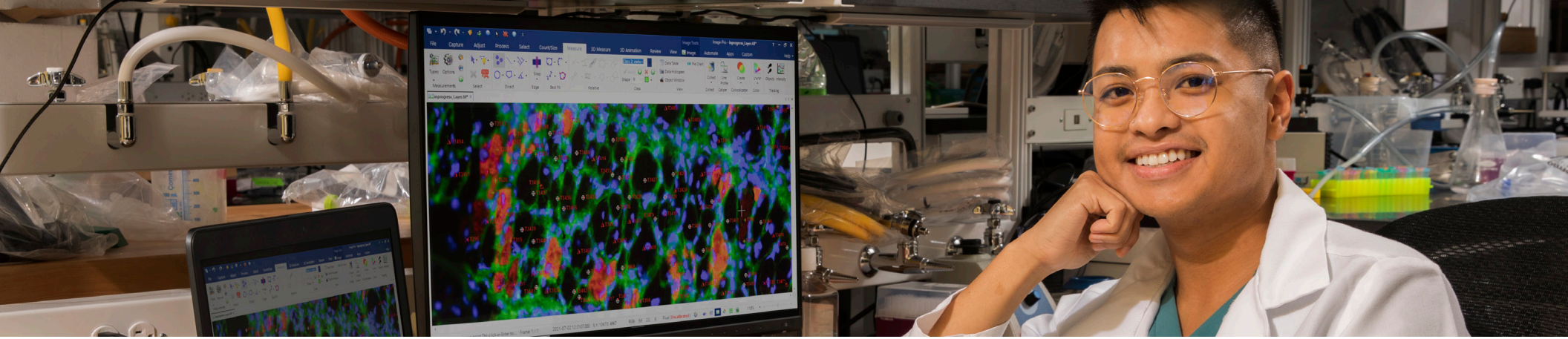
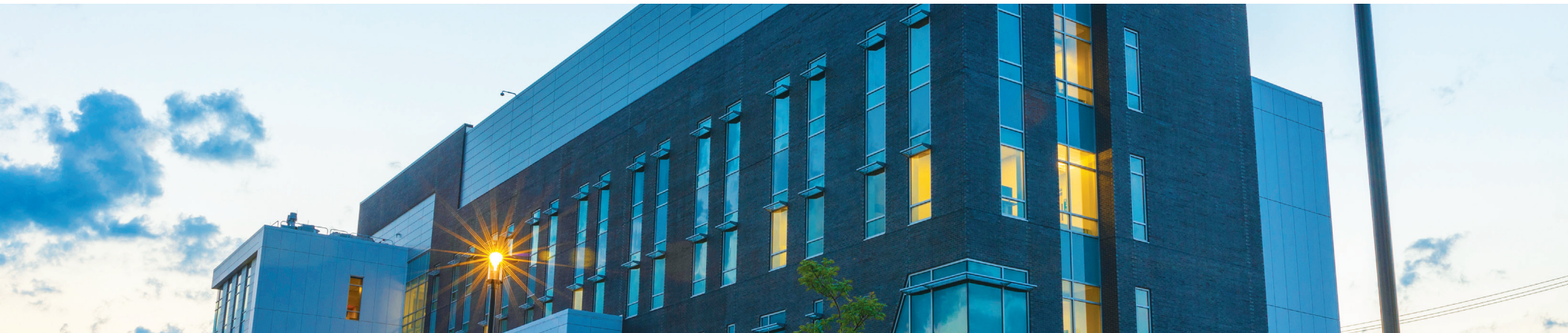


BINGHAMTON UNIVERSITY

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

2020-2021 ANNUAL REPORT



2020-2021 ANNUAL REPORT

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

Binghamton University's School of Pharmacy and Pharmaceutical Sciences is on the move.

With approval from SUNY and the New York State Department of Education, we are recruiting for our first class of master's and PhD students in pharmaceutical sciences to enroll in fall 2022. This milestone comes on the heels of graduating our inaugural class of Doctor of Pharmacy students in May and receiving accreditation from the Accreditation Council for Pharmacy Education in June of this year.

