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MICHAEL E. SMITH

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EDUCATION

Postdoctoral research, 2002-2005, The University of Maryland, College Park, MD. Neurobiology.
Ph.D., 2001, The University of Texas at Austin, Austin, TX. Marine Science.
M.S., 1996, Brigham Young University, Provo, UT. Zoology.
B.S., 1994, Brigham Young University, Provo, UT. Zoology (University Honors).

ACADEMIC PROFESSIONAL EXPERIENCE

2016-present	Professor, Department of Biology, Western Kentucky University
2015-present	Associate Editor, *Frontiers in Cellular Neuroscience*
2010-2016	Associate Professor with Tenure, Dept. of Biology, Western Kentucky University
2005-2010	Assistant Professor, Department of Biology, Western Kentucky University
2004-2005	Lecturer, Department of Biology, University of Maryland
2002-2005	Postdoctoral Research Associate, Department of Biology, University of Maryland

ADMINISTRATIVE PROFESSIONAL EXPERIENCE

2025-present Inaugural Program Coordinator, Neuroscience Program, Ogden College of Science and Engineering, Western Kentucky University
Primary Areas of Responsibility: Coordinating activities related to the interdisciplinary Neuroscience major between the participating departments (Biology, Psychological Science, Chemistry, Computer Science), Oversight of curricula content and scheduling, Recruitment, Student advising

2020-2024 Department Chair, Department of Biology, Western Kentucky University
Primary Areas of Responsibility: Hiring and appraisal of faculty and staff, Budget oversight, Strategic planning, Student affairs, Communication and enforcement of university policy to the department, Oversight of curricula

2018-2019 Acting Executive Director, Mahurin Honors College, Western Kentucky Univer.
Primary Areas of Responsibility: Student recruitment and retention, Curricular development, Personnel oversight and hiring, Honors Development Board, Community and donor relations, Budget oversight, Strategic planning

2017-2018 Biotechnology Center Interim Director (Fall), Western Kentucky University
Primary Areas of Responsibility: Budget oversight, Modification of by-laws, Implementation of a faculty user facility fee, Membership application processing

2017-2018 Biology Graduate Program Coordinator (Spring), Western Kentucky University

Primary Areas of Responsibility: Graduate student admissions, Budgeting graduate student support, Scheduling of Teaching Assistant assignments, Graduate curricular development

PROFESSIONAL ADMINISTRATIVE DEVELOPMENT

2020	Council of Colleges of Arts & Sciences, Seminar for Department Chairs/Heads, Feb. 9-11, Savannah, GA
2019	Summer Institute in Educational Fundraising, Council for Advancement and Support of Education, Dartmouth College, Hanover, NH; Practical training in key concepts & best practices for leadership and advancement of academic institutions
2015-16	WKU Faculty Leadership Year (FLY) Program; Discussed leadership theories & strategies within a higher educational, roles of department heads and academic administrators. 360º Assessment. Personal project & group case study.

ADDITIONAL LEADERSHIP AND SERVICE ACTIVITIES

2024	External Reviewer, University of Texas-Tyler Biology Graduate Program
2019, -20, -24	NIH Auditory System Study Section, Grant Review Panels
2017	Chair, Physiology and Biochemistry Section of the Kentucky Academy of Science (KAS)
2015-17	Evidence & Argument Implementation Fellow; Project: *Promoting Evidence and Argument in the Development of Connection Courses in Ogden College*
2016	Secretary, Physiology and Biochemistry Section of the Kentucky Academy of Science
2009-2012	President, Western Kentucky University Chapter of Sigma Xi
2008-2009	Chair, Physiology and Biochemistry Section of KAS
2008-2009	Vice-president, Western Kentucky University Chapter of Sigma Xi
2008-present	Judge for the Annual WKU Student Research and KAS Conferences
2007	Secretary, Physiology and Biochemistry Section of the Kentucky Academy of Science
2007, 2008, 2012	Potter Gray Elementary School Science Day presenter/science fair judge

RECENT AWARDS, FELLOWSHIPS, AND HONORARY SOCIETIES

WKU Center for Innovative Teaching and Learning Faculty Spotlight Award (2025)
WKU Office of Sponsored Programs Million Dollar Grant Club (2015)
WKU Office of Sponsored Programs Prolific Proposer (2015, 2018)
WKU Ogden College of Science and Engineering Faculty Research/Creativity Award (2013)
WKU University Senate Biology Representative (2013-2017)
Honorary Member, Golden Key International Honour Society (2012)
Western Kentucky University Summer Faculty Award (2006, 2007, 2009, 2010)
University of Washington Visiting Scholar Award, collaborative research at the Virginia Merrill Bloedel Hearing Research Center (2008)
Western Kentucky University New Faculty Scholarship Award (2008)
Professor of the Year, Student Govern. Assoc., Ogden College of Science & Engineering (2007)

Travel Award, Effect of Noise on Aquatic Life Meeting, Nyborg, Denmark (2007)

GRANT ACTIVITY (*Funded only; WKU External=**$1,594,771**; WKU Internal=**$144,000***)

2025	NIH KY-INBRE Student Development Research Award, $14,400, *The otoprotective role of melanin in the teleost inner ear.*
2024	Faculty-Undergraduate Student Engagement (FUSE) Award, $3,500, *Exploring the Morphology of the Inner and Peripheral Ear of the Loricariid Catfish Pterygoplichthys pardalis*, Student-led research support for Mabel Vilt
2024	Ogden College Summer Quick Turnaround Grant, *The role of pectoral fin rotation on loricariid sound production*, $3,000
2024	Ogden College Summer Quick Turnaround Grant Supplement, *Purchase of a high speed video camera (Basler boA1936-400cc) and CXP-12 video card) and Dell PC*, $3,519
2023	Faculty-Undergraduate Student Engagement (FUSE) Award, $3,500, *The Protective Role of Melanin Against Medical Ototoxins*, Student-led research support for Kaleigh Davis
2022	Faculty-Undergraduate Student Engagement (FUSE) Award, $3,500, *The protective role of melanin in the teleost inner ear*, Student-led research support for Gabriel Heckerman
2023	NSF MRI: Track 1 Acquisition of a Fluoresence-Activated Cell Sorter (FACS) to Enhance Research Capabilities at Western Kentucky University, $297,393, Simran Banga PI, Michael Smith Co-PI
2022	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *The protective role of melanin in the teleost inner ear*, Student-led research support for Gabriel Heckerman
2020	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *A novel seismic communication method in mudskippers*, Student-led research support for Seth Hoffman
2019	NSF MRI: Track 1 Acquisition of a Confocal Microscope to Enhance Research Capabilities at Western Kentucky University, $377,259, Ajay Srivastava PI, Michael Smith Co-PI
2015-2019	NIH R15, $414,321, *Finding novel platinum (II) complex anti-cancer drugs with reduced ototoxicity*
2019	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Investigating the effect of monofunctional platinum-based compounds on auditory ear organ hair cell apoptosis*, Student-led research support for Alexandra Johnston
2018-2019	WKU Research and Creative Activities Program, $16,000, Investigating the effects of the curcuminoid, EF-24, on cisplatin-treated ovarian cancer, auditory and renal cells
2018	Ogden College Quick Turnaround Grant, *Hearing and acoustic communication in mudskippers*, $3,000
2018	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Microarray analysis to examine effects of novel platinum(II) compounds on cancer cells*, Student-led research support for Elvin Irihamye

