

KU THE UNIVERSITY OF
KANSAS
School of Pharmacy



36th Mossberg Honors Symposium
Virtual Meeting
January 27, 2021
9:00 AM - 4:00 PM

Program

09:00 Symposium Opening & Keynote Session

Chair: JF Stobaugh

Keynote Presentation

Ventures into COVID-19 Research: About pigs, cats and hamsters

Jürgen A. Richt, DVM, PhD, Regents and University Distinguished Professor
Kansas State University, College of Veterinary Medicine, Manhattan, KS

10:00 Medicinal Chemistry Research Summaries

Chair: M Farrell

(RS01) Metabolically labelling cancer cells for immune destruction using sialic acid fluorescein isothiocyanate conjugates

Kathia Antillon, Mark P. Farrell

Department of Medicinal Chemistry, University of Kansas, Lawrence, KS

(RS02) SAR of Disulfides: Photocatalytic Cyclization of Peptides

Samuel Gary and Steven Bloom

Department of Medicinal Chemistry, University of Kansas, Lawrence, KS

(RS03) Functional probes for γ -secretase in Alzheimer's disease

Shweta Malvankar, Anija Philip, Sujan Devkota, Todd Williams, and Michael Wolfe

Department of Medicinal Chemistry and Mass Spectrometry Laboratory,
University of Kansas, Lawrence, KS

(RS04) Accelerated Peptide Diversification: Chemo-selective Addition of Amino acid Side-chains into poly-Unsaturated Peptides

Allen Alonso Rodriguez-Ugalde and Steven Bloom

Department of Medicinal Chemistry, University of Kansas, Lawrence, KS

(RS05) Photochemical strategies for synthesis of complex bioactive molecules

Manvendra Singh; Zarko Boskovic

Department of Medicinal Chemistry, University of Kansas, Lawrence, KS

10:30 Lecture Session 1 (Medicinal Chemistry - Pharmaceutical Chemistry)

Chair: M Farrell

Introduction: S Sathyamoorthi

(L01) Tethered olefin functionalization of allylic and homoallylic alcohols

Anand H. Shinde and Shyam Sathyamoorthi

University of Kansas, Dept of Medicinal Chemistry, Lawrence, KS

Introduction: MJ Hageman

(L02) The impact of TPGS on solid state stability in a Spray Dried Amorphous Solid Dispersion

Anil Basra¹, Victor Day², Negar Jafari¹ and Michael J Hageman¹.

¹Department of Pharmaceutical Chemistry, and ²Small-Molecule X-Ray Crystallography Laboratory, The University of Kansas, Lawrence, Kansas

11:30 Pharmaceutical Chemistry Research Summaries

Chair: JF Stobaugh

(RS06) Predictive in vitro Dissolution Modeling using Multivariate Analysis for Drug Product Development

George Wang¹; Joseph Siegel²; Michael Hageman^{1*}

¹Department of Pharmaceutical Chemistry, Simons Biosciences Research Laboratories, University of Kansas, Lawrence, Kansas

²Analytical Sciences, Merck Research Labs, Merck & Co., Inc., Rahway, New Jersey

(RS07) Platform development for the enrichment of aquaporin-4 autoantibodies in patients with neuromyelitis optica

Aric Huang^a, Wei Jin^a, Brooklyn K. Mussman^b, J. Daniel Griffin^c, Cory J. Berkland^{a,b,c}, and Brandon J. DeKosky^{a,b,c}

^aDepartment of Pharmaceutical Chemistry, KS; ^bDepartment of Chemical and Petroleum Engineering; ^cBioengineering Graduate Program, University of Kansas, Lawrence, KS

(RS08) Proinsulin conjugates with inhibitory receptor ligands to tolerize insulin-binding B cells

Kyle Apley¹, Cory Berkland^{1,2}, Mark Farrell³

¹Department of Pharmaceutical Chemistry; ²Department of Chemical and Petroleum Engineering; ³Department of Medicinal Chemistry, University of Kansas, Lawrence, KS

(RS09) Antibody-antigen display libraries for antibody discovery

Xiaoli Pan¹, Bharat Madan¹, Rajani Madan¹, David Younger², Jorgen Nelson³, Joe Francica⁴, Neville K. Kisalu⁴, Azza Idris⁴, Lawrence T. Wang⁴, Rachel Vistein⁴, Neil P. King³, Robert A. Seder⁴, Brandon J. DeKosky¹

¹Department of Pharmaceutical Chemistry, The University of Kansas, Lawrence, Kansas; ²A-Alpha Bio, Inc., Seattle, Washington; ³Institute for Protein Design, University of Washington, Seattle, Washington, USA; ⁴Cellular Immunology Section, Vaccine Research Center, NIAID, NIH, Bethesda, Maryland

(RS10) Reconstitution of catalytic activities of two essential leishmanial cytochrome P450 enzymes involved in ergosterol biosynthesis

Yiru Jin; Mei Feng; Lijun Liu; Michael Zhuo Wang

Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS

12:00

Lecture Session 2 (Pharmacy Practice - Pharmacology & Toxicology)

Chair: D Grauer

Introduction: D Grauer

(L03) Intranasal insulin in Post-Operative Delirium

Frank Weinhold¹; Adam Reese²; Ronald Ragan¹; Doug Wright²

¹Department of Pharmacy Practice, University of Kansas, Lawrence Kansas

²University of Kansas Medical Center-Department of Anesthesiology, Kansas City, KS

Introduction: H Du

(L04) Co-activation of GHSR1 α and DRD1 rescues hippocampal lesions in Alzheimer's disease

