



## Student Research Day March 7, 2023

# 2023 McGehee Distinguished Lecture Speaker

## Dr. John D. Carpten

Professor and Chair of Translational Genomics Director, Institute of Translational Genomics Royce and Mary Trotter Chair in Cancer Research

"Population and Tumor Heterogeneity in Cancer Research"

Dr. Carpten will offer the keynote presentation at 8:30 a.m.

UAMS hosts an annual campus-wide Student Research Day for graduate and professional students, postdocs, and medical house staff/fellows to present their research to peers and faculty. This event provides an opportunity to discuss research and learn about potential areas of collaboration.

## STUDENT RESEARCH DAY 2023 MISSION POSSIBLE TEAM

The Division of Research and Innovation, Academic Affairs, Graduate School, and Northwest campus have collaborated on this year's Student Research Day.

#### Student Research Day 2023 was sponsored by:

**Dr. Stephanie Gardner**; Senior Vice Chancellor for Academic Affairs and Provost **Dr. Shuk-Mei Ho**; Vice Chancellor for Research and Innovation **Dr. Robert McGehee, Jr.**; Dean, UAMS Graduate School

#### **Organizing Committee:**

Dr. Antiño R. Allen; Associate Dean of Pipeline and Career Development
 Dr. Mohamed O. Elasri; Associate Vice Chancellor for Research
 Dr. Kathryn Neill; Associate Provost for Academics
 Lauren Parker; Director of Student Services, Northwest Arkansas UAMS Campus
 Dr. Kristen Sterba; Associate Provost for Students and Administration

We thank all the Academic Senate members who recruited, organized poster judging and all the faculty judges for volunteering their time.

Jennifer Gan, MBA, CRS; Program Administrator/Research Instructor Dr. Reid Landes; Professor of Biostatistics

Student Research Day would not be possible without the tireless contribution of our event team:

Marie David, Dr. Kerry Evans, Eileen Mok, Shanon Porterfield, and Mickey Thomas; Division of Research and Innovation

#### Other contributors:

Dr. David Ussery; Professor, College of Medicine, Biomedical Informatics

## StudentResearch Day

March 7, 2023

### **AGENDA**

**Little Rock location** – I. Dodd Wilson building

**Northwest campus location** – Main Building/Hospital

7:30 - 8:30	Boxed breakfast/Poster setup
8:30 – 9:30	Keynote Speaker- John D. Carpten, PhD
9:30 -10:00	Mid-morning break
10:00 – 11:30	Poster Session A – Little Rock and Northwest campuses
11:30 – 11:45	Break/transition poster presenters/judges
11:45 – 1:15	Poster Session B – Little Rock campus
1:15 – 1:30	Break/wrap up
1:30 – 2:30	3MT Finals
2:30-2:45	Award Ceremony

<sup>\*</sup> Boxed breakfasts and boxed lunches will be available for research day participants on Little Rock campus.

<sup>\*\*</sup> Northwest campus participants will have lunch 11:45 am – 1:15 pm.

<sup>\*\*\*</sup> Following Student Research Day, College of Medicine Office of Research and Department of Biomedical Informatics will host a meeting on "Artificial Intelligence in Health" from 5:00 pm - 6:00 pm in the  $10^{th}$  floor atrium of the Cancer Institute.



The 2023 McGehee Distinguished Lecture is titled,

#### "Population and Tumor Heterogeneity in Cancer Research"

Dr. Carpten is an internationally recognized expert in genome science, and possesses unique training in multiple disciplines including germline genetics for disease risk and predisposition, somatic cancer genomics, health disparities research, cell biology, functional genomics, and precision medicine.

Dr. Carpten earned his Ph.D. from the Ohio State University in 1994 with a focus on human genetics. He then went on to complete a postdoctoral fellowship at the National Human Genome Research Institute, NIH, Bethesda, in Cancer Genetics, where he was later promoted to the tenure track in 2000. Then in 2003, Dr. Carpten accepted a position to become Division Director, Division of Integrated Cancer Genomics, at the Translational Genomics Research Institute (TGen), Phoenix, AZ. Later, in 2012 he was promoted to the position of Deputy Director of Basic Research for TGen. In 2016 he was recruited by the University of Southern California Keck School of Medicine, to build and chair a new Department and Institute of Translational Genomics.



The Robert E. McGehee Jr., Ph.D. Distinguished Lectureship in Biomedical Research and Education was created in 2011 as an enduring gift to benefit UAMS and the state by making it possible to invite leading biomedical researchers to share their knowledge and work with students and faculty. The lecture was made possible by a very generous endowment gift from Carl D. and Jeannette Purnell of Pine Bluff, Arkansas, in appreciation of McGehee's support and influence as a mentor. In 2005, Carl and Jeannette were inducted into the Society of the Double Helix in recognition of their long- standing support of UAMS. Previous gifts from the Purnell's included support for endowed chairs honoring the late former Chancellor Harry P. Ward, M.D., and the late Carl Nelson, M.D., former professor, and chair of Orthopedic Surgery, as well the Winthrop P. Rockefeller Cancer Institute.

#### Poster Session A 10:00 – 11:30

#### Jennie Burns (1A)

Tandem gait step-width declines more rapidly in a stage-dependent manner with Parkinson's disease progression

College of Medicine Advisor: Dr. Tuhin Virmani

#### **Brett Glenn (2A)**

Accessibility and Ease of Use in Neuromodulation Devices

College of Medicine Advisor: Dr. Erika Petersen

#### Payton Stowe (3A)

*Is polyunsaturated fat consumption too low in children and adolescents (ages 1-18)?* 

College of Health Professions Advisor: Dr. Lisa Jansen

#### Alexandria Singleton (4A)

Sugar Intake Levels in U.S. Adults Ages 18-64 Years – Are There Differences Across Biological Sex or Socioeconomic Status?

