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 57th 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

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
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                      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 Pangi 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

Cheyanne 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

Kenton Kingsbury, M2
Title: Modeling Diabetes: Hyperglycemia Affects TGFβI Expression and Glycation in the Extracellular Matrix of the Posterior Cornea
Mentor: Mark Greiner, Ophthalmology & Visual Sciences

Brian Kinnaird, 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 Marcinkiewcz, 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 andUpper 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

<table>
<thead>
<tr>
<th>W-RM-1</th>
<th>W-RM-2</th>
<th>W-RM-3</th>
<th>W-RM-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faizan Khawaja</td>
<td>Greta Becker</td>
<td>Holly Conger</td>
<td>Jack Curran</td>
</tr>
<tr>
<td>Ethan Lemke/Matthew Behrens</td>
<td>Jonah Elliff</td>
<td>Alexander hart</td>
<td>Zack Fleishhacker</td>
</tr>
<tr>
<td>Nikki Pothireddy</td>
<td>Madison Wahlen</td>
<td>Ashley Vaughan</td>
<td>Kory Ford</td>
</tr>
<tr>
<td>Emily Anderson</td>
<td>Kristin Weeks</td>
<td>Nicholas Jensen</td>
<td>Camilla Koczara</td>
</tr>
<tr>
<td>Ailynna Chen</td>
<td>Katy Pham</td>
<td>Pombie Silverman</td>
<td>Joyce Wahba</td>
</tr>
<tr>
<td></td>
<td>Emily Ruba</td>
<td>Tomas Lence</td>
<td>Sienna Schaeffer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>W-RM-5</th>
<th>W-RM-6</th>
<th>W-RM-7</th>
<th>W-RM-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aparna Ajjarapu</td>
<td>Ryan Havey</td>
<td>Kevin Cheung</td>
<td>Cassidy Dean</td>
</tr>
<tr>
<td>Karen Chen</td>
<td>Matt McIlrath</td>
<td>Tyler Crowe</td>
<td>Sam Parks</td>
</tr>
<tr>
<td>Cheyanne Godwin</td>
<td>Becky Peoples</td>
<td>Ananya Munjal</td>
<td>Pearl Sawhney</td>
</tr>
<tr>
<td>Josh Hagedorn</td>
<td>Kirk Welsh</td>
<td>Mia Polekscic</td>
<td>Rosarie Tudas</td>
</tr>
<tr>
<td>Kenten Kingsbury</td>
<td>John Davison</td>
<td>Zainab Tanveer</td>
<td>Nathan Roby</td>
</tr>
<tr>
<td>Jennifer Wu</td>
<td>Nolan Mattingly</td>
<td>Heba Isaac</td>
<td>Jared Blad</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>W-RM-9</th>
<th>W-RM-10</th>
<th>W-RM-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nathan Behrens</td>
<td>Claire Berns-Leone</td>
<td>Kelsey Blocklinger</td>
</tr>
<tr>
<td>Ty Bolte</td>
<td>Alison Cunningham</td>
<td>Gage Liddiard</td>
</tr>
<tr>
<td>Christian Findlay</td>
<td>Jacob Kaplan</td>
<td>Dake Huang</td>
</tr>
<tr>
<td>Anna Kaldjian</td>
<td>Jane Persons</td>
<td>Ryan Sabotin</td>
</tr>
<tr>
<td>Steven Leary</td>
<td>Pooja Patel</td>
<td>Andy Tran</td>
</tr>
<tr>
<td>Sarah Minion</td>
<td>Dayton Rand</td>
<td>Kristy Sevcik</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TH-RM-1</th>
<th>TH-RM-2</th>
<th>TH-RM-3</th>
<th>TH-RM-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie Amendola</td>
<td>Joe Haight</td>
<td>Sam Ahrenholz</td>
<td>Clara Garcia</td>
</tr>
<tr>
<td>Jayden Bowen</td>
<td>Ariel Roghair</td>
<td>Caleb lehl</td>
<td>Jordan Haarsma</td>
</tr>
<tr>
<td>Destinee Gwee</td>
<td>Alaina Berg</td>
<td>Shannon Linderman</td>
<td>Lucas Maakestad</td>
</tr>
<tr>
<td>Amanda Chang</td>
<td>Bryn Myers</td>
<td>Eli Schmidt</td>
<td>Greg Power</td>
</tr>
<tr>
<td>Hannah Botkin</td>
<td>Hannah Steenblock</td>
<td>Victoria Vvitchenko</td>
<td>Anthony Zhang</td>
</tr>
<tr>
<td>Katie Faidley</td>
<td></td>
<td>Arman Hlas</td>
<td>Ellen Voigt</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TH-RM-5</th>
<th>TH-RM-6</th>
<th>TH-RM-7</th>
<th>TH-RM-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna Greenwood</td>
<td>Jessica De Haan</td>
<td>Chris Halbur</td>
<td>Joe Hentges</td>
</tr>
<tr>
<td>Michael Klemme</td>
<td>Haley Steffen</td>
<td>Mustafa Hashimi</td>
<td>Timon Higgins</td>
</tr>
<tr>
<td>Cat Mulanax</td>
<td>Sam Swartz</td>
<td>Alec James</td>
<td>Heba Isaac</td>
</tr>
<tr>
<td>Anne Nora</td>
<td>Zach Skopec</td>
<td>Mike Marinier</td>
<td>Ethan Meiburg</td>
</tr>
<tr>
<td>Maggie Jakubiak</td>
<td>Vijay Kamalumpundi</td>
<td>Nathan Cao</td>
<td>Riley Behan</td>
</tr>
<tr>
<td></td>
<td>Ryan Reis</td>
<td>Teddy Katz</td>
<td>Kristin Weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TH-RM-9</th>
<th>TH-RM-10</th>
<th>TH-RM-11</th>
<th>TH-RM-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madeline Beauchene</td>
<td>Lisa Bell</td>
<td>Weiren Liu</td>
<td>Gabby Bierlein De La Rosa</td>
</tr>
<tr>
<td>Eric Boeshart</td>
<td>Katie Champoux</td>
<td>Robert Zhu</td>
<td>Brian Kinnaird</td>
</tr>
<tr>
<td>Morgan Kennedy</td>
<td>Lola Lozano</td>
<td>Jacob Elam</td>
<td>Milosch Pavic</td>
</tr>
<tr>
<td>Stephanie Saey</td>
<td>Drew Voigt</td>
<td>Jordan Eisenmann</td>
<td>Brandon Bacalzo</td>
</tr>
<tr>
<td>Cody West</td>
<td>Tim Morris</td>
<td>Austin Kazarian</td>
<td>Nathan Spitz</td>
</tr>
</tbody>
</table>