



NIH/NIGMS IDeA Central Region Conference 2019 PROGRAM

**Sheraton Oklahoma City Downtown Hotel
1 North Broadway Ave, Oklahoma City, OK 73102**

Wednesday, June 12

Sheraton Hotel, One Broadway Ballroom and Aria Lounge

- 3:00 – 6:00 *Registration*
- 3:00 – 5:00 *SHARPHub Internal Advisory Committee meeting* (Brick Room, 1st floor)
- 5:30 – 6:30 *Reception*
Beverages available for purchase at Aria Lounge
- 6:30 – 7:00 *Featured Talk:*
Genomics for American Indian and Alaska Native Communities
Paul Spicer, Professor of Anthropology, University of Oklahoma; Director, Community Engagement and Outreach, Oklahoma Shared Clinical and Translational Resources; Program Co-Leader, Cancer Prevention and Control, Stephenson Cancer Center
- Introduction by Darrin Akins, OK-INBRE Program Director and Associate Director for Education and Training, Stephenson Cancer Center, University of Oklahoma Health Sciences Center

Thursday, June 13

- 7:30 – 9:30 *Registration*
Century Foyer, 2nd floor
- 7:30 – 8:30 *Breakfast Buffet*
Century Foyer and Ballroom
- 10:00 *Poster Setup Open*
Plaza North/South Ballroom; Poster viewing throughout the day, poster session 5pm

Plenary Session 1

Century Ballroom

- 8:15 – 8:25 *Welcome*
Darrin Akins, OK-INBRE Program Director and Associate Director for Education and Training, Stephenson Cancer Center, University of Oklahoma Health Sciences Center
- 8:25 – 8:35 *OUHSC and IDeA – A Collaborative Partnership to Build Research Capacity*
James J. Tomasek, Vice President for Research, University of Oklahoma Health Sciences Center
- 8:35 – 8:45 *COBRE-catalyzed research at OMRF*
Rodger McEver, Vice President of Research, Oklahoma Medical Research Foundation



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- 8:45 – 8:55 Congressman Tom Cole Video Message
- 8:55 – 9:15 *NIH IDeA Program Update*
Krishan Arora, IDeA Program Director, NIH National Institute of General Medical Sciences
- 9:15 – 9:35 *Stimulating Innovation in the IDeA Central Region: SHARPHub*
Douglas Wright, Kansas INBRE PI
- 9:35 – 10:05 *NIGMS Training Workforce Development and Diversity Programs*
Luis Cubano, Program Director, NIH Division of Training, Workforce Development and Diversity
- 10:05 – 10:35 *IDeA Post-Award Management*
Arina Kramer, Grant Management Specialist, NIH
- 10:35 – 11:00 *Networking Break*
Century Foyer

Topic Breakouts Session 1

11:00 – 12:30 **Clinical and Translational Research** Century Ballroom

Chair Timothy VanWagoner, Administrative Director, Oklahoma Clinical and Translational Science Institute, University of Oklahoma Health Sciences Center

Talk 1 *DaCCoTA Center Overview*

Marc Basson, Senior Associate Dean for Medicine and Research, Professor of Surgery, Pathology and Biomedical Sciences, Director, DaCCoTA CTR, School of Medicine & Health Sciences, University of North Dakota

Talk 2 *The Great Plains IDeA CTR Network*

Matthew Rizzo, Frances & Edgar Reynolds Chair & Professor, Department of Neurological Sciences, Co-Director, Nebraska Neuroscience Alliance, Director of Neuroscience Services, Nebraska Medical Center

Talk 3 *ISPCTN: Improving Children's Health through State-of-the-Art Clinical Trials in IDeA States*

Jessica Snowden, Associate Professor, Pediatric Infectious Disease, IDeA States Pediatric Network Data Coordinating & Operations Center, University of Arkansas Medical Sciences