Though at times challenging due to the COVID-19 pandemic, our research activities and the opportunities we provide to our students in our classrooms and labs, and through their clinical rotations, have continued due to the teamwork and dedication of our faculty and staff.

We are living in interesting times, but remain committed to providing exceptional learning experiences to our students and to achieve at the highest levels in our research initiatives.

This 2020-2021 annual report is a comprehensive look at the research presentations, publications and funding of our faculty, showcasing their achievements in a second consecutive year impacted by COVID-19.

Our presentations (July 1, 2020–June 30, 2021)

Mohammad Ali, PhD

Platform Presentation: Ali M. "Matrix metalloproteinase-2 mediates ribosomal RNA transcription by cleaving nucleolar histones." Asilomar Chromatin, Chromosomes, and Epigenetics Conference. Virtual.

Platform Presentation: Ali M. "Unravelling the Role of a Protease in the Nucleolus of Cancer Cells." PSG-Binghamton International Webinar Series. Virtual.

Platform Presentation: Ali M. "RYBP in DNA damage repair; implications in cancer therapy." Binghamton University Department of Biological Sciences Graduate Seminar Series. Binghamton, N.Y.

KarenBeth Bohan, PharmD

Platform Presentation: Chaibva J, Bohan KBH, Crowe S, Manji I, Tran T, Amisi JA, Acuti OS. "Improving Non-Communicable Diseases through Pharmaceutical Care." World Health Summit Regional Meeting (International). Kampala, Uganda.

Educational Presentation: Bohan KBH. "Journal Scope, Impact Factor, and Citations." Upstate Medical Center, Resident Research Certificate Program. Syracuse, N.Y.

Danielle Cabral, PharmD

Poster Presentation: Cabral D, Gozar M, Lam M, Mol L, and McGowan J. "Improving smoking cessation outcomes in persons living with HIV and AIDS." Northwell Health Pharmacy Service Line. Virtual.

Utkarsh Dang, PhD

Poster Presentation: Dang UJ, Clemens P, Gordish-Dressman H, Hoffman E, Schwartz B, Mengle-Gaw L, Leinonen M, Smith E, Castro D, McDonald E, Kuntz N, Finkel R, Tulinius M, Nevo Y, Ryan M, Webster R, van den Anker J, Conklin L, Ward L, Damsker J, Guglieri M, Cooperative International Neuromuscular Research Group, Mah J. "2.5-years Of Vamorolone Treatment In Duchenne Muscular Dystrophy: Results Of An Open Label Long-term Extension." Muscular Dystrophy Association. Virtual.

Christopher Davis, PhD

Poster Presentation: Davis CS, Rattinger GB, Sutherland MA, Young SR, Eggleston W. "PrEP Availability at Doctoral-Granting U.S. Institutions of Higher Education." American Public Health Association. Virtual.

Platform Presentation: Davis CS. "Trusting your Assessments in Distance-Delivered Settings." Regis University School of Pharmacy. Denver, Colo.

Tony D. Davis, PhD

Educational Presentation: Davis TD. "Trapping Natural Products Biosynthesis for Infectious Diseases, Biocatalysis, and Drug Discovery." Weill Cornell Graduate School of Medical Sciences of Cornell University Department of Pharmacology Seminar Series. Ithaca, N.Y.

Educational Presentation: Davis TD. "Interrogating Carrier-Protein Biosynthetic Pathways for Infectious Diseases, Biocatalysis, and Drug Discovery." Binghamton University Department of Biological Sciences Seminar Series. Binghamton, N.Y.

Anthony Di Pasqua, PhD

Platform Presentation: Osipitan OO, Di Pasqua AJ. "Phenethyl isothiocyanate-containing carbomer gel for potential use against skin cancer." American Pharmacists Association. Virtual.

Poster Presentation: Sun M, Yuan Y, Lu F, Di Pasqua AJ. "Novel PEGylated cationic liposomes as gene delivery vehicles for ovarian cancer cells." American Pharmacists Association. Virtual.

Bennett Doughty, PharmD

Poster Presentation: Doughty B. "Assessment of a Comprehensive Naloxone Education Program's Impact on Community Member Knowledge and Attitudes on a College Campus." College of Psychiatric and Neurologic Pharmacists. Virtual.

