Tuesday, December 4
11:00 AM - 1:00 PM
Wassell Randolph
Student Alumni Center
Dining Hall
Welcome
Richard Magid, PhD
UTRF Vice President

Chancellor’s Message
Steve J. Schwab, MD
Chancellor, UTHSC

Spotlight Presenter
Michio Kurosu, PhD
Professor, UTHSC

Keynote Speaker Introduction
Lakita Cavin, JD, PhD
Senior Staff Attorney, UTRF

Keynote Address
James C. Keith, Jr., DVM, PhD
Chief Scientific Officer, EmstoPA Ltd.

Innovation Award Recognition
Richard Magid, PhD
UTRF Vice President

Spotlight Presenter
Marko Radic, PhD
Associate Professor, UTHSC

Closing Remarks
Lakita Cavin, JD, PhD
Senior Staff Attorney, UTRF
Keynote Speaker: Dr. James C. Keith, Jr.

Dr. James (“Jim”) Carl Keith, Jr. is a Research Pharmacologist with over 38 years of experience in science and research, including comparative medicine, animal models of human disease, vascular biology and inflammation, drug discovery, preclinical research and drug development. Dr. Keith received his BS and DVM degrees from the University of Tennessee Knoxville, and his PhD from the University of Georgia.

During his career, he has received numerous awards in both teaching and research. He is author or co-author of over 147 peer-reviewed papers and book chapters, an invited reviewer for multiple national and international scientific journals, and an inventor or co-inventor on 31 issued US and International patents.

Most recently, Dr. Keith is Co-Founder and Chief Scientific Officer of EmstoPA Ltd, a start-up company developing an emergency antidote for treatment of severe bleeding occurring after tPA administration for thrombolysis.

Dr. Keith worked at Genetics Institute / Wyeth Research / Pfizer and achieved the title of Distinguished Research Fellow (2006–2011), after starting his career with them as a Senior Principal Scientist and Lab Head of the Animal Models Laboratory in Preclinical Research in 1993. His laboratories conducted animal model studies defining biologic activities, biomarkers of efficacy and safety, and minimum effective doses of cardiovascular drugs, inflammatory disease drug candidate molecules, recombinant human cytokines, and recombinant human therapeutic proteins for hemophilia. The pharmacology research and development contributed to the approval of Neumega, BeneFIX, ReFacto (Europe), ReFacto (US), and Xyntha. Prior to entering the pharmaceutical industry, Dr. Keith served 11 years as an Assistant and Associate Professor of Veterinary Medicine at the Virginia-Maryland Regional College of Veterinary Medicine. His research in atherosclerosis continued and the new area of interest concerning the pathophysiology of preeclampsia emerged.

Dr. Keith is a member of numerous professional organizations, including the American Heart Association, the American Physiological Society, the American Veterinary Medical Association, the Shock Society, the New York Academy of Sciences, the Royal Society of Medicine (London)-Fellow, and the International Society for the Study of Hypertension in Pregnancy.

Dr. Keith currently lives in Andover, MA with his wife Katherine. They have a son, James Charles, and a daughter, Ellen Virginia.
Spotlight Presenters

Dr. Michio Kurosu is a Professor in the Department of Pharmaceutical Sciences at UTHSC. Dr. Kurosu received his BS in Organic and Bioorganic Chemistry from Tokyo University of Pharmacy and Life Science, and his PhD/PharmD in Organic Chemistry and Pharmaceutical Sciences from Osaka University.

Dr. Kurosu has over 25 years of experience as a synthetic/medicinal chemist and has engaged in a wide range of research projects associated with infectious diseases. His research interests include synthesis and biological evaluation of biologically active natural products, rational drug design, bioorganic chemistry, development of enzymatic assays of small molecules, and new chemical tools. His current work primarily focuses on multidrug resistant TB and multidrug resistant-Gram-positive drug targets whose 3D structures have not been previously determined. Dr. Kurosu is the author or co-author of nearly 100 peer-reviewed papers and book chapters.

Dr. Kurosu says that his long-term goal is to understand immune pathology of TB and identify selective immune modulatory small molecules for the treatment of replicating and non-replicating M. tuberculosis in vivo.

Dr. Marko Radic is an Associate Professor in the UTHSC Department of Microbiology, Immunology and Biochemistry. Dr. Radic came to UTHSC in 2000 from MCP-Hahnemann University in Philadelphia, PA. He received his BS in Genetics from University of California-Davis, and his PhD in Biological Sciences from the University of California-Irvine. He performed postdoctoral studies in Molecular Immunology at Fox Chase Cancer Center in Philadelphia, PA.