2017	USGS, $19,494. *Hair cell death in Asian carp subjected to high sound pressure levels (SPL)*.
2017	Ogden College Quick Turnaround Grant, *Sound production of spawning prochilodontid fishes in the Amazon*, $3,000
2016-2017	NSF-Kentucky EPSCoR, $33,001. *Seismic communication in chameleons: Form and function of a novel signaling mechanism*
2016-2017	WKU Research and Creative Activities Program, $16,000, Investigating the synergistic effects of cisplatin and two curcuminoid compounds on cancer and hearing
2016	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Mechanoreceptors in chameleons (Chamaeleo senegalensis) for seismic communication*, Student-led research support for Sanida Palavra
2016	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Investigating the synergistic effects of cisplatin and two curcuminoide compounds on cancer,* Student-led research support for Denis Hodzic
2016	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Behavioral responses to seismic signals in the veiled chameleon (Chamaeleo calyptratus)*, Student-led research support for Emily Hamilton
2016	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,500, *Identifying the synergistic effects of two curcuminoids and cisplation on cancer cell migration and auditory tissue,* Student-led research support for Matthew Millay and Blaine Patty
2015-2016	NIH KY-INBRE Investigator, $40,000, *Finding novel platinum (II) complex anti-cancer drugs with reduced ototoxicity*
2015	Ogden College Quick Turnaround Grant, *Vibratory communication in chameleons*, $3,000 (in collaboration with Steve Huskey)
2014-2015	Kentucky Science and Engineering Foundation, Research and Development Excellence Program Grant, $30,000, *A zebrafish assay for testing ototoxicity of anti-cancer drugs*
2014-2015	NIH KY-INBRE Investigator, $40,000, *Finding novel platinum (II) complex anti-cancer drugs with reduced ototoxicity*
2014-2015	WKU Research and Creative Activities Program, $13,400, Finding novel platinum(II) complex anti-cancer drugs with reduced ototoxicity.
2012-2014	NIH KY-INBRE Investigator, $184,506, *Zebrafish: A model of auditory hair cell death and regeneration.*
2013-2014	WKU Research and Creative Activities Program, $15,900, Finding novel platinum(II) complex anti-cancer drugs with reduced ototoxicity.
2013	Faculty-Undergraduate Student Engagement (FUSE) Award, $5,000, *Effects of growth hormone antagonist on auditory hair cell regeneration in zebrafish*, Student-led research support for Amy Ni
2012	Faculty-Undergraduate Student Engagement (FUSE) Award, $4,600, *Growth hormone (GH) prophylactic effects on zebrafish auditory hair cell damage*, Student-led research support for Mackenzie Perkins
2012	WKU Biology NSF Research Experiences for Undergraduates (REU) Mentor, $1,000 for research supplies, Savannah Bell student, *Can growth hormone prevent noise-induced hearing loss in zebrafish?*

2012	NIH Kentucky INBRE, $24,810, *Next Generation Sequencing to Reveal Growth Hormone Pathways in Zebrafish Auditory Hair Cell Regeneration*
2011	WKU Biology NSF Research Experiences for Undergraduates (REU) Mentor, $1,000 for research supplies, Michael Sullivan student, *The effect of pile driving on the inner ears of striped bass*
2010	WKU Research and Creative Activities Program, $15,000, *Microarray analysis for discovering growth hormone pathways during auditory hair cell regeneration in zebrafish (Danio rerio)*
2010	NIH Kentucky INBRE, $23,000, *Microarray analysis for examination of gene expression patterns during auditory hair cell regeneration in zebrafish*
2010	WKU's UISFL (Undergraduate International Studies and Foreign Language Program, Smith budget $8,500. Development of an Honors Colloquium course on entitled "*Honors 301- The Genius of China- Its History of Discovery and Invention*" to support the Chinese Language Program at WKU.
2010	WKU Summer Faculty Scholarship Award, $6,000, *The effects of pegvisomant on zebrafish auditory hair cell proliferation*.
2009	WKU Summer Faculty Scholarship Award, $6,000, *The effects of growth hormone on goldfish auditory hair cell proliferation.*
2009-2011	NIH K-INBRE Investigator, $200,000, *Zebrafish: a model of auditory hair cell death and regeneration.*
2008	WKU New Faculty Scholarship Award, $5,000, *Do regenerated auditory hair cells produce functional recovery in zebrafish?*
2007	NSF-SOMAS: Support of Mentors and their Students in the Neurosciences, $10,000, *Testing the Equal Energy Hypothesis in Noise-exposed Fishes.* (DUE-0426266)
2006-2009	NIH K-INBRE Investigator, $318,000, *Structural & Functional Recovery of Auditory Hair Cells in Zebrafish* (NIH P20 RR-16481)
2007	WKU Summer Faculty Scholarship. $6,000, *Testing the Equal Energy Hypothesis in Noise-exposed Fishes.*
2006	WKU Summer Faculty Scholarship. $6,000, *Tonotopic Organization of the Goldfish Saccule*
2005-2007	National Science Foundation, KY-EPSCoR Research Startup Fund, Neuroscience Faculty, $75,000
2005-2007	NIH INBRE Program, Faculty salary support, $25,000
2004-2005	National Organization for Hearing Research Foundation Grant, *A new model of noise-induced hair cell loss and regeneration*, Principal Investigator: M.E. Smith. Direct costs: $15,000.
2003-2005	NIH F32 DC-05890-01 Individual National Research Service Award, *Aging and susceptibility to hearing loss in zebrafish*, Principal Investigator: M.E. Smith. Direct costs: $90,000
2002-2003	Maryland Sea Grant Small Program Development Award, *Biological responses to acoustical stress in fishes*, Co-Principal Investigator: M.E. Smith. Direct costs: $10,000.

PROFESSIONAL SOCIETIES

Council for Advancement and Support of Education
Society for Neuroscience
Faculty for Undergraduate Neuroscience
Association for Research in Otolaryngology
International Society of Neuroethology
The Acoustical Society of America
Kentucky Academy of Science
Sigma Xi- The Scientific Research Society
National Association of IDeA Principal Investigators

PUBLICATIONS (** student author*)

Published

Bowman, V., Jenkins, A.K., Dahl, P.H., Kotecki, S.E., Casper, B.M., Boerger, C., Smith, M.E., Popper, A.N. 2024. Injuries to Pacific mackerel (*Scober japonicus*) from underwater explosions. *ICES Journal of Marine Science* 81(8):1685-1695.

Webb McAdams, A.L., Smith, M.E. 2023. The relationship between body size and stridulatory sound production in loricariid catfishes. *Journal of the Acoustical Society of America* 154(6), 3672-3683.

Smith, M.E., Popper, A.N. 2023. Temporary threshold shift as a measure of anthropogenic sound effect on fishes. In: A.N. Popper et al. (eds.), *The Effects of Noise on Aquatic Life*, Springer Nature Switzerland AG.

Denny, K.L.*, Huskey, S., Anderson, C.V., Smith, M.E. 2023. Communication via biotremors in the veiled chameleon (*Chamaeleo calyptratus*): Part I- Biotremor production and response to substrate-borne vibrations. *Integrative and Comparative Biology* 63:484-497.

Denny, K.L.*, Huskey, S., Anderson, C.V., Smith, M.E. 2023. Communication via biotremors in the veiled chameleon (*Chamaeleo calyptratus*): Part II- Social contexts. *Integrative and Comparative Biology* 63:498-497.

Smith, M.E., Accomando, A.W., Bowman, V., Casper, B.M., Dahl, P.H., Jenkins, K.A., Kotecki, S., Popper, A.N. 2022. Physical effects of sound exposure from underwater explosions on Pacific mackerel (*Scomber japonicus*): Effects on the inner ear. *Journal of the Acoustical Society of America* 152(2), August 2022.

Monroe, J.D., Moolani, S.A.*, Irihamye, E.N.*, Lett, K.E., Hebert, M.D., Gibert, Y., Smith, M.E. 2021. Cisplatin and phenanthriplatin modulate long-noncoding RNA expression in A549 and IMR90 cells revealing regulation of microRNAs, Wnt/β-catenin and TGF-β signaling. *Scientific Reports* 11: 10408. https://www.nature.com/articles/s41598-021-89911-z.

Monroe, J.D., Moolani, S.A.*, Irihamye, E.N.*, Johnston, A.M.*, Smith, M.E. 2021. Effects of L-serine against cisplatin-mediated reactive oxygen species generation in zebrafish vestibular tissue culture and HEI-OC1 auditory hybridoma cells. *Neurotoxicity Research* 39:36-41. https://doi.org/10.1007/s12640-020-00188-y.

Monroe, J.D., Moolani, S.A.*, Irihamye, E.N.*, Speed, J.S., Gibert, Y., Smith, M.E. 2020. RNA-Seq analysis of cisplatin and the monofunctional platinum (II) complex, phenanthriplatin, in A549 non-small cell lung cancer and IMR90 lung fibroblast cell lines. *Cells* 9:2637. https://doi.org/10.3390/cells9122637.

Tegge, S.M.*, Anderson, C.V., Smith, M.E., Huskey, S. 2020. The role of hyoid muscles in biotremor production in *Chamaeleo calyptratus*. *Journal of Experimental Biology* 223: jeb227603 doi: 10.1242/jeb.227603.

