## Joanna Joyner-Matos, Ph.D.

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### EDUCATION

2007 **Ph.D. in Zoology, University of Florida**. (UF) Doctoral Dissertation: "Magnitude of the oxidative stress response influences species distribution." Supervisor: David Julian, Dept. of Zoology

2002 **M.S. in Zoology, Washington State University**. (WSU) Master's Thesis: "The possible role of sulfur-containing amino acids in sulfide detoxification by a chemoautotrophic bacteria-mollusc symbiosis." Supervisor: Raymond W. Lee, School of Biological Sciences

2000 **Honors B.S. in Biology, University of Utah**. (UofU) Minors in Chemistry and History. Undergraduate Honors Program Thesis: "Cytokine deficiencies in the neonatal immune response." Supervisor: Harry R. Hill, Dept. of Pathology, School of Medicine

1997 Coursework in History (5 courses). University of Wales, Swansea

### EMPLOYMENT

| | |
|---|---|
| Professor, Dept. of Biology, EWU | 2018-present |
| Special Assistant to the Provost for Research and Grants, EWU | 2023-2025 |
| Associate Professor, Dept. of Biology, EWU | 2014-2018 |
| Assistant Professor, Dept. of Biology, EWU | 2008-2014 |
| Postdoctoral Associate, Dept. of Zoology, UF. Supervisor: Charles F. Baer. Research topic: "Reactive oxygen species and mutational processes in *Caenorhabditis*." | 2007-2008 |
| Adjunct Faculty, Dept. of Natural Sciences, Santa Fe Community College | 2005-2006 |
| Teaching Assistant, Dept. of Zoology, UF | 2004-2006 |
| Alumni Fellow, Dept. of Zoology, UF | 2002-2006 |
| Teaching Assistant, School of Biological Sciences, WSU | 2000-2002 |
| Laboratory Assistant, Dept. of Pathology, School of Medicine, UofU | 1996-2000 |

### TRAINING

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|---|---|
| The Inclusive STEM Teaching Project (6-week, NSF-funded MOOC) | 2022 |
| LGBTQ+ Ally Training, EWU (now Advocate Training) | 2019 |
| Diversity and Inclusion Institute (30 hours; led by Dr. Mark Orbe) | 2019 |

### TEACHING ASSIGNMENTS (at EWU unless otherwise stated)

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|---|---|
| Senior Capstone: Animal Ecophysiology or Animal Physiology (Biol 490) | 2008-present |
| Biological Investigation (Biol 270) | 2009-present |
| Human Anatomy and Physiology II (Biol 333 and 503, Advanced Human A&P) | 2009-present |
| Biology of Symbiosis (Biol 345; previously 396/496) | 2010-present |
| Current Topics in Physiology (Biol 512) or Current Topics in Cell & Molecular (Biol 513) | 2011-present |
| Cell Biology (Biol 436/536) | 2013-present |
| Principles of Animal Physiology (Biol 351, formerly "Comparative Animal Phys.") | 2014-present |
| Biological Research Methods I (Biol 510) | 2016-present |
| Immunology (Biol 430/530) | 2014-15, 23-present |
| Biology of Aging (Biol 343) | 2025-present |
| Biology of Aging (Biol 343), team-taught with K. Carlberg | 2009, 2012 |
| Animal Physiological Ecology (Biol 496) | 2012 |
| Introductory Biology for Non-Majors (BSC 1001), team-taught with L. Matos. Santa Fe Community College, Gainesville, FL | 2005, 2006 |

**PUBLICATIONS** [#]Undergraduate student, [&]Graduate student, [@]High school student

**Joyner-Matos, J.**, Islam-Zwart, K. 2021. Strategies to increase the workforce development of interdisciplinary cohorts of traditionally underrepresented students in STEM. *Journal of College Science Teaching*. 51:23-31.

Rajaei, M., Saxena, A.S., Johnson, L.M., Snyder, M.C., Crombie, T.A., Tanny, R.E., Andersen, E.C., **Joyner-Matos, J.**, Baer, C.F. 2021. Mutability of mononucleotide repeats, not oxidative stress, explains the discrepancy between laboratory-accumulated mutations and the natural allele-frequency spectrum in *C. elegans*. *Genome Research*. 31(9):1602-1613.

Vasquez, M.C., **Joyner-Matos, J.,** Vázquez-Medina, J.P., Zenteno-Savín, T., Freitas, R. 2020. Oxidative stress in aquatic ecosystems: Integrated responses to multiple stressors and preparation for oxidative stress. Selected papers from the 3rd international conference. *Comparative Biochemistry and Physiology, Part A*. 249:110770.

Bespalaya, Y., **Joyner-Matos, J.**, Bolotov, I., Aksenova, O., Gofarov, M., Sokolova, S., Shevchenko, A., Travina, O., Zubriy, N., Aksenov, A., Kosheleva, A., Ovchinnikov, D. 2019. Reproductive ecology of *Pisidium casertanum* (Poli, 1791) (Bivalvia: Sphaeriidae) in Arctic lakes. *Journal of Molluscan Studies*. 85(1):11-23.

Wieker, J.E.[#], Schoonover, C.M.[&], Gaines, R.K.[@], Jones, A.[@], Mattes, C.[@], Moses, K.[@], Perry, J.[@], Prior, K.[@], Smith, S.[@], Swilling, B.[@], Rule, M., **Joyner-Matos, J.** 2016. Effects of introduced brook stickleback (*Culaea inconstans*) on benthic macroinvertebrate communities in the nearshore area of lentic systems in Turnbull National Wildlife Refuge, Washington. *Northwest Science*. 90:278-289.

Schoonover, C.M.[&], Wieker, J.[#], Pope, R.[#], Brown, C.[#], Cooper, E.[#], DeWitt, J.[#], Gunselman, S.[#], Jensen, C.[#], Stevens, W.[#], Yri, J.[&], Nezat, C., **Joyner-Matos, J.** 2016. Development of functional trait biomarkers for trace metal exposure in freshwater clams (*Musculium* spp.). *Comparative Biochemistry and Physiology, Part A*. 200:21-34.

