

TODD SYMPOSIUM

THERAPEUTICS, OUTCOMES,
DISCOVERY & DELIVERY

20 24



OCTOBER 15, 2024 • LEE T. TODD, JR. BLDG.

789 S. Limestone, Lexington, KY 40536

 **College of
Pharmacy**

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WELCOME TO THE TODD SYMPOSIUM

It is my pleasure to welcome you to the 12th annual Therapeutics, Outcomes, Discovery & Delivery (TODD) Symposium, hosted by the University of Kentucky College of Pharmacy.

This year's theme, Translational Chemical Biology, showcases exciting advancements in drug discovery and the development of innovative therapies. We are thrilled to bring together top scientists from across the nation to explore how the intersection of chemistry and biology is driving new therapeutic approaches.

Today's event offers not only a platform for sharing cutting-edge research but also valuable opportunities for networking and collaboration. Your participation plays a crucial role in advancing our collective mission to improve health outcomes through scientific innovation.

Thank you for being an integral part of the symposium. We look forward to a day of inspiration and discovery.

Sincerely,

R. Kip Guy, Ph.D.
Dean & Professor



SCHEDULE

TODD BLDG, ROOM 234



TIME	ACTIVITY	PRESENTER
8:00 - 8:15 AM	CHECK-IN & REFRESHMENTS	TODD ATRIUM
8:15 - 8:25 AM	OPENING REMARKS	DR. KIP GUY DEAN
8:25 - 8:35 AM	COBRE INTRODUCTION	DR. JON THORSON ASSOCIATE DEAN, RESEARCH
8:35 - 9:35 AM	KEYNOTE LECTURE	DR. F. PETER GUENGERICH VANDERBILT UNIVERSITY
9:35 - 9:45 AM	BREAK	
9:45 - 10:45 AM	KEYNOTE LECTURE	DR. AMIT CHOUDHARY BROAD INSTITUTE OF MIT & HARVARD
10:45 - 11:15 AM	FEATURED LECTURE	DR. LINDSAY CZUBA PHARMACEUTICAL SCIENCES
11:15 - 12:00 PM	RAPID RESEARCH TALKS	VARIOUS SPEAKERS MODERATED BY EMMA HARPER
12:00 - 1:00 PM	LUNCH	TODD ATRIUM
1:00 - 1:30 PM	FEATURED LECTURE	DR. JURGEN ROHR PHARMACEUTICAL SCIENCES
1:30 - 2:30 PM	KEYNOTE LECTURE	DR. KATHIE SELEY-RADKE U. OF MARYLAND, BALTIMORE COUNTY
2:30 - 2:45 PM	BREAK	
2:45 - 3:15 PM	FEATURED LECTURE	DR. YOSRA HELMY VETERINARY SCIENCE
3:15 - 3:45 PM	FEATURED LECTURE	DR. ASHFAQUL ALAM MICROBIOLOGY, IMMUNOLOGY & MOLECULAR GENETICS
3:45 - 5:15 PM	POSTER SESSION & RECEPTION	TODD ATRIUM

KEYNOTE LECTURES

THERAPEUTICS, OUTCOMES,
DISCOVERY & DELIVERY



F. Peter Guengerich, Ph.D.

Professor, Biochemistry
Vanderbilt University

*"Mechanisms of Cytochrome P450 Catalysis of
Complex Reactions: Relevance to Drug Metabolism"*

Amit Choudhary, Ph.D.
Assistant Professor, Medicine
Broad Institute of MIT and Harvard

"Protein Editing Using Small Molecules"



Kathie Seley-Radke, Ph.D.

Professor, Chemistry & Biochemistry
University of Maryland, Baltimore County

"Development of Pan-viral Nucleoside Analogues"

FEATURED LECTURES

THERAPEUTICS, OUTCOMES,
DISCOVERY & DELIVERY



Lindsay Czuba, Ph.D.

Assistant Professor, Pharmaceutical Sciences
University of Kentucky

"Dynamics of Bile Acid Transport – Mechanisms & Modulators"

Jurgen Rohr, Ph.D.

Vice-Chair and Professor, Pharmaceutical Sciences
University of Kentucky

"Aureolic Acid Anticancer Drugs – A Long Way to the Clinic"



Yosra Helmy, Ph.D.

Assistant Professor, Veterinary Sciences
University of Kentucky

"Quorum-Sensing Inhibitors: A Promising Approach for Controlling Multi-Drug Resistant Salmonella Infections"

Ashfaquul Alam, Ph.D.

Assistant Professor
Microbiology, Immunology & Molecular Genetics
University of Kentucky

"Small molecule-mediated inhibition of enteric pathogens"



