

Jaime R. Alvarado Bremer
Curriculum Vitae

Associate Professor
Interim Department Head
Department of Marine Biology
200 Seawolf Parkway
Texas A&M University
Galveston, TX 77553
Email: alvaradj@tamug.edu
<https://www.tamug.edu/alvarado-bremer>
Phone: (409) 740-4958
Fax: (409) 740-5001

Education

Ph.D. University of Toronto, Ontario, Canada. Department of Zoology, 1994
M.S. University of Toronto, Ontario, Canada. Department of Zoology 1988
B.Sc. Universidad Autónoma Metropolitana-Iztapalapa, México. Departamento de Biología, 1983

Academic Positions

- Interim Department Head, Department of Marine Biology 2017-to-date
- Associate Professor, Department of Marine Biology
Texas A&M University at Galveston 2007-to-date
- Assistant Professor, Department of Marine Biology
Texas A&M University at Galveston 1999-2007
- Research Associate Professor, Department of Biology
University of South Carolina 1994-1999
- Post-doctoral Fellow, Department of Biology
University of South Carolina 1993-1994

Research Experience

RESEARCH FOCUS

My research program seeks to shed light on the differential contribution of micro and macro evolutionary processes responsible for the genetic population structure of marine organisms, with emphasis on highly migratory fishes. The nature of my research is both integrative and comparative, falling within the conceptual framework of molecular ecology & molecular systematics. Most work is conducted at the population level to examine how observed genetic variability can be accounted by past and current events. Evidence regarding current events is obtained from the species' life history and population dynamics. Inference of the historical context is derived from the analytical toolkits of statistical phylogeography and historical demography, that when combined with paleoceanographic, paleoclimatic, and geologic evidence, permits the testing of alternative hypotheses capable of explaining the current distribution of genetic variation within and among populations. Central to this holistic approach is the hypothesis that an animal's distribution is constrained by its potential to disperse based on morphological and physiological adaptations (at any point in time during ontogeny) in light of past and present barriers (biotic or abiotic) that may limit gene flow, thus ultimately delimiting that species range, and thus potentially accounting for micro- and macro-evolutionary patterns. The advent of massive parallel sequencing technologies offers the opportunity to further expand these investigations at a genomic level and current emphasis of my research program is to take advantage of current advances in these technologies to address these questions.

Peer-Reviewed Publications

43 Total Publications (41= Articles)

*=graduate student, **=undergraduate student, ✧=postdoctoral scientist
(1801 citations, h-index 19, i10 index 31)

41. Peñarrubia, L., O. N. Sanz, B.L. Smith, J.R. ALVARADO BREMER, C. Pla, and O. Vidal. *Accepted*. SNP identification and validation in two invasive species: zebra mussel (*Dreissena polymorpha*) and Asian clam (*Corbicula fluminea*). ***Animal Biodiversity and Conservation Journal* 42:**
40. Espinoza, G.J., J.M. Poland, J.R. ALVARADO BREMER. 2017. Genotyping live fish larvae: non-lethal and non-invasive DNA isolation from 3-5 day old hatchlings. ***BioTechniques* 63:181-186.**
39. Cornic, M.,* B. L. Smith, L. L. Kitchens*, J. R. ALVARADO BREMER, and J. R. Rooker. 2017. Distribution and habitat associations of tuna larvae in the northern Gulf of Mexico. ***Hydrobiologia*.** Available online August 10, 2017. DOI 10.1007/s10750-017-3330-0

38. McKenzie, J.,* J.R. ALVARADO BREMER. 2017. Genetic Identification of Istiophorid Larvae from the Gulf of Mexico based on the analysis of Mitochondrial DNA Control Region Sequences. **Journal of Fish Biology** 90:1070-1079.
37. Lu, C.P.* , B.L. Smith* , M. G. Hinton, and J. R. ALVARADO BREMER. 2016. Bayesian analyses of Pacific swordfish (*Xiphias gladius* L.) genetic differentiation using multilocus single nucleotide polymorphism (SNP) data. **Journal of Experimental Marine Biology and Ecology** 482:1-17.
36. Smith, B.L.* , J. R. ALVARADO BREMER, C-P. Lu* , B. García Cortés, S.-Y. Yeh. 2015. Multilocus Bayesian Estimates of Intra-Oceanic Differentiation, Connectivity, and Admixture in Atlantic Swordfish (*Xiphias gladius* L.). **PLoS ONE** DOI:10.1371/journal.pone.0127979 June 9, 2015
35. Cruscanti, M., G. Innocenti, J. ALVARADO BREMER, B. Galil. 2015. First report of the brown shrimp *Penaeus aztecus* Ives 1891 (Crustacea, Decapoda, Penaeidae) in the Tyrrhenian Sea. **Marine Biodiversity Records** 8, e81 doi:10.1017/S1755267215000664 (Published online June 8, 2015)
34. Lu, C.-P.* , J. R. ALVARADO BREMER, J. L. McKenzie* , W.-C. Chiang. 2015. Analysis of sailfish (*Istiophorus platypterus*) population structure in the North Pacific Ocean. **Fisheries Research** 166: 33-38.
33. ALVARADO BREMER, J.R., B. L. Smith* , D. L. Moulton* , C.-P. Lu* , and M. Cornic* . 2014. Shake and Stew: A Non-Destructive PCR-Ready DNA Isolation Method From a Single Preserved Fish Larva. **Journal of Fish Biology** 84: 267-272.
32. Smith, B.L.* , Ching-Ping Lu* , J. R. ALVARADO BREMER. 2013. Methodological streamlining of SNP discovery and genotyping via high-resolution melting analysis (HRMA) in non-model species. **Marine Genomics** 9: 39-49.
31. Sánchez, P., J. Viñas* , J. R. ALVARADO BREMER, P. P. Ambrosio, R. Flos. 2012. Loss of genetic variability in a hatchery strain of Senegalese sole (*Solea senegalensis*) revealed by sequence data of the mitochondrial DNA control region and microsatellite markers. **Scientia Marina** 76(2): 225-235.
30. Ditty, J.G., ALVARADO BREMER, J. R. 2011. Species discrimination of postlarvae and early juvenile brown shrimp (*Farfantepenaeus aztecus*) and pink shrimp (*Farfantepenaeus duorarum*) (Decapoda: Penaeidae): Coupling molecular genetics and morphology to identify early life stages. **Journal of Crustacean Biology** 31(1): 126-137.
29. ALVARADO BREMER, J. R., J.G. Ditty, J.S. Turner* , B.L. Saxton* . 2010. Molecular species identification of commercially important penaeid shrimp from the Gulf of Mexico using a multiplex haplotype-specific PCR assay. **Biochemical Systematics and Ecology** 38:715-721.
28. Stephens* , S.H., V. C. White** , J. R. ALVARADO BREMER. 2010. Assessment of Minimally Invasive Genetic Tissue Sampling Methods for the Critically Endangered Kemp's Ridley Sea Turtle (*Lepidochelys kempii*). **Marine Turtle Newsletter** 128:19-23.
27. Viñas, J., O. Vidal, O., A. Pérez, J.R. ALVARADO BREMER, and C. Pla. 2010. Genetic differentiation between eastern and western Mediterranean swordfish revealed by mitochondrial DNA control region phylogeographic analysis. **ICES Journal of Marine Science** 67: 1222–1229.
26. Smith* , B.L., C.-P. Lu* , J.R. ALVARADO BREMER. 2010. High-resolution melting analysis (HRMA): a highly sensitive inexpensive genotyping alternative for population studies. **Molecular Ecology Resources** 10: 193-196.
25. Viñas, J., J. R. ALVARADO BREMER and C. Pla. 2010. Phylogeography of the epineritic cosmopolitan bonitos of the genus *Sarda* (Cuvier): mtDNA species phylogeny and inferred patterns of intra- and inter-oceanic connectivity. **Journal of Biogeography** 37: 557-570.
24. Hunter, R. L.* , M. S. Webb* , T. M. Iliffe and J. R. ALVARADO BREMER. 2008. Phylogeny and historical biogeography of the cave-adapted shrimp genus *Typhlatya* (Atyidae) in the Caribbean Sea and western Atlantic. **Journal of Biogeography** 35(1):65-75.
23. ALVARADO BREMER, J. R. J. L. Bangma* , T. Talley-Farnham* , J. Rooker, B. Stequert and B.

