

CURRICULUM VITAE

XIMING GUO

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EDUCATION

Ph.D. 1991 University of Washington, Seattle.
M.S. 1987 University of Washington, Seattle.
B.S. 1983 Ocean University of China, Qingdao.

RESEARCH INTEREST

Molluscan genetics and genomics, cytogenetics, phylogenetics and evolution, molluscan aquaculture and breeding

POSITIONS HELD

2007 - Professor, Haskin Shellfish Research Lab, IMCS, Rutgers University
2001 - 07 Associate Professor, Haskin Shellfish Research Lab, IMCS, Rutgers University
1998 - 01 Assistant Professor, Haskin Shellfish Research Lab, IMCS, Rutgers University
1996 - 00 Visiting Professor, Institute of Oceanology, Chinese Academy of Sciences
1995 - 97 Research Assistant Professor, HSRL, IMCS, Rutgers University
1992 - 94 Postdoctoral Research Associate, HSRL, IMCS, Rutgers University
1991 - 91 Postdoctoral Research Associate, Biological Sciences, SUNY Brockport
1985 - 91 Graduate Assistant and Pre-doctoral Associate, University of Washington

PROFESSIONAL ACTIVITY

Adjunct Professor, Dalian Fisheries University (1998 - present)
Adjunct Professor, Hainan University (2003 - 2013)
Adjunct Professor, Institute of Oceanology Chinese Academy of Sciences (2001 - present)
Adjunct Professor at Horn Point Laboratory, University of Maryland (2004 - 2008)
Adjunct Professor at Virginia Institute of Marine Science, College of William and Mary (1999 - 2008)
Associate Editor, *Journal of World Aquaculture Society* (2004 -)
Chair, USDA Western Research Coordinating Committee (WCC-99) (2000)
Chief Scientist, Mid-Atlantic Shellfish Genetics and Breeding Technology Consortium (1998 - 2008)
Council Member, Chinese Society of Malacology (2003 -)
Co-Project Director, the Oyster Genome Project (2008 -)
Editorial Board, *Aquaculture* Elsevier (2005-)
Editorial Board, *Aquaculture Research* Blackwell (2001-)
Editorial Board, *Acta Oceanologica Sinica* (2004-)
Editorial Board, *Journal of Shellfish Research* (2011-)
Editorial Board, *Marine Biotechnology* Springer (2005-)
Editorial Board, *Oceanologia et Limnologia Sinica* (2001-)
Guest professor at Zhejiang Institute of Mariculture, PRC (1999-)
Honorary Director, Hainan Key Laboratory of Tropical Marine Biotechnology (2003 - 2013)
Member, American Association for the Advancement of Science (1992 -)

Member, National Shellfisheries Association (1988 -)
 Member, World Aquaculture Society (2005 -)
 Member, Steering Committee, Oyster Genomics Consortium (2004 -)
 Member, USDA Western Research Coordinating Committee (WCC-99) (1994-12)
 Member, USDA Regional Project on Genetic Maps of Aquaculture Species (NE-168) (1996-03)
 Member, USDA National Animal Genome Research Program (NRSP-8) (2004 -)
 Oversea Professor in Marine Functional Genomics, Chinese Academy of Sciences (2005 - 2009)
 Oversea Referee, State Natural Science Award of China (2006)
 Panelist, National Sea Grant/Gulf Oyster Industry Program (1999)
 Panelist, National Science Foundation SBIR in Food and Aquaculture Technology (2006)
 Panelist, National Science Foundation of China/Earth Science Division (2001)
 Panelist, National Science Foundation of China/Life Science Division (2004)
 Panelist, National Science Foundation of China/Life Science Division (2005)
 Panelist, USDA/National Research Initiative Grant Program in Animal Genetics (1997-98)
 Panelist, USDA/National Research Initiative Grant Program in Animal Genomics (2005)
 Secretary, USDA Western Research Coordinating Committee (WCC-99) (1999)
 Session Chair, Genetics session at the Fourth Asian Fishery Forum (1995)
 Session Chair, Genomics session at World Aquaculture Society meeting (2002)
 Session Chair, Molluscan Genetics and Molecular Biology, NSA annual meeting (2002)
 Session Chair, Molluscan Systematics, Evolution and Population Genetics, Intl. Congr. Zool. (2004)
 Session Chair, Molluscan Genetics and Breeding, Intl. Conf. Marine Science, IOCAS (2006)
 Session Chair, Molluscan Genetics and Evolution, IX Intl. Conf. Appl. Med. Malacol., (2006)
 Session Chair, Aquaculture in China, World Aquaculture 07 (2007)
 Session Chair, Biochemistry and Genetics, 18th International Pectinid Workshop (2011)
 Session Chair, Shell Genetics and Breeding, 104th NSA Annual Meeting (2012)
 Workshop co-Chair, Marine and Aquaculture Genomics, Shenzhen, China (2010)