Huskey, S., Tegge, S.M.*, Anderson, C.V., Smith, M.E., and Barnett, K. 2019. Gular pouch diversity in the Chamaeleonidae. *The Anatomical Record* 2019:1-14. https://doi.org/ 10.1002/ar.24313

Monroe, J.D., Hodzic, D.*, Millay, M.H.*, Patty, B.G.*, Smith, M.E. 2019. Anti-cancer and ototoxicity characteristics of the curcuminoids, CLEFMA and EF24, in combination with cisplatin. *Molecules* 24:3889. https://doi.org/10.3390/molecules24213889

Monroe, J.D., Belekov, E.*, Er, A.O., Smith, M.E. 2019. Anti-cancer photodynamic therapy properties of sulfur-doped graphene quantum dot and methylene blue preparations in MCF-7 breast cancer cell culture. *Photochemistry and Photobiology* (Epub ahead of print published June 22, 2019). https://doi.org/10.1111/php.13136

Monroe, J.D., Millay, M.H.*, Patty, B.G.*, Smith, M.E. 2018. The curcuminoid, EF-24, reduces cisplatin-mediated reactive oxygen species in zebrafish inner ear auditory and vestibular tissues. *Journal of Clinical Neuroscience* 57:152-156. https://doi.org/10.1016/j.jocn.2018.09.002

Kholikov, K.*, Ilhom, S.*, Sajjad, M., Smith, M.E., Monroe, J.D., San, O., Er, A.O. 2018. Improved singlet oxygen generation and antimicrobial activity of sulfur-doped graphene quantum dots coupled with methylene blue for photodynamic therapy applications. *Photodiagnosis and Photodynamic Therapy* 24: 7-14. https://doi.org/10.1016/j.pdpdt.2018.08.011.

Monroe, J.D., Hruska, H.L.*, Ruggles, H.K.*, Williams, K.M., Smith, M.E. 2018. Anti-cancer characteristics and ototoxicity of platinum(II) amine complexes with only one leaving ligand. *PLoS ONE* 13(3):e0192505. https://doi.org/10.137/journal.pone.0192505.

Smith, M.E., Weller, K.K.*, Kynard, B., Sato, Y., Godinho, A.L. 2018. Mating calls of three prochilodontid fish species from Brazil. *Environmental Biology of Fishes* 101:327-339. https://doi.org/10.1007/s10641-017-0701-3.

Monroe, J.D., Manning, D.*, Uribe, P.*, Bhandiwad, A.*, Sisneros, J.A., Smith, M.E., Coffin, A. 2016. Hearing sensitivity differs between zebrafish lines used in auditory research. *Hearing Research* 341:220-231.

Smith, M.E., Groves, A.K., and Coffin, A.B. 2016. Editorial: Sensory hair cell death and regeneration. *Frontiers in Cellular Neuroscience* 10:208. doi:10.3389/fncel.2016.00208.

Smith, M.E., Monroe, J.D. 2016. Causes and consequences of sensory hair cell damage and recovery in fishes. Pp. 395-419. In: Sisneros J (ed) Fish hearing and bioacoustics: An anthology in honor of Arthur N. Popper and Richard R. Fay. Springer, New York. doi:10.1007/978-3-319-21059-9.

Smith, M.E. 2016. The relationship between hair cell loss and hearing loss in fishes. Pp. 1079-1086. In: *The Effects of Noise on Aquatic Life II.* Popper, A.N. and Hawkins, A. (Eds.). Springer-Verlag.

Monroe, J.D., Rajadinakaran, G.*, and Smith, M.E. 2015. Sensory hair cell death and regeneration in fishes. *Frontiers in Cellular Neuroscience* 9:131.

Smith, M.E. and Rajadinakaran, G.* 2013. The transcriptomics to proteomics of hair cell regeneration: Looking for a hair cell in a haystack. *Microarrays* 2(3):186-207.

Casper, B., Smith, M.E., Halvorsen, M., Sun, H., Carlson, T., and Popper, A.N. 2013. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comparative Biochemistry and Physiology, Part A* 166:352-360.

Uribe, P.M.*, Sun, H., Wang, K., Asuncion, J.D., Wang, Q., Steyger, P.S., Smith, M.E., and Matsui, J.I. 2013. Aminoglycoside-induced hair cell death of inner ear organs causes functional deficits in adult zebrafish (*Danio rerio*). *PLoS ONE* 8(3): e58755. Doi:10.1371/journal.pone.0058755.

Smith, M.E. 2012. Predicting hearing loss in fishes. Pp. 259-262. In: *The Effects of Noise on Aquatic Life.* Popper, A.N. and Hawkins, A. (Eds.). Springer-Verlag.

Sun, H., Lin, C-H.*, and Smith, M.E. 2011. Growth hormone promotes hair cell regeneration in the zebrafish (*Danio rerio*) inner ear following acoustic trauma. *PLoS ONE* 6 (11): e28372. Doi:10.1371/journal.pone.0028372.

Schuck, J.B.*, Sun, H., Penberthy, W.T., Cooper, N.G.F., Li, X., and Smith, M.E. 2011. Transcriptomic analysis of the zebrafish inner ear points to growth hormone mediated regeneration following acoustic trauma. *BMC Neuroscience* 12: 88, Doi:10.1186/1471-2202-12-88.

Schuck, J.B.*, Sun, H., Penberthy, W.T., Cooper, N.G.F., Li, X., and Smith, M.E. 2011. Transcriptomic analysis of the zebrafish inner ear points to growth hormone mediated regeneration following acoustic trauma. (Published zebrafish microarray gene expression data). *NCBI's Gene Expression Omnibus GEO Series Accession number* GSE29669. http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE29669.

Smith, M.E., Schuck, J.B.*, Gilley, R.R.*, and Rogers, B.D.* 2011. Structural and functional effects of acoustic exposure in goldfish: evidence for tonotopy in the teleost saccule. *BMC Neuroscience* 12:19, Doi:10.1186/1471-2202-12-19.

Schuck, J.B.* and Smith, M.E. 2009. Cell proliferation follows acoustically-induced hair cell bundle loss in the zebrafish saccule. *Hearing Research* 253:67-76.

Stewart, P.C.* and Smith, M.E. 2009. Conspecific sound localization in *Otocinclus affinis*. *Proceedings of the Institute of Acoustics* 31(1): 230-234.

Smith, M.E. and Gilley, R.R.* 2008. Testing the equal energy hypothesis in noise-exposed fishes. *Bioacoustics* 17:343-345.

Wysocki, L.E., Davidson, J.*, Smith, M.E., Popper, A.N., Frankel, A., Ellison, W.,Welch, T., Ford, F., Bebak-Williams, J. 2007. The effects of aquaculture noise on the growth, survival and hearing of rainbow trout. *Aquaculture* 272:687-697.

Oxman, D.*, R. Barnett-Johnson, Smith, M.E., A.B. Coffin, D.L. Miller, R. Josephson, and A.N. Popper. 2007. The effect of vaterite deposition on otolith morphology, sound reception and inner ear sensory epithelia in hatchery-reared Chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Fisheries and Aquatic Sciences* 64:1469-1478.

Popper, A.N., M.B. Halvorsen, A.S. Kane, D. Miller*, M.E. Smith, J. Song, P. Stein, and L.E. Wysocki. 2007. The effects of high-intensity, low-frequency active sonar on rainbow trout. *Journal of the Acoustical Society of America* 122(1):623-635.

Smith, M.E., Coffin, A.B., Miller, D.L., and Popper, A.N. 2006. Anatomical and functional recovery of the goldfish (*Carassius auratus*) ear following noise exposure. *The Journal of Experimental Biology* 209:4193-4202.

Popper, A.N., M.E. Smith, P.A. Cott, B.W. Hanna, A.O. MacGillivray, M.E. Austin, and D.A. Mann. 2005. Effects of exposure to seismic airgun use on hearing of three fish species. *Journal of the Acoustical Society of America* 117(6):3958-3971.

Fuiman, L.A., Cowan, J.H., Jr., Smith, M.E., and O'Neal, J.P.* 2005. Behavior and recruitment success in fish larvae: variation with growth rate and the batch effect. *Canadian Journal of Fisheries and Aquatic Sciences* 62:1337-1349.

Belk, M.C., Johnson, J.B., Wilson, K.W., Smith, M.E., and Houston, D.D.* 2005. Variation in intrinsic individual growth rate among populations of leatherside chub (*Snyderichthys copei* Jordan & Gilbert): adaptation to temperature or length of the growing season? *Ecology of Freshwater Fishes* 14(2):177-184.

Smith, M.E., Kane, A.S., and Popper, A.N. 2004. Acoustical stress and hearing sensitivity in fishes: does the linear threshold shift hypothesis hold water? *Journal of Experimental Biology* 207:3591-3602.

Smith, M.E., Kane, A.S., and Popper, A.N. 2004. Noise-induced stress response and hearing loss in goldfish (*Carassius auratus*). *Journal of Experimental Biology* 207(3):427-435.

Popper, A. N., Fewtrell, J., Smith, M. E., and McCauley, R. D. 2004. Anthropogenic sound: effects on the behavior and physiology of fishes. *Marine Technology Society Journal* 37:33-38.