College of Health Professions Advisor: Dr. Courtney Fose

#### Hope Snyder (5A)

Americans  $\geq 51$  Years Self-Report Polyunsaturated Fatty Acid (PUFA) Intake Above the Recommendations; But Total Cholesterol Positively Correlates to PUFA intake

College of Health Professions Advisor: Dr. Lisa Jansen

#### Abby Benham (6A)

Dietary Vitamin D Intake and its Correlation with Bone Mineral Density in US Children Ages 8-14 from NHANES Data (2017-2018)

College of Health Professions Advisor: Dr. Wei Li

#### Catey Abbott (7A)

Tianeptine (Gas Station Heroine) and the Rising Concern of Withdrawal and Abuse Potential

College of Medicine

Advisor: Dr. Sarah Assem

#### Mary Cris Lebig (8A)

The Differences Between Vitamin D Intake Status of Older Americans In Lower- and Higher-Socioeconomic Status

College of Health Professions Advisor: Dr. Wei Li

#### Delice Kayishunge (9A)

Epidemiologic Trends of Cutaneous T-Cell Lymphoma in Arkansas Reveals Demographic Disparities
College of Medicine

Advisor: Dr. Henry Wong

#### Clark Kennedy (10A)

Evaluating Geographic Distribution and Environmental Risk Factors of Orofacial Cleft Anomalies Utilizing a Statewide Birth Defects Registry

College of Medicine Advisor: Dr. Adam Johnson

#### Stephen Fagot (11A)

Thermoregulatory and locomotor effects of 3,4-methylenedioxymethamphetamine (MDMA), its enantiomers, and a non-racemic mixture of S-MDMA and R-MDMA (ALA-002) in C57BL/6 and BTBR T+Itpr3tf/J mice.

Advisor: Dr. William Fantegrossi

Advisor: Dr. William Fantegrossi

College of Medicine

#### Jared James (12A)

Respiratory depressant effects of synthetic cannabinoid receptor agonists alone and in combination with fentanyl in NIH Swiss mice.

College of Medicine

#### Genna Potter (13A)

Who Qualifies as High Risk for Periprosthetic Joint Infection Following Primary Hip and Knee Arthroplasty?

College of Medicine Advisor: Dr. Simon Mears

#### **Kathleen Kinder (14A)**

Articulating Knee Spacers in the Treatment of Periprosthetic Joint Infection: All Polyethylene Tibia or Tibial Insert?

College of Medicine Advisor: Dr. Jeffrey Stambough

#### John Hunton (15A)

Weak Tennis Grip From Pisotriquetral Mass Effect

College of Medicine Advisor: Dr. Lauren Poindexter

#### **Matthew Thompson (16A)**

DNA Helicase B (HELB) safeguards genomic integrity in response to DNA replication stress
Graduate School Advisor: Dr. Alicia Byrd

#### Farhana Taher Sumya (17A)

Acute COG inactivation unveiled its immediate impact on Golgi and illuminated the nature of intra-Golgi recycling vesicles

Graduate School Advisor: Dr. Vladimir Lupashin

#### Anna Mears (18A)

Comparison of vascular hitch to dismembered technique for robotic pyeloplasty

College of Medicine Advisor: Dr. Stephen Canon

#### **Meghan Crimmins (19A)**

The Impact of Excessive Weight on Breastfeeding Intention, Initiation, and Duration

Graduate School Advisor: Dr. Aline Andres

#### Alex Belote (20A)

Pre-Treatment Hesitation and Post-Treatment Satisfaction Amongst Recipients of Novel COVID-19 Therapy in an Underserved Community

College of Medicine Advisor: Dr. Hannah Jensen

#### Miguel Mercado (21A)

Bhlhe40 plays a protective role during intravaginal Chlamydia muridarum infection in mice Graduate School Advisor: Dr. Lin-Xi Li

#### Blaire Taggart (22A)

Role of a Multidisciplinary "Period Clinic" for Management of Adolescents with Abnormal Uterine Bleeding

College of Medicine Advisor: Dr. Shelley Crary

#### Thomas Heye (23A)

Creation of a Novel ECMO Database

College of Medicine Advisor: Dr. Lawrence Greiten

#### **Hudson Surber (24A)**

Evaluating Clinical Profile and Safety in Outpatient versus Inpatient Neck Dissections

College of Medicine Advisor: Dr. Jumin Sunde

#### Aaron Gaul (25A)

Extending Long Cervical Fusion Across the Cervicothoracic Junction

College of Medicine Advisor: Dr. John Sherrill

#### Darynne Dahlem (26A)

Cognitive and Achievement Functioning in Children & Adolescents with Sickle Cell Disease

College of Medicine Advisor: Dr. Shelley Crary

#### Monroe McKay (27A)

Complex D-Transposition of the Great Arteries with Aortopulmonary Window: An Update on the Current

Literature

College of Medicine Advisor: Dr. Lawrence Greiten

#### **Jordan Pilkington (28A)**

Analysis of novel Sezary syndrome genes in mycosis fungoides reveal genes common across stages and those associated with advanced stages

College of Medicine Advisor: Dr. Henry Wong

#### Rilie Vote (29A)

Mevalonate Pathway Inhibitors Potentiate the Efficacy of Chemotherapeutic Drugs to Limit Breast Cancer Cell Growth

College of Pharmacy Advisor: Dr. Rupak Pathak

#### Li Ma (30A)

Analyzing Methylation Patterns of Cis-regulatory Regions

Graduate School Advisor: Dr. Donald Johann

#### Xiuqi Wang (31A)

Design, synthesis and biological evaluations of bone-targeting Pyk2 inhibitors for treatment of glococorticoid induced bone loss

Graduate School Advisor: Dr. Hong-Yu Li

#### Aimee Tran (32A)

Revised PENIS Scoring Criteria and Proposal of the PACKAGE Checklist: A Meta-epidemiological Study

on Penile Amputation and Replantation

College of Medicine Advisor: Dr. Bruno Machado

#### JaVonnica Smith (33A)

This Freedom of Speech Ain't Free College of Health Professions

#### Carlon Gragg (34A)

Investigation of MYD88 i-Motif Destabilization with Small Molecules to Combat Diffuse Large B-cell Lymphoma

College of Medicine Advisor: Dr. Samantha Kendrick

Advisor: Dr. Andrea Toliver-Smith

#### Parker Knapp (35A)

Comparison of Cardiac Dysfunction in Pediatric ICU Patients with COVID vs. Influenza

