

# Robert Joseph Griffitt

## *Curriculum Vitae*

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### EDUCATION

<i>Institution</i>	<i>Degree</i>	<i>Completed</i>	<i>Field of Study</i>
University of South Carolina	Ph.D.	2006	Environmental Health Sciences
University of South Carolina	M.S.	2002	Marine Science
University of North Carolina Wilmington	B.S.	1997	Marine Biology

### ADMINISTRATIVE APPOINTMENTS:

- 2019 - 2022: Director, School of Ocean Science and Engineering, University of Southern Mississippi.
- 2015 – 2019: Associate Director, Division of Coastal Sciences, School of Ocean Science and Engineering, University of Southern Mississippi.

### ACADEMIC APPOINTMENTS:

- 2021 – Present: Professor, School of Ocean Science and Engineering, University of Southern Mississippi.
- 2014 – 2021: Associate Professor, Division of Coastal Sciences, School of Ocean Science and Engineering, University of Southern Mississippi.
- 2008 – 2014: Assistant Professor, Department of Coastal Sciences, University of Southern Mississippi.
- 2006 - 2008: Postdoctoral Research Associate, Center for Environmental and Human Toxicology, University of Florida.

### PUBLICATIONS:

Wigren, M., TA Johnson, RJ Griffitt, AG Hay, JA Knott, S Yan, and MS Sepulveda. Limited impact of weathered residues from the Deepwater Horizon oil spill on the gut-microbiome and foraging behavior of sheepshead minnows (*Cyprinodon variegatus*). In revision, *Science of the Total Environment*.

Tarnecki, A.M., C. Miller, T.A. Sherwood, R.J. Griffitt, R.W. Schloesser, and D.L. Wetzel. Dispersed Crud

following the Deepwater Horizon oil spill. *Toxicology and Environmental Health, Part B*. 24:8, 355-394. [https://DOI: 10.1080/10937404.2021.1975182](https://doi.org/10.1080/10937404.2021.1975182)

Allmon, E., J. Serafin, S. Chen, D. Simning, R.J. Griffitt, T. Bosker, S. De Guise, and M.S. Sepulveda. 2021. The influence of hypoxia on the cardiac transcriptomes of two estuarine species - *C. variegatus* and *F. grandis*. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*.

Ehiguisse, F.O., M.L. Rodgers, C.V.M. Araujo, R.J. Griffitt, and M.L. Martin-Diaz. 2021. Galaxolide and tonalide modulate neuroendocrine activity in marine species from two taxonomic groups. *Environmental Research* 196. <https://doi.org/10.1016/j.envres.2021.110960>

Rodgers, M.L., Serafin, J., Sepúlveda M.S., Griffitt, R.J. 2021. The Impact of Salinity and Dissolved Oxygen Regimes on Transcriptomic Immune Responses to Oil in Early Life Stage *Fundulus grandis*. In press, *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*. <https://doi.org/10.1016/j.cbd.2020.100753>

Rodgers, ML, TA Sherwood, RJ Griffitt, and DL Wetzel. 2021. Characterizing transcriptomic responses of southern flounder (*Paralichthys lethostigma*) chronically exposed to Deepwater Horizon oiled sediments. *Aquatic Toxicology* 230 105716. <https://doi.org/10.1016/j.aquatox.2020.105716>



Alloy, MA, I. Boube, RJ Griffitt, JT Oris, and AP Roberts. 2015. Photo-induced Toxicity of Deepwater Horizon Slick Oil to Blue Crab (*Callinectes sapidus*) Larvae. Environmental Toxicology and Chemistry



Building Bridges to Understanding Fishing Communities and Fisheries. \$140,594. J Kastler, PI, RJ Griffitt co-PI. The National Academies. 6/1/2017 – 9/30/2019.

Data Analysis to Support Oyster Cultch Deployment and Oyster Reef Restoration SUBTASK 3. \$456,120. National Fisheries and Wildlife Federation. RJ Griffitt, PI. 7/16/16 – 8/11/21.

Evaluation of Biomarkers Affecting Fish Populations. \$39,457. National Council for Air and Stream Improvement. RJ Griffitt, PI. 4/1/14 – 9/31/15.