Smith, M. E., A. S. Kane, M. C. Hastings, and A. N. Popper. 2004. Physiological effects of noise on fishes. Pp. 299-304. *In*: Proceedings of the 8th International Congress on Noise as a Public Health Problem, R. G. de Jong, T. Houtgast, E. A. M. Franssen, and W. F. Hofman (eds.), Rotterdam, Netherlands.

Smith, M.E.* and L.A. Fuiman. 2004. Behavioral performance of wild-caught and laboratory-reared red drum *Sciaenops ocellatus* (Linnaeus) larvae. *Journal of Experimental Marine Biology and Ecology* 302(1):17-33.

Smith, M.E.* and L.A. Fuiman. 2003. Causes of growth depensation in red drum, *Sciaenops Smithocellatus*, larvae. *Environmental Biology of Fishes* 66:49-60.

Smith, M.E.* and M.C. Belk. 2001. Risk-assessment in western mosquitofish (*Gambusia affinis*): do multiple cues have additive effects? *Behavioral Ecology and Sociobiology* 51 (1):101-107.

Smith, M.E.* 2000. The alarm response of *Arius felis* to chemical stimuli from injured conspecifics. *The Journal of Chemical Ecology* 26 (7):1635-1647.

Fuiman, L.A., M.E. Smith*, and V. Malley.* 1999. Ontogeny of routine swimming speed and startle responses in red drum, with a comparison of responses to acoustic and visual stimuli. *Journal of Fish Biology* 55 (supplement A):215-226.

Smith, M.E.* and M.C. Belk. 1996. *Sorex monticolus*. Mammalian Species 528:1-5.

Books

Smith, M. E., Groves, A. K., Coffin, A. B., eds. (2016). Sensory Hair Cell Death and Regeneration. 266 pp. Lausanne: Frontiers Media. doi: 10.3389/978-2-88945-000-8.

Published extended abstracts

Gopinath, R., Sun, H., Rinehart, C., Rouchka, E., Smith, M.E. 2012. Regulation of cell proliferation and apoptosis by growth hormone during zebrafish auditory hair cell regeneration. *BMC Bioinformatics* 13(Suppl 12):A3.

Smith, M.E., Sun, H., Schuck, J.B.*, and Moriyama, Shunsuke. 2010. Growth hormone induces proliferation in the zebrafish inner ear. *BMC Bioinformatics* 11(Suppl. 4):P26. Doi:10.1186/1471-2105-11-S4-P26.

Sun, H., Schuck, J.B.*, and Smith, M.E. 2010. The role of growth hormone in zebrafish (*Danio rerio*) auditory hair cell regeneration. *Assoc. Res. Otolaryngol. Abs. 33:209.*

Schuck, J.B.*, Lin, C-H.*, Penberthy, W.T., Li, X., Cooper, N.G.F., and Smith, M.E. 2009. Microarray analysis and quantitative real-time PCR validation of gene expression during auditory hair cell regeneration in zebrafish (*Danio rerio*). *BMC Bioinformatics* 10 (Suppl 7):A12.

Smith, M.E., Stewart, P.C.*, Webb, A.L.*, and Rogers, B.D.* 2009. Sound production and localization in loricariid catfishes. *Journal of the Acoustical Society of America* 125(4):2487.

Schuck, J.B*., Smith, M.E., Li, X., and Cooper, N.G.F. 2008. Microarray analysis of gene expression during auditory hair cell regeneration in zebrafish (*Danio rerio*). *BMC Bioinformatics* 9 (Suppl 7):P15.

Popper, A.N., Halvorsen, M.B., Miller, D.L., Smith, M.E., Song, J., Wysocki, L.E., Hastings, M.C., Kane, A.S., and Stein, P. 2005. Effects of surveillance towed array sensor system (SURTASS) low frequency active sonar on fish. *Journal of the Acoustical Society of America* 117(4):2440.

Submitted and under revision

Fehrenbach, A.K.*, King, S.E., Johnson, J.R., and Smith, M.E. The effects of sound exposure on axolotl (*Ambystoma mexicanum*) hearing. *Royal Society Open Science*.

Smith, M.E., Wang, Y.*, and Sun. H. The time-course of the effects of growth hormone during zebrafish (*Danio rerio*) auditory hair cell regeneration. *Journal of Comparative Neurology*.

Coffey, B.N.* and Smith, M.E. Melanin is an otoprotective pigment in two fish species, *Poecilia latipinna* and *Cyprinus carpio*. *Comparative Biochemistry and Physiology*.

Popular articles

Smith, M.E. and Godinho, A. 2018. Biologists can distinguish species of Brazilian fishes by their mating calls. *Science Trends*. https://sciencetrends.com/biologists-can-distinguish-species-brazilian-mating-calls; Published online Feb. 7, 2018.

Smith, M.E. 2003. Do fish make noise or produce sounds? AccessScience Q&A Archives: Biological & Biomedical Science. Week of July 1, 2003. The McGraw-Hill Companies.

RECENT PRESENTATIONS (2008-2024 only; * *student author*)

Vilt, M and Smith, ME. 2025. Exploring the morphology of the inner and peripheral ear of the loricariid catfish *Pterygoplichthys pardalis*. Western Kentucky University Student Research Showcase. Bowling Green, KY. Poster Presentation.

Heckerman, G.O.*, Smith, M.E. 2024. The protective role of melanin within the teleost inner ear. Kentucky INBRE Annual Research Conference. Lexington, KY.

Heckerman, G.O.*, Smith, M.E. 2023. Can melanin mitigate hearing loss in fish models. Southeast Regional IDeA Conference. Columbia, South Carolina.

Smith, M.E., Denny, K., Huskey, S., Anderson, C. 2023. Communication via biotremors in the veiled chameleon (*Chamaeleo calytratrus*). Annual Meeting of the Society for Integrative and Comparative Biology, Austin, TX. Invited speaker.

Smith, M.E., Accomando, A.W., Bowman, V., Casper, B.M., Dahl, P.H., Jenkins, K.A., Kotecki, S., Popper, A.N. 2022. Physical effects of sound exposure from underwater explosions on Pacific mackerel (*Scomber japonicus*): Part II- Effects on inner ear. International Conference on the Effects of Noise on Aquatic Life, Berlin, Germany.

Heckerman, G.*, Smith, M.E. 2022. The protective role of melanin in the *Poecilia latipinna* inner ear. Western Kentucky University Student Research Conference, Bowling Green, KY. Poster Presentation.

Heckerman, G.*, Smith, M.E. 2022. The protective role of melanin in the inner ear of two fish species, *Poecilia latipinna* and *Cyprinus carpio*. Annual Meeting of the Kentucky Academy of Science, Morehead State University, Morehead, KY. Poster Presentation.

Hoffman, S.*, Polgar, G., Smith, M.E. 2021. Atlantic mudskippers signal through the substrate during territorial behavior. Western Kentucky University Student Research Conference, Bowling Green, KY. Oral Presentation.

Hoffman, S.*, Polgar, G., Smith, M.E. 2020. Vibrational communication in the Atlantic mudskipper, *Periophthalmus barbarus*. 106th Annual Kentucky Academy of Sciences Meeting, Eastern Kentucky University, KY, Ecology Session. Oral Presentation.

Johnston, A.M.*, Monroe, J.D., Smith, M.E. 2019. Ototoxicity of cisplatin, pyriplatin, and phenanthriplatin in the auditory hybridoma cell line, HEI-OC1. Southeast Regional IDeA Conference, Louisville, KY.

Patty, T.A.*, Smith, M.E. 2019. Morphological correlates of auditory sensitivity in the inner ear of two species of invasive carp. Society for Neuroscience Meeting, Chicago, Illinois.

Moolani, S.*, Irihamye, E.*, Monroe, J.D., Smith, M.E. 2019. L-serine reduces reactive oxygen species yield in cisplatin treated zebrafish utricles. Scientific and Technology Meeting of the American Auditory Society, Scottsdale, Arizona.

Hodzic, D.*, Smith, M.E. 2019. Investigating how EF-24 and cisplatin affect cancer, renal, and auditory cells. Western Kentucky University 49th Annual Student Research Conference, Bowling Green, KY.

Smith, J.*, Smith, M.E. 2019. A description of the axolotl inner ear. Western Kentucky University 49th Annual Student Research Conference, Bowling Green, KY.

Moolani, S.*, Irihamye, E.*, Monroe, J.D., Smith, M.E. 2018. L-serine reduces reactive oxygen species yield in cisplatin treated zebrafish utricles. Kentucky Honors Roundtable, Western Kentucky University.