College of Medicine Advisor: Dr. Dala Zakaria

#### Madeline Richards (36A)

Obesity prevention in children through home visiting programs

College of Medicine Advisor: Dr. Taren Swindle

#### Alberto Ocampo (37A)

The Prevalence of Urinary Incontinence and Associated Factors in US Children

College of Medicine Advisor: Dr. Stephen Canon

#### Vidya Desai (38A)

A Quality Improvement Initiative to Promote Diabetes Management

College of Pharmacy Advisor: Dr. Jonell Hudson

#### **Drew Castleberry (39A)**

Methamphetamine and the stress response in a simulated ED environment

College of Medicine Advisor: Dr. Michael Wilson

#### Aric Anloague (40A)

Multiple Myeloma-Derived MIP-1a Regulates Osteocytic RANKL Expression Via Autocrine HMGB1 Signaling In Osteocytes

Graduate School Advisor: Dr. Jesus Delgado-Calle

#### Jessica Kelliher (41A)

H2AX Linker Region Mediates 53BP1 Recruitment to Chromatin

Graduate School Advisor: Dr. Brian Koss

#### Hannah Hunt (42A)

"Safety and Efficacy of UAMS Intensive Care Unit Insulin Infusion Protocols"

College of Pharmacy Advisor: Dr. Allison Jenkins

#### Samuel Raney (43A)

Effect of morbid obesity and nutrition on outcomes after treatment of hip and knee prosthetic joint infection College of Medicine

Advisor: Dr. Jeffrey Stambough

#### Tyler A. Kilgore (44A)

Retinal Lasers: A Safety Overview

College of Medicine Advisor: Dr. Ahmed Sallam

#### Japneet Kaur (45A)

Premature osteocyte senescence promotes bone destruction in mice with metastatic breast cancer College of Medicine Advisor: Dr. Jesus Delgado-Calle

#### (46A) Not competing

#### Jillian Hackney (47A)

Bone-targeted combination therapy decreases tumor progression and restores bone mass by increasing bone formation in mice with established multiple myeloma

College of Medicine Advisor: Dr. Jesus Delgado-Calle

#### **Madeleine Scott (48A)**

Characterizing the regulation of a Yersinia pestis T6SS by the translational GTPase BipA

Graduate School Advisor: Dr. Roger Pechous

#### **Timothy Trotter (49A)**

Does Health Literacy Affect PROMIS® Score Collection Methods in Orthopaedic Patients?

College of Medicine Advisor: Dr. Jeffery Stambough

#### Charlotte Jeong (50A)

Baby Washes: Allergens and Marketing Claims

College of Medicine Advisor: Dr. Vivian Shi

#### **Grayson Glenn (51A)**

Articulating Hip Spacers with a Constrained Liner: Complication & Retention Rates

Advisor: Dr. Jeffrey Stambough College of Medicine

#### Nikhil Nair (52A)

Dermatologic Clinical Trial Advancement by Top Pharmaceutical Companies

College of Medicine Advisor: Dr. Vivian Shi

#### **Andrew Moore (53A)**

Adolescent Sports Injuries in Northwest Arkansas

College of Medicine Advisor: Dr. Tyler CarlLee

#### Micah Smith (54A)

Difference in the Emotional Impact and Coping Strategies towards Covid-19 in Young versus Older Adults Residing in South Central United States

College of Medicine Advisor: Dr. Gohar Azhar

#### Natalie Phelan (55A)

Dietary Folate Intake during Pregnancy is Associated with Greater White Matter Development in the

Newborn Brain

Advisor: Dr. Xiawei Ou College of Medicine

#### Brandon Allen (56A)

Comparison of diagnostic adequacy in non-targeted native and transplant renal biopsy prior to and following implementation of the cortical tangential approach

College of Medicine Advisor: Dr. Erin Priddy

#### Dinesh Bhattarai (57A)

Proteasome dysfunction: a potential contributor of kidney dysfunction during cold storage and transplantation

College of Medicine Advisor: Dr. Nirmala Parajuli

#### **Anna Claire Pilkington (58A)**

*Short-term ambient temperature modulation modifies the adipose tissue proteome.* 

College of Medicine Advisor: Dr. Umesh Wankhade

#### Grace Jenkins (59A)

Time to Healing Diabetic Foot Ulcers with Vacuum Assisted Closure Compared to Standard Sterile Dressings

College of Health Professions Advisor: Dr. Hillary Mayberry

#### **Humam Shahare (60A)**

Effect of morbid obesity and nutrition on outcomes after treatment of hip and knee prosthetic joint infection College of Medicine

Advisor: Dr. Jeffrey Stambough

#### Kenzo Cotton (61A)

Effectiveness of a Subcutaneous Bupivacaine Catheter for Pain Control and Narcotic Reduction in Pediatric Spine Fusion Surgery: A Retrospective Study

College of Medicine Advisor: Dr. David Bumpass

#### Amrita Khakurel (62A)

GARP complex is required for normal Golgi physiology and localization of Golgi trafficking machineries
Graduate School Advisor: Dr. Vladimir Lupashin

#### Alexia Sebghati (63A)

The Consequences of a Cesarean Section on the Neonatal Gut Microbiome and Future Health Outcomes
College of Health Professions

Advisor: Dr. Samantha Lawson

#### Joseph Asante Jr. (64A)

Modeling the interactions of Alzheimer's amyloid  $\beta$ -peptide with p-glycoprotein

Graduate School Advisor: Dr. Steven W. Barger

#### Davis Campbell (65A)

Using Artificial Intelligence to Segment Histologic Features in Donor Renal Transplant Biopsies
College of Medicine
Advisor: Dr. Shana Coley

#### Alexandra Diaz-Cruz (66A)

Improving Quality of Life of Adults with PCOS in a Primary Care Setting

College of Medicine Advisor: Dr. Leslie Stone

#### John Lee (67A)

TIL characterization in the Context of Breast Cancer Immunotherapy

College of Medicine Advisor: Dr. Behjatolah Karbassi

#### Kelly Fowler (68A)

Equity for health delivery: Opportunity costs and benefits among Community Health Workers in Rwanda College of Medicine

Advisor: Dr. Janna Schurer

#### Baku Acharya (69A)

Targeting dual functionality of BRK kinase via BRK-directed PROTACs

College of Pharmacy Advisor: Dr. Brendan Frett

#### Rupak Chowdhury (70A)

Assessing attributes of COVID-19 mortality & associated co-morbid conditions

College of Health Professions Advisor: Dr. Oleg Karaduta

#### Maria Neal (71A)

Initial Evidence that Doxorubicin Oxidizes Ryanodine Receptors in Lymph Vessels via Superoxide Generation