AWARDS AND HONORS

2013 “Inventor of the Year” Award, NJ Inventors Hall of Fame
 2012 “Taishan Overseas Scholar”, Shandong, China
 2011 Chair of Excellence, University of Caen, France
 2006 Paper featured on the cover of *Marine Biotechnology* 8(2).
 2004 *Marine Biotechnology* 2004 Best Paper Award, Springer.
 2001 Board of Trustee Fellowship for Scholarly Excellence, Rutgers University.
 2001 First Prize in Scientific Advancement, Chinese Academy of Sciences
 1999 Award from Rutgers University in recognition of patented research.
 1998 National Outstanding Young Scientist Award of China.
 1997 Research featured on the cover of *Genome*, Vol. 4(3).
 1996 “100 Talent” award at IOCAS, Chinese Academy of Sciences.
 1994 Research profile by *Aquaculture Magazine*, 20(6):69-74.
 1994 Research featured on the cover of *Mol. Mar. Biol. Biotechnol.*, Vol. 3(1).
 1988 Donaldson Memorial Scholarship, University of Washington.
 1987 Deans Honor Student, University of Washington.
 1986 Deans Honor Student, University of Washington.
 1986 Donaldson Memorial Scholarship, University of Washington.
 1985 National Scholarship for Overseas Studies, China.

PATENT

Guo, X. and S.K. Allen, Jr. Methods of Producing Tetraploid and Triploid Molluscs. China Patent No.

95192167.3, August 31, 2001.

Guo, X. and S.K. Allen, Jr. Tetraploid Shellfish. US Patent No: 5,824,841, October 20, 1998.

Guo, X. and S.K. Allen, Jr. Tetraploid Shellfish. Australia Patent No: 701609, May 20, 1999.

Guo, X. and S.K. Allen, Jr. Tetraploid Bivalve. EU Patent No. 0752814, April 25, 2001.

Guo, X. and S.K. Allen, Jr. Tetraploid Shellfish. R.O.C. Patent No. 75451, 1996.

Guo, X. and S.K. Allen, Jr. Tetraploid Shellfish. South Africa Patent No. 95/0431, 1996.

GRANTS

- 2014-15 Advancing Eastern Oyster Aquaculture through Marker-assisted Selection. NOAA NJ Sea Grant, \$80,319.
- 2012-15 Development of a theoretical basis for modeling disease processes in marine invertebrates. NSF/EID, \$1,150,000, co-PI with Powell.
- 2012-13 New technology for breeding superior tetraploid and triploid eastern oysters. USDA/SBIR, \$97,656, co-PI with Rossi.
- 2012-14 Genetic marker-assisted selection of Northeastern hard clams for QPX resistance. \$36,530. USDA/NRAC via SBU.
- 2012-13 Improving shellfish survival through genetic improvement in disease resistance. USDA/ARS via URI, \$32,947.
- 2011-12 Identification of genes associated with resistance to epizootic disease in a marine invertebrate. NSF/DEB, \$51,285.
- 2009-13 Tetraploid technology for scallop aquaculture. Atlantic Cape Fisheries, Inc., \$211,579.
- 2009-12 Selection for enhanced disease resistance and growth performance in cross-bred eastern oysters, *Crassostrea virginica*. USDA NRAC via University of Maine, \$47,507.
- 2009-12 GIGASNP: Genetic and physical mapping of the Pacific oyster genome in support of an international sequencing initiative. USDA/NRI, Animal Genomics Tools, \$711,884, Co-PI with Hedgecock and Gaffney.
- 2008-12 Species diversity, distribution and phylogenetics of oysters in China. NSFC key project, \$277,000, co-PI with Zhang at IOCAS.
- 2008-11 Creation of a tetraploid broodstock for the bay scallop *Argopecten irradians*. USDA NRAC, \$128,197. Co-PI with Karney.
- 2008-11 Marker-assisted breeding technology for the eastern oyster. New Jersey Sea Grant, \$207,486.
- 2007-11 Validation of disease-resistance markers for marker-assisted selection in the eastern oyster. NOAA ODRP, \$282,115
- 2007-09 Development of JOD-resistant lines and markers for eastern oyster aquaculture. USDA NRAC via University of Rhode Island, \$115,603.
- 2007-07 An automated genetic analyzer for shellfish genetics and breeding. Rutgers University SEBS and NJAES Competitive Intramural Awards Program, Research Infrastructure Awards 2007, \$65,000.
- 2006-09 Collaborative research: field and modeling studies in support of understanding disease resistance in estuarine populations and response to climate change. NSF, \$1,180,514, co-PI with Haidvogel, Bushek, Powell.
- 2006-08 Cross-breeding and field trials of disease-resistant eastern oysters. USDA NRAC via University of Maine, \$30,655.
- 2006-08 Evaluation and genetic analysis of hard clam, *Mercenaria mercenaria*, stocks for QPX-resistance. USDA/NRAC, \$71,173, co-PI with Kraeuter et al.
- 2005-07 Mapping dermo-resistance genes for marker-assisted selection in the eastern oyster. NOAA Sea Grant ODRP, \$243,266.
- 2005-07 Enhance growth and disease-resistance of the eastern oyster by interstrain hybridization and

