IRHRM Pilot Awards - Fall 2014

In July of this year, the IRHRM announced the availability of funds to conduct research and generate preliminary data to assist IRHRM members in competing for NIH or other grant funding in reproductive health and regenerative medicine. The awards are also intended to foster collaboration among IRHRM members.

The IRHRM Pilot Fund program is made possible by generous support from the KUMC School of Medicine Administration and by the Donald C. Johnson Fellowship and Research KU Endowment account.

Story continued on page 2

Michael Artman, MD, Joins IRHRM Internal Advisory Board

Dr. Michael Artman wears many hats as the Chair of Pediatrics at KUMC, the Chairman of Pediatrics at the University of Missouri-Kansas City School of Medicine, and Pediatrician-in-Chief and the Joyce C. Hall Endowed Chair at Children’s Mercy Hospitals and Clinics. Dr. Artman has significant knowledge and experience in one of our key research focus areas - the Developmental Origins of Health and Disease. He recently joined the IRHRM Internal Advisory Board, alongside Kenneth L. Audus, PhD, and Paul F. Terranova, PhD.

Story continued on page 3

IRHRM Collaboration Leads to $5.5 Million NICHD P01 Grant Award

One of the IRHRM’s main goals is to foster research collaborations in an effort to increase multi-investigator awards. In July 2014, the NICHD awarded over $5.5 million to the collaborative team of Michael J. Soares, PhD, University Distinguished Professor of Pathology and Director of the IRHRM, Soumen Paul, PhD, Associate Professor of Pathology, and M.A. Karim Rumi, MBBS, PhD, Associate Professor of Pathology. Additional IRHRM members involved in the project include Michael W. Wolfe, Adam Krieg, Jay L. Vivian, Stephen J. Renaud, and David Albertini.

Story continued on page 4
Please join us in congratulating our 2014 IRHRM Pilot Award Winners!

**Fariba Behbod, PharmD, PhD**, Associate Professor of Pathology and Laboratory Medicine, KUMC; *“Study of the Role of BCL9 and its Binding Partners, Beta-catenin and Pygo2 in Normal Mammary Gland Development”*

**Lane Christenson, PhD**, Associate Professor of Molecular and Integrative Physiology, KUMC; and **Gustavo Blanco, MD, PhD**, Professor of Molecular and Integrative Physiology, KUMC (Co-PIs); *“Follicular Fluid Exosomes and Microvesicles’ Impact on Sperm Function”*

**Patrick E. Fields, PhD**, Associate Professor of Pathology, KUMC; and **Chad Slawson, PhD**, Assistant Professor of Biochemistry and Molecular Biology, KUMC (Co-PIs); *“O-Linked N-Acetylglucosamine (O-GLcNAc) Regulates CD4+ T Cell Differentiation”*

**Paige Geiger, PhD**, Associate Professor of Molecular and Integrative Physiology, KUMC; *“The Role of Estrogen Receptor Alpha in Control of Energy Balance and Glucose Homeostasis”*

**T. Rajendra Kumar, PhD**, Professor of Molecular and Integrative Physiology, KUMC; *“Mouse Models for FSH Action”* (George Bousfield, PhD, Co-Investigator)

**Cliff Mason, PhD**, Assistant Professor of Obstetrics and Gynecology, KUMC; and **Gene Lee, MD**, Assistant Professor of Obstetrics and Gynecology, KUMC (Co-PIs); *“Role of Uptake and Efflux Transporters on Antiviral Drug Disposition in Human Placenta”*

**Soumen Paul, PhD**, Associate Professor of Pathology and Laboratory Medicine, KUMC; *“TEAD4 and Regulation of Mitochondrial Function in Trophoblast Cells”* (Russell H. Swerdlow, MD, Co-Investigator)

**Katherine F. Roby, PhD**, Research Associate Professor of Anatomy and Cell Biology, KUMC; *“Mechanisms of Estrogen Signaling in Regulation of Ovulation”*

**Li Qin Zhao, PhD**, Assistant Professor, School of Pharmacy, KU-Lawrence; *“ERbeta Regulation of Brain Bioenergetics During Perimenopause”*
Michael Artman, MD

