The first new professional school at Binghamton University in more than a decade, the School of Pharmacy and Pharmaceutical Sciences (SOPPS) is rapidly establishing itself as a research-focused, innovative school on the cutting edge of pharmacy education. We are making strides in drug discovery, drug device development, pharmaceutics, pharmacology and pharmacogenomics, even as we are educating our next generations of pharmacists.
This 2017–2018 annual report is a comprehensive account detailing the achievements of our 20 faculty in their respected fields. We are proud to showcase our growth in publications and presentations for the period of June 1, 2017 to May 31, 2018, and Sponsored Program Awards for the period of July 1, 2017 to June 30, 2018.
Our presentations

Aaron Beedle, PhD
Poster presentation: “Abnormal dystroglycan glycosylation causes defects in skeletal muscle regeneration.” Gordon Research Conference on Myogenesis, Renaissance Tuscany Il Ciocco, Lucca (Barga) Italy.
Invited speaker: “Mechanistic and therapeutic advances in dystroglycan glycosylation-deficient muscular dystrophy.” Invited research seminar. Concordia University, Department of Biology seminar series, Montreal, Canada.
Poster presentation: Binghamton Biomedical Research Conference, Binghamton University, Binghamton, N.Y.

KarenBeth Bohan, PharmD
Speaker: “Antimicrobial Stewardship: Practical Approaches to Support Optimal Antibiotic Use.” Medical Staff, Lourdes Hospital, Binghamton, N.Y.

Tracy Brooks, PhD
Speaker: Wilmot Cancer Institute, University of Rochester, Rochester, N.Y.
Speaker: Center for Nucleic Acid Research, Carnegie Mellon University, Pittsburgh, Pa.
Poster presentation: “Therapeutic validation of single- and double-anti-MYC and anti-kRAS approaches for the treatment of Ovarian Cancer.” American Society for Pharmacology and Experimental Therapeutics (ASPET), San Diego, Calif.
Thesis committee member/examiner: Dennis Carty, University of Mississippi, Mississippi State, Miss.
Thesis committee member/examiner: Trisha Drawn, University of Mississippi, Mississippi State, Miss.

Leon Cosler, PhD
Poster presentation: “Factors Influencing Emergency Health Care Providers to Prescribe Opioids for Dental-related conditions in Emergency Departments.” Binghamton University Graduate Research Poster Competition (Honorable Mention), Binghamton, N.Y.
Invited speaker: “Healthcare Data Analysis: Challenges and Opportunities.” Invited Data Salon presented to Data Science Transdisciplinary Working Group and invited faculty, Binghamton, N.Y.
Invited speaker: “The Outlook(s) for Pharmacy.” Binghamton University Pre-Pharmacy Association, Binghamton, N.Y.

Utkarsh Dang, PhD
Speaker: “Clustering and Classification using Skew Power Exponential Distributions.” Statistical Society of Canada, Montreal, Canada.
Staphylococcus Aureus Bacteremia.”
New York State Council of Health-system Pharmacists Annual Assembly, Saratoga, N.Y.

**Invited speaker:** “Phylogenetic comparative methods for modeling discrete character evolution using incomplete data,” University of Guelph, Canada.

**Anthony Di Pasqua, PhD**


**William Eggleston, PharmD**

Speaker: “Synthetic Drugs of Abuse in the Inpatient Setting.” 1.0 CEU, SUNY Upstate Community Campus, Grand Rounds, Syracuse, N.Y.

Speaker: “Inpatient Management of Alcohol Withdrawal.” 1.0 CEU, Lourdes Hospital, Grand Rounds, Binghamton, N.Y.

**Speaker:** “A Review of Drugs of Abuse for the EMS Provider.” 3.0 CEUs, Broome County Health Department, Binghamton, N.Y.

**Speaker:** “Emerging Drug Threats.” 1.0 CEU, Pharmacists Society of the State of New York Midwinter Meeting, Albany, N.Y.

**Speaker:** “Synthetic Opioids.” 1.0 CEU, Onondaga County Medical Examiner’s Combined Conference, Syracuse, N.Y.

**Speaker:** “Schreffler S. Pre-Hospital Care of the Poisoned Patient.” 1.0 CEU, Upstate New York Poison Center 21st Annual Toxicology Teaching Day, Syracuse, N.Y.

