



# NEXTGEN

PRECISION HEALTH

## March 13 – 14, 2025

### Sponsors



### Poster Session A

Friday, March 14, 10:15–11:15 am

- A1 Defining Disparities – The Impact of Race and Facility Location on the Length of Stay of Stereotactic Implant Patients**  
Mary Abou Jawde, University of Missouri-Kansas City
- A2 Stable Periodic Solutions of a Delayed Reaction-Diffusion Model of Hes1-mRNA Interactions**  
Mohammed Alanazi, University of Missouri-Kansas City
- A3 Clinical Management of Atypical Lobular Hyperplasia of the Breast**  
Nicita Anand, University of Missouri-Kansas City
- A4 Yttrium-90 Radioembolization of Unresectable Hepatocellular Carcinoma: A Single Center Experience**  
Mohanned Aqrabawi, University of Missouri-Columbia
- A5 Molecular Myelin Dysfunction in the Most Common Inherited Peripheral Neuropathies – CMT1A and HNPP**  
Marvis Arowolo, University of Missouri-Columbia
- A6 Profiling Age-Related Loss of Motor Function: Corticospinal Excitability, A Major Contributor to Weakness?**  
Fereshteh B. Darvishi, University of Missouri-Columbia

- A7 Identifying Changes in Retinal Dopamine Signaling Networks in Age-Related Macular Degeneration**  
Lauren Baetje, University of Missouri-Kansas City
- A8 RNNs for Seizure Onset Zone (SOZ) Mapping: Data-Driven Solutions in Epilepsy**  
Chandra Varun Reddy Bajepally, University of Missouri-Columbia
- A9 Real-Time Movement Data Collection and Agent-Based Model Enhancements to Understand Antimicrobial Resistance Dynamics in Healthcare Settings**  
Majid Bani-Yaghoub, University of Missouri-Kansas City
- A10 Developing a Translational Approach to Manage Dysphagia in ALS Patients using Optogenetic Neuromodulation**  
Apaala Basak, University of Missouri-Columbia
- A11 The Effects of Demographic Variables on Length of Stay in Stereotactic Implantation**  
Riya Bhat, University of Missouri-Kansas City
- A12 Socioeconomic Disparities in Postoperative Opioid Use Following Spine Surgery: A Retrospective Analysis of Area Deprivation Index and Household Income**  
Ashlesha Bhojane, University of Missouri-Kansas City
- A13 Lorcaserin Administration Increases Motor Function in Aged Mice**  
Charles Brennan, University of Missouri-Columbia
- A14 Establishing the Natural History of Synaptotagmin 1-Associated Neurodevelopmental Disorder**  
Paul Carney, University of Missouri-Columbia
- A15 Oxidative Stress Alters the Expression Levels of Proteins Binding Iron or other Metal and Semimetal Ions and Related Intracellular Signaling Networks in human RPE cells**  
Raymond Duncan, University of Missouri-Kansas City
- A16 Air Pollution, Asthma, and Educational Outcomes: a Reflection of Systemic Racism in the Greater St. Louis Metropolitan Area**  
Ahmed Ebada, University of Missouri-Columbia
- A17 Bruno1 Isoforms have Distinct Subcellular Localization Patterns in Developing Indirect Flight Muscle of *Drosophila***  
Sienna Ficken, University of Missouri-Kansas City
- A18 An engineered layered neural tissue to model human CNS circuitry**  
Nicholas Frede, University of Missouri-Kansas City
- A19 The Effects of Nutritional or Herbal Supplement Intake on Lymphatic Pain, Daily Living Function, and Emotional Distress among Breast Cancer Patients**  
Mei Rosemary Fu, University of Missouri-Kansas City
- A20 ATI-1701: Ongoing Development of a Live Attenuated Tularemia Vaccine Based on a SCHU S4  $\Delta$ clpB Mutant**  
Brandon Green, University of Missouri-Kansas City
- A21 Predicting assembly outcomes in microcosms with high degrees of intraspecific antagonism**  
Danish Gul, University of Missouri-St. Louis

