

TEXAS STATE VITA

I. ACADEMIC/PROFESSIONAL BACKGROUND

A. Name: MAR HUERTAS

Title: ASSISTANT PROFESSOR

B. Educational Background

| <i>Degree</i> | <i>Year</i> | <i>University</i> | <i>Major</i> | <i>Thesis/Dissertation</i> |
|-----------------|-------------|-------------------------|----------------------|---|
| Ph.D. | 2006 | University of Barcelona | Animal Biology | Studies into the effects of environmental signals on eel reproduction and chemical communication. |
| D.A.S.* M.S. | 2002 | University of Barcelona | Animal Biology | Recovery of Siberian sturgeon yearlings after an acute exposure to environmental nitrite |
| M.S. | 2000 | University of Barcelona | Animal Biology | Nitrite toxicity in Siberian sturgeon (<i>Acipenser baeri</i> , Brandt): An approach to toxicodynamics and toxicokinetics. |
| B.Sc. | 1999 | University of Barcelona | Organism and Systems | |

*D.A.S. (Diploma of Advanced Studies) is equivalent to a Master of Advanced Studies in Europe. "This degree exists in Spain under the name "Diploma de Estudios Avanzados" or "DEA". It confers a higher qualification credential than a master of philosophy or master of studies but lower than doctorate. The so-called "DEA" was achieved in two years: one year of coursework, which included research methods and theoretical approaches of the discipline at stake (depending on the area of specialization) and one year of research. All the work of the first and second years was defended before a panel. The DEA was a prerequisite for the preparation of the PhD proposal and the commencement of PhD research in Spain."

From Wikipedia

C. University Experience

| <i>Position</i> | <i>Entity</i> | <i>Date</i> |
|-----------------------------|---|-------------------|
| Assistant Professor | Texas State University | 8/2016 - present |
| Adjunct Assistant Professor | University of New Mexico | 12/2015 – 12/2018 |
| Senior Research Assistant | Michigan State University | 2012 - 2016 |
| Postdoctoral Fellow | University of Algarve | 2006 - 2012 |
| Ph.D. Fellow | Institute of Technological and Agro-alimentary Research | 2001 - 2006 |
| Research assistant | University of Barcelona | 1998 - 2001 |

D. Relevant Professional Experience

| <i>Position</i> | <i>Entity</i> | <i>Date</i> |
|---|--|------------------------|
| Research assistant (training abroad) | Michigan State University. US. | 2008 – 2009 (9 months) |
| Research assistant (training abroad) | University of Algarve. Portugal. | 2004 – 2005 (5 months) |
| Research assistant (training abroad) | Centre for Environment Fisheries and Aquaculture Science. UK. | 2003 – 2004 (5 months) |

E. Other Professional Credentials

- ***CITI certificate*** (Collaborative Institutional Training Initiative). 2018 Basic Course Human Research. Social and Behavioral Research.
- ***CITI certificate*** (Collaborative Institutional Training Initiative). 2018 Human Research Biomedical Research Investigators and Key Personnel.
- ***Certificate of training in hazardous waste and Hazard Communication***. 2016-2018 Environmental Health, Safety and Risk Management. Texas State University.
- ***CITI certificate*** (Collaborative Institutional Training Initiative). 2016 Basic Course and Working with Fish in Research Settings.
- ***Certificate of competence in animal experimentation***. 2010 by DGV (Direcção-Geral de Veterinária) in Lisbon, Portugal.
- ***Biosafety principles for animal users, security awareness and medical waste***. 2009 until present. Web course Office of Radiation, Chemical and Biological Safety. Michigan State University, East Lansing, US.
- ***Radiation safety initial***. 2008 until present. Office of Radiation, Chemical and Biological Safety. Michigan State University, East Lansing, US
- ***Techniques for analytical separation: practical study of gas chromatography*** 2002. Postgraduate course. University of Barcelona (UB), Barcelona, Spain.
- ***Certified Researcher of Animal Experimentation***. 2001. Ethical committee of Animal Experimentation, University of Barcelona (UB) and Generalitat de Catalunya, Barcelona, Spain. Course credited by FELASA.

II. TEACHING AND MENTORSHIP

A. Courses taught

- ***Aquatic Resources Seminar - Writing course*** (BIO 7102). Spring 2019-2021 Texas State University, San Marcos.
- ***Vertebrate Endocrinology*** (BIO 5424D, includes a laboratory section). Fall 2017-2021. Texas State University, San Marcos.
- ***Fish Physiology*** (BIO 4350V/5424C, includes a laboratory section). Spring 2017-2021. Texas State University, San Marcos.

- *Applications of Environment and Organismal Biology* (ISB 202) (3 credits), 2015 fall semester. Integrative Studies in General Science program. Michigan State University.

B. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate)

Graduated Bachelor Thesis

| Student | Date | Internship Topic | University |
|--------------------------------|------|--|---------------------------------|
| Catia Santos (Supervisor) | 2009 | Histological changes in gill and kidney in toadfish " <i>Halobatrachus didactylus</i> " (Bloch and Schneider, 1801), exposed to high ammonia concentrations. | University of Algarve, Portugal |
| Soraia Santos (Supervisor) | 2010 | Non-invasive assesment of sexual maturation stage in European eel (<i>Anguilla anguilla</i>): Analysis of sex steroids in water. | University of Algarve, Portugal |
| Cláudia Guerreiro (Supervisor) | 2011 | Charazterization of endocrine control in sexual maturation of European eel (<i>Anguilla anguilla</i>). | University of Algarve, Portugal |
| Toni MacCrossan | 2019 | Honors Thesis. Student stress and learning. | Texas State University, US |

Graduated to MS/PhD degree students

| Student | Date | Internship Topic | University |
|--------------------------------|------|--|---------------------------------|
| Catia Santos (Supervisor) | 2009 | Histological changes in gill and kidney in toadfish " <i>Halobatrachus didactylus</i> " (Bloch and Schneider, 1801), exposed to high ammonia concentrations. | University of Algarve, Portugal |
| Soraia Santos (Supervisor) | 2010 | Non-invasive assesment of sexual maturation stage in European eel (<i>Anguilla anguilla</i>): Analysis of sex steroids in water. | University of Algarve, Portugal |
| Cláudia Guerreiro (Supervisor) | 2011 | Charazterization of endocrine control in sexual maturation of European eel (<i>Anguilla anguilla</i>). | University of Algarve, Portugal |
| Nicky Hahn | 2017 | Rapid quantitative assessment to identify imperiled fishes | Texas State University, US |

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|------------------------------|-----------|---|----------------------------|
| Cory B. Goff | 2019 | PhD. The role of conservation physiology and environmental change in amphibian declines. | Texas State University, US |
| McKenna Bristow (Supervisor) | 2019 | MS. Use of pheromones in species recognition and mating in mollies. | Texas State University, US |
| Melody Martinez (Supervisor) | 2017-2020 | MS. Effect of nitrites and nitrates in olfactory function in goldfish. | Texas State University, US |
| Arseniy Kolonin | 2018-2020 | MS. Effects of urbanization on the physiology, behavior, and life history of tolerant stream fish. | Texas State University, US |
| Kristie Miner | 2018-2020 | MS. Consequences of artificial light at night on the physiology and behavior of fish. | Texas State University, US |
| Zachery Forsburg | 2017-2020 | PhD. Consequences of artificial light at night on the physiology and behavior of amphibians. | Texas State University, US |
| Whitney Ortiz (Supervisor) | 2019-2021 | MS. Effect of nitrites and nitrates in olfactory microbiota in goldfish. | Texas State University, US |
| Fabiola Mancha (Supervisor) | 2018-2021 | MS. Olfactory-Immuno Pathway of Infectious Hematopoietic Necrosis Virus and <i>Yersinia Ruckeri</i> in Rainbow Trout | Texas State University, US |

