48th Annual
Medical Student Research Day
September 2, 2016

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

Program of Events

Sponsored by:
Medical Student Research Club and
Medical Student Research Council

Free to University of Iowa Students
Welcome to the 48th Annual Student Medical Research Day. Research Day provides an opportunity for medical students who have conducted research to present their results, receive feedback, and compete for awards. The day’s events begin at 7:30 AM and include the following schedule:

7:30-8:00  Continental Breakfast and Registration  
MERF Atrium

8:15–10:00  Oral Presentations (concurrent sessions)  
1117, 2117, 2135, 2155, 2165, 2189 MERF

10:15-10:25  1110 MERF: Dr. Robert Roghair  
Presentation of Mentorship Awards

10:25-10:30  1110 MERF: Dr. Dale Abel  
Overview of Year-long Fellowship Opportunities

10:30-11:15  1110 MERF: Plenary Speaker

John J. Callaghan, M.D.
Professor, Department of Orthopaedics and Rehabilitation, Biomedical Engineering

“Research Mentoring: A Most Gratifying Experience”

11:15–11:30  Break

11:30-1:30  Poster Sessions and Buffet Lunch  
MERF Atrium

AWARDS BANQUET, FRIDAY, SEPTEMBER 9, 2016

6:00 – 6:30  Social Time  
Second Floor Ballroom, IMU

6:30 – 8:30  Buffet Dinner  
Second Floor Ballroom, IMU

Keynote Speaker
Polly Ferguson, M.D.
Associate Professor of Pediatrics  
Director, Pediatric Rheumatology

“Bones and Crohn’s and Skin: Oh My!”

For student presenters, research mentors, & invited guests
AWARDS BANQUET
Friday, September 9, 2016

There are several Research Day awards, including three 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 Dr. 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 Dr. Edward Heath, this award recognizes outstanding medical research. As Professor and Chairman of the Biochemistry Department at the University of Iowa, Dr. 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 Dr. Melvin L. Marcus, faculty supervisor of the ISMRC for over a decade. Dr. Marcus was instrumental in maintaining the club as an integral part of the University of Iowa research community. Dr. 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.
DEPARTMENTAL AWARDS

ANESTHESIOLOGY

The Department of Anesthesia will sponsor The Margaret V. Lunsford Award for Research in Anesthesia, the Excellence in Basic Science Research Award 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. The award will be 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. The award will be designated 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.

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 The John Stokes Award for Research in Internal Medicine, for three awards for outstanding student presentations. The awards will be open to student research in any department and in any project area.

MICROBIOLOGY

The Department of Microbiology 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.

NEUROLOGY and NEUROSURGERY

The Departments of Neurosurgery and Neurology will sponsor three awards designated for the best poster or oral presentation by a medical student in the categories of basic neuroscience, translational neuroscience and clinical 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 Basic Science Research in Obstetrics & Gynecology 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 to honor William E. Scott, MD and Thomas A Weingeist, MD, PhD, and Hansjoerg E. Kolder, MD, PhD for the best oral or poster presentations by a medical student in eye research.

ORTHOPAEDICS

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

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 in the categories of clinical and basic science pediatric research.

PHARMACOLOGY

The Department of Pharmacology will sponsor the 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.

PHYSIOLOGY

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

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. Dr. 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. 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, The Nicholas P. Rossi Award for research in cardiothoracic surgery and The Dr. Kimberly Ephgrave Medical Student Award designated for the best poster or oral presentation by a medical student in the discipline of surgery.

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.

A special thank you to:
The Medical Student Research Council
The Medical Student Research Club
Robert Roghair, Director, Deanna Nielson, Stephanie Whitlock, OSAC, The Departments of Anesthesiology, Biochemistry, Dermatology, Emergency Medicine, Family Medicine, Human Physiology, Internal Medicine, Neurology and Neurosurgery, Obstetrics & Gynecology, Ophthalmology, Orthopaedics, Otolaryngology, Pathology, Pediatrics, Pharmacology, Physiology, Psychiatry, Radiology, Radiation Oncology, Surgery and Cardiothoracic Surgery and Urology.
## Acknowledgements

### JUDGES

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<tr>
<th>Dr. Lee-Ann Allen</th>
<th>Dr. David Katz</th>
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<tr>
<td>Dr. Don Anderson</td>
<td>Dr. Matthew Krasowski</td>
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<td>Dr. Michael Anderson</td>
<td>Dr. Marcus Kuehn</td>
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<td>Dr. Patrick Barlow</td>
<td>Dr. Kathryn Lamping</td>
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<td>Dr. Emine Ozgur Bayman</td>
<td>Dr. Ian Law</td>
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<td>Dr. David Bedell</td>
<td>Dr. J. Pablo Leone</td>
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<td>Dr. Gordon Buchanan</td>
<td>Dr. Vitor Lira</td>
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<td>Dr. Yury Chaly</td>
<td>Dr. Laurie Lyckholm</td>
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<td>Dr. Anil Chauhan</td>
<td>Dr. Katherine Mathews</td>
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<td>Dr. Kent Choi</td>
<td>Dr. Paul McCray</td>
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<td>Dr. Natalie Denburg</td>
<td>Dr. David Meyerholz</td>
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<td>Dr. Franklin Dexter</td>
<td>Dr. Nicholas Mohr</td>
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<td>Dr. Arlene Drack</td>
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<td>Dr. Martine Dunnwald</td>
<td>Ms. Robin Paetzold</td>
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<td>Dr. Eric Epping</td>
<td>Dr. Andrew Peterson</td>
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<td>Dr. Melissa Fath</td>
<td>Dr. Robert Roghair</td>
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<td>Dr. Jess Fiedorowicz</td>
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<td>Dr. Katherine Gibson-Corley</td>
<td>Dr. Janice Staber</td>
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<td>Dr. Prabhat Goswami</td>
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<td>Dr. Duane Hall</td>
<td>Dr. Colleen Stockdale</td>
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<td>Dr. Charles Harata</td>
<td>Dr. Christopher Strouse</td>
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<td>Dr. Michael Henry</td>
<td>Dr. Christie Thomas</td>
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<td>Dr. Jon Houtman</td>
<td>Dr. Michelle Weckmann</td>
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<td>Dr. Nedim Ince</td>
<td>Dr. Cynthia Wong</td>
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<td>Dr. Charles Jennissen</td>
<td>Dr. Yousef Zakheria</td>
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Oral Presentations
8:15 am – 10:15 am
Concurrently in Rooms 1117, 2117, 2135, 2155, 2165, 2189

Room 1117

8:15  Alexander Schefter, M4
“Medical Student Mistreatment: Is Our Problem Really That Big?”
Mentor: Dr. Colleen Stockdale, Obstetrics & Gynecology

8:30  Lucy Evans, M2G
“Proteolytic Regulation of Retinal Neurotransmission”
Dr. Vinit Mahajan, Ophthalmology & Visual Sciences

8:45  Christine Dinh, M2
“Evaluating the Influence of Diabetes STIGma on Medication Adherence: The ENDSTIGMA Study”
Dr. Kerri Cavanaugh, Internal Medicine

9:00  Elliot Burghardt, M2G
“Medical Imaging for Lung Cancer Detection - Testing Statistical Models to Improve Screening”
Dr. Brian Smith, Select Department

9:15  Alice Ye, M2
“A Systematic Review of Intrallesional Treatments for Keloids and Hypertrophic Scars”
Dr. Vincent Liu, Dermatology

9:30  Laura Marquez Loza, M2G
“Developing Gene Therapy