- triploidy. NOAA Sea Grant ODRP, \$263,185, co-PI with Wang.
- 2005-07 Analysis of molecular indicators of oyster's response to Dermo infection using microarray technology. National Sea Grant GOIP through Auburn University, \$120,051.
- 2004-07 Genetic and ecological structures of oyster estuaries in China and factors affecting success of *Crassostrea ariakensis*: clues from a reclassification. NOAA/NMFS CBO, \$492,610.
- 2004-08 Production of tetraploid eastern oyster lines. 4Cs Breeding Technologies, Inc., \$75,000.
- 2004-06 Fertilization interference between *Crassostrea ariakensis* and *Crassostrea virginica*. NOAA/NMFS CBO, \$93,897, Co-PI with Bushek.
- 2004-06 A histological investigation of oyster parasites and pathology in three Chinese estuaries containing varying mixtures of coexisting oyster species, including *Crassostrea ariakensis*. NOAA/NMFS CBO, \$52,865, Co-PI with Bushek and Ford.
- 2003-05 Production and evaluation of all-triploid and disease-resistant eastern oysters for aquaculture. NOAA Sea Grant ODRP, \$306,186.
- 2003-05 Identification and mapping of oyster genes involved in host-defense against Dermo and MSX. NOAA Sea Grant ODRP, co-PI with Yu, \$285,372.
- 2003-05 Beyond CROSBreed I: line expansion and dissemination of stocks with joint resistance to Dermo and MSX diseases in the eastern oyster, *Crassostrea virginica*. VIMS, \$81,300, Co-PI with DeBrosse.
- 2001-03 Breeding, evaluation and molecular analysis of oyster strains selected for resistance to MSX, Dermo and JOD. National Sea Grant Oyster Disease Research Program, \$255,231.
- 2001-03 Cooperative regional oyster selective breeding project III. National Sea Grant Oyster Disease Program, \$75,130.
- 2000-05 A cytogenetic program for shellfish breeding biotechnology. New Jersey Commission on Science and Technology, R&D Excellence Program, \$812,418.
- 2000-02 The triploid-tetraploid technology for hard clam aquaculture. New Jersey Sea Grant, \$115,117.
- 1999-01 The triploid-tetraploid technology for eastern oyster aquaculture. National Sea Grant Technology Program, \$112,099.
- 1999-02 Breeding and evaluation of oyster strains selected for resistance to MSX, Dermo and JOD. National Sea Grant Oyster Disease Program, \$160,634.
- 1999-01 Cooperative Regional Oyster Selective Breeding Project. National Sea Grant Oyster Disease Program, \$78,533 (Rutgers part).
- 1999-01 Studies on the Scallop Mortality in China. NOAA US-China Marine Living Resource program and Chinese Academy of Science. Co-PI with S.E. Ford, \$11,000.
- 1998-01 Molecular characterization of American oyster chromosomes by fluorescence in situ hybridization. National Sea Grant Biotechnology Program, \$191,720.
- 1998-99 Induction of Tetraploid Scallops. 4Cs Breeding Technologies Inc., \$26,888.
- 1998-02 Marine molluscan genetics and biotechnology. China's Natural Science Foundation, grant at IOCAS, \$97,000.
- 1998-00 Studies on new tetraploid technologies for molluscs. China's Commission on Science and Technology 863 Program, grant at IOCAS, \$96,700.
- 1997-00 Aquaculture genetics and biotechnology program at IOCAS. Chinese Academy of Science, grant at IOCAS, \$170,000.
- 1997-97 Studies on the Chinese molluscan aquaculture industry: a review. US-China Marine Living Resource program, NOAA and Chinese Academy of Science, \$8,000.
- 1996-00 The production of characterization of trisomic oyster lines for aquaculture. USDA/NRICGP/CSREES, \$145,873.
- 1995-96 Gene transfer in oysters through allotetraploids, hyperallotriploids and hypoallotetraploids. Sea Grant/ODRP, \$71,564.

- 1995-98 Cooperative regional oyster selective breeding (CROSBreed) project. Sea Grant/ODRP, co-PI with Allen et al., \$377,506.
- 1995-97 Triploids for biological containment: the risk of heteroploid mosaics. USDA Biotech Risk Assessment, co-PI with Allen, \$185,000.
- 1994-95 Gene transfer through interspecific partial gynogenesis and its potential use in the transfer of disease resistance to the American oyster. NOAA/NMFS ODR, \$83,311.
- 1994-96 New opportunities for ploidy manipulation in shellfish using tetraploids. NOAA/Sea Grant Biotech Program, co-PI with Allen, \$150,000.
- 1992-94 Uniparental inheritance and inbreeding in bivalves: aquacultural implications. USDA, co-PI with Allen, \$168,294.
- 1991-91 Production of inbred lines in the Pacific oyster, *Crassostrea gigas*: the gynogenetic approach. Taylor United, Inc., Washington, \$3,421.
- 1989-90 Biotechnical approach to improve the production and growth of triploidy in the Pacific oyster. NOAA/Sea Grant, with Chew and Hershberger, \$170,500.