D. Other

Guest Lecturer

- ***Fish Physiology.*** 2010-2011. University of Algarve.
- ***Endocrinology of Reproduction.*** 2010-2011. University of Algarve

Intern undergraduate students

| Student | Date | Internship Topic | University |
|----------------------------|-----------|---|---------------------------------|
| Soraia Santos (Supervisor) | 2010-2013 | Chemical communication in European eel. | University of Algarve, Portugal |

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| Samantha Pace (Supervisor) | 2013-2014 | Sea lamprey chemical communication. | Michigan State University, US |
| Michael Connolly (Supervisor) | 2014-2015 | Sea lamprey endocrinology. | Michigan State University, US |
| Isabella Jaime (Supervisor) | 2016-2018 | Sea Bass stress response. | Texas State University, US |
| Emily Arzola (Supervisor) | 2017-2018 | Goldfish reproductive behavior. | Texas State University, US |
| Cullen Sunnier (Supervisor) | 2017-2018 | Goldfish reproductive behavior. | Texas State University, US |
| Justin Cornuvier (Supervisor) | 2017-2018 | Goldfish reproductive behavior. | Texas State University, US |
| Hayden Stoeber (Supervisor) | 2016-2019 date | Striped Bass stress and goldfish olfaction. | Texas State University, US |
| Diego Valdez-Oranday (Supervisor) | 2018-2019 | Neurodegeneration in goldfish brain. | Texas State University, US |
| Travis Moore (Supervisor) | 2018-2019 | Guadalupe Bass stress. | Texas State University, US |
| James Hanna (Supervisor) | 2018-to 2020 | Florida Bass stress. | Texas State University, US |
| Isaac Trujillo (Supervisor) | 2019-to 2020 | Goldfish behavior. | Texas State University, US |
| Kafayat Oyejide (Supervisor) | 2019-to 2020 | Student stress and learning. | Texas State University, US |
| Ande Beasley (Supervisor) | 2019-to 2021 | Effect of nano plastics in olfaction | Texas State University, US |
| Kayla Hayes | 2019-to 2020 | Mussel physiology | Texas State University, US |
| Hanna Hugues (Supervisor) | 2021 | Aquaponics | Texas State University, US |

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| Iqra Amjad (Supervisor) | 2021 | Aquaponics | Texas State University, US |
| Elijah Wheat (Supervisor) | 2021-to date | Aquaponics | Texas State University, US |
| Will Ortiz (Supervisor) | 2021-to date | Aquaponics | Texas State University, US |
| Meg Grizzaffi (Supervisor) | 2022-to date | Trout behavior | Texas State University, US |
| Travis Anderson (Supervisor) | 2022-to date | Steroid biochemistry | Texas State University, US |

Current MS and PhD advisees

| Student | Date | Internship Topic | University |
|-----------------------------------|---------------|--|-------------------------------|
| Ashley Hendrix (supervisor) | 2019- to date | MS. Use of multimodal signals in species recognition and mating in mollies. | Texas State University, US |
| Maruf Billah (supervisor) | 2021-to date | PhD. Olfactory sensing of pathogens in zebrafish. | Texas State University, US |
| Ashley Franklin (supervisor) | 2021-to date | MS. Probiotics in catfish | Texas State University, US |
| Hanna Hugues (supervisor) | 2021-to date | MS. Nitrite effects in maternal transfer. | Texas State University, US |
| Chironjib Chandan (supervisor) | 2021- to date | PhD. Effects of handling stress in bass maternal transfer. | Texas State University, US |
| Teague, Christian | 2022-to date | Ms. Substitution of a conserved sequence in a duplicated myosin gene may lead to significant functional alteration. | Texas State University, US |

Postdoctoral advisees

| Name | Date | Internship Topic | University |
|------------------|--------------|--|---------------------------------|
| Allison Churcher | 2010-13 | Transcriptomics in eel | University of Algarve, Portugal |
| Laura Ellis | 2020-to date | Olfactory sensing of pathogens in zebrafish. | Texas State University, US |

III. SCHOLARLY/CREATIVE

A. Works in Print

H-index = 17, **i10-index** = 21, **RG-index** = 35.8

1. Books

Chapters in Books (3)

1. Raschka, S., Scott, A. M., **Huertas, M.**, Li, W., and Kuhn, L. A. (2018). Automated Inference of Chemical Discriminants of Biological Activity, In *Methods Mol Biol* ed., pp 307-338.
2. Davidson, Y. W. C., **Huertas, M.**, and Li, W. M. (2011). A Review of Research in Fish Pheromones, In *Chemical Communication in Crustaceans* (Breithaupt, T., and Thiel, M., Eds.), pp 467-482, Springer, New York.
3. Power, D. M., Guerreiro, P. M., Hubbard, P. C., **Huertas, M.**, and Morgado, I. M. (2010). Endocrinology applied to aquaculture of finfish, In *Recent advances in aquaculture research* (Koumondouros, G., Ed.), pp 1-55, Transworld Research Network, Kerala, India.

2. Articles

Refereed Journal Articles (29)

1. Miner, K.A., **Huertas, M.**, Aspbury, A.S., Gabor, C.R. (2021). Artificial light at night alters the physiology and behavior of western mosquitofish (*Gambusia affinis*). *Front Ecol Evol* 9, 69.
2. Buchinger, T., Scott, A., Fissette, S., Brant, C., **Huertas, M.**, Li, K., Johnson, N. and Li, W. (2020). A pheromone antagonist liberates female sea lamprey from a sensory trap to enable reliable communication. *PNAS* 117, (13) 7284-7289.
3. Nair, P., **Huertas, M.**, and Nowlin, W. H. (2020). Metabolic responses to long-term food deprivation in subterranean and surface amphipods. *Subterr Biol* 33, 1-15.
4. Sepahi, A., Kraus, A., Casadei, E., Johnston, C. A., Galindo-Villegas, J., Kelly, C., García-Moreno, D., Muñoz, P., Mulero, V., **Huertas, M.**, and Salinas, I. (2019).