Dr. Michael Artman joined Children’s Mercy Hospitals and Clinics in October 2010 as the Joyce C. Hall Endowed Chair of the Department of Pediatrics and Pediatrician-in-Chief. He is also Professor of Pediatrics at the University of Missouri-Kansas City School of Medicine and Executive Director of Research Strategy and Implementation at Children’s Mercy. He became Chair of the Department of Pediatrics at the University of Kansas Medical Center in January 2014. Dr. Artman received his bachelor’s degree in chemistry from Fort Hays State University and is a graduate of Tulane University School of Medicine. He completed his pediatric residency and pediatric cardiology fellowship training at Vanderbilt University. He joined the faculty at the University of South Alabama in Pediatrics and Pharmacology in 1984 and remained there until 1994. He then served as Professor of Pediatrics, Physiology, and Pharmacology at New York University School of Medicine and Director of Pediatric Cardiology at NYU Medical Center from 1994-2004. He was Professor and Head of the Department of Pediatrics at the University of Iowa Carver College of Medicine and Physician-in-Chief of UI Children’s Hospital from 2005-2010.

Dr. Artman’s research is in the area of excitation-contraction coupling and regulation of contractile function in the immature heart. He has published numerous papers, books, and book chapters on these and related topics. He has served on a variety of local, regional and national committees, including a number of scientific peer review committees at the National Institutes of Health (NIH). Dr. Artman’s past honors include the Clinical Investigator Award from NIH, selection as a member of the Cardiovascular and Renal Drugs Advisory Committee for the FDA, Burroughs Wellcome Award in Clinical Pharmacology, Chair of the Electrical Signaling, Ion Transport and Arrhythmias Study Section of the NIH National Heart, Lung and Blood Institute (NHLBI), and election to the Society for Pediatric Research and the American Pediatric Society. He currently serves as Chair of the Protocol Review Committee for the NHLBI Pediatric Heart Network.

“We are very excited that Dr. Artman has joined our Internal Advisory Board. The IRHRM will benefit immeasurably from his experience and insights as we move forward. We also look forward to establishing a stronger relationship with scientists at Children’s Mercy Hospital.”

- Michael J. Soares, PhD, IRHRM Director
ABOUT THE P01 PROJECTS

Their 5 year project, titled “Stem Cells and Epigenetics of Trophoblast Lineage Development” aims to understand the mechanisms controlling the establishment of the trophoblast lineage and its involvement in early pregnancy. The establishment of pregnancy is dependent upon the execution of a precise dialog between maternal and embryonic structures. The setting for the maternal-embryonic communication is within the uterus. Embryonic survival, growth, and development within the uterus are dependent upon development of a specialized population of cells on the surface of the embryo. These cells are the earliest constituents of the trophoblast lineage and have the unique capacity to further differentiate into cells with the ability to convert the maternal environment into a hospitable site for embryonic development, including restructuring maternal vasculature to facilitate nutrient flow and acquisition of efficient nutrient transport to the fetus. Appropriate development of the trophoblast lineage is essential for the establishment of pregnancy. Disruptions in trophoblast lineage determination, expansion, and differentiation are at the core of early pregnancy loss. We hypothesize that the regulation of these fundamental cellular processes is a key to discovering the etiology of early pregnancy loss. Consequently, it is imperative that we expand our understanding of molecular mechanisms controlling development of the trophoblast lineage. The proposed programmatic effort consists of three research projects directed toward elucidating molecular mechanisms regulating trophoblast lineage development. The emphasis is on transcriptional and epigenetic mechanisms (transcription factor, histone modifications, chromatin organizer) controlling stem cell populations.

RESEARCH PROJECT I
(Soumen Paul, PhD) evaluates the role of TEAD4 in the regulation of the trophoblast lineage.

RESEARCH PROJECT II
(M.A. Karim Rumi, MBBS, PhD) assesses the contributions of SATB proteins to the maintenance of the trophoblast stem cell stem state.

RESEARCH PROJECT III
(Michael J. Soares, PhD) investigates the involvement of histone H3K9 methylation in the regulation of trophoblast lineage development.

The experimentation utilizes rodent stem cell in vitro and in vivo models, early embryo manipulation in rodents, and an assortment of different methodologies in transcriptional and epigenetic analysis and will be facilitated by the availability of cost-effective administrative and research cores. The proposed programmatic effort is highly interactive and benefits from the unique expertise of each participant.

Please join us in congratulating Drs. Paul, Rumi, Soares, Wolfe, Krieg, Vivian, Renaud and Albertini on this impressive achievement!
Study shows vitamin B1 may help women with drinking problems moderate their consumption

April 07, 2014

By David Martin

Women who took high doses of the vitamin thiamine drank less alcohol in a University of Kansas School of Medicine study of problem drinkers. The study used a manmade thiamine analogue called benfotiamine to achieve higher than normal thiamine doses.

