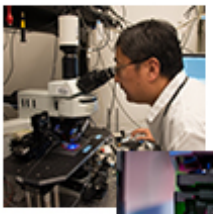

College of Medicine Phoenix

Department of Basic Medical Sciences Highlights 2017

Mission:
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Paul E. Boehmer, PhD
Chair and Professor
Basic Medical Sciences

Publications – High profile publications by the BMS faculty in 2017 include the following:

- Balzarini J, Menni M, Das K, van Berckelaer L, Ford A, Maguire NM, Liekens S, **Boehmer PE**, Arnold E, Götte M and Maguire AR (2017). Guanine α-carboxy nucleoside phosphonate (G-α-CNP) shows a different inhibitory kinetic profile against the DNA polymerases of human immunodeficiency virus (HIV) and herpes viruses. *Biochem. Pharmacol.*, 136, 51-61.

- **Conway MD**, Noble JA, **Peyman GA** (2017 Spring). Central serious choioretinopathy in postmenopausal women receiving exogenous testosterone. *Retin Cases Brief Rep.*, 11(2), 95-99. doi: 10.1097/ICB.0000000000000298. PMID: 26934303.

- Kim HD, Call T, Magazu S, **Ferguson D** (2017). Drug Addiction and Histone Code Alterations. *Adv Exp Med Biol.*, 978, 127-143. doi: 10.1007/978-3-319-53889-1_7.

- Ercoli MD, Alvarez A, Busker F, Morales MM, Julik E, Smith HF, Adrian B, Barton M, Bhagavatula K, Poole M, Shahsavan M, Wechsler R, **Fisher RE** (2017). Myology of the head, neck and thoracic region of the lesser grison (Galictis cuja) in comparison with the red panda (Ailurus fulgens) and other carnivorans: phylogenetic and functional implications. *Journal of Mammalian Evolution*, 24(3), 289–322.

- Maple A, Lackie RE, Elizalde DI, Grella SL, Damphousse CC, Xa C, **Gallitano AL**, Marrone DF (2017 Mar 8). Attenuated Late-Phase Arc Transcription in the Dentate Gyrus of Mice Lacking Egr3. *Mol Immunol.*, 85, 185-195. doi: 10.1016/j.molimm.2017.02.019. Epub.

- Dickinson JM, D'Lugos AC, Mahmood TN, Ormsby JC, Salvo L, Dedmon WL, Patel SH, Katsma MS, Mookadam F, **Gonzales RJ**, **Hale TM**, Carroll CC, Angadi SS (2017 Jul 31). Exercise Protects Skeletal Muscle during Chronic Doxorubicin Administration. *Med Sci Sports Exerc*. doi: 10.1249/MSS.0000000000001395. [Epub ahead of print] PMID: 28767526.

- Maple AM, Call T, Kimmel PC and **Hammer RP** (2017 Apr). Effects of Repeated Ropinirole Treatment on Phencyclidine-Induced Hyperlocomotion, Prepulse Inhibition Deficits, and Social Avoidance in Rats. *Journal of Pharmacology and Experimental Therapeutics*, 361, 109-114.

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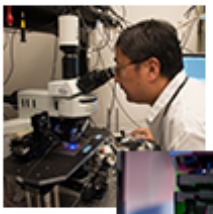

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Basic Medical Sciences

Publications Continued:

- Whatcott CJ, Ng S, Barrett MT, Hostetter G, Von Hoff DD, **Han H** (2017). Inhibition of ROCK1 kinase modulates both tumor cells and stromal fibroblasts in pancreatic cancer. *PLoS One*, 12, e0183871.

- Rausch MP, **Hastings KT** (2017 Dec 21). Immune Checkpoint Inhibitors in the Treatment of Melanoma: From Basic Science to Clinical Application. In: Ward WH, Farma JM, editors. Cutaneous Melanoma: Etiology and Therapy [Internet]. Brisbane (AU): *Codon Publications*, Chapter 9.

- Łaniewski P, Gomez A, Hire G1, So M, **Herbst-Kralovetz MM** (2017). Human Three-Dimensional Endometrial Epithelial Cell Model To Study Host Interactions with Vaginal Bacteria and Neisseria gonorrhoeae. *Infect Immun.*

- Brook L, **Whitfield GK**, Hsieh D, Bither RD and **Hsieh J-C** (2017). The mammalian hairless protein as a DNA binding phosphoprotein. *J. Cell. Biochem.*, 118, 341-350. PMCID: PMC27355563.

- Wagner C, **Jurutka PW**, Marshall PA and Heck MC (2017). Retinoid X receptor selective agonists and their synthetic methods. *Curr Top Med Chem.*, 17(6), 742-767. Review.

- Tollis M, DeNardo DF, Cornelius JA, Edwards T, Murphy RW, **Kusumi K** (2017). The Agassiz's desert tortoise genome provides a resource for the conservation of a threatened species. *PLOS ONE*, 12(5), e0177708. doi: 10.1371/journal.pone.0177708.

- Wang J, Bastle RM, **Nikulina EM** (2017 Jan 24). VTA BDNF enhances social stress-induced compulsive cocaine bingeing. *Oncotarget*, 8(4), 5668-5669. doi: 10.18632/oncotarget.13995.

- Branca C, Ferreira E, Nguyen TV, Doyle K, Caccamo A, **Oddo S** (2017 Dec 15). Genetic reduction of Nrf2 exacerbates cognitive deficits in a mouse model of Alzheimer's disease. *Hum Mol Genet.*, 26(24), 4823-4835.