- Olfactory sensory neurons mediate ultrarapid antiviral immune responses in a TrkA-dependent manner. *PNAS* *116*, 12428-12436.
5. Raschka, S., Scott, A. M., Liu, N., Gunturu, S., **Huertas, M.**, Li, W., and Kuhn, L. A. (2018). Enabling the hypothesis-driven prioritization of ligand candidates in big databases: Screenlamp and its application to GPCR inhibitor discovery for invasive species control. *J Comput-Aided Mol Des* *32*, 415-433.
 6. Li, K., Brant, C. O., **Huertas, M.**, Hessler, E. J., Mezei, G., Scott, A. M., Hoye, T. R., and Li, W. (2018). Fatty-acid derivative acts as a sea lamprey migratory pheromone. *PNAS* *115*, 8603-8608.
 7. Buchinger, T. J., Marsden, J. E., Binder, T. R., **Huertas, M.**, Bussy, U., Li, K., Hanson, J. E., Krueger, C. C., Li, W., and Johnson, N. S. (2017). Temporal constraints on the potential role of fry odors as cues of past reproductive success for spawning lake trout. *Ecol Evol* *7*, 10196-10206.
 8. Buchinger, T. J., Li, K., **Huertas, M.**, Baker, C. F., Jia, L., Hayes, M. C., Li, W. M., and Johnson, N. S. (2017). Evidence for partial overlap of male olfactory cues in lampreys. *J Exp Biol* *220*, 497-506.
 9. Buchinger, T. J., Bussy, U., Li, K., Wang, H., **Huertas, M.**, Baker, C. F., Jia, L., Hayes, M. C., Li, W., and Johnson, N. S. (2017) Phylogenetic distribution of a male pheromone that may exploit a nonsexual preference in lampreys. *J Evol Biol* *30*, 2244-2254.
 10. Smith, S. E., Sitar, S. P., Goetz, F. W., **Huertas, M.**, Simchik, C., Armstrong, B. M., Bartholomew, A., Chopra, K., and Murphy, C. A. (2016). Differential physiological response to sea lamprey parasitism between lake trout morphotypes (*Salvelinus namaycush*) from Lake Superior. *Can J Fish Aquat Sci* *73*, 1-15.
 11. Bussy, U., **Huertas, M.**, Chung-Davidson, Y. W., Li, K., and Li, W. M. (2016). Chemical derivatization of neurosteroids for their trace determination in sea lamprey by UPLC-MS/MS. *Talanta* *149*, 326-334.
 12. Brant, C. O., **Huertas, M.**, Li, K., and Li, W. M. (2016). Mixtures of two bile alcohol sulfates function as a proximity pheromone in sea lamprey. *Plos One* *11*.
 13. Li, K., **Huertas, M.**, Brant, C., Chung-Davidson, Y. W., Bussy, U., Hoye, T. R., and Li, W. M. (2015). (+)- and (-)-Petromyroxols: Antipodal tetrahydrofurandiols from larval sea lamprey (*Petromyzon marinus* l.) that elicit enantioselective olfactory responses. *Org Lett* *17*, 286-289.
 14. Churcher, A. M., Pujolar, J. M., Milan, M., **Huertas, M.**, Hubbard, P. C., Bargelloni, L., Patarnello, T., Marino, I. A. M., Zane, L., and Canario, A. V. M. (2015). Transcriptomic profiling of male European eel (*Anguilla anguilla*) livers at sexual maturity. *Comp Biochem Physiol E Genom Proteom* *16*, 28-35.
 15. Churcher, A. M., Hubbard, P. C., Marques, J. P., Canario, A. V. M., and **Huertas, M.** (2015). Deep sequencing of the olfactory epithelium reveals specific chemosensory receptors are expressed at sexual maturity in the European eel *Anguilla anguilla*, *Mol Ecol* *24*, 822-834.
 16. Bryan, M. B., Chung-Davidson, Y. W., Ren, J. F., Bowman, S., Scott, A. P., **Huertas, M.**, Connolly, M. P., and Li, W. M. (2015). Evidence that progestins play an important role in spermiation and pheromone production in male sea lamprey (*Petromyzon marinus*). *Gen Comp Endocrinol* *212*, 17-27.

17. **Huertas, M.**, Almeida, O. G., Canario, A. V. M., and Hubbard, P. C. (2014). Tilapia male urinary pheromone stimulates female reproductive axis. *Gen Comp Endocrinol* 196, 106-111.
18. Churcher, A. M., Pujolar, J. M., Milan, M., Hubbard, P. C., Martins, R. S. T., Saraiva, J. L., **Huertas, M.**, Bargelloni, L., Patarnello, T., Marino, I. A. M., Zane, L., and Canario, A. V. M. (2014). Changes in the gene expression profiles of the brains of male European eels (*Anguilla anguilla*) during sexual maturation. *BMC Genomics* 15.
19. Li, K., Brant, C. O., **Huertas, M.**, Hur, S. K., and Li, W. M. (2013). Petromyzonin, a hexahydrophenanthrene sulfate isolated from the larval sea lamprey (*Petromyzon marinus* L.). *Org Lett* 15, 5924-5927.
20. Hubbard, P. C., **Huertas, M.**, and Canario, A. V. M. (2012). The third Faro workshop bioactive water borne chemicals. *Behaviour* 149, 897-899.
21. **Huertas, M.**, Hagey, L., Hofmann, A. F., Cerda, J., Canario, A. V. M., and Hubbard, P. C. (2010). Olfactory sensitivity to bile fluid and bile salts in the European eel (*Anguilla anguilla*), goldfish (*Carassius auratus*) and Mozambique tilapia (*Oreochromis mossambicus*) suggests a 'broad range' sensitivity not confined to those produced by conspecifics alone. *J Exp Biol* 213, 308-317.
22. Scott, A. P., Hirschenhauser, K., Bender, N., Oliveira, R., Earley, R. L., Sebire, M., Ellis, T., Pavlidis, M., Hubbard, P. C., **Huertas, M.**, and Canario, A. (2008). Non-invasive measurement of steroids in fish-holding water: important considerations when applying the procedure to behaviour studies. *Behaviour* 145, 1307-1328.
23. **Huertas, M.**, Canario, A. V. M., and Hubbard, P. C. (2008). Chemical communication in the Genus *Anguilla*: a minireview. *Behaviour* 145, 1389-1407.
24. **Huertas, M.**, Hubbard, P. C., Canario, A. V. M., and Cerda, J. (2007). Olfactory sensitivity to conspecific bile fluid and skin mucus in the European eel *Anguilla anguilla* (L.). *J Fish Biol* 70, 1907-1920.
25. **Huertas, M.**, Scott, A. P., Hubbard, P. C., Canario, A. V. M., and Cerda, J. (2006). Sexually mature European eels (*Anguilla anguilla* L.) stimulate gonadal development of neighbouring males: Possible involvement of chemical communication. *Gen Comp Endocrinol* 147, 304-313. [**This research was highlighted in Journal of Experimental Biology by M. Danielle McDonald (2006). Is sexual maturation contagious? 209, p. V].**
26. **Huertas, M.**, and Cerda, J. (2006). Stocking density at early developmental stages affects growth and sex ratio in the European eel (*Anguilla anguilla*). *Biol Bull* 211, 286-296.
27. Scott, A. P., Pinillos, M. L., and **Huertas, M.** (2005). The rate of uptake of sex steroids from water by *Tinca tinca* is influenced by their affinity for sex steroid binding protein in plasma. *J Fish Biol* 67, 182-200.
28. Gisbert, E., Rodriguez, A., Cardona, L., **Huertas, M.**, Gallardo, M. A., Sarasquete, C., Sala-Rabanal, M., Ibarz, A., Sanchez, J., and Castello-Orvay, F. (2004). Recovery of Siberian sturgeon yearlings after an acute exposure to environmental nitrite: changes in the plasmatic ionic balance, Na⁺-K⁺ ATPase activity, and gill histology. *Aquaculture* 239, 141-154.
29. **Huertas, M.**, Gisbert, E., Rodriguez, A., Cardona, L., Williot, P., and Castello-Orvay, F. (2002). Acute exposure of Siberian sturgeon (*Acipenser baeri*, Brandt)

yearlings to nitrite: median-lethal concentration (LC50) determination, haematological changes and nitrite accumulation in selected tissues. *Aquat Toxicol* 57, 257-266.