PUBLICATIONS:

- Fellous, A., P. Favrel, **X. Guo** and G. Riviere. 2014. The Jumonji gene family in *Crassostrea gigas* suggests evolutionary conservation of Jmj-C histone demethylases orthologues in the oyster gametogenesis and development. *Gene*, <http://dx.doi.org/10.1016/j.gene.2013.12.016>
- Yang, H., Y. Wang, **X. Guo** and T.R. Tiersch. 2014. Production of inbred larvae through self-fertilization using oocytes and cryopreserved sperm from the same individuals after sex reversal in eastern oyster *Crassostrea virginica*. *Aquaculture Research*, doi:10.1111/are.12371.
- Yang, H., J. Supan, **X. Guo** and T.R. Tiersch. 2013. Nonlethal sperm collection and cryopreservation in the eastern oyster *Crassostrea virginica*. *J. Shellfish Res.*, 32(2):429-437.
- Wang, H., L. Qian, A. Wang and **X. Guo**. 2013. Occurrence and distribution of *Crassostrea sikamea* (Amemiya 1928) in China. *J. Shellfish Res.*, 32(2):439-446.
- Zhang, L., L. Li, Y. Zhu, G. Zhang and **X. Guo**. 2013. Transcriptome analysis reveals a rich gene set related to innate immunity in the eastern oyster (*Crassostrea virginica*). *Marine Biotechnology*, 10.1007/s10126-013-9526-z.
- Guevelou, E., A. Huvet, R. Sussarellu, M. Milan, **X. Guo**, L. Li, G. Zhang, V. Quillien, J.-Y. Daniel, C. Quere, P. Boudry, and C. Corporeau. 2013. Regulation of a truncated isoform of AMP-activated protein kinase alpha (AMPK alpha) in response to hypoxia in the muscle of Pacific oyster *Crassostrea gigas*. *Journal of Comparative Physiology B-Biochemical Systemic and Environmental Physiology* 183:597-611.
- Zhang, G., X. Fang, **X. Guo**, L. Li, R. Luo, F. Xu, P. Yang, L. Zhang, X. Wang, H. Qi, Z. Xiong, H. Que, Y. Xie, P. W. H. Holland, J. Paps, Y. Zhu, F. Wu, Y. Chen, J. Wang, C. Peng, J. Meng, L. Yang, J. Liu, B. Wen, N. Zhang, Z. Huang, Q. Zhu, Y. Feng, A. Mount, D. Hedgecock, Z. Xu, Y. Liu, T. Domazet-Loso, Y. Du, X. Sun, S. Zhang, B. Liu, P. Cheng, X. Jiang, J. Li, D. Fan, W. Wang, W. Fu, T. Wang, B. Wang, J. Zhang, Z. Peng, Y. Li, N. Li, J. Wang, M. Chen, Y. He, F. Tan, X. Song, Q. Zheng, R. Huang, H. Yang, X. Du, L. Chen, M. Yang, P. M. Gaffney, S. Wang, L. Luo, Z. She, Y. Ming, W. Huang, S. Zhang, B. Huang, Y. Zhang, T. Qu, P. Ni, G. Miao, J. Wang, Q. Wang, C. E. W. Steinberg, H. Wang, N. Li, L. Qian, G. Zhang, Y. Li, H. Yang, X. Liu, J. Wang, Y. Yin & J. Wang. 2012. The oyster genome reveals stress adaptation and complexity of shell formation. *Nature*, 490:49-54. (<http://dx.doi.org/10.1038/nature11413>)
- He, Y., D. Bushek, S.E. Ford, Z. Bao and **X. Guo**. 2012. Effective population size of eastern oyster (*Crassostrea virginica* Gmelin) populations from Delaware Bay. *J. Mar. Res.*, 70:357-379.
- Powell, E.N., J.M. Klinck, **X. Guo**, E.E. Hofmann, S.E. Ford and David Bushek. 2012. Can oysters *Crassostrea virginica* develop resistance to dermo disease in the field: The impediment posed by climate cycles. *J. Mar. Res.*, 70:309-355.