Jing Tian¹, Heng Du^{1,2}

¹Department of Pharmacology and Toxicology, School of Pharmacy, and

^{1,2}Higuchi Biosciences Center, University of Kansas, Lawrence, KS

01:00

Break

02:00

Pharmacy Practice Research Summaries

Chair: D Grauer

(RS11) Evaluation of procalcitonin laboratory reference range modification and antimicrobial utilization

Allen Snider, Tony Moradi, Nicole Wilson; The University of Kansas Health System, Kansas City, Kansas

(RS12) Implementation and Evaluation of Fixed Dosing Prothrombin Complex Concentrate for Warfarin Reversal

Kristen Haeger-Overstreet, Brittanie Wieland, Adam Blevins, Lucy Stun The University of Kansas Health System-Kansas City, KS

(RS13) Impact of Utilization Guidelines on Injectable Hydralazine Use in Hypertensive Crises

Myles Dice, Joann Moore, Shannon Stittsworth, Dennis Grauer, Abebe Abebe. University of Kansas Health System, Kansas City, Kansas

(RS14) Oral Vancomycin for Clostridium difficile Prophylaxis in Allogenic Hematopoietic Cell Transplant

Olivia Altemeier, Kelsey Konrardy, Dennis Grauer; The University of Kansas Health System, Kansas City, KS

(RS15) Intravenous Iron Order Set Optimization at an Academic Medical Center

Rachael Smith, PharmD | Angela Miller, PharmD, BCPS, DPLA
The University of Kansas Health System, Kansas City, KS

02:30

Lecture Session 3 (Pharmacology & Toxicology)

Chair: Shi

Introduction: R Dobrowsky

(L05) Modulating Molecular Chaperones: A Potential Therapeutic Approach For X-Linked Charcot-Marie-Tooth (CMT1X) Disease

Sukhmanjit Kaur¹, Allison Zhang¹, Brian Blagg², Charles Abrams³, Rick Dobrowsky¹

¹Department of Pharmacology and Toxicology, University of Kansas, Lawrence, KS; ²Department of Chemistry & Biochemistry, University of Notre Dame, South Bend, IN; ³Department of Neurology, University of Illinois, Chicago, IL

03:00

Pharmacology & Toxicology Research Summaries

Chair: Shi

(RS16) Mapping Brain-Wide Synaptic and Cellular Activity Correlates of Visual Experience

Oliver L'Esperance and Jaichandar Subramanian

Department of Pharmacology & Toxicology, University of Kansas, Lawrence, Kansas

(RS17) Extended amygdala corticotropin-releasing hormone activity underlies stress-induced pair bond impairments in male prairie voles (*Microtus ochrogaster*)

Maria Tickerhoof and Adam Smith

Department of Pharmacology and Toxicology, University of Kansas, Lawrence, KS

(RS18) Clusterin interacts with microglia and downregulates inflammation in in vitro models

Punam Rawal¹, Hee-Jung Moon¹, and Liqin Zhao^{1,2}

¹Department of Pharmacology and Toxicology and ²Neuroscience Graduate Program University of Kansas, Lawrence, KS

(RS19) ApoE2 reverses glycolytic deficit in ApoE4-expressing neuronal cells

Xin Zhang¹, Hee-Jung Moon¹, and Liqin Zhao^{1,2}

¹Department of Pharmacology and Toxicology and ²Neuroscience Graduate Program University of Kansas, Lawrence, KS

03:25

Lecture Session 4 (Pharmaceutical Chemistry - Medicinal Chemistry)

Chair: JF Stobaugh

Introduction: B DeKosky

(L06) Next Generation Approaches for the Discovery and Optimization of Monoclonal Antibodies

Matheus O. Souza¹, Ahmed S. Fahad¹, Morgan R. Timm², Jacy Wolfe¹, Wei Jin¹, Bharat Madan¹, Erica Normandin², Amy R. Henry², Farida Laboune², Yuliya Petrova², John Misasi², Tulio M. Lima³, Renata G.F. Alvim³, Egan M. Sanchez⁴, Katherine E. Burgomaster⁴, Kimberly A. Dowd⁴, Yan-Jang Huang⁵, Brooklyn K Mussman⁶, Amen T Hailemariam⁷, Young Do Kwon², Baoshan Zhang⁴, Daniel Douek², Julie E. Ledgerwood², Barney S. Graham², John R. Mascola², Theodore C. Pierson², Lawrence Shapiro⁸; Peter D Kwong^{2,8}, Leda R. Castilho³, Brandon J. DeKosky^{1,6}; ¹Department of Pharmaceutical Chemistry, The University of Kansas, Lawrence, KS; ²Vaccine Research Center, National Institute of Allergy and Infectious Diseases, Bethesda, MD; ³Federal University of Rio de Janeiro, COPPE, Cell Culture Engineering Laboratory, Rio de Janeiro/RJ, Brazil; ⁴Laboratory of Viral Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, MD; ⁵College of Veterinary Medicine, Kansas State University, Manhattan, KS; ⁶Department of Chemical Engineering, The University of Kansas, Lawrence, KS; ⁷Department of Biochemistry, The University of Kansas, Lawrence, KS; ⁸Department of Biochemistry & Molecular Biophysics, Columbia University, New York, NY

Introduction: S Bloom

(L07) A High-Throughput Approach to Unusual Peptide Variants for Drug Development

Jacob Immel, Maheshwerreddy Chilamari, Steven Bloom
Department of Medicinal Chemistry, The University of Kansas, Lawrence, Kansas

04:25

Symposium Close