- **Titelbaum AR**, Verano JW (2017). Bioarchaeology of the Huaca Prieta human remains. Where the Land Meets the Sea: Fourteen Millennia of Human History at Huaca Prieta, Peru. Edited by TD Dillehay. *University of Texas Press*, 166-198.

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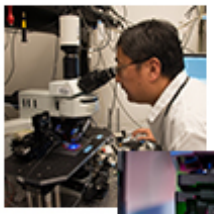

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Publications Continued:

- Eschbacher JM, Georges JF, Belykh E, Yazdanabadi MI, Martirosyan NL, Szeto E, Seiler CY, Mooney MA, Daniels JK, Goehring KY, **Van Keuren-Jensen KR**, Preul MC, Coons SW, Mehta S, Nakaji P (2017). Immediate Label-Free Ex Vivo Evaluation of Human Brain Tumor Biopsies With Confocal Reflectance Microscopy. *J Neuropathol Exp Neurol.*, 76(12), 1008-1022.

- Sabir MS, Khan Z, Hu C, Galligan MA, Dussik CM, Mallick S, Stone AD, Batie SF, Jacobs ET, **Whitfield GK**, **Haussler MR**, Heck MC, **Jurutka PW** (2017 Sep). SIRT1 enzymatically potentiates 1,25-dihydroxyvitamin D3 signaling via vitamin D receptor deacetylation. *J Steroid Biochem Mol Biol.*, 172, 117-129. doi: 10.1016/j.-jsbmb.2017.06.010. Epub 2017 Jun 19.

Presentations:

- **Ella Nikulina, PhD, Associate Professor, Department of Basic Medical Sciences**, accepted to present abstract "Essential Role of Mu-Opioid Receptors in the Rat Ventral Tegmental Area After Social Stress: Implication for Social Interaction and Amphetamine Cross-Sensitization," at the European Behavioral Pharmacology Society (EBPS) Biennial Meeting in August, 2017, located in Heraklion, Crete, Greece.

Honors:

- **Rebecca Fisher, PhD, Associate Professor, Department of Basic Medical Sciences**, received Award for Excellence in Teaching by a Block or Course Director from the Class of 2019, University of Arizona, College of Medicine – Phoenix (Clinical Anatomy Block).

Other:

- **Paul Standley, PhD, Professor, Department of Basic Medical Sciences**, named scientific chair for inaugural Global Conference on Manual Therapies Research to be held in 2019; named to scientific steering committee for the Fifth Fascia Research Congress to be held in Berlin, 2018. This year's theme: Connecting Key Issues – How Fascia Research Can Impact Health Outcomes.

- The Department hosted twenty-six scientific presentations as part of the annual Basic Medical Sciences Seminar Series.

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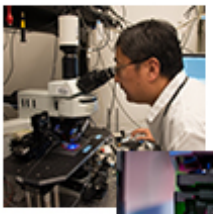

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Grants:

- **Deveroux Ferguson, PhD, Assistant Professor, Department of Basic Medical Sciences**, awarded $2.3 Million RO1 grant by the National Institutes of Health (NIH) for his research on the "Pivotal role of SIRT1, a protein-coding gene, in anxiety and depression behaviors in the nucleus accumbens, a key brain reward region". *Dr. Ferguson expects the results will unravel the cell- and circuit-specific contribution of SIRT1 in stress-induced anxiety and depression.*

- **Amelia Gallitano, MD, PhD, Associate Professor, Department of Basic Medical Sciences**, awarded $382,482 NIMH R21 grant for her research on "Molecular Mechanisms Underlying the Therapeutic Effect of ECT." Reviewed proposal scored top 2.0 percentile June 2017. *This grant examines the role of the immediate early gene Egr3 in regulating the molecular, cellular and behavioral effects of electroconvulsive seizure that are responsible for its therapeutic effect in the treatment of severe mood and psychotic disorders.*

- **Melissa Herbst-Kralovetz, PhD, Associate Professor, Department of Basic Medical Sciences**, awarded $100,000 translational research grant by The Mary Kay Foundation for research on "Elucidating the Genital Microbiome and Local Immune Microenvironment in Endometrial Cancer Patients." *Her research is meant to better understand the role of genital bacterial communities in the biology of inflammation and type I endometrial cancer as a means for risk reduction in women.*

- **Shenfeng Qiu, MD, PhD, Assistant Professor, Department of Basic Medical Sciences**, in conjunction with Deveroux Ferguson, PhD, Assistant Professor, Department of Basic Medical Sciences, received $422,125 joint co-principal investigators R21 grant from the National Institutes of Health (NIH) for research to "Address the basic neural circuit mechanisms of depression." *This is the first NIH-Funded R21 Grant ever awarded to BMS Department for research on depressive disorders.*

- **Frederic Zenhausern, PhD, MBA, Director of the Center for Applied NanoBioscience and Medicine, and Professor, Department of Basic Medical Sciences**, received $943,000 in funding as co-principal investigator on grant awarded to the Wake Forest Institute for Regenerative Medicine. Dr. Zenhausern's laboratory will provide microfluidic gut microsystem and biodosimetry tools to Wake Forest University scientists. *This is the first NASA grant from the Translational Research Institute for Space Health (TRISH) to better understand the health risks astronauts face from the exposure to galactic cosmic ray (GCR) and solar energetic particle (SEP) radiation that occurs from long-duration missions in deep space, and to develop countermeasures to keep astronauts safe.*

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