "International Courses in Development" series.

Lectures in UC Davis Nutrition 204 (Mineral Metabolism, Winter Quarters)

UC Davis Environmental Toxicology 120: "Aquatic Toxicology", 4 units.

UC Davis Neurobiology, Physiology, and Behavior 141, 141P: "Physiological Adaptations of Marine Organisms", Spring quarter, 15 units.

Publications:

1. Cherr, G.N. and Wallis H. Clark, Jr. 1982. Fine structure of the envelope and micropyles in the eggs of the white sturgeon, *Acipenser transmontanus* Richardson. *Development Growth and Differentiation* 24:341-352.
2. Cherr, G.N. and W.H. Clark, Jr. 1984. Jelly release in the eggs of the white sturgeon, *Acipenser transmontanus*: An enzymatically mediated event. *Journal of Experimental Zoology* 230:145-149.
3. Cherr, G.N. and W.H. Clark, Jr. 1984. An acrosome reaction in sperm from the white sturgeon, *Acipenser transmontanus*. *Journal of Experimental Zoology* 232(1):129-139.
4. Cherr, G.N. and W.H. Clark, Jr. 1985. An egg envelope component induces the acrosome reaction in sturgeon sperm. *Journal of Experimental Zoology* 234:75-85.
5. Cherr, G.N. and W.H. Clark, Jr. 1985. Gamete interaction in the white sturgeon, *Acipenser transmontanus*: A morphological and physiological review. *Environmental Biology of Fishes* 14(1):11-22.
Also in: *North American Sturgeons: Biology and Aquaculture Potential*, F. Binkowski and S. Doroshov (eds.), Dordrecht: Dr W. Junk: pp 11-22.
6. Cherr, G.N., H. Lambert, S. Meizel and D.F. Katz. 1986. *In vitro* studies of the golden hamster sperm acrosome reaction: Completion on the zona pellucida and induction by homologous soluble zonae pellucidae. *Developmental Biology* 114:119-131.
7. Kowtal, G. V., W.H. Clark, Jr., and G.N. Cherr. 1986. Elimination of adhesiveness in eggs from the white sturgeon, *Acipenser transmontanus*: Chemical treatment of fertilized eggs. *Aquaculture* 55:139-143.
8. Katz, D.F., G.N. Cherr, and H. Lambert. 1986. The evolution of hamster sperm motility during capacitation and interaction with the ovum vestments *in vitro*. *Gamete Research*, 14:333-346.
9. Cherr, G.N. and W.H. Clark, Jr. 1986. Induction of the acrosomal reaction in sperm from the white sturgeon, *Acipenser transmontanus*, pp 235-249, In: J.L. Hedrick (ed.) *The Molecular and Cellular Biology of Fertilization*, Plenum Publishing Corporation, New York, New York.
10. Cherr, G.N. and N. L. Cross. 1987. Immobilization of mammalian eggs on solid substrates by lectins for electron microscopy. *Journal of Microscopy*. 145:341-346.
11. Cherr, G.N., J. Shenker, C. Lundmark and K.O. Turner. 1987. Toxic effects of selected bleached kraft mill effluent constituents on the sea urchin sperm cell. *Environmental Toxicology and Chemistry*, 6:561-569.
12. Katz, D.F., E.Z. Drobnis, J. Baltz, G.N. Cherr, A.I. Yudin, R.A. Cone, and L.Y. Cheng. 1987. The biophysics of sperm penetrations of the cumulus and zona pellucida, pp 275-285, In: H. Mohri (ed.), *New Horizons in Sperm Cell Research*, Japan Scientific Societies Press, Tokyo; Gordon and Breach Scientific Publishers, New York.
13. Cherr, G.N., E.Z. Drobnis, and D.F. Katz. 1988. Localization of cortical granule constituents before and after exocytosis in the hamster egg. *Journal of Experimental Zoology*, 246(1):81-93.
14. Yudin, A.I., G.N. Cherr, and D.F. Katz. 1988. The structure of the cumulus matrix and zona pellucida: A new view of sperm interaction with oocyte-associated extracellular matrices. *Cell and Tissue Research*, 251:555-564.
15. Drobnis, E.Z., A.I. Yudin, G.N. Cherr, and D.F. Katz. 1988. The kinematics of hamster sperm during penetration of the cumulus cell matrix. *Gamete Research* 21:367-383.
16. Drobnis, E.Z., A.I. Yudin, G.N. Cherr, and D.F. Katz. 1988. Hamster sperm penetration of the zona pellucida: Kinematic analysis and mechanical implications. *Developmental Biology*, 130:311-323.
17. Cherr, G.N., and S. Suarez. 1989. Structure and physiology of mature sperm and egg, pp. 159-168, In: E. Meisami and P.S. Timiras (eds), *Handbook of Human Growth and Developmental Biology*; Vol. II, CRC Press, Boca Raton, Florida.
18. Nuccitelli, R., G.N. Cherr, and W.H. Clark, Jr., eds. 1989. *Mechanisms of Egg Activation*, Bodega Marine Laboratory, Marine Science Series, No. 2, J.S. Clegg, Series Ed., Plenum Press, New York, 290 pp.
19. Cherr, G.N., A.I. Yudin, and D.F. Katz. 1990. Organization of the hamster cumulus extracellular matrix: A hyaluronate-glycoprotein gel which modulates sperm access to the oocyte. *Development*

- Growth and Differentiation*, 32(4):353-365.
20. Cherr, G.N., J. Shoffner-McGee, and J.M. Shenker. 1990. Methods for assessing fertilization and embryonic/larval development in toxicity tests using the California mussel (*Mytilus californianus*). *Environmental Toxicology and Chemistry*, 9:1137-1145.
 21. Cherr, G.N., and T. Ducibella. 1990. Cortical granule distribution, exocytosis, and activation of the egg, pp. 309-330. In: *Serono Symposium on Fertilization in Mammals*, B.D. Bavister, J. Cummins, and E.R.S. Roldan (eds.). Serono Symposia, USA, Norwell, Massachusetts.
 22. Shenker, J.M., and G.N. Cherr. 1990. Toxicity of zinc and bleached kraft mill effluent to larval English sole (*Parophrys vetulus*) and topsmelt (*Atherinops affinis*) *Archives of Environmental Contamination and Toxicology*, 19:680-686.
 23. Cherr, G.N. 1990. Toxicity tests for *Mytilus californianus* (California mussel). In: *Proceedings of A Workshop on Culture and Toxicity Testing of West Coast Marine Organisms*. G.A. Chapman, ed., U.S. Environmental Protection Agency Publication pp. 89-94.
 24. Higashi, R.M., G.N. Cherr, and D.G. Crosby. 1991. The efficacy of enhanced photooxidation for the reduction of TOCL, color, and toxicity in mill aqueous effluents, pp. 73-83, In: *Proceedings of the 1991 TAPPI Environmental Conference*, TAPPI Press, Atlanta, GA.
 25. Cherr, G.N., R.G. Summers, J.D. Baldwin, and J.B. Morrill. 1992. Preservation and visualization of the sea urchin blastocoelic extracellular matrix. *Microscopy Research and Technique*, 22:11-22. DOI: 10.1002/jemt.1070220104
 26. Cherr, G.N. and E.Z. Drobnis. 1992. Fertilization in the Golden Hamster, In: *A Comparative Overview of Mammalian Fertilization*. B.S. Dunbar and M.G. O'Rand, (eds.), Plenum Press, New York and London. pp. 217-243.
 27. Higashi, R.M., G.N. Cherr, T.W-M. Fan, A.N. Lane, and A.D. Jones. 1992. High-resolution analytical separation and structural probes for studies of high molecular mass material from BKME. *Proceedings of the 1992 TAPPI Environmental Conference*, Book 1:275-286. TAPPI Press, Atlanta, GA.
 28. Baldwin, J.D., M.C. Pillai, and G.N. Cherr. 1992. The response of sea urchin (*Strongylocentrotus purpuratus*) embryos to aqueous petroleum wastes includes the expression of a high molecular weight glycoprotein. *Marine Biology*, 114: 21-30.
 29. Pillai, M.C., J.D. Baldwin, and G.N. Cherr. 1992. Early development in an algal gametophyte: Role the cytoskeleton in germination and nuclear translocation. *Protoplasma*, 170:34-45. DOI: 10.1007/BF01384455
 30. Yanagimachi, R., G.N. Cherr, M.C. Pillai, and J.D. Baldwin. 1992. Factors controlling sperm entry into the micropyles of salmonid and herring eggs. *Development, Growth, Differentiation*, 34:447-461.
 31. Higashi, R.M., G.N. Cherr, J.M. Shenker, J.M. Macdonald, and D.G. Crosby. 1992. A Polar high molecular mass constituent of bleached kraft mill effluent is toxic to marine organisms. *Environmental Science and Technology*, 26:2413-2420. DOI: 10.1021/es00036a012
 32. Fan, T.W-M., R.M. Higashi, G.N. Cherr, and M.C. Pillai. 1992. Use of noninvasive NMR spectroscopy and imaging for assessing produced water effects on mussel reproduction. In: *Produced Water: Technological/Environmental Issues and Solutions*. J. P. Ray and F.R. Engelhardt, eds. Plenum Press, New York. pp. 403-414.
 33. Higashi, R.M., G.N. Cherr, C.A. Bergens, T.W-M. Fan, and Crosby, D.G. 1992. Toxicant isolation from a produced water source in the Santa Barbara Channel. In: *Produced Water: Technological/Environmental Issues and Solutions*. J. P. Ray and F.R. Engelhardt, eds. Plenum Press, New York. pp. 223-233.
 34. Cherr, G.N. 1993. Lectin-conjugated substrates for attachment of SEM specimens. In: *Procedures in Electron Microscopy*, A.W. Robards and A.J. Wilson, (eds.), John Wiley and Sons, Ltd., London.
 35. Pillai, M.C., T.S. Shields, R. Yanagimachi, and G.N. Cherr. 1993. Isolation and partial characterization of the sperm motility initiation factor from eggs of the Pacific Herring, *Clupea pallasii*. *Journal of Experimental Zoology*, 265:336-342. DOI: 10.1002/jez.1402650316
 36. Cherr, G.N., T.W-M. Fan, M.C. Pillai, T. Shields, and R.M. Higashi. 1993. Electrophoretic