College of Pharmacy Advisor: Dr. Amanda Stolarz

#### **Kennith Swafford (72A)**

Small Molecule Stabilization of the CARD11 G-Quadruplex

Graduate School Advisor: Dr. Samantha Kendrick

#### Jessica Allred (73A)

Evaluating Prescribing Practices for Pediatric Community Acquired Pneumonia Infections Between a Non-academic and an Academic Children's Hospital in the Inpatient Setting

College of Pharmacy Advisor: Dr. Holly Maples

#### Christoph Mora (74A)

Macrophage to Myofibroblast Transition in Diastolic Dysfunction Development

Graduate School Advisor: Dr. Shengyu Mu

#### Madison Lee (75A)

Effectiveness of Alternative Pain Management and Early Ambulation in Reducing Opioid Use in

Postoperative Spine Patients

College of Health Professions Advisor: Dr. Edward Williams

#### Tara (Nikki) Pitts (76A)

Effect of Enhertu (trastuzumab deruxtecan) on safety and efficacy in treating HER2+ Cancer.

College of Health Professions Advisor: Dr. Wilkerson Brittany

#### Ruchira Mahashabde (77A)

First line Immune Checkpoint Inhibitor Treatment vs. Chemotherapy in Older Adults with Non-Small Cell Lung Cancer and Synchronous Brain Metastases

Graduate School Advisor: Dr. Chenghui Li

#### Madison McGraw (78A)

Characterization of a Novel Complement 5 Knockout Model in the Rat

Graduate School Advisor: Dr. Nirmala Parajuli

#### Devin Terry (79A)

Research Participation and COVID-19 Pandemic

Graduate School Advisor: Dr. Sara Jones

#### **Stephanie Graves (80A)**

Finding Emotional Intelligence in Health Literacy.

College of Health Professions Advisor: Dr. Melissa Halverson

#### Larkin Harris (81A)

Resource Utilization and Student Performance in an Introductory Medical School Anatomy Course
College of Medicine Advisor: Dr. David Davies

#### Aaron Sesler (82A)

The Correlation of Knee Anatomic Measurements from Biplanar Radiographs as Predictors of Total Knee Arthroplasty Implant Sizes

College of Medicine Advisor: Dr. Benjamin Stronach

#### Madison Stoudt (83A)

Social Media Impact on Orthopedic Medicine: Analysis of Top 10 Orthopedic Twitter Users

College of Medicine Advisor: Dr. Benjamin Stronach

#### Carol Morris (84A)

Protection against CNS Injury by disrupting the CD47/SIRPa axis

Graduate School Advisor: Dr. Abdelrahman Fouda

#### Kirk West (85A)

Characterization of Tousled-Like Kinase Recruitment to Sites of DNA Damage

College of Medicine Advisor: Dr. Kevin Raney

#### Skylar Davis (86A)

Efficacy of Aerobic Exercise in the Management of Sport-Related Concussions

College of Health Professions Advisor: Dr. Amber Teigen

#### Caroline Burns (87A)

Effect of virtual reality in the management of anxiety-related disorders

College of Health Professions Advisor: Dr. Nadja Button

#### MD MOHSIN ALI (88A)

Mitochondrial superoxide in osteoblast lineage cells causes mitochondrial dysfunction but not cellular senescence

Graduate School Advisor: Dr. Maria Almeida

#### Naiha Ahmad (89A)

Ineffective sequestration of SAMD9 is associated with global translation shutdown during myxoma virus infection

Graduate School Advisor: Dr. Jia Liu

#### **Katherine Bronson (90A)**

LSM14B associates with stem cell protein Musashi to activate mRNA translation

Graduate School Advisor: Dr. Angus MacNicol

#### Jewel Banik (91A)

Gene Regulatory Networks in LEPR-Null Gonadotropes

Graduate School Advisor: Dr. Angus MacNicol

#### **Austin Jones (92A)**

Identification of drug-drug interaction risks for synthetic cannabinoids

College of Medicine Advisor: Dr. Grover Miller

#### Ashley Pike (93A)

Validating an fMRI adaptation of the Symbol Digit Modalities Test for studying Information Processing Speed in Multiple Sclerosis

Graduate School Advisor: Dr. G. Andrew James

#### Katie Knott (94A)

Efficacy of Meds to Beds Service in an Institutional Setting

College of Pharmacy Advisor: Dr. Brett Bailey

#### Emily Dickerson (95A)

Efficacy of Testosterone Hormonal Treatment for Menopausal Symptoms in Post-Menopausal Females
College of Health Professions
Advisor: Dr. Gloria Richard-Davis

#### Alanna Bramwell-Shittu (96A)

Assessment of Metformin Intolerance: A Retrospective Chart Review

College of Pharmacy Advisor: Dr. Pilar Murphy

#### **Taylor Huggins (97A)**

Echolalia and Language Development in Children with Autism Who Use American Sign Language as Their Primary Means of Communication

College of Health Professions Advisor: Dr. Andrea "Andi" Toliver-Smith

#### Olgaaurora Rodriguez (98A)

Impacts of POGIL-Based Activities in a Pharmaceutical Calculations Course

College of Pharmacy Advisor: Dr. Martin Perry

#### Manish Adhikari (99A)

Pathological Reprogramming of Osteocytes by Cancer Cells in Breast Cancer Bone Metastasis

College of Medicine Advisor: Dr. Jesus Delgado-Calle

#### Carter Pacheco (100A)

Survey of Thoughts and Knowledge Regarding Testosterone's Effects on Fertility in Transgender Male and Masculine Non-Binary Individuals Assigned Female at Birth

College of Medicine Advisor: Dr. M. Luann Racher

#### Claire Gist Bradberry (101A)

Demodex mites in Patients with Non-Melanoma Skin Cancer

College of Medicine Advisor: Dr. Chris Schach

#### **Robert Brand (102A)**

The 2020 Medicaid Expansion's Impact on a Community Clinic Serving the Marshallese Population in

Northwest Arkansas

College of Medicine Advisor: Dr. Hanna Jensen

#### Poster Session B 11:45 – 1:45

#### Alexa Pearce (1B)

Leg length discrepancy after hip fracture repair is associated with reduced gait speed