Talk 4 *Leveraging OUHSC Clinical Informatics to Inform Research and Practice*

David E. Bard, CHF Endowed Research Chair, Director, Biomedical & Behavioral Methodology Core, Associate Professor, Department of Pediatrics, University of Oklahoma Health Sciences Center



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11:00 – 12:30 **Developmental Biology** Kiamichi Room

Chair Linda Thompson, Member, Arthritis and Clinical Immunology Program
Oklahoma Medical Research Foundation

Co-Chair Dean Dawson, COBRE co-PI, Expanding Excellence in Developmental Biology in
Oklahoma, Oklahoma Medical Research Foundation

Talk 1 *Apolipoprotein B paralogs are required for regeneration in planarians*

David Forsthoefel, Assistant Member, Genes and Human Disease Research Program,
Oklahoma Medical Research Foundation, Adjunct Assistant Professor, Department of
Cell Biology, University of Oklahoma Health Sciences Center

Talk 2 *The involvement of Notch mediated lateral inhibition in kidney collecting duct cell type differentiation and maintenance*

Kamesh Surendran Ph.D., Associate Scientist, Pediatrics and Rare Diseases Group,
Sanford Research, Associate Professor of Pediatrics, Sanford School of Medicine of USD

Talk 3 *Pioneering Activity of GATA3 Drives Cell Fate Transition in Breast Cancer*

Motoki Takaku, Assistant Professor, University of North Dakota

Talk 4 *Estrogen as a Mediator of Fibrocartilage Homeostasis and Regeneration*

Jennifer Robinson, Assistant Professor, Chemical and Petroleum Engineering,
Bioengineering Graduate Program, University of Kansas

11:00 – 12:30 **Infectious Diseases** Red Carpet Room

Chair Jordan Metcalf, Professor of Medicine and Research Director, Virginia and Jean
Rumsey Briscoe Chair in Pulmonary Disease Research, Pulmonary, Critical Care
and Sleep Division, Department of Medicine. Co-Director of the Oklahoma
Center for Respiratory and Infectious Disease

Co-Chair Lin Liu, Director, Oklahoma Center for Respiratory and Infectious Diseases
Oklahoma State University

Talk 1 *Neutrophil functions in acute and chronic lung diseases*

Jyotika Sharma, Associate Professor, Biomedical Science and Director, UND COBRE in
Host-pathogen Interaction

Talk 2 *STAT3 signaling is required for efficient replication of vaccinia virus in infected cells*

Zhilong Yang, Assistant Professor, Kansas State University



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Talk 3 *Influenza-host interactions control innate immune defense and viral pathogenesis*

Shitao Li, Assistant Professor, Oklahoma State University
Oklahoma Center for Respiratory and Infectious Diseases

Talk 4 *The CHallenges of Predicting HUman Endogenous retroviral RNA Structure and Function*

Susan Schroeder, Associate Professor, the University of Oklahoma

11:00 – 12:30 **Enhancing Student Learning ACTIVELY!** Great Plains Room

Chair Barb Goodman, Director of SD Biomedical Research Infrastructure Network
Sanford School of Medicine of the University of South Dakota

12:30 – 2:00 *Lunch with NIH Keynote Speaker*

Century Foyer/Ballroom

1:00 – 1:30 *IDeA Program Update*

Ming Lei, Director, NIH Division for Research Capacity Building

Topic Breakouts Session 2

2:00 – 3:30 **Core Facilities** Century Ballroom

Chair David Dyer, Professor, Department of Microbiology and Immunology, Director,
OK-INBRE Bioinformatics Core, University of Oklahoma Health Sciences Center

Co-Chair Dr. Rashada Alexander, Program Director, NIH Division for Research Capacity
Building (DRCB)

Talk 1 *Targeted Quantitative Proteomics in the IDeA National Resource for Proteomics and the Oklahoma INBRE*

Mike Kinter, Associate Member, Oklahoma Medical Research Foundation

Talk 2 *Redefining mouse transgenesis with CRISPR-Cas9*

C.B. Gurusurthy, Associate Professor, Pharmacology and Experimental Neuroscience
Director, Mouse Genome Engineering Core Facility, University of Nebraska Medical
Center