**Joyner-Matos, J.**, Abele, D., Vázquez-Medina, J.P., Zenteno-Savín, T. 2016. Oxidative stress in aquatic ecosystems: Selected papers from the Second International Conference. *Comparative Biochemistry and Physiology, Part A.* 200:1-2.

Andrew, J.R.[&], Dossey, M.M.[#], Garza, V.O.[#], Keller-Pearson, M.[#], Baer, C.F., **Joyner-Matos, J.** 2015. Abiotic stress does not magnify the deleterious effects of spontaneous mutations. *Heredity.* 115:503-508.

Etienne, V.[&], Anderson, E., Ponciano, J.-M., Blanton, D.[#], Cadavid, A.[#], **Joyner-Matos, J.**, Matsuba, C., Tabman, B.[#], Baer, C.F. 2015. The Red Death meets the abdominal bristle: Polygenic mutation for susceptibility to a bacterial pathogen in *Caenorhabditis elegans*. *Evolution.* 69(2):508-19.

**Joyner-Matos, J.,** Hicks, K.A. &, Cousins, D.[#], Keller, M.[#], Denver, D.R., Baer, C.F., Estes, S. 2013. Evolution of a higher intracellular oxidizing environment in *Caenorhabditis elegans* under relaxed selection. *PLoS ONE*. 8:e65604.

**Joyner-Matos, J.**, Puntarulo, S., Vázquez-Medina&, J.P., Zenteno-Savín, T. 2013. Oxidative stress in aquatic ecosystems: Selected papers from the first international conference. *Comparative Biochemistry and Physiology, Part A*. 165:381-383.

**Joyner-Matos, J.,** Chapman, L.J. 2013. Persisting in papyrus: Size, oxidative stress, and fitness in freshwater organisms adapted to sustained hypoxia. *Comparative Biochemistry and Physiology, Part A.* 165:405-416.

**Joyner-Matos, J.,** Bean, L.C.[#], Richardson, H.[#], Sammeli, T.[#], and Baer, C.F. 2011. No evidence of elevated germline mutation accumulation under oxidative stress in *Caenorhabditis elegans*. *Genetics*. 189:1439-1447.

**Joyner-Matos, J.**, Richardson, H.[#], Sammeli, T.[#], and Chapman, L.J. 2011. A fingernail clam (*Sphaerium* sp.) shows higher reproductive success in hypoxic waters. *Canadian Journal of Zoology*. 89:161-168.

**Joyner-Matos, J**. and Julian, D. 2011. Hydrogen sulphide and oxidative stress in aquatic organisms. Invited chapter for "Oxidative Stress in Aquatic Ecosystems" Abele, D., Zenteno-Savín, T., J.P. Vázquez-Medina, Eds. Wiley-Blackwell. (ISBN: 9781444335484)

Baer, C.F., **Joyner-Matos, J.**, Ostrow, D., Grigaltchik, V.[#], Salomon, M.[&], and Upadhyay, A.[#] 2010. Rapid decline in fitness of mutation accumulation lines of gonochoristic (outcrossing) Caenorhabditis nematodes. *Evolution*. 64:3242-3253.

**Joyner-Matos, J.**, Predmore, B.L.[&], Stein, J.R.[#], Leeuwenburgh, C., and Julian, D. 2010. Hydrogen sulfide induces oxidative damage to RNA and DNA in a sulfide-tolerant marine invertebrate. *Physiological and Biochemical Zoology*. 83:356-365.

**Joyner-Matos, J.**, Upadhyay, A.[#], Salomon, M.[&], Grigaltchik, V.[#], and Baer, C.F. 2009. Genetic (co)variation in life span in rhabditid nematodes: Role of mutation, selection, and history. *Journals of Gerontology: Biological Sciences*. 64:1134-1145.

**Joyner-Matos, J.**, Andrzejewski, J.[#], Briggs, L.E.[#], Baker, S.M., Downs, C.A., and Julian, D. 2009. Assessment of cellular and functional biomarkers in bivalves exposed to ecologically-relevant abiotic stressors. *Journal of Aquatic Animal Health*. 21:104-116.

**Joyner-Matos, J.**, Chapman, L.J., Downs, C.A., Hofer, T., Leeuwenburgh, C., and Julian, D. 2007. Stress response of an African freshwater clam along a natural abiotic gradient: Too much oxygen can be a limiting factor in aquatic environments. *Functional Ecology* 21:344-355 (erratum in vol. 21, 619).

**Joyner-Matos, J.**, Downs, C.A., and Julian, D. 2006. Increased expression of stress proteins in the surf clam *Donax variabilis* following hydrogen sulfide exposure. *Comparative Biochemistry and Physiology* 145(2):245-257.

Bergquist, D.C., Baker, S.M., Julian, D., **Joyner, J.**, and Beals, C. 2004. Sulfide concentrations in the sediments and water column of the Suwannee River Estuary and its influence on hard clam survival. Florida Shellfish Aquaculture Extension, http://shellfish.ifas.ufl.edu/toxic_sulfide.htm

**Joyner, J.L.**, Peyer, S.M.[&], and Lee, R.W. 2003. Possible roles of sulfur-containing amino acids in a chemoautotrophic bacterium/mollusc symbiosis. *The Biological Bulletin* 205:331-338.

La Pine, T.R., **Joyner, J.L.**, Augustine, N.H., Kwak, S.D., and Hill, H.R. 2003. Defective production of IL-18 and IL-12 by cord blood mononuclear cells influences the T helper-1 interferon gamma response to group B streptococci. *Pediatric Research* 54:276-281.

Kwak, D.J., Augustine, N.H., Borges, W.G., **Joyner, J.L.**, Green, W.F., and Hill, H.R. 2000. Intracellular and extracellular cytokine production by human mixed mononuclear cells in response to group B streptococci. *Infection and Immunity* 68:320-327.