- A22 Neural Responses to Fear-Relevant Stimuli: Early and Sustained Attention to Snakes and Angry Faces**  
Tabish Gul, University of Missouri-St. Louis
- A23 Impact of Homelessness on 30-day Readmission in Patients Undergoing Lower Extremity Bypass**  
Yijin Huang, University of Missouri-Columbia
- A24 A Self-calibrated, Wearable Vital Sign Monitoring Device Enabled by Edge Computing**  
Malinda Jayathilake, University of Missouri-Columbia
- A25 Comparative Effectiveness of MIGS Stents in Reducing IOP: A Retrospective Analysis**  
Sidney Jones, University of Missouri-Kansas City
- A26 Prevalence and Epidemiological Analysis of Health Conditions Among South Asian Populations in Kansas City: Implications for Culturally Tailored Healthcare Strategies**  
Harish Karthikeyan, University of Missouri-Kansas City
- A27 Cholinergic Interneurons in the Accumbal Shell Region Regulate Binge Alcohol Self-Administration in Mice: An In Vivo Calcium Imaging Study**  
Deepak Kempuraj, University of Missouri-Columbia
- A28 5-HT<sub>2C</sub> Agonism: A Novel Neurotherapeutic Treatment for Sarcopenia**  
Nathan Kerr, University of Missouri-Columbia
- A29 Impact of Repeated Prenatal Exposure to Dexamethasone and Ciclesonide on the Developing Brain of Premature Infants**  
Shravani Khisti, University of Missouri-Kansas City
- A30 Intrathecal Gene Therapy Delays Disease Progression in a Canine Model of CLN2 Disease**  
Grace Kick, University of Missouri-Columbia
- A31 A de novo mutation in synaptotagmin-1 induces neurological disorders**  
De-Pei Li, University of Missouri-Columbia
- A32 A Comprehensive Survey of BAGOS SYT1 Variants in *Drosophila***  
Reagan Miller, University of Missouri-Columbia
- A33 Unraveling the Mechanisms of Baker-Gordon Syndrome: A Patient-Derived Model for Precision Medicine**  
Paulien Hermine Smeele, University of Missouri-Columbia
- A34 Multi-Phase Adaptive 4D Printed Shape Memory Polymer Coils for Personalized Aneurysm Treatment**  
Alireza Mahjoubnia, University of Missouri-Columbia
- A35 Exploring the Therapeutic Potential of H<sub>1</sub>-Antihistamines in Endometriosis: A Gene Regulation Perspective**  
Kameswara Bharadwaj Mantha, University of Missouri-Kansas City
- A36 Impact of adiposity on vascular adrenergic receptor sensitivity in young males and females**  
Samuel Martin, University of Missouri-Columbia
- A37 Advancing Precision Therapies for Dravet Syndrome with Collaborative Cross Mouse Models**  
Juanjuan Li, University of Missouri-Columbia

- A38 The Role of GPR68 in Modulating Locomotor Activity and Sensitization to Amphetamine**  
Yeanna Moon, University of Missouri-Kansas City
- A39 Impact of gene expression in AMD: An analysis using the Eye Genotype Expression (EyeGEx) database focusing on intracellular calcium signaling**  
David Morcos, University of Missouri-Kansas City
- A40 Understanding Risk Factors and Their Association with Optic Neuropathy**  
Charunetha Murugesan, University of Missouri-Kansas City
- A41 Leveraging Thermal Gradient to Investigate Peripheral Nerve Dependent Temperature Behaviors in Mice**  
Vaibhav Oberoi, University of Missouri-Columbia
- A42 Beyond Biology: Social Determinants of Health and Their Association with Breast Cancer versus Other-Cause Mortality in U.S. Women**  
Jessica Osaze, University of Missouri-Columbia
- A43 Determining the effects of race on pancreatic neuroendocrine cancer patient diagnosis and outcomes**  
Brandon Park, University of Missouri-Kansas City
- A44 Patient Understanding of the Resident Physician's Role in Orthopaedics**  
Jeffton Pierre, University of Missouri-Columbia
- A45 Mechanisms of NF- $\kappa$ B Signaling in Development of Lung-tissue Resident Memory T-cells**  
Divya Pothuri, University of Missouri-Columbia
- A46 Jujube is a potential powerful treatment for melanoma by upregulation of p21, p53, and TRAILR1**  
Josh Quinn, External:: Des Moines University
- A47 Establishment of translational luciferase-based cancer models to evaluate antitumoral therapies**  
Martin Ramos, University of Missouri-Columbia
- A48 Remote Breathing Monitoring Using LiDAR Technology**  
Omar Rinchi, Missouri University of Science & Technology
- A49 The new UMKC Proteomics Core Facility**  
Sean Riordan, University of Missouri-Kansas City
- A50 *Drosophila* Models of Baker-Gordon Syndrome Reveal Defective Synaptic Vesicle Recycling and Dysfunctional Circuits in Syt1 Neurological Disorders**  
Carlos Rivera, University of Missouri-Columbia

