

# **Presentation Program**

**Medical Student  
Virtual Research Conference  
September 16 – 17, 2020**

University of Iowa  
Roy J. & Lucille A. Carver College of Medicine

**Sponsored by:  
Medical Student Research Council**

# Medical Student Research Conference

Welcome to the 57<sup>th</sup> Annual Carver College of Medicine Student Medical Research Conference. This Conference provides an opportunity for medical students who have conducted research to present their results, receive feedback, and compete for awards.

Presented Virtually September 14-18, 2020

[View Presentations](#)

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## Awards

There are several Research Day awards, including five Foundation Awards given to outstanding oral and outstanding poster presentations, and departmental and college sponsored general awards given to the top oral and poster presentations in eligible categories.

## Foundation Awards

### The Borts Award

The Borts Award was established by the Alpha Psi Chapter of Alpha Kappa Kappa Medical Fraternity in 1974 to honor I.H. Borts, a graduate of the University of Iowa College of Medicine and long-time supporter of the AKK. He is a distinguished scientist who has long been associated with the State Hygienic Laboratory. As a student he was influential in founding the Alpha Psi Chapter and for over thirty years remained one of their most loyal alumni. This award is open to all students.

### The Edward Heath Award

In honor of Edward Heath, this award recognizes outstanding medical research. As Professor and Chairman of the Biochemistry Department at the University of Iowa, Heath was an outstanding example of a physician-scientist and supported excellence in research. His commitment to excellence was exemplified by the quality of research done in his laboratory as well as the many years spent teaching students. This award recognizes the student whose

performance best represents outstanding achievement in the laboratory and the ability to communicate that achievement. All students will automatically be considered for this award.

## **Melvin Marcus Clinical Research Award**

This award was originally established as the Iowa Student Medical Research Club (ISMRC) Award in 1989. We are honored to dedicate this award to the memory of Melvin L. Marcus, faculty supervisor of the ISMRC for over a decade. Marcus was instrumental in maintaining the club as an integral part of the University of Iowa research community. Marcus was also actively involved in clinical research and teaching of students, both in the laboratory and on the wards. He was frequently honored by his colleagues for his achievements. In keeping with this tradition, the Marcus Clinical Research Award is presented to the student whose presentation reflects outstanding work performed within a clinical area involving intact organ physiology. This prize is open to students involved in such research.

## **François M. Abboud Prize for Best Platform Presentation**

This award was established in 2017 to honor Dr. François Abboud for his overall contributions as a research mentor and scholar. Abboud was instrumental in creating the research mentorship environment for medical students in the Carver College of Medicine from the time he joined the faculty in 1960. Abboud is known for his excellence in guiding students and colleagues in the principles of research. This award recognizes the student whose performance best represents outstanding communication in a podium presentation.

## **Donald D. Heistad Prize for Best Poster Presentation**

This award was established in 2017 to honor Donald Heistad who, along with Abboud, established the collaborative research and mentorship environment that has become a hallmark of the Carver College of Medicine and medical student experience. Heistad took the mentorship experience he received working with Abboud and developed his own style, always making time to work with students and discuss research ideas. This award recognizes the student whose performance best represents outstanding communication in a poster presentation.

## **Global Health Programs**

The Global Health Program will sponsor an award for Excellence in Global Health research. The award will be designated for the best poster or oral presentation by a medical student in the field of Global Health.

# Departmental Awards

## **ANESTHESIA**

The Department of Anesthesia will sponsor two awards; the *Margaret V. Lunsford Award for Research in Anesthesia* and the *Excellence in Basic Science Research* for the best oral or poster presentation by a medical student doing research in anesthesia.

## **BIOCHEMISTRY**

The Department of Biochemistry will sponsor The *Arthur A. Spector Award in Basic Biomedical Research* for the best oral or poster presentation by a medical student doing research in biochemistry.

## **DERMATOLOGY**

The Department of Dermatology will sponsor the *Excellence in Dermatology Research* award, designated for the best poster or oral presentation by a medical student in the discipline of dermatology.

## **EMERGENCY MEDICINE**

The Department of Emergency Medicine will sponsor an award for *Excellence in Emergency Medicine Research* for the best poster or oral presentation by a medical student in the discipline of emergency medicine.

## **FAMILY MEDICINE**

The Department of Family Medicine will sponsor an award for *Excellence in Family Medicine Research* designated for the best oral or poster presentation by a medical student in family medicine research.

## **HEALTH & HUMAN PHYSIOLOGY**

The Department of Human Physiology will sponsor the *Carl V. Gisolfi Research Award for Excellence in Health and Human Physiology*. The award will be designated for the best poster or oral presentation by a medical student in the discipline of human physiology.

## **INTERNAL MEDICINE**

The Department of Internal Medicine will sponsor three awards for outstanding student presentations. *The John Stokes Award for Research in Internal Medicine* is designated for the best poster or oral presentation by a medical student in the discipline of internal medicine. Two additional awards for *Excellence in Internal Medicine Research* are for best oral or poster presentation by a medical student for research in any division and in any project area.

## **MICROBIOLOGY & IMMUNOLOGY**

The Department of Microbiology and Immunology will sponsor the *William Johnson Award for Research in Microbiology and Immunology*, designated for the best oral or poster presentation by a medical student in microbiology research.

## **MOLECULAR PHYSIOLOGY & BIOPHYSICS**

The Department of Molecular Physiology and Biophysics will sponsor the *Research Excellence in Molecular Physiology and Biophysics* award, designated for the best poster or oral presentation by a medical student in the discipline of physiology and biophysics.