Thiamine deficiency is common among people who abuse alcohol. Heavy drinking can lead to poor dietary habits, and alcohol interferes with the body’s ability to absorb nutrients from the gut. Thiamine, also known as vitamin B1, is an essential nutrient that humans obtain from their diet. Enzymes use thiamine to perform numerous critical biochemical reactions in the body, including the brain. In severe cases, thiamine deficiency can lead to dementia and death.

The researchers at KU designed a study to test if people with drinking problems might benefit from taking a high potency thiamine supplement. “We know that thiamine deficiency causes big problems in alcoholics,” Ann Manzardo, Ph.D., M.S.C.R., assistant professor of psychiatry and behavioral sciences and lead author of the study, says. “The underlying theory of the study was maybe if we improve neurological functioning and some of these neurological problems caused by thiamine deficiency, then alcoholics might make better decisions about their drinking and have greater control over their alcohol use.”

The results in women supported the theory. Female participants who took benfotiamine reduced their drinking more than the participants who were given a placebo. They also reported fewer heavy drinking days than the participants who were part of the control group. “They continued to drink alcohol,” Manzardo says of the women in the study. “They just didn’t drink as much when they did drink. It suggests that they had a little more control over the behavior.”

The change in behavior was rapid. The women taking the supplements decreased their consumption by 45 percent within one month of treatment. Manzardo believes that restoring their nutrition levels gave the women a quick boost in mood and emotional status. “We know thiamine deficiency can have negative effects on mood,” she says.

With the men, there was no obvious difference in consumption levels between the control and treatment groups, but the most severely alcohol-dependent men did show significant improvements in some psychiatric symptoms with benfotiamine.

The study was published in the journal Drug and Alcohol Dependence.

Seventy men and women completed the six-month study. Manzardo and her colleagues found participants by placing a newspaper ad that asked: “Do you drink more alcohol than you should?” Participants who completed the study were eligible to receive up to $245 in gift cards.

Manzardo says the population “was extremely impaired.” Many had been in and out of treatment facilities, jails or both. Some were homeless. “There was no mystery about the source of their problems,” Manzardo says. The participants were not required to seek treatment or make a special effort to abstain, though they were referred to an outpatient clinic and a 12-step program.

At six months, alcohol consumption decreased among all groups: men and women, control and placebo. A behavioral response to study participation — also known as the placebo effect — is common in psychiatric studies. Still, the results suggest that thiamine supplements may be a useful part of an alcohol rehabilitation treatment plan, particularly early in treatment when chances for relapse are the highest, Manzardo says.

Continued on page 6
Study shows vitamin B1 may help women with drinking problems moderate their consumption

(continued from page 5)

“I don’t think anybody is trying to assert that we are going to cure alcoholism with a vitamin pill,” she says. But she notes that thiamine is “something that’s readily available and safe to use. It’s something that’s inexpensive and accessible to the population and would really benefit their overall health. Improving their physical health and mental functioning might provide that extra measure of resilience to fight the compulsion to drink again.”

Other co-authors include Jianghua He, Ph.D., associate professor of biostatistics; Albert Poje, Ph.D., assistant professor of psychiatry and behavioral sciences; Elizabeth Penick, Ph.D., professor of psychiatry and behavioral sciences; and Merlin Butler, M.D., Ph.D., professor of psychiatry and behavioral sciences.

The research was supported by a grant from the Hubert & Richard Hanlon Trust, National Institutes of Health General Clinical Research Center grant No. MO1RR023940 and Frontiers: The Heartland Institute for Clinical Translational Research grant No. UL1TR000001 (formerly No. UL1RR033179).

KU School of Medicine researcher discovers compounds that may help treat sickle cell disease

September 18, 2014

By Donna Peck

A University of Kansas School of Medicine scientist has discovered chemical compounds that may lead to a new treatment for sickle cell disease and other genetic blood disorders.

Kenneth Peterson, Ph.D., a professor and vice chair of the Department of Biochemistry and Molecular Biology at KU Medical Center, working with researchers at the High Throughput Screening Laboratory on the KU campus in Lawrence, has come up with a list of compounds that have the potential to turn on fetal hemoglobin, which can help negate the effects of sickle cell disease, Cooley’s anemia and some forms of beta thalassemia. Peterson’s research has been published in the PLOS-One journal.

Sickle cell disease is caused by a mutated version of the beta-globin gene that helps make hemoglobin - a protein that carries oxygen in red blood cells. The mutated gene causes red blood cells to form into a crescent shape, which block capillaries and causes them to break apart easily, causing severe pain, anemia, organ damage and stroke. More than 100,000 people have sickle cell disease in the United States, and the number of sickle cell anemia cases is expected to increase about 30 percent globally by 2050.