- Saxton*. 2007. Beyond species ID of billfishes and tunas. The advantages of DNA sequence data. ***Gulf and Caribbean Research*** 19(2):169.
22. Rooker; Jay R., J. R. ALVARADO BREMER, Barbara A. Block, Heidi Dewar, Gregorio de Metrio, Aldo Corriero, Richard T. Kraus, Eric D. Prince, Enrique Rodríguez-Marín, David H. Secor. 2007. Life history and stock structure of Atlantic bluefin tuna (*Thunnus thynnus*). ***Reviews in Fisheries Science*** 15(4):265-310.
 21. Viñas, J., J. ALVARADO BREMER, J. Mejuto, J. M. de la Serna, B. García-Cortés, C. Pla. 2007. Swordfish genetic population structure in North Atlantic and Mediterranean. *In*: Proceedings of the Atlantic swordfish population structure workshop. Heraklion, Crete, Greece. ***ICCAT Coll. Vol. of Sci. Pap.*** 61: 99-106
 20. ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, Carles Pla-Zanuy, J. Viñas, Carla Marques, Fábio Hazin, M. Griffiths, B. Ely, B. García-Cortés, and T.W. Greig. 2007. Genetic population structure of Atlantic swordfish: Current status, controversies, and future directions. *In*: Proceedings of the Atlantic swordfish population structure workshop. Heraklion, Crete, Greece. ***ICCAT Coll. Vol. Sci. Pap.*** 61: 107-118.
 19. ALVARADO BREMER, J. R., T. W. Greig, and M. G. Hinton. 2006. Genetic heterogeneity of swordfish (*Xiphias gladius*) in the Pacific Ocean revealed by the sequence analysis of the IdhA gene. ***Bulletin of Marine Science*** 79(3): 493-503.
 18. ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, F. Boán, P. Carpintero, J.M. Rodríguez, T. W. Greig and B. Ely. 2005. Hierarchical analyses of genetic variation of samples from breeding and feeding grounds confirm the genetic partitioning of northwest Atlantic and South Atlantic populations of swordfish. ***J. Experimental Marine Biology and Ecology*** 326, 167-182.
 17. Ely, B, J. Viñas❖, J.R. ALVARADO BREMER, D. Black, L. Lucas, K. Covello, A. Labrie, E. Thelen. 2005. Consequences of the historical demography on the global population structure of two highly migratory cosmopolitan marine fishes: the yellowfin tuna (*Thunnus albacares*) and the skipjack tuna (*Katsuwonus pelamis*). ***BMC Evolutionary Biology*** 5: 19
 16. ALVARADO BREMER, J. R., J. Viñas❖, B. Ely and C. Pla. 2005. Comparative phylogeography of Atlantic bluefin tuna and swordfish: The combined effects of vicariance, secondary contact, introgression, and population expansion on the regional phylogenies of two highly migratory pelagic fishes. ***Molecular Phylogenetics and Evolution*** 36(1): 169-187.
 15. ALVARADO BREMER, J. R., M. G. Frisk, T. J. Miller, J. Turner, J. Viñas❖ and K. Kwil**. 2005. Genetic identification of the cryptic juveniles of little skate and winter skate. ***Journal of Fish Biology*** 66: 1177-1182
 14. Sánchez, P., J. Viñas❖, J. ALVARADO BREMER, P.P. Ambrosio, R. Flos. 2005. Mitochondrial control region and microsatellite data show low genetic variability in reared Senegalese sole, *Solea senegalensis*. Preliminary data, pp. 397-398. *In*: Lessons from the Past to Optimize the Future. Howell, B. and Flos R. (Editors). ***European Aquaculture Society. Special Publication*** No. 35.
 13. Viñas, J.❖, J. R. ALVARADO BREMER and C. Pla. 2004. Phylogeography of the Atlantic bonito (*Sarda sarda*) in the northern Mediterranean: The combined effects of historical vicariance, population expansion, secondary invasion and isolation by distance. ***Molecular Phylogenetics and Evolution*** 33(1): 32-42.
 12. Viñas, J.❖, J. R. ALVARADO BREMER, and C. Pla. 2004. Inter-oceanic genetic differentiation among albacore tuna (*Thunnus alalunga* Bonaterre 1788) Populations. ***Marine Biology*** 145: 225-232.
 11. Glenn, T. C, J. L. Staton, A. T. Vu, L. M. Davis, J. R. ALVARADO BREMER, W. E. Rhodes, I. L. Brisbin, Jr. and R. H. Sawyer. 2002. Low Mitochondrial DNA variation among American alligators and a novel non-coding region in crocodylians. ***Journal of Experimental Zoology (Mol Dev Evol)***: 294(4):312-324.
 10. Ely, B., D. S. Stoner, J. R. ALVARADO BREMER, J. M. Dean, P. Addis, A. Cau, E. J. Thelen, W. J. Jones, D. E. Black, L. Smith, K. Scott, I. Naseri and J. M. Quattro. 2002. Analyses of nuclear IdhA gene and mtDNA control region sequences of Atlantic northern bluefin tuna populations. ***Marine***

Biotechnology 4: 583-588.

9. ALVARADO BREMER, J. R., B. Stequert, N. W. Robertson, and B. Ely. 1998. Genetic evidence for inter-oceanic subdivision of bigeye tuna (*Thunnus obesus* Lowe) populations. **Marine Biology** 132:547-557.
 8. ALVARADO BREMER, J. R., G. M. Leclerc, and B. Ely, 1998. Mitochondrial and nuclear DNA analyses in the study of swordfish, *Xiphias gladius*, population structure. In I. Barrett, O. Sosa-Nishizaki, and N. Bartoo (eds.), Biology and fisheries of swordfish, *Xiphias gladius*. NOAA Tech. Rep. NMFS, **Fishery Bulletin** 142:211-217.
 7. ALVARADO BREMER, J. R., L. Zhang, J. Bulak, and B. Ely 1998. A simple assay for discrimination of mitochondrial DNA from the Florida and northern subspecies of largemouth bass. **Transactions of American Fisheries Society** 127:507-511
 6. Viñas, J., J. M. Pujolar, J. ALVARADO BREMER, B. Ely, and C. Pla. 1998. Population genetics of Swordfish (*Xiphias gladius*) in the Mediterranean Sea based on allozyme electrophoresis and mitochondrial DNA sequence. In: Proceeding of the ICCAT 25th Anniversary Tuna Symposium. Beckett, J. S. (ed.). **ICCAT Coll. Vol. Sci. Pap.** 50(1): 225-233.
 5. ALVARADO BREMER, J. R., I. Naseri and B. Ely. 1997. Orthodox and unorthodox phylogenetic relationships among tunas revealed by the nucleotide sequence analysis of the mitochondrial DNA control region. **Journal of Fish Biology** 50:540-554.
 4. ALVARADO BREMER, J. R., A. Vu, B. Ely, W. Rhodes, and R. Sawyer, 1996. Sequence analysis of the mitochondrial cytochrome b-12sRNA region of the American alligator (*Alligator mississippiensis*). (In) Crocodylian DNA Research: A Report on a Workshop on the Genetics of the Crocodylians (Dantzler, J. M., ed.). Center for Environmental Policy, Institute of Public Affairs, University of South Carolina. **Occasional Paper in Environmental Policy** 96-1.
 3. ALVARADO BREMER, J. R., J. Mejuto, T. W. Greig, and B. Ely. 1996. Global population structure of the swordfish (*Xiphias gladius*) revealed by the analysis of the mitochondrial control region. **Journal of Experimental Marine Biology and Ecology** 197:295-310.
 2. ALVARADO BREMER, J. R., A. J. Baker, and J. Mejuto. 1995. Mitochondrial DNA control region sequences indicate extensive mixing of swordfish (*Xiphias gladius*) populations. **Canadian Journal of Fisheries and Aquatic Sciences** 52:1720-1732.
- ALVARADO BREMER, J. R. 1994. Assessment of morphological and genetic variation of the swordfish (*Xiphias gladius* L.): Evolutionary implications of allometric growth and of the patterns of nucleotide substitution in the mitochondrial genome. Ph.D. Thesis. University of Toronto, Graduate Department of Zoology, Toronto, Canada.
- ALVARADO BREMER, J. R. 1988. Quantitative comparisons of allometric growth and of shape changes in swordfish (*Xiphias gladius* L.). M.Sc. Thesis. University of Toronto, Graduate Department of Zoology, Toronto, Canada.
1. ALVARADO BREMER, J.R., J. Galindo, M. Iwadare, R. Migoya y M. Vazquez. 1986. Influencia de los parametros ambientales en los movimientos y la distribución de la ballena gris (*Eschrichtius robustus*) en la laguna Ojo de Liebre, BCS, México. Inst. Nal. Pesca. Sria. Pesca. México, **Ciencia Pesquera** 5, 33-49.

Publications in Review (1)

Espinoza, G. J. and J. R. ALVARADO BREMER. Submitted. Genetic species identification of ecologically important planthoppers (*Prokelisia* spp.) of coastal *Spartina* saltmarshes using High Resolution Melting Analysis (HRMA). **Estuaries and Coasts**.

Publications in prep.

Smith, B.L., M. Cornic, B. Perales, J.R. Rooker and J.R. ALVARADO BREMER. In Prep. Identification of tunas (*Thunnus* spp.) using unlabeled probe (UP) high resolution melting analysis (HRMA) of the ND4 mitochondrial gene. **Fisheries Research**

Quesnell, V.A., R. Humphreys, J.R. Rooker, H. Dewar, J.R. ALVARADO BREMER and R. J. David Wells.
In Prep. Nursey origin and connectivity of swordfish (*Xiphias gladius*) in the North Pacific Ocean.