# Poster Session B

Friday, March 14, 1:45–2:45 pm

- B1 Mettl3 deficiency impairs mitochondrial function and indirect flight muscle development in *Drosophila melanogaster***  
Nicholas de Raad, University of Missouri-Kansas City
- B2 Longitudinal assessment of age-related neuromuscular decline in wild type mice**  
Anna Roshani Dashtman, University of Missouri-Columbia
- B3 In vivo advanced molecular imaging of the probiotic *L. lactis* expressing fluorescent proteins to monitor its transit through the gastrointestinal tract**  
Nestor Rubio Infante, University of Missouri-Columbia
- B4 Latent Autoimmune Diabetes in Adults: Diagnostic and Management Considerations in Atypical Diabetes Presentation**  
Samiya Sajid, University of Missouri-Kansas City
- B5 Chronic stress in epilepsy induces robust increase in vagal reflex promoting SUDEP in a murine model**  
Sandy Saunders, University of Missouri-Columbia
- B6 Enhancing Personalized Treatment Recommendations through Federated Survival Analysis**  
Navid Seidi, Missouri University of Science & Technology
- B7 A novel role of rostromedial tegmental nucleus in mediating the effects of fentanyl on sleep-wakefulness**  
Rishi Sharma, University of Missouri-Columbia
- B8 Trends in Global Incidence and Mortality of Colorectal Cancer: A 20-Year Analysis (2000–2020)**  
Asad Siddiqui, University of Missouri-Kansas City
- B9 Precision Gene Therapy for NEDAMSS: Preclinical Evaluation of AAV9.IRF2BPL in Patient-Derived Cell Systems and Animal Models**  
Julieth Andrea Sierra Delgado, University of Missouri-Columbia
- B10 Designing PISA-Based 3D Printable Resins for Resorbable Tissue Engineering Scaffolds**  
Hossein Libre, Missouri University of Science & Technology
- B11 Use of Electromagnetic Signaling for Guided Bone Regeneration**  
Lev Suliandziga, Missouri University of Science & Technology
- B12 Altered morphology of retinal ganglion cell dendrites in an in vitro model of glaucoma**  
Amen Teshome, University of Missouri-Kansas City
- B13 Myeloid-specific Leptin Signaling Links Insulin Resistance to Salt-Sensitive Hypertension**  
Trey Tinich, University of Missouri-Kansas City
- B14 Enhanced Pressure Injury Staging Using YOLOv8 and Ensemble Models**  
Mehedi Hasan Tusar, Missouri University of Science & Technology
- B15 Advancing Inclusive Healthcare: The Role of LGBTQ+-Centered Training in Medical Education**  
Kostandin Valle, University of Missouri-Columbia

- B16 Senolytics improve neuromuscular function in a TDP-43 mouse model of amyotrophic lateral sclerosis (ALS)**  
Joe Viteri, University of Missouri-Columbia
- B17 Uncommon Presentation of Histoplasmosis: A Case of Migratory Polyarthritis in an Immunocompetent Patient**  
Michelle Wu, University of Missouri-Kansas City
- B18 Development and testing of a precision siRNA therapy for SYT1 human variant mutations**  
Sai Goutham Reddy Yeddula, University of Missouri-Columbia
- B19 Histone Deacetylase Inhibitor, Trichostatin A (TSA) Enhances Triple Negative Breast Cancer Oncolytic Virotherapy**  
Fahim Ahmed, University of Missouri-Columbia
- B20 Green light stimulated ultra-fast insulin release from subcutaneous layer**  
Michael Ansong, University of Missouri-Kansas City
- B21 Flash nanoprecipitation parameter screening for nutlin-3-loaded biodegradable nanoparticles using Plackett-Burman Design**  
Wisdom Awuku, University of Missouri-Kansas City
- B22 Anthracycline and Targeted TGF-beta Pathway Combination Therapy of Triple Negative Breast Cancer**  
Ejiroghene Davies-Okarevu, External:: Kansas City University
- B23 Implementation of advanced molecular imaging to evaluate probiotic *L. lactis* bacterium capability to preferentially target orthotopic colorectal tumor**  
Jorge Gomez-Gutierrez, University of Missouri-Columbia
- B24 Long-Term Cardiometabolic Impacts of Single-Dose Prenatal Exposure to Distinct Synthetic Glucocorticoids**  
Shekhar Gugrani, University of Missouri-Kansas City
- B25 Caregiver Inclusion Influence on Adolescent Acceptance and Engagement of an MHealth App, a RCT**  
Nicole Henry, University of Missouri-Columbia
- B26 Discovering Hit-to-Lead Compounds against Plasmodium falciparum Polymerase**  
Nick Ice, University of Missouri-Columbia
- B27 Catatonia and Health Disparities: The Impact of Insurance Status on Length of Stay In Hospital**  
Suchita Karnati, University of Missouri-Kansas City
- B28 Exploring End-User Preferences for AI-Assisted Behavioral Pain Interventions**  
Bowen Liu, University of Missouri-Kansas City
- B29 Specific Transcription Factors Recapitulate Cell Identity of 10B Neurons in the *Drosophila* Ventral Nerve Cord**  
Marianne Maughan, University of Missouri-Kansas City
- B30 Bruno 1 isoform-specific function in *D. melanogaster* indirect flight muscle (IFM)**  
Aaron Morgan, University of Missouri-Kansas City