## **NEUROLOGY and NEUROSURGERY**

The Departments of Neurosurgery and Neurology will sponsor three awards for the best poster or oral presentation by a medical student designated as *Excellence in Basic Neuroscience Research*, *Excellence in Clinical Neuroscience Research*, and *Excellence in Translational Neuroscience Research*.

## **OBSTETRICS/GYNECOLOGY**

The Department of Obstetrics and Gynecology will sponsor two awards for *Excellence in Clinical Research in Obstetrics & Gynecology* and *Excellence in Obstetrics & Gynecology Research*, each designated for the best poster or oral presentation by a medical student in Ob-Gyn research.

## **OPHTHALMOLOGY**

The Department of Ophthalmology will sponsor three awards for the best oral or poster presentations by a medical student in eye research named in honor of former physicians; the *Thomas A. Weingeist Award in Ophthalmology*, the *William E. Scott Research Award in Ophthalmology*, and the *Hansjoerg E. Kolder Award for Ophthalmology Research*.

## **ORTHOPAEDICS**

The Department of Orthopaedics will sponsor two awards; the *Research Excellence in Orthopaedics* award, and the *Ponseti Prize in Orthopaedic Research*. The awards will be designated for the best poster or oral presentation by a medical student in basic, biomedical or clinical musculoskeletal/orthopaedic research.

## **OTOLARYNGOLOGY**

The Department of Otolaryngology will sponsor an award for *Excellence in Otolaryngology Research* designated for the best oral or poster presentation by a medical student in otolaryngology research.

## **PATHOLOGY**

The Department of Pathology will sponsor two awards to honor *Richard G. Lynch, MD*, for the best poster or oral presentation by a medical student. The award will be open to student research in any project area.

## **PEDIATRICS**

The Department of Pediatrics will sponsor two awards designated for the best oral or poster presentation by a medical student for *Excellence in Pediatric Clinical Research* and *Excellence in Pediatric Basic Science Research*.

## **NEUROSCIENCE AND PHARMACOLOGY**

The Department of Neuroscience and Pharmacology will sponsor an award in *Pharmacological and Toxicological Sciences*. The award will be designated for the best poster or oral presentation by a medical student in the discipline of pharmacology or toxicology, either basic science or clinical investigation.

## **PSYCHIATRY**

The Department of Psychiatry will sponsor three awards, the *George Winokur Research Award*, the *Bob Robinson Research Award* and the *Lauretta Bender Research Award*. The awards will be designated for the best poster or oral presentations by a medical student for research in psychiatry.

## **RADIOLOGY**

The Department of Radiology will sponsor the *Jason Martin, MD- Medical Student Research Award*. The award will be designated for the best poster or oral presentation by a medical student in image-based research. Martin graduated from the University of Iowa Carver College of Medicine and participated in medical research in the Radiology department as a medical student.

## **RADIATION ONCOLOGY**

The Department of Radiation Oncology will sponsor the *Larry W. Oberley Award in Radiation Oncology*. The award will be designated for the best poster or oral presentation by a medical student in the discipline of radiation oncology, for either basic science or clinical investigation.

## **SURGERY AND CARDIOTHORACIC SURGERY**

The Department of Surgery will sponsor two awards designated for the best poster or oral presentation by a medical student in the discipline of surgery: the *Kimberly Ephgrave Medical Student Award for Research in Surgery*, and the *Nicholas P. Rossi Award for Cardiothoracic Surgery Research*.

## **UROLOGY**

The Department of Urology will sponsor an award for *Excellence in Urology Research* designated for the best oral or poster presentation by a medical student in urology research.

# Outstanding Mentorship Awards

Students from the Summer Research Fellowship (SRF) began nominating outstanding research mentors in 2016. These award winners are selected from among nominations submitted by medical student research students at the completion of their summer research experience. This year we are awarding *Outstanding Mentorship in Clinical Research* and *Outstanding Mentorship in Basic Research*.

# Acknowledgements

## Judges

John Albright, MD	Donna Hammond, PHD
Don Anderson, PHD	Abbey Hardey-Fairbanks, MD
Michael Anderson, PHD	Kari Harland, PHD, MPH
Alexander Bassuk, MD, PHD	Hillary Johnson, MD, PHD
Erin Beasley, DVM, MPH	Barry London, MD, PHD
David Bedell, MD	Wendy Maury, PHD
Edward Bell, MD	Steven McElroy, MD
Gourav Bhardwaj, PHD	Patrick McNamara, MD
Noelle Bowdler, MD	Rachel Mejia, DO
Catherine Bradley, MD	Kelly Messingham, PHD
Chris Cooper, MD	Nick Mohr, MD
Marcelo Correia, MD, PHD	Manasa Nayak, PHD
Benjamin Darbro, MD, PHD	Danielle Pessoa-Pereira, PHD
Sanjana Dayal, PHD	Alejandro Pezzulo, MD
Beth Dinoff, PHD	Stephanie Radke, MD
Prakash Doddapattar, PHD	Robert Roghair, MD
Alina Dumitrescu, MD	Antonio Sanchez, MD
Angelena Edwards, MD	Donna Santillan, PHD
Melissa Fath, PHD	Mark Santillan, MD, PHD
Anthony Fischer, MD, PHD	Breanna Scorza, PHD
Joel Geerling, MD, PHD	Sabrina Scroggins, PHD
Mark Graber, MD	Hayden Smith, PHD
Oliver Gramlich, PHD	