- Zhang, Y., Z. Wang, X. Yan, R. Yu, J. Kong, J. Liu, X. Li, Y. Li and **X. Guo**. 2012. Laboratory hybridization between two oysters: *Crassostrea gigas* and *Crassostrea hongkongensis*. *J. Shellfish Res.*, 31(3):619-625.
- He, Y., H. Yu, Z. Bao, Q. Zhang and **X. Guo**. 2012. Mutation in promoter region of a serine protease inhibitor confers *Perkinsus marinus* resistance in the eastern oyster (*Crassostrea virginica*). *Fish & Shellfish Immunology* 33: 411-417.
- Yang, H., E. Hu, R. Cuevas-Uribe, J. Supan, **X. Guo**, T.R. Tiersch. 2012. High-throughput sperm cryopreservation of eastern oyster *Crassostrea virginica*. *Aquaculture*, 344-349: 223–230.
- Xu, F., **X. Guo**, L. Li and G. Zhang. 2011. Effects of salinity on larvae of the oysters *Crassostrea ariakensis*, *C. sikamea* and the hybrid cross. *Marine Biology Research*, 7(8):796-803.
- Guo, L., L. Li, S. Zhang, **X. Guo** and G. Zhang. 2011. Novel polymorphisms in the myostatin gene and their association with growth traits in a variety of bay scallop, *Argopecten irradians*. *Animal Genetics*, 42: 339–340.
- Powell, E.N., J.M. Klinck, **X. Guo**, S.E. Ford and D. Bushek. 2011. The potential for oysters, *Crassostrea virginica*, to develop resistance to Dermo disease in the field: evaluation using a gene-based population dynamics model. *J. Shellfish Res.*, 30(3):685-712.
- Yu, H., Y. He, X. Wang, Q. Zhang, Z. Bao and **X. Guo**. 2011. Polymorphism in a serine protease inhibitor gene and its association with disease resistance in the eastern oyster (*Crassostrea virginica* Gmelin). *Fish & Shellfish Immunology*, 30:757-762.
- Beck, M.W., R.D. Brumbaugh, L. Airoidi, A. Carranza, L.D. Coen, C. Crawford, O. Defeo, G.J. Edgar, B. Hancock, M.C. Kay, H.S. Lenihan, M.W. Luckenbach, C.L. Toropova, G. Zhang, and **X. Guo**. 2011. Oyster reefs at risk and recommendations for conservation, restoration, and management. *BioScience*, 61(2):107-116.
- Wang, A., Y. Wang, Z. Gu, S. Li, Y. Shi, and **X. Guo**. 2011. Development of expressed sequence tags from the pearl oyster, *Pinctada martensii* Dunker. *Marine Biotechnology*, 13(2):275-283.
- Ren, J., X. Liu, F. Jiang, **X. Guo** and B Liu. 2010. Unusual conservation of mitochondrial gene order in *Crassostrea* oysters: evidence for recent speciation in Asia. *BMC Evolutionary Biology*, 10:394.
- Wang, H., L. Qian, X. Liu, G. Zhang and **X. Guo**. 2010. Classification of a common cupped oyster from southern China. *J. Shellfish Res.*, 29(4):857-866.
- Wang S, Peatman E, Liu H, Bushek D, Ford SE, Kucuktas H, Quilang J, Li P, Wallace R, Wang Y, **Guo X**, Liu Z. 2010. Microarray analysis of gene expression in eastern Oyster (*Crassostrea virginica*) reveals a novel combination of antimicrobial and oxidative stress host responses after dermo (*Perkinsus marinus*) challenge. *Fish & Shellfish Immunol.*, 29: 921-929.
- Wang, Y., X. Wang, A. Wang and **X. Guo**. 2010. A 16-microsatellite multiplex assay for parentage assignment in the eastern oyster (*Crassostrea virginica*). *Aquaculture*, 308:S28-S33.
- Zhang, L. and **X. Guo**. 2010. Development and validation of single nucleotide polymorphism markers in the eastern oyster *Crassostrea virginica* Gmelin by mining ESTs and resequencing. *Aquaculture*, 302:124-129.
- Wang, Y., A. Wang, **X. Guo**. 2010. Development and characterization of polymorphic microsatellite markers for the northern quahog *Mercenaria mercenaria* (Linnaeus, 1758). *J. Shellfish Res.*, 29(1):77-88.
- Xiao, J., J.F. Cordes, H. Wang, **X. Guo** and K.S. Reece. 2010. Population genetics of *Crassostrea ariakensis* in Asia inferred from microsatellite markers. *Marine Biology*, 157:1767-1781.
- Guo, X.**, Y. Wang, Z. Xu and H. Yang. 2009. Chromosome set manipulation in shellfish. Pp 165 – 195 in: *New Technologies in Aquaculture: Improving Production Efficiency, Quality and Environmental management*, G. Burnell and G. Allan (eds). Woodhead Publishing.
- Guo, X.** 2009. Use and exchange of genetic resources in molluscan aquaculture. *Reviews in Aquaculture* 1:251–259.