- separation, characterization, and quantification of biologically active lignin-derived macromolecules. *Analytical Biochemistry*, 214:521-527. DOI: 10.1006/abio.1993.1533
37. Garman, G.D., M.C. Pillai, and G.N. Cherr. 1994. Inhibition of cellular events during algal gametophyte development: Effects of select metals and an aqueous petroleum waste. *Aquatic Toxicology*, 28:127-144. DOI: 10.1016/0166-445X(94)90025-6
 38. Pillai, M.C., R. Yanagimachi, and G.N. Cherr. 1994. *In vivo* and *in vitro* initiation of sperm motility using fresh and cryopreserved gametes from the Pacific herring, *Clupea pallasii*. *Journal of Experimental Zoology*, 269:62-68. DOI: 10.1002/jez.1402690108
 39. Garman, G.D., M.C. Pillai, L.J. Goff, and G.N. Cherr. 1995. Nuclear events during early development in *Macrocystis pyrifera* gametophytes and the temporal effects of a marine contaminant. *Marine Biology*, 121:355-362. DOI: 10.1007/BF00346745
 40. Cherr, G.N., S.A. Meyers, A.I. Yudin, C.A. VandeVoort, D. G. Myles, P. Primakoff, and J.W. Overstreet. 1996. The PH-20 protein in cynomolgus macaque spermatozoa: Identification of two different forms exhibiting hyaluronidase activity. *Developmental Biology*, 175:142-153. DOI: 10.1006/dbio.1996.0102
 41. Griffin, F.J., C. Vines, M.C. Pillai, R. Yanagimachi, and G.N. Cherr. 1996. Sperm Motility Initiation Factor (SMIF) is a minor component of the Pacific herring egg chorion. *Development, Growth, and Differentiation*, 38:193-202.
 42. Spangenberg, J.M. and G.N. Cherr. 1996. Developmental effects of barium in a marine bivalve (*Mytilus californianus*). *Environmental Toxicology and Chemistry*, 15(10):1769-1774. DOI: 10.1897/1551-5028(1996)015<1769:DEOBEI>2.3.CO;2
 43. Vines, C.A. Griffin, F.J., M.C. Pillai, R. Yanagimachi, T. Hibbard-Robbins, and G.N. Cherr. 1996. A specialized role for the Pacific herring egg chorion in sperm motility initiation. *In: The Fish Egg: Its Biology and Culture*. D. MacKinlay and M. Eldridge, eds. pp.167-172. Symposium Proceedings of Int. Cong. Biol. Fish., Physiol. Sec., Am. Fish. Soc.
 44. Olin, K.A., G.N. Cherr, E. Rifkin, and C.L. Keen. 1997. The effects of some redox-active and reactive aldehydes on DNA-protein cross-links *in vitro*. *Toxicology*, 110:1-8. DOI: 10.1016/0300-483X(96)03318-5
 45. Meyers, S.A., A.I. Yudin, G.N. Cherr, C.A. Vandevoort, D.G. Myles, P. Primakoff, and J.W. Overstreet. 1997. Hyaluronidase activity of macaque sperm assessed by an *in vitro* cumulus penetration assay. *Molecular Reproduction and Development*, 46:392-400. DOI: 10.1002/(SICI)1098-2795(199703)46:3<392::AID-MRD19>3.0.CO;2-0
 46. Pillai, M.C., H. Blethrow, R.M. Higashi, C.A. Vines, and G.N. Cherr. 1997. Inhibition of the sea urchin sperm acrosome reaction by a lignin-derived macromolecule. *Aquatic Toxicology*, 37:139-156. DOI: 10.1016/S0166-445X(96)00821-1
 47. Sabeur, K., G.N. Cherr, A.I. Yudin, P. Primakoff, M-W. Li, and J.W. Overstreet. 1997. The PH-20 protein in human spermatozoa. *Journal of Andrology*, 18:151-158.
 48. VandeVoort, C.A., G.N. Cherr, and J.W. Overstreet. 1997. Hyaluronic acid enhances the zona pellucida-induced acrosome reaction of macaque sperm. *Journal of Andrology*, 18:1-5.
 49. Garman, G.D., S.L. Anderson, and G.N. Cherr. 1997. Developmental abnormalities and DNA-protein crosslinks in sea urchin embryos exposed to three metals. *Aquatic Toxicology*, 39:247-265. DOI: 10.1016/S0166-445X(97)00033-7
 50. Li, M-W., G.N. Cherr, A.I. Yudin, and J.W. Overstreet. 1997. Biochemical Characterization of the protein on the plasma and inner acrosomal membrane of cynomolgus macaque spermatozoa. *Molecular Reproduction and Development*, 48:356-366. DOI: 10.1002/(SICI)1098-2795(199711)48:3<356::AID-MRD9>3.0.CO;2-Q
 51. Griffin, F.J., M.C. Pillai, C.A. Vines, R. Yanagimachi, and G.N. Cherr. 1998. Effects of salinity on sperm motility, fertilization, and development in the Pacific herring, *Clupea pallasii*. *Biological Bulletin*, 194:25-35. DOI: 10.2307/1542510
 52. Shamseldin, A.A., J.S. Clegg, C.S. Friedman, G.N. Cherr, and M.C. Pillai. 1997. Induced thermotolerance in the Pacific oyster, *Crassostrea gigas*. *Journal of Shellfish Research*, 16(2):487-491.