**A special thank you to:**

**The Iowa Medical Student Research Council - Robert Roghair, Director  
CCOM Office of Student Affairs and Curriculum staff;  
the Departments of Anesthesiology, Biochemistry, Dermatology, Emergency Medicine, Family  
Medicine, Health and Human Physiology, Internal Medicine, Microbiology & Immunology,  
Molecular Physiology & Biophysics, Neurology, Neurosurgery, Obstetrics & Gynecology,  
Ophthalmology, Orthopaedics, Otolaryngology, Pathology, Pediatrics, Neuroscience and  
Pharmacology, Psychiatry, Radiology, Radiation Oncology, Surgery and Cardiothoracic  
Surgery, and Urology;**

# Student Presentations

## **Samuel Ahrenholz, M1**

*Title: Semiautomatic Area Analysis of the Distal Tibiofibular Syndesmotic Incisura. A Case-Control Study of Subtle Chronic Syndesmotic Instability*

Mentor: Cesar De Cesar Netto, Orthopaedics and Rehabilitation

## **Aparna Ajjarapu, M2**

*Title: Delayed Anterior Segment Complications After Treatment of Retinopathy of Prematurity with Laser Photocoagulation*

Mentor: Alina Dumitrescu, Ophthalmology & Visual Sciences

## **Julie Amendola, M4**

*Title: Using Thermal Imaging to Track Cellulitis*

Mentor: Alejandro Comellas, Internal Medicine

## **Emily Anderson, M2**

*Title: The Effect of Intrapartum Complications on Breastfeeding Success*

Mentor: Stephanie Radke, Obstetrics & Gynecology

## **Brandon Bacalzo, M2**

*Title: Ketamine Metabolomics in a Human Neuronal Cell Line*

Mentor: Mark Niciu, Psychiatry

## **Madeline Beauchene, M2**

*Title: Patent Ductus Arteriosus Predicts Response to Late Surfactant Administration in Premature Infants*

Mentor: Patrick McNamara, Pediatrics

## **Greta Becker, M2**

*Title: Optimization of an ELISA to detect Anaplasma exposure in visceral leishmaniasis patients in Brazil*

Mentor: Christine Petersen, Epidemiology

## **Riley Behan, M2G**

*Title: Optimization of Adipocyte Spheroid Model for Testing of Polychlorinated Biphenyl Toxins*

Mentor: James Ankrum, Biomedical Engineering

## **Nathan Behrens, M2**

*Title: The Effect of a Triage Physician in the Emergency Department on Press Ganey Scores and Other Metrics Associated with Patient Satisfaction*

Mentor: Michael Takacs, Emergency Medicine



# Student Presentations

## **Lisa Bell, M3**

*Title: Bringing Remote Healthcare to New Heights: Characterizing the Patient Population in the Pangri Valley of India to Guide Patient Care Strategies*

Mentor: Hans House, Emergency Medicine

## **Alaina Berg, M1**

*Title: Initial Characterization of Porcine Pancreatic Ductal Organoids*

Mentor: Aliye Uc, Pediatrics

## **Claire Berns-Leone, M2**

*Title: The anatomic basis of visuospatial cognition*

Mentor: Aaron Boes, Pediatrics

## **Gabby Bierlein-De La Rosa, M1G**

*Title: Cortical thickness and surface area in individuals with adult-onset myotonic dystrophy type 1*

Mentor: Peg Nopoulos, Psychiatry

## **Jared Blad, M2**

*Title: Clinical Application of Coronary Computed Tomography Angiography in Patients with Suspected Coronary Artery Disease*

Mentor: Steven Craig, Internal Medicine and Nelson Telles, Cardiology

## **Kelsey Blocklinger, M1**

*Title: Behavioral Deficits in the Protocadherin-10 (Pcdh10) Mouse Model Relevant to Autism*

Mentor: Ted Abel, Neuroscience and Pharmacology

## **Eric Boeshart, M2**

*Title: Perfect Match: Evaluating Cardiac Volumes for Optimizing Donor to Recipient Match for Pediatric Heart Transplant Recipients*

Mentor: Bijoy Thattaliyath, Pediatrics

## **Ty Bolte, M2**

*Title: What hospital level quality improvement practices are associated with improved sepsis quality indicator performance (SEP-1) and sepsis mortality?*

Mentor: Azeemuddin Ahmed, Emergency Medicine

## **Hannah Botkin, M3**

*Title: Optimizing Renal Function and Quality of Life in the Cervical Cancer Patient with Hydronephrosis*

Mentor: Bradley Erickson, Urology

# Student Presentations

## **Jayden Bowen, LOA**

*Title: High and low ratios of neutrophils differentially regulate T-cell responses*

Mentor: Julia Klesney-Tait, Internal Medicine

## **Nathan Cao, M3**

*Title: Anterior Inferior Iliac Spine Deformities: Incidence and Associations*

Mentor: Kyle Duchman, Orthopaedics and Rehabilitation

## **Katie Champoux, M2**

*Title: All-Terrain Vehicle Exposure and the Effect of Training Course Certification on Adolescent Safety Behaviors and Crash Experiences*

Mentor: Charles Jennissen, Emergency Medicine

## **Amanda Chang, M2**

*Title: Differentiate Takotsubo Syndrome from Acute Coronary Syndrome: Machine Learning from Bedside Echocardiography*