Submitted papers (2)

1. Kraus, A., Casadei, E., **Huertas, M.**, Ye, C., Bradfute, S.B., Boudinot, P., Levraud, J.-P., Salinas, I. (2021). A zebrafish model for COVID-19 recapitulates olfactory and cardiovascular pathophysiologicals caused by SARS-CoV-2. *Brain, Behavior and Immunity*.
2. Whitney E. Ortiz, **Mar Huertas**, Camila Carlos-Shanley.(2021). Impact of sublethal concentrations of nitrite on goldfish (*Carassius auratus*) microbiomes. *Microbial Ecology*.

Conference papers in Journals (26)

1. Hendrix, A., and **Huertas, M.** (2020). Multimodal communication modulates swimming behavior in sailfin molly (*Poecilia Latipinna*), In *FASEB 34*, 1-1.
2. Mancha, F. and **Huertas, M.** (2020). Tracing the Olfactory Circuit of Bacteria and Virus in Rainbow Trout (*Oncorhynchus mykiss*), In *FASEB 34*, 1-1.
3. Oyejide, K., Hanna, J., Daniel, K. and **Huertas, M.** (2020). Can Classrooms Have an Impact on Student Stress?, In *FASEB 34*, 1-1.
4. Hanna, J., Pragnell, D., Matthews, M. and **Huertas, M.** (2020). Maternal Stress Effects on Hatching Success and Larval Malformation Prevalence in Palmetto Bass, In *FASEB 34*, 1-1.
5. Trujillo, I., Martinez, M., and **Huertas, M.** (2020). Behavioral Effects of Nitrite on Goldfish (*Carassius auratus*), In *FASEB 34*, 1-1.
6. Martinez, M., Gomes, A., Mancha, F. C. and **Huertas, M.** (2020). Toxicokinetic of sublethal concentrations of nitrite in goldfish (*Carassius auratus*), In *FASEB 34*, 1-1.
7. Ortiz, W., Carlos-Shanley, C. and **Huertas, M.** (2020). The impacts of sublethal nitrite exposure on goldfish (*Carassius auratus*) microbiomes, In *FASEB 34*, 1-1.
8. Valdez-Oranday, D. F., Martinez, M., and **Huertas, M.** (2019). Biomarkers of neurodegeneration in goldfish exposed to nitrite, In *FASEB 33*, 662.613-662.613.
9. Stoeber, H., and **Huertas, M.** (2019). Effects of polystyrene nanoplastics on goldfish olfactory function, In *FASEB 33*, b616-lb616.
10. McKenna, B., Gabor, C. R., and **Huertas, M.** (2019). Conspecific chemical communication in a live-bearing fish, *Poecilia latipinna*, In *Integr Comp Biol.* 59
11. Martinez, M., and **Huertas, M.** (2019). Nitrite disruption in olfaction and internal physiology in goldfish (*Carassius auratus*), In *FASEB 33*, 813.817-813.817.
12. Mancha, F., Salinas, I., and **Huertas, M.** (2019). Neural circuits and olfactory responses to neurotropic viruses in trout, In *FASEB 33*, lb618-lb618.
13. Daniel, K., Mac Crossan, A., and **Huertas, M.** (2019). Student hormonal stress responses in two learning environments, In *European Science Education Research Association*, Bologna, Italy.

14. Bristow, M. L., Gabor, C., and **Huertas, M.** (2019). Conspecific chemical cues modulate reproductive physiology and behavior in a live-bearing fish, In *FASEB 33*, 1b429-1b429.
15. Sepahi, A., Kraus, A., Galindo-Villegas, J., Kelly, C., Garcia-Moreno, D., Mulero, V., **Huertas, M.**, and Salinas, I. (2018). The immunological role of crypt olfactory neurons against neurotropic viruses in teleost fish, In *J Immunol*, 173.115-173.115.
16. Martinez, M., and **Huertas, M.** (2018). Effects of nitrite in goldfish (*Carassius auratus*) olfactory function, In *FASEB 32*, 692.698,.
17. Buchinger, T. J., Bussy, U., Wang, H., Baker, C. F., **Huertas, M.**, Jia, L., Hayes, M. C., Li, W., and Johnson, N. S. (2017). Evolution of pheromone communication in lampreys, In *Integr Comp Biol 57*, E213-E213.
18. Kuhn, L. A., Liu, N., Scott, A., Gunturu, S., Raschka, S., **Huertas, M.**, and Liu, W. (2014). Screening and identifying pheromone receptor antagonists for invasive species control, In *Abstracts of Papers of the American Chemical Society 248*.
19. Scott, A. M., **Huertas, M.**, Liu, N., Gunturu, S. K., Kuhn, L. A., and Li, W. (2013). Development of pheromone antagonists for sea lamprey control, In *Soc Neuro 43*.
20. **Huertas, M.**, Buchinger, T., Li, W., and Johnson, N. (2013). Olfactory sensitivity to pheromone 3-ketopetromyzonol sulfate and bile acids in several lamprey species, In *Soc Neuro 43*.
21. **Huertas, M.**, Hubbard, P. C., and Canario, A. V. M. (2011). Steroidogenesis dynamics during maturation in the male European eel, In *Proceedings of the 9th International Symposium on Reproductive Physiology of Fish 147-148*.
22. **Huertas, M.**, Canario, A. V. M., and Hubbard, P. C. (2011). Olfactory sensitivity to Ca²⁺ and Na⁺ in the European eel (*Anguilla anguilla*), In *Chem Senses 36*, E67-E68.
23. Hubbard, P. C., **Huertas, M.**, Almeida, O. G., and Canario, A. V. M. (2011). Male tilapia urinary pheromone induces endocrine sex responses in conspecific females., In *Proceedings of the 9th International Symposium on Reproductive Physiology of 98-99*.
24. **Huertas, M.**, Canario, A. V., and Hubbard, P. C. (2009). Follow your nose: Chemical communication throughout the European eel (*Anguilla anguilla*, L.) life-cycle, In *Comp Biochem Physio A-Mol Integr Physio.153A*, pp S90-S90.
25. **Huertas, M.**, Canario, A. V. M., and Hubbard, P. C. (2008). changes in olfactory sensitivity during the european eel (*Anguilla Anguilla*) Life Cycle, In *Chem Senses 33*, p S150.
26. **Huertas, M.**, Hubbard, P. C., Scott, A. P., Canario, A. V. M., and Cerda, J. (2005). Evidence for involvement of chemical communication in reproduction of the eel *Anguilla anguilla*, In *Comp Biochem Physiol A-Mol Integr Physiol141*, S90-S90.

B. Works not in print

1. Papers/posters presented at national and international meetings (46)

1. Hughes, H. M., Amjad, I., Smith, S., Wheat, E., Akanda, M. M. H., Asiabanpour, B., **Huertas Pau, M.**, (2021). Creating, Maintaining, and Automating a Mid-Scale Aquaponic System. Aquaculture America. August. San Antonio, TX, US.