Technical/Non-Refereed Publications (17)

17. Smith, B.L and J.R. ALVARADO BREMER. 2010. Inferring population admixture with multiple nuclear genetic markers and bayesian genetic clustering in Atlantic swordfish (*Xiphias gladius*). *Coll. Vol. Sci. Pap. ICCAT* 65 (1), 185-190.
16. ALVARADO BREMER, J.R., Brad L. Smith, and M.G. Hinton. 2009. Population differentiation of Pacific swordfish using EPICs. Working Paper for the ISC Swordfish Working Group. Honolulu, Hawaii, November 2009.
15. ALVARADO BREMER, J.R. M.G. Hinton, T.W. Greig. 2004. Population structure of swordfish in the Pacific Ocean: A review of genetic studies based on the analyses of nuclear and mitochondrial data. Interim Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC), 26 January-4 February 2004, Honolulu, Hawaii, USA. Working Paper ISC/04/SWO-WG/03.
14. Hinton, M. G. and J. ALVARADO BREMER. 2007. Stock structure of Pacific swordfish. Inter-American Tropical Tuna Commission. Working Group to Review Stock Assessments. 8th Meeting. La Jolla, California. 7-11 May 2007. Document SAR-8-11. 11 pp.
13. Talley-Farnham, Tiffany, C., B. Stequert, and J. R. ALVARADO BREMER. 2003. Preliminary analysis of the comparison in levels of variation between juvenile and adult yellowfin tuna samples from the Atlantic Ocean using both mtDNA and microsatellite data. SCRS/03/063. *Coll. Vol. Sci. Papers, ICCAT* 56(2): 694-703.
12. Ely, B., D. S. Stoner, J. M. Dean, J. R. ALVARADO BREMER, S. Chow, Sachiko Tsuji, Tomoyuki Ito, Koji Uosaki, P. Addis, A. Cau, E. J. Thelen, W. J. Jones, D. E. Black, L. Smith, K. Scott, I. Naseri and J. M. Quattro. 2002. Genetic analyses of Atlantic northern bluefin tuna captured in the northwest Atlantic Ocean and the Mediterranean Sea. SCRS/01/54. *Coll. Vol. Sci. Papers, ICCAT* 54(2): 372-376.
11. Ely, B., D. S. Stoner, J. R. ALVARADO BREMER, E. J. Thelen, W. J. Jones, D. E. Black, L. Smith, K. Scott, I. Naseri and J. M. Quattro. 2001. Genetic analyses of Atlantic northern bluefin tuna populations. SCRS/01/54. *Coll. Vol. Sci. Papers, ICCAT* 52(3): 1145-1149.
10. Ely, B., D. E. Black, and J. R. ALVARADO BREMER. 2000. Nucleotide sequence analysis of mitochondrial DNA provides no evidence for inter-oceanic population subdivision in yellowfin tuna. SCRS/99/109. *Coll. Vol. Sci. Papers, ICCAT* 51: 581-586.
9. Greig, T. W., J. R. ALVARADO BREMER, and B. Ely. 2000. Nuclear markers provide additional evidence for population subdivision among Atlantic swordfish. SCRS/99/89. *Coll. Vol. Sci. Papers, ICCAT* 51: 1637-1641.
8. ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, J. Viñas, F. Boán, P. Carpintero, J. M. Rodríguez, C. Pla, J. M. De La Serna, and B. Ely. 1999. Hierarchical analysis of nucleotide diversity reveals extremely low levels of mitochondrial DNA gene-flow between northeast Atlantic and Mediterranean swordfish populations. *ICCAT Coll. Vol. Sci. Pap.* 49(1): 457-466.
7. ALVARADO BREMER, J. R., B. Stequert, N. W. Robertson, and B. Ely. 1999. Genetic analysis of bigeye tuna population subdivision. *ICCAT Coll. Vol. Sci. Pap.* 49(3): 370-372.
6. Greig, T. W., J. R. ALVARADO, and B. Ely. 1999. Preliminary results from genetic analyses of nuclear markers in swordfish, *Xiphias gladius*, reveals concordance with mitochondrial DNA analyses. *ICCAT Coll. Vol. Sci. Pap.* 49(1): 476-482.
5. ALVARADO BREMER, J. R., I. Naseri and B. Ely. 1999. A provisional study of northern bluefin tuna populations. SCRS/98/78. *Coll. Vol. Sci. Papers, ICCAT* 49(1): 127-129.
4. ALVARADO BREMER, J. R. and B. Ely. 1999. Pronounced levels of genetic differentiation between two trans-Atlantic samples of little tunny (*Euthynnus alletteratus*) SCRS/98/130. *SCRS/98/130. Coll. Vol. Sci. Papers, ICCAT* 49(4): 236-242

3. ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, F. Boán, P. Carpintero, J.M. Rodríguez, T. W. Greig and B. Ely. 1999. Hierarchical analysis of swordfish mtDNA substructure within the Atlantic Ocean. *SCRS/98/127. Coll. Vol. Sci. Papers, ICCAT 49(1): 457-466.*
2. ALVARADO BREMER, J. R., J. Mejuto. and B. Ely. 1995. Global population structure of the swordfish (*Xiphias gladius*) as revealed by the analysis of the mitochondrial control region. *ICCAT Coll. Vol. Sci. Pap.* 44(3):206-216.
1. ALVARADO BREMER, J. R. 1992. Stock differentiation of Atlantic swordfish using mitochondrial DNA analyses. *ICCAT, Coll. Vol. Sci. Pap.* 34(2):607-614.

Conference Presentations (65)

65. ALVARADO-BREMER, J.R. 2016. Rates of molecular evolution in tunas derived from ddRAD data: implications towards estimates of effective population size. Southeast Texas Evolutionary Genetics and Genomics (STEGG) Symposium. University of Houston, June 2, 2016.
64. Pérez-Bielsa, N., J. ALVARADO-BREMER, L. Peñarrubia, R.M. Araguas, C. Pla, J. Viñas. 2016. Concordant and contrasting phylogeographic patterns in the genus *Thunnus*. In: XXI Workshop in Population Genetics and Evolution (SEGPE). Sitges, Spain.
63. Hinton, M.G., C.-P. Lu, and J. ALVARADO-BREMER. 2015. Swordfish stocks in the Pacific: Will we ever know enough? 66th Tuna Conference, May 18-21, Lake Arrowhead, California
62. Hinton, M.G., C.-P. Lu, and J. ALVARADO-BREMER. 2014. Stock distribution areas for analysis of status and trends of swordfish in the North Pacific Ocean. ISC Billfish Working Group. Honolulu, Hawaii, February 18, 2014.
61. ALVARADO BREMER, J.R., Lu, C.-P., Prince, E.D., Cushner, S., and L.R. Beerkircher. 2013. Billfish gender ID by visual external inspection of urogenital groove. 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
60. Lu' C.-P.* , B. L. Smith* , M. G. Hinton, R. L. Humphreys Jr., and J. R. ALVARADO BREMER. 2013. Population structure study of swordfish (*Xiphias gladius*) in the Pacific Ocean inferred by genetic informative data differentiation using high resolution melting analysis (HRMA). 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
59. Lu, C.-P.* and J. R. ALVARADO BREMER. 2013. Molecular assays for gender determination of Billfish species. 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
58. Lu, C.-P.* , J. L. McKenzie* , W.-C. Chiang, and J. R. ALVARADO BREMER. 2013. Contemporary Population Structure Analysis of Sailfish (*Istiophorus platypterus*) in the Pacific Ocean. 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
57. Lu, C.-P.* , B. L. Smith* , J. R. ALVARADO BREMER, D. Multon and M.G. Hinton. 2013. Genetic identification of Pacific istiophorid billfish by high-resolution melting analysis (HRMA). 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
56. Smith' B.L.* , C.-P. Lu* , B. García-Cortés, J. Viñas, S.-Y. Yeh and J. R. ALVARADO BREMER. 2013. Genetic multi-locus Bayesian assessment of stock admixture and management boundaries of Atlantic Swordfish (*Xiphias gladius* L.). 5th International Billfish Symposium. November 4-8, Taipei, Taiwan.
55. ALVARADO BREMER, J. R. and A.C. Chapman*. 2013. Population Genetics of World's Flamingo Species. Second International Workshop of the Caribbean Flamingo Conservation Group (CFCG). February 4-9, 2013. Yucatan Peninsula, Mexico.
54. Chapman, A.C.* and J.R. ALVARADO BREMER. 2013. Development of Novel High-Resolution Melting Assays (HRMA) for Gender Identification of Caribbean Flamingo (*Phoenicopterus ruber ruber*). Second International Workshop of the Caribbean Flamingo Conservation Group (CFCG). February 4-9, 2013. Yucatan Peninsula, Mexico.
53. ALVARADO BREMER, J.R. 2013. Ichthyological collections as DNA sources: Challenges and recommended solutions. NSF DNA banking workshop. January 3-4, 2013. St. Louis, Missouri.