**Joyner, J.L.**, Augustine, N.H., Taylor, K.A., La Pine, T.R., and Hill, H.R. 2000. Effects of group B streptococci on cord and adult mononuclear cell mRNA accumulation and protein secretion of IL-12 and IFNγ. *Journal of Infectious Diseases*. 182:974-977.

**FUNDING**

2024 National Science Foundation Noyce program, "Creating Research Experience for Science Teachers: Preparing Scholars to Teach Through Inquiry." Co-Principal Investigator. PI, Robert (Bo) Idsardi. Co-PI's: Ashley Lamm, Luis Matos, Jenifer Walke. ($599,968)

2024 National Science Foundation GRANTED program, "GRANTED Planning Grant: Workforce and Network Development to Engage Research (WANDER)." Co-Principal Investigator. PI, Anna Frost. ($99,956)

2024 Faculty Grant for Research and Creative Works, EWU, "Do clams need help from microbe partners to be able to survive in mining-polluted waters?" ($9,994)

2021 Board of Trustees Diversity Initiative, EWU, "Listening to the students: Exploring attitudes towards CSTEM majors amongst diverse student groups." Equal Principal Applicant with Robert Idsardi. ($1,997)

2018 Faculty Grant for Research and Creative Works, EWU, "An evaluation of the aquatic plant and invertebrate communities in local wetland restoration projects." ($9,967)

2015 Faculty Grant for Research and Creative Works, EWU, "The effects of heavy metal pollution on the survival, reproduction, activity and metabolomic profiles of freshwater clams." ($9,953)

2014 National Science Foundation S-STEM program, "Increasing the participation of first-generation and underrepresented students in the Sciences." Principal Investigator. Co-PI's: Rebecca Brown, Nicholas Burgis, Carmen Nezat. ($592,894)

2014 National Science Foundation, "Meeting: Increasing American participation and integrating the 'omics' in the Second International Conference on Oxidative Stress in Aquatic Ecosystems." Principal Investigator. ($15,000)

2014 Faculty Grant for Research and Creative Works, EWU, "Trade-offs between activity, reproduction and survival in freshwater clams exposed to heavy metal pollution from the Coeur d'Alene drainage." ($10,000)
2012 Faculty Grant for Research and Creative Works, EWU, "Comparison of mutation effect sizes in rhabditid nematodes with elevated or normal free radical production." ($9,973)
2012 Charlotte Martin Foundation, "Summer Research Internship for High School Students: Environmental Quality in the Inland Northwest." ($5,000). Additional matching funds, $1,500.
2011 EWU Foundation *Start Something Big* grant, "A test of whether the heat shock protein response correlates with fitness in nematode worms." ($750)
2009 Faculty Grant for Research and Creative Works, EWU, "The effects of free radical metabolism on heritable mutation." ($10,000)
2009 EWU *Start Something Big* grant, "DNA damage and mutation in rhabditid nematodes." ($425)
2008 Faculty Grant for Research and Creative Works, EWU, "Is there differential reproductive success along a dissolved $O_2$ gradient?" ($9,746)
2008 Ruth L. Kirschstein National Research Service Award, NIH, "Reactive oxygen species and the rate and spectrum of mutations in *Caenorhabditis*." Declined. Sponsor: Charles F. Baer, Co-sponsor: Christiaan Leeuwenburgh, University of Florida. (1 F32 CA130377-01A2)
2007 UF Claude D. Pepper Older Americans Independence Center pilot study program, "Reactive oxygen species and mutational decay in fitness in *Caenorhabditis*." ($18,940)
2004 Sigma Xi Grant-in-Aid-of-Research, "Normoxia as a stressor: abiotic factors influencing the distribution of the bivalve *Sphaerium* sp. in an African swamp." ($648)
2004 Sea Grant Industry Fellowship, "A critical evaluation of two approaches to biomonitoring: functional biomarker assays and stress protein biomarkers in *Mercenaria mercenaria* (hard clam)". Co-Principal Investigator. *Note: all funds for research purposes. ($60,000)
2004 Florida Sea Grant Pilot Proposal, "A critical evaluation of two approaches to biomonitoring: functional assays and stress protein biomarkers in *Mercenaria mercenaria* (hard clam). Co-Principal Investigator. ($5,000)
2001 Western Society of Malacologists Student Grant cosponsored by Santa Barbara Malacological Society, Southwest Shell Club, San Diego Shell Club, and Northern California Malacological Club, "The possible role of taurine and thiotaurine in sulfide detoxification in a chemoautotrophic bacteria-mollusc symbiosis." ($500)
1998 Bioscience Undergraduate Research Program (BioURP) Semester Minigrant, Univ. of Utah, "Effects of group B streptococci on cord and adult mononuclear cell mRNA accumulation and protein secretion of IL-12 and IFNγ." Awarded three grants (1998). ($454, $768, and $720)

**SELECTED AWARDS**

2019 Diversity & Inclusion Award: Faculty Champion for Advocacy & Inclusion, EWU
2014 Dean's Excellence Award, College of Science, Health and Engineering, EWU
2011 Outstanding Faculty Merit Award in Scholarship and/or Creative Activity, EWU
2007 Best student publication, Department of Zoology, UF
2006 Dorothy Skinner Outstanding Oral Presentation, DCPB, SICB
2001 Best Student Paper Competition, Honorable Mention, Second International Symposium on Deep-Sea Hydrothermal Vent Biology
2000 Boeing Environmental Scholarship
2000 Honors Baccalaureate Scholarship
1999 Teaching Assistant of the Year, Dept. of Biology, UofU

**FUNDING AWARDED TO STUDENTS**

2023 Biology Department Student Mini-Grant to Emily Hamada
2023 EWU BOT Diversity Initiative Grant to: Jair Alvarez, Emily Hamada, Talon Jost, Roxanne McPeck (I served as the faculty mentor)