Mentor: Kan Liu, Internal Medicine

## **Ailynna Chen, M2**

*Title: Copeptin as a novel predictor of preeclampsia development during early pregnancy*

Mentor: Mark Santillan, Obstetrics & Gynecology

## **Karen Chen, M2**

*Title: Genotype-Phenotype Correlation and Determinants of Visual Outcome in Patients with Albinism with Complete Genotype*

Mentor: Alina Dumitrescu, Ophthalmology & Visual Sciences

## **Kevin Cheung, M4**

*Title: The Genetics of Early-stage Melanoma in Veterans*

Mentor: Jennifer Powers, Dermatology

## **Holly Conger, M4**

*Title: Testosterone Deficiency in Men Being Treated for Primary Pancreatic Cancer*

Mentor: Amy Pearlman, Urology

## **Tyler Crowe, M1**

*Title: Skin Transmission of Ebola Virus*

Mentor: Kelly Messingham, Dermatology

# Student Presentations

## **Alison Cunningham, M2**

*Title: Exposure to persistent hemodynamically significant ductal shunt is associated with the development of Retinopathy of Prematurity.*

Mentor: Regan Giesinger, Pediatrics

## **Jack Curran, M2**

*Title: Evaluation of an Algorithm Utilizing the Pediatric Appendicitis Score in the Reduction of CT Scans in the Emergency Department*

Mentor: Julia Shelton, Surgery

## **John Davison, M1**

*Title: Evaluating the effects of Amino Acid Supplementation on Post-operative Changes in Fat Free Mass and Complication Rates in an Orthopedic Trauma Population*

Mentor: Michael Willey, Orthopaedics and Rehabilitation

## **Jessica De Haan, M2**

*Title: Demographics, risk factors, and obstetric complications at Tibebe Ghion Specialized Hospital, Bahir Dar, Ethiopia: A cross-sectional study.*

Mentor: Mary Rysavy, Obstetrics & Gynecology

## **Cassidy Dean, M2**

*Title: Qualitative Investigation of Facilitators and Barriers Associated with Adherence to Wahls and Swank Dietary Interventions*

Mentor: Terry L. Wahls, Internal Medicine

## **Jordan Eisenmann, M2**

*Title: Comparison of virtual anatomy technologies for completing educational tasks using a decision matrix*

Mentor: Darren Hoffmann, Anatomy & Cell Biology

## **Jacob Elam, M3**

*Title: Pulmonary Embolism Imaging: Incidentals and Overtesting*

Mentor: Prashant Nagpal, Radiology

## **Jonah Elliff, M2**

*Title: Identification of novel biomarkers in progression of Canine Leishmaniosis*

Mentor: Christine Petersen, Epidemiology

## **Katie Faidley, M2**

*Title: Longitudinal Analysis of Malignant Ureteral Obstruction from Ovarian Cancer*

Mentor: Bradley Erickson, Urology

# Student Presentations

## **Christian Findlay, M2**

*Title: An Assessment of Providers' Knowledge in Firearm Safety and Terminology*

Mentor: Karisa Harland, Emergency Medicine

## **Zack Fleishhacker, M2**

*Title: Procedural Pain in Burn Patients - Quality Improvement Project*

Mentor: Lucy Wibbenmeyer, Surgery

## **Kory Ford, M2**

*Title: Return to Sport in Surgical and Conservative Management of Knee Injuries in Collegiate Wrestlers*

Mentor: Jerrod Keith, Surgery

## **Clara Garcia, M2**

*Title: Normative value for the 6-minute walk in pediatric patients with Fontan Physiology*

Mentor: Benjamin Reinking, Pediatrics

## **Cheyenne Godwin, M2**

*Title: Development of an in vivo model for Neuromyelitis Optica Spectrum Disorder in Long Evans Rats*

Mentor: Oliver Gramlich, Ophthalmology & Visual Sciences

## **Anna Greenwood, M2**     *Co-presenter: Ailynna Chen, M2*

*Title: The Effect of SARS-CoV-2 (COVID-19) on Food Insecurity in a High-Risk Obstetrics Population*

Mentor: Craig Syrop, Obstetrics & Gynecology

## **Jordan Haarsma, M2**

*Title: Pioneering the Use of Virtual Reality in Medical Education at UIHC: Immersively Teaching Transposition of the Great Arteries in Pediatric Cardiology*

Mentor: Ravi Ashwath, Pediatrics

## **Josh Hagedorn, M2**

*Title: Electroretinogram in patients with dystroglycanopathies*

Mentor: John Fingert, Ophthalmology & Visual Sciences

## **Joe Haight, M2**

*Title: The Impact of Juvenile Diffuse Traumatic Brain Injury on Chronic White Matter Dysfunction*

Mentor: Alexander Bassuk, Pediatrics

# Student Presentations

## **Chris Halbur, M2**

*Title: Weight-based Aspirin Dosing May Further Reduce the Incidence of Venous Thromboembolism Following Primary Total Joint Arthroplasty*

Mentor: Nicolas Noiseux, Orthopaedics and Rehabilitation

## **Alex Hart, M2**

*Title: Signs and symptoms of obstructive sleep apnea in men presenting to an outpatient urology clinic for male-specific health concerns*

Mentor: Amy Pearlman, Urology

## **Mustafa Hashimi, M2**

*Title: Preoperative Predictive Factors for Neoadjuvant Chemotherapy Response in Osteosarcoma*