52. Cornic, M., J.R. ALVARADO BREMER and J.R. Rooker. 2012. Distribution and Habitat Associations of Tuna Larvae in the Northern Gulf of Mexico. 65th Annual Gulf and Caribbean Fisheries Institute Conference. November 5-9 2012, Santa Marta, Colombia
51. ALVARADO BREMER, J.R. 2012. Tunas at the surface, fireworms at the abyss: genotyping marine species using high resolution melting. 20th Plant and Genome (PAG) Meeting. January 13-18, 2012. Idaho Technology Workshop. San Diego, California.
50. Smith, B.L., C.-P. Lu, J.R. ALVARADO BREMER. 2011. Resolving Mixed Stocks in Highly Migratory Species Using Bayesian Clustering of SNP Data Characterized with High-Resolution Melting. American Fisheries Society (AFS) 141st Annual Meeting. Seattle, Washington. September 7, 2011. Seattle, Washington.
49. Lu, C.-P., B.L. Smith, M.G. Hinton, J.R. ALVARADO BREMER. 2011. Population Structure Study of Swordfish *Xiphias gladius* in the Pacific Ocean Inferred by Genetic Informative Data Differentiation Using High Resolution Melting Analysis (HRMA). American Fisheries Society (AFS) 141st Annual Meeting. September 7, 2011. Seattle, Washington.
48. Smith, B.L., C-P Lu, J.R. ALVARADO BREMER. 2011. Swordfish the other... other white meat: Resolving stock admixture in the Atlantic and Mediterranean. Poster presented at the Texas A&M University at 2011 Galveston Graduate Student Poster Symposium, Galveston, TX
47. ALVARADO BREMER, J.R., B.L. Smith, C-P. Lu, Jennifer Atchison and Alex Chapman. 2011. The use of High Resolution Melting (HRM) to identify marine species, avian gender determination, and in studies of population genetics of tunas and billfish. Plant and Animal Genome (PAG) 2011 Conference. Idaho Technology Workshop. January 17th, San Diego, California.
46. Chapman, A. and J. R. ALVARADO BREMER. 2011. Lifestyles of pink and feathered: determining gender in Caribbean Flamingo. Poster presentation. 2011 Student Research Symposium. April 20-21, 2011. Texas A&M at Galveston
45. Lu, C.-P., B.L. Smith, M.G. Hinton, J.R. ALVARADO BREMER. 2011. Swordfish (*Xiphias gladius*) Population Structure in the Pacific Ocean Inferred by Nuclear DNA Data Scored Using High Resolution Melting Analysis (HRMA). Poster presentation. 2011 Student Research Symposium. Texas A&M at Galveston, April 20-21, 2011.
44. Perales, B., B. L. Smith, J. R. ALVARADO BREMER. 2011. Genetic Identification of Tuna Species via High-Resolution Melting Analysis. National Science Foundation (NSF) Research Experience for Undergraduates (REU) program. Student Symposium. July 27th 2011. Texas A&M at Galveston.
43. Chapman, A. and J. R. ALVARADO BREMER. 2010. A New Molecular Assay to Determine the Gender of Birds Based on High-Resolution Melting Analysis. Poster Presentation. 2010 Student Research Symposium. April 2010. Galveston, TX.
42. Smith, B.L., J.R. ALVARADO-BREMER. 2010. Inferring population admixture in Atlantic swordfish (*Xiphias gladius*) by Bayesian clustering and multiple nuclear genetic markers. Poster presented at the Texas A&M University at Galveston Graduate Student Poster Symposium, Galveston, TX.
41. Moulton, D.L., J. R. ALVARADO BREMER, C.-P. Lu, B. L. Smith. 2010. Larval DNA Extraction and Species Identification of Billfish and Tuna. National Science Foundation (NSF) Research Experience for Undergraduates (REU) program. Student Symposium Texas A&M at Galveston.
39. Smith, B.L. and J. R. ALVARADO BREMER. 2009. Inferring population admixture with multiple nuclear genetic markers and Bayesian genetic clustering in Atlantic swordfish (*Xiphias gladius*). SRS working document. ICCAT, Madrid, September 2009.
38. ALVARADO BREMER, J.R., B. L. Smith, and C.-P. Lu. 2009. The advent of high-resolution-melting analysis (HRMA) to genotype highly migratory fishes for population studies and species identification. 60th Tuna Conference, May 18-21, Lake Arrowhead, California
37. Saxton, B.L., J. R. ALVARADO-BREMER, T. Talley-Farnham. 2009. Slow Rate of Evolution in Tuna Microsatellites. Tuna Conference, May 18-21, Lake Arrowhead, California

36. Smith, B.L. Lu, C-P and J. R. ALVARADO BREMER. 2009. Resolving population structure and admixture in Atlantic swordfish (*Xiphias gladius*). 60th Tuna Conference, May 18-21, Lake Arrowhead, California
35. Lu, C-P., B.L. Smith, M. G. Hinton, and J. R. ALVARADO BREMER. 2009. Population structure analysis of swordfish (*Xiphias gladius*) in the Pacific Ocean. 60th Tuna Conference, May 18-21, Lake Arrowhead, California
34. ALVARADO BREMER, J.R. Mike Hinton, and Brad Smith. 2008. Efficient single-tube characterization of genetic polymorphisms in fishes: The use of high-resolution-melting analysis as a breakthrough to study the genetic population structure of the swordfish (*Xiphias gladius*). Oral Presentation. Symposium on Sustainable Fisheries for Large Highly Migratory Pelagic Fishes. American Fisheries Society Meeting. Ottawa, Canada, August 2008.
33. Smith, B. L., and J. R. ALVARADO BREMER. 2008. Resolving population boundaries in a mixed stock with Exon-Primed Intron-Crossing nuclear genetic markers (EPICs) using High-Resolution Melting Analysis (HRMA). Oral Presentation. Symposium on Sustainable Fisheries for Large Highly Migratory Pelagic Fishes. American Fisheries Society Meeting. Ottawa, Canada, August 2009.
32. Smith, B.L., C-P Lu, J.R. ALVARADO-BREMER. 2008. One Fish, Two Fish. Red Fish, Blue Fish: High-resolution melting analysis (HRMA) for population stock structure in swordfish (*Xiphias gladius*). Poster presented at the Texas A&M University at Galveston Graduate Student Poster Symposium, Galveston, TX.
31. ALVARADO BREMER J.R. and M. G. Hinton. 2008. Stock structure of Pacific swordfish. Working Paper for the ISC Swordfish Working Group. Honolulu, Hawaii, October 2008.
30. Saxton, B.L and J.R. ALVARADO BREMER. 2007. Genetic characterization of blackfin tuna (*Thunnus atlanticus*): Historical demography and population structure. 60th annual Gulf and Caribbean Fisheries Institute Conference. 5-9 November, 2007. Punta Cana, Dominican Republic (Poster Session).
29. Hinton, M.G., and J. ALVARADO BREMER. 2007. Estructura de la población del pez espada en el Pacífico Norte. Reunión Científica de la 5^a Consulta Multilateral sobre el Pez Espada en el Océano Pacífico Sureste Santiago de Chile 24-26 de abril de 2007
28. Hinton, M.G., and J. ALVARADO BREMER. 2007. Stock structure of swordfish in the north Pacific. Working Paper for the ISC Swordfish Working Group. Taipei, March 2007.
27. ALVARADO BREMER, J. R., J. L. Bangma, T. Talley-Farnham, J. Rooker, B. Stequert and B. Saxton. Beyond species ID of billfishes and tunas. The advantages of DNA sequence data. 2006. Poster Session. Large Pelagic Fishes in the Caribbean Sea and the Gulf of Mexico: Current Status and Integrated Management. A symposium convened at the 59th Annual Conference of the Gulf and Caribbean Fisheries Institute. 6-11 November of 2006, Belize City, Belize.
26. ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, Carles Pla-Zanuy, J. Viñas, Carla Marques, Fábio Hazin, M. Griffiths, B. Ely, B. García-Cortés, and T.W. Greig. 2006. Genetic population structure of Atlantic swordfish: Current status, controversies, and future directions. ICCAT 2006 Swordfish Stock Structure Workshop. Heraklion, Crete, Greece, 13-15 March 2006.
25. Viñas, J., J. ALVARADO BREMER, J. Mejuto, J. M. de la Serna, B. García-Cortés, C. Pla. Swordfish genetic population structure in (the) North Atlantic and Mediterranean. ICCAT 2006 Swordfish Stock Structure Workshop. Heraklion, Crete, Greece, 13-15 March 2006.
24. ALVARADO BREMER, J. R., T. W. Greig, and M. G. Hinton. 2005. Genetic heterogeneity of swordfish populations within the Pacific. Ocean. 4th International Billfish Symposium, October 31st through November 3rd, Santa Catalina Island, California, USA.
23. Rooker, J., R. Kraus, S. Holt, G. J. Holt, and J. ALVARADO BREMER. 2005. Essential fish habitat of Atlantic billfishes: is the northern Gulf of Mexico more than a pit stop? 4th International Billfish Symposium, October 31st through November 3rd, Santa Catalina Island, California, USA.
22. Bangma, J. and J. ALVARADO BREMER. 2005. Assessment of Reproductive Variance Among Billfish

in the Gulf of Mexico. (Poster Session). American Fisheries Society Meeting. 135th Annual Meeting of the American Fisheries Society, September 10-14th, Anchorage, Alaska.