Talk 3 *Research Design and Biostatistics Core: Improving Research through Data and Statistics*

Valerie Bares, Sanford Research, Program Director, Research Design and Biostatistics
Core



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Talk 4 *North Dakota State University COBRE Center for Visual and Cognitive Neuroscience: Core Facilities*

Mark McCourt, James A. Meier and Dale Hogoboom Professor of Psychology, Director, NDSU Center for Visual and Cognitive Neuroscience

Talk 5 *IDeA Core Facilities and Services - DRCB/NIGMS Perspective*

Rashada Alexander, Program Director, Division for Research Capability Building (DRCB), NIGMS

2:00 – 3:30 **Structural Biology** Red Carpet Room

Chair Ann West, Grayce B. Kerr Centennial Chair and Professor of Chemistry and Biochemistry, University of Oklahoma

Talk 1 *Mechanism of Stabilizing Broken Ended Membranes by Poxvirus Proteins*

Junpeng Deng, Professor of Biochemistry and Biophysics, Oklahoma State University

Talk 2 *A Role for Gamma-Glutamyl Transferase in Tumorigenesis: Insights Gained from Structural Analyses*

Marie Hanigan, Professor, Department of Cell Biology, University of Oklahoma Health Sciences Center

Talk 3 *Bridge helix of Cas9 impacts target DNA cleavage and selectivity*

Rakhi Rajan, Assistant Professor, Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK

Talk 4 *What to Expect from Access to Cryo-EM National Service Centers*

Edward T. Eng, Scientist, Simons Electron Microscopy Center (SEMC) at the New York Structural Biology Center (NYSBC), Manager, National Center for CryoEM Access and Training (NCCAT)

Talk 5 *Applications of Machine Learning to Structural Biology*

Ho Leung Ng, Associate Professor, Dept. Biochemistry & Molecular Biophysics Kansas State University

2:00 – 3:30 **Evaluation** Great Plains Room

Chair Sarah Velasquez, Communications Manager, University of Kansas Medical Center

Talk 1 *South Dakota BRIN, Evaluation Design for the Long Game*

Barb Goodman, Director of SD Biomedical Research Infrastructure Network Sanford School of Medicine of the University of South Dakota



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Talk 2 *Evaluation Practices for COBRE Projects and Mentoring Programs*
Kimberly Kirkpatrick, University Distinguished Professor, Department of Psychological Sciences, Director, Cognitive and Neurobiological Approaches to Plasticity Center, Kansas State University

Talk 3 *Tracking and Evaluation at the Great Plains IDeA CTR*
Matthew Rizzo, Frances & Edgar Reynolds Chair & Professor, Department of Neurological Sciences, Co-Director, Nebraska Neuroscience Alliance, Director of Neuroscience Services, Nebraska Medical Center

Talk 4 Julie Benson, Alaska INBRE Program Administrator

2:00 – 3:30 **Adverse Childhood Experiences (ACEs)**..... Kiamichi Room

Chair Jennifer Hays-Grudo, Regents Professor of Psychiatry & Behavioral Science, PI/PD, Center for Integrative Research on Childhood Adversity (CIRCA), Oklahoma State University

Talk 1 *Differential rearing: A preclinical rodent model to examine the impact of the early rearing environment on drug taking in adulthood*
Mary E. Cain, Professor, Department of Psychological Sciences, Kansas State University

Talk 2 *Abating an Epidemic: Prevention, Treatment, Training, and Research Approaches to the Opioid Epidemic*
Julie Croff, Executive Director, Center for Wellness and Recovery, Oklahoma State University Center for Health Sciences

Talk 3 *System dynamics models for alcohol exposed pregnancy health disparities: Community based understanding of a complex issue*
Arielle Deutsch, Assistant Scientist, Sanford Research