- Kucuktas, H., S. Wang, S. P. Li, C. He, P. Xu, Z. Sha, H. Liu, Y. Jiang, P. Baoprasertkul, B. Somridhivej, Y. Wang, J. Abernathy, **X. Guo**, L. Liu, W. Muir & Z. Liu. 2009. Construction of genetic linkage maps and comparative genome analysis of catfish using gene-associated markers. *Genetics* 181: 1649–1660.
- Hofmann, E, D. Bushek, S. Ford, **X. Guo**, D. Haidvogel, D. Hedgecock, J. Klinck, C. Milbury, D. Narvaez, E. Powell, Y. Wang, Z. Wang, J. Wilkin and L. Zhang. 2009. Understanding how disease and environment combine to structure resistance in estuarine bivalve populations. *Oceanography*, 22(4):212-231.
- Wang, L, L. Song, J. Zhao, L. Qiu, H. Zhang, W. Xu, H. Li, C. Li, L. Wu, and **X. Guo**. 2009. Expressed sequence tags from the zhikong scallop (*Chlamys farreri*): Discovery and annotation of host-defense genes. *Fish & Shellfish Immunology* 26: 744–750.
- Wang, Y., A. Wang and **X. Guo**. 2009. Development and characterization of 30 polymorphic microsatellite markers for the Atlantic surfclam, *Spisula solidissima* (Dillwyn, 1817). *Mol. Ecol. Res.*, 9(4):1264-1267
- Shi, Y., H. Kui, **X. Guo**, Z. Gu, Y. Wang and A. Wang. 2009. Genetic linkage map of the pearl oyster, *Pinctada martensii* (Dunker). *Aqua. Res.* 41:35-44.
- Wang, Y., Y. Shi and **X. Guo**. 2009. Identification and characterization of 66 EST-SSR markers in the eastern oyster *Crassostrea virginica* (Gmelin). *J. Shellfish Res.*, 28(2):227-234.
- Liu, X., F. Wu, H. Zhao, G. Zhang and **X. Guo**. 2009. A novel shell color variant of the Pacific abalone *Haliotis discus hannai* Ino subject to genetic control and dietary influence. *J. Shellfish Res.*, 28(2):419-424.
- Xu, F. G. Zhang, X. Liu, S. Zhang, B. Shi and **X. Guo**. 2009. Laboratory hybridization between *Crassostrea ariakensis* and *C. sikamea*. *J. Shellfish Res.*, 28(3):453-458.
- Ren, J., X. Liu, G. Zhang, B. Liu and **X. Guo**. 2009. “Tandem duplication-random loss” is not a real feature of oyster mitochondrial genomes. *BMC Genomics*, 10:84.
- Shi, Y., Y. Wang, K. Hong, Z. Hou, A. Wang and **X. Guo**. 2009. Characterization of 31 EST-derived microsatellite markers for the pearl oyster *Pinctada martensii* (Dunker). *Mol. Ecol. Res.*, 9:177-179.
- Li, L., **X. Guo** and G. Zhang. 2009. Inheritance of 15 microsatellites in the Pacific oyster *Crassostrea gigas*: segregation and null allele identification for linkage analysis. *Chinese Journal of Oceanology and Limnology*, 27(1):74-79.
- Zheng, H., G. Zhang, **X. Guo** and X. Liu. 2008. Inbreeding depression from various traits in two cultured populations of the American bay scallop, *Argopecten irradians irradians* Lamarck (1819) introduced into China. *J. Exp. Mar. Biol. Ecol.*, 364:42-47.
- Wang, H., G. Zhang, X. Liu and **X. Guo**. 2008. Classification of common oysters from North China. *J. Shellfish Res.*, 27(3):495-503.
- Wang, H. and **X. Guo**. 2008. Identification of *Crassostrea ariakensis* and related oysters by multiplex species-specific PCR. *J. Shellfish Res.*, 27(3):481-487.
- Wang, Y. and **X. Guo**. 2008. ITS length polymorphism in oysters and its potential use in species identification. *J. Shellfish Res.*, 27(3):489-493.
- Bushek, D., A. Kornbluh, H. Wang, **X. Guo**, G. DeBrosse, J. Quinlan. 2008. Fertilization interference between *Crassostrea ariakensis* and *Crassostrea virginica*: a gamete sink? *J. Shellfish Res.*, 27(3):593-600.
- Wang, Y. and **X. Guo**. 2008. Chromosomal mapping of the major ribosomal RNA genes in the Dwarf Surfclam (*Mulinia lateralis* Say). *J. Shellfish Res.*, 27(2):307-311.
- Jenny, M. J., R. W. Chapman, A. Mancina, Y.A. Chen, D. J. McKillen, H. Trent, P. Lang, J.-M. Escoubas, E. Bachere, V. Boulo, Z. J. Liu, P. S. Gross, C. Cunningham, P. M. Cupit, A. Tanguy, **X. Guo**, D. Moraga, I. Boutet, A. Huvet, S. D. Guise, J. S. Almeida, G. W. Warr. 2007. A cDNA microarray for *Crassostrea virginica* and *C. gigas*. *Marine Biotechnology*, 9, 577–591.

- Qin, Y., X. Liu, H. Zhang, G. Zhang and **X. Guo**. 2007. Genetic mapping of size-related quantitative trait loci (QTL) in the bay scallop (*Argopecten irradians*) using AFLP and microsatellite markers. *Aquaculture*, 272:281-290.
- Wang, L., H. Zhang, L. Song and **X. Guo**. 2007. Loss of allele diversity in introduced populations of the hermaphroditic bay scallop *Argopecten irradians*. *Aquaculture*, 271:252-259.
- Wang, Y. and **X. Guo**. 2007. Development and characterization of EST-SSR markers in the eastern oyster *Crassostrea virginica*. *Marine Biotechnology*, 9, 500–511.
- Quilang, J., S. Wang, P. Li, J. Abernathy, E. Peatman, Y. Wang, L. Wang, Y. Shi, R. Wallace, **X. Guo**, and Z. Liu. 2007. Generation and analysis of ESTs from the eastern oyster, *Crassostrea virginica* Gmelin and identification of microsatellite and SNP markers. *BMC Genomics*, 8:157.
- Wang, L., L. Song, H. Zhang, Q. Gao and **X. Guo**. 2007. Genetic linkage map of bay scallop, *Argopecten irradians irradians* (Lamarck 1819). *Aquaculture Research* 38 (4):409-419.
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- Wang, Y. and **X. Guo**. 2007. Chromosomal mapping of major ribosomal rRNA genes in the hard clam (*Mercenaria mercenaria*) using fluorescence *in situ* hybridization. *Marine Biology*, 150:1183-1189.
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PUBLICATIONS IN NON-PEER-REVIEWED JOURNALS AND REPORTS