College of Medicine Advisor: Dr. Simon Mears

#### Levent Ozdemir (2B)

Inconsistency and Ambiguity within the ICD-10 Procedure Coding System for Hip Fractures

College of Medicine

Advisor: Dr. Jeffrey Stambough

#### **Kennedy Kerins (3B)**

Sodium Intake of Children Ages 2-19 Greatly Exceeds AI Guidelines; Fast-food a Contributing Factor College of Health Professions

Advisor: Dr. Lesley Jones

#### Isabella McPherson (4B)

Sugar Consumption in Children Ages 5-12: An Analysis of 2017-2018 NHANES Data
College of Health Professions Advisor: Dr. Courtney Fose

#### Reilly Cline (5B)

Sodium Intake of U.S Adults Exceeds Dietary Guidelines Regardless of Socioeconomic Status

College of Health Professions

Advisor: Dr. Lesley Jones

#### Sydnie Locascio (6B)

Increased Polyunsaturated Fatty Acid Intake is not associated with lower HbA1c levels in U.S. adults with non-insulin dependent diabetes ages 19-50

College of Health Professions Advisor: Dr. Lisa Jansen

#### John Norys (7B)

Deep Vein Thrombosis causing Abdominal Wall Varicosities

College of Medicine Advisor: Dr. Hanna Jensen

#### Hayley Sabol (8B)

Combination therapy based on a bone-targeted Notch inhibitor and anti-Sclerostin antibody simultaneously decreases tumor burden and rebuilds damaged bone in mice with established myeloma disease

Graduate School Advisor: Dr. Jesus Delgado-Calle

#### Jedidiah Whitt (9B)

Efficacy and Satisfaction of Preoperative Telemedicine Evaluation of Pediatric Urologic Patients

College of Medicine

Advisor: Dr. Stephen Canon

#### Emma Johnson (12B)

Treatment of Klippel-Trenaunay Syndrome (KTS) using PIK3CA inhibitor: A Case Report and Review of the Literature Regarding KTS and Gynecologic Considerations

College of Medicine Advisor: Dr. Kathryn Stambough

#### Erica Smith (13B)

Targeting Rearranged during Transfection in Cancer: A Perspective on Small-Molecule Inhibitors and Their Clinical Development

College of Pharmacy Advisor: Dr. Brendan Frett

#### Elizabeth Sewell (14B)

The Auditory, Vestibular, and Cognitive Side Effects Associated with Medication Use for Psychiatric Disorders

College of Health Professions Advisor: Dr. Samuel Atcherson

#### Reece Mitchell (15B)

Urine Mass Spectrometry Can Distinguish Prerenal and Intrarenal Acute Kidney Injury

College of Medicine Advisor: Dr. John Arthur

#### Sawyer Hickey (16B)

Current Status of Transgender Simulation Education College of Medicine

#### **Bailee Cummings (17B)**

Implementation of a Mobile Phone Intervention Method to Improve Clinical Outcomes in Patients with HIV

College of Medicine Advisor: Dr. Juan Carlos Rico Crescencio

Advisor: Dr. M. Luann Racher

#### **Mattison Cato (18B)**

Examining the Feasibility of Vaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES) Hysterectomy for Transgender Male Patients

College of Medicine Advisor: Dr. Luann Racher

#### Benjamin Quattlebaum (19B)

Preliminary Analysis of Post-Promotion/Post-Tenure Review in Promotion and Tenure Documents from US Pharmacy Schools

College of Pharmacy Advisor: Dr. Amy Franks

#### Jasmin Cotoco (20B)

Investigation of Smoking Prevalence and Cessation in Low-Dose CT Screening Population in Pre- and Intra-COVID Eras

College of Medicine Advisor: Dr. Katy Marino

#### **Taylor Wilson (21B)**

A Retrospective Cohort Study of Influenza Infected Multiple Myeloma Patients Comparing Clinical Outcomes Between Vaccinated and Unvaccinated

College of Medicine Advisor: Dr. Mary Burgess

#### **Shelby Shields (22B)**

Analyzing Arkansas Hospital Community Health Needs Assessments: Strategies for Cancer Control and

Prevention

College of Public Health Advisor: Dr. Kelsey Owsley

#### Zachary McConnell (23B)

Systemic Inflammatory Response Syndrome and Prosthetic Joint Infection

College of Medicine Advisor: Dr. Benjamin Stronach

#### Jacob Siebenmorgen (24B)

Hospital-wide adherence to post-surgical opioid prescribing guidelines

College of Medicine Advisor: Dr. Simon Mears

#### Muhammad Hameed (25B)

*G-tube contrast check: Transition from fluoroscopy to abdominal radiographs* 

College of Medicine Advisor: Dr. Charles James

#### Obeid Shafi (26B)

Predicting hospital length of stay in patients with bronchiolitis using machine-learning

College of Medicine Advisor: Dr. Feliciano Yu

#### Allen Norris (27B)

Social Needs of Patients Undergoing Total Joint Arthroplasty

College of Medicine Advisor: Dr. Jeffery Stambough

#### Elizabeth Luccketta (28B)

Measuring the Reliability of the Braden Scale ll for Pressure Injury Risk Assessment

College of Nursing Advisor: Dr. Natalie Capps

#### Jessica Rios (29B)

Nurse Practitioners' Perspectives of Preceptorship During Telehealth Visits: A Qualitative Study
College of Nursing
Advisor: Dr. Natalie Capps

#### Mason McCrury (30B)

Activation Induced Cytidine Deaminase as a Mutagen on G-quadruplex DNA in Lymphoma

Graduate School Advisor: Dr. Samantha Kendrick

#### **Benjamin Moore (31B)**

Sternal Fractures: Management at a Level 1 Trauma Center

College of Medicine Advisor: Dr. Katy Marino

#### Michael Held (32B)

Review of Eagle Syndrome Presentation and Outcomes in a Large Surgical Case Series

College of Medicine Advisor: Dr. Deanne King

#### **Everette Martin (33B)**

Evaluating Physician Understanding of Data Privacy and Cybersecurity in Neuromodulation Systems