53. Middaugh, D.P., M.E. Shelton, C.L. McKenney Jr., G.N. Cherr, P.J. Chapman, and L.A. Courtney. 1998. Preliminary observations on responses of embryonic and larval Pacific herring, *Clupea pallasii*, to neutral fraction biodegradation products of weathered Alaska North Slope oil. *Archives Environmental Contamination and Toxicology*, 34:188-196.
54. Clegg, J.S., K. R. Uhlinger, S.A. Jackson, G.N. Cherr, E. Rifkin, and C.S. Friedman. 1998. Induced thermotolerance and the heat shock protein-70 family in the Pacific oyster, *Crassostrea gigas*. *Molecular Marine Biology and Biotechnology*, 7(1):21-30.
55. Sabeur, K., G.N. Cherr, A.I. Yudin, and J.W. Overstreet. 1998. Hyaluronic acid enhances induction of the acrosome reaction of human sperm through interaction with the PH-20 protein. *Zygote*, 6:103-111. DOI: 10.1017/S0967199498000021
56. Yudin, A.I., G.N. Cherr, C.A. VandeVoort, and J.W. Overstreet. 1998. Rearrangement of the PH-20 protein on the surface of macaque spermatozoa following exposure to anti-PH-20 antibodies or binding to zona. *Molecular Reproduction and Development*, 50:207-220. DOI: 10.1002/(SICI)1098-2795(199806)50:2<207::AID-MRD12>3.0.CO;2-3
57. Cherr, G. N., Griffin, F. J., Pillai, M. C., Vines, C. A., Morisawa, M., and R. Yanagimachi. 1998. The role of the chorion in initiation of sperm motility in the Pacific herring. *Zygote*, 6, SUPPL. 1:S16-S17.
58. Yoshida, K., Vines, C. A., Cherr, G. N., and M. Morisawa. 1998. Egg derived protein factors, (HSAPs and SMIF) induce depolarization of the plasma membrane and increase in intracellular Ca²⁺ in the initiation and activation of sperm motility in the herring. *Zoological Science (Tokyo)*, v.15, n.SUPPL.
59. Cherr, G.N., A.I. Yudin, M.-W. Li, C.A. Vines, and J.W. Overstreet. 1999. Hyaluronic acid and the cumulus extracellular matrix induce increases in intracellular calcium in macaque sperm via the plasma membrane protein PH-20. *Zygote*, 7(3):211-222. DOI: 10.1017/S0967199499000593
60. Lokeshwar, V.B., M.M. Young, G. Goudarzi, N. Lida, A.I. Yudin, G.N. Cherr, and M. Seizer. 1999. Identification of bladder tumor-derived hyaluronidase: Its similarity to Hyal-1. *Cancer Research*, 59(17):4464-4470.
61. Tollner, T.L., Yudin, A.I., Cherr, G.N., and J.W. Overstreet. 2000. Soybean trypsin inhibitor as a probe for the acrosome reaction in motile Cynomolgus macaque sperm. *Zygote*, 8:127-137. DOI: 10.1017/S0967199400000903
62. Vines, C.A., F.J. Griffin, M.C. Pillai, and G.N. Cherr. 2000. The effects of soluble creosote-derived compounds on development of Pacific herring embryos. *Aquatic Toxicology*, 51:225-239. DOI: 10.1016/S0166-445X(00)00107-7
63. Ishijima, S., C.A. Vines, F.J. Griffin, and G.N. Cherr. 2000. Flagellar movements of herring spermatozoa. *Zoological Science (Tokyo)*. 17(Supplement). Pp.34.
64. Huovinen, P.S., A.O.J. Oikari, M.R. Soimasuo, and G.N. Cherr. 2000. Impact of UV radiation on the early development of the giant kelp (*Macrocystis pyrifera*) gametophytes. *Photochem. & Photobiol.*, 72(3):308-313. DOI: 10.1562/0031-8655(2000)072<0308:IOUROT>2.0.CO;2
65. Yudin, A.I., M-W. Li, K.R. Robertson, G.N. Cherr, and J.W. Overstreet. 2001. Characterization of the active site of monkey sperm hyaluronidase. *Reproduction*, 121:735-743. DOI: 10.1530/rep.0.1210735
66. Huovinen, P.S., G.N. Cherr, A. Oikari, and M.R. Soimauo. 2001. Heat shock protein (HSP70) responses in algae and cladoceran upon exposure to UV radiation. In: Proceedings of the 5th Finnish Conference of Environmental Sciences, T. Lehtonen, J.P. Salminen, and K. Pihlaja, eds. pp225-228.
67. Moore, J.D., G.N. Cherr, and C.S. Friedman. 2001. Detection of *Candidatus xenohaliotis californiensis*' (Rickettsiales-like procaryote) inclusions in tissue squashes of abalone (*Haliotis spp.*) gastrointestinal epithelium using a nucleic acid fluorochrome. *Diseases of Aquatic Organisms*, 46(2):147-152. DOI: 10.3354/dao046147
68. Vines, C.A., M.W. Li, X. Deng, A.I. Yudin, G.N. Cherr, and J.W. Overstreet. 2001. Identification of a Hyaluronic Acid (HA) binding domain in the PH-20 protein that may function in cell signaling. *Molecular Reproduction and Development*, 60:542-552. DOI: 10.1002/mrd.1119

69. Cherr, G.N., A.I. Yudin, and J.W. Overstreet. 2001. The dual functions of GPI-anchored PH-20: Hyaluronidase and intracellular signaling. *Matrix Biology*, 20:515-525. DOI: 10.1016/S0945-053X(01)00171-8
70. Mazina, O.M., M.A Phillips, T. Williams, C.A. Vines, G.N. Cherr, and R.H. Rice. 2001. Redistribution of transcription factor AP-1 in differentiating cultured human epidermal cells. *Journal of Investigative Dermatology*, 117(4):864-870. DOI: 10.1046/j.0022-202x.2001.01472.x
71. Huovinen, PS, Cherr, GN, Oikari, AOJ, Soimasuo, MR. 2001. Heat shock protein (Hsp70) responses in algae and cladoceran upon exposure to UV radiation. In: Lehtonen, T., Salminen, J.-P. & Pihlaja, K. (eds), Proceedings of the Fifth Finnish Conference of Environmental Sciences: 225-228. University of Turku, Finland.
72. Vines, C.A., K. Yoshida, F.J. Griffin, M.C. Pillai, M. Morisawa, R. Yanagimachi and G.N. Cherr. 2002. Motility Initiation in Herring Sperm is Regulated by Reverse Sodium-Calcium Exchange. *Proceedings of the National Academy of Sciences, USA* 99:2026-2031. DOI: 10.1073/pnas.042700899
73. Li, M-W., A.I. Yudin, K.R. Robertson, G.N. Cherr, and J.W. Overstreet. 2002. Importance of glycosylation and disulfide bonds in hyaluronidase activity of macaque sperm surface PH-20. *Journal of Andrology*, 23:211-219.
74. Cherr, G.N. 2002. Can we develop and utilize indicators of ecological integrity to successfully manage ecosystems? In: *Managing for Ecosystem Health*, Third International Congress on Ecosystem Health, C.O. Qualset, D.J. Rapport, D. Ralston and B. Lasley , eds. CRC Press, in press. pp227-229.
75. Hamdoun, A.M., F.J. Griffin, and G.N. Cherr. 2002. Tolerance to Biodegraded Crude Oil in Marine Invertebrate embryos and larvae is associated with expression of a multixenobiotic resistance transporter. *Aquatic Toxicology*, 61:127-140. DOI: 10.1016/S0166-445X(02)00050-4
76. Morisawa, S. and G.N. Cherr. 2002. Acrosome reaction in spermatozoa from hagfish (Agnatha) *Eptatretus burgeri* and *E. stouti*: Acrosomal exocytosis and the identification of filamentous actin. *Development, Growth and Differentiation*, 44:337-344.
77. Tollner, T.L., J.W. Overstreet, M.W. Li, S.A. Meyers, A.I. Yudin, E.R. Salinas, and G.N. Cherr. 2002. Lignosulfonic Acid Blocks *In Vitro* Fertilization of Macaque Oocytes When Sperm are Treated Prior to Capacitation. *Journal of Andrology*, 23(6):889-898.
78. Yudin, A.I., Li, M.-W., Robertson, K.R., Tollner, T., Cherr, G.N., and J.W. Overstreet. 2002. Identification of a novel GPI-anchored CRISP glycoprotein, MAK248, located on the posterior head and equatorial segment of Cynomolgus Macaque sperm. *Molecular Reproduction and Development*, 63:488-499. DOI: 10.1002/mrd.10193
79. Tollner, T.L., Yudin, A.I., Cherr, G.N., and J.W. Overstreet. 2003. Real time observations of individual macaque sperm undergoing tight binding and the acrosome reaction on intact zona pellucidae. *Biology of Reproduction*, 68:664-672. DOI: 10.1095/biolreprod.102.009175
80. Pillai, M.C., C.A. Vines, A.H. Wikramanayake and G.N. Cherr. 2003. Polycyclic aromatic hydrocarbons disrupt axial development in sea urchin embryos through a β -Catenin dependent pathway. *Toxicology*, 186: 93-108. DOI: 10.1016/S0300-483X(02)00695-9
81. Hamdoun, A.M., Cheney, D.P., and G.N. Cherr. 2003. Phenotypic plasticity of HSP70 and HSP70 gene expression in the Pacific oyster (*Crassostrea gigas*): Implications for thermal limits and induction of thermal tolerance. *Biological Bulletin*, 205:160-169. DOI: 10.2307/1543236
82. Yudin, A.I., , T.L. Tollner, M.-W. Li, C.A. Treece, J.W. Overstreet, and G.N. Cherr. 2003. ESP13.2, a member of the Beta Defensin family, is a macaque sperm surface coating protein involved in the capacitation process. *Biology of Reproduction*, 69:1118-1128. DOI: 10.1095/biolreprod.103.016105
83. Griffin, F.J., M.R. Brenner, H.M. Brown, E.H. Smith, C.A. Vines, and G.N. Cherr. 2004. Survival of Pacific herring larvae is a function of external salinity. In: Larval Fish Ecology in the San Francisco Estuary and Watershed, *American Fisheries Society Symposium*, 39:37-46.
84. Watters, D.L., H.M. Brown, F.J. Griffin, E.J. Larson, and G.N. Cherr. 2004. Pacific Herring spawning grounds in San Francisco Bay: 1973- 2000. In: Larval Fish Ecology in the San Francisco Estuary and Watershed, *American Fisheries Society Symposium*, 39:1-9.