POSTER SESSION

TODD ATRIUM, 3:45 PM - 5:15 PM



#	PRESENTING AUTHOR	TITLE
1	DEWEESE CE	Developing sigma-2 receptor ligands to treat chronic pain through neuronal modulation
2	MUNUGODA HEWAGE UT	Global Profiling of Cysteine Reactivity by Gold-Mediated Arylation Expands the Ligandable Proteome
3	WEI H <i>(Rapid Research Talk Presenter)</i>	PK/PD relationship of a promising protein drug candidate (CochH5-Fc(M6)) and its efficacy in blocking cocaine discrimination in rats
4	BULGART HR	Recombinant human MG53 enhances plasma membrane repair in Alzheimer's Disease neurons
5	AL-HAMALY MA	The Sodium Hydrogen Exchanger-1 (NHE1) drives T-cell acute lymphoblastic leukemia self-renewal by modifying mitochondrial metabolism
6	MOFIDI TABATABAEI S	Purification and Molecular Networking for Dereplication of Cyanobacterial Compounds with Sigma-2 Affinity
7	SARYAZDI S	Characterization of anthranilate phosphoribosyltransferase from <i>Serratia marcescens</i> (Sm-AnPRT): Development of a new assay for kinetic analysis
8	ADKINS JF	Exploring Marine Cyanobacterial Natural Products as Store-Operated Calcium Entry Modulators
9	WOLOSHIN EJ	Design of Etonitazene-Indole Bioisostere as Mu Opioid Receptor Agonist
10	KOLPEK DJ	Assessing the Role of Nanoparticle Size in Enhancing Functional Recovery After Spinal Cord Injury
11	LEE KM	Triazine lipids as a novel subunit vaccine platform
12	OGIDI JO	Optimizing the Dose of PLGA Nanoparticles to Promote Functional and Anatomical Recovery After Spinal Cord Injury

POSTER SESSION

TODD ATRIUM, 3:45 PM - 5:15 PM



#	PRESENTING AUTHOR	TITLE
13	TRIVEDI R <i>(Rapid Research Talk Presenter)</i>	3,8-Diazabicyclooctanes: A New Class of Opioid Agonists
14	COENEN DM	Platelet secretion in wound healing: the essence of α -granule endocytosis, biogenesis, and release kinetics
15	KEADY JV	Transcriptomic Assessment of the Prefrontal Cortex in Phenotypically Distinct Fentanyl Escalating Sprague-Dawley Rats
16	ACKERMAN AM	Lignin Valorization Through the Investigation and Optimization of Isoeugenol Dimers as Novel Drug Candidates for TNBC
17	STONESTREET MC	Optimization of Mithramycin 2'-oximes to Improve Potency, Selectivity, and Pharmacokinetics for Treating Ewing Sarcoma
18	ROCHA IA	Genomic and morphological approach to investigate the molecular target of the triazine drugs in apicomplexan parasites
19	MORY JA <i>(Rapid Research Talk Presenter)</i>	Enhanced lipid nanoparticle design via solid-phase synthesis of triazine-based lipids for drug, gene, and vaccine delivery
20	ELDER TR	Potential Fingolimod Efficacy in the Affective Withdrawal Phenotype of Nicotine Use Disorder
21	WILLIAMS KS	Patterns of Medicaid Claims Data for Preterm Infant Lung Disease in KY 2017-2021: Big Data for Tiny Babies
22	KIM J	Sexual dimorphism in the effect of polymeric nanoparticles after spinal cord injury
23	CHAUDHARY CL	Development of Cyanobacterial Natural Products and Analogs as SOCE Modulators for Neuropathic Pain
24	PRANTZALOS ER <i>(Rapid Research Talk Presenter)</i>	Repurposing aripiprazole for anxiety reduction during nicotine withdrawal: Insights on transcription and affective behavior
25	ALSUM AR	In Vivo Calcium Imaging to Shed Light on Neurocircuitry Alterations in the Prefrontal Cortex

POSTER SESSION

TODD ATRIUM, 3:45 PM - 5:15 PM



#	PRESENTING AUTHOR	TITLE
26	IBNAT N	Evaluation of triazine lipids as a platform for mRNA-based vaccine delivery in mouse model
27	MARTIN JR	Novel Compound YZ-166 as a Potential Countermeasure for Reversing Opioid-Induced Motor Incapacitation and Respiratory Depression
28	KARIM MRU	OleD Loki as a Glycosylation Catalyst for Heterocycles and Sterically-Constrained Acceptors
29	SAGHAEIANNEJAD H	Pancreatic cancer-associated fibroblast supernatant suppresses T-cell function
30	THOMASON GK	Determining the Role of Aldo-keto Reductases in the Reduction of Secondary Bile Acids
31	IMAM IA	L858R/L718Q and L858R/L792H Mutations of EGFR Inducing Resistance Against Osimertinib by Forming Additional Hydrogen Bonds
32	RAHMAN MM	O-Glycosylation of intrinsically disordered proteins regulates homeostasis of extracytoplasmic proteins in streptococci
33	BUONCRISTIANI MD	2-Fluorofucose Impedes MYCN-amplified Neuroblastoma Tumorigenesis
34	CARRILLO AN	Steroidal Compound Production by Biotransformation of Phytosterols in Plants
35	ANDRES MR	Evaluation of Azithromycin as a Neuroinflammatory Modulator Following Traumatic Brain Injury in an Alzheimer's Disease Mouse Model
36	MASUD AA	Role of Glucose-6-Phosphate Dehydrogenase in Platelet Function

TODD SYMPOSIUM



THANK YOU FOR JOINING US

At the University of Kentucky College of Pharmacy, we strive to establish a welcoming, engaging environment that embraces our core mission of leading change to improve health in our communities and beyond.

We are grateful for your participation in today's symposium, which we hope was informative, fun, helpful, collaborative, and inspiring.

We appreciate your attendance today and hope that we will have the opportunity to see you again next year.

Tom Priszano, Ph.D.
Professor & Committee Chair

2024 COMMITTEE MEMBERS

Samuel Awuah	Tom Priszano
Laura Ciriaco	Jon Thorson
Lindsay Czuba	Riya Trivedi
Emma Harper	Tonya Vance
Rosa Mejia-Cruz	Steven Van Lanen

**SUBMIT
FEEDBACK
FORM**