2023 Friends of Turnbull National Wildlife Refuge grant to Idowu ("Bukky") Oredugba
2020 Biology Department Student Mini-Grant to Dechen Edwards
2019 Biology Department Student Mini-Grant to Jade Clinkenbeard
2016 SETAC/EA Jeff Black Fellowship Award to Chantilly Higbee
2016 Biology Department Student Mini-Grant to Chantilly Higbee
2015 Northwest Scientific Association Student Research Grant to Jenae Yri
2014 Biology Department Student Mini-Grant to Jenae Yri
2012 Biology Department Student Mini-Grant to Melody Dossey
2011 Biology Department Student Mini-Grant to Cody Schoonover
2011 Sigma Xi Grants-in-Aid of Research grant to Jacob Andrew
2010 Biology Department Student Mini-Grant to Jacob Andrew

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

2023-present Northwest Scientific Association
2023-2025 Society of Research Administrators International
2013-present Society for Environmental Toxicology and Chemistry (SETAC)
2010-2014 Society for the Study of Evolution (SSE)
2001-2014 Society for Integrative and Comparative Biology (SICB)
2004-present Sigma Xi
2001-2008 Ecological Society of America (ESA)

**INVITED SEMINARS**

2021 University of South Carolina Beaufort. "Learning how to study invertebrates that live in metal-polluted habitats."
2012 Gonzaga University, Dept. of Biology. "Free radical metabolism shapes ecology and evolution."
2012 Keynote address, Inland Northwest High School Science Symposium, "Free radicals in clams and worms and why they matter to humans."

**SELECTED ABSTRACTS AT PROFESSIONAL CONFERENCES** (Presenter underlined)
[#]Undergraduate or high school student *Authors contributed equally. [&]Graduate student

**Joyner-Matos, J.***, Coomes, J.* 2024. Empower, Inspire, Achieve: Faculty Leading the Way in Grant Success at a PUI. Society of Research Administrators International Annual Meeting, Chicago, IL.

Frost, A., Endres, E., **Joyner-Matos, J.** 2024. Rejection is Cool: Reclaiming and Reframing 'No'. National Council of University Research Administrators (NCURA) Region VI & VII Meeting. Albuquerque, NM.

Frost, A.*, **Joyner-Matos, J.*** 2024. WANDER-ing How to Build Workforce Capacity in a PUI Through the NSF GRANTED Planning Award. NCURA Region VI & VII Meeting. Albuquerque, NM.

Higbee, C.[&], Edwards, D.[&], McPeck, R.[&], Groove, A.[#], Poynton, H., Walke, J., Nezat, C., **Joyner-Matos, J.** 2024. Strategies to tolerate trace metal mixtures employed by macroinvertebrates in the lateral lakes of the Coeur d'Alene River. Northwest Scientific Association 100th Annual Meeting. Spokane, WA.

Edwards, D.[&], Walke, J.B., Nezat, C.A., **Joyner-Matos, J.** 2022. Microbiome analysis of freshwater fingernail clams (*Sphaeriidae*) exposed to trace metal pollution. SETAC North America 43rd Annual Meeting (virtual poster with accompanying video).

Edwards, D.[&], Nezat, C., **Joyner-Matos, J.** 2020. Metal-exposed freshwater clams exhibit greater investment in somatic growth than in reproduction. SETAC North America 41st Annual Meeting (online in 2020).

Rajaei, M.[&], Saxena, A.S.[&], Snyder, M., Tanny, R.E., Andersen, E.C., **Joyner-Matos, J.**, Baer, C.F. 2020. Increased oxidative damage to DNA in the lab environment cannot explain why the *C. elegans* mutation spectrum is different in the lab and in nature. The Allied Genetics Conference (online in 2020).

**Joyner-Matos, J.** 2019. S-STEM support improves work readiness not GPA in underrepresented students. 2019 Transforming STEM Higher Education Conference, AAC&U. Chicago, IL.

**Joyner-Matos, J.,** Higbee, C.[&], Grove, A.[#], Poynton, H. 2019. Chronic exposure to trace metal mixtures alters abundance, size structure, and physiological traits of three populations of the amphipod *Hyalella azteca*.

10th International Congress of Comparative Physiology and Biochemistry (ICCPB), Ottawa, Canada.

Bespalaya, Y., **Joyner-Matos, J.,** Bolotov, I., Aksenova, O., Sokolova, S., Shevchenko, A., Travina, O. 2018. Biodiversity and features of reproduction of freshwater molluscs in contrasting habitats of Arctic lakes. Freshwater Mollusk Conservation Society First International Freshwater Mollusk Meeting, Verbania, Italy.

Matos, L.**,** Hendrix, E.[&], **Joyner-Matos, J.** 2018. Characterizing the early stages of a novel host shift using host fitness and metabolomics. Entomological Society of America, Vancouver, BC.

Major, K.M. &, Grove, A.[#], Weston, D.P., Lydy, M.J., Higbee, C., **Joyner-Matos, J.**, Poynton, H.C. 2018. Overview and mechanisms of resistance in the freshwater crustacean *Hyalella azteca*. SETAC North America 39th Annual Meeting, Sacramento, CA.

**Joyner-Matos, J.**, Higbee, C.[&], Clinkenbeard, J.[#], Davies, C.[#], Davies, G.[#], Goodson, B.[#], Johnston, L.[#], Kenney, J.[#], Knudson, E.[#], Shultz, A[#], Strange, S.[#], Wolkenhauer, B.[#] 2017. Amphipods (*Hyalella azteca*) from populations that are chronically exposed to polymetal mixture exhibit seasonally-dependent tolerance to aqueous Zn. SETAC North America 38th Annual Meeting, Minneapolis, MN.

**Joyner-Matos, J.**, Brown, C.[#], DeWitt, J.[#], Higbee, C.[&], Stevens, W.[#], Magori, K., Nezat, C. 2016. Polymetal mixture from mining pollution alters functional traits and metabolomic profiles of freshwater clams (*Musculium* spp.). 7th SETAC World Congress/SETAC North America 37th Annual Meeting, Orlando, FL.