85. Brown, H.M., A. Briden, T. Stokell, F.J. Griffin, and G.N. Cherr. 2004. Thermotolerance and Hsp70 Profiles in Adult and Embryonic California Native Oysters, *Ostrea conchaphila* (Carpenter, 1857). *Journal of Shellfish Research*, 23(1):135-141.
86. Tollner, T.L, A.I. Yudin, C.A. Treece, J.W. Overstreet, and G.N. Cherr. 2004. Macaque sperm release ESP13.2 and PSP94 during capacitation: The absence of ESP13.2 is linked to sperm-zona recognition and binding. *Molecular Reproduction and Development*, 69:325-337. DOI: 10.1002/mrd.20132
87. Hamdoun, A.M., G.N. Cherr, T.A. Roepke, and D. Epel. 2004. Activation of multidrug efflux transporter activity at fertilization in sea urchin embryos (*Strongylocentrotus purpuratus*). *Developmental Biology*, 276:452-462. DOI: 10.1016/j.ydbio.2004.09.013
88. Roepke, T.A., M.J. Snyder, and G.N. Cherr. 2005. Estradiol and endocrine disrupting compounds adversely affect development of sea urchin embryos at environmentally relevant concentrations. *Aquatic Toxicology*, 71:155-173. DOI: 10.1016/j.aquatox.2004.11.003
89. Rose, W.L., J. Hobbs, R. Nisbet, P.G. Green, G. Cherr, S.A. Anderson. 2005. Validation of Otolith Growth Rate Analysis Using Cadmium-Exposed Larval Topsmelt (*Atherinops affinis*). *Environmental Toxicology and Chemistry*, 24(10):2612-2620. DOI: 10.1897/04-516R.1
90. Friedman, C.S., H.M. Brown, T.W. Ewing, F.J. Griffin, and G.N. Cherr. 2005. Pilot study of the Olympia oyster *Ostrea conchaphila* in the San Francisco Bay estuary: Description and distribution of diseases. *Diseases of Aquatic Organisms*, 65:1-8. DOI: 10.3354/dao065001
91. Yudin, A.I., S.E. Generao, T.L. Tollner, C.A. Treece, J.W. Overstreet, and G.N. Cherr. 2005. Beta-Defensin 126 on the cell surface protects sperm from immunorecognition and binding of Anti-sperm antibodies. *Biology of Reproduction*, 73:1243-1252. DOI: 10.1095/biolreprod.105.042432
92. Yudin, A.I., C.A. Treece, T.L. Tollner, J.W. Overstreet, G.N. Cherr. 2005. The Carbohydrate Structure of DEFB126, the Major Component of the Cynomolgus Macaque Sperm Plasma Membrane Glycocalyx. *Journal of Membrane Biology*. 207(2):119-129. DOI: 10.1007/s00232-005-0806-z
93. Ellis-Hutchings, R.G., G.N. Cherr, L.A. Hanna, and C.L. Keen. 2006. Polybrominated diphenyl ether (PBDE)-induced alterations in vitamin A and thyroid hormone concentrations in the rat during lactation and early postnatal development. *Toxicology and Applied Pharmacology*. 215:135-145. DOI: 10.1016/j.taap.2006.02.008
94. Anderson, S.L., G.N. Cherr, S.G. Morgan, C.A. Vines, R.M. Higashi, W.A. Bennett, W.L. Rose, A. Brooks, R.M. Nisbet. 2006. Integrating contaminant responses in indicator saltmarsh species. *Marine Environmental Research*, 62:S317-S321. DOI: 10.1016/j.marenvres.2006.04.011
95. Roepke, T.A., E.S. Chang, and G.N. Cherr. 2006. Maternal exposure to estradiol and endocrine disrupting compounds alters the sensitivity of sea urchin embryos and the expression of an orphan steroid receptor. *Journal of Experimental Zoology*, 305A:830-841. DOI: 10.1002/jez.a.320
96. Cao, Y., G. N. Cherr, A. L. Córdova, T.W.-M. Fan, R.M. Higashi, M. G. LaMontagne, K.M. Scow, J. Yuan, and P. A. Holden. 2006. Relationships between Sediment Microbial Communities and Pollutants in Two California Salt Marshes. *Microbial Ecology*, 52:619-633. DOI: 10.1007/s00248-006-9093-1
97. Roepke, T.A., A.M. Hamdoun, and G.N. Cherr. 2006. Increase in multidrug transport activity is associated with oocyte maturation in sea stars. *Development, Growth, Differentiation*, 48(9):559-574. DOI: 10.1111/j.1440-169x.2006.00893.x
98. Rajagopal, M., T.L. Tollner, W. Finkbeiner, G.N. Cherr, and J. Widdicombe. 2006. Differentiated structure and function of primary cultures of monkey oviductal epithelium. *In Vitro Cellular and Developmental Biology-Animal*, 42:248-254.
99. Rose, W.L., R.M. Nisbet, P.G. Gree, S. Norris, T. Fan, E.H. Smith, G.N. Cherr, and S.L. Anderson. 2006. Using an integrated approach to link biomarker responses and physiological stress to growth impairment of cadmium-exposed larval topsmelt. *Aquatic Toxicology*, 80:298-308. DOI: 10.1016/j.aquatox.2006.09.007
100. Nunomura, W., Y. Takakuwa, G. N. Cherr and K. Murata. 2007. Characterization of Protein 4.1R in erythrocytes of zebrafish (*Danio rerio*): Unique binding properties with transmembrane proteins and calmodulin. *Comparative Biochemistry and Physiology*, 148(2):124-138. DOI: 10.1016/j.cbpb.2007.05.001