2. Beasley, A. and **Huertas, M.** (2020). Do different classrooms have an effect on student stress? SURE symposium, Texas State University, San Marcos, US, November 2020.
3. Ortiz, W.E., **Huertas, M.** and Carlos-Shanley, C. (2019). Characterization of the goldfish (*Carassius auratus*) nasal, gut, and gill microbiomes. S Texas branch - American Society of Microbiology. November 8th. San Antonio, TX, US.
4. Oyejide, K. and **Huertas, M.** (2019). Can learning environments have impact in student stress? SURE symposium, Texas State University, San Marcos, US, August 2019.
5. Scott, A.E., Calton, S., **Huertas, M.**, Lindsay, C. and Huffman, D.G. (2019). Hematological indicators of physiological stress as a result of parasitism in blacktail shiner, and conservation implications of invasive trematodes in Texas spring systems. Joint Annual Conference of the American Fisheries Society and the Wildlife Society. October. Reno, NV, US.
6. Melody, M., and **Huertas, M.** Nitrite disruption in olfaction and internal physiology in goldfish (*Carassius auratus*). (2019). Experimental Biology meeting 2019. April 6-9th, Orlando, Florida, US.
7. Bristow, M. and **Huertas, M.** Conspecific chemical cues modulate reproductive physiology and behavior in a live-bearing fish. (2019). Experimental Biology meeting 2019. April 6-9th, Orlando, Florida, US.
8. Mancha, F., Salinas, I., and **Huertas, M.** Neural circuits and olfactory responses to neurotropic viruses in trout. (2019). Experimental Biology meeting 2019. April 6-9th, Orlando, Florida, US.
9. Stoeber, H. and **Huertas, M.** Effects of polystyrene nanoplastics on goldfish olfactory function. (2019). Experimental Biology meeting 2019. April 6-9th, Orlando, Florida, US.
10. Valdez-Oranday, D., Melody, M., Stoeber, H., and **Huertas, M.** (2019). Biomarkers of neurodegeneration in goldfish exposed to nitrite. Experimental Biology meeting 2019. April 6-9th, Orlando, Florida, US.
11. Nair, P., **Huertas, M.** and Nowlin, W (2019). Metabolic responses to long-term food deprivation in subterranean and surface amphipods. Society for Freshwater Science, 19-23rd May, Salt Lake City, Utah, US.
12. Bristow, M., C. Gabor and **M. Huertas.** Conspecific chemical cues modulate reproductive physiology and behavior in a live-bearing fish. SICB, 3th-7th January, 2019, Tampa, Florida.
13. Valdez-Oranday, D., M. Martinez and **M. Huertas.** Nitrite is an Olfactory Disruptor in Goldfish (*Carassius auratus*). SURE symposium, Texas State University, San Marcos, US, August 2018.
14. Bristow, M., B. Jaime, C. Gabor and **M. Huertas.** Chemical communication modulates reproduction in the sailfin molly. ISRPF 2018, 4th-9th June, Manaus, Brazil.
15. Martinez, M. and **M. Huertas.** Effects of nitrite in goldfish (*Carassius auratus*) olfactory function. Experimental biology meeting April 21–25, 2018 - San Diego, California.

16. Jaime, I., D. I. Prangnell, M. D. Matthews and M. Huertas. Effects of maternal stress on striped bass (*Morone saxatilis*) larvae malformations. WISE symposium, Texas State University, San Marcos, US, March 2018.
17. Bristow, M., C. Gabor and **M. Huertas**, Joint meeting of ichthyologists and herpetologists, "A characterization of sex pheromone response in *Poecilia latipinna*," JMIH, Renaissance, July 12, 2017, Austin, TX, United States.
18. Scott, A., **M. Huertas**, N. Liu, S. Gunturu, S. Raschka, L. A. Kuhn, and W. Li. Identification of pheromone receptor antagonists for invasive sea lamprey control'. International Congress on the Biology of Fish, Heriot-Watt University, UK, 3-7 August, 2014.
19. Raschka, S., N. Liu, S. Gunturu, A.M. Scott, **M. Huertas**, W. Li and L.A. Kuhn. A Hypothesis-Driven Virtual Screening Methodology for Structure-Based Inhibitor Discovery. Quantitative Biology Symposium, Michigan State University, East Lansing, August 18, 2014.
20. **Huertas, M.**, T. Buchinger, W. Li, and N.J. Johnson. Olfactory sensitivity to pheromone 3-ketopetromyzonol sulfate and bile acids in several lamprey species. Neuroscience 2013, Nov 9-13th, San Diego, CA, USA.
21. Scott, A., **M. Huertas**, N. Liu, S. Gunturu, L. Kuhn, and W. Li. Development of pheromone antagonists for sea lamprey control. Neuroscience 2013, Nov 9-13th, San Diego, CA, USA.
22. Churcher, A.M., P.C. Hubbard, A.V.M. Canário and **M. Huertas** (2013) Differential gene expression in the olfactory epithelium of the European eel *Anguilla anguilla*. XIV European Society for Evolutionary Biology meeting. 19th -24th August, Lisbon, Portugal.
23. Gunturu, S., A. Scott, **M. Huertas**, W. Li, and L. Kuhn (2013). Discovery of 3kPZS Antagonists for Sea Lamprey Control. Biochemistry and Molecular Biology Undergraduate Poster Session, April 19, 2013 in Michigan State University. East Lansing, US. S.
***S. Gunturo winner of Michigan society of toxicology poster prize.**
24. Churcher, A.M., W. Li, S. Libants, A. Coppe, L. Zane, A.V.M. Canário and **M. Huertas** (2012). Characterization of chemosensory receptors in the olfactory epithelium of the European eel *Anguilla anguilla*. Society of Experimental Biology meeting 2012, Salzburg, Austria. June 29th- July 2nd.
25. Santos, S.G., P.C. Hubbard and **M. Huertas**. (2012). Changes in olfactory epithelial structure according to physiological state in European eel (*Anguilla Anguilla*). Society of Experimental Biology meeting 2012, Salzburg, Austria. June 29th- July 2nd.
26. Santos, S.G., P.C. Hubbard and **M. Huertas** (2011). Changes in olfactory epithelial structure according to physiological state in European eel (*Anguilla anguilla*). Workshop: Bioactive Water Borne Chemicals: Pheromones and Welfare Indicators in Fish, Faro, Portugal.
27. **Huertas, M.**, P.C. Hubbard and A.V.M. Canário (2011). Steroidogenesis dynamics during maturation in the male European eel. 8th International Symposium on Reproductive Physiology of Fish, Kochin, India.