**Speaker:** “America’s Opioid Epidemic: The Role of the Pharmacist in Reducing Addiction and Overdose Deaths.” 2.0 CEUs, Pharmacists Association of the Southern Tier, Johnson City, N.Y.

**Speaker:** “Synthetic Drug Review.” Chronic Pain and Addiction Medicine Student Interest Group, SUNY Upstate Medical University, Syracuse, N.Y.

**Invited speaker:** “Heavy Metal Toxicity.” Core content lecture, University at Buffalo Emergency Medicine Residency Program, Buffalo, N.Y.

**Invited speaker:** “Household Toxins.” Core content lecture, University at Buffalo Emergency Medicine Residency Program, Buffalo, N.Y.

**Invited speaker:** “Poison Center Overview and Epidemiology.” Core content lecture, University at Buffalo Emergency Medicine Residency Program, Buffalo, N.Y.

**Invited speaker:** “Cardiac Toxins.” Core content lecture, SUNY Upstate Emergency Medicine Residency Program, Syracuse, N.Y.

**Speaker:** “Toxicology Board Review.” Emergency Medicine Residency Program, SUNY Upstate Medical University, Department of Emergency Medicine, Syracuse, N.Y. (ongoing)

**Speaker:** “Approach to the Patient with Acidosis.” Acting intern Emergency Medicine rotation, SUNY Upstate Medical University, Department of Emergency Medicine, Syracuse, N.Y. (ongoing)

**Speaker:** “Opioids in America.” Toxicology experiential rotation lecture, Upstate New York Poison Center, Syracuse, N.Y.
Yetrib Hathout, PhD

**Invited speaker:** “Biomarkers associated with inflammation and connective tissue remodeling in DMD.” Workshop organized by National Institutes of Health and Parent Project Muscular Dystrophy, Shirely Ryan Ability Lab, Chicago, Ill.

**Poster presentation:** “Clinical Validation of Serum Protein Biomarkers in Duchenne muscular Dystrophy.” All-School Retreat, School of Pharmacy Binghamton University, Binghamton, N.Y.

**Invited speaker:** “Development and Implementation of Pharmacodynamic Biomarkers in Duchenne Muscular Dystrophy.” Biomedical Department, Binghamton University, Binghamton, N.Y.

**Invited speaker:** “Targeted quantification of Dystrophin by mass spectrometry and comparison to antibody based assays.” Dystrophin Mass Spectrometry Assay Workshop organized by Algorithme and NSP, Laval, Canada.

**Invited speaker:** “Biomarkers/Omics in Duchenne muscular Dystrophy.” Precision Medicine and Muscular Dystrophy Workshop. Veterinary Medicine Complex, University of California, Davis, Calif.

Eric Hoffman, PhD

**Invited speaker:** “Development of a better glucocorticoid: Vamorolone and the venture philanthropy space.” Upstate Medical Center, Syracuse, N.Y.

**Conference presentation:** Trial Update: Vamoroline. Parent Project Muscular Dystrophy (PPMD) international conference. Chicago, Ill.

**Conference presentation:** Neuromuscular Research Conference. Berlin, Germany.

**Invited speaker:** National Institutes of Neurology and Psychiatry. Kodaira, Tokyo Japan.

**Conference presentation:** PPMD meeting. Rome, Italy.

**Keynote lecture:** Ottawa Neuromuscular Conference. Ottawa, Canada.

**Conference presentation:** TREAT-NMD Conference. Freiburg, Germany.

**Invited speaker:** University of Texas Southwestern Pediatric Grand Rounds. Dallas, Texas.

**Conference presentation:** Biomarker conference, University College London, London, UK.

Wesley Kufel, PharmD

**Poster presentation:** “Implementation of a Two-Point Pharmacokinetic AUC-based Vancomycin Therapeutic Drug Monitoring Approach in Patients with Methicillin-Resistant Staphylococcus aureus Bacteremia.” Making a Difference in Infectious Diseases Conference, Orlando, Fla.

**Poster presentation:** “Antimicrobial Stewardship Education Among United States Colleges and Schools of Pharmacy.” American College of Clinical Pharmacy National Meeting, Phoenix, Ariz.

**Poster presentation:** “Adverse Drug Reactions Among Patients Enrolled in an Outpatient Parenteral Antimicrobial Therapy (OPAT) Program 2015-2016 at UNC Medical Center.” IDWeek 2017, San Diego, Calif.