The combined effect of environmental and anthropogenic stressors on fish health. \$1,385,339. Gulf of Mexico Research Initiative Award Number SA-13-01/GoMRI-009. Sylvain DeGuise, University of Connecticut PI; RJ Griffitt, University of Southern Mississippi; Maria S. Sepulveda, Purdue University; and Chris Perkins, University of Connecticut co-PIs. 1/1/2013 – 12/31/2016.

The Effects of Hydrocarbon Exposure on the Growth and Development of Shrimp. \$86,240. LA Dept of Public Safety & Corrections. RJ Griffitt, PI. 3/1/2013 – 1/14/2015. LOSCO NRDA Contract.

The Effects of Hydrocarbon Exposure on Shrimp Growth. \$30,000. LA Dept of Public Safety & Corrections. RJ Griffitt, PI. 1/15/2014 – 7/31/2015.

Toxicity testing in support of the Deepwater Horizon NRDA. \$1,026,084. US Department of Commerce. RJ Griffitt, PI. 8/1/2012 – 12/1/2015.

The Effects of Hydrocarbon and Bacteria Exposure on Fish Immune Function. \$489,207. LA Dept of Public Safety & Corrections. RJ Griffitt PI, DJ Grimes co-PI. 3/1/2013 – 1/14/2014.

NRDA Microbiology and Toxicology. \$302,805. LA Dept of Public Safety & Corrections. DR Grimes, PI, RJ Griffitt, co-PI. 10/15/2012 – 1/14/2014.

The Effects of Hydrocarbon and Bacteria Exposure on Fish Immune Function. \$384,550. LA Dept of Public Safety & Corrections. RJ Griffitt PI, DJ Grimes co-PI. 1/5/2014- 1/14/2016.

Phase II Fish Health sampling. \$294,480. LA Dept of Public Safety & Corrections. DJ Grimes, PI, RJ Griffitt, co-PI. 1/15/2014 – 1/14/2016.

Development of Methods for conducting toxicity tests with southern flounder. \$30,000. US Department of Commerce. RJ Griffitt, PI. 12/19/2011 – 9/30/2012.

Master Subcontract Agreement S161-2S-1814 with Stratus Consulting, Boulder, CO. \$187,558. LA Dept of Public Safety & Corrections. DJ Grimes PI, RJ Griffitt, co-PI. 9/1/2011 – 12/31/2012.

Investigation of the ecotoxicological impacts of released crude and dispersed oil from the Deepwater Horizon event on estuarine and marine species in the northern GOM. \$763,392. Stratus Consulting. RJ Griffitt, PI. 1/24/2011 - 9/30/2012.

Impacts of the Deepwater Horizon oil spill on the health and growth of estuarine fish and ecosystem functionality. \$83,481. NCI Phase II grant, co-PIs Rich Fulford, Robert J. Griffitt, Nancy Brown-Peterson. 2/2011-2/2012.

Monitoring the impacts of dispersed oil exposure on ecologically and economically important species in the northern Gulf of Mexico: using molecular biomarkers to answer an ecological question. \$58,325. NCI Phase I grant. 1/1/2011 – 2/29/2012.

RAPID: Assessment of the impacts of the Deep Horizon oil spill on Bluecrab, *Callinectes sapidus*, spawning and recruitment in the north central Gulf of Mexico. \$133,140. NSF grant number OCE-1044368. PI's Richard Fulford, Harriet M. Perry, Robert J. Griffitt. 7/1/2010 – 6/30/2012.

Determination of effects of long-term exposure to sublethal concentrations of metallic nanomaterials on zebrafish. \$73,190. Subaward from NSF grant number 0834-075. 9/1/2008 - 8/31/2013.

PATENTS/LICENSES:

License to EcoArray -- 13,000 largemouth bass genes for microarray analysis, Nancy Denslow, David Barber, Robert J Griffitt, and Natalia Garcia-Reyero. June 2007.

AWARDS:

2014 Don Drapeau Mentorship Award, University of Southern Mississippi Center for Undergraduate Research.

SERVICE:

*External:*

Co-chair, "Adverse Effects of Chemical on the Microbiome" Session at 38th Annual SETAC Conference (J. Bisesi, C. Martyniuk, O. Adamovsky, co-chairs).