Peterson says a lot of gene therapy research has focused on ways to fix the mutated gene to prevent sickle cell disease in the future. However, this approach requires technologies that are not generally available and are cost-prohibitive. He says inexpensive effective treatments are needed now.

“There are millions of people in the world with sickle cell and other genetic blood diseases, particularly in Third World countries” Peterson says. “If we can find an existing drug or new compound that can treat these disorders in a cost-effective way, it would be a great scientific and medical achievement.”

Continued on page 7

Kenneth Peterson, PhD
KU School of Medicine researcher discovers compounds that may help treat sickle cell disease

(continued from page 6)

Peterson says there has never been a comprehensive screen for compounds for genetic red blood disorders before this simply because the tools to do it haven’t been available. He says one major hurdle was cleared when he was able to derive mouse cells containing the entire human beta-globin locus from genetically modified mice. Those cells were then used in a screen at the KU High Throughput Screening Lab in Lawrence.

“What we were searching for were compounds that would turn on a fetal form of hemoglobin, which would counteract the symptoms associated with the mutated gene,” Peterson says. “We also wanted compounds that wouldn’t further activate the sickle cell beta-globin, and that weren’t toxic.”

The initial screen found 232 base compounds that could fit those criteria. Peterson says they eventually narrowed it down to the seven most promising compounds. Those seven compounds were re-screened with a human cell line, and the results were replicated.

Peterson says they will now start testing the seven compounds in mice and will work with medicinal chemists at KU to make sure the compounds are safe for humans.

“This is a great example of what kinds of breakthroughs can occur when researchers on our two campuses work together, and demonstrates the importance of basic research as a driver for discovery of new medical treatments,” Peterson says.

Peterson’s publication can be read on the PLOS One website.

Julie A. Carlsten Christianson, PhD, Awarded 2 R01 Grants

Julie A. Carlsten Christianson, PhD, Assistant Professor of Anatomy and Cell Biology, was recently awarded 2 NIH/NIDDK R01 grants, totalling $2,212,500. The first R01 grant, titled “Effect of Neonatal and Adult Stress on Pelvic Pain Disorders and Comorbidity”, was awarded on August 25, 2014.

The second R01 award came less than a month later on September 23, 2014, and is titled “Comorbid Mood and Urogenital Disorders in Mice Following Neonatal Maternal Separation”. Both R01s will support Dr. Chistianson’s research program through 2019.

Dr. Christianson earned her PhD in 2003 at the University of Kansas Medical Center in the Department of Anatomy and Cell Biology. She then did her postdoctoral training from 2003-2007 at the University of Pittsburgh Medical Center, Department of Medicine, Division of Gastroenterology, Hepatology and Nutrition.

Please join us in congratulating Dr. Christianson on her success!

Soumen Paul and Russell Swerdlow Publish Study in Journal Stem Cells

Energy Production and Regulation of Pluripotent Stem Cell Differentiation

In a recently published study in the journal STEM CELLS, a research team from the Institute of Reproductive Health and Regenerative Medicine (IRHRM) has identified a novel mechanism that regulates energy production in pluripotent stem cells (PSCs).

PSCs, including embryonic stem cells (ESCs), can be differentiated to any other cell types of the body.

Continued on page 8
Thus, they hold great promises for regenerative medicine. Also, PSCs possess the ability to grow (self-renew) efficiently in defined conditions. This is important for sufficient expansion of PSCs for their eventual use, to differentiate to specific cell types. The continuous expansion of PSCs or their differentiation to other cell types needs proper regulation of energy production. Not surprisingly, recent studies have suggested crucial roles of mitochondria, the main energy production machinery within a cell, in the maintenance of PSCs and their differentiation process. PSCs rely heavily on glycolysis, a process of energy production not dependent upon mitochondrial electron transport chain. Glycolysis, although inefficient, produces energy at a faster rate and provides important intermediate metabolites to meet the biosynthetic demands of proliferating PSCs. In contrast, differentiation of PSCs is associated with a shift in energy metabolism from glycolysis to oxidative phosphorylation in mitochondria.