Talk 4 *Toward a more comprehensive picture of rural drug addiction: models, considerations and approaches from The Rural Drug Addiction Center in Nebraska*
Kirk Dombrowski, Director, Rural Drug Addiction Research Center, University of Nebraska

3:30 – 4:00 *Networking Break*
Century Foyer

4:00 – 5:00 **Student Research Presentations from Each Central IDeA State**
Century Ballroom

Talk 1 *Molecularly Imprinted Polymers for Dopamine*
Tesla Cheek, University of Sioux Falls, South Dakota



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- Talk 2 *Germline-specific roles of HSF1 and its regulation in reproduction*
Purevsuren Erdenebat, Research Trainee, Oklahoma Medical Research Foundation
Oklahoma
- Talk 3 *Gene drive inhibition by the anti-CRISPR proteins AcrIIA2 and AcrIIA4 in Saccharomyces cerevisiae*
Erianna Basgall, Kansas State University
- Talk 4 *HLA-II Type Elicits Specific Clinical and Behavioral Responses in a Transgenic Mouse Model of Non-Anaphylactic Cow's Milk Allergy*
Danielle Germundson, Graduate Student, North Dakota University School of Medicine and Health Sciences
- Talk 5 *Double chemical mutagenesis: elucidating the mode of action of experimental compounds*
Sean Watson, Graduate Student, Harvard University, representing University of Nebraska, Omaha

5:00 – 6:00 **Open Poster Session**
Plaza North/South Ballroom

Thursday night dinner on your own – see map and dining guide

Friday, June 14

7:30 – 8:30 *Breakfast Buffet*
Century Foyer/Ballroom

Topic Breakouts Session 3

8:30 – 11:00 **Neuroscience** Red Carpet Room

Chair Martin Paulus, MD, Scientific Director, Laureate Institute for Brain Research

Co-chair Robin Aupperle, Principal Investigator, Laureate institute for Brain Research

Talk 1 *Neuroscience of Timing and Decision Making*
Kimberly Kirkpatrick, University Distinguished Professor, Director, Cognitive and Neurobiological Approaches to Plasticity Center, Department of Psychological Sciences, Kansas State University

Talk 2 *Neural Predictors of Response to Behavior Therapy for Anxiety and Depression*
Robin Aupperle, Principal Investigator, Laureate Institute for Brain Research



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Talk 3 *Impaired Immunity to Measles in Adults with Depression*
Jonathan Savitz, Principal Investigator, Laureate Institute for Brain Research

Talk 4 *Made to Thrive: Neuroscience-based Prevention of Long-term Consequences of Early Life Stress*
Namik Kirlic, Associate Investigator, Laureate Institute for Brain Research

8:30 – 11:00 **Cancer**Century Ballroom

Chair Danny Dhanasekaran, Samuel Noble Foundation Endowed Chair in Cancer Biology, Professor of Cell Biology, Director, SCC-COBRE & Center for Basic Cancer Research, Deputy Director for Basic Research, Stephenson Cancer Center, University of Oklahoma Health Sciences Center

Talk 1 *Histology, Immunohistochemistry, & Microscopy (HIM) Core at OUHSC COBRE*
Kar-Ming Fung, Professor of Pathology, Director of Histology, Immunohistochemistry, & Microscopy Core, SCC-COBRE, University of Oklahoma Health Sciences Center

Talk 2 *Label-free, electronic detection of pancreatic cancer exosomes*
Yonghi Choi, , Assistant Professor of Physics, Cellular and Molecular Biology program, Materials and Nanotechnology Program, North Dakota State University

Talk 3 *XRN2 dictates DNA repair pathway choice via R-loop resolution*
Julio Morales, Assistant Professor Department of Neurosurgery and Stephenson Cancer Center, University of Oklahoma Health Sciences Center