Co-chair, "Special Symposium: Deepwater Horizon Oil Spill – 5 Years Later." Session at 36th Annual

Gulf Coast Research Laboratory Director Search Committee, 2011-2012.  
Gulf Coast Research Laboratory Library Committee, 2012-2015.  
Department of Coastal Sciences Research Committee, 2012-2015.  
Department of Coastal Sciences Graduate Student Review Committee, 2013-2015. (Chair)

Ad hoc manuscript reviewer for:

*PLoS One, Environmental Science and Technology, Aquatic Toxicology, Nanotoxicology, Environmental Health Perspectives, Environmental Toxicology, Environmental Toxicology and Chemistry, Marine Environmental Research, Pesticide Biochemistry and Physiology, Toxicological Sciences, Journal of Aquatic Animal Health, Ecotoxicology and Environmental Safety, Toxicology Letters, Diseases of Aquatic*  
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Bryan A Hedgpeth

Maggie Wigren	(MS, Marisol Sepulveda, adviser, Purdue University)
Jaime Smith	(MS, Robin Overstreet, adviser)
Lindsay Jasperse	(PhD, Sylvain DeGuise, adviser, University of Connecticut)
Helen Olmi	(PhD, Zack Darnell, adviser)
Rachel Mugge	(PhD, Leila Hamdan, adviser)
Elizabeth Allmon	(PhD, Marisol Sepulveda, adviser, Purdue University)

Griffitt, R.J. 2015.

Griffitt, R.J. October, 2009. *Toxicology of metallic nanoparticles to aquatic and estuarine species*. Invited seminar speaker, USM Department of Marine Science.

Griffitt, R.J. 2009. *Environmental nanotoxicology: Using molecular tools to investigate an emerging issue in aquatic toxicology*. Invited seminar speaker, School of Public Health, Tulane University.

Griffitt, R.J, K. Hyndman, ND Denslow, K Powers, and DS Barber. 2007. *Comparative analysis of the effects of sublethal nanoparticulate metal exposure to zebrafish gills*. Invited platform presentation, 30th Annual Society for Environmental Toxicology and Chemistry Conference, Milwaukee, WI, Nov. 11-15.

Griffitt, R.J. 2007. *Environmental toxicology of metallic nanoparticles in aquatic species*. Invited platform presentation, Mid-Atlantic Society of Toxicology Conference, Jersey City, NJ, October 10-11.

Jones, E. R., Simning D., Griffitt, R. J. 2017. *The effects of oil and hypoxia exposure on establishment of DNA methylation patterns in developing sheepshead minnows (Cyprinodon variegatus)*. Platform presentation. 38th Annual Society for Environmental Toxicology and Chemistry Conference, Minneapolis, MN, Nov. 12-16.

Rodgers, M. L., Ortell, N., Takeshita R., Griffitt, R. J. 2017 *An Overview of Oil Immunotoxicity in Three Commercially and Recreationally Important Fish Species*. Platform Presentation, 38th Annual Society of Environmental Toxicology and Chemistry North America Meeting. Nov 12-16, Minneapolis, MN.

Jones, ER, C Martyniuk, MO Krasnec, J Morris, and RJ Griffitt. 2017. *Alterations to the Sheepshead Minnow (Cyprinodon variegatus) Transcriptome After Corexit and Oil Exposure*. Poster presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. Feb 5-9, New Orleans, LA.

Jones, ER, D Simning, and RJ Griffitt. 2017. *DNA Methyltransferase Gene Expression in Larval Sheepshead Minnows (Cyprinodon variegatus) Following Oil Exposure*. Poster presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. Feb 5-9, New Orleans, LA.

Simning, D., C Perkins, T Bosker, M Sepúlveda, S DeGuise, and RJ Griffitt. 2016. *Synergist Effects of Oil Exposures and Suboptimal Environmental Conditions during Early Life Stage in sheepshead minnows (Cyprinodon variegatus)*. Platform Presentation at the Gulf of Mexico Oil Spill & Ecosystem Science Conference. Tampa, FL, Feb. 1-4, 2016

Simning, D., C Perkins, T Bosker, M Sepúlveda, S DeGuise, and RJ Griffitt. 2016. *Evidence for competitive inhibition in Cyprinodon variegatus in response to hypoxia and oil exposures as a function of age*.