- Bartley, D.M., J.A.H. Benzie, R.E. Brummett, F.B. Davy, S.S. De Silva, A.E. Eknath, **X. Guo**, M. Halwart, B. Harvey, Z. Jeney, J. Zhu, U. Na-Nakorn, T.T.T. Nguyen and I.I. Solar. 2009. The use and exchange of aquatic genetic resources for food and agriculture. UN FAO Commission on Genetic Resources for Food and Agriculture, Background Study Paper No. 45, 40pp.
- Guo, X.** Y. Wang, G. DeBrosse, D. Bushek and S. E. Ford. 2008. Building a superior oyster for aquaculture. *The Jersey Shoreline*, 25(1):7-9.
- Guo, X.** 2004. Oyster breeding and the use of biotechnology. *Bull. Aquacult. Assoc. Canada* 104:26-33.
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- Guo, X.**, H. Yang and J. Kraeuter. 2001. Triploid and tetraploid technology for hard clam aquaculture. *Jersey Shoreline*, 20(2):6-9.
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- Guo, X.**, S. Ford and F. Zhang, 2000. Shellfish culture in China. Part 3, modern species: scallops. *Shellfish World*, 1(3):12-13.
- Guo, X.**, S. Ford and F. Zhang, 2000. Shellfish culture in China. Part 4, modern species: mussels, abalone, pearl oysters. *Shellfish World*, 1(4):12-13.
- Guo, X.**, S. Ford and F. Zhang, 1999. Shellfish culture in China. Part 1, general overview. *Shellfish World*, 1(1):8-10.
- Guo, X.**, S. Ford and F. Zhang, 1999. Shellfish culture in China. Part 2, traditional species: oysters, blood cockles razor and Ruditapes clams. *Shellfish World*, 1(2):8-11.
- Guo, X.** 1991. Studies on Tetraploid Induction in the Pacific Oyster, *Crassostrea gigas* (Thunberg). Ph.D. Dissertation. University of Washington, Seattle. 167p.
- Guo, X.** Early Growth and Development of Intrastrain and Interstrain Triploids of Rainbow Trout (*Salmo gairdneri*). M.S. Thesis, University of Washington, Seattle. 68p.

INVITED LECTURES, SEMINARS AND PRESENTATIONS

- 2013 Adaptation of oysters revealed by their genes and genomes. Gulf Coast Research Laboratory, University of Southern Mississippi, Ocean Springs, MS, November 21, 2013
- 2013 Gene expansion and oyster adaptation. 2013 International Conference of Genomics, Qingdao, China, October 28-30, 2013.
- 2013 Oyster culture, breeding and genomics. Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, Yantai, China, October 23, 2013.
- 2012 Resilience of the oyster seen through its genome. Seton Hall University, Oct 19, 2012

- 2012 Molluscan Genomics and Breeding. Xiamen University, August 20, 2012
- 2012 Shellfish Aquaculture and Genomics. University of Caen, France, October 10, 2012.
- 2011 Oyster Genomics and Aquaculture. University of Caen, France, October 20, 2011.
- 2011 Oyster genomics and breeding: promises and challenges. Ocean University of China, Qingdao, July 10, 2011.
- 2010 Oyster genomics and breeding. Yellow Sea Fishery Research Institute, Qingdao, China, April 10, 2010.
- 2010 Oyster aquaculture and breeding. Hainan University, Hainan, China, July 16, 2010.
- 2009 Genetic improvement of eastern oysters for disease-resistance and fast growth. Center of Marine Biotechnology, University of Maryland Biotechnology Institute, December 9, 2009, Baltimore, MD.
- 2009 Understanding our oysters from species to genes. Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China, May 10, 2009.
- 2009 From DNA sequences to aquaculture. Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China, May 11, 2009.
- 2009 Recent advances in shellfish genetics and breeding. Hainan University, China, May 15, 2009.
- 2009 Oyster genetics and breeding. Aquaculture Genetics and Genomics Forum, held at Ocean University of China, September 4 – 5, 2009, Qingdao, China.
- 2009 An update on shellfish genetics and breeding. USDA Shellfish Broodstock Management Committee meeting (WERA99), March 21 – 22, 2009, Savannah, GA.
- 2008 Shellfish genomics and breeding. Functional Marine Genomics Forum, Institute of Oceanology, Chinese Academy of Science, Qingdao, July 2, 2008.
- 2008 Genetics and genomics towards to a better oyster. Department of Biology, University of North Carolina at Charlotte, February 1, 2008.
- 2007 Oyster Genetics and Genomics. Hainan University, Haikou, April 20, 2007.
- 2007 Shellfish Genomics and breeding. Jimei University, Xiamen, April 17, 2007.
- 2006 Contribution of non-native marine species to sustainable aquaculture. Invited talk at Non-native Species in Aquaculture Workshop, St. Andrews Biological Station, October 11-13, 2006, St. Andrews.
- 2006 An update on oyster genetics and breeding at Rutgers University. Invited talk at the Northeastern Aquaculture Conference & Exposition, Mystic, December 6-8, 2006, CT.
- 2006 The state of molluscan aquaculture in China. Invited talk at the Northeastern Aquaculture Conference & Exposition, Mystic, December 6-8, 2006, CT.
- 2005 Oyster genetics and breeding. Guest lecture at South China Sea Institute of Fisheries, Guangzhou, China, March 19, 2005. The lecture was attended by about 20 scientists and students.
- 2005 Oyster genetics, genomics and their applications in aquaculture. Guest lecture at Hainan University, China, March 22, 2005. The lecture was attended by about 50 faculty and students.
- 2005 The use of molecular markers in studying shellfish populations. Guest lecture at Xiamen University, China, March 25, 2004. The lecture was attended by 15 students and staff of Prof. Nianzhi Jiao's lab.
- 2004 Shellfish breeding at the biotech age: progresses and challenges. Invited speaker at the NACE 2004 meeting, Manchester, NH, December 2-4, 2004.
- 2004 Shellfish breeding and the use of biotechnology. Guest speaker at the Aquaculture Biotechnology Workshop sponsored by Fisheries and Ocean Canada, St. Andrews, May 11 – 13, 2004.
- 2004 Shellfish Genetics and Genomics. Invited lecture at Florida Institute of Technology as part of the Elise B. Newell Seminar Series, March 25, 2004.
- 2002 Advances in shellfish genetics and breeding biotechnology. Invited lecture at Department of