**Poster presentation:** “Pro Con Debate: Polymyxin B versus Colistin.” ACPE-accredited New York State Council of Health-System Pharmacists Annual Assembly, Saratoga Springs, N.Y.

**Poster presentation:** “A Time for Change? Clostridium difficile Stewardship and Management Updates.” ACPE-accredited Southern Tier Chapter of the New York State Council of Health-System Pharmacists Meeting, Binghamton, N.Y.

**Poster presentation:** “The Bad Bugs are Here! An Update on the Management of Multidrug
Resistant Gram-Negative Bacterial Infections.” ACPE-Accredited New York State American College of Clinical Pharmacy Annual Meeting, Syracuse, N.Y.

**Poster presentation:** “Characterization of Readmissions Among Patients Enrolled in an Outpatient Parenteral Antimicrobial Therapy (OPAT) Program Over a 2-Year Period at UNC Medical Center.” IDWeek 2017, San Diego, Calif.

**Invited presentation:** “Reduction of Controls on Birth Control: Will Women Get the Care They Need?” American Pharmacists Association Hot Topics Webinar Series, 0.1 CEUs.

**Invited Speaker:** “Medication Management.” Hillside Senior Living Center, Binghamton, N.Y.

**Sarah Lynch, PharmD**

**Invited presentation:** “Updates in Late breaking Literature, Women’s Health: Aspirin in Preterm Preecclampsia.” Platform presentation, American College of Clinical Pharmacy Annual Meeting, 0.15 CEUs, Phoenix, Ariz.

**Invited presentation:** “Seizing the Opportunity: Preparing Pharmacists for Contraceptive Prescribing.” Roundtable presentation, Minnesota Pharmacists Association Pharmaceutical Care Lyceum, Hackensack, Mn.

**Kanneboyina Nagaraju, PhD**

**Invited speaker:** “Inflammation and immune response in muscle diseases. School of Human Sciences, University of Western Australia, Perth, Australia.

**Speaker:** “The role of Harakiri, a mitochondrial apoptosis mediator, in maintaining membrane stability, muscle inflammation and weakness in myositis.” 14th International Congress of Neuroimmunology, Brisbane, Australia.

**Speaker and thesis examiner:** “Potential therapies and biomarkers for LAMA2-CMD: does the microRNA hype deliver?” Faculty of Medicine, Lund University, Sweden.

**Invited speaker:** “Pathogenesis of idiopathic inflammatory myopathies.” Centre for Muscle Research, Department of Physiology, School of Biomedical Sciences, The University of Melbourne, Melbourne, Australia.

**Invited speaker:** “Grand rounds, Drug development & approval of therapies for rare & progressive disorders (with a focus on Duchenne Muscular Dystrophy).” Children’s Health Queensland Hospital and Health Service, Lady Cilento Children’s Hospital, Brisbane, Australia.

**Invited speaker:** “Myositis patient group meeting on safety and efficacy glucocorticoids and their analogues.” SW Florida Keep in touch group, Myositis patient group, Fla.

**Invited speaker:** Translational Research Workshop, European Neuromuscular Center Symposium, Vienna, Austria.

**Invited speaker:** “Update of RNA-based NMD therapies.” International Congress on Neuromuscular Diseases, Vienna, Austria.

**Invited speaker:** Medical Conference for medical community on JM pathogenesis and Pathophysiology, George Washington University School of Medicine, Washington DC.

**Invited speaker:** “Glucocorticoid analogues.” CureJM Family Conference General Session, Alexandria, Va.

**Panelist:** “Drug discovery for JM.” Family Conference General Session, Alexandria, Va.

**Invited speaker:** “Myositis patient group meeting on safety and efficacy glucocorticoids and their analogues.” SW Florida Keep in touch group, Myositis patient group, Fla.

**Invited Speaker:** Translational Research Workshop, European Neuromuscular Center Symposium, Vienna, Austria.

**Invited speaker:** “Update of RNA-based NMD therapies.” International Congress on Neuromuscular Diseases, Vienna, Austria.

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**Invited speaker:** “Glucocorticoid analogues.” CureJM Family Conference General Session, Alexandria, Va.