Jones, ER, C Martyniuk, MO Krasnec, J Morris, and RJ Griffitt. 2016. *Microarray analysis of transcriptional changes in adult sheepshead minnows (Cyprinodon variegatus) following 7 day oil or Corexit exposure*. Poster presentation at the 37<sup>th</sup> Annual Society of Environmental Contamination and Toxicology. Orlando, FL, Nov. 6-10, 2016.

Simning, D, C. Perkins, T. Bosker, M. Sepulveda, S. DeGuise, and RJ Griffitt. 2015. *Impacts of oil exposure during early life development stages in sheepshead minnows (Cyprinodon variegatus) under different environmental factors*. Poster presentation at the 36<sup>th</sup> Annual Society of Environmental Contamination and Toxicology. Salt Lake City, UT, Nov. 1-5, 2015.

Ortell, N, KM Bayha, C Ryan, R Takeshita, GD Mayer, and RJ Griffitt. 2015. *Investigating the immunosuppressive effects of exposure to Deepwater Horizon oil on northern Gulf of Mexico fish*. Platform presentation at the 36<sup>th</sup> Annual Society of Environmental Contamination and Toxicology. Salt Lake City, UT, Nov. 1-5, 2015.

Vroom, R., L van Balen, T Bosker, S DeGuise, C. Perkins, M. Sepulveda, and J Griffitt. 2015. *The combined effect of anthropogenic and environmental stressors on fish health*. Poster presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. Feb 16-19, Houston, TX.

Bayha, KM, KJ Griffitt, R Takeshita, M Krasnec, J Morris, J Lipton, and RJ Griffitt. 2014. *Examining the effects of oil exposure on immune function and susceptibility to pathogenic bacteria of Gulf of Mexico fishes*. Poster presentation at the 2014 Ocean Science Meeting. Honolulu, HI, Feb. 23-28.

Hedgpeth, BA, and RJ Griffitt. 2014. *Simultaneous exposure to chronic hypoxia and dissolved PAHs results in reduced egg production and larval survival in the Sheepshead Minnow (Cyprinodon variegatus)*. Platform presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. January 26-29, 2014. Mobile, AL.

Klinkhammer, C, T Bosker, S DeGuise, C Perkins, RJ Griffitt, and M Sepulveda. 2014. Combined effects of low dissolved oxygen and oil contaminants in the Gulf Killifish *Fundulus grandis*. Poster presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. January 26-29, 2014. Mobile, AL.

DeGuise, S, T Bosker, M Sepulveda, RJ Griffitt, and C Perkins. 2014. *The combined effects of anthropogenic stressors on fish health*. Poster presentation at the Gulf of Mexico Oil Spill and Ecosystems Science Conference. January 26-29, 2014. Mobile, AL.

Griffitt, RJ, NJ Brown-Peterson, B Bailey, M Krasnec, I Lipton, R Takeshita, J Lipton, and JM Morris. 2013. *Exposure to sediment contaminated with Deepwater Horizon oil alters growth and survival of the Southern Flounder*. Platform presentation at the 34<sup>th</sup> Annual Society of Environmental Contamination and Toxicology. Nashville, TN, Nov. 17-21, 2013.

Brown-Peterson, N.J.\*, R.A. Brewton, R.J. Griffitt and R.S. Fulford. 2013. *Spotted seatrout reproductive biology impacted by the Deepwater Horizon oil spill*. Platform presentation at 143rd conference of the American Fisheries Society, September 2013. Little Rock, AR.

Wise, Sr., J.P. and Griffitt, J. 2013.

Wise, J., Wise, S., Xie, H., Griffitt, J. and Wise, Sr., J.P. *Chemical Dispersants Used in the Gulf of Mexico Are Cytotoxic and Genotoxic to Human Skin Fibroblasts*. Proceedings of the University of Southern Maine's 8th Annual Thinking Matters Conference: USM Research, Scholarship, and Creativity Symposium, April, 2011.

Brewton, R.A., R. J. Griffitt, and R.S. Fulford . 2010. *Impacts of Deepwater Horizon oil spill to estuarine fish growth and ecosystem functionality*. American Fisheries Society Southern Division Spring Meeting. January 14, 2010. Tampa, Florida.

Barber, DS, A Feswick, RJ Griffitt, P Carpinone, K Powers. 2009. *What matters?-dosimetry in aquatic toxicity of silver nanoparticles*. Platform presentation, 30th Annual Society for Environmental Toxicology and Chemistry Conference, New Orleans, LA, Nov. 11-15.