28. **Huertas, M.**, D. Pereira, S. Silva, A.V. M. Canário and P.C. Hubbard (2011). Anosmia impairs reproduction in the Mozambique tilapia. 8th International Symposium on Reproductive Physiology of Fish, Kochin, India.
29. **Huertas, M.**, A.V.M. Canário and P.C. Hubbard (2010). Olfactory sensitivity to Ca²⁺ and Na⁺ in the European eel (*Anguilla anguilla*). *ECRO 2010* (European Chemoreception Research Organization). Avignon. France.
30. **Huertas, M.** and Weiming Li (2009). Is there a steroid binding protein system in the sea lamprey? 16th International Congress of Comparative Endocrinology 2009. Hong Kong. China.
31. **Huertas, M.**, P.C. Hubbard and A.V.M. Canário (2009). Novel sex steroid production in testicular tissue of the European eel (*Anguilla anguilla*, L.). 16th International Congress of Comparative Endocrinology 2009. Hong Kong. China.
32. **Huertas, M.**, A.V.M. Canário and P.C. Hubbard (2008). Changes in olfactory sensitivity during the European eel (*Anguilla anguilla*) life cycle. *XV International symposium on olfaction and taste*. San Francisco, USA.
33. Pereira, D., **M. Huertas**, P.C. Hubbard, A.V.M. Canário (2008). Efeito da anosmia na endocrinologia de machos de tilápia moçambicana (*Oreochromis mossambicus*, Peters). Universidade do Algarve student congress. Faro. Portugal. ***Best student poster award of biology society to Diana Pereira.**
34. **Huertas, M.**, J. Cerdá (2007). Stocking density at early developmental stages affects growth and sex ratio in the European eel (*Anguilla anguilla*). 8th International Symposium on Reproductive Physiology of Fish, Saint-Malo, France.
35. **Huertas, M.**, J. Cerdá, A.V.M. Canário and P.C. Hubbard (2006). A role for bile acids in inter-specific communication in teleosts? VIIth International Congress of the Biology of Fish, Newfoundland, Canada.
36. **Huertas, M.**, P.C. Hubbard, A.P. Scott, A.V.M. Canário and J. Cerdà (2005). Evidence for involvement of chemical communication in reproduction of the eel *Anguilla anguilla*. Annual Main Meeting of the Society for Experimental Biology, Barcelona, Spain.
37. **Huertas, M.**, A.P. Scott and J. Cerdà (2004). Partial characterization of a plasma steroid binding protein in the European eel (*Anguilla anguilla*). 5th International Symposium on Fish Endocrinology, Castellón, Spain.
38. **Huertas, M.**, A.P. Scott and J. Cerdà (2004). Evidence for the existence of a male-secreted pheromone that stimulates gonad maturation in the European eel. 5th International Symposium on Fish Endocrinology, Castellón, Spain.
39. Calderer, A. Rodríguez, M. Huertas, L. Cardona and F. Castelló (2003). Evaluación del impacto ambiental del cultivo intensivo de dorada (*Sparus aurata*) en jaulas flotantes en el litoral catalán. IX^o Congreso Nacional de Acuicultura, Cádiz, Spain.
40. **Huertas, M.**, F. Castelló-Orvay and J. Cerdà (2003). Análisis del crecimiento y la composición bioquímica de la angula (*Anguilla anguilla*) durante el proceso de metamorfosis en condiciones intensivas de cultivo. IX^o Congreso Nacional de Acuicultura, Cádiz, Spain.
41. **Huertas, M.**, J. Cerdà and F. Castelló-Orvay (2002). Determination of a critical period for dietary changes during the early growth of glass eels (*Anguilla*

- anguilla*). Aquaculture Europe 2002: Seafarming: today and tomorrow, Trieste, Italy. ***First award of European aquaculture society to M. Huertas.**
42. **Huertas, M.**, J. Cerdà, A. Estévez y F. Castelló-Orvay (2001). Estudio del crecimiento de la angula (*Anguilla anguilla*) bajo diferentes condiciones de temperatura, salinidad y dieta: resultados preliminares. VIII° Congreso Nacional de Acuicultura, Santander, Spain.
 43. Rodríguez, M. Huertas, E. Gisbert, Rodríguez, A. y F. Castelló-Orvay (2001). Efecto del ayuno sobre juveniles de esturión siberiano (*Acipenser baeri*). VIII° Congreso Nacional de Acuicultura, Santander, Spain.
 44. **Huertas, M.**, E. Gisbert, A. Rodríguez, L. Cardona y F. Castelló-Orvay (2001). Aproximación a la toxicocinética y toxicodinámica de una exposición aguda de nitritos en individuos de esturión siberiano (*Acipenser baeri*). VIII° Congreso Nacional de Acuicultura, Santander, Spain.
 45. **Huertas, M.**, E. Gisbert, L. Cardona, A. Rodríguez y F. Castelló-Orvay (1999). Determinación de la LC₅₀ de nitritos en juveniles de esturión siberiano (*Acipenser baeri*): Evolución de parámetros sanguíneos. VII° Congreso Nacional de Acuicultura, Canarias, Spain.
 46. **Huertas, M.**, E. Gisbert, L. Cardona, A. Rodríguez and F. Castelló-Orvay. Acute toxicity of nitrite to Siberian sturgeon (*Acipenser baeri*) -preliminary results (1998). Aquaculture Europe 1998, Bordeaux, France.

2. Invited Talks, Lectures and Presentations (26)

1. Ortiz, W.E. (presenter), **Huertas, M.** and Carlos-Shanley, C. (2021). The impacts of sublethal nitrite exposure on goldfish microbiomes. Aquaculture America. August. San Antonio, TX, US.
2. **Huertas, M.**, Conkle, J. and Sayes, CM. Effects of microplastics in olfactory function of Texas bass species. (2021). 2021 Texas Plastic Pollution Symposium.
3. **Huertas, M.**, Martinez, M., Valdez-Oranday, D., and Stoeber, H. (2019). Environmental nitrite disrupts goldfish olfaction. Society of Experimental Biology. Sevilla, Spain. June 5th-10th.
4. Prangnell, D. (presenter), Matthews, M., Jaime, B. and **Huertas, M.** (2019). The impact of maternal stress on *Micropterus* spp. Biochemistry and fry performance. Aquaculture 2019. .March 7-10th. New Orleans, US.
5. **Huertas, M.** (2018). Fish nose as a biosensor for chemical signals, olfactory disruptors and pathogens. September 24th. Department of Chemistry and Biochemistry. Texas State University, US.
6. **Huertas, M.**, M. Martinez, A. Sepahi and I. Salinas. (2018). Olfactory sense as a portal of nerve disruptors and pathogens. 13th International Congress on the Biology of Fish, Calgary, Canada. July 15-19th.
7. **Huertas, M.** and W. Li (2016). The irresistible smell: applications of electrophysiology in lamprey pheromone research. 12th International Congress on the Biology of Fish, San Marcos, US. June 12-16th.
8. **Huertas, M.** (2016). Love at first sniff: Pheromones and other smelly stories. Department of Biology. Texas State University, US.