The research team, led by Soumen Paul, Ph.D., an Associate Professor of Pathology and Laboratory Medicine and a member of IRHRM, found that atypical protein kinase c lambda/iota, which is known to influence cell growth, is important to regulate the balance of energy metabolism in PSCs. Dr. Paul and his colleagues found that depleting atypical protein kinase c lambda/iota significantly impaired the mitochondrial function in ESCs, thereby inhibiting their ability to differentiate to other cell types. This discovery will help to better understand the biology of PSC, including their differentiation to other specialized cell types.

Dr. Paul is the senior author of the paper and Dr. Biraj Mahato, Postdoctoral Fellow, is the first author of the study. Russell H. Swerdlow, MD, a Professor of Neurology and a member of IRHRM, collaborated on the study. The work is supported by NIH grants HD062546, HL094892 and HD075233. Co-author Pratik Home, Ph.D., is supported by a postdoctoral fellowship from American Heart Association.
New Honors and Awards - Congratulations!

Udayan Apte, PhD, Associate Professor of Pharmacology, Toxicology and Therapeutics, was appointed to the Hepatobiliary Pathophysiology (HBPP) Study Section.

Katherine F. Roby, PhD, Research Associate Professor of Anatomy and Cell Biology, Organizing Chair, 11th Annual Gilbert S. Greenwald Symposium on Reproduction and Regenerative Medicine.

Merlin Butler, MD, PhD, Professor of Psychiatry and Behavioral Sciences, received a number of honors:
- Invited member, Kansas University Medical Center Research Misconduct Committee
- Appointed Editorial Board member, Journal of Psychiatry and Behavioral Sciences
- Appointed Member, Medical Advisory Board, Mowat-Wilson Syndrome Foundation
- Invited member, Test Material Development Committee (TMDC) for the United States Licensing Examination (USMLE)

Michael Detamore, PhD, Professor of Chemical and Petroleum Engineering, KU-Lawrence, received a number of honors:
- Appointed member of the Advisory Board, Midwest Stem Cell Therapy Center
- Top 10 Most Accessed Article, Recent Patents Reg Med, Wang et al., January 2014
- Chair, Mini-Symposium on Biomechanics of Tissue Engineered Cartilage, World Congress of Biomechanics, July 2014

Shui Q. Ye, MD, PhD, Professor and William R. Brown/Missouri Endowed Chair in Medical Genetics and Molecular Medicine, CMH/UMKC, was appointed to two study sections:
- Panel member, 2014 Peer Review Medical Research Program Discovery Award of Respiratory Health (DIS-RH), and Panel member, 2014 Peer Review Medical Research Program, Pre-Respiratory Health-2 (PRH-2), DOD Congressionally Directed Medical Research Programs

FACULTY AWARDS:

Carl P. Weiner, MD, MBA, K.E. Krantz Chair of Obstetrics and Gynecology, won an award for best presentation in Clinical Obstetrics, titled “5-year experience with PROMPT (PRactical Obstetric Multidisciplinary Training) reveals sustained and progressive improvements in obstetrics outcomes at a US hospital”. The study was also published in the American Journal of Obstetrics and Gynecology.

Rajasingh Johnson, MPhil, PhD, HCLD, Assistant Professor of Internal Medicine, received the Herman Rahn Award for faculty excellence in Pulmonary Research from the American Physiology Society in Experimental Biology, April 2014.

Alexander Moise, PhD, Assistant Professor of Pharmacology and Toxicology, KU-Lawrence, received the J. William Fulbright US Scholar Award (April-August, 2015), in collaboration with Dr. Jose Xavier-Neto at the National Biosciences Laboratory (LNBio) in Campinas, Sao Paulo, Brazil.

Joseph D. Fontes, PhD, Associate Professor of Biochemistry and Molecular Biology, received the Chancellor’s Distinguished Teaching Award, the Ruth Bohan Teaching Professorship Award, and the Student Voice Award for Best Lecturer.

Michael Detamore, PhD, Professor of Chemical and Petroleum Engineering, KU-Lawrence, received a number of awards:
- Iwao Yasuda Award, BMES Cellular and Molecular Bioengineering Special Interest Group
- University Scholarly Achievement Award (one of four awards given across all disciplines at KU-Lawrence and KUMC)

Shrikant Anant, PhD, Professor of Molecular and Integrative Physiology, received a 2014 Chancellor’s Club Research Award, KUMC Faculty Research Day.

Soumen Paul, PhD, Associate Professor of Pathology and Laboratory Medicine, received a 2014 Faculty Investigator Research Award, KUMC Faculty Research Day.

Russell H. Swerdlow, MD, Gene and Marge Sweeney Professor of Neurology, received the 2014 Chancellor’s Club Research Award, KUMC Faculty Research Day.