Poster Presentation: Doughty B. "Buprenorphine Prescribing Practices in United States Emergency Departments." College of Psychiatric and Neurologic Pharmacists. Virtual.

Platform Presentation: Doughty B. "Updates in Opioid Use Disorder Treatments." Continuing Education, 1 credit hour; AchieveCE. Virtual.

Yetrib Hathout, PhD

Platform Presentation: Hathout Y. "Development of Biomarker Signature for Lyme Disease." State University of New York Lyme & Tick-borne Disease Meeting. Virtual.

Platform Presentation: Hathout Y. "Duchenne muscular dystrophy biomarkers and cross-species comparison." Muscular Dystrophy Association Summer Conference Series. Virtual.

Kelsey Hennig, PharmD

Poster Presentation: Farrell J, Miller M, Hennig K, McCarthy K, Katche CA, and Cleary J. "Pharmacist-Led Multidisciplinary Approach to Opioid Tapering in a Large Private Rheumatology Practice: Patient Outcomes." New York State Council of Health-system Pharmacists. Virtual.

Poster Presentation: Fenton V, Bowles J, Fletcher L, Hennig K, Burton-Chase AM. "Assessing advanced care planning in individuals with Lynch syndrome." American Society of Preventive Oncology Meeting. Virtual.

Educational Presentation: Hennig K, Sorrento B, and Savva D. "'I'm new here' – New Practitioners Pearls for Precepting during COVID-19" Continuing Education, 1 credit hour; New York State Council of Health-system Pharmacists. Virtual.

Platform Presentation: Farrell JF, Miller M, Hennig K, Powers KE, Kwon S, Moyer D, French K, Citta A, Cleary JH. "Pharmacist-Led Multidisciplinary Approach to Opioid Tapering in a Large Private Rheumatology Practice." American College of Rheumatology. Virtual.

Eric Hoffman, PhD

Platform Presentation: Hoffman E. "Muscle Regeneration." Neuromuscular drug development for industry. Virtual.

Keynote Presentation: Hoffman E. "Evaluating role of biomarkers in clinical trials." Neuromuscular drug development for industry. Virtual.

Platform Presentation: Hoffman E. "Data and post-marketing." Duchenne Patient Academy. Virtual.

Platform Presentation: Hoffman E. "Update on vamorolone, including return of results NIH-funded ethics project (PI to ReveraGen)." Duchenne Patient Academy. Virtual.

Platform Presentation: Hoffman E. "Vamorolone as a potential safer alternative to corticosteroids in DMD." Duchenne Parent Project. Rome, Italy.

Poster Presentation: Dang UJ, Clemens P, Gordish-Dressman H, Hoffman E, Schwartz B, Mengle-Gaw L, Leinonen M, Smith E, Castro D, McDonald E, Kuntz N, Finkel R, Tulinius M, Nevo Y, Ryan M, Webster R, van den Anker J, Conklin L, Ward L, Damsker J, Guglieri M, Cooperative International Neuromuscular Research Group, Mah J. "2.5-years Of Vamorolone Treatment In Duchenne Muscular Dystrophy: Results Of An Open Label Long-term Extension." Muscular Dystrophy Association. Virtual.

Platform Presentation: Hoffman E. "Development of vamorolone as a less toxic anti-inflammatory steroid." Cure Juvenile Myositis Foundation. Virtual.

Platform Presentation: Hoffman E. "Pediatric Precision Medicine: Viltolarsen in Duchenne Muscular Dystrophy." Board of Genetic Counseling India. Virtual.

Platform Presentation: Camino E, Hoffman E, Donovan JM, PTC Therapeutics, Price G. "In the Pipeline: Reducing Inflammation." Parent Project Muscular Dystrophy. Virtual.

Platform Presentation: Hoffman E. "Drug development in orphan disease." Auburn University School of Pharmacy. Virtual.

Platform Presentation: Hoffman E. "Recently Reported Updates: Vamorolone." Parent Project Muscular Dystrophy. Virtual.

Wesley Kufel, PharmD

Platform Presentation: Kufel WD. "Treatment of Lyme Disease." State University of New York Lyme & Tick-borne Disease Meeting. Virtual.