101. Tollner, T.L., A.I. Yudin, A.F. Tarantal, C.A. Treece, J.W. Overstreet, and G.N. Cherr. 2008. Beta-Defensin 126 on the surface of macaque sperm mediates attachment of sperm to oviductal epithelia. *Biology of Reproduction*, 78:400-412. DOI: 10.1095/biolreprod.107.064071
102. Arkush, K.D., G.N. Cherr, and J.S. Clegg. 2008. Induced thermotolerance and tissue Hsc70 in juvenile coho salmon, *Oncorhynchus kisutch*. *Acta Zoologica*, 89:331-338. DOI: 10.1111/j.1463-6395.2008.00321.x
103. Cherr, G.N., M. Morisawa, C.A. Vines, K. Yoshida, E.H. Smith, T. Matsubara, M.C. Pillai, F.J. Griffin, and R. Yanagimachi. 2008. Role of two egg-derived molecules in sperm motility initiation and fertilization in the Pacific herring (*Clupea pallasii*). *International Journal of Developmental Biology*, 52:743-752. DOI: 10.1387/ijdb.072566gc
104. Tollner, T.L., A.I. Yudin, C.A. Treece, J.W. Overstreet, and G.N. Cherr. 2008. Macaque sperm coating protein Beta-Defensin 126 (DEFB126) facilitates sperm penetration of cervical mucus. *Human Reproduction*, 23:2523-2534. DOI: 10.1093/humrep/den276
105. Yudin, A.I., T.L. Tollner, C.A. Treece, R. Kays, G.N. Cherr, J.W. Overstreet, and C.L. Bevins. 2008. α -defensin 22 is a major component of the mouse sperm surface glycocalyx. *Reproduction*, 136:753-765. DOI: 10.1530/REP-08-0164
106. Tollner, T.L., C.A. Vandervoort, A.I. Yudin, J.W. Overstreet, and G.N. Cherr. 2008. Release of DEFB126 from macaque sperm and completion of capacitation are triggered by conditions that simulate peri-ovulatory oviductal fluid. *Molecular Reproduction and Development*, 76(5):431-443. DOI: 10.1002/mrd.20964
107. Griffin, F.J., E.H. Smith, C.A. Vines, and G.N. Cherr. 2009. Impacts of suspended sediments on fertilization, embryonic development, and early larval life stages of the Pacific Herring, *Clupea pallasii*. *Biological Bulletin*, 216:175-187.
108. Ellis-Hutchings, R.G., G.N. Cherr, L.A. Hanna, and C.L. Keen. 2009. The effects of marginal maternal vitamin A status on penta-brominated diphenyl ether mixture-induced alterations in maternal and conceptual vitamin A and fetal development in the Sprague Dawley rat *Birth Defects Research Part B: Developmental and Reproductive Toxicology*. 86:48-57. DOI: 10.1002/bdrb.20181
109. Keller, A.A., H. Wang, D. Zhou, H. Lenihan, G.N. Cherr, B. Cardinale and R. Miller. 2010. Behavior of metal oxide nanoparticles in natural aqueous matrices. *Environmental Science & Technology*, 44:1962-1967.
110. Aimo, L., G.N. Cherr, and P.I. Oteiza. 2010. Low extracellular zinc increases neuronal oxidant production initially through NADPH oxidase activation. *Free Radical Biology & Medicine*, 48(12):1577-1587. DOI: 10.1016/j.freeradbiomed.2010.02.040
111. Murata, K., W. Nunomura, Y. Takakuwa, and G.N. Cherr. 2010. Two different unique cardiac isoforms of protein 4.1R in zebrafish, *Danio rerio*, and insights into their cardiac functions as related to their unique structures. *Development, Growth, and Differentiation*. 52:591-602. DOI: 10.1111/j.1440-169X.2010.01195.x
112. Watanabe, A., Takayama-Watanabe, E., Vines, C.A., and G.N. Cherr. 2011. Sperm motility-initiating substance in newt egg-jelly induces differential sperm motility initiation based on sperm intracellular calcium levels. *Development, Growth, and Differentiation*. 53:9-17. DOI: 10.1111/j.1440-169X.2010.01216.x
113. Werlin, R., J. H. Priester, Mielke, R. E., Kraemer, S. Jackson, S., P. K. Stoimenov, G.D Stucky, G.N.Cherr, E. Orias, and P. A. Holden. 2011. Biomagnification of cadmium selenide quantum dots in a simple experimental microbial food chain. *Nature Nanotechnology*, 6:65-71. DOI: 10.1038/nnano.2010.251
114. Tollner, T.L., Venners, S.A., Hollox, E.J., Yudin, A.I., Liu. X., Tang, G., Houxun, X., Kays, R.J., Lau, T., Overstreet, J.W., Xu, X., Bevins, C.L., and G.N. Cherr. 2011. A Common Beta-Defensin 126 Gene Variant Underlies Impaired Sperm Function and Subfertility. *Science Translational Medicine*, 3, 92ra65. DOI: 10.1126/scitranslmed.3002289
115. Fairbairn, E.A., Keller, A.A., Madler, L., Zhou, D., Pokhrel, S., and G.N. Cherr. 2011. Metal Oxide Nanomaterials in Seawater: Linking Physical Characteristics with Biological Response in Sea Urchin Development. *Journal of Hazardous Materials*, 192:1565-1571. DOI: 10.1016/j.jhazmat.2011.06.080.

116. Ford, T.E., A.L. Bass, S. Cheng, G.N. Cherr, B. Cole, E. Fairbairn, J.-D. Gu, R. S. Halbrook, F. E. Löffler, E. L. Madsen, and N.A. McGinn. 2011. EHPC 2010: sharing knowledge on environmental health for risk mitigation. *Ecotoxicology*, 20:937-939. DOI 10.1007/s10646-011-0656-7
117. Incardona, J.P., C.A. Vines, B.F. Anulacion, D.H. Baldwin, H.L. Day, B.L. French, J.S. Labenia, T.L. Linbo, M.S. Myers, O.P. Olson, C.A. Sloan, S. Sol, F.J. Griffin, K. Menard, S.G. Morgan, J.E. West, T.K. Collier, G.M. Ylitalo, G.N. Cherr, and N.L. Scholz. 2012. Unexpectedly high mortality in Pacific herring embryos exposed to the 2007 *Cosco* Busan oil spill in San Francisco Bay. *Proceedings of the National Academy of Sciences, USA*. 109(2):E51-58. DOI/10.1073/pnas.1108884109.
118. Tollner, T.L., A.I. Yudin, J.W. Overstreet, C.L. Bevins, and G.N. Cherr. 2012. Beta Defensin 126, a Multifunctional Sperm Transport Protein. In: *Sperm Cell Research in the 21st Century: Historical Discoveries to New Horizons*. M. Morisawa, ed., Adthree Publishing Co., Ltd., Tokyo, Japan, pp. 124-129.
119. Vines, C.A. and G.N. Cherr. 2012. Pollution: Emerging Contaminants. In: *Ecology, Conservation and Restoration of Tidal Marshes: The San Francisco Estuary*. A. Palaima, ed. University of California Press. pp. 67-86.
120. Peterson, C.H., S.S. Anderson, G.N. Cherr, R.F. Ambrose, S. Anghera, S. Bay, M. Blum, R. Condon, T.A. Dean, M. Graham, M. Guzy, S. Hampton, S. Joye, J. Lambrinos, B. Mate, D. Meffert, S. P. Powers, P. Somasundaran, R.B. Spies, C.M. Taylor, R. Tjeerdema, and E.E. Adams. 2012. A Tale of Two Spills: Novel Science and Policy Implications of an Emerging New Oil Spill Model. *BioScience*, 62(5):461-469.
121. Brander, S.M., B.J. Cole, and G.N. Cherr. 2012. An approach to detecting estrogenic endocrine disruption via choriogenin expression in an estuarine model fish species. *Ecotoxicology*, 21:1272-1280. DOI 10.1007/s10646-012-0879-2.
122. Griffin, F.J., T. DiMarco, K.L. Menard, J.A. Newman, E.H. Smith, C.A. Vines, and G.N. Cherr. 2012. Impacts of suspended sediments on Pacific herring (*Clupea pallasii*) larval survival and condition. *Estuaries and Coasts*, 35(5):1229-1236. DOI 10.1007/s12237-012-9518-7.
123. Incardona, J.P., C.A. Vines, T.L. Linbo, M.S. Myers, C.A. Sloan, B.F. Anulacion, D. Boyd, T.K. Collier, S.G. Morgan, G.N. Cherr and N.L. Scholz. 2012. Potent phototoxicity of marine bunker oil to translucent herring embryos after prolonged weathering. *PLoS ONE*, 7(2): e30116. doi:10.1371/journal.pone.0030116.
124. Fairbairn, E.A., J. Bonthuis, and G.N. Cherr. 2012. Polycyclic aromatic hydrocarbons and dibutyl phthalate disrupt dorsal-ventral axis determination via the *Wnt/β-catenin* signaling pathway in zebrafish embryos. *Aquatic Toxicology*, 124-125:188-196.
125. Tollner, T.L., C.L. Bevins, and G.N. Cherr. 2012. Multifunctional glycoprotein DEF126—A curious story of defensin-clad spermatozoa. *Nature Reviews Urology*, 9:365-375. DOI:10.1038/nrurol.2012.109.
126. Brander, S.M., G. He, K.L. Smalling, M.S. Denison, and G.N. Cherr. 2012. The *in vivo* estrogenic and *in vitro* anti-estrogenic activity of permethrin and bifenthrin. *Environmental Toxicology and Chemistry*, 31(12):2848-2855.
127. Holden, P.A., R.M. Nisbet, H.S. Lenihan, R.J. Miller, G.N. Cherr, J.P. Schimel, and J.L. Gardea-Torresdey. 2013. Ecological nanotoxicology: Nanomaterial hazard considerations at the subcellular, population, community, and ecosystems levels. *Accounts of Chemical Research*, 46(3):813-822.
128. Yanagimachi, R., G.N. Cherr, T. Andoh, T. Harumi, C.A. Vines, M.C. Pillai, F.J. Griffin, H. Matsubara, T. Weathersby, and K. Kaneshiro. 2013. Sperm attractant in the micropyle region of fish and insect eggs. *Biology of Reproduction*, 88(2):47, 1-11.
129. Hwang, H.-M., R.S. Carr, G.N. Cherr, P.G. Green, E.D. Grosholz, L. Judah, S.G. Morgan, S. Ogle, V.K. Rashbrook, W.L. Rose, S.J. Teh, C.A. Vines, and S.L. Anderson. 2013. Sediment quality assessment in tidal salt marshes in northern California, USA: An evaluation of multiple lines of evidence approach. *Science of the Total Environment*, 454-455:189-198.