Paige Geiger, PhD, Associate Professor of Molecular and Integrative Physiology, received the Glendon G. Cox Leadership Award and the Rising Trendsetter Award.
New Trainee Awards and New Grants - Congratulations!

**TRAINEE AWARDS:**

**Angela Pierce**, PhD Student in Neuroscience (Julie Christianson lab), was selected for the 2014 Society for Neuroscience Early Career Policy Fellows’ Program and participated in the SfN’s Capitol Hill Day, March 26, 2014

**Isabella Fuentes**, PhD Student in Neuroscience (Julie Christianson lab), was awarded a T32 trainee position in the Neurological and Rehabilitation Sciences Training Program, T32 HD057850, Ramdy Nudo, PI

**2014 Student Research Forum Award Recipients:**

- **Nathan Wilson**, Mentor Irfan Saadi, PhD, Anatomy and Cell Biology; 1st Place Overall Medal in Graduate Student SOM; 1st Place Session Winner, Cell/Molecular Biology; Paul B. Freeburg Cell Biology Award

- **Asona Lui**, Mentor Joan Lewis-Wambi, PhD, Molecular and Integrative Physiology; 1st Place Session Winner, Disease Systems

- **Kelly Boxberger**, Mentor Jed Lampe, PhD, Pharmacology, Toxicology and Therapeutics; 1st Place Session Winner, Liver

- **Robert Rogers**, Mentor Paige Geiger, PhD, Molecular and Integrative Physiology; 2nd Place Winner, Cell/Molecular Biology

- **An Zou**, Mentor Nikki Cheng, PhD, Pathology and Laboratory Medicine; Honorable Mention, Disease Systems

- **Steve McGreal**, Mentor Udayan Apte, PhD, Pharmacology, Toxicology and Therapeutics; Honorable Mention, Liver

**FACULTY GRANTS**

**Evolutionary Dynamics of Collateral Gene Silencing by piRNA.** National Science Foundation: MCB. August 1, 2014-July 31, 2017. PI: **Justin P. Blumenstiel, PhD.**

**Transcriptional Direct Stimulation, Startle Modulation and Event-related Potentials of the Brain to Evaluate Hyperphagia in Prader-Willi Syndrome, Foundation for Prader-Willi Research (FPWR).** $150,000, 2014-2016, PI: **Merlin Butler, MD, PhD.**

**Establishment of a Novel Consortium for Translational Research on Aggression and Drug Abuse and dependence (ConTRADA), Kansas University Strategic Initiative.** $382,874, 2014-2017. Co-Investigator: **Merlin Butler, MD, PhD.**

**Genetic Characterization of Alcohol Dependence and Premorbid Correlates, Kansas University Medical Center - Frontiers Special Opportunity for Research on Alcoholism, Abuse and Dependency.** $189,000, 2014-2017. Co-Investigator: **Merlin Butler, MD, PhD.**

**Clinical Trials with Oxytocin in Prader-Willi Syndrome, Prader-Willi Syndrome Association (USA).** $23,147, 2014. Co-Investigator: **Merlin Butler, MD, PhD.**

**Mechanisms of Carboplatin Resistance in Ovarian Cancer, American Cancer Society Research Scholar.** July 2014-June 2018. PI: **Jeremy Chien, PhD.**

**Structure and Function of RABL3 in Paclitaxel Resistance, COBRE Pilot Grant: Protein Structure and Function (KU).** August 2014-July 2015. PI: **Jeremy Chien, PhD.**

**Exosome/microvesicle Regulation of Oocyte Development Competence, NIH R21HD082484-01.** $275,000 TDC, 2014-2016. Co-PIs: **Lane Christenson, PhD and Lynda McGinnis, PhD.**

**Effect of Neonatal and Adult Stress on Pelvic Pain Disorders Comorbidity, NIH/NIDDK R01 KD096611-01A1.** $1,087,500, August 25, 2014-April 30, 2019. PI: **Julie Carlsten Christianson, PhD.**
Comorbid Mood and Urogenital Disorders in Mice Following Neonatal Maternal Separation, NIH/NIDDK R01 DK103872-01. $1,125,000, September 23, 2014-July 31, 2019. PI: Julie Carlsten Christianson.

Novel Methods to Prevent Excessive Gestational Weight Gain, Kansas City Area Life Sciences Institute (Blue KC Outcomes Research Grant). $50,000, June 2014-June 2015. Co-PI: Holly Hull, PhD. Other IRHRM members participating in this project include Susan Carlson, Carl Weiner, and Kelly Bosak.