21. Sánchez, P., Viñas, J., ALVARADO-BREMER, J., Ambrosio, P.P. and Flos, R. 2005. Mitochondrial control region and microsatellite data show low genetic variability in reared senegalese sole *Solea senegalensis*. Preliminary data. Aquaculture Europe. Aqua Nor 2005. August 5-9, Trondheim, Norway.
20. Viñas, J., J. R. ALVARADO BREMER, C. Pla. 2005. Filogeografía comparada en dues espècies del gènere *Thunnus*: La tonyina atlàntica (*Thunnus thynnus*) i la bacora (*Thunnus alalunga*). V Jornada de Biologia Evolutiva. Societat Catalana de Biologia. 4 de juliol 4 de 2005. Barcelona.
19. Sánchez, P., J. Viñas, J.R. ALVARADO BREMER. 2004. El DNA microsatellite revela escasa variabilidad genética en el lenguado senegalés (*Solea senegalensis*) de cultivo. Estudio preliminar. Programa de Doctorat Biotecnologia Agroalimentaria I Sotentabilitat. Departament d' Enginyeria Agroalimentaria I Biotecnologia (DEAB). 8 de juliol de 2004. Universitat Politècnica de Catalunya, Barcelona.
18. ALVARADO BREMER, J. R., T. W. Greig, and M. G. Hinton. 2004. Genetic analyses of nuclear and mitochondrial DNA indicate heterogeneity of swordfish within the Pacific. Ocean. The 4th meeting of the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), Honolulu, Hawaii, 26 January to 4 February 2004.
17. Viñas, J., J. R. ALVARADO BREMER and C. Pla. 2003. Patterns of genetic variation of Atlantic northern bluefin and albacore tuna in the Mediterranean: historical demography or the effects of fishing pressure? Proceedings of the 54th Annual Tuna Conference, Lake Arrowhead, California, May 13-16 2003.
16. ALVARADO BREMER, J. R. and J. Ditty. 2003. Identifying young commercial penaeid shrimp using developmental and molecular approaches, with information on the validity of the genera *Farfantepenaeus* and *Litopenaeus*. Sea Grant Researcher Conference, September 25, 2003. Sea Aggie Center, Texas A&M University at Galveston.
15. ALVARADO BREMER, J. R. and T. Farnham. 2003. Genetic characterization of fish populations. What can DNA (and Can't) tell you about the biogeography, reproductive biology and phylogenetics of billfish and tunas. Texas Chapter of the American Fisheries Society. Annual Meeting 2003. January 27-29, Galveston, Texas
14. Grabowski, T., J. R. ALVARADO BREMER, A. M. Landry, Jr. 2002. Origins of Molly Miller, *Scartella cristata* (Perciformes: Blenniidae), Populations on Texas Jetties. Poster Session. American Society of Ichthyologists and Herpetologists.
13. Stephens, S. H. and J. R. ALVARADO BREMER. 2002. Preliminary information on the effective population size of Kemp's ridley (*Lepidochelys kempi*) sea turtle. In Proceeding of the 23rd Sea Turtle Symposium. April 3-7. Miami, Florida.
12. Ditty, J. and J. R. ALVARADO BREMER. 2002. Characterizing intervals of development in fish and shrimp. 26th Annual Early Life History Conference. AFS-ELHS. Bergen, Norway, 22-26 July, 2002.
11. ALVARADO BREMER, J., M. Hinton and T. Greig. 2001. Genetic analyses of nuclear and mitochondrial DNA data indicate heterogeneity of swordfish within the Pacific Ocean. Third International Billfish Symposium, 19-23 August 2001. Cairns, Australia.
10. ALVARADO BREMER, J., M. Griffiths and T. Greig. 2001. Genetic analyses of swordfish around South African waters indicate Indian Ocean origin. Poster Presentation. Third International Billfish Symposium, 19-23 August 2001. Cairns, Australia.
9. ALVARADO BREMER, J. R., T. W. Greig and M. G. Hinton. 2000. Genetic Analysis of Population Structure of swordfish in the EPO. In *Proceedings of the 51st Annual Tuna Conference*. La Jolla, California: Inter-American Tropical Tuna Commission.
8. ALVARADO BREMER, J. R. I. Naseri and B. Ely. 1998. Population heterogeneity of northern bluefin tuna (*Thunnus thynnus*) populations. In *Proceedings of the 49th Annual Tuna Conference* (C. Boggs, ed.), p.12. Lake Arrowhead, California, May 18-21, 1988. La Jolla, California. Inter-American Tropical

Tuna Commission.

7. ALVARADO BREMER, J., T. W. Greig, J. Gómez-Márquez, J. Mejuto, J. Viñas, C. Pla and B. Ely. 1997. Genetic differentiation of Mediterranean, North Atlantic, and South Atlantic swordfish populations. Genetics of Pelagic Fish Symposium. American Fisheries Society. 127th Annual Meeting. 24-28 August, 1997. Monterey, California.
6. Ely, B. I. Naseri, J. ALVARADO BREMER. 1997. Genetic analysis of tuna populations. Genetics of Pelagic Fish Symposium. American Fisheries Society. 127th Annual Meeting, 24-28 August, 1997. Monterey, California.
5. ALVARADO BREMER, J. R. J. Mejuto, B. Ely. 1997. Genetic population structure of swordfish: Lessons from the Atlantic Ocean and Mediterranean Sea. Poster Session. Second International Symposium on Pacific Swordfish. March 3 to 6, 1997. Kahuku, Hawaii
4. ALVARADO BREMER, J. R., N. Robertson and B. Ely. 1996. Use of mtDNA to demonstrate restricted gene flow between ocean basins. In *Proceedings of the 47th Annual Tuna Conference* (Jackson, A., Rasmussen, R., and Bartoo, N., eds.), p. 47. La Jolla, California: Inter-American Tropical Tuna Commission.
3. Viñas, J., ALVARADO, J., Ely, B. and C. Pla. 1996. Preliminary results of the population genetics of swordfish (*Xiphias gladius*) in the Mediterranean Sea based on mitochondrial DNA sequence divergence. Fifth International Congress of Systematic and Evolutionary Biology, Budapest, Hungary.
2. ALVARADO BREMER, J.R., I. Naseri, and B. Ely. 1995. Use of mitochondrial DNA sequence information to determine phylogenetic relationships within the genus *Thunnus*. *Proceedings of the 46th Annual Tuna Conference* (Mullen, A. and Suter, J., eds.), p. 9. La Jolla, California: Inter-American Tropical Tuna Commission
1. ALVARADO BREMER, J. R., J. Mejuto, and B. Ely. 1995. Interoceanic population structure of the swordfish (*Xiphias gladius*) as revealed by the DNA sequence analysis of the mitochondrial control region. IN *Proceedings of the 46th Annual Tuna Conference* (Mullen, A. and Suter, J., eds.), p. 8. La Jolla, California: Inter-American Tropical Tuna Commission

Invited Seminars, Lectures and Talks

Alvarado Bremer, J. R. 2015. Estructura genética de las poblaciones de pez espada (*Xiphias gladius* L.) en las cuencas del Atlántico, el Mediterráneo y del Pacífico. Patrones contrastantes en los mares del mundo obtenidas a partir de la caracterización de variación en los ADN nucleares y mitocondriales en una especie marina altamente migratoria. 5 de Diciembre, 2015, Museo Nacional de Ciencias Naturales, Madrid, España.

Alvarado Bremer, J.R. Invited talk: *What's in the can? Molecular ID of marine fishes: Health and safety implications of the imported fishes we eat*. San Jacinto College, Houston, Texas, Tuesday, November 15, 2006.

Alvarado Bremer, J.R. "Genetic Population Structure of Atlantic Swordfish: Current Status, Controversies and Future Directions. MARB-MARS Joint Seminar Series. March 21, 2006.

Alvarado Bremer, J.R. *Genetics of Marine Pelagics*. Joint (MARB-MARS) Seminar Series. Texas A&M University at Galveston, Galveston, Texas. Spring, 2005.

Alvarado Bremer, J. R. Talk entitled: Genética molecular, filogenia, y conservación: uso de marcadores moleculares en el estudio de poblaciones de pez espada (*Xiphias gladius*) y atunes (*Thunnus* spp.). Diciembre 9, 1994, Centro de Ecología, UNAM, Ciudad Universitaria, Mexico

Published Genetic Resources (GENBANK)

ALVARADO BREMER, J.R. J.G. Ditty, J.S. Turner, B.L. Saxton. 2010. 12 sequences for the 16S rRNA mtDNA gene for *Farfantepenaeus aztecus*., *F. duorarum*. *F. brasiliensis*, *Litopenaeus setiferus*, *L. vannamei*. GenBank Acc. Nos. HM014401-HM014412.