Poster Presentation: Kufel WD, Blaine B, Ruehl R, Avery LM. "Pharmacy Students' Knowledge and Confidence of Penicillin Allergy Assessment and Skin Testing Following Focused Didactic Instruction and Simulation." American College of Clinical Pharmacy Annual Meeting. Virtual.

Poster Presentation: Beccari MV, Eranki AP, Gilotra T, Steele JM, Kufel WD. "A Case Series of Cidofovir Use for Severe Adenovirus Pneumonia in Immunocompetent Patients." American College of Clinical Pharmacy Annual Meeting. Virtual.

Poster Presentation: Arieno J, Seabury RW, Steele JM, Darko W, Miller CD, Probst LA, Riddell SW, Kufel WD. "Validation of Methicillin-Resistant Staphylococcus aureus (MRSA) Risk Factors in Predicting MRSA Community-Acquired Pneumonia at an Academic Medical Center." IDWeek. Virtual.

Poster Presentation: Shakeraneh P, Steele JM, Seabury RW, Thomas SJ, Paolino KM, Miller CD, Probst LA, Kufel WD. "Impact of a Pharmacist-Driven Azithromycin De-escalation Protocol for Community-Acquired Pneumonia." IDWeek. Virtual.

Poster Presentation: Kufel WD, Mastro KA, Wang D, Steele JM, Riddell SW, Paolino KM, Thomas SJ. "Impact of a Pharmacist-Driven Collaborative Initiative on Staphylococcus aureus Bacteremia Management." IDWeek. Virtual.

Poster Presentation: Oliver DR, Wagner JL, Jones BM, Stover KR, Watts M, Kufel WD, McDowell L, McGee E, Stevenson L, Bland CM. "Evaluation of Knowledge and Confidence Among Students on Advanced Pharmacy Practice Experiences Regarding Beta-Lactam Allergy Management." American Association of Colleges of Pharmacy Annual Meeting. Virtual.

Poster Presentation: Kufel WD, Schwartz S, Xu Y, Guillen T, Oshiro A, Seabury RW. "Evaluation of Daptomycin Dosing among Obese Patients at an Academic Medical Center." New York State Council of Health-system Pharmacists. Virtual.

Platform Presentation: Kufel WD. "Bad Bugs, 'New' Drugs: Updates on Antibiotic Treatment Options for Multidrug Resistant Gram-Negative Bacterial Infections." Continuing Education, 1 credit hour; Infectious Diseases Grand Rounds Continuing Education Series, State University of New York Upstate Medical University. Syracuse, N.Y.

Platform Presentation: Kufel WD. "Appropriate Use of Antibiotics for Asymptomatic Bacteriuria." Continuing Education, 1 credit hour; Department of Urology Grand Rounds, State University of New York Upstate Medical University. Syracuse, N.Y.

Platform Presentation: Kufel WD, Thomas SJ. "Antimicrobial Stewardship." Continuing Education, 1 credit hour; Department of Family Medicine Grand Rounds, State University of New York Upstate Medical University. Syracuse, N.Y.

Emily Leppien, PharmD

Poster Presentation: Laughlin E and Leppien E. "The use of low dose naltrexone as an alternative pain management strategy amidst the opioid epidemic." ASHP Midyear Clinical Meeting and Exhibition. Virtual.

Educational Presentation: Leppien E. "Pharmacology of Cannabis: THC and CBD." Cornell University, Master of Professional Studies in Cannabis. Ithaca, N.Y.

Educational Presentation: Leppien E. "The Endocannabinoid System: Physiology and Pharmacology of Cannabidiol (CBD)." Cornell University Empire State Producers and NYS Vegetable Growers Association (NYSVGA) Hemp Expo. Ithaca, N.Y.

Poster Presentation: Brown C, Filja M, Farooq S, Mastro K, Leppien E. "Examining patient perceptions of non-pharmacologic interventions for chronic pain management amidst the opioid epidemic." Binghamton University School of Pharmacy and Pharmaceutical Sciences Capstone Research Day. Binghamton, N.Y.