130. Brander, S.M., R.E. Connon, G. He, J.A. Hobbs, K.L. Smalling, S.J. The, J. W. White, I. Werner, M.S. Denison, and G.N. Cherr. 2013. From 'omics to otoliths: Responses of an estuarine fish to endocrine disrupting compounds across biological scales. *PLoS ONE*, 8(9). doi:10.3771/journal.pone.0074251
131. Cherr, G.N. 2013. Survival of drowning sperm: Do spermatozoa from external fertilizers adapt to differing osmotic environments through the use of aquaporins? *Biol. Reprod.*, 89(2):36, 1-2.
132. Murata, K., F.S. Conte, E. McInnis, T.H. Fong, and G.N. Cherr. 2014. Identification of the origin and localization of chorion (egg envelope) proteins in an ancient fish, the white sturgeon, *Acipenser transmontanus*. *Biology of Reproduction*, 90(6): 132,1-12.
133. Anderson, S.S., Peterson, C.H., G.N. Cherr, R.F. Ambrose, S. Anghera, S. Bay, M. Blum, R. Condon, T.A. Dean, M. Graham, M. Guzy, S. Hampton, S. Joye, J. Lambrinos, B. Mate, D. Meffert, S. P. Powers, P. Somasundaran, R.B. Spies, C.M. Taylor, and R.Tjeerdema. 2014. Understanding and properly interpreting the 2010 Deepwater Horizon blowout. *In: Oil Spill Remediation: Colloid Chemistry-Based Principles and Solutions*. P. Somasundaran, P. Patra, R.S. Farinato, K. Papadopoulos, eds. John Wiley & Sons, Hoboken, NJ. pp. 19-57.
134. Corsi, I., G.N. Cherr, H.S. Lenihan, J. Labille, M. Hasselov, L. Canesi, F. Dondero, G. Frenzilli, D. Hristozov, V. Punes, G. Libralato, A. Marcomini, E. Sabbioni, and V. Matranga. 2014. Common strategies and technologies for the ecosafety assessment and design of nanomaterials entering the marine environment. *ACS Nano*, 8(10):9694-9709.
135. Renick, V.C., T.W. Anderson, S.G. Morgan, and G.N. Cherr. 2015. Interactive effects of pesticide exposure and habitat structure on behavior and predation of a marine larval fish. 2014. *Ecotoxicology*, 24(2):391-400.
136. Wu, B., C. Torres-Duarte, B.J. Cole, and G.N. Cherr. 2015. Copper oxide and zinc oxide nanomaterials act as inhibitors of multidrug resistance transport in sea urchin embryos: Their role as chemosensitizers. *Environmental Science and Technology*, 49:5760-5770.
137. Cherr, G.N., C.A. Vines, E.H. Smith, M. Pillai, F.J. Griffin, R. Yanagimachi. 2015. Sperm Motility Initiation in Pacific Herring. *In The Flagellar Mechanics of Spermatozoa: Its Implication in Sperm Guidance*. Bentham Publishing, United Arab Emirates. J. Cosson, ed. pp. 189-204.
138. Torres-Duarte, C., S.A. Adeyemi, S. Pokhrel, L. Mädler, A.A. Keller, and G.N. Cherr. 2015. Developmental effects of two different copper oxide nanomaterials in sea urchin (*Lytechinus pictus*) embryos. *Nanotoxicology*, 10(6):671-679.
139. Sumigama, S., S. Mansell, M. Miller, P. Lishko, G.N. Cherr, S. Meyers and T.L. Tollner. 2015. Progesterone accelerates the completion of sperm capacitation and activates CatSper channel in spermatozoa from the rhesus macaque. *Biology of Reproduction*, 93(6):130, 1-11.
140. Liu, Su, W. Jiang, B. Wu, J. Yu, H. Yu, X. Zhang, C. Torres-Duarte, G.N. Cherr. 2015. Low-levels of graphene and graphene oxide inhibit cellular xenobiotic defense system mediated by efflux transporters. *Nanotoxicology*. 10(5):597-606.
141. Yu, J., S. Liu, B. Wu, Z. Shen, G.N. Cherr, X-X. Zhang, and M. Li. 2016. Comparison of cytotoxicity and inhibition of membrane ABC transporters induced by MWCNTs with different length and functional groups. *Environmental Science & Technology*, 50(7):3985-3994.
142. Rogers-Bennett, L., K.M. Aquilino, C.A. Catton, S.K. Kawana, B.J. Walker, L.W. Ashlock, B.C. Marshman, J.D. Moore, I.K. Taniguchi, K.V. Gilardi and G.N. Cherr. 2016. Implementing a restoration program for the endangered white abalone (*Haliotis sorenseni*) in California. *Journal of Shellfish Research*, 35(3):611-618.
143. Cherr, G.N., E. Fairbairn, and A. Whitehead. 2017. Impacts of Petroleum-Derived Pollutants on Fish Development. *Annual Reviews of Animal Bioscience*, 5:185-203.
144. Miller, R., E. Muller, B. Cole, T. Martin, R. Nisbet, G. Bielmyer-Fraser, T. Jarvis, A. Keller, G. Cherr, H. Lenihan. 2017. Photosynthetic efficiency predicts toxic effects of metal nanomaterials in phytoplankton. *Aquatic Toxicology*, 183:85-93.
145. White, J. W., B. Cole, G. N. Cherr, R. Connon, and S. Brander. 2017. Scaling up the individual-level effects of endocrine disruptors: How many males does a population need? *Environmental Science & Technology*, 51:1802-1810.