**Erin Pauling, PharmD**

**Speaker:** “The Skinny on Weight Loss: An Overview of Pharmacological Obesity Management Continuing Medical Education program.” Lourdes Hospital, Binghampton, N.Y.

**Speaker:** “The Skinny on Weight Loss: A Review of Pharmacological Obesity Management Continuing Pharmacy Education program.” American Pharmacists Association (APhA) Diabetes Management Special Interest Group (SIG).
Speaker: “PharmD Accreditation Standards and Additional Tools” presentation given to pharmacists, preceptors and residents as part of the Department of Pharmacy Practice Resident/Faculty Development series, Binghamton, N.Y.

Speaker: “PharmD Accreditation Standards and Additional Tools.” Resident/faculty development session, Binghamton, N.Y.

Gail Rattinger, PharmD, PhD


Sara Spencer, PharmD

Nathan Tumey, PhD
Invited speaker: “Dreaming Big and Thinking Small: Medicinal Chemistry Strategies for the Optimization of Antibody Drug Conjugates.” Binghamton University, Biomedical Engineering Department, Binghamton, N.Y.

Invited speaker: “Dreaming Big and Thinking Small: Medicinal Chemistry Strategies for the Optimization of Antibody Drug Conjugates.” University of Buffalo, School of Pharmacy, Buffalo, N.Y.

Invited speaker: “Macromolecular Medicinal Chemistry.” Binghamton University School of Pharmacy and Pharmaceutical Sciences, Binghamton, N.Y.

Invited speaker: “Macromolecular Medicinal Chemistry.” Binghamton University, Department of Chemistry, Binghamton, N.Y.

Invited speaker: “Macromolecular Medicinal Chemistry.” Takeda Pharmaceutical Company, Mendon, N.Y.

Angela Riley, PharmD
Poster presentation: “Medication Management.” Stepping On Program, Good Shepherd Villages, Endwell, N.Y.
Our publications


Ghosh S, Loffredo CA, Mitra PS, Trnovec T, Palkovicova Murinova L, Sovcikova E, Hoffman


McClellan AK, Hao T, Brooks TA and Smith AE. “RAFT Polymerization for the Synthesis of Tertiary Amine-Based DiBlock Copolymer Nucleic Acid Delivery Vehicles”. 2017 Dec; 17(12) Macromolecular Bioscience. PMID: 29139616


Our funding

Total research expenditures: $2,711,069

Aaron Beedle
$169,209 total expenditures

- $100,000 Is MTOR inhibition a valid therapy for dystroglycan muscular dystrophy
  Muscular Dystrophy Association of America
- $30,000 Structure and Function in Alpha-Dystroglycan Glycosylation (Prime: 5R01GM11193904)
  University of Georgia
- $39,209 Structure and Function in Alpha-Dystroglycan Glycosylation (2R01GM111939)

Yetrib Hathout
$1,696,674 total expenditures

- $117,888 Development and Validation of Pharmcodynamics Biomarkers for Duchenne
  Muscular Dystrophy Association of America
- $292,672 RPDP: Bridging pharmacodynamic biomarkers to clinical outcomes in pediatric inflammatory diseases- Core A
  Children’s Research Institute
- $893,201 Clinical Utility of Serum Protein Biomarkers in Very Young Duchenne Muscular Dystrophy Boys
  U.S. Army Medical Research Acquisition Activity

Eric Hoffman
$78,002 total expenditures

- $78,002 RPDP: Bridging pharmacodynamics biomarkers to clinical outcomes in pediatric inflammatory diseases PTE Federal Award No: 5U54HD090254-02
  Children’s Research Institute
Wesley Kufel
$17,472
total expenditures

Impact of a Pharmacist-Driven Collaborative Initiative for Staphylococcus Aureas Bacteremia Management
*American Society of Health System Pharmacists*

Kanneboyina Nagaraju
$749,712
total expenditures

$390,000
Dystrophin turnover after exon-skipping
*National Institute of Neurological Disorders and Stroke*

$237,390
Virus Induced Genetic Changes in the Pathogenesis of Autoimmune Myositis
*National Institute of Allergy and Infectious Diseases*

$100,000
Urine Biomarkers in Juvenile Dermatomyositis
*Myositis Association*

$22,322
Understanding the Mechanism and Role of Cell Membrane Repair in Miyoshi Myopathy
*Children’s Research Institute*