Sarah Lynch, PharmD

Poster Presentation: Failla B, Griffin B, Vest K, Stewart-Lynch A, Lynch S, Bolch C. "Impact of a Hormonal contraceptive Training Program for Pharmacists: Phase 2." American Pharmacists Association. Virtual.

Platform Presentation: Lynch S, Spencer S, Nagaraju K. "Addressing COVID-19 Vaccine Controversies." Continuing Education, 2 credit hours. CE Impact. Virtual.

Amanda Mogul, PharmD

Poster Presentation: Nishat R, Cheung A, Glowienka J, Imam T, Mogul A. "Identifying Patients Inappropriately Prescribed Aspirin for Primary Prevention of Cardiovascular Disease in a Primary Care Clinic." American Society of Health System Pharmacists. Virtual.

Kanneboyina Nagaraju, PhD

Platform Presentation: DeLuca A, Nagaraju K, Wells D, Morgan J. "Pre-clinical requirements for novel neuromuscular therapies." World Muscle Society. Virtual.

Platform Presentation: Nagaraju K, Dowling J, Bogdanik L, Hathout Y, Chen YW. "Preclinical Trial Design and Biomarker Development." Muscular Dystrophy Association. Virtual.

Platform Presentation: Nagaraju K. "Autoimmunity in Lyme Disease." State University of New York Lyme & Tick-borne Disease Meeting. Virtual.

Platform Presentation: Nagaraju K, Shieh P. "Gene Therapy – Turning Obstacles into Possibilities." Parent Project Muscular Dystrophy. Virtual.

Platform Presentation: Nagaraju K. "Drug development for rare pediatric diseases." Nesbitt School of Pharmacy; Wilkes University. Wilkes-Barre, Pa.

Erin Pauling, PharmD

Poster Presentation: Arceri V, Jerauld A, Pauling E, Carlson L, Jester J. "Pharmacist recommended deprescribing of potentially inappropriate medications (PIMs) in the geriatric patient population of primary care clinics." New York State Council of Health-system Pharmacists. Virtual.

Sarah Spinler, PharmD

Educational Presentation: Spinler S. "Review of the 2020 ACC Clinical Decision Pathway for Anticoagulant and Antiplatelet Therapy in Patients with Atrial Fibrillation or Venous Thromboembolism." Continuing Education, 1 credit hour; New York State Council of Health-system Pharmacists. Virtual.

Educational Presentation: Spinler S. "Continuing the Conversation: Improving CAD/PAD Care Through Pharmacist Intervention." Continuing Education, 2 credit hours; Pharmacy Times Continuing Education. Virtual.

Educational Presentation: Spinler S. "ACC Reduce the Risk: PCI Bleed Campaign: A New Tool - Insight on implementing the 2020 ACC Expert Consensus Decision Pathway for Management of Bleeding." Continuing Education, 1 credit hour; American College of Cardiology. Virtual.

Educational Presentation: Spinler S. "Anticoagulation in the Presence of Chronic Kidney Disease. Drug Jeopardy: Pharmacological Conundrums in Arrhythmia Management." Continuing Education, 2 credit hours; American College of Cardiology. Virtual.