College of Medicine Advisor: Dr. Erika Petersen

#### Namarta Kapil (34B)

Utility of Hammersmith Infant Neurological Examination (HINE) Subscores in Predicting Cerebral Palsy
Graduate School Advisor: Dr. Tara Johnson

#### Andrew Mangan (35B)

Assessing Barriers to Cochlear Implantation

College of Medicine Advisor: Dr. Robert Saadi

#### James Andrews (36B)

Metabolism and Ontogeny of Alveolar Macrophages Contribute to Peripheral Trained Immunity and Confer Protection against Mycobacterium tuberculosis

College of Medicine Advisor: Dr. Lu Huang

#### Collin Pilkington (37B)

Describing National Traumatic Brain Injury Readmission

College of Medicine Advisor: Dr. Hanna Jensen

#### Soumiya Pal (38B)

Differential Response to L-type Calcium Channel Blockers in Hypertensive Lymph Vessels

College of Pharmacy Advisor: Dr. Amanda Stolarz

#### Lakyn Webb (39B)

Evaluating Hospital-Based Violence Intervention Programs. A Review of Literature

College of Nursing Advisor: Dr. Natalie Capps

#### Alexa Escapita (40B)

Early Language Development in Children with Critical Congenital Heart Disease

Graduate School Advisor: Dr. Tara Johnson

#### **Bobbie Jean Sandidge (41B)**

Health Disparities and Pediatric Intentional Self-Poisonings in Arkansas

College of Medicine Advisor: Dr. Erica Liebelt

#### Sangam Kandel (42B)

Genomic Surveillance of SARS-CoV-2 using Long Range PCR primers

Graduate School Advisor: Dr. David Ussery

#### **Kaylynn Heard (43B)**

Transanal Drainage Tube for Anastomotic Leak Prophylaxis after Colorectal Surgery.

College of Nursing Advisor: Dr. Neal Reeves

#### Dana Abulez (44B)

The effect of age of first use and psychiatric comorbidity on positive psychostimulant treatment response College of Medicine

Advisor: Dr. Corey Hayes

#### **Katherine Deck (45B)**

CD8+ T cells stimulate renal sodium transporters contributing to salt-sensitive hypertension
Graduate School Advisor: Dr. Shengyu Mu

#### Cade Haynie (46B)

Caregivers Perspectives on Multidisciplinary Clinic Visits for Duchenne and Becker Muscular Dystrophy
College of Medicine
Advisor: Dr. Aravindhan Veerapandiyan

#### Heather Schay (47B)

Evaluating the Implementation of NICU Bedside Rounding on Pre- and Post- Patient Length of Stay
College of Nursing

Advisor: Dr. Elizabeth Riley

#### Emily Waller (48B)

Impact of Acute Shift of Healthcare Delivery in Response to the COVID-19 Pandemic on Perinatal Women with Opioid Use Disorder

College of Medicine Advisor: Dr. Jessica Coker

#### Zaria Neal (49B)

Communication preferences of cardiovascular genetics information among college educated African American women

College of Health Professions Advisor: Dr. Erin Beaver

#### Lilly Jones (50B)

The Effect of Antibiotic Pretreatment on Cerebrospinal Fluid Parameters in Children with Bacterial Meningitis

College of Medicine Advisor: Dr. Archana Balamohan

#### **Kacee Daniels (51B)**

Predicting Unexpected ICU Readmissions in Trauma Surgery

College of Medicine Advisor: Dr. Hanna Jenson

#### Noah Brown (52B)

Analysis of Visual Outcomes Across Varying Types of Intraocular Lenses In Patients with Aphakia and Insufficient Capsular Support

College of Medicine Advisor: Dr. Ahmed Sallam

#### Alan Herrera Rueda (53B)

Synthesis of Potential PGGTase Inhibitor Precursors

College of Pharmacy Advisor: Dr. Brendan Frett

#### **Josephine Gottsponer (54B)**

A review of iliofemoral bypasses at a single institution

College of Medicine Advisor: Dr. Mohammed Moursi

#### Fatimah Al-Doori (55B)

Prediction of milk plasma ratio for New Psychoactive Substances

College of Pharmacy Advisor: Dr. Ryoichi Fujiwara

#### Bachkhoa Nguyen (56B)

C2C12 Myoblast Bioenergetics in Response to the CCG-1423 Rho A Inhibitor

College of Medicine Advisor: Dr. Xiaomin Zhang

#### **Bethany Miller (57B)**

Intermittent Fasting: Fad or Fact College of Health Professions

#### Nicholas Russenberger (58B)

The Efficacy of Upper Airway Stimulation in Obstructive Sleep Apnea as an Alternative to Positive Airway Pressure Treatment.

Advisor: Dr. Chance Gee

College of Health Professions Advisor: Dr. Brittany Wilkerson

#### Carol Bowerman (59B)

Effects of Music Therapy on the Neurodevelopment of Pre-term Infants in the NICU Setting

College of Health Professions

Advisor: Dr. Lachan Seibenmorgen

#### Sudip Panday (60B)

Salmonella pathogenicity islands: a genomic view

Graduate School Advisor: Dr. David Ussery

#### Tara Bates (61B)

Telemedicine Preferences In Pediatric Urology Following the COVID-19 Pandemic: A Caregiver Survey
College of Medicine
Advisor: Dr. Stephen Canon

#### **Kathryn Rhomberg (62B)**

Postpartum Pain Course Among Women Prescribed Buprenorphine Delivered via Cesarean Section College of Medicine

Advisor: Dr. Jessica Coker

#### Kalee Holloway (63B)

Ethanol Induced Cerebellar Transcriptomic Changes in a Postnatal Model of Fetal Alcohol Spectrum Disorders: Focus on Disease Onset

Graduate School Advisor: Dr. Paul Drew

#### Wesley Adams (64B)

The Effect of Aural Rehabilitation on Cognitive Decline

College of Health Professions Advisor: Dr. Andrea "Andi" Toliver-Smith

#### **Brandon Hogland (65B)**

Assessing the function of the cyclic di-GMP binding protein, PlzC, in Borrelia turicatae

Graduate School Advisor: Dr. Jon Blevins

#### Moriah Manchack (66B)

A Study of the Current Literature Regarding the Efficacy of a Bilingual Approach to Speech Language Therapy