Palavra, S.*, Tegge, S.M.*, Huskey, S.H.*, Anderson, C.V., Smith, M.E. 2018. Vibrational communication in chameleons: Part I. Specializations for vibration production and detection. 13th International Congress on Neuroethology, Brisbane, Australia.

Laslie, K.C.*, Hamilton, E.J.*, Huskey, S.H., Anderson, C.V., Smith, M.E. 2018. Vibrational communication in chameleons: Part II. Behavioral contexts for production of and responses to vibration signals. 13th International Congress on Neuroethology, Brisbane, Australia.

Laslie, K.*, Hamilton, E.J.*, Huskey, S.H., Anderson, C.V., Smith, M.E. 2018. Behavioral contexts for production of and responses to vibration signals in the veiled chameleon (*Chamaeleo calyptratus*). WKU Student Research Conference. Bowling Green, KY.

Laslie, K.*, Hamilton, E.J.*, Smith, M.E. 2017. Behavioral detection thresholds and utilization of substrate-borne vibrations by chameleons. 103rd Annual Kentucky Academy of Sciences Meeting, Murray State University, KY, Zoology Session. 1st Place Graduate Oral Presentation.

Millay, M.*, Patty, B.*, Monroe, D., Smith, M.E. 2017. Investigating the synergistic effects of two curcuminoids and cisplatin on cancer cell migration and ROS release. 103rd Annual Kentucky Academy of Sciences Meeting, Murray State University, KY, Physiology and Biochemistry Session. 1st Place Undergraduate Poster Presentation.

Tegge, S.*, Huskey, S., Anderson, C., Smith, M.E., Barnett, K., Laslie, K.*, Hamilton, E.* 2017. The behavioral context and mechanisms of biotremors in the veiled chameleon, *Chamaeleo calyptratus*. American Society for Ichthyology and Herpetology. Austin, Texas.

Smith, M.E. 2017. Effects of overstimulation on auditory hair cells in fishes. Effects of Sound on Fishes Symposium Invited Speaker, American Fisheries Society, Tampa, Florida.

Hodzic, D.*, Monroe, D., Smith, M.E. 2017. Identifying anti-cancer and otoprotective synergisms between cisplatin and two novel curcuminoids. Western Kentucky University Student Research Conference, Bowling Green, KY. 1st Place Oral presentation.

Palavra, S.*, Huskey, S., Smith, M.E. 2017. How do chameleons sense vibrations? Microscopic examination of possible sensory structures. Western Kentucky University Student Research Conference, Bowling Green, KY. Oral presentation.

Millay, M.*, Patty, B.*, Monroe, D., Smith, M.E. 2017. Investigating the synergistic effects of two curcuminoids and cisplatin on cancer cell migration. Western Kentucky University Student Research Conference, Bowling Green, KY. 1st Place Poster presentation.

Hamilton, E.*, Huskey, S., Smith, M.E. 2017. Substrate-borne communication in chameleons: Do vibrations induce behavioral changes? Western Kentucky University Student Research Conference, Bowling Green, KY. Poster presentation.

Monroe, J.D., Williams, K.M., Smith, M.E. 2017. Evaluating the ototoxicity of novel platinum(II) chemotherapy compounds using a zebrafish inner ear model. Association for Research in Otolaryngology 2017 Midwinter Research Meeting, Baltimore, Maryland.

Hodzic, D.*, Monroe, J.D., Smith, M.E. 2016. Identifying anti-cancer and otoprotective synergisms between cisplatin and two novel curcuminoids. 102nd Annual Kentucky Academy of Sciences Meeting, University of Louisville, KY, Physiology and Biochemistry Session.

Palavra, S.*, Smith, M.E. 2016. Microscopic examination of potential mechanosensory structures for vibration detection in chameleons. 102nd Annual Kentucky Academy of Sciences Meeting, University of Louisville, KY, Zoology Session.

Monroe, J.D., Williams, K.M., Smith, M.E. 2016. Finding novel platinum(II)-based anticancer drugs with reduced side effects. Sixth Biennial National IDeA Symposium of Biomedical Research Excellence, Washington, D.C.

Huskey, S., Anderson, C., Smith, M.E., Barnett, K. 2016. Some chameleons really do hear it through the grapevine. 11th International Congress of Vertebrate Morphology. Washington, D.C.

Smith, M.E., Huskey, S.H., Anderson, C.V., Barnett, K.E. 2016. What is all the buzz about? – A novel form of seismic communication found in chameleons. 12th International Congress on Neuroethology, Montevideo, Uruguay.

Heine, M.*, Billings, T.*, Monroe, J.D., Smith, M.E. 2015. Effects of cisplatin, phenanthriplatin, and pyriplatin on hearing and inner ear hair cells of zebrafish (*Danio rerio*). 101st Annual Kentucky Academy of Sciences Meeting, Northern Kentucky University, KY, Physiology and Biochemistry Session.

King, S.E.*, Fehrenbach, A.K.*, Johnson, J.R., Smith, M.E. 2015. Sound-induced hearing loss and recovery in the axolotl (*Ambystoma mexicanum*). International Bioacoustics Congress, Murnau, Bavaria, Germany.

King, S.E.*, Fehrenbach, A.K.*, Johnson, J.R., Smith, M.E. 2015. Functional recovery of axolotl hearing following sound exposure. WKU Student Research Conference, Bowling Green, KY. Best poster award.

Rogers, B.*, Smith, M.E. 2015. Hearing and a potentially novel peripheral auditory structure in *Semaprochilodus insignis*. WKU Student Research Conference, Bowling Green, KY.

Hodzic, D.*, Smith, M.E. 2015. The role of melanin in auditory function of zebrafish (*Danio rerio*). WKU Student Research Conference, Bowling Green, KY. Best poster award.

Fehrenbach, A.K.*, King, S.E.*, Johnson, J.R., Smith, M.E. 2105. Hearing and effects of sound exposure on the axolotl (*Amystoma mexicanum*). WKU Student Research Conference, Bowling Green, KY. Oral presentation.

Weller, K.K.*, Godinho, A.L., Smith, M.E. 2015. Sound production in three prochilodontid fish species from Brazil. WKU Student Research Conference, Bowling Green, KY.

Monroe, J.D., Williams, M.E., Smith, M.E. 2014. A high-throughput zebrafish assay for testing ototoxicity of anti-cancer drugs. Kentucky Innovation and Entrepreneurship Conference, Louisville, KY.

Monroe, J.D., Williams, M.E., Smith, M.E. 2014. Finding novel platinum(II) complex anti-cancer drugs. NIH Fifth Biennial National IDeA Symposium of Biomedical Research Excellence, Washington, D.C.

Smith, M.E. 2014. Fishing for a cure for deafness: Zebrafish and sensory hair cell regeneration. Department of Biology, Western Kentucky University. Invited seminar.

Smith, M.E. 2014. Fishing for a cure for deafness: Zebrafish and sensory hair cell regeneration. Department of Physiology and Developmental Biology, Brigham Young University. Invited seminar.

Manning, D.P.*, Uribe, P.*, Monroe, J.D., Smith, M.E., and Coffin, A.B. 2014. GFP expression in hair cells is correlated with reduced hearing sensitivity in transgenic zebrafish. Northwest Regional Society for Developmental Biology, Friday Harbor Laboratories, University of Washington, WA.

Smith, M.E. 2014. Hearing and hair cells in fishes. Invited seminar. Brigham Young University, Department of Physiology and Developmental Biology, Provo, UT.

Coffey, B.N.*, and Smith, M.E. 2014. Melanin as a possible oto-protective pigment in the ears of *Poecilia latipinna* and *Cyprinus carpio*. Association for Research in Otolaryngology 2014 Midwinter Research Meeting, San Diego, CA.

Ni, A.*, and Smith, M.E. 2014. Effects of growth hormone (GH) antagonist on zebrafish auditory hair cell regeneration. Association for Research in Otolaryngology 2013 Midwinter Research Meeting, San Diego, CA.

Smith, M.E. The relationship between hair cell loss and hearing loss in fishes. 2013. The Third International Conference on the Effects of Noise on Aquatic Life. Budapest, Hungary.

Ni, A.*, and Smith, M.E. 2013. Effects of growth hormone antagonist on zebrafish auditory hair cell regeneration. Southeast Regional IDeA Meeting, Little Rock, AR.

Smith, M.E., Sun, H., Perkins, M.*, Ni, A.* 2013. Growth hormone: A tonic for auditory hair cell loss? 50 Years of Underwater Bioacoustics Symposium, Mote Marine Laboratory, Sarasota, Florida.