L. Nathan Tumey, PhD

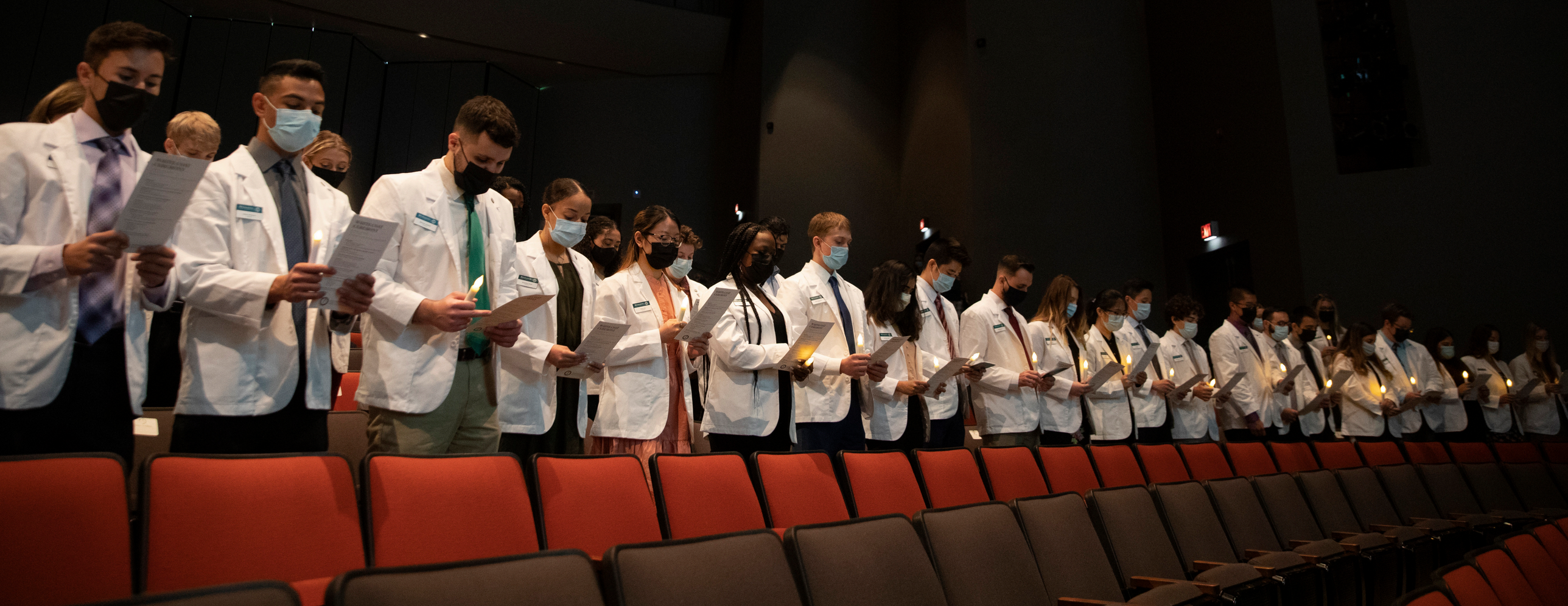
Poster Presentation: Fang S, Tumey LN. "Antibody-Mediated Target Delivery of TLR7/8 Agonists." Protein Engineering Summit. Boston, Mass.

Poster Presentation: Vitro CN, Benjamin SR, Miller JT, Fang S, Tumey LN. "Design of a Turn-on Fluorescence Assay for the Identification and Application of Improved ADC Linkers." American Chemical Society. Technical division: MEDI. Virtual.

Poster Presentation: Brems B, Olawode E, Fang S, Tumey LN. "Targeted Delivery of TLR-Agonists Using ADC Technology." American Chemical Society. Technical division: MEDI. Virtual.

Poster Presentation: Howe JM, Handel JP, Watts KA, Benjamin SR, Jackson CP, Brems B, Fang S, Alayi T, Hathout Y, Tumey LN. "GlyPro as a self-immolative spacer for the release of payloads from antibody-drug-conjugates." American Chemical Society. Virtual.

Platform Presentation: Tumey LN. "New proteolytic linker strategies for ADCs." European Antibody Congress. Virtual.



Our publications

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Ali MAM, Spinler SA. COVID-19 and thrombosis: From bench to bedside. *Trends Cardiovasc Med*. 2021 Apr;31(3):143-160. doi: 10.1016/j.tcm.2020.12.004. Epub 2020 Dec 16. PMID: 33338635; PMCID: PMC7836332.

Arieno J, Seabury R, **Kufel W**, Darko W, Miller CD, Paolo W, Cwikla G, Riddell S, Probst LA, Steele JM. Validation of Methicillin-Resistant Staphylococcus aureus (MRSA) Risk Factors in Predicting MRSA Community-Acquired Pneumonia at an Academic Medical Center. *Hospital Pharmacy*. 2021 Apr 24. doi:10.1177/0018578711010149.

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Bassiouni W, **Ali MAM**, Schulz R. Multifunctional intracellular matrix metalloproteinases: implications in disease. *FEBS J*. 2021 Jan 6. doi: 10.1111/febs.15701. Epub ahead of print. PMID: 33405316.

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