Mentor: Benjamin Miller, Orthopaedics and Rehabilitation

## **Ryan Havey, M2**

*Title: Assessment of Femoral Version in Patients with Patellar Instability*

Mentor: Robert Westermann, Orthopaedics and Rehabilitation

## **Joseph Hentges, M1**

*Title: Dependence on canonical MAPK signaling in drug-resistant melanoma*

Mentor: Christopher Stipp, Biological Sciences

## **Timon Higgins, M2**

*Title: Dexamethasone-Eluting Cochlear Implants Reduce Intracochlear Inflammation Following Surgery*

Mentor: Marlan R. Hansen, Otolaryngology - Head & Neck Surgery

## **Arman Hlas, M1**

*Title: Characterization of Factors Contributing to Iatrogenic Injury to Articular Cartilage during Arthroscopic Procedures*

Mentor: James Martin, Orthopaedics and Rehabilitation

## **Dake Huang, M2**

*Title: The Parabrachial Nucleus*

Mentor: Joel Geerling, Neurology

## **Caleb Iehl, M1**

*Title: Investigating 3d Mapping Efficacy of Weightbearing Computed Tomography to Assess Adult Acquired Flatfoot Deformity*

Mentor: Cesar De Cesar Netto, Orthopaedics and Rehabilitation

# Student Presentations

## **Heba Isaac, M4**

*Title: Characterization of Non-Syndromic Hearing Loss in a Family with Suspected vGLUT3 Mutation.*

Mentor: Marlan R. Hansen, Otolaryngology - Head & Neck Surgery

## **Heba Isaac, M4**

*Title: Virtual Anatomy Videos for Pre-laboratory Preparation: Does Usage Correlate with Grade Outcome?*

Mentor: Darren Hoffmann, Anatomy & Cell Biology

## **Maggie Jakubiak, M2**

*Title: The Effect of Weight and Body Mass Index (BMI) on Serum Progesterone Values in In Vitro Fertilization (IVF) Cycles*

Mentor: Rachel Mejia, Obstetrics & Gynecology

## **Alec James, M2**

*Title: Patella Resurfacing During Total Knee Arthroplasty and its Effect on Patient Ability to Kneel*

Mentor: Nicholas Bedard, Orthopaedics and Rehabilitation

## **Nick Jensen, M4**

*Title: Efficacy of iliohypogastric and ilioinguinal nerve blocks for the treatment of groin and testicular pain*

Mentor: Amy Pearlman, Urology

## **Anna Kaldjian, M2**

*Title: Antibiotic timing in sepsis*

Mentor: Nicholas Mohr, Emergency Medicine

## **Vijay Kamalumpundi, M1**

*Title: Clinical Outcomes of Patients with Chronic Liver Disease and COVID-19 at UIHC and in the TriNetX Network of 48 Healthcare Organizations*

Mentor: Marcelo Correia, Internal Medicine

## **Jacob Kaplan, M2**

*Title: Outcomes of Succinate Dehydrogenase-Deficient Paragangliomas*

Mentor: Andrew Bellizzi, Pathology

## **Theodore Katz, M2**

*Title: Accuracy of X-ray and Magnetic Resonance Imaging in Defining the Tumor Margin in Primary Bone Sarcoma*

Mentor: Benjamin Miller, Orthopaedics and Rehabilitation

# Student Presentations

## **Austin Kazarian, M4**

*Title: Oncologic Outcome of Low Testosterone in Male Patients with Pancreatic Cancer*

Mentor: Carlos Chan, Surgery

## **Morgan Kennedy, M2**

*Title: Outcome of transition from daily to weekend steroids in patients with Duchenne muscular dystrophy*

Mentor: Katherine Mathews, Pediatrics

## **Faizan Khawaja, M2**

*Title: Determining the neuroprotective role and mechanisms of Nicotinamide Riboside and NAD+ using rodent models of chemotherapy-induced peripheral neuropathy*

Mentor: Donna L. Hammond, Anesthesia

## **Kenten Kingsbury, M2**

*Title: Modeling Diabetes: Hyperglycemia Affects TGFBI Expression and Glycation in the Extracellular Matrix of the Posterior Cornea*

Mentor: Mark Greiner, Ophthalmology & Visual Sciences

## **Brian Kinnaid, M2**

*Title: Identifying Antidepressant Gene Expression Signatures from an L1000 Dataset*

Mentor: Mark Niciu, Psychiatry

## **Michael Klemme, M4**     *Co-presenters: Anne Nora, M4 and Melissa Chan, M4*

*Title: Strengths and Weaknesses of Virtual Medical Education during COVID-19*

Mentor: Sarah Shaffer, Obstetrics & Gynecology

## **Camilla Koczara, M2**

*Title: An exploratory survey of the cell density of progenitor populations in proximal to distal native airways of the ferret lung transplant model*

Mentor: Kalpaj Parekh, Cardiothoracic Surgery

## **Steven Leary, M4**

*Title: Maximizing Efficiency in the ED: A Cost-Benefit Analysis of Team Triage at UIHC*

Mentor: Andrew Nugent, Emergency Medicine

## **Ethan Lemke, M2**     *Co-presenter: Matthew Behrens, M2*

*Title: Correlation of POCUS measures of OSA with Apnea-Hypopnea Index (AHI): An exploratory study.*

Mentor: Rakesh Sondekoppam, Anesthesia

# Student Presentations

## **Tomas Lence, M2**

*Title: Predictive Power of Quantitative Ultrasound Measurements in Children with High-Grade Hydronephrosis*