Hunter, R. L., M.S.Webb, T.M. Iliffe, J. R. ALVARADO BREMER. 2007. 87 sequences for the mtDNA genes COI, 16SrRNA and Cytb of the Atyid shrimp *Typhlatyia garciai*, *T. iliffei* and *Antecaridina lauensis*. GenBank Acc. Nos. DQ863176-863191; DQ863136-DQ863195 and DQ900825-DQ900851

Bangma, J.L. and J.R. ALVARADO BREMER. 2006. 244 Mitochondrial DNA control region I sequences of sailfish (*Istiophorus platypterus*). GenBank Accession Numbers EF415042-EF415285.

ALVARADO BREMER, J. R., M. G. Frisk, T. J. Miller, J. Turner, J. Viñas and K. Kwil. 2005. 21 Mitochondrial COI sequences of little skate (*Leucoraja erinacea*) and winter skate (*Leucoraja ocellata*). GenBank Accession Numbers AY573834-AY573843.

ALVARADO BREMER, J. R., Viñas ,J., Mejuto,J., Ely, B. And Pla, C. 2005. 151 Mitochondrial DNA control region sequences of swordfish (*Xiphias gladius*). GenBank Accession Numbers AY650743-AY650893.

ALVARADO BREMER, J. R., Viñas ,J., Mejuto,J., Ely, B. And Pla, C. 2005. 334 mtDNA control region sequences of Atlantic bluefin tuna (*Thunnus thynnus thynnus*). GenBank Accession Numbers AY650409-AY650742.

Ely, B, J. Viñas, J.R. ALVARADO BREMER, D. Black, L. Lucas, K. Covello, A. Labrie, E. Thelen. 2005. 148 mtDNA D-loop sequences of yellowfin tuna (*Thunnus albacares*). AY899534-AY899681

Ely, B, J. Viñas, J.R. ALVARADO BREMER, D. Black, L. Lucas, K. Covello, A. Labrie, E. Thelen. 2005. 115 mtDNA D-loop sequences of skipjack tuna (*Katsuwonus pelamis*). AY899405-AY899519

Ely, B, J. Viñas, J.R. ALVARADO BREMER, D. Black, L. Lucas, K. Covello, A. Labrie, E. Thelen. 2005. 14 mtDNA ATPase 6 sequences of yellowfin tuna (*Thunnus albacares*). AY899520-AY899533.

ALVARADO BREMER, J. R., J. Mejuto, J. Gómez-Márquez, F. Boán, P. Carpintero, J.M. Rodríguez, T. W. Greig and B. Ely. (2005). 276 mtDNA D-loop sequences of swordfish (*Xiphias gladius*). AY961097-AY961372.

Viñas, J., J. R. ALVARADO BREMER and C. Pla. 2004. 128 mtDNA D-loop sequences of Atlantic bonito (*Sarda sarda*). AY526910-AY517037.

Glenn, T. C, J. L. Staton, A. T. Vu, L. M. Davis, J. R. ALVARADO BREMER, W. E. Rhodes, I. L. Brisbin, Jr. and R. H. Sawyer. 2002. 51 mtDNA cyt-b sequences of American alligator (*Alligator mississippiensis*). AF18548-AF319419.

Webb, M. S., J. R. ALVARADO BREMER, J.R., T.M. Iliffe. 54 mtDNA sequences of the Atyid shrimp, *Typhlatya mitchelli*. AF51203-AF513538. 10 sequences from a new Atyid shrimp, *T. sp.* AY115540-AY115549. Nine for *T. pearsei*. AY115531-AY115539

Funded External Grants and Awards

Total Awards to TAMUG/Alvarado-Bremer: \$757,541
12 External Grants; 10 Grants at TAMUG (\$2,157,715)

2018. T3-Triad Program. Genomic tools for conservation of endangered species: the manatee immunome. Luis Hurtado Clavijo, Mike Cricitiello, Jaime R. Alvarado-Bremer. \$30,000 (\$10K to TAMUG)

2017. Texas Comprehensive Research Fund. *Improving Real Time PCR capabilities through the acquisition of Roche LightCycler 96 Instrument*. July 2017. \$30,000 (\$30K to TAMUG).

2016. NOAA Saltonstall-Kennedy. *Improving stock structure estimates for west coast swordfish using Fishery Independent methods*. C. Sepulveda (LCo-PI) and Scott Albers, O. Sosa Nishizaki, J.R. Alvarado Bremer (Collaborators) Sept.1, 2016-Aug 31, 2018. \$376,590 (\$10,000 to TAMUG)

2015. NOAA Saltonstall-Kennedy. PI. *Development of a rapid colorimetric assay based on LAMP to genetically distinguish bluefin tuna (Thunnus thynnus) from other tunas in the field*. Sept 1, 2015-Aug 31, 2017. \$174,624 (\$174,624 to Alvarado Bremer/TAMUG)

2012. Universitat de Girona. PI. *Characterization of Nuclear SNP's of the Invasive Zebra Mussel and Asiatic Clam*. November 2012-January 31, 2013. \$1500 (\$1500 to Alvarado Bremer/TAMUG).

2009. NOAA-Saltonstall-Kennedy Program. PI. *Development of molecular assays to determine the gender of billfishes*. August 1, 2009- May 1, 2013. \$127,120 (\$127,120 to Alvarado Bremer/TAMUG)

2007. McDaniel Foundation. *Ecology and stock structure of billfishes in the Gulf of Mexico: Sustainability through research and conservation*. Co-PI with J.R. Rooker (PI), C. Marshall, A. Quigg. May, 1, 2007 – April 30, 2010, \$649,754 (\$31,265 to Alvarado Bremer/TAMUG)

2005. Southwest Fisheries Council/NMFS. *Atlantic Billfish Research Program: ecology and stock structure of billfishes in the Gulf of Mexico*. Co-PI with J.R. Rooker, G. J. Holt, S. Holt, J. Graves. March, 1, 2005 to February 28, 2007. \$594,469 (\$65,000 to Alvarado Bremer/TAMUG)

2002. Texas Sea Grant College. *Identifying species of young commercial shrimp by combining developmental morphology and molecular genetics*. (LPI) with J. Ditty (CO-PI), T. Minello (CO-PI). \$93,087 (\$93,087 to Alvarado Bremer/TAMUG)

2001. Moody Gardens Foundation. Gulf of Mexico Initiative: Promoting conservation through education in research. Co-PI with J. Rooker, A. Landry and D. Harper. May 1, 2001- April 30, 2002. \$64,958 (\$10,000 to Alvarado Bremer/TAMUG)

2000. NOAA/S-K. PI. Spatial and temporal analyses of genetic variability in bigeye and yellowfin tuna larvae 09/01/00-12/31-01 \$45,613 (\$45,613 to Alvarado Bremer/TAMUG)

Funded Internal Grants and Awards, TAMUG, TAMU, and TIO

2012. State of Texas Development Fund. PI. *Mariculture Training Internship Program*. Sept 1, 2012-Aug 31, 2013, \$16,000 (\$16,000 to Alvarado Bremer/TAMUG)

2011. State of Texas Development Fund. PI. *Mariculture Training Internship Program*. Sept 1, 2011-Aug 31, 2012, \$20,000 (\$20,000 to Alvarado Bremer/TAMUG)

2010. State of Texas Development Fund. PI. *Mariculture Training Internship Program*. Sept 1, 2010-Aug 31, 2011, \$20,000 (\$20,000 to Alvarado Bremer/TAMUG)

2009. State of Texas Development Fund. PI. *Mariculture Training Internship Program*. Sept 1, 2009-Aug 31, 2010, \$20,000 (\$12,153.78 to Alvarado Bremer/TAMUG)

2005. PI. TAMUG RC/ Faculty Minigrant. A novel approach to characterize the nutritional condition of fish larvae. June-August 2005, \$3,222

2004. PI. Genetic variation in Atlantic croaker. TAMUG Research Advisory Committee Faculty Mini-grant Project Period: August 2004. \$2,500

Awards Prior to TAMUG

1999. Spatial and temporal analyses of genetic variability in bigeye and yellowfin tuna larvae Agency/Program: NOAA/SK, July 1, 1999 to June 31, 2000, Alvarado Bremer, J. R. (PI), \$80,000

1998. Molecular Genetics of Fish Populations. South Carolina Sea Grant Consortium/Fishtec. B. Ely (LPI), J. Quattro (CO-PI), Alvarado Bremer, J. R. (CO-PI) Grant amount: \$617,838 (Project period- 3 years); \$205,946/per year.

Research Tools

Molecular genetics: Expertise in conducting molecular approaches to characterize genetic variation of wild and captive populations including numerous isolation methods of total genomic and mitochondrial DNA, restriction digests, Sanger sequencing, high resolution melting (HRM), loop mediated isothermal amplification (LAMP), ddRAD sequencing. Digital photo documentation.

Bioinformatics: Expertise using software for: phylogenetic inference (Phylip, PAUP, MEGA); Population genetics/genomics (GENEPOP, GenAlex; Arlequin); Massive Parallel Sequencing (Galaxy; STACKS); Sequence analysis (Geneious). GIS (ArcSys).