9. **Huertas, M.** (2015). Love at first sniff: the alluring world of lamprey pheromones. Department of Biology. University New Mexico, US.
10. **Huertas, M.**, S. Pace, H. Wang, U. Bussy and W. Li. (2014). Evidence for a lack of high affinity steroid binding protein in the sea lamprey. 10th International Symposium on Reproductive Physiology of Fish, Olhão, Portugal. 25-30th May 2014.
11. Kuhn, L.A. (presenter), N. Liu, A. Scott, S. Gunturu, S. Raschka, **M. Huertas**, and W. Li. (2014) "Screening and Identifying Pheromone Receptor Antagonists for Invasive Species Control", talk for ACS Division of Environmental Chemistry Session: Great Lakes Restoration Initiative: An Environmental Chemistry Challenge", 248th ACS National Meeting and Exposition San Francisco, CA, August 10-14th, 2014.
12. Churcher, A.M. (presenter), P.C. Hubbard, **M. Huertas** and A.V.M. Canario. (2014) Differential gene expression in the olfactory epithelium of *Anguilla anguilla*. *Eel genome meeting 2014*, 16-17th January Amsterdam, Netherlands.
13. **Huertas, M.** (2013). The amazing life cycle of the European eel". Biological Sciences Department. University of Windsor, Canada.
14. **Huertas, M.**, Canario, A.V.M. and Hubbard, P.C. (2012). Olfactory transduction in fish: do fish smell the same way as mammals? Society of Experimental Biology meeting 2012, Salzburg, Austria. June 29th- July 2nd.
15. **Huertas, M.**, Canario, A.V.M. and Hubbard, P.C. (2012). Is olfaction an osmoregulatory sense in European eel? 10th International Congress on the Biology of Fish, Madison, US. July 15th-19th.
16. **Huertas, M.**, Almeida, O.G., A.V.M. Canário and P.C. Hubbard (2011). Male tilapia urinary pheromone induces endocrine sex responses in conspecific females. Workshop: Bioactive Water Borne Chemicals: Pheromones and Welfare Indicators in Fish, Faro, Portugal.
17. Hubbard, P.C. (presenter), **M. Huertas** and Adelino V.M. Canário (2011). Olfactory sensitivity to inorganic cations in fish: possible mechanism. Workshop: Bioactive Water Borne Chemicals: Pheromones and Welfare Indicators in Fish, Faro, Portugal.
18. Hubbard P.C. (presenter), **M. Huertas**, O.G. Almeida and A.V.M. Canário(2011). Male tilapia urinary pheromone induces endocrine sex responses in conspecifics females. 9th International Symposium on Reproductive Physiology of Fish, Cochin, India.
19. **Huertas, M.**, A.V.M. Canário and P.C. Hubbard (2011). Sniffing the aquatic media: Is olfactory sensitivity to Ca²⁺ and Na⁺ related to osmoregulation in the eel? Society of Experimental Biology 2011. Glasgow. Scotland.
20. **Huertas, M.**, A.V.M. Canário and P.C. Hubbard (2009). Follow your nose: Chemical communication throughout the European eel (*Anguilla anguilla*, L.) life-cycle. Society of Experimental Biology 2009. Glasgow. Scotland.
21. **Huertas, M.**, (2009) Reproduction in eel: The example of an amazing life cycle. *Seminarios do CCMAR*. Faro 2009. Portugal.
22. **Huertas, M.**, A.V.M. Canário and P.C. Hubbard (2008). Changes in olfactory sensitivity during the European eel (*Anguilla anguilla*) life cycle. Aquaculture Europe 2008. Krakow, Poland.

23. **Huertas, M.**, I. Morgado, J. Cerda, A.P. Scott and D.M. Power (2007). Characterization of sex steroid binding systems in eel plasma. Special EAS Thematic Group Workshop on European Eel Reproduction, Istanbul, Turkey.
24. **Huertas, M.**, J. Cerda, A.P. Scott, A.V.M. Canario and P.C. Hubbard (2007). Olfaction in the eel: state of the art and future perspectives. Workshop: Bioactive Water Borne Chemicals: Pheromones and Welfare Indicators in Fish, Faro, Portugal.
25. **Huertas, M.**, J. Cerda, A.P. Scott, A.V.M. Canario and P.C. Hubbard (2007). Olfaction in the eel: importance to reproduction. Special EAS Thematic Group Workshop on European Eel Reproduction, Istanbul, Turkey.
26. **Huertas, M.**, Miranda, J. Cerdá, A.V.M. Canário and P.C. Hubbard (2005). Olfactory sensitivity to bile fluids and bile acids in teleost: a comparative study. V Congresso Associação Ibérica de Endocrinologia Comparativa, Faro, Portugal.

3. International researchers hosted (2)

Dr Ana Gomes. University of Bergen. Portugal. June to August 2018.

Dr Peter Hubbard. Univeristy of Algarve. Portugal. June to July 2018.

C. Grants and Contracts

1. Funded and submitted External Research Grants

- 2021 (*Submitted*) **National Science Foundation**. CAREER: Environmental nitrite is a nitric oxide donor that modulates fish olfactory function. Principal Investigator Dr. Mar Huertas. Amount requested \$981,890.
- 2021 **U.S. Department of Agriculture**. *USDA-NIFA-SRGP-007192*. Development of nasal and gut probiotic to protect intensive catfish culture against *edwardsiella ictaluri* infections. Principal Investigator Dr. Mar Huertas and co-Principal Investigator Dr. Dr. Carlos-Shanley. Amount funded \$286,667.
- 2020 **U.S. Department of Agriculture**. Bluewater: a smart circular economy for integrated organic hydroponic-aquaponic farming to empower an underrepresented workforce. Co-Principal Investigator Dr. Mar Huertas and Dr. Nicole Wagner, Principal investigator Dr. Bahram Asiabanpour. Amount funded \$250000.
- 2018 **National Science Foundation**. A portal into the brain: olfactory crypt neurons modulate brain viral immunity in teleost, National Science Foundation, Federal. Co-Principal Investigator Dr. Mar Huertas, Principal investigator Dr. Irene Salinas. Amount funded \$625,000

- 2014 ***Great Lakes Fisheries Commission Project***, program of research for 2015. Project “Structure and function of sea lamprey pheromone components (Phase II)”. Co-Principal Investigator Dr. Mar Huertas and Dr. Ke Li, Principal investigator Dr Weiming Li. Amount funded \$327,082
- 2012 ***Great Lakes Fisheries Commission Project, Technical assistance proposal***. Technical Assistance to Support EOG Experiments for Development of Additional Sea Lamprey Control Agents. Principal investigator Dr. Weiming Li, Senior Research Associate Dr. Mar Huertas. Amount funded \$224,227.
- 2009 ***Fundação para a Ciência e a Tecnologia (FCT)***, Portugal, national call for research and development. PTDC/MAR/113608/2009 Characterization of olfactory plasticity in the European eel (from February 2011 to February 2014). Principal Investigator Dr. Mar Huertas. Amount funded €140,052.
- 2008 ***Technology platform consumables grant at Max Planck Institute, Germany***. Marine Genomics Europe Technology Platforms: Sequencing of normalized library from European eel olfactory epithelia from several reproductive stages. Principal Investigator Dr. Mar Huertas. Amount funded €5,750
2. Submitted but not Funded External Grants and Contracts
- 2021 ***U.S. Department of Agriculture. USDA-NIFA-AFRI***. Characterizing the endocrine-immunity maternal factor transfer across bass species after handling stress. Principal Investigator Dr. Mar Huertas. Amount requested \$616,968.
- 2021 ***Sea Grant***. BASSNOSMIC: Effects of sub lethal nitrite exposure in bass species olfaction. Principal Investigator Dr. Laura V Ellis and co-Principal Investigator Dr. Mar Huertas. Amount requested \$237,595.
- 2020 ***National Science Foundation. CAREER***: Environmental nitrite is a nitric oxide donor that modulates fish olfactory function. Principal Investigator Dr. Mar Huertas. Amount requested \$1,175,451.
- 2020 ***WiSTEM2D Scholars Award Program***. IMMUNOSMIC: Unraveling the integration of olfactory-immune function and associated anosmia. Principal Investigator Dr. Mar Huertas. Amount requested \$150,000.
- 2020 ***Pollaris Microscope***, Leica Microsystems.
- 2020 ***USDA-NIFA-EGP- 10.519***. Acquisition of a beta-counter and luminometer MicroBeta2 LumiJET for the efficient establishment of advanced physiological studies in animals and plants., Principal Investigator Dr. Mar Huertas, Asiabanpour, Bahram (Co-Principal), Carlos-Shanley, Camila (Co-Principal), Fritts, Sarah R. (Co-Principal), Dutton, Jessica (Co-Principal), Gabor, Caitlin (Co-Principal), Garcia, Dana M. (Co-Principal), Kang, Hong Gu (Co-Principal),

Lewis, Karen A. (Co-Principal), McLean, Robert J. C. (Co-Principal), Nowlin, Weston H. (Co-Principal). Amount requested: \$125,910.00.