College of Health Professions Advisor: Dr. Andrea "Andi" Toliver-Smith

#### **Lauren Crimmins-Pierce (67B)**

Tracking Propagation of Uterine Electrical Activity Prior to Active Labor

College of Medicine Advisor: Dr. Hari Eswaran

#### Holley Coker (68B)

Impact of Language Concordant Care on the Management of Type 2 Diabetes Mellitus

College of Health Professions Advisor: Dr. Oleg Karaduta

#### Ruth Sudtelgte (69B)

The Effect of an Anti-Inflammatory Diet on the Quality of Life in Patients with Rheumatoid Arthritis
College of Health Professions

Advisor: Dr. Audra Nosal

#### **David Crowley (70B)**

Efficacy of Repositioning of Hospital Acquired Pressure Ulcers

College of Health Professions Advisor: Dr. Samantha Lawson

#### Juchan Lim (71B)

Molecular Analysis of Pituitary Transdifferentiation in Response to Physiological Cues

Graduate School Advisor: Dr. Angus MacNicol

#### Rami A. Shahror (72B)

Myeloid HDAC3 deletion protects against ischemic retinal neurovascular injury

College of Medicine Advisor: Dr. Abdelrahman Fouda

#### Faizan Cheema (73B)

Investigating Galectin-3 Zinc binding and its Role in Prostate Cancer

College of Medicine Advisor: Dr. Alan Diekman

#### Jake Price (74B)

LDH and the MELD-LDH in severe acute liver injury and acute liver failure

College of Medicine Advisor: Dr. Mitchell McGill

#### Erh Hsu (75B)

3D Bioprinting of Living Tissues

College of Pharmacy Advisor: Dr. Nukhet Aykin-Burns

#### Matthew Laws (76B)

The effect of Systemic  $\beta$ -glucan injection on Alveolar Macrophages in the Lung

College of Medicine Advisor: Dr. Lu Huang



#### 3 Minute Thesis Participants

#### **College of Medicine**

#### **Charlotte Jeong**

Baby Washes: Allergens and Marketing Claims

#### Lilianne McKissack

Time to Positivity of Blood Cultures and Correlation with Clinical Outcomes in Pediatric Patients

#### **Purav Chokhani**

The Importance of SEEG Electrode Design for the Risk of Hemorrhagic Complications

#### Muhammad Hameed

G-tube contrast check: Transition from fluoroscopy to abdominal radiographs

#### **Cade Haynie**

Caregivers Perspectives on Multidisciplinary Clinic Visits for Duchenne and Becker Muscular Dystrophy

#### **Davis Campbell**

Using Artificial Intelligence to Reduce Organ Waste

#### **MaKenzie Presley**

The role of SR-A in Macrophage Infiltration of Mammary Tumors and Microenvironment in PyMT Mice

#### **Benjamin Moore**

Blood Thinners and Patients with Serious Injuries

#### **Amrit Kannan**

Quantitative phenotype morbidity description of SATB2-Associated Syndrome

#### **Thomas Heye**

Single Ventricle Patient Database

#### Sally Barnes

Remote Patient Monitoring within a routine Telemedicine Obstetric Care Model

#### **Emily Goodman**

Opioid Prescribing Behaviors Among Surgical Intensive Care Unit Attending Physicians

#### **Andrew Mangan**

Assessing Barriers to Cochlear Implantation in Arkansas

#### **Addison Yee**

COPD as a Predictor of Morbidity Following Free Tissue Reconstruction

#### Jennie Burns

Evaluating the Progression of Parkinson's Disease with the Heel-to-Toe Walk

#### **Blake Spilker**

Visual Outcomes in Traumatic Aphakia Corrected with Contact Lens versus Surgical Lens implantation

#### **Tarendeep Thind**

Weight-Based Dosing for Low Molecular Weight Heparin (Enoxaparin) Administration to Achieve Optimal VTE Prophylaxis in Trauma Patients

#### **Brandon Allen**

Comparison of diagnostic adequacy in non-targeted native and transplant renal biopsy prior to and following implementation of the cortical tangential approach

#### Nikhil Nair

Clinical Trial Advancement: Dermatologic Pursuit of Top Pharmaceutical Companies

#### **Evie Cannon**

Evaluating Anxiety, Depression, and Resilience in Adolescents and Primary Caregivers with Eosinophilic Esophagitis Living in Urban and Rural Areas

#### **Andrew Baker**

Necessity of percutaneous drainage for post-operative fluid accumulation following appendectomy in pediatric patients

#### **Reece Mitchell**

New Insights into Modeling Age-related Macular Degeneration

#### **Harish Chatrathi**

Variant CUL3 causes severe familial hyperkalemic hypertension and dysregulates multiple physiological processes

#### Hannah Coffman

Comparing Feedback Techniques in Facial Reconstruction using 3D Printed Models

#### **Payton Sifford**

Subcut aneous panniculitis-like T Cell Lymphoma Presenting as a Targetoid Plaque in a Pediatric Patient: A Case Report and Review of the Literature

#### **Kenzo Cotton**

Effectiveness of a Subcutaneous Bupivacaine Catheter for Pain Control and Narcotic Reduction in Pediatric Spine Fusion Surgery: A Retrospective Study

#### John "Jack" Merten

The use of rodent models to better characterize the relationship among epilepsy, sleep, and memory

#### Chandler Kern

Caregiver Burden Survey: A Tool for Assessing the Stress Burden in Caregivers of Elderly Patients

#### Jessica Sifford

Lymphatic Malformations, Micro-RNA, and Determination of Cell Growth

#### Patricia Ramos

"Efficacy of a Psychiatry-Based Simulation Event in Training Medical Students on Opioid Overdose Management"

#### **Hunter Rose**

Variations in Cost and Readmissions of Patients in the Bundled Payment for Care Improvement Bundle for Hip and Femur Fractures

#### **Tyler Graham**

The Utilization of iPads in the Administration of PHQ-9 Forms

#### Mason Rostollan

Caregivers' Perspective on Disclosing the Diagnosis of Autism Spectrum Disorder to their Children

#### Manasa Veluvolu

Policy and public communication methods among U.S. state prisons during the first year of the COVID-19 pandemic

#### Lelia Rosenkrans

Incidence and Demographic Analysis of Arkansas Methamphetamine Users Following an Emergency Department Visit

#### John Coleman

Incidence of Post-operative Fibrin Syndrome in Diabetic Eyes receiving Dexamethasone implant at time of Pars Plana Vitrectomy.