His research focuses on the mechanisms leading to autoimmune disease, with an emphasis on disorders that are diagnosed and mediated by autoantibodies. Work from his laboratory has contributed toward understanding the mechanisms of Systemic Lupus Erythematosus (SLE), Rheumatoid Arthritis (RA), Anti-Phospholipid Syndrome (APS), Felty’s Syndrome (FS) and Sjogren’s Syndrome (SS). Most recently, he has been investigating the use of immunotherapy as a means of treating lupus.
UT Health Science Center Recently Issued Patents

9,334,242
Compounds for Treatment of Cancer
Wei Li, Yan Lu, Chien-Ming Li, Zhao Wang, Jianjun Chen, James T. Dalton, Duane D. Miller, Charles Duke, & Sunjoo Ahn
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,447,049
Compounds for Treatment of Cancer
Wei Li, Min Xiao, James Dalton, Sunjoo Ahn, Duane D. Miller, Jianjun Chen, & Jin Wang
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,814,698
Selective Androgen Receptor Degrader (SARD) Ligands and Methods of Use Thereof
Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Jayaprakash Pagadala, Charles Duke, Christopher Coss, Yali He, & James T. Dalton
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences & UTHSC College of Medicine, Department of Medicine-Hematology

9,815,776
Selective Androgen Receptor Degrader (SARD) Ligands and Methods of Use Thereof
Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Charles Duke, Christopher Coss, Amanda Jones, & James T. Dalton
UTHSC College of Medicine, Department of Medicine-Hematology & UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,834,507
Selective Androgen Receptor Degraders (SARD) Ligands and Methods of Use Thereof
Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Charles Duke, Christopher Coss, Amanda Jones, & James T. Dalton
UTHSC College of Medicine, Department of Medicine-Hematology & UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,834,525
Inhibitors of Paxillin Function and Related Compositions and Methods
Charles Ryan Yates, Duane D. Miller, Frank Park, Jordan Toutouchnian, Vanessa Morales-Tirado, Shivaputra Patil, Jayaprakash Pagadala, & Bilal Abou Aleiwi
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,844,528
SARMS and Method of Use Thereof
Ramesh Narayanan, Thamarai Ponnusamy, & James T. Dalton
UTHSC College of Medicine, Department of Medicine-Hematology

9,884,038
Selective Androgen Receptor Modulator and Methods of Use Thereof
Duane D. Miller, Ramesh Narayanan, Thamarai Ponnusamy, & James T. Dalton
UTHSC College of Medicine, Department of Medicine-Hematology & UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

9,889,110
Selected Androgen Receptor Modulators for Treating Hormone-Related Conditions
Duane Miller & James T. Dalton
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences
<table>
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<tr>
<th>Patent Number</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
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<tbody>
<tr>
<td>9,969,683</td>
<td>Methods of Treating Estrogen Receptor (ER)-Positive Breast Cancers with Selective Androgen Receptor Modulators (SARMS)</td>
<td>Ramesh Narayanan, James T. Dalton, Mitchell S. Steiner, &amp; Sunjoo Ahn</td>
<td>UTHSC College of Medicine, Department of Medicine-Hematology</td>
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<td>9,981,915</td>
<td>Compounds for Treatment of Cancer</td>
<td>Wei Li, Duane D. Miller, Yan Lu, &amp; James T. Dalton</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences</td>
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<tr>
<td>10,010,516</td>
<td>Method for Regulating Retinal Endothelial Cell Viability</td>
<td>Charles Ryan Yates, Jena Steinle, Duane D. Miller, &amp; Jordan Toutouchnian</td>
<td>UTHSC College of Medicine, Department of Ophthalmology &amp; UTHSC College of Pharmacy, Department of Pharmaceutical Sciences</td>
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<td>10,010,521</td>
<td>SARMS and Method of Use Thereof</td>
<td>Ramesh Narayanan, Thamarai Ponnusamy, &amp; James T. Dalton</td>
<td>UTHSC College of Medicine, Department of Medicine-Hematology</td>
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<td>10,017,471</td>
<td>Selective Androgen Receptor Degrader (SARD) Ligands and Methods of Use Thereof</td>
<td>Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Jayaprakash Pagadala, Charles Duke, Christopher Coss, Yali He, &amp; James T. Dalton</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences &amp; UTHSC College of Medicine, Department of Medicine-Hematology</td>
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<tr>
<td>10,022,356</td>
<td>Compounds for Treatment of Cancer</td>
<td>Wei Li, Duane D. Miller, Jianjun Chen, &amp; Jin Wang</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences</td>
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<td>10,035,763</td>
<td>Selective Androgen Receptor Degrader (SARD) Ligands and Methods of Use Thereof</td>
<td>Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Jayaprakash Pagadala, Charles Duke, Christopher Coss, Yali He, &amp; James T. Dalton</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences &amp; UTHSC College of Medicine, Department of Medicine-Hematology</td>
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<td>10,053,418</td>
<td>Selected Androgen Receptor Modulator and Methods of Use Thereof</td>
<td>Duane Miller &amp; James T. Dalton</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences</td>
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<tr>
<td>10,093,613</td>
<td>Selective Androgen Receptor Degrader (SARD) Ligands and Methods of Use Thereof</td>
<td>Ramesh Narayanan, Duane D. Miller, Thamarai Ponnusamy, Dong-Jin Hwang, Charles B. Duke, Christopher Coss, Amanda Jones, &amp; James T. Dalton</td>
<td>UTHSC College of Pharmacy, Department of Pharmaceutical Sciences &amp; UTHSC College of Medicine, Department of Medicine-Hematology</td>
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## UT Health Science Center Recently Licensed Technologies