146. Yanagimachi, R., T. Harumi, H. Matsubara, W. Yan, S. Yuan, E. Yamaha, K. Arai, N. Hirohashi, I. Tomoriha, T. Matsubara, T. Andoh, C. Vines, and G. Cherr. 2017. Chemical and physical guidance of fish spermatozoa into the egg through the micropyle. *Biology of Reproduction*, 96(4):780-799.
147. Arteaga-Cardona, F., E. Santillán-Urquiza, M.E. Méndozza-Álvarez, C. Torres-Duarte, G.N. Cherr, P. de la Presa Muñoz, and M.A. Méndez-Rojas. 2017. Unusual variation of blocking temperature in bi-magnetic nanoparticles. *Journal of Magnetism and Magnetic Materials*, 441:417-423.
148. Keller, A.A., A.S. Adeleye, J.R. Conway, K.L. Garner, L. Zhao, G.N. Cherr, J. Hong, J.L. Gardea-Torresdey, H.A. Godwin, S. Hanna, Z. Ji, C. Kaweeteerawat, S. Lin, H. Lenihan, R. Miller, A.E. Nel, S.L. Walker, A.A. Taylor, C. Torres-Duarte, J. Zink, and N. Zuverza-Mena. 2017. Comparative environmental fate and toxicity of copper nanomaterials. *NanoImpact*, 7:28-40.
149. Torres-Duarte, C., K.M. Ramos-Torres, R. Rahimoff, and G.N. Cherr. 2017. Stage specific effects of soluble copper and copper oxide nanoparticles during sea urchin embryo development and their relation to intracellular copper uptake. *Aquatic Toxicology*, 189:134-141.
150. Santillán-Urquiza, E., F. Arteaga-Cardona, C. Torres-Duarte, B. Cole, B. Wu, M.A. Méndez-Rojas, G.N. Cherr. 2017. Facilitation of trace metal uptake in cells by inulin coating of metallic nanoparticles. *Royal Society of Open Science*, 4: 170480.
151. Torres-Duarte, C., S. Hutton, C.A. Vines, J. Moore, and G.N. Cherr. 2018. Effects of soluble copper and copper oxide nanoparticle exposure on the immune system of mussels, *Mytilus galloprovincialis*. *Environmental Toxicology*, 1-9.
152. Torres-Duarte, C., Vines, C.A., Fairbairn, E., and G.N. Cherr. 2019. Methods for toxicology studies in echinoderm embryos and larvae. *Methods in Cell Biology: Echinoderms Part A*, 150A: 411-426. In: Kathy R. Foltz, Amro Hamdoun, editors: Echinoderms, Vol 150, MCB, UK: Academic Press, pp. 411-426.
153. Connon, R.E., S. Hasenbein, S.M. Brander, H.C. Poynton, E. B. Holland, D. Schlenk, James L. Orlando, M.L. Hladik, T.K. Collier, N.L. Scholz, J.P. Incardona, N.D. Denslow, A.M. Hamdoun, S.Nicklisch, N. Garcia-Reyero, E.J. Perkins, E.P. Gallagher, X. Deng, D. Wang, S.Fong, R.S. Breuer, M.Hajibabei, J.B. Brown, J.K. Colbourne, T.M. Young, G.N. Cherr, A. Whitehead, A. Todgham 2019. Review and Recommendations for Monitoring Contaminants and Their Effects in the San Francisco Bay-Delta. *San Francisco Estuary and Watershed Science*, 17(4):1-42.
154. Cunningham, B., C. Torres-Duarte, G.N. Cherr, and N. Adams. 2020. Effects of three zinc-containing sunscreens on development of purple sea urchin (*Strongylocentrotus purpuratus*) embryos. *Aquatic Toxicology*, 105355.
155. Arteaga-Cardona, F., J.O. Estévez, M.A. Méndez-Rojas, S. Hidalgo-Tobón, P. Dies-Suarez, J.M. Gracia y Jiménez, G.N. Cherr, U. Salazar-Kuri. 2020. Fabrication of a multifunctional magnetic-fluorescent material for medical applications. *Dalton Transactions*, 49(14):4376-4389.

Broadcast, Print or Electronic Media

1. Endocrine disruption in fish from San Francisco Bay, Television Interview, March, 2006, NBC.
2. Pacific Herring in San Francisco Bay, Television Interview, March, 2006, NBC.
3. Oil Spill in the Bay, Other, November, 2008, Quest-KQED Radio.
4. Taking the helm at marine lab, Newspaper Article, January, 2010, The Santa Rosa Press Democrat.
5. Science Translational Medicine: Defect in Sperm Protein Linked to Male Infertility, Website, July, 2010, AAAS News Release,
6. Loss of Protein coating sperm may explain male infertility, UCD Researchers say, Newspaper Article, July, 2010, Davis Enterprise.
7. Lack of sperm coating plays role in infertility, Newspaper Article, July, 2010, The Seattle Times.
8. A break through in infertility, Magazine Article, August 2010, The Week.
9. Impatient Futurist, David Freeman, Magazine Article, November, 2010, Discover.
10. Sperm "Cloak" Could Be a Factor in Some Male Infertility Cases, Television Interview, July 2010, PBS News Hour.

11. Sperm Coat Protein May Be Key to Male Infertility, Other, July, 2010, NSF-News from the Field.
12. Lack of sperm coating plays role in infertility, Newspaper Article, 2010, USA Today.
13. Study links male infertility to a missing protein, Newspaper Article, 2010, The New York Times.
14. Sperm "cloak" mutation may explain infertility, Other, July, 2010, CBS News.
15. Gene defect may explain infertility in some men, Website, July, 2010, news@JAMA.
16. Men who lack sperm-shielding protein less fertile, study finds, Newspaper Article, July, 2010, The Globe and Mail (Canada).
17. An international team of scientists, including a Simon Fraser University researcher, have discovered a mutation in a gene that explains why some men are less fertile than others., Newspaper Article, July, 2010, The Vancouver Sun.
18. Clue to male infertility found, Video, July, 2010, BBC News.
19. Sperm coat protein may be key to male infertility: study, Newspaper Article, July, 2010, The Times of India (India).
20. Sperm coat protein may be key to male infertility: study, Video, July, 2010, Xinhua News PR (China).
21. Top 100 Stories of 2011 #58 Sperm Gene Points to Infertility Cure, Magazine Article, January-February 2011, Discover Magazine.
22. Oil from 2007 spill surprisingly toxic to fish, scientists report, Newspaper Article, December 2011, Los Angeles Times.
23. Study: San Francisco Bay oil spill damaged herring, Newspaper Article, December 2011, The Sacramento Bee.
24. Oil spill and San Francisco Bay herring, Video, December 2011, KGO television news broadcast.
25. San Francisco Bay oil spill damaged herring, Video, December 2011, KTVU television news broadcast.
26. Spilled oil and sunlight, a lethal cocktail for marine life, Video, December 2011, BBC World-Mundo (Brazil).
27. Oil unexpected lethal to herring in San Francisco Bay, Magazine Article, December 2011, Mother Jones Magazine.
28. Research along Marin's shores shows impact of Cosco Busan spill on herring, Magazine Article, December 2011, Marin Independent Journal.
29. Oily: How a San Francisco oil spill took its toll on fish, Magazine Article, December 2011, Time Magazine-Ecocentric.
30. Sun-oil mix deadly for young herring, Magazine Article, December 2011, Science News.
31. Exxon Valdez echo: Spilled bunker fuel lethal to fish embryos, Newspaper Article, December 2011, Alaska Dispatch.
32. Gulf Oil Spill: Scientists Develop New Model for Deep-water Oil Spills, Magazine Article, April, 2012, National Science Foundation Discoveries.
33. Detecting endocrine disruption in the Sacramento-San Joaquin Delta, Magazine Article, June, 2012, California Sea Grant News.
34. Endangered White abalone successfully bred in North Bay lab, Television Interview, July, 2013, ABC News KGO-TV.
35. UC Davis Bodega Bay lab plays matchmaker for endangered abalone, Newspaper Article, July, 2013, Sacramento Bee.
36. Urban fish masculinized by hormone-mimicking chemicals, Newspaper Article, September, 2013, Davis Enterprise.
37. Do Sunscreens' Tiny Particles Harm Ocean Life in Big Ways?, Website, May 14, 2015, National Geographic. [View this Media](#)
38. <http://news.nationalgeographic.com/2015/05/150514-sunscreen-nanoparticle-nanotechnologyoceans-marine-beach-boat-toxic/>, Other, May 12, 2015, TakePart.
39. Do sunscreens and boat bottoms hurt sea urchins?, Website, May 13, 2015, Futurity. [View this Media](#)

40. The Tiny but Toxic Ingredient in Your Sunscreen Yahoo News - #5-12-15, Website, May 12, 2015, Yahoo News.
41. Marine life vulnerable from materials in sunscreens, boats, Newspaper Article, May 13, 2015, Santa Rosa Press Democrat.
42. Ocean life affected by nanomaterials, Website, May 12, 2015, Daily Democrat.
43. Nanomaterials Used in Sunscreens, Boats Threaten Marine Life, Magazine Article, May 13, 2015, Controlled Environments Magazine.
44. Bathers' sunscreens may threaten marine life, Newspaper Article, May 12, 2015, Central Valley Business Times.
45. Nanomaterials in sunscreens and boats leave marine life vulnerable, Other, May 13, 2015, Nanowerk.
46. Nanomaterials in sunscreens and boats leave marine life vulnerable, Other, May 12, 2015, Phys.Org.
47. Nanomaterials in sunscreens and boats leave marine life vulnerable, Website, May 12, 2015, ScienceBlog.com.
48. Bringing White Abalone Back from the Brink, Other, May 11, 2017, Scientia. [View this Media](#)
49. Nanomaterials in sunscreens and boats leave marine life vulnerable, Website, May 12, 2015, UC Davis. [View this Media](#)
50. Captive Breeding Endangered White Abalone, Website, November 5, 2015, UC Davis Wildlife Health Center. [View this Media](#)
51. Endangered white abalone find matchmaker in UC Davis breeding program, Website, July 24, 2013, UC Davis. [View this Media](#)

