



RESEARCH ACCOMPLISHMENTS



JANUARY - MARCH 2022

PUBLICATIONS:

Benavides TM, Aden JK, Giancola SE. Evaluating outcomes associated with revised fluoroquinolone breakpoints for Enterobacterales urinary tract infections: A retrospective cohort study. *Eur J Clin Microbiol Infect Dis*. 2022 Feb 28. doi: 10.1007/s10096-022-04428-1. Online ahead of print. PMID: 35224677.

Belayet JB, Beamish S, Rahaman M, Alanani S, Virdi RS, Frick DN, Rahman AFMT, Ulicki JS, Biswas S, Arnold LA, Roni MSR, Cheng EY, Steeber DA, Frick KM, Hossain MM. Development of a Novel, Small-Molecule Brain-Penetrant Histone Deacetylase Inhibitor That Enhances Spatial Memory Formation in Mice. *J Med Chem*. 2022 Feb 8. doi: 10.1021/acs.jmedchem.1c01928. Online ahead of print. PMID: 35133171.

Fadeyibi O, Rybalchenko N, Mabry S, Nguyen DH, Cunningham RL. The Role of Lipid Rafts and Membrane Androgen Receptors in Androgen's Neurotoxic Effects. *Journal of the Endocrine Society*. 21 February 2022. bvac030, <https://doi.org/10.1210/jendso/bvac030>. Online ahead of print.

Hearn EB. Utilizing Young Faculty Members to Promote LGBT+ Education in Pharmacy Curricula. *AACP Pharmacy Practice Newsletter*, Winter 2022.

Haines S, Kelley K, Eiland LS, Allen JM, Howard ML, Nealy KL, Ball J, Bell AM, Schoen RR, Smith SE. Mentorship in a Professional Pharmacy Association: A Tale of Two Programs. *The Journal of Faculty Development*. 2022 Jan 1; 36(1):82-95.

Gibson CM, Hall B, Kwon HI, Davis S, Bradford D, Howard ML. Safety and Efficacy of Indomethacin for Reducing Chest Tube Duration After Coronary Artery Bypass Grafting Surgery. *Journal of Pharmacy Technology*. 2022 Jan 28. doi:10.1177/87551225221074588. Online ahead of print.

Dang DH, Riaz KM, Karamichos D. Treatment of Non-Infectious Corneal Injury: Review of Diagnostic Agents, Therapeutic Medications, and Future Targets. *Drugs*. 2022 Jan 13. doi: 10.1007/s40265-021-01660-5. Online ahead of print. PMID: 35025078. Review.

Escandon P, Nicholas SE, Cunningham RL, Murphy DA, Riaz KM, Karamichos D. The Role of Estriol and Estrone in Keratoconic Stromal Sex Hormone Receptors. *Int J Mol Sci*. 2022 Jan 14; 23(2):916. doi: 10.3390/ijms23020916. PMID: 35055103.

McKay TB, Priyadarsini S, Karamichos D. Sex Hormones, Growth Hormone, and the Cornea. *Cells*. 2022 Jan 11; 11(2):224. doi: 10.3390/cells11020224. PMID: 35053340. Review.

Liang W, Huang L, Ma X, Dong L, Cheng R, Dehdarani M, Karamichos D, Ma JX. Pathogenic Role of Diabetes-induced Overexpression of Kallistatin in Corneal Wound Healing Deficiency through Inhibition of Canonical Wnt Signaling. *Diabetes*. 2022 Jan 14; db210740. doi: 10.2337/db21-0740. Online ahead of print. PMID: 35044447.

Gdowski A, Hayatshahi H, Fudala R, Joshi R, Liu J, Vishwanatha JK, Jeyarajah R, Guzik P, Ranjan AP. Novel Use of Hypoxia-Inducible Polymerizable Protein to Augment Chemotherapy for Pancreatic Cancer. *Pharmaceutics* 2022 Jan 5; 14, 128. <https://doi.org/10.3390/pharmaceutics14010128>. Online ahead of print.

Wang H, Palasik BN. Combating antimicrobial resistance with cefiderocol for complicated infections involving the urinary tract. *Ther Adv Urol.* 2022 Jan 31; 14:17562872211065570. doi: 10.1177/17562872211065570. *eCollection* 2022 Jan-Dec. Review. PMID: 35126672.

Ma Z, He S, Yuan Y, Zhuang Z, Liu Y, Wang H, Chen J, Xu X, Ding C, Molodtsov V, Lin W, Robertson GT, Weiss WJ, Pulse M, Nguyen P, Duncan L, Doyle T, Ebright RH, Lynch AS. Design, Synthesis, and Characterization of TNP-2198, a Dual-Targeted Rifamycin-Nitroimidazole Conjugate with Potent Activity against Microaerophilic and Anaerobic Bacterial Pathogens. *J Med Chem.* 2022 Feb 17. doi: 10.1021/acs.jmedchem.1c02045. Online ahead of print. PMID: 35175750.