Mentor: Christopher Cooper, Urology

## **Gage Liddiard, M2G**

*Title: Early accumulation of Tau in the Locus Coeruleus and Dorsal Raphe Nucleus in the context of Alzheimer's Disease*

Mentor: Catherine Marcinkiewicz, Neuroscience and Pharmacology

## **Shannon Linderman, M1**

*Title: Combined Biomechanical and Clinical Analysis of the influence of Rotator Cuff Condition and Glenosphere Lateralization on Functional and Mechanical Outcomes in Reverse Shoulder Arthroplasty*

Mentor: Don Anderson, Orthopaedics and Rehabilitation

## **Weiren Liu, M4**

*Title: A Just Enough Interaction Segmentation Tool Improves Consistency and Efficiency for Radiotherapy Contouring of Meningiomas*

Mentor: John Buatti, Radiation Oncology

## **Lola Lozano, M1G**

*Title: Assessment of Mitochondrial Health and Initiation of Gene Therapy in Iris Pigment Epithelial Cells from a Donor with MELAS*

Mentor: Budd Tucker, Ophthalmology & Visual Sciences

## **Lucas Maakestad, M2**

*Title: Genome Sequencing Reveals Distinct Subtypes of MRSA at Different Ages in Cystic Fibrosis*

Mentor: Anthony Fischer, Pediatrics

## **Mike Marinier, M2**

*Title: The Utility of Bioimpedance Analysis in Primary Total Joint Arthroplasty*

Mentor: Jacob Elkins, Orthopaedics and Rehabilitation

## **Nolan Mattingly, M2**

*Title: Comparison of Postoperative Pain and Morphine Consumption between Hip Arthroscopy with and without a Perineal Post*

Mentor: Michael Willey, Orthopaedics and Rehabilitation

## **Matt McIlrath, M2**

*Title: Firearm Related Injuries to the Hand and Upper Extremity in a Rural, Midwestern State*

Mentor: Joseph Buckwalter V, Orthopaedics and Rehabilitation



# Student Presentations

## **Ethan Meiburg, M2**

*Title: Management of Airway Obstruction and Swallowing Disorders in Pediatric Population*

Mentor: Sohit Kanotra, Otolaryngology - Head & Neck Surgery

## **Sarah Minion, M2**

*Title: Evaluation of an online delirium screening module to improve provider knowledge of delirium in the Emergency Department*

Mentor: Sangil Lee, Emergency Medicine

## **Tim Morris, M2**

*Title: Contrast Enhancement and Microbleeds in the Wall of Unruptured Intracranial Aneurysms: A 3T MRI Study*

Mentor: David Hasan, Neurosurgery

## **Cat Mulanax, M2**

*Title: Pregnancy Complications in the Super Morbidly Obese*

Mentor: Donna A Santillan, Obstetrics & Gynecology

## **Ananya Munjal, M2**

*Title: Correlation between Progesterone IUD use and Dermatological Conditions*

Mentor: Jennifer Powers, Dermatology

## **Bryn Myers, M2**

*Title: Pinpointing the genetic basis of Ehlers-Danlos Syndrome – Hypermobility Type*

Mentor: Benjamin Darbro, Pediatrics

## **Anne Nora, M4**

*Title: Identifying Social Determinants of Health in a Gynecologic Oncology Population*

Mentor: Michael Haugsdal, Obstetrics & Gynecology

## **Sam Parks, M2**

*Title: Qualitative Investigation of Factors Associated with Dietary Intervention Adherence as Perceived by Support Persons of Individuals with Multiple Sclerosis*

Mentor: Terry L. Wahls, Internal Medicine

## **Pooja Patel, M2**

*Title: Effects of Chondromalacia with Recurrent Patellar Dislocations on Post-Operative Outcome Scores*

Mentor: John Albright, Orthopaedics and Rehabilitation

# Student Presentations

## **Milosch Pavic, M2**

*Title: Parcellation of the Brain by Gene Expression*

Mentor: Thomas Nickl Jockschat, Psychiatry

## **Becky Peoples, M2**

*Title: Are predictors of arthritis following ACL reconstruction present at time of surgery?*

Mentor: Robert Westermann, Orthopaedics and Rehabilitation

## **Jane Persons, M4**

*Title: Epidemiology of Suicide in an Iowa Cohort*

Mentor: Marco Hefti, Pathology

## **Katy Pham, M2**

*Title: Identifying Hearing Loss in Older Adults with Cognitive Impairment Using Commercially Available Applications via Telehealth*

Mentors: Esther Oh, Geriatric Medicine & Gerontology and Carrie Nieman, Department of Otolaryngology-Head and Neck Surgery-Johns Hopkins

## **Anthony Piscopo, M1**

*Title: A Meta-analysis of Supraorbital Craniotomy vs Endoscopic Endonasal Approach for Anterior Skull Base Meningiomas*

Mentors: Jeremy Greenlee, Neurosurgery and Scott Seaman, Neurosurgery

## **Mia Poleksic, M1**

*Title: Development of an active mouse model of Bullous pemphigoid (BP)*

Mentor: Kelly Messingham, Dermatology

## **Nikitha Pothireddy, M2**

*Title: Sleep Behaviors May Be a Risk Factor for the Development of Painful Diabetic Neuropathy in Medical Patients*