Society Memberships

- 1990-2018 Member, Society of Environmental Toxicology and Chemistry
- 1998-2018 Member, American Society for Cell Biology
- 2009-2018 Member, AAAS
- 2010-2018, member American Chemical Society
- 2007-2018, member National Association of Marine Laboratories
- 2008-2018, member Western Association of Marine Laboratories

Example Presentations

-
1. 2002 "Biological Responses to Contaminants Component: Biomarkers of Exposure, Effect, and Reproductive Impairment", US EPA STAR EaGLes Program Symposium, Morehead City, NC.
 2. 2002 "Polycyclic Aromatic Hydrocarbons Disrupt Axial Development in Sea Urchin Embryos Through a b-Catenin Pathway", American Society for Cell Biology, Annual Meeting.
 3. 2002 "Environmental Stress and Development", 1 Week short course, International Course in Developmental Biology, Misaki Marine Biological Station, University of Tokyo.
 4. 2002 "Environmental Factors Affecting Reproduction of Pacific Herring in the San Francisco Bay Estuary", Western US Herring Summit, Bellingham, WA.

5. 2002 "Emerging Contaminants" (Invited Speaker and Participant), Special Symposium at the 2002 Annual American Society for Cell Biology, San Francisco, CA.
6. 2003 "Multidrug Resistance in Marine Embryos and Larvae", Sonoma State University, Biology Department Colloquium.
7. 2003 "Multidrug Resistance in Marine Embryos and Larvae: Can They Defend Themselves Against Contamination?", University of California, Santa Cruz, Department of Environmental Toxicology.
8. 2003 "Biological Responses to Contaminants-Update", Pacific Estuarine Ecosystem Indicator Research Program, Bodega Bay, CA.
9. 2003 "Stressor-Specific Responses of Salt Marsh Organisms to Ecosystem Stress", US EPA STAR EaGLes Program Symposium, Bodega Bay, CA.
10. 2004 "The Bodega Marine Laboratory's Environmental Sciences Program", Friends of Environmental Toxicology.
11. 2004 "Environmental Contaminants and the β -Catenin Signaling Pathway During Development", University of California, Davis, Nutrition Department Seminar.
12. 2004 "Developing an integrated indicator of fish condition for California salt marshes", US EPA STAR EaGLes Program Symposium, Duluth, MN.
13. 2004 "Biological Responses to Contaminants-Update", Pacific Estuarine Ecosystem Indicator Research Program, University of California, Santa Barbara.

14. 2004 "Biomarker responses in native species of San Francisco Bay: Linkage to sediment chemistry and population parameters", California Bay Delta Authority (CALFED) Annual Science Meeting.
15. 2004 "Role of ion channels in herring sperm motility" (Invited Speaker), International Symposium on "The Biology of Sperm Cell-From Basic to Clinical Aspects" Toyko, Japan.

16. 2005 "Biological Responses to Contaminants Component: Biomarkers of Exposure, Effect, and Reproductive Impairment", US EPA STAR EaGLes Program Symposium, Santa Barbara, CA.
17. 2005 "Environmental Stress and Development", 1 Week short course, International Course in Developmental Biology, Misaki Marine Biological Station, University of Tokyo.
18. 2005 "Developing Early Warning and Diagnostic Indicators for Native Fish & Crabs", National Estuary Program Web-based presentation.
19. 2005 "Pacific Herring (*Clupea pallasii*): Reproductive Adaption to an Estuarine Environment", Bodega Marine Laboratory Research Seminar.
20. 2006 "Indicators of Reproductive Impairment in a Resident Marsh Fish", California Department of Toxic Substances Control, Oakland, CA.
21. 2006 "Indicators of Reproductive Impairment in a Resident Marsh Fish: Endocrine Disruption", US EPA Biological Technical Advisory Group, San Francisco, CA.
22. 2006 "Pacific Estuarine Ecosystem Indicator Research (PEEIR), a UCD/UCSB collaboration: Integrated Indicators of Salt Marsh Condition", National Estuary Research Reserve, Morro Bay, CA.
23. 2006 "Marine toxicology research: Environmental Stress and development", NIEHS Undergraduate Program, Bodega Marine Lab.
24. 2007 "Effects of Environmental Stressors on Pacific Herring Reproduction in San Francisco Bay", University of California, Davis, Department of Animal Science.
25. 2007 "Marine toxicology research at UCD BML", NIEHS Undergraduate Program, Bodega Marine Lab.

26. 2008 "The Use of Developing Aquatic Organisms for Assessing Water Quality" (Invited Speaker), International Workshop on Environmental Health & Pollution Control in 2008, Nanjing University, Nanjing, China,.

27. 2008 "The Use of Developing Aquatic Organisms for Assessing Water Quality", Beijing University of Mining and Technology.
28. 2008 "Marine toxicology research at UCD BML", NIEHS Undergraduate Program, Bodega Marine Lab.
29. 2008 October, Co-Organizer, session chair, and presenter at "Environmental Health and Protection Conferences," School of the Environment, Nanjing University, Beijing Normal University.
30. 2009 "Oil and Water Do Not Mix: Impacts of Oil on Pacific Herring", Bodega Marine Laboratory Research Seminar.
31. 2009 "Marine toxicology research at UCD BML", NIEHS Undergraduate Program, Bodega Marine Lab.

32. 2010 July, Organize tours at BML and present to the Bohemian Club.
33. 2010 September, Co-Organizer of NCEAS (National Center for Ecological Analysis and Synthesis) Gulf Ecotoxicology Working Group, Dauphin Island Sea Lab.
34. 2010 October, Co-Organizer, session chair, and presenter at "Environmental Health and Protection Conferences," School of the Environment, Nanjing University, Beijing Normal University.
35. 2010 December, Co-Organizer of NCEAS (National Center for Ecological Analysis and Synthesis) Gulf Ecotoxicology Working Group, Santa Barbara, CA.
36. 2011 March, Communication Partnership for Science and the Sea (COMPASS). Participant in two day Training at the National Center for Ecological Analysis and Synthesis, Santa Barbara, CA.
37. 2011 July, Organize tours at BML and present to the Bohemian Club.
38. 2011 August, "Programs at the UC Davis Bodega Marine Laboratory" Presentation to the ARCS Foundation Fellows.
39. 2011 August, "The Bodega Marine Laboratory." Presentation to University of California Washington DC staff.
40. 2011 September, Invited Presenter at "UC Davis Sustainable Energy Systems Retreat," "Energy-Systems & Policy" : Coastal and Ocean Energy.

41. 2012 January, "The Bodega Marine Laboratory" Presentation to the Rancho Bodega Historical Society.

42. 2012 February, Presentation and Tour for UC Davis Foundation Trustees.
43. 2012 March, Trends in Ecological Analysis and Synthesis. Participant in workshop at National Center for Ecological Analysis and Synthesis.
44. 2012 May, "Oil and Embryos Do Not Mix: Impacts of the Cosco Busan Bunker Fuel Oil Spill on Pacific Herring." Presentation to NOAA National Marine Sanctuary Staff.
45. 2012 July, Organize tours at BML and present to the Bohemian Club.
46. 2012 November, "Defensins at the Interface of Sperm Function and Innate Immunity", Tsukuba University, Japan.
47. 2012 November, "Defensins at the Interface of Sperm Function and Innate Immunity", International Symposium on the Mechanisms of Sexual Reproduction in Animals and Plants. Nagoya, Japan.
48. 2012 November, Marine Nanotoxicology in the U.S.: The University of California Center for Environmental Implications of Nanotechnology (UC CEIN), 1st Marine Nanoecotoxicology Workshop, European Union Nanosafety Cluster, Palermo Italy.