The Role of MDM2-MTBP Axis in Cancer Metastasis, NIH/NCI 1R01 CA174735-01A1. $377,500/year, April 1, 2014-March 31, 2019. PI: Tomoo Iwakuma, MD, PhD.


Role of OVO-like 1 in the Regulation of Human Trophoblast Differentiation, NIH/NICHD 1R03 HD079850-01A1. $50,000, September 23, 2014-August 31, 2016. PI: Stephen Renaud, PhD.


PATENTS


UPCOMING NIH GRANT APPLICATION DEADLINES

JANUARY 25: All P Series (P01)

FEBRUARY 5: R01 and U01 new applications

MARCH 5: R01 and U01 renewals, resubmissions and revisions

MARCH 16: R03, R21 renewals, resubmissions and revisions

As a reminder, the IRHRM administrative team is available to assist with the grant application preparation and submission process. For assistance, please contact Lesley Shriver, lshriver@kumc.edu or Stacy McClure, smcclure@kumc.edu.

RECENT PUBLICATIONS


Recent Publications (Continued)


Upcoming Event Highlights

The Annual Donald C. Johnson Lecture in Reproduction - Thursday, April 16, 2015

Teresa K. Woodruff PhD, Thomas J. Watkins Professor of Obstetrics and Gynecology, Director of Women’s Health Research Institute, Chief of the Division of Obstetrics and Gynecology-Fertility Preservation, Northwestern University, will be giving the Annual Donald C. Johnson Lecture in Reproduction on Thursday, April 16, 2015 from 8:30-9:30 a.m. in the Lied Auditorium (title to be determined).

The Johnson Lectureship honors the reproductive biology research career of former KUMC faculty member Donald C. “DC” Johnson.

The Annual James L. Voogt Lecture in Neuroendocrinology - Thursday, May 28, 2015

Please join us on May 28, 2015 for the Annual James L. Voogt Lecture in Neuroendocrinology, being held from 8:30 - 9:30 am in the Lied Auditorium. Jon Levine, PhD, Professor of Neuroscience and Director of the Wisconsin National Primate Research Center at the University of Wisconsin-Madison, will present (title to be determined).

The Annual Voogt Lectureship honors Dr. James L. Voogt, an emeritus faculty member of KUMC whose research career focused on Neuroendocrinology. Dr. Voogt will once again be present during the lecture and we look forward to his visit!

The Annual Ivan Damjanov Lecture in Stem Cell Research - Thursday, April 30, 2015

Please mark your calendars and plan to join us for the Ivan Damjanov Lecture in Stem Cell Research. On April 30, 2015 at 8:30 am in the Lied Auditorium, Barbara Knowles PhD, Emeritus and Adjunct Professor, The Jackson Laboratory, and Emeritus Research Director, Institute of Medical Biology, A*STAR, Singapore, will present a lecture (title to be determined).

The Annual Ivan Damjanov Lecture in Stem Cell Research honors Ivan Damjanov, MD, PhD, Professor of Pathology at KUMC, who made early contributions to the understanding of stem cell biology. Please plan to attend!

11th Annual Gilbert S. Greenwald Symposium on Reproduction and Regenerative Medicine

Thursday, November 6
5-6:15 p.m.  G013 SON, Keynote Lecture, “Characterization of the Estrogen-Regulated Transcriptome in Breast Cancer Cells”, W. Lee Kraus, PhD, Cecil H. & Ida Green Distinguished Chair in Reproductive Biology Sciences, Vice Chair for Basic Sciences, Departments of Obstetrics and Gynecology, UT Southwestern
6:30-9 p.m.  Poster Session and Reception, Beller Conference Center

Friday, November 7
7:30 a.m.-4:30 p.m.  Kansas City Public Library- Central, 14 W. 10th St., KCMO, Helzberg Auditorium, 5th Floor. For more details, go to www.kumc.edu/greenwald

We hope to see you there!
# Upcoming Events (November 2014 - May 2015)

## November 2014

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<td>11th Annual Gilbert S. Greenwald Symposium on Reproduction and Regenerative Medicine</td>
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<td>14</td>
<td>CRS Chalk Talk, Noon, 3070 HLSIC, Rocio Rivera (MU-Columbia)</td>
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<td>19</td>
<td>CESCB Chalk Talk, Noon, 3070 HLSIC, Xiaogang Li</td>
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<td>20</td>
<td>Seminar, 8:30-9:30 am, Lied Aud., Daniel A. Rappolee, PhD, Wayne State University. Host: Michael J. Soares</td>
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## December 2014