Mentor: Beth Dinoff, Anesthesia

## **Greg Power, M4**

*Title: Comparison of Outcomes in Extremely Premature Babies with Respiratory Distress Syndrome through Administration of Curosurf and Survanta*

Mentor: John M. Dagle, Pediatrics

## **Dayton Rand, M2**

*Title: Early Results of a Novel Porous Metal Augment for Tibial Bone Loss in Revision Total Knee Arthroplasty*

Mentor: Timothy Brown, Orthopaedics and Rehabilitation

# Student Presentations

## **Ryan Reis, M2**

*Title: Introductory findings: A therapeutic trial for safety and preliminary efficacy of the combination of axitinib and selenium in the chemical composition of seleno-L-methionine (SLM) for adult patients with advanced metastatic clear cell renal cell carcinoma*

Mentor: Yousef Zakharia, Internal Medicine

## **Nathan Roby, M2**

*Title: Characteristics and Retention of Emergency Department Patients that Left Without Being Seen (LWBS)*

Mentor: Nick Kluesner, Emergency Medicine

## **Ariel Roghair, M1**

*Title: Activation of Retinal Microglia and Astrocytes Across Murine Models of Traumatic Brain Injury*

Mentor: Alexander Bassuk, Pediatrics

## **Emily Ruba, M2**

*Title: International Standards Guiding the Use of Simulated Patients in Medical Education: A Qualitative Research Study*

Mentor: Jane Miller, Family Medicine

## **Ryan Sabotin, M2**

*Title: Morphological Characterization of Cerebral Fusiform Aneurysms*

Mentor: Edgar Samaniego, Neurology

## **Stephanie Saey, M2**

*Title: Helping to control pulmonary hypertension in a Trisomy 21 infant with a Fenestrated Atrial Septal Defect device*

Mentor: Daniel McLennan, Pediatrics

## **Pearl Sawhney, M2**

*Title: Investigation of a Multimodal Diet and Lifestyle Intervention in Progressive Multiple Sclerosis*

Mentor: Terry L. Wahls, Internal Medicine

## **Sienna Schaeffer, M2**

*Title: Recreational Off-Highway Vehicle Exposure, Safety Behaviors and Crash Experiences of Adolescents*

Mentor: Charles Jennissen, Emergency Medicine

# Student Presentations

## **Eli Schmidt, M2**

*Title: The Rotational Positioning of the Bones in the Medial Column of the Foot: A Weightbearing CT Analysis*

Mentor: Cesar De Cesar Netto, Orthopaedics and Rehabilitation

## **Kristy Sevcik, M2**

*Title: Understanding the Role of Interferons in Ebola Virus Infection of Keratinocytes*

Mentor: Wendy Maury, Microbiology

## **Pombie Silverman, M2**

*Title: Evaluation of Educational Intervention in Addressing Culturally-Sensitive Care for the Transfeminine Patient*

Mentor: Amy Pearlman, Urology

## **Zach Skopec, M2**

*Title: Molecular Mechanisms of Skeletal Muscle Atrophy*

Mentor: Chris Adams, Internal Medicine

## **Destinee Soubannarath-Gwee, M4**

*Title: Identity-Based Mistreatment and Sexual Harassment of Medical Trainees at the Carver College of Medicine*

Mentor: Patrick Barlow, Internal Medicine

## **Nathen Spitz, M2**

*Title: Determining Differences Between 10 Hz Repetitive Transcranial Magnetic Stimulation (rTMS) and Intermittent Theta Burst Stimulation (iTBS) in Treating Major Depressive Disorder*

Mentor: Nicholas Trapp, Psychiatry

## **Hannah Steenblock, M2**

*Title: Cystic Fibrosis Pig Model to Study the Pathogenesis of Meconium Ileus*

Mentor: Aliye Uc, Pediatrics

## **Haley Steffen, M2**

*Title: Prevalence of COVID-19 in the delivering pregnant population at the University of Iowa Hospitals and Clinics and associated demographic characteristics*

Mentor: Mary Rysavy, Obstetrics & Gynecology

## **Samantha Swartz, M2**

*Title: Prevalence of COVID-19 Among Delivering Women at the University of Iowa Hospitals and Clinics and Associated Maternal and Neonatal Outcomes*

Mentor: Mary Rysavy, Obstetrics & Gynecology

# Student Presentations

## **Zainab Tanveer, M2**

*Title: Analysis of Campylobacter jejuni infection in 9-month-old infants in relation to zoonotic exposures in low-income peri-urban settlements of Kisumu, Kenya*

Mentor: Kelly Baker, Occupational & Environmental Health

## **Andy Tran, M2**

*Title: Evaluation of a screening tool for the identification of neurological disorders in rural Uganda*

Mentor: Deanna Saylor, Neurology-Johns Hopkins

## **Rosarie Tudas, M2**

*Title: Inflammatory Memory in Human Airway Epithelia*

Mentor: Alejandro Pezzulo, Internal Medicine

## **Ashley Vaughan, M2**

*Title: Patient and partner expectations before and satisfaction after inflatable penile implant surgery: a mixed-methods analysis*

Mentor: Amy Pearlman, Urology

## **Victoria Vivtcharenko, M2**

*Title: Comparison Between Cotton Test and Tap Test For The Assessment of Coronal Syndesmotic Instability: A Cadaveric Study*

Mentor: Cesar De Cesar Netto, Orthopaedics and Rehabilitation

## **Drew Voigt, LOA**

*Title: Choriocapillaris gene expression changes in age and age-related macular degeneration*