Wu H, Shui Y-B, Liu Y, Liu X, Siegfried CJ, Trabecular meshwork mitochondrial function and oxidative stress: Clues to racial disparities of glaucoma, *Ophthalmology Science* (2022), doi: <https://doi.org/10.1016/j.xops.2021.100107>. Published online December 23, 2021.

PRESENTATIONS:

Atanda A. Interview Preparation Part 2: Perspectives of a Residency Program Director. *The Post-Graduate Pharmacist.* Podcast, Episode 26; 17 January 2022. <https://pgp.captivate.fm/>

Bradshaw JL, Cunningham RL, Gouloupoulou S. Impact of reproductive history on maternal cognitive function and systemic inflammation. 2022 Brain and Steroid Workshop, March 6-10, 2022, Breckenridge, Colorado.

Karamichos D. Keratoconus dystrophy – Time for a new paradigm. 2022 Brain and Steroid Workshop, March 6-10, 2022, Breckenridge, Colorado.

VIRTUAL POSTER PRESENTATIONS:

(None reported)

GRANTS/CONTRACTS AWARDED:

Denise Inman — Industry Sponsored Project; \$46,200.00; Neuroprotective Effect of a Test Compound in Bead-Induced Rat Model of Glaucoma; 1/25/22 – 9/24/22. Industry Sponsored Project; \$19,058.00; Neuroprotective Effect of Test Compounds in a Mouse Model of Ocular Hypertension; 12/1/21 - 3/31/24.

Jin Liu – NIGMS/NIH; \$414,490.00; De novo development of small CRISPR-Cas proteins using artificial intelligence algorithms; 1/1/22 – 12/31/23.

Julio Rincon – Awarded an additional \$20,000.00 for his NIMHD Star Leadership Pilot Project “Microfluidic in-vitro platform for the evaluation of therapeutics and carrier drugs in breast cancer tissue” bringing the total award to \$50,000; 1/1/22 - 5/31/22.

William Weiss — Industry Sponsored Project; \$54,311.42; Pharmacokinetics of a Test Article in Rabbits; 2/9/22 – 2/8/23. Industry Sponsored Project; \$40,714.82; P. aeruginosa Lung Challenge Studies; 1/31/22 – 1/30/23. Industry Sponsored Project; \$28,793.00; Efficacy and Pharmacokinetics of novel test articles in a murine lung infection model with *Klebsiella pneumoniae* (amendment to the original contract for additional work); 12/13/21 – 11/28/22. Industry Sponsored Project; \$23,935.12; Efficacy of Anti-virulence Agents in the Neutropenic Murine Dermonecrosis model with *S. aureus*; 12/6/21 – 12/5/22. Industry Sponsored Project; \$18,356.70; MTD and Efficacy of Submitted Test Article(s) in the Murine Thigh Infection Model; 2/18/22 – 2/17/23. Industry Sponsored Project; \$15,984.08; Murine dermonecrosis model with *S. aureus* and efficacy of anti-virulence compounds (amendment to the original contract for additional work); 2/3/21 – 3/14/22. Industry Sponsored Project; \$15,648.48; Serum levels and efficacy of a Test Article in *Pseudomonas aeruginosa* lung-infected mice; 2/17/22 – 2/18/23. Industry Sponsored Project; \$14,253.20; Prophylactic and Therapeutic Activity of Test Article Formulations in an in vitro VISK System; 2/24/22 – 2/23/23. Industry Sponsored Project; \$12,848.48; Efficacy and Pharmacokinetics of novel test articles in a murine lung

infection model with *Klebsiella pneumoniae*; 10/31/21 – 4/30/22. Industry Sponsored Project; \$11,655.70; Bronchoalveolar Lavage Fluid (BALF) levels and efficacy of a Test Article in naive and *Pseudomonas aeruginosa* lung-infected mice; 2/17/22 – 2/18/23. Industry Sponsored Project; \$7,625.02; Dose Escalation safety / tolerability of submitted novel test articles; 12/29/21 – 12/28/22. Industry Sponsored Project; \$7,692.92; Determination of Safety and Tolerability of Test Article Formulations in the Rat; 1/13/22 – 1/12/23. Industry Sponsored Project; \$5,430.16; Tolerability of submitted test article(s) by selected routes of administration; 2/18/22 – 2/17/23. UNTHSC Internal Project; \$1,346.06; ELISA analysis of swine serum and lymphatic samples; 1/13/22 – 1/12/23.

Hongli Wu – TCU / NIGMS; \$53,496.00; Building Better Antioxidants: Virtual Screening, Synthesis, and Characterization of Multifunctional Small Molecules Combining Nrf2 Pathway Activation and Direct Antioxidant Activity; 6/1/22 – 5/31/25.