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<td>CRS Chalk Talk, Noon, 3070 HLSIC, Vargheese Chennathukuzhi</td>
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<td>11</td>
<td>Seminar, 8:30-9:30 am, Lied Aud., Alexander R. Moise, PhD, University of Kansas - Lawrence, Role of Short-Chain Dehydrogenase/Reductase Enzymes in the Metabolism of Vitamin A During Embryogenesis. Host: T. Rajendra Kumar</td>
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<td>17</td>
<td>CESCB Chalk Talk, Noon, 3070 HLSIC, Katherine Swenson-Fields</td>
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## March 2015

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<td>12</td>
<td>Seminar, 8:30-9:30 am, Lied Aud., Humphrey Yao, PhD, NIH/NIEHS. Host: T. Rajendra Kumar</td>
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<td>26</td>
<td>Seminar, 8:30-9:30 am, Lied Aud., Steven R. Houser, PhD, FAHA. Host: Michael Artman</td>
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## April 2015

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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>16</td>
<td>Annual Donald C. Johnson Lecture in Reproduction, 8:30-9:30 a.m., Lied Aud., Teresa Woodruff, PhD, Northwestern University. Host: T. Rajendra Kumar</td>
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<tr>
<td>23</td>
<td>Seminar, 8:30-9:30 am, Lied Aud., Takahiro Maeda, MD, PhD, Harvard. Host: Kenneth Peterson</td>
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<tr>
<td>30</td>
<td>Annual Ivan Damjanov Lecture in Stem Cell Research, 8:30 - 9:30 am, Lied Aud., Barbara Knowles, PhD, A*STAR, Singapore. Host: Ivan Damjanov</td>
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## May 2015

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<tr>
<td>7</td>
<td>Seminar, 8:30 - 9:30 am, Lied Aud., Ursula Kaiser, MD, Brigham and Women’s Hospital. Host: T. Rajendra Kumar</td>
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<tr>
<td>28</td>
<td>Annual James L. Voogt Lecture in Neuroendocrinology, 8:30 - 9:30 am, Lied Aud., Jon Levine, PhD, University of Wisconsin-Madison. Host: T. Rajendra Kumar</td>
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Questions? Comments? Suggestions?

Please contact Stacy McClure, Associate Director of Administration, IRHRM

913-588-5774

smcclure@kumc.edu

3085 HLSIC

www.kumc.edu/irhrm
The 11th Annual Gilbert S. Greenwald Symposium on Reproduction and Regenerative Medicine

**KEYNOTE LECTURER**

**W. Lee Kraus, PhD**
Cecil H. and Ida Green Distinguished Chair in Reproductive Biology Sciences
Professor and Vice Chair for Basic Sciences
Department of Obstetrics and Gynecology
UT Southwestern

**Characterization of the Estrogen-regulated Transcriptome in Breast Cancer Cells**

**Marisa S. Bartolomei, PhD**
Professor
Department of Cell & Developmental Biology
University of Pennsylvania
*Genomic Imprinting: ART and Science*

**Amander Clark, PhD**
Associate Professor
Department of Molecular, Cell and Developmental Biology
UCLA Broad Stem Cell Research Center
University of California, Los Angeles
*Methylation Reprogramming in the Human Germ Line*

**Jae-Wook Jeong, PhD**
Associate Professor
Department of Obstetrics, Gynecology and Reproductive Biology
Michigan State University
*Progestosterone Signaling in Endometrium*

**Kathy Sharpe-Timms, PhD**
Professor and Director
Division of Reproductive and Perinatal Research
Director, MU Assisted Reproduction Labs
University of Missouri-Columbia
*Transgenerational Endometriosis: The Missing Link*

**David Zarkower, PhD**
Professor
Department of Genetics, Cell Biology & Development
Director, Developmental Biology Center
University of Minnesota
*Keeping Sex Signaling Safe: DMRT1 and Gonadal Transdifferentiation*

**Sedene Kalantry, PhD**
Assistant Professor
Department of Human Genetics
University of Michigan
*Novel Mechanisms of X-chromosome Inactivation*

**Suzanne Moenter, PhD**
Professor
Departments of Molecular and Integrative Physiology, Obstetrics and Gynecology and Internal Medicine
University of Michigan
*New Insights into Reproductive Neuroendocrine Development*

**Melinda E. Wilson, PhD**
Associate Professor
Department of Physiology
University of Kentucky
*Dynamic Regulation of Estrogen Receptors by Epigenetic Mechanisms*