R. J. Griffitt, A. Feswick, N.D. Denslow, D.S. Barber. 2008. *Gill accumulation and toxicity of nanoparticulate copper and silver in zebrafish*. Platform presentation, 29<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Tampa Bay, FL Nov. 16-20, 2008.

R.J. Griffitt, N.D. Denslow, K. Kroll, D.S. Barber. 2008. *Identification of molecular markers of follicle maturation and incipient spawning in Largemouth bass*. Poster presentation, 29<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Tampa Bay, FL Nov. 16-20, 2008.

A. Feswick, J. Griffitt, J. Luo, D.S. Barber . 2008. *Nanoparticle Physical Characteristics Affect Interactions with Aquatic Organisms*. Platform presentation, 29<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Tampa Bay, FL Nov. 16-20, 2008.

D.J. Spade, R.J. Griffitt, D.S. Barber, N.D. Denslow. 2008. *Genomic Response to Reproductive Stress in Neuroanglia and Testis of Queen Conch (Strombus gigas)*. Platform presentation, 29<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Tampa Bay, FL Nov. 16-20, 2008.

R.J. Griffitt, N.D. Denslow, and D.S. Barber. 2008. *Identifying genes predictive of imminent spawning in LMB*. Platform presentation, Southeast SETAC Ann. Mtg. Gainesville, FL.

Spade, D.J., Griffitt, R.J., Liu, L., Kroll, K.J., Glazer, R.A., Brown-Peterson, N.J., Barber, D.S., and Denslow, N.D. 2008. *Toxicogenomic Investigation of Reproductive Failure in South Florida Queen Conch*. Platform presentation, Southeast SETAC Ann. Mtg. Gainesville, FL.

Griffitt, RJ, K. Hyndman, ND Denslow, K Powers, and DS Barber. 2008. *Differential toxicity of metallic nanoparticles to aquatic species*. Poster presentation, 47<sup>th</sup> annual Society of Toxicology Conference, Seattle, WA, Mar 17-20.

Griffitt, RJ, KA Hyndman, ND Denslow, K Powers, and DS Barber. 2007. *Environmental toxicity of metallic nanoparticles to aquatic species*. Platform presentation, International Symposium on Nanotechnology in Environmental Protection and Pollution. Dec. 11-13, 2007. Fort Lauderdale, FL, USA.

Griffitt, RJ, R Weil, J Luo, ND Denslow, K Powers, and DS Barber. 2007. *Toxic effects of nanocopper on the zebrafish (Danio rerio)*. Platform presentation, 46<sup>th</sup> Annual Society of Toxicology Conference, Charlotte, NC, Mar 25-29.

Griffitt, RJ, R Weil, J Luo, ND Denslow, K Powers, and DS Barber. 2007. *Toxic effects of nanocopper on the zebrafish (Danio rerio)*. Platform presentation, Southeast SETAC Conference, Athens, GA, Apr 11-13.

Griffitt, RJ, R Weil, K Hyndman, N Reyero-Garcia, N. D. Denslow, and DS Barber. 2006. *Effects of metallic nanomaterials on zebrafish*. Poster presentation, 27<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Montreal, Canada, Nov. 5-10.

Griffitt, RJ, TW Greig, GT Chandler, and JM Quattro. 2005. *Identification of differentially expressed genes in Palaemonetes pugio following xenobiotic exposure using Serial Analysis of Gene Expression (SAGE)*. Platform presentation, 26<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Baltimore, MA.

Griffitt, RJ, GT Chandler, MA Roberts, and JM Quattro. 2004. *Transcriptome profiles as a function of xenobiotic exposure in the grass shrimp, Palaemonetes pugio, using Serial Analysis of Gene Expression (SAGE)*. Platform presentation, 25<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry Conference, Portland, OR, Nov. 18-23.

Griffitt, RJ, MA Roberts, GT Chandler, and JM Quattro. 2003. *Serial Analysis of Gene Expression (SAGE) for quantitative assessment of gene expression profiles and intensities in estuarine crustaceans*. Poster presentation at 24<sup>th</sup> annual Society for Environmental Toxicology and Chemistry Conference, Austin, TX, Nov. 14-18.