Coffey, B.N.*, Smith, M.E. 2013. Melanin as a possible oto-protective pigment in fish ears. 50 Years of Underwater Bioacoustics Symposium, Mote Marine Laboratory, Sarasota, Florida.

Perkins, M*, Ni, Y*, Sun, H., Smith, M.E. 2013. Prophylactic effects of growth hormone on zebrafish auditory hair cell damage. Western Kentucky University Student Research Conference, Bowling Green, KY. Undergraduate oral presentation.

Ni, Y*, Perkins, M*, Sun, H., Smith, M.E. 2013. Effects of growth hormone antagonist on zebrafish auditory hair cell regeneration. Western Kentucky University Student Research Conference, Bowling Green, KY. Undergraduate poster presentation (1st Place in Natural Sciences).

Coffey, B.* and Smith, M.E. 2012. Aggressive acoustic behavior in *Yasuhikotakia modesta*: Does the Lombard effect hold water? WKU Student Research Conference, WKU, KY.

Rajadinakaran, G.*, Sun, H., Rinehart, C., Rouchka, E., Smith, M.E. 2012. Identification of growth hormone regulatory pathways using Next Generation Sequencing. Gordon Research Conference- Auditory Systems, Bates College, MA.

Rajadinakaran, G.*, Sun, H., Rinehart, C., Rouchka, E., Smith, M.E. 2012. Regulation of cell proliferation and cell death by growth hormone during zebrafish auditory hair cell regeneration. UT-ORNL-KBRIN Bioinformatics Summit 2012, Louisville, KY.

Rajadinakaran, G.*, Huifang, F., Rinehart C., Rouchka E., Smith, M.E. 2012. Cell proliferation and apoptotic pathways regulated in zebrafish auditory hair cell regeneration using Next Generation Sequencing. WKU Student Research Conference, WKU, KY.

Rajadinakaran, G.*, Sun, H., Rouchka, E., Smith, M.E. 2012. Examining pathways regulated in zebrafish auditory hair cell regeneration using Next Generation Sequencing. Association for Research in Otolaryngology 2012 Midwinter Research Meeting, San Diego, CA.

Coffey, B.* and Smith, M.E. 2011. Aggressive acoustic behavior in *Yasuhikotakia modesta*: Does the Lombard effect hold water? 97th Annual Kentucky Academy of Sciences Meeting, Murray State University, KY, Zoology Undergraduate Student Oral presentation (2nd Place).

Wang, Y.*, Sun, H., and Smith, M.E. 2011. Growth hormone promotes auditory hair cell regeneration in zebrafish (*Danio rerio*). 97th Annual Kentucky Academy of Sciences Meeting, Murray State University, KY, Graduate Physiology and Biochemistry Graduate Student Oral presentation (1st Place).

Rajadinakaran, G.*, Sun, H., Eteleeb, A., Rouchka, E., and Smith, M.E. 2011. Next Generation Sequencing identified regulation of pathways in zebrafish auditory hair cell regeneration. 97th Annual Kentucky Academy of Sciences Meeting, Murray State University, KY, Graduate Physiology and Biochemistry Graduate Student Oral presentation (2nd Place).

Smith, M.E. and Rajadinakaran, G.* 2011. Next Generation sequencing to reveal growth hormone pathways in zebrafish auditory hair cell regeneration. Southeast Regional IDeA Meeting, Sept. 22-24, New Orleans, LA.

Sullivan, M.T.*, Smith, M.E., and Sun, H. 2011. The effect of pile driving on the inner ear of striped bass (*Morone saxitilis*). Biology Summer Undergraduate Research Experience Symposium, WKU, KY.

Coffey, B.N.* and Smith, M.E. 2011. Aggressive acoustic behavior in *Yasuhikotakia modesta*: Does the Lombard effect hold water? Biology Summer Undergraduate Research Experience Symposium, WKU, KY.

Smith, M.E. 2011. Tracing tonotopy in teleosts. Bioacoustics of Fishes Special Session, Acoustical Society of America Meetings, Seattle, WA. Invited presentation.

Wang, Y.*, Sun, H., and Smith, M.E. 2011. Time-course of growth hormone effects on zebrafish (*Danio rerio*) auditory hair cell regeneration. Western Kentucky University 41st Annual Student Research Conference, Bowling Green, KY.

Sun, H., Wang, Y.*, and Smith, M.E. 2011. Time-course of growth hormone effects in zebrafish (*Danio rerio*) auditory hair cell regeneration. Association for Research in Otolaryngology 2010 Midwinter Research Meeting, Baltimore, MD.

Smith, M.E. 2010. Predicting hearing loss in fishes. Second International Conference on the Effects of Noise on Aquatic Life. Cork, Ireland.

Smith, M.E. 2010. Hair cell regeneration in teleost fishes: a review. June 21, 2010, Institute for Marine Biosystems and Neuroscience, Shanghai Ocean University, China, Invited lecture.

H. Sun, Lin, C-H.*, Wang, Y.*, Schuck, J.B.*, and Smith, M.E. 2010. Growth hormone promotes auditory hair cell regeneration. Biennial National IDeA Conference, June 16-18, 2010, Bethesda, Maryland.

Smith, M.E., Sun, H., Schuck, J.B.*, and Moriyama, S. 2010. Growth hormone induces proliferation in the zebrafish inner ear. UT-ORNL-KBRIN Bioinformatics Summit 2010, Lake Barkley State Park Resort, Cadiz, KY.

Smith, M.E. 2010. Hair cell regeneration in teleost fishes: a review. April 19, 2010, Acoustical Society of America Meetings, Baltimore, MD.

Sun, H., Schuck, J.B.*, and Smith, M.E. 2010. The role of growth hormone in zebrafish (*Danio rerio*) auditory hair cell regeneration. Association for Research in Otolaryngology 2010 Midwinter Research Meeting, Anaheim, CA.

Stewart, P.C.* and Smith, M.E. 2010. Gas-filled paired swimbladders: GPS for sound localization in loricariid catfishes. 40th Annual Western Kentucky University Student Research Conference, Bowling Green, KY.

Webb, A.L.* and Smith, M.E. 2010. Sound production in two loricariid catfish species. 40th Annual Western Kentucky University Student Research Conference, Bowling Green, KY.

Lin, C-H*, Sun, H., Schuck, J.B.*, and Smith, M.E. 2009. Effect of growth hormone on cell proliferation in the zebrafish (*Danio rerio*) ear. 95th Annual Kentucky Academy of Sciences Meeting, Highland Heights, KY, Graduate Physiology and Biochemistry Student Oral presentation (1st Place).

Beers, A.M.* and Smith, M.E. 2009. Behavioral context of sound production in *Otocinclus affinis*. 95th Annual Kentucky Academy of Sciences Meeting, Highland Heights, KY, Undergraduate Zoology Student Poster presentation.

Bhaskar, G.* and Smith, M.E. 2009. Sound production in *Polyphylla decemlineata*. 95th Annual Kentucky Academy of Sciences Meeting, Highland Heights, KY, Undergraduate Zoology Student Poster presentation.

Stewart, P.* and Smith, M.E. 2009. Effects of swim bladder deflation on sound localization in *Otocinclus affinis*. 95th Annual Kentucky Academy of Sciences Meeting, Highland Heights, KY, Undergraduate Zoology Student Poster presentation (1st Place).

Botta, S.K.K.R.* and Smith, M.E. 2009. Development and role of peripheral auditory structures in *Otocinclus affinis*. 95th Annual Kentucky Academy of Sciences Meeting, Highland Heights, KY, Graduate Physiology and Biochemistry Student Poster presentation.

Smith, M.E., Stewart, P.C.*, Webb, A.L.*, and Rogers, B.D.* 2009. Sound production and localization in loricariid catfishes. Invited speaker. Fish Bioacoustics Session of the Acoustical Society of America, Portland, OR.

Stewart, P.C.* and Smith, M.E. 2009. Conspecific sound localization in *Otocinclus affinis*. Fifth International Conference on Bio-Acoustics, Holywell Park, Loughborough University, United Kingdom.

Schuck, J.B.*, Lin, C-H., Penberthy, W.T., Li, X., Cooper, N.G.F., and Smith, M.E. 2009. Microarray analysis and quantitative real-time PCR validation of gene expression during auditory hair cell regeneration in zebrafish (*Danio rerio*). Bioinformatics Summit 2009, Fall Creek Falls State Park, Pikeville, TN.

Beers, A.M.* and Smith, M.E. 2009. The Relationship of sound production and behavior in *Otocinclus affinis*. Western Kentucky University Biology Summer Undergraduate Research Experience (BSURE) Symposium.