Higbee, C.[&], Albrecht, V.[#], Clinkenbeard, J.[#], Davies, G.[#], Davies, C.[#], Johnston, L.[#], Kenney, J.[#], Shultz, A.[#], Wolkenhauer, B.[#], McNeely, C., Nezat, C., **Joyner-Matos, J.** 2016. Elevated Zn and Pb levels in the chain lakes of the Coeur d'Alene River, ID may contribute to the low abundance of an amphipod (*Hyalella azteca*). 7th SETAC World Congress/North America 37th Annual Meeting, Orlando, FL.

Yri, J.[&], Higbee, C.[&], DeWitt, J.[#], Brown, C.[#], Johnston, L.[#], Stevens, W.[#], Dunn, E.[#], Magori, K., **Joyner-Matos, J.** 2016. Determining the effects of brook stickleback (*Culaea inconstans*) presence on the Turnbull National Wildlife Refuge, Cheney, Washington. NWSA 87th annual Meeting, Bend, OR.

Schoonover, C.M.[&], Wieker, J.[#], Pope, R.[#], Brown, C.[#], Cooper, E.[#], DeWitt, J.[#], Gunselman, S.[#], Jensen, C.[#], Stevens, W.[#], Nezat, C., **Joyner-Matos, J.** 2015. Development of functional trait biomarkers for trace metals in freshwater bivalves (*Musculium* spp.). Second International Conference on Oxidative Stress in Aquatic Habitats, La Paz, Baja California Sur.

Matos, L.F. and Joyner-Matos, J. 2015. Inquiry-based learning for every biology student. Crossing Boundaries: Transforming STEM Education; 2015 Network for Academic Renewal STEM Conference, Seattle, WA.

Andrew, J.R.[&], Dossey, M.M.[#], Garza, V.[#], Keller, M.[#], Baer, C.F., **Joyner-Matos, J.** 2014. Genotype by environment interactions of spontaneous mutations in *C. elegans*. Conference: Revisiting the role of phenotypic plasticity in evolution using *Caenorhabditis* nematodes as model organisms, les Treilles, France.

Al-Otaibi, N.[&], Carlberg, K., **Joyner-Matos, J.** 2013. Combined efficacy of tamoxifene (TAM) and thymoquinone (TQ) on the lipid peroxidation and the total antioxidant capacity in DMBA induced mammary carcinoma in female Sprague-Dawley rats. 2nd International Conference & Exhibition on Cell & Gene Therapy, Orlando, FL.

**Joyner-Matos, J.**, Chapman, L.J. 2012. Lower oxidative stress and higher fitness in freshwater organisms adapted to extreme hypoxia. Symposium presentation, First International Congress on Oxidative Stress in Aquatic Ecosystems. San Jose del Cabo, MX.

Andrew, J.[&], Bean, L.[#], Baer, C.F., **Joyner-Matos, J.** 2011. The relationship between mutation load and stress resistance in *C. elegans*. Evolution, Norman.

Carlberg, K., Daberkow, D.P., Hancock, T.V., **Joyner-Matos, J.** 2011. Student research projects at the beginning and end of the biology program. Physiology 2011, Oxford, UK.

**Joyner-Matos, J.,** Bean, L.[#], Richardson, H.[#], Sammeli, T.[#], Baer, C.F. 2011. The (apparent) lack of influence of free radicals on mutational processes in *C. elegans*. Evolution, Norman.

**Joyner-Matos, J.**, Cousins, D.[#], Adams, A.[#], Denver, D.R., Baer, C.F. 2010. Free radicals influence mutational processes in Caenorhabditis. Evolution, Portland.

Theobald, R.[#], **Joyner-Matos, J.L.**, Upadhyay, A.[#], Baer, C.F. 2008. The relationship between mutational load and oxidative damage.

**Joyner-Matos, J.L.**, Chapman, L.J., Julian, D. 2006. Elevated dissolved oxygen level influences fingernail clam (*Sphaerium* sp.) stress protein expression and population distribution in a Ugandan papyrus swamp. SICB, Orlando, FL. *Integrative and Comparative Biology* 45(6):1022.

Andrzejewski, J.E.*#, Briggs, L.E.*#, **Joyner-Matos, J.L.**, Julian, D. 2006 Functional responses to high temperature, hypoxia, and hyposalinity in the stress-tolerant clam *Mercenaria mercenaria.* SICB, Orlando, FL. *Integrative and Comparative Biology* 45(6):1106.

**Joyner-Matos, J.L.**, Chapman, L.J., Julian, D. 2005. Dissolved oxygen level as a predictor of the distribution of the fingernail clam (*Sphaerium* sp.) an a Ugandan papyrus swamp. ESA, Montreal, QC.

**Joyner-Matos, J.L.**, Downs, C.A., Julian, D. 2005. Stress protein expression in the Surf Clam *Donax variabilis* following exposure to normoxia, hypoxia, hyperoxia, and hydrogen sulfide. SICB, San Diego, CA. *Integrative and Comparative Biology* 44(6):579.

Bergquist, D.C., **Joyner-Matos, J.**, Beals, C., Baker, S.M., Julian, D. 2004. Hydrogen sulfide concentrations in the sediments of Florida's hard clam aquaculture areas and its influence on hard clam survival. Southeastern Estuarine Research Society, Fort Pierce, FL.

**Joyner-Matos, J.L.**, Bhalla, R.#, Downs, C.A., Julian, D. 2004. Antioxidant protein expression during anoxia-reoxygenation in marine polychaete (*Glycera dibranchiata*) coelomocytes. SICB, New Orleans, LA. *Integrative and Comparative Biology* 43(6):886.

**Joyner, J.L.**, and Lee, R.W. 2002. The role of sulfur-containing amino acids in sulfide detoxification by chemoautotrophic bacteria-mollusc symbioses. SICB, Anaheim, CA. *American Zoologist* 41(6):1489.