Talk 4 *Biospecimen core at Stephenson Cancer Center COBRE*
Muralidharan Jayaraman, Director of MTCRO-COBRE Biospecimen core, Director of Research Shared Resources Operations, Core Leader for Cancer Functional Genomics core, Assistant Professor of Research in Cell Biology, University of Oklahoma Health Sciences Center

Talk 5 *Analysis of Migration Associated Treatment Resistance in Glioblastoma to Identify Novel Therapeutics*
James Battiste, MD, PhD, Assistant Professor, Department of Neurology, SCC-COBRE, University of Oklahoma Health Sciences Center, Stephenson Cancer Center

8:30 – 11:00 **Diabetes**..... Great Plains Room

Chair Jian-Xing Ma, Laureate Professor and Chairman, Department of Physiology, University of Oklahoma Health Sciences Center

Co-Chair Kevin Short, PhD, FACSM, Associate Professor. CHF Choctaw Nation Chair in Pediatric, Endocrinology/Diabetes, Department of Pediatrics, University of Oklahoma Health Sciences Center



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- Talk 1 *New Vision for Stopping the Obesity and Diabetes Epidemic: Disease Interruption in the First 1000 days*
Jacob E. (Jed) Friedman, Professor and Director of the Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center
- Talk 2 *Is Reduced Liver Metabolism Making Us Obese and How Soon?*
E. Matthew Morris, Research Assistant Professor, School of Medicine, University of Kansas Medical Center
- Talk 3 *TP-R: a Novel Mediator of Obesity-Related Insulin Resistance*
Saraswathi Viswanathan, Associate Professor, Internal Medicine, University of Nebraska Medical Center
- Talk 4 *Novel regulators of adipocyte-mediated inflammation*
David Sparling, Assistant Professor, Section of Pediatric Diabetes and Endocrinology, CHF Paul and Ann Milburn Chair in Pediatric Diabetes Research, Member, Harold Hamm Diabetes Center, University of Oklahoma College of Medicine

8:30 – 11:00 **Immunology/Autoimmunity**..... Kiamichi Room

- Chair Patrick Gaffney, Chair, Genes and Human Disease Research Program, Oklahoma Medical Research Foundation
- Talk 1 *Immunomethylomics as a tool for understanding cancer risk and prognosis: a biostatistician's perspective*
Devin Koestler, KUMC Satellite Director, Bioinformatics, Kansas-INBRE (K-INBRE)
- Talk 2 *Systemic Lupus Erythematosus and ARID3a: Unexpected Associations*
Carol F. Webb, Professor of Medicine, Division of Rheumatology, Immunology and Allergy, University of Oklahoma Health Sciences Center
- Talk 3 *Identification of CpGs to use as early detection biomarkers in pancreatic cancer*
Rick Jansen, Assistant Professor, Department of Public Health, Genomics and Bioinformatics Program, Center for Immunization Research and Education (CIRE), Center for Diagnostic and Therapeutic Strategies in Pancreatic Cancer, North Dakota State University
- Talk 4 *Alpha-synuclein-mediated epigenomic modification of microglial neuroinflammation in Parkinson's disease*
Junguk Hur, Assistant Professor, University of North Dakota School of Medicine and Health Sciences

11:00 – 11:20 *Networking Break*
Century Foyer



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Plenary Session 2

Century Ballroom

- 11:20 – 11:35 *Oklahoma City Innovation District*
Megan Allen, Director of Projects and Programs, Oklahoma City Innovation District
- 11:35 – 11:40 *Invitation to NCUR 2020 at Montana State University*
Melville Vaughan, Professor and Assistant Chair of Biology, Coordinator, Oklahoma INBRE Program, University of Central Oklahoma
- 11:40 – 11:55 *What NAIPI Can Do for You*
Douglas Wright, Kansas INBRE PI
- 11:55 – 12:00 *Closing Comments*
Darrin Akins, OK-INBRE Program Director and Associate Director for Education and Training, Stephenson Cancer Center, University of Oklahoma Health Sciences Center

Boxed Lunch To-Go

Meeting Adjourned