Schuck, J.B.*, Lin, C-H.*, Penberthy, W.T., Li, X., Cooper, N.G.F., and Smith, M.E. 2009. Microarray analysis and quantitative real-time PCR validation of gene expression during auditory hair cell regeneration in zebrafish (*Danio rerio*). Association for Research in Otolaryngology 2009 Midwinter Research Meeting, Baltimore, Maryland.

Smith, M.E. 2009. Auditory hair cell regeneration and gene expression in noise-exposed zebrafish (*Danio rerio*). Invited seminar speaker. Virginia Merril Bloedel Hearing Research Center, University of Washington, Seattle, WA.

Webb, A.L.* and Smith, M.E. 2008. Comparison of conspecific sound production and hearing thresholds between two loricariid catfishes. 94th Annual Kentucky Academy of Sciences Meeting, Lexington, KY, Undergraduate Zoology Student Oral presentation.

Stewart, P.C.* and Smith, M.E. 2008. Conspecific sound localization in *Otocinclus affinis*. 94th Annual Kentucky Academy of Sciences Meeting, Lexington, KY, Undergraduate Zoology Student poster presentation.

Lin, C-H. *, Penberthy, W.T., Schuck, J.B.*, Li, X., Cooper, N.G., and Smith, M.E. 2008. Microarray analysis of auditory hair cell regeneration in zebrafish (*Danio rerio*). Annual Kentucky Academy of Sciences Meeting, Lexington, KY, Graduate Student Physiology and Biochemistry poster presentation.

Gilley, R.R.* and Smith, M.E. 2008. The equal energy hypothesis: Does it hold water? WKU Biology Summer Undergraduate Research Symposium (BSURE).

Schuck, J.B.*, Smith, M.E., Li, X., and Cooper, N.G. 2008. Fishing for sound answers: Zebrafish as a model of auditory hair cell regeneration. National IDeA Symposium of Biomedical Research Excellence (NISBRE). Aug. 6-8. Washington, D.C.

Stewart, P.C.* and Smith, M.E. 2008. Conditioning of *Otocinclus affinis* using conspecific sounds 38th Annual WKU Student Research Conference, WKU, Bowling Green, KY.

Webb, A.L.* and Smith, M.E. 2008. Comparison of conspecific click sound production between *O. affinis* and *P. gibbiceps*. 38th Annual WKU Student Research Conference, WKU, Bowling Green, KY.

Gilley, R.R.* and Smith, M.E. 2008. Good Vibrations: Developing an Accurate Model for Hearing Loss in Fishes. 38th Annual WKU Student Research Conference, WKU, Bowling Green, KY.

Schuck, J.B.*, Smith, M.E., Li, X., and Cooper, N.G. 2008. Microarray analysis of auditory hair cell regeneration in zebrafish (*Danio rerio*). Bioinformatics Summit 2008, Lake Barkley State Resort, KY.

Schuck, J.B.* and Smith, M.E. 2008. Auditory hair cell regeneration in zebrafish (*Danio rerio*). Association for Research in Otolaryngology 2008 Midwinter Research Meeting, Phoenix, Arizona.

POSTDOCTORAL AND STUDENT LAB RESEARCHERS

Postdoctoral researchers (5):

- Dr. Gianluca Polgar (2018-2019, 2024-2025), Fisheries Biologist, Italy
- Dr. Jerry D. Monroe (2013-2020), Research Associate, Dept. of Cell and Molecular Biology, University of Mississippi Medical Center, Jackson, MS
- Dr. Huifang Sun (2009-2013), M.D., Internal Medicine, Graves Gilbert Clinic, Bowling Green, KY
- Dr. Songhai Li (2009), Professor, Chinese Academy of Sciences
- Dr. William T. Penberthy (2008-2009), Research Faculty, Univ. of Central Florida

Graduate students (14):

- Hephzibah Obafunmiso (2021-2023), Senior R&D Technician, Ethos Pet Brands
- Denis Hodzic (2017-2019), South Warren High School Science Teacher
- Kathryn Laslie (2016-2018), Biology Instructor, WKU; Scientist at HealthTrackRx
- Joshua Smith (2016-2018), Water Treatment Plant Manager, Hardin County Water District No. 2
- Sanida Palavra (2016-2017), Joint Undergraduate-Master's Program, WKU
- Amy Fehrenbach (2013-2015), Ph.D. candidate, University of Memphis
- Bethany Coffey (2012-2014), Ph.D. candidate, University of Hawaii
- Gopinath Rajadinakaran (2010-2012), Ph.D., Univ. of Connecticut
- Yajie Wang (2009-2012)
- Amanda Webb (2009-2011), University of Kentucky College of Medicine
- Dexter Sullivan (2009-2011), Regulatory toxicologist, Gad Consulting
- Chia-Hui Lin (2007-2010), R.N., University of Pikeville, Senior Clinical Research Associate (2012-present), Chiltern International, Taiwan
- Sri Kiran Botta (2007-2009), M.B.A., Texas Tech University
- Julie Schuck (2006-2007), M.S., Medical Illustration, Georgia Regents University

Undergraduate researchers (76): (Honors student*, Gatton Academy of Math & Science student†)

- Keaton Garrison† (2025-present)
- Joseph Adam Kaczynski (2025-present)

- Trisha Chhabra† (2025-present)
- Lily Newton (2025-present)
- Wyatt Breeding (2024-2025)
- Mabel Vilt† (2024-2025)
- Alexandra Freeman (2024-2025)
- Elizabeth Jones* (2024-2025)
- Kaileigh Davis (2023-2024)
- Massia Diomande† (2023-2024)
- Kyra Jones (2021-present)
- Claire Truedell (2021-2022)
- Gabriel Heckerman* (2021-present)
- Elijah Hayes (2020-2022)
- Natalie Heath (2020-2021)
- Ashley Hecklinger (2020)
- Kamery Williams (2020-2022)
- Payton Casey (2019-2022)
- Caroline Reed (2020), University of Louisville School of Dentistry
- Eric Roepke* (2019-2020), University of Kentucky School of Medicine
- Seth Hoffman* (2019-2021), Cell Biology & Physiology Department, Brigham Young University
- Satya Moolani† (2018-2019), Case Western University
- Shelby Ackermann* (2018-2019), Auburn University College of Veterinary Medicine
- Tyler Patty* (2018-2020), University of Kentucky School of Medicine, Bowling Green campus
- David Yan† (2018-2019)
- Daniel Yan† (2018-2019)
- Jonathan Bunnell† (2017-2019), Kentucky College of Optometry, U.Pikeville
- Alexandra Johnston* (2017-present), University of Kentucky School of Medicine
- Elvin Irihamye† (2017-2019), Indiana University
- Sydnie Gordon (2017-2019)
- Samantha Ford* (2017-2018)
- Jonathan Smith† (2016-2019), University of Louisville School of Medicine
- Kathyrn Laslie (2015-2016), North Bullitt High School, KY, Science teacher
- Emily Hamilton* (2015-2017), Emory University, Masters of Public Health
- Sara Melton (2015-2017)
- Joshua Smith (2015-2017), Western Kentucky University, Water Treatment Plant Manager, Hardin County Water District No. 2
- Helen William (2015-2016)
- Obisesan Boluwatife* (2015-2017), Registered Nurse, Greenview Medical Center
- Blaine Patty* (2015-2018), University of Kentucky School of Medicine
- Matthew Millay* (2015-2018)
- John Paul Edoh Abah (2015-2017), University of North Texas
- Sanida Palavra (2015-2017)