**Joyner, J.L.**, and Lee, R.W. 2001. The possible role of taurine in sulfide detoxification by chemoautotrophic bacteria-invertebrate symbioses. Second International Symposium on Deep-Sea Hydrothermal Vent Biology, Brest, France.

Kwak, D.J., Augustine, N.H., Taylor, K.L., **Joyner, J.L.**, Green, W.F., and Hill, H.R. 2000. Effects of the tumor necrosis factor receptor:Fc fusion protein on extracellular cytokine production by human mixed mononuclear cells in response to group B streptococci. Society for Pediatric Research, Boston, MA. *Pediatric Research* 47:342A.

**Joyner, J.L.**, Augustine, N.H., La Pine, T.R., and Hill, H.R. 2000. Interleukin-12 increased IFN production by cord and adult blood mononuclear cells in response to group B streptococci. Society for Pediatric Research, Boston, MA. *Pediatric Research* 47:333A.

**Joyner, J.L.**, Augustine, N.H., La Pine, T.R., and Hill, H.R. Interleukin-12 increased IFN production by cord and adult blood mononuclear cells in response to group B streptococci. Western Society for Pediatric Research, Carmel, CA. *Journal of Investigative Medicine*. 48:44A, 2000.

Kwak, D.J., Augustine, N.H., Taylor, K.L., **Joyner, J.L.**, Green, W.F., and Hill, H.R. 2000. Effects of the tumor necrosis factor receptor:Fc fusion protein on extracellular cytokine production by human mixed mononuclear cells in response to group B streptococci. Western Society for Pediatric Research, Carmel, CA. *Journal of Investigative Medicine*. 48:70A.

**Joyner, J.L.**, Augustine, N.H., La Pine, T.R., and Hill, H.R. 1999. Effects of group B streptococci on cord and adult mononuclear cell mRNA accumulation and protein secretion of IL-12 and IFN. Society for Pediatric Research, San Francisco, CA. *Pediatric Research* 45:1546A.

Borges, W.G., Augustine, N.H., **Joyner, J.L.**, and Hill, H.R. 1999. Defective IL-12/IFN pathway in Job Syndrome of Hyper-IgE and recurrent infections. Western Society for Pediatric Research, Carmel, CA. *Journal of Investigative Medicine*. 47:7A.

Kwak, D.J., Augustine, N.H., Borges, W.G., **Joyner, J.L.**, Green, W.F., and Hill, H.R. 1998. Intracellular and extracellular cytokine production by human mixed mononuclear cells in response to group B streptococci. Society for Pediatric Research, New Orleans, LA. *Pediatric Research* 43:8A.

**UNDERGRADUATE PRESENTATIONS AT STUDENT RESEARCH CONFERENCES**

Hamada, H. 2022. Noyce Summit, Washington, D.C. "Listening to the students: Exploring attitudes towards STEM majors amongst diverse student groups." With R. Idsardi

Gunselman, S., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.

Gunselman, S., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.

Jensen, C., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.

DeWitt, J., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.

Brown, C., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.

Cooper, E., et al. 2015. 29th National Conference on Undergraduate Research, Cheney, WA.
Wieker, J.E., et al. 2013. 27th National Conference on Undergraduate Research, La Crosse, WI.

**POPULAR PRESS COVERAGE**

2016 *Inlander*, "For the birds: Why a small fish could mean big problems for waterfowl at Turnbull." June 9, 2016
2014 *Cheney Free Press*, "National Science Foundation grant will aid EWU STEM students." May 1.

**NATIONAL/UNIVERSITY COMMITTEES** (EWU unless otherwise stated)

2022-present Search Advocate (Office for Diversity, Equity & Inclusion)
2021-present Member, Student Disciplinary Council
2021-present Co-Chair, Biology Department Policies and Procedures Committee
2019-present Co-Chair (2021-present), Member, Biology Department Personnel Committee
2024 Member, Director of Tribal Relations Search Committee
2024 Chair, Director of OGRD Search Committee
2023 Chair, Senior Grant Writer Search Committee
2021-2023 Member, Research and Scholarship Committee
2019-2022 Member, EWU Commission on Gender Equity (formerly, Women's and Gender Commission)
2019-2022 Member, Embrace Social Justice Curriculum Committee
2009-2016, 2019-2022 Chair (2013-15) and Member, Academic Integrity Faculty Board
2013-2014, 2020-2021 Member, Biology Department Indirects Cost Committee
2018-2019 Member, Symposium Organizing Committee for ICCPB 2019
2017-2018 Member, Department Public Relations Committee
2017 Member, Office of Community Engagement Director Search Committee
2015-2016 Member, CSTEM Dean Search Committee
2014 Member, Anatomy and Physiology position search committee
2013-2015 Member, Organizing Committee for Second International Conference on Oxidative Stress in Aquatic Habitats (International Committee)
2013-2014 Member, Institutional Animal Care and Use Committee (IACUC)
2011-2012 Member, Organizing Committee for First International Congress on Oxidative Stress in Aquatic Habitats. Also served as judge of student poster presentations.
2009-2010 Chair, Anatomy and Physiology position search committee
2009-2012 Member, Library Affairs Committee
2008-2015 Member, Scholarship Committee (Biology)
2008-2009 Chair, Faculty and Student Research Committee (Biology)
2004-2008 Graduate Student Representative, Div. Comparative Physiology and Biochemistry, SICB
2004-2008 Member, Student and Postdoc Affairs Committee, SICB
1999-2000 Member, Executive Committee, National Collegiate Honors Council
1998-2000 Member, Student Concerns Committee, National Collegiate Honors Council
1999-2000 Chair, Biology Student Advisor Committee, UofU
1998-1999 Chair, Honors Student Advisory Committee, UofU
1998-1999 Student Representative, Honors Program Advisory Committee, UofU
1996-2000 Member, Honors and Biology Student Advisory Committees, UofU