#### Joey Dean

Clinical and Radiographic Outcomes following Radiation for Brain Tumor Patients

#### **Alexandra Otwell**

Risks for Chronic Opioid Use in Orthopaedic Polytrauma Patients

#### **Micah Bowling**

Neoadjuvant systemic therapy prior to definitive treatment for head and neck cancers during the early days of the COVID-19 pandemic: a single institutional experience

#### Chynna Denham

Female Prune Belly Syndrome Outcomes: A Social Media Survey Report

#### Sara Sustich

Using Echocardiogram Measured Flow across a Patent Ductus Arteriosus to Predict the Severity of Pulmonary Hypertension in Neonates

#### **Michael Dasso**

Thalidomide's Potential to Slow Choroidal Neovascularization in Wet Macular Degeneration

#### Zainab Atiq

The Unexplored Role of Immunotherapy in Treatment of ALK-Negative Inflammatory Myofibroblastic Tumor

#### **Tyler Ratliff**

Racial Differences in Folate Metabolism SNPs and Prostate Cancer

#### Tran Aimee

Measuring Up the Revised PENIS Score and Proposal of the PACKAGE Checklist

#### Anna Bragg

Translating Cardiovascular Risk Indices Into Practice

#### Nicolas Maynard

Man vs Machine: Who to Trust When Your Brain is at Stake

#### **Graduate School**

#### Alexa Escapita

Language Development in Children with Critical Congenital Heart Disease

#### Namarta Kapil

Can Infants' Movements Help Us Diagnose Cerebral Palsy (CP) at 3 Months?

#### **Haven Griffin**

Determining the effects of cholesterol depletion on MC4R signaling and developing an in vitro model of the diabetic brain

#### Reham Sewilam

Targeting DNA damage tolerance in development of better therapeutics for Glioblastoma Multiforme

#### Ruchira Mahashabde

Immune Checkpoint Inhibitor Use in Older Adults with Non-Small Cell Lung Cancer and Brain Metastasis

#### **Gretchen Holtgrefe**

From Phenotype to Genotype: What a Mutant Mouse can Tell us About Mesenchymal Development

#### Naiha Ahmad

Understanding function of SAMD9 protein using myxoma virus as a tool.

#### **Katherine Deck**

*Impact of CD8+ T cells within the Kidney during Salt-Sensitive Hypertension* 

#### Zijun Zhang

Investigating the role of CST6 in Multiple Myeloma

#### **Carol Morris**

Protection Against CNS injury by disrupting the CD47/SIRPa Axis

#### Clara Stiefel

The Life-Changing Magic of Tidying Up: Cellular-Style

#### **Susie Brown**

DNA secondary structures found within lymphoma-associated oncogene promoter

#### **Christoph Mora**

Macrophage to Myofibroblast Transition in Diastolic Dysfunction Development

#### **Ashley Pike**

Structural and Functional MRI Predictors of Cognitive Dysfunction in Multiple Sclerosis

#### Soumiya Pal

High Blood Pressure: An Added Risk for Lymphedema?

#### **College of Public Health**

#### Veluvolu Manasa

Impact of COVID-19 pandemic response on cancelled elective surgical procedures

#### **Northwest Arkansas**

#### Patricia Ramos

Efficacy of a Psychiatry-Based Simulation Event in Training Medical Students on Opioid Overdose Management

#### Olivia Brown

Salt Applied as a Local Treatment for Granulation Tissue

#### **Gunner Gilbert**

Pediatric Upper Extremity Injury Severity in Relation to Type of All-Terrain Vehicle



## 3 Minute Thesis Finalists 1:30 – 2:30

#### **College of Medicine**

#### **Andrew Mangan**

Assessing Barriers to Cochlear Implantation in Arkansas Mentors: Drs. John Dornhoffer and Robert Saadi

#### **Evie Cannon**

Evaluating Anxiety, Depression, and Resilience in Adolescents and Primary Caregivers with Eosinophilic Esophagitis Living in Urban and Rural Areas

Mentor: Dr. Robert Pesek

#### **Brandon Allen**

Comparison of diagnostic adequacy in non-targeted native and transplant renal biopsy prior to and following implementation of the cortical tangential approach

Mentor: Dr. Erin Priddy

#### Zainab Atiq

The Unexplored Role of Immunotherapy in Treatment of ALK-Negative Inflammatory Myofibroblastic Tumor Mentor: Dr. Omar Atiq

#### Tran Aimee

Measuring Up the Revised PENIS Score and Proposal of the PACKAGE Checklist Mentors: Dr. Bruno Machado

#### **Davis Campbell**

Using Artificial Intelligence to Reduce Organ Waste Mentor: Dr. Shana Coley

#### **Benjamin Moore**

Blood Thinners and Patients with Serious Injuries Mentors: Drs. Hanna K Jensen and Kyle Kalkwarf

#### 3 Minute Thesis Finalists

#### **Northwest Arkansas**

#### Patricia Ramos

Efficacy of a Psychiatry-Based Simulation Event in Training Medical Students on Opioid Overdose Management

Mentors: Drs. Sharon Reece and Hanna K Jensen

#### Olivia Brown

Salt Applied as a Local Treatment for Granulation Tissue Mentors: Drs. David Wigginton and Hanna K Jensen

#### **Gunner Gilbert**

Pediatric Upper Extremity Injury Severity in Relation to Type of All-Terrain Vehicle

Mentors: Drs. Sean Morell and Mitchell Solano

#### **College of Public Health**

#### Veluvolu Manasa

Impact of COVID-19 pandemic response on cancelled elective surgical procedures

Mentors: Drs. Clare Brown and Hanna K Jensen

#### **Graduate School**

#### **Carol Morris**

Protection Against CNS injury by disrupting the CD47/SIRPa Axis

Mentor: Dr. Abdelrahman Fouda

#### Soumiya Pal

High Blood Pressure: An Added Risk for Lymphedema?

Mentors: Dr. Amanda Stolarz

#### Ruchira Mahashabde

Immune Checkpoint Inhibitor Use in Older Adults with Non-Small Cell Lung Cancer and Brain Metastasis

Mentor: Dr. Chenghui Li