Organismal: Handling of wild caught animals, Aquatic animal husbandry and mariculture techniques, fish anesthesia, external fertilization of fish eggs. Fish otolith removal. Preservation of museum specimens.

Field Methods. Capture of highly migratory fishes with longlines, electronic and conventional tagging of fishes, Environmental characterization of marine environments, Electronica and Conventional Fish Tagging, Banding of Flamingo fledgelings, Small boat handling, Biopsy sampling. Capture of small mammals (Bats and rodents). Paleontological prospection. Photo identification of marine mammals. Census of marine mammals.

Field Experience

Ichthyoplankton sampling of fish larvae using bongo nets, neuston nets and light traps; capture of large mesopelagic fishes using longlines and hook and line; capture of deep sea fishes using baited traps; benthic trawling for demersal fishes; deployment of seines and gillnets; field sampling and preparation of small mammals (bats and rodents) for scientific collections; paleontological prospection and collection of fossil sharks, marine mammals, and dinosaurian fauna; coastal ornithological surveys; census of marine mammals (pinnipeds and cetaceans).

Research Cruises

1984. Oceanographic cruise to the Gulf of Mexico, the Yucatan Channel and Caribbean on board of the B/O Justo Sierra. CINVESTAV IV. Capture of billfishes, sharks using longlines. Capture of deep sea sharks using traps
1985. Oceanographic cruise to the Bay of Campeche, the continental shelf of the Yucatan Peninsula, and Strait of Yucatan. Ichthyoplankton survey using neuston nets. B/O Justo Sierra. CINVESTAV V
1989. Oceanographic cruise aboard the Department of Fisheries and Ocean (DFO), Canada, EE Prince. Longline capture of swordfish on Georges and Grand Banks, off Nova Scotia and Newfoundland waters.
1990. Oceanographic cruise aboard the Department of Fisheries and Ocean, Canada, EE Prince. Longline capture of swordfish on Georges and Grand Banks, off Nova Scotia and Newfoundland waters.
2005. Oceanographic cruise on board of the O/V Holo Kai. Ichthyoplankton sampling of Northern Gulf of Mexico using neuston nets and purse seine nets.
2006. Oceanographic cruise on board of the O/V Holo Kai. Ichthyoplankton sampling of Northern Gulf of Mexico using neuston nets and purse seine nets.

Professional Societies

American Fisheries Society
American Society of Ichthyologist and Herpetologists

Awards and Recognition

1991-92	Open Fellowship	University of Toronto
1990-91	Open Fellowship	University of Toronto
1986-92	Research Assistantship	Graduate Dept. of Zoology, U. of Toronto
1989-90	Open Fellowship	University of Toronto
1988-89	Open Fellowship	University of Toronto
	Differential Fee Waiver	University of Toronto
1985-90	Foreign Studies Scholarship	CONACYT(Mexico)
2015 (Fall Semester)	Faculty Development Leave	University of Girona, Spain

Teaching Experience

(* denotes development of new course; ^ distance education)

Texas A&M University Courses

2009 (Fall-odd years)	Marine Evolutionary Biology (MARB668*^)
2007 (Fall-even years)	Recent Adv. Marine Population Biology (MARB606*)
2007 (Summer)	Marine Fisheries Techniques (MARB320)
2004-06 (Summer)	Recent Adv. Mar. Biology and Ecology (MARB689*)
2002-to-2010	Marine Biological Resources (MARB620*)
2002 (Summer)	Current topics in Mar. Biol. and Ecol. (WFSC689)
2001-to-2004	Seminar (MARB 481)
2001	Introductory Biology (BIOL 113)
2000-to date (Spring)	Marine Conservation Biology (MARB 360*)
2000 (Spring)	Ichthyology (MARB311)
2000-to date	WFSC-691 Graduate Research
2000-to-date	MARB-491 Undergraduate Research
2000-to-date	MARB-485 Undergraduate Problem Course
1999-to date (Fall)	Mariculture (MARB 423)
1999-to-date	Independent Studies (MARB 485)

Courses Outside of Texas A&M University

Instructor, Biological Principles I (BIOL-101)	1996-to 1999	University of South Carolina
Instructor, Independent Study (BIOL-399)	1998	University of South Carolina
Instructor, Aquaculture (BIOL-537)	1995 (Spring)	University of South Carolina

Teaching Assistantships (University of Toronto)

General and Human Genetics (BIO-227Y)	1989-1990	University of Toronto
Nature of Living Organisms (BIO-110Y)	1988-1993	University of Toronto
Fossil Vertebrates (GLG-436H)	1986-1987	University of Toronto
Vertebrate Mechanics (ZOO-463Y)	1985-1992	University of Toronto

Texas A&M University Undergraduate Teaching Evaluations

Summary of PICA (Personalized Instructor Course Appraisal System)

- Averages from last six semesters (2012-2016) to the question: *Overall this is a good instructor*

Spring Semester	Course Mean	Fall Semester	Course Mean
2012S	4.56	2012F	4.88
2013S	4.63	2013F	4.64
2014S	4.59	2014F	4.53
2015S	4.67	2015F	FDL
2016S	4.48	2016F	4.56
2017S	4.43	2018S	4.51

Postdoctoral Scientist Mentoring (1)

Dr. Jordi Viñas (University of Girona, Spain) 2002-2004

Graduate Student Mentoring (64)

- 62 graduate students mentored since arrival at TAMUG: 23 doctoral and 41 master students

Chair of Ph.D. Students (5)

2017 (Fall)	Roselyn Aguila (Fulbright Scholar)	MARB-IDP
2011-to-date	G. Janelle Espinoza	MARB-IDP
2006-to-2014	Ching-Ping Lu	WFSC
2005-to 2012	Brad L. Smith	WFSC
2000-2001	Patrick H. Rice	WFSC

Chair and Co-Chair of M.S. Students (14)

2016-to-2017	Russell Grandbois	WFSC
2016-to-date	Erica (Atkins) Knowles	MARB IDP
2015-to-2016	Marc Subirana	Co-Chair
2015-to-date	Brianna Ladd	University of Girona (Spain)
2010-to-2012	Alexandra Chapman	MARB IDP
2007-to-2012	Jennifer L. Atchinson	MARS -MMRM
2007-to 2010	Jennifer L. Wilbanks	MARS -MMRM
2006-to-2009	Brandon Saxton	WFSC
2004-to-2006	Jessica Bangma	WFSC
2004-to-2005	Lisa Mulcahy	MARS (TAMUG)
2001-to-2004	Rebecca Belcher	Co-Chair
2000-to-2003	Tiffany Talley-Farnham	WFSC
2000-to-2003	Scott Webb	Co-Chair
2000-to-2003	Sarah Holland Stephens	WFSC

Member of Ph.D. Student Committees (17)

2016-to-date	Yui Matsumoto	MARB IDP (TAMUG)
2016-to-date	Russell Grandbois	OCNG (TAMU)
2016	Luis Peñarrubia	U. de Girona (Spain)
2014-to-date	Justin Hilliard	MARB IDP (TAMUG)
2013-to-2013	Jacob Sigren	MARB IDP (TAMUG)
2012-to-2017	David Brankovitz	MARB IDP (TAMUG)
2012-to-2016	Maëlle Cornic	MARB IDP (TAMUG)
2012-to-2015	Heidi de Guzman	MARB IDP (TAMUG)
2013-to-2014	Ligita Kuklyte	MARB IDP (TAMUG)
2009-to-2014	Logan Squiers	MARB IDP (TAMUCC)
2009-to-2011	Luis O. Martinez	MARB IDP (TAMUCC)
2007-to-2010	Scarlett M. Arbuckle	OCNG (TAMU)
2005	Sarah Black	Biology (TAMU)
2005-to-2006	Bert. W. Geary	WFSC
2001	Marti Pujols	U. of Girona, Spain
1997-to 2001	Jordi Viñas Puig	U. of Girona, Spain
1998-to 2000	Thomas W. Greig	Dept. of Biology. U. of South Carolina

As Graduate Council Representative (GCR) (2)

2001	Josh Wenke	Kinesiology (TAMU)
------	------------	--------------------

2001 Yungah Park Engineering (TAMU)

Member of M.S. (12)

2016-to-date	Max Weber	MARB IDP (TAMUG)
2016-to-2017	Veronica Quesnell	MARB IDP (TAMUG)
2015-to-2016	Yui Matsumoto	MARB IDP (TAMUG)
2015-to-2016	Liat Goldstein	WFSC
2012-to-2014	Nathan Johnson	MARB IDP (TAMUG)
2012-to-2012	Ligita Kuklyte	MARB IDP (TAMUG)
2011-to-2014	Joseph B. Ahrens	MARB IDP (TAMUG)
2011-to-2012	Christopher J. Chapa	WFSC
2007-to-2008	Ryan W. Schloesser	WFSC
2000-to-2003	Robert D. Wells	WFSC
	Tim Grabowski	WFSC
2003	Sarah Black	WFSC

Chair. Master of Marine Resource Management -non thesis- Department of Marine Sciences (13)