Mentor: Robert Mullins, Ophthalmology & Visual Sciences

## **Ellen Voigt, M2G**

*Title: Omacetaxine targets Inhibitor of DNA binding proteins in pediatric sarcoma*

Mentor: David Gordon, Pediatrics

## **Joyce Wahba, M4**

*Title: Preoperative psychiatric medication use does not correlate with postoperative narcotic use in elective colorectal surgery patients*

Mentor: Irena Gribovskaja-Rupp, Surgery

## **Madison Wahlen, M2G**

*Title: Effect of Distance from and Time to Definitive Care on Traumatic Brain Injury Outcomes in the Setting of a Rural Trauma System*

Mentor: James Torner, Epidemiology

# Student Presentations

## **Kristin Weeks, LOA**

*Title: Viewpoints on Healthcare Delivery Science Education Among Practicing Physicians in a Rural State*

Mentor: Mary Charlton, Epidemiology

## **Kristin Weeks, LOA**

*Title: An Unmet Need in Healthcare Leadership: A Survey of Practicing Physicians' Perspectives on Healthcare Delivery Science Education*

Mentor: Mary Charlton, Epidemiology and Alan Reed, Surgery

## **Kirk Welsh, M2**

*Title: Lower Extremity Gunshot Wounds in a Rural Setting*

Mentor: Joseph Buckwalter V, Orthopaedics and Rehabilitation

## **Cody West, M2**

*Title: Application of Mucous Fistula Stool Refeeding in Surgical Pediatric Patients following Bowel Resection*

Mentor: Riad Rahhal, Pediatrics

## **Jennifer Wu, LOA**

*Title: Database Formation for Analysis of a New Electroretinogram Device: the RetEval*

Mentor: Arlene Drack, Ophthalmology & Visual Sciences

## **Anthony Zhang, M2**

*Title: Diagnostic Utility of Noncontrast Three-Dimensional Steady-State Free-Precession Magnetic Resonance Angiography compared to Conventional Contrast Magnetic Resonance Angiography in Pediatric and Adult Patients for Aortic and Pulmonary Artery Dimensions*

Mentor: Ravi Ashwath, Pediatrics

## **Robert Zhu, M2**

*Title: Validation of 3D volume-based treated tumor response assessment over standard RECIST v1.1*

Mentor: Yusung Kim, Radiation Oncology

# Student Presentations

W-RM-1	W-RM-2	W-RM-3	W-RM-4
Faizan Khawaja Ethan Lemke/Matthew Behrens Nikki Pothireddy Emily Anderson Ailynna Chen	Greta Becker Jonah Elliff Madison Wahlen Kristin Weeks Katy Pham Emily Ruba	Holly Conger Alexander hart Ashley Vaughan Nicholas Jensen Pombie Silverman Tomas Lence	Jack Curran Zack Fleishhacker Kory Ford Camilla Koczara Joyce Wahba Sienna Schaeffer
W-RM-5	W-RM-6	W-RM-7	W-RM-8
Aparna Ajjarapu Karen Chen Cheyanne Godwin Josh Hagedorn Kenten Kingsbury Jennifer Wu	Ryan Havey Matt McIlrath Becky Peoples Kirk Welsh John Davison Nolan Mattingly	Kevin Cheung Tyler Crowe Ananya Munjal Mia Poleksic Zainab Tanveer Heba Isaac	Cassidy Dean Sam Parks Pearl Sawhney Rosarie Tudas Nathan Roby Jared Blad
W-RM-9	W-RM-10	W-RM-11	
Nathan Behrens Ty Bolte Christian Findlay Anna Kaldjian Steven Leary Sarah Minion	Claire Berns-Leone Alison Cunningham Jacob Kaplan Jane Persons Pooja Patel Dayton Rand	Kelsey Blocklinger Gage Liddiard Dake Huang Ryan Sabotin Andy Tran Kristy Sevcik	
TH-RM-1	TH-RM-2	TH-RM-3	TH-RM-4
Julie Amendola Jayden Bowen Destinee Gwee Amanda Chang Hannah Botkin Katie Faidley	Joe Haight Ariel Roghair Alaina Berg Bryn Myers Hannah Steenblock	Sam Ahrenholz Caleb Iehl Shannon Linderman Eli Schmidt Victoria Vivtcharenko Arman Hlas	Clara Garcia Jordan Haarsma Lucas Maakestad Greg Power Anthony Zhang Ellen Voigt
TH-RM-5	TH-RM-6	TH-RM-7	TH-RM-8
Anna Greenwood Michael Klemme Cat Mulanax Anne Nora Maggie Jakubiak	Jessica De Haan Haley Steffen Sam Swartz Zach Skopec Vijay Kamalumpundi Ryan Reis	Chris Halbur Mustafa Hashimi Alec James Mike Marinier Nathan Cao Teddy Katz	Joe Hentges Timon Higgins Heba Isaac Ethan Meiburg Riley Behan Kristin Weeks
TH-RM-9	TH-RM-10	TH-RM-11	TH-RM-12
Madeline Beauchene Eric Boeshart Morgan Kennedy Stephanie Saey Cody West	Lisa Bell Katie Champoux Lola Lozano Drew Voigt Tim Morris Anthony Piscopo	Weiren Liu Robert Zhu Jacob Elam Jordan Eisenmann Austin Kazarian	Gabby Bierlein De La Rosa Brian Kinnaird Milosch Pavic Brandon Bacalzo Nathan Spitz