- Biology, Beijing Normal University, China, April 25, 2002.
- 2001 Biotechnical approaches to stock improvement for shellfish aquaculture. School of Fishery and Aquatic Sciences, University of Washington, May 3, 2001.
- 2001 Shellfish genetics and genomics. Institute of Oceanology, Chinese Academy of Chinese, April 20, 2001.
- 2000 Genomic manipulation in molluscs. Department of Biology, Dalhousie University, Halifax, Canada, on 10/16/2000.
- 2000 Progress in shellfish genetics and breeding biotechnology. Headquarter of Chinese Academy of Sciences, June 16, Beijing.
- 2000 Progress in shellfish genetics and breeding biotechnology. Institute of Oceanology, Chinese Academy of Sciences, April 26, Qingdao, China.
- 1999 Shellfish breeding biotechnology at HSRL. New Jersey Sea Grant Consortium, National Sea Grant Assessment Panel Meeting, May 27, Sandy Hook, NJ.
- 1999 Recent Advances in Shellfish Breeding Research. Institute of Oceanology, Chinese Academy of Sciences, May 10, Qingdao China.
- 1999 Shellfish aquaculture and broodstock management. Zhejiang Institute of Mariculture, November 3, Wenzhou, China.
- 1998 Molluscan genetics and biotechnology. Dalian Fisheries University, May 20, 1998, Dalian, China.
- 1997 Shellfish genetics and breeding. Guanxi Institute of Oceanology, Beihai, November 5, China.
- 1997 Shellfish genetics and breeding. Fujian Institute of Mariculture, November 10, Xiamen, China.
- 1997 Shellfish aquaculture in North America. Zhejiang Institute of Mariculture, October 10, Wenzhou, China.
- 1996 Aquaculture in China. Given at the Aquaculture Course at HSRL, Rutgers University, January.
- 1996 A series of five lectures in oyster genetics and breeding. Rizhao Fisheries Institute, September 8-15, Rizhao, China.
- 1996 Oyster genetics and breeding biotechnology. Institute of Oceanology, Chinese Academy of Science, September 6, Qingdao, China.
- 1996 Shellfish genetics and breeding. Jiangsu Oceanic Bureau, September 22, Qidong, China.
- 1996 Three lectures in shellfish genetics and breeding. Zhejiang Institute of Mariculture, September 22, Qingjiang, China.
- 1995 Ploidy manipulation in oysters. Qingdao Ocean University, College of Fisheries, October 22, Qingdao, China.
- 1994 Aquaculture in China. Given at the Aquaculture Course at HSRL, Rutgers University, January.
- 1994 Oyster genetics and breeding. Department of Biology, University of Massachusetts at Dartmouth, MA.
- 1991 Aquaculture genetics and biotechnology. Department of Biological Sciences, SUNY at Brockport, NY.
- 1990 Cytogenetic manipulation in oysters. Bodega Bay Marine lab, University of California at Davis, CA.

KEYNOTE PRESENTATIONS AT CONFERENCES

- Guo, X.** 1997. Recent advances in molluscan genetics and biotechnology. Given at the 8th Meeting of the Chinese Society of Malacology, October 3-8, Nanji, Zhejiang, China
- Guo, X.** 1994. Tetraploid oyster and its use in aquaculture. Given at the 1994 annual meeting of the NSA Pacific Section and the Pacific Coast Oyster Grower's Association, October 2-4, Seaside, Oregon.

ABSTRACTS, CONFERENCE PRESENTATIONS

- Guo, X.** 2012. Production and breeding of tetraploid eastern oyster *Crassostrea virginica*. *J. Shellfish Res.*, 31(1):292.
- Guo, X.**, C. Milbury, Y. Wang, Y. He, L. Zhang, D. Bushek and S. Ford. 2012. Genetic structure of eastern oyster populations in Delaware Bay and selection by diseases. *J. Shellfish Res.*, 31(1):292.
- Surier, A., R. Karney, **X. Guo** and Y. Wang. 2012. Challenges to creating a tetraploid broodstock for the bay scallop *Argopecten irradians*. *J. Shellfish Res.*, 31(1):352.
- Sunila, I., S. Lindell, **X. Guo** and P. Rawson. 2012. Field trials for cross-bred disease-resistant eastern oysters in New England. *J. Shellfish Res.*, 31(1):227.
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