2008-to-2010	Jeana M. McDowell
2008-to-2010	Mary Allen
2007-to-2010	Jessica M.M. Harrell
2007-to-2007	Christine D. Shivers
2006-to-2007	Ellen C. Reiss
2006-to-2007	Elizabeth A. Shelton
2005-to-2006	Gavin Hogge
2005-to-2006	Rosalyn Baloyut
2005-to-2006	Robyn Adams
2004-to-2005	Seth Jones
2004	Ben Rhame
2003	Miriam Barranco
2002-to-2003	Heather Young

Honors College and Undergraduate Research Scholars (B.S.) Students (Thesis)

2017	Jill Thompson-Grim	Advisor of Thesis	TAMU Undergraduate Research and ABS Conservation Scholar
2016	Katie Westmoreland	Advisor	TAMU Undergraduate Research and ABS Conservation Scholar
2015	Amanda Reyes	Advisor	TAMU Honors and Undergraduate Research Scholar
1998-99	Summar C. Ford	Director of Thesis	South Carolina Honors College, U. South Carolina
1997	Alex Trien Vu	Second Reader	South Carolina Honors College, U. South Carolina
1996-97	Dan Civello	Director	Howard Hughes Undergraduate Res. Program

Undergraduate Student Mentoring (57)

Raquel Montano, Stephanie Marsh, Stephen T. Kohler, Anthony R. Marshak, Markus R. Tolefson, John H. Mathews, Jessica Stephens, Daniele L. Higgins, Joshua R. Scott, Chris D. Courtney, Danny English, Kelly Stroud, Josh Sheldon, Elivia L. Weigel, Catalina, Shultze-Kraft, Kevin Kwil*, Mathew Haverland, Virginia Swacina*, Kelsey Darrell, Pat Faulkner, Ariana Needham, Lisvania M. Delgado, Alex Chapman, Carlos Ruiz, Christopher D. Pope, Joe Hammond, Mathew Reihs, Zachary Tanner, Mathew Kyle Radosz, Sonny Lawson, Zach Boone, John Oehlert (NSF-REU), Litza Coello (NSF-REU), Liat Goldstein, David Moulton (NSF-REU)*, Amelia West, Thomas D. Unger, Glenda M. Swiney, Madison Elizabeth Fort, Catherine Collins, Ashley Marie Roesner, Kevin Lee Son, Michael Joseph Ross Jr., Stephanie Lam Nguyen, Alyssa Garcia, Alissa Rodrigues (NSF LSAMP Scholar 2015), Amanda Reyes (TAMU Honors and Undergraduate Research Scholar), Monika McGuinness (Honors contract), Paxton Bachand (Honors contract), Katie M. Westmoreland, Orran Bierstein, Katrina Ross, Jackson Martinez, J. Michael Poland, Giovanni Madrigal (NSF LSAMP Scholar 2016), Kathy Westmoreland (Texas Sea Grant Scholar; ABS Undergraduate Conservation Scholar), Jill Thompson-Grim. Jerrimesia Hamilton (NSF LSAMP Scholar 2018)

*Co-authors in peer-reviewed publications

Professional Service

- Formal Assessor. IUCN Red List (Endangered Species). 2009-to 2012
- Advisor to the American Zoo and Aquarium Ciconiiformes/Phoenicopteriformes Taxon Advisory Group (Genetics). 2008-to 2012
- Member or the Billfish Advisory Panel (AP) for the Highly Migratory Species (HMS) Management Division. NOAA-Fisheries. NMFS, Department of Commerce. 2005-2006.
- Member of the Editorial Board of *Journal of Ecosystem and Ecography*. 2010-to-date
- Member of the Editorial Board of *Fisheries and Aquaculture Journal*. 2010-to-date
- Member of the Editorial Board of *The Open Fish Science Journal*. 2009-to-date
- Moody Gardens Aquarium & Rainforest -Animal Care and Use Committee (ACUC). 2007-2009
- Texas Sea Grant, Program Assessment Team Member. 2004
- Graduate Student Ph.D. Committee (2), External Examiner, University of Girona, Spain. 2001
- Ad Hoc Reviewer for the following journals: Canadian Journal of Fisheries and Aquatic Sciences, Deep Sea Biology, Fishery Bulletin, Fishery Science, Heredity, International Aquatic Research (IAQR), ICES Journal of Marine Science, Journal of Fish Biology, Journal of Aquaculture Research, Marine Biology, Molecular Ecology, Molecular Phylogenetics and Evolution, Transactions of the American Fisheries Society.

- Reviewer of Research Proposals for: Florida Sea Grant, L'Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR), Generalitat Catalunya, Spain, National Science Foundation (NSF), NOAA-MARFIN Program, NOAA-Saltonstall-Kennedy Program, National Sea Grant, Portland Sea Grant, USDA NIFA 1890 Capacity Building Grants (CBG) Program
- Chair of Organizing Committee of the Second Southeast Texas Evolutionary Genetics and Genomics (STEGG) Symposium, Texas A&M University at Galveston, June 6, 2017, Galveston, Texas (<https://www.tamug.edu/stegg/>)

Service to Texas A&M University

Interim Department Head (MARB)	2017 (Fall)-present
<u>Faculty Senate (TAMU)</u>	
Senator	2010-2012
<u>University Committees (TAMUG & TAMU)</u>	
<i>As Chair</i>	
Academic Program Review for MARB/MARF Programs	2015-2016
TAMUG -Quality Enhancement Plan --SACS	2012
Wetlands Center Committee	2005-2010
Institutional Animal Care and Use Committee (IACUC) for TAMUG.	2007-2009
<i>As Member</i>	
Scholarship and Awards Committee	2001
Graduate Council Representative	2001
Edwin Eikel Award Selection Committee	2001-2002
TAMUG-SACS Institutional Effectiveness Committee	2003
Wetlands Center Planning Committee	2001-2004
Faculty Advisory Committee	2002-2005
Discrimination Appeals Panel Committee	2003-2010
Research Advisory Council (RAC)	2007-2011
Assoc. of Former Students Distinguished Achievement Award –College Level	2008, 2012
TAMU International Board Meeting. Invited Member	2008
New Science Building Planning Committee	2006-2007
Promotion and Tenure Committee, TAMUCC (Member)	2012
Texas Maritime Academy Superintendent Search Committee	2016
<u>Departmental Committees</u>	
<i>As Chair</i>	
Teaching Excellence Search Committee	2004
Marine Invertebrate Zoologist Search Committee	2005-2006
120 SCH Cap Curriculum Committee	2010
Marine Geneticist Search Committee	2013
MARB Curriculum Committee	2015-to date
MARB Academic Program Review (APR)	2016-to date
<i>As Member</i>	
Marine Fisheries Program Steering Committee	2004
Liaison of MARB to TAMUG for SACS	2002
Molecular Core Facility (Member at large);	2007-to date
MARB Curriculum Committee	2013
<u>Other Service to TAMU</u>	
2004. Present to the Texas Higher Education Coordinating Board, Research Assessment Program, Review Committee on behalf of the Texas Institute of Oceanography (TIO).	
2002, 2004. MARB representative to Parents Weekend.	
2002, 2007 TAMUG Student Research Symposium (Judge):	
Guided visit to Cecilia M. Nipp, Dean of Diversity and Global Education.	
Hosted visit Dr. Oscar Sosa-Nishizaki –CICESE – Mexico, on behalf of Departments of Oceanography and Marine Biology.	
2008. –Member of committee representing TAMUG to the Council on Undergraduate Research (CUR) , South Central Regional Workshop on Institutionalizing Undergraduate Research. University of Texas, El Paso. January 18-20,	
2009. TAMUG New Student Conference. Faculty Speaker Session.	
2015-to date Honors and Undergraduate Research Faculty Mentor.	
2015-2016 (Summer) Undergraduate Research Mentor	
<u>TV/Radio/Media</u>	
2002. Radio interview. “DNA takes guesswork out of shrimping”. Widely distributed through Radio and newspapers.	
2002. Radio interview. “DNA weapon in war to save tuna from extinction”. Widely distributed through Radio and newspapers, and web media.	
2002. Newspaper Interview. Chris Neally, Fort Worth Star Telegram. Environmental effects of hermit crabs as pets	
2003. TV. Channel 11 News. Interview on the risks of consuming imported shrimp exposed to chloramphenicol	
2004. Radio Series. Pulso del Planeta. Interviewed by Mr. Victor Arreola	
2006. Interviewed by David O'Connor. National Geographic Magazine on Atlantic and Mediterranean fisheries.	
2014. TV. Hispanic Network. UNIVISION. Interview aired on evening news on the effects of <i>Sargassum</i> landings.	

2017. TV. Interviewed by KTRK (ABC) and KHOU (CBS) on occurrence of a bull shark in the Trinity River.

2017. TV. Interviewed by UNIVISION (Houston) on the effect of hurricane Harvey on coastal habitats and fauna.

This statement is to acknowledge that the CV submitted above is the most current, and is correct as of the date signed (below).

A handwritten signature in blue ink, appearing to be 'J. A.', written in a cursive style.

Signature

July 19, 2018

Date