- B31 Developing a Broad Range In Vitro System to Probe for Plant Based Translational Inhibitory Compounds**  
Mackenna Rodgers, University of Missouri-Columbia
- B32 ASICs and Their Role in Controlling Pain in the Post-Operative Stage**  
Amber Sun, University of Missouri-Kansas City
- B33 An Atlas of Behaviors Regulated by *Drosophila* Ventral Nerve Cord Lineages**  
Daniel Sytkowski, University of Missouri-Kansas City
- B34 Antimicrobial Resistance in Abdominal Trauma-Related Infections**  
Gowri Warikoo, University of Missouri-Kansas City
- B35 The effect of an NAMPT mutation on motor neuron metabolism**  
Zhe Zhang, University of Missouri-Columbia
- B36 Human-induced Pluripotent Stem Cell-derived microglia: a new model for deciphering the non-cell autonomous pathology in C9ORF72 ALS**  
Silvano Bond, University of Missouri-Columbia
- B37 Hypoxic sympatholysis: the role of  $\beta$ -adrenergic receptors and sex in young adults**  
Natasha Boyes, University of Missouri-Columbia
- B38 Exploring the Role of GPR4 in Cocaine-Induced Locomotor Response and Sensitization**  
Eric Chai, University of Missouri-Kansas City
- B39 Key Predictors of In-Hospital Mortality and Home Discharge after Stroke**  
Nawal Cheema, University of Missouri-Columbia
- B40 Examining Equity in Academic Performance Among Underrepresented Students in Health Sciences**  
Danielle Chiang, University of Missouri-Kansas City
- B41 Multiple isoforms of RNA-binding protein Bruno1 are required during indirect flight muscle development in *Drosophila***  
Jenna DeCata, University of Missouri-Kansas City
- B42 Epigenetic changes in limbal epithelial cells of the human cornea affected by diabetes indicate altered calcium signaling and cytoprotective pathways**  
Mohan Kumar Gajendran, University of Missouri-Kansas City
- B43 Low Circulating FGF-21 After High Protein Intake Likely Mediates the Adverse Effect of High Protein Intake on Endothelial Function**  
Hunter Hollomon, University of Missouri-Columbia
- B44 Mechanical performance of active implants made from near-infrared light response shape memory polymer composites**  
Stefan Lohfeld, University of Missouri-Kansas City
- B45 Teleretina Evaluation using Autonomous Methods**  
Tareq Nabhan, University of Missouri-St. Louis
- B46 Temporal and Spatial Expression of Regeneration-Associated Genes after Spinal Cord Injury in Zebrafish**  
Nachiket Rajinikanth, University of Missouri-Kansas City

**B47 Understanding Host-Pathogen Dynamics Using Model-Based Hypothesis Testing:**

**A Mathematical Framework**

Barsha Saha, University of Missouri-Kansas City

**B48 Clinic and Histopathologic Features of Spitz Nevi: A Case Series**

Shelby Salisbury, University of Missouri-Columbia

**B49 Weighted Cart Pull with an Average Power Estimation: Developing a Novel Outcome Measure for Motor Function in Mice**

Harper Snyder, University of Missouri-Columbia

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