- Steven King (2014-2016)
- Madison Heine (2014-2016), University of Louisville School of Dentistry
- Taylor Billings (2014-2016), Kentucky College of Osteopathic Medicine
- Kyle Weller (2014-2016), Research technician, Oregon Health and Science Univer.
- Denis Hodzic* (2014-2017), Western Kentucky University Master's Program
- Machala Wells* (2013-2014)
- Shelvin Booher (2013-2014), Brigham Young University- Idaho
- Barrett Rogers* (2013-2016)
- Victoria Peters (2013-2015), Master of Public Health (2017), WKU
- Amy Ni* (2011-present)
- Brandon Kerr (2011-2013)
- Mackenzie Perkins (Denton)* (2011-2013), WKU Master of Public Health (2015), D.O., University of Pikeville Kentucky College of Osteopathic Medicine
- Elizabeth Malloy (2011-2012), M.S. (2014) Western Kentucky University, Wetland Technician, Eastern Kentucky University (2014-present)
- Savannah Bell (2012), NSF REU Summer research student
- Kyle Hawkins (2010-2012), University of Louisville Medical School
- Ruth Sudbeck* (2010-2011), University of Kentucky College of Medicine
- Alyssa Badinger (2011)
- Amanda Beers*† (2009-2011), Ph.D. (2017) McMaster University, Assistant Professor, Woosong University (2017-present)
- Bethany Coffey*† (2009-2012), Ph.D. candidate, University of Hawaii
- Michael Sullivan (2011), NSF REU Summer research student
- Kaitlin Hartley† (2010)
- Aaron McKee (2010)
- Zachary Laux† (2010)
- Patrick Stewart* (2007-2010), 2009 Recipient of the Udall Scholarship
- Gayatri Bhaskar (2009). M.S., Texas State University (2015)
- Nikki Roof† (2008), Ph.D. Organizational Leadership, WKU Student Support Specialist
- Shubash Sheroa (2006)
- Jyoti Sahi (2006), University of Louisville Dental School (D.M.D., 2010), Mediclub Dental (Dental Sales Consultant, 2011-2012)
- Amanda Webb* (2006-2009), University of Kentucky College of Medicine (M.D., 2016), Resident Physician at the University of Central Florida Hospital (2016-present)
- Brian Rogers* (2006-2010), University of Indiana Optometry School (O.D., 2014), Wellchild (Optometrist), Nashville, TN (2014-present)
- Reagan Gilley* (2005-2008), University of Louisville Medical School (M.D., 2012), Department of Psychiatry, Eastern Tennessee State University (2012-present)

TEACHING EXPERIENCE (at WKU)

- BIOL 113 General Biology

- BIOL 120 Biological Concepts: Cells, Metabolism, and Genetics
- BIOL 120 Winter Web-based Biological Concepts: Cells, Metabolism, and Genetics (personally developed course)
- BIOL 120 Honors: Biological Concepts: Cells, Metabolism, and Genetics (modified course)
- BIOL 153 Cells and Tissues Biotechnology Core Module
- HON 301 The Genius of China – Its History of Discovery & Invention (personally developed Honors colloquium)
- BIOL 335 Neurobiology (personally developed course)
- BIOL 675 Advanced Neurobiology (personally developed course)
- BIOL 503 Contemporary Research in Biology
- BIOL 598 Graduate Seminar
- BIOL 475 Principles of Animal Communication (personally developed Web course)
- BIOL 545 Principles of Animal Communication (personally developed Web-Graduate course)
- BIOL 485 Form and Function in Australian Fauna (*personally developed Study Abroad course)
- BIOL 489 Professional Aspects of Biology

ACADEMIC PROFESSIONAL SERVICE

2024	NIH Auditory Study Section/Center for Scientific Review Group (9/30-10/1/2024): Review of R01, R03, R21, R15, and K grant applications.
2019	NSF Physiological Mechanisms and Biomechanics Program, Division of Integrative Organismal Systems, CAREER grant reviewer
2019	NIH Auditory Study Section/Center for Scientific Review Group (10/7-8/2019): Review of R01, R03, R21, R15, and K grant applications.
2019	NIH Auditory Study Section/Center for Scientific Review Group (2/7-8/2019): Review of R01, R03, R21, R15, and K grant applications.
2018	NIH Center for Scientific Review Anonymization Study Reviewer
2017-19	NIH Kentucky KBRIN Grant Proposal Reviewer
2016	NIH Auditory Study Section/Center for Scientific Review Group (10/20-21/2016): Review of R01, R03, R21, R15, and K grant applications.
2016	NIH Special Emphasis Panel/Scientific Review Group 2016/05 ZRG1 MDCN-R (86) A: Review of Neuroscience AREA Grant applications (3/3-4/2016)
2016	NIH Kentucky KBRIN Grant Proposal Reviewer
2014	Reviewer for the Action on Hearing Loss International Project Grant proposals
2008	Reviewer for the Joint Industry Program (JIP) Exploration & Production (E & P) Sound & Marine Life Program

2024-present	Editorial Board member, *BMC Zoology*
2015-present:	Associate Editor, *Frontiers in Cellular Neuroscience*
2013- 2015:	Guest Associate Editor, *Frontiers in Cellular Neuroscience*

Reviewer for at least 30 journals, including:

Environmental Biology of Fishes, Behavioral Ecology and Sociobiology, Behaviour, PLoS ONE, Open Fish Science Journal, Ecology of Freshwater Fish, The Anatomical Record, Proceedings of the Royal Society B, Royal Society Open Science, Frontiers in Cellular Neuroscience, Hearing Research, Zebrafish, JSM Biology, PeerJ, Journal of the Acoustical Society of America

2012- Textbook reviewer: "Life: The Science of Biology", 10th Edition by Sadava, Hillis, Heller, Berenbaum. W.H. Freeman, 2014.

2008- Reviewer for the Joint Industry Program (JIP) Exploration & Production (E & P) Sound & Marine Life Program

2007- Textbook reviewer: "Biology: Concepts & Connections, Fifth Ed." by Neil A. Campbell, Jane B. Reece, Martha R. Taylor, and Eric J. Simon. Benjamin Cummings, 2006.

WKU Committees and Service

- WKU Biology Research Committee Chair (2025-present)
- WKU Biology Progression Committee (2025-present)
- WKU Center for Integrative Teaching and Learning Artificial Intelligence Working Group (2025-present)
- Ogden College of Science and Engineering, Certificate Academic Program Review Committee (2025-present)
- WKU Faculty/Staff Neurodiversity Alliance (2024-present)
- Center for Innovative Teaching and Learning Artificial Intelligence Bootcamp (Fall 2024)
- Ogden College of Science and Engineering Neuroscience Major Committee (Fall-Summer 2024)
- Activity Creator- "Neuroscience in Action: Brain-Machine Interface", 11th Annual IdeaFestival-Bowling Green (Spring 2024, Spring 2025)
- WKU Climbing Club Advisor (2022-2024) – Weekly gatherings at Vertical Excape
- Ogden College of Science and Engineering Dean Search Comm. (Fall 2020- Spring 2021)
- Biology Junior Faculty Mentor Coordinator for Dr. Kevin Bilyk (Fall 2018-2020)
- WKU 2018-2028 Strategic Planning Committee (Research, Scholarship and Creative Endeavors subcommittee) (2017-2018)
- Faculty Senator Representative for Biology, University Senate (Spring 2013-2017)
- Ogden College of Science and Engineering Graduate Curricular Comm. (Fall 2013-2018)
- Biology Department Graduate Curriculum Committee Chair (Fall 2013-2018)
- Ogden College of Science and Engineering Identity Committee (Fall 2013-2014)
- WKU University Senate General Education Committee (Fall 2013-2014)
- WKU Honors Development Board (Fall 2012-2015)
- Ogden College of Science and Engineering Faculty Awards Committee (Fall 2012)
- Postdoctoral Research Associate Search Committee Chair, WKU Biology Department (Spring-Summer 2013)
- At-Large Biology Representative to Faculty Senate (Spring 2009-Spring 2013)

- Biostatistics Search Committee Chair (Fall 2010-Spring 2011)
- WKU Student Research Council (Fall 2009-2011), Sigma-Xi Representative
- Biology Advising Committee (Fall 2009-2012), Chair
- Biology Department Head Search Committee Member (Spring 2008 – Summer 2009)
- Biology Summer Undergraduate Research Experience (BSURE) Committee member (2007-present)
- Curriculum Committee, Bioinformatics and Information Science Center (Spring 2006-present)
- Genetics Instructor Search Committee, Biology Department (Summer-Fall 2009)
- Biotechnology Center Coordinator Search Committee Chair (Summer-Fall 2009)
- Postdoctoral Research Associate Search Committee Chair, WKU Biology Department (Summer 2009-2010)
- Biology Department Undergraduate Curriculum Committee (Summer 2009-2012)
- Biotechnology Center Recruitment Committee (Fall 2005-2009)
- *Ad hoc* Biol 120 Committee (Fall 2005-present)
- Pre-professional Advising Committee (Fall 2005-present)

RECENT PROFESSIONAL DEVELOPMENT

2025	Participant in the CITL Fall Book Club: *The Opposite of Cheating: Teaching for Integrity in the Age of AI* by Tricia Gallant and David Rettinger.
2024	Completion of WKU's CITL/Auburn's Teaching with AI Course, The Center of Innovative Teaching and Learning (completed Aug. 27, 2024)
2024	Completion of WKU's Online Teaching Course, The Center of Innovative Teaching and Learning (completed Aug. 15, 2024)
2024	WKU AI Bootcamp, The Center of Innovative Teaching and Learning
2024	Badge Earned: Association of College and University Educators module on "Addressing Imposter Phenomenon and Stereotype Threat"
2024	Badge Earned: Association of College and University Educators module on "Cultivating an Inclusive Environment"