2020 **U.S. Department of Agriculture.** Corredores: a national thesis competition leading towards career opportunities in the USDA. Co-Principal Investigator Dr. Mar Huertas, Principal investigator Dr. Dana Garcia. Amount requested \$275,000.

2019 **Texas Parks and Wildlife Department.** Impact of environmental contaminants on unionid mussels in the Rio Grande. Principal Investigator: Dutton, J. Co-Principal Investigators: Conkle, J., Huertas, M., Schwalb, A.N. Amount requested: \$147,344.

2019 **USDA NIFA Program.** Development of nasal probiotic to protect catfish against *Edwardsiella ictaluri* infections. Principal Investigator: Carlos-Shanley, C. Co-Principal Investigator: Huertas, M. Amount requested: \$175,615.00.

2019 **Spencer Foundation Grants.** Student hormonal stress responses in two learning environments. Principal Investigator: Daniel, K. L. (Principal), Co-Principal Investigator: Huertas, M. Amount requested: \$49,809.

2017 **Strategic Environmental Research and Development.** limited scope proposal: monitoring and remediating contaminated sediments using recyclable magnetic-supported cucurbiturils. Program. Principal Investigator Dr. Mar Huertas. Co-Principal Investigator: Dr. Jessica Dutton, Dr. Weston Nowlin, Dr. Lyle d. Isaacs. Amount requested \$199,800.

2017 **PIRE-National Science Foundation:** Multifaceted approach to understanding the effects of landscape conversion on fish communities with focus on livebearing fish in Mexico and the USA. Co-Principal Investigator Dr. Andrea Aspbury, Dr. Mar Huertas, Dr. Tim Bonner, Dr. Jeremy Conkle, Dr. Principal Investigator Dr. Caitlin Gabor. Amount requested \$4,000,000

2016 **MIR-NSF:** Letter of intent. Major Research Instrumentation Program: Acquisition of multiphoton imaging capability at Texas State University San Marcos. Principal Investigator Dr. Mar Huertas. Amount requested \$864,810

2016 **National Science Foundation.** Full proposal. Neuroimmune responses triggered by olfactory detection of pathogens in vertebrates. Co-Principal Investigator Dr. Mar Huertas, Principal Investigator Dr. Irene Salinas Amount requested \$772,035

3. Funded Internal Grants and Contracts

2021 **Texas State University, FY21 ORSP Research Accelerator Awards.** Project: Effects of aquatic nitrite on maternal immune transfer and offspring development in a live-bearing species. Principal investigator: Mar Huertas, co-PI: Dr. Lauren Fuess and Dr. Caitlin Gabor. Amount funded \$16,487.

2017 **Texas State University**, FY17 Research Enhancement Program Awards. Project: Characterization of sex pheromone response in sailfin mollies. Principal investigator: Mar Huertas, co-PI: Dr. Caitlin Gabor. Amount funded: \$16,000

4. Not funded Internal Grants and Contracts

2019 **International Research Accelerator**. Huertas Pau, Maria del Mar (Principal), Hubbard, Peter C. (Co-Principal), Texas State University - San Marcos, Texas State University. Amount requested \$15,000

2019 **Multidisciplinary internal research grant**. Huertas Pau, Maria del Mar (Principal), William (Co-Principal). Texas State University - San Marcos, Texas State University. Amount requested \$22,700

2018 **Texas State University**, FY19 Research Enhancement Program Awards. Project: Student Hormonal Stress Responses in Two Learning Environments. Principal investigator: Daniel, Kristy L., co-PI: Dr. Huertas Pau, Maria del Mar. Amount requested: \$16,000.

D. Fellowships, Awards, Honors

2021-22 **NMRN writing NIH projects fellowship**. NMRN, US.

2020 **Teaching Award Honor**, Texas State University, US.

2018-21 **SURE mentor**. June to August. TXST, US.

2018 **E. Kika de la Garza fellowship**. June 2018 (16 June to July 6). USDA, US.

2014 **Post-doctoral travelling fellowship** from the Post-Doctoral Association (PDA) at Michigan State University, US.

2007 **Journal of Experimental Biology travelling fellowship**, Awards 2007, UK.

2006-12 **Post-doctoral fellowship** from Fundação para a Ciência e a Tecnologia, Portugal.

2001-05 **Pre-doctoral fellowship** from the Instituto Nacional de Investigaciones Agrarias, Spain.

2002 **Best student poster award** of European Aquaculture Society, Italy

2000-01 **Research in practise fellowship** of Centre of Reference in Aquaculture contract (Generalitat of Catalunya), Spain

IV. SERVICE

A. Institutional

1. University

- **U-Rise Preceptor**. NIH undergraduate program at TXST 2021 to date.

- **SACNAS mentor** at Texas State University from 2018 to date.
- **Justice, Equity, Diversity and Inclusion committee** at the Biology Department, Texas State University from 2020 to date (chair in 2021).
- **Secretary of MSU Postdoctoral association** from April 2015 to 2016. Michigan State University.

2. Department

- **Committee evaluation for SURE 2018-21.** Texas State University
- **Committee evaluation for WISE posters 2018-20.** Texas State University
- **Spanish translator and member committee for SWAN conference 2018.** Texas State University
- **Member, Committee 3 PhD Thesis.** (2018-2020). Biology Department. Texas State University.
- **Member, Committee 6 Master Thesis.** (2017 - 2020). Biology Department. Texas State University.
- **Member, Grant committee Schulze Prize.** 2017 to date. Texas State University.
- **Member, Grant Committee Chuck Nash Aquatic Studies Prize.** 2017 to date. Texas State University.
- **Coordinator / Organizer Seminars** at Department of Biology at Texas State University (Fall 2016, Spring 2017, Fall 2018). San Marcos, TX, United States.

B. Professional

Reviewer / Referee

Current reviewer for Journals Fishes, Comparative Endocrinology and Experimental Biology.

Reviewer / Referee for Natural Sciences and Engineering Research Council of Canada. Canada (years 2019 and 2020).

Reviewer / Referee for a European PhD Panel, Polytechnic University of Valencia. Valencia, Spain. (November 2016 - January 2017).

Reviewer / Referee for National Grant Proposal, National Argentinian Foundation for Scientific Research and Technology. Argentina. (October 2016 - January 2017).

Organizations of which i am a member

Member of the Aquaponics Association since 2021.

Member of Society of Environmental Toxicology and Chemistry since 2020.

Member of the American Society of Physiology since 2016.

Member of the Society Experimental Biology since 2008.

Professional Development

- **Teaching Development and Training Activities Attended**

- **Continuing Education Program**

- Program for Excellence in Teaching and Learning, Texas State University (September 1, 2016 - April 27, 2017).
 - Certification in College Teaching at Michigan State University Graduate School (2015).
 - Certificate of Pedagogic Aptitude. University Polytechnic of Catalunya (UPC), Barcelona, Spain (2000).

- **Workshop**

- Advanced TRACS for new faculty orientation, Texas State University, San Marcos, TX, United States (January 13, 2017).
 - “Do your students get it? Find out with student response systems”. Texas State University (2016).

- **Scholarly / Creative Development and Training Activities Attended**

- **Workshop**

- Competing for Funding at the National Science Foundation, Texas State University, San Marcos, TX, United States (January 12, 2017).