**GRADUATE STUDENTS**

Hannah Neuberger, 2025-present
Emily Hamada, 2023-2025 (Outstanding Biology Graduate Student, 2025)
Dechen Edwards, 2019-2021 (Outstanding Biology Graduate Student, 2021)
Jade Clinkenbeard, 2018-2020

Chantilly Higbee, 2015-2017 (Outstanding Biology Graduate Student, 2017)
Jenae Yri, 2014-2016
Melody Dossey, 2012-2014
Cody Schoonover, 2011-2013
Jacob R. Andrew, 2010-2012 (Outstanding Biology Graduate Student, 2012)

**UNDERGRADUATE/ HIGH SCHOOL STUDENT RESEARCH MENTOR**

EWU
Joanna Sanok, Summer 2024-Spring 2025
Sayla Merritt, Spring 2023 – Spring 2025
Margarita Washington, Spring 2023 – Summer 2023
Natalie McGuire, Spring 2023 – Spring 2025. Entering dental school, OHSU.
Jacob Heaton, Spring 2023 – Spring 2024. Employed by the VA.
Idowu "Bukky" Oredugba, Winter 2023 – Winter 2024
Emily Hamada, Winter 2022 – Summer 2023. Entering EWU Master's program.
Hunter Stoda, Winter 2022 – Spring 2023
Grace Lodgard, Winter 2022 – Fall 2022
Roxanne McPeck, 2021-Summer 2022. EWU Master's program; doctoral program at UC at Anschutz
Elijah Zavala, Winter 2022 – Summer 2022
Kate Corley, Winter 2022 – Summer 2022. Entering PharmD program
Emily Moua, Winter 2022 – Summer 2022. Entering PharmD program
Shaina French, Winter 2022 – Summer 2022
Rachel Linton, Summer 2020-2021
Jenna Brandkamp, Spring 2020-2021
Hannah Coles, Spring 2019-Summer 2020. Entering EWU Master's program.
Kathryn Collins, Spring 2019-Winter 2021. Entering EWU Master's program.
Tori Kent, Spring 2019-Spring 2020. Beginning graduate program at University of Idaho.
Marisa Klein-Chavez, Spring 2019-Spring 2020, Medical Laboratory Science Program at Providence Sacred Heart
Makenna Britton, Spring 2019-Summer 2019
Steven Hutchinson, Spring 2019-Summer 2019. Environmental planner, Ardurra (Spokane, WA)
Andrew Douglas, Summer 2018-Spring 2019. Seasonal position with Idaho DEQ.
Maia Inniss, Spring 2018-Spring 2019. Works for The Land's Council.
Dana Colley, Winter 2018-Spring 2019. Entering EWU Master's program.
Lexy Durand, Winter 2018-Summer 2019
Chyrsten Jacobs, Winter 2018-Fall 2019
Tyler Talbott, Winter 2018-Winter 2019. Construction cost estimator, MKA International, Inc. (Spokane, WA)
Aleesha Grove, Winter 2018-Spring 2019. 2018 REU at UMass Boston. Masters in Pathologist's Assistant, E VA Medical School
Gunner Davies, Summer 2016-Spring 2017. MS at WSU Tri-Cities; now restoration specialist with Confederated Salish and Kootenai Tribes (Polson, MT)
Ashley Shultz, Summer 2016-Spring 2017. Teacher, Connell HS
Kaylee Wilhelm, Summer 2016. Teacher, Avalon English
Bernt Goodson, Summer 2016.
Jade Clinkenbeard, Summer 2016 – Spring 2018. MS student at EWU. Employed by Idaho DEQ
Colleen Davies, Spring 2016-Fall 2016. PA school at Pacific University
Jaimie Kenney, Summer 2016. Accepted into Ph.D. at UC Riverside
Drake Haren, Summer 2016-Summer 2017. Teacher, Three Springs HS.
Evan Knudson, Summer 2016-Fall 2018.
Emily Dunn, Summer 2015-2016. Laboratory technician, Whitworth University. Ph.D. program, UofU
Liam Johnston, Spring 2015-Spring 2017. Heritage Univ. MLS; Evergreen Health Medical Center, Kirkland
Faradeh Rehfield, Summer 2015-Spring 2016. Peace Corps.

Karen Kenny, Summer 2015, Physician Assistant program at University of North Dakota
Benjamin Wolkenhauer, Summer 2015-Spring 2018. PT program at UNLV
Candice Armstrong, Summer 2015-2016
Steven Strange, Summer 2015-Summer 2016. Works at Hollister Stier.
Veronica Albrecht, Summer 2015-Summer 2016. MS student at EWU; Ph.D. at Michigan State University
Alexandria Olney, Summer 2015-2016
Anne Fleming, Summer 2015-Spring 2016. PharmD program at Washington State Univ.
Chantilly Higbee, Spring 2014-Summer 2015. MS student at EWU. Employed at Idaho DEQ.
Erin Hollmann, Summer 2014-Summer 2015.
Sam Gunselman, Summer 2014-Summer 2015. MS student at EWU. Employed at Phylos BioScience (CA)
Jariel Dewitt, Spring 2014-Spring 2016. Medical Laboratory Science Program at Providence Sacred Heart
Emily Cooper, Summer 2014-Summer 2015. UW Medical School.
Whitney Stevens, Spring 2014-Spring 2016. Employed in medical laboratory science.
Heather Handwerk, Spring 2013-Summer 2013. (Now Hinchman). Master's of Occupational Therapy, EWU
Cory Jensen, Spring 2013- Fall 2014. Pacific University College of Optometry.
Rachelle Pope, Fall 2012-Summer 2014. UW RIDE Dental program.
Elizabeth Ferry, Spring 2012-Spring 2013.
Ryan Bushman, Spring 2012-Fall 2013. Midwestern University College of Dental Medicine – Arizona.
Julia Bertaut, Spring 2012-Summer 2012.
Sarah Powers, Spring 2012-Spring 2013. M.S. in Mathematics at EWU; now Lecturer at Gonzaga University
Veniel Garza, CAMP. Spring 2011-Summer 2012. Pacific Northwest University of Health Sciences D.O.
Jessica Wieker, Fall 2011-Summer, 2014. UW Dental program.
Michelle Keller, Summer 2011-Winter, 2014. UW Madison Ph.D. program
Cody Schoonover, Spring 2011-Summer 2011. Earned MS at EWU. Wyoming Game and Fish Dept.
Danna Moisii, Spring 2011-Summer 2011. Northern Arizona University PA program.
Melody Dossey, Winter 2011-Spring 2014. MS student. Employed in biotechnology.
Henry Castillo, CAMP. Fall 2010-Spring 2011.
Jeff Warner, Summer 2010.
Laura Bean, Winter 2010-2012. Medical Laboratory Science Program at Providence Sacred Heart
Steve Nicolaysen, Winter 2010-Summer 2010.
Melissa (Michael) Gromlich, Fall 2009-Summer 2010. Employed at East Valley School District.
Nashua Springberry, Running Start student. Summer 2009-Winter 2010.
Anthony Adams, Summer 2009-Summer 2010. Case Western Reserve Univ. School of Dental Medicine.
Tammy Sammeli, Summer 2009-Summer 2010. Now works in quality assurance lab at ADM Milling.
Heidi Richardson, Summer 2009-Fall 2010. Medical student a WWAMI (U. Washington)
Dustin Cousins, Fall, 2008-Spring 2010. Earned MS at EWU; Peace Corps; employed at TNWR.
Meredith Thompson, Fall, 2008-Summer, 2009. Project manager at Jubilant Hollister-Stier, Spokane.
Amber Witherspoon-Lomack, 2008-2009.

<u>UF</u>

Forrest Sloane, high school student, UF Student Science Training Program. Summer, 2008. First place in a regional science fair and second place in the state science fair.
Ambuj Upadhyay, 2007-2008. For this project A. Upadhyay was awarded a University Scholars Award (UF). Earned M.S. in Biology. Enrolled in doctoral program at the University of Minnesota.
Veronica Grigaltchik, 2007-2008. Earned Ph.D. at School of Biological Sciences, The University of Sydney.
Rebecca Theobald, 2007-2008. Awarded an Undergraduate Minority Research Award from the Society for Molecular Biology and Evolution.
Laurence Sylvestre, 2007-2008.
Caroline Carreras, high school student, UF Student Science Training Program. Summer, 2007
Jenessa Andrzejewski-Winston, 2004-2006. DVM, Ph.D. from North Carolina State University. Faculty at Ohio State Univ. (2019)

Nicole Scheys, 2004. DO school, LECOM
Laura (Briggs) Winters, Senior thesis supervised 2004-2006. MD/PhD, Medical University of South Carolina; NIH Medical Scientist Training Program.
Jennifer Rivas, 2004-2005. Nurse Practitioner, in Ph.D. in Nursing program, Vanderbilt University
Michaela Hogan, Supervised University Scholars Award work 2003-2005. Nurse Practitioner, UF
Rajat Bhalla, high school student, UF Student Science Training Program. Summer, 2003. Semi finalist in the 2003 Siemens Westinghouse competition and the 2004 Intel Science Talent Search. Undergraduate at MIT.

**GRADUATE COMMITTEE MEMBER**

Jair Alvarez, 2023-2024
Eric Beaulaurier, 2023-2024
Megan Garvey, 2023
Christina Ramelow, 2019-2020
Emily Hendrix, 2016-2018
Kaeli Davenport, 2016-2018
Nadiah Alotaibi, 2012-2013
Denise Davis, 2011-2012
Gayle May, 2010-2012
Dana Stroud, 2010-2011
Cassandra Pharr, 2009-2010
Katie Wagner, 2009-2010

**OTHER SERVICE/OUTREACH**

Manuscript Reviews: *The American Journal of Physiology – Regulatory, Integrative and Comparative Physiology, American Naturalist*, *Aquatic Biology, Biological Trace Element Research, Biology Letters, Comparative Biochemistry and Physiology, Food and Chemical Toxicology, Free Radical Biology & Medicine*, *Frontiers in Zoology*, *Integrative and Comparative Biology, Integrative Zoology, International Journal of Molecular Sciences, Journal of the Marine Biological Association of the United Kingdom*, *Journal of Molluscan Studies, Marine Environmental Research, Molecular Biology Reports, Oecologia*, *PLoS ONE*, *Royal Society Open Science, Scientific Reports, Science of the Total Environment*

Grant reviews: National Science Foundation, S-STEM and CAREER; National Geographic Society, State of Louisiana
Abstract reviews: STEMposium, NCUR, First and Second International Conferences on Oxidative Stress in Aquatic Habitats
Symposium Organizing Committee, 10$^{th}$ International Congress of Comparative Physiology and Biochemistry, August 2019, Ottawa, Canada
Coordinator, Table presentation about invasive species, Annual Floods, Flowers, and Feathers Festival (hosted by Turnbull National Wildlife Refuge): 2015, 2016, 2017, 2018, 2023, 2024
Guest lecturer, blogger, and collaborator. EWU Department of English, Technical Communications courses (Eng 407/507 and Eng 409/509) 2008-2012. Eng 205, Winter 2015.
Judge of oral and poster presentations: for SETAC, 2016, 2017; Judge of research papers, Spokane STEMposium 2014, 2015; Judge of posters, Division of Comparative Physiology and Biochemistry, SICB 2007; Judge of posters, Alachua Region Science Fair, 2006-2007.
Coordinator, Summer Research Internship for Underserved High School Students, funded by the Charlotte Martin Foundation. June – July, 2012; ten participants.
Coordinator, WSU Young Women's Science Camp field trip to EWU, 2009.
Treasurer, Women in Science and Engineering. University of Florida. 2005-2006.
Department of Zoology Seminar Committee. University of Florida. 2004-2005.
Graduate student coordinator, Undergraduate Research Program. University of Florida. 2003-2004.
Guide for tours of the WSU Electron Microscopy Center. 2000-2002.