<table>
<thead>
<tr>
<th>Inventors/Founders</th>
<th>Technology Description</th>
<th>Licensee</th>
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</thead>
<tbody>
<tr>
<td>Gabor Tigyi &amp; Duane Miller</td>
<td>Benzyl and Naphthalene-Methyl Phosphonic Acid Inhibitors of Autotaxin with Anti-Invasive and Anti-Metastatic Actions</td>
<td>Avanti Polar Lipids, Inc.</td>
</tr>
<tr>
<td>Subhash Chauhan &amp; Meena Jaggi</td>
<td>MUC13 Antibodies for Cancer Diagnosis and Treatment</td>
<td>Abcam, PLC</td>
</tr>
<tr>
<td>Chris Ivanoff, Timothy Hottel, &amp; Franklin Garcia-Godoy</td>
<td>Smart DDS: Radio Wave Remote Controlled Intraoral Drug Delivery System</td>
<td>Peter Bass</td>
</tr>
<tr>
<td>Charles Ryan Yates, Duane Miller, &amp; Frank Park</td>
<td>New Paxillin Inhibitors for Treatment of Polycystic Kidney Disease</td>
<td>Ipax Pharmaceuticals, LLC</td>
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<tr>
<td>L. Darryl Quarles, Zhousheng Xiao, &amp; Charles Ryan Yates</td>
<td>Novel FGF-23 Antagonist Determined by Virtual High-Throughput Screening</td>
<td>Minerva Discovery, LLC</td>
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<tr>
<td>Monica Jablonski &amp; Mohamed Moustafa</td>
<td>Microemulsions for Topical Delivery of Water Soluble Drugs</td>
<td>OculoTherapy, LLC</td>
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## Startup Companies

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<th>UT Inventors &amp; Founders</th>
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<td>Monica Jablonski</td>
<td>Microemulsions for Topical Delivery of Water Soluble Drugs</td>
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2019 Maturation Grant Awards

Adebowale Adebiyi & Hiteshkumar Soni
Methods of Detecting and Reducing Acute Kidney Injury in Infants
UTHSC College of Medicine, Department of Physiology

Michio Kurosu
In Vivo Studies of a Novel DPAGT1 Inhibitor, APPB for Treatment of Pancreatic Cancers
UTHSC College of Pharmacy, Department of Pharmaceutical Sciences

Monica Jablonski & Mohamed Moustafa
Pregabalin Microemulsion Glaucoma Therapy: Stability Studies
UTHSC College of Medicine, Department of Ophthalmology

Tayebeh Pourmotabbed & Anton Reiner
Determination of the Dosing Regimen and Duration Benefit of DNZ6 DNAzyme Treatment in R6/2 Mice
UTHSC College of Medicine, Department of Microbiology, Immunology, and Biochemistry

UTRF Health Science Center FY 2018 Metrics

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<th>Invention Disclosures</th>
<th>Licenses &amp; Options</th>
<th>U.S. Patents Filed</th>
<th>U.S. Patents Issued</th>
<th>Startups</th>
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<td>28</td>
<td>10</td>
<td>32</td>
<td>12</td>
<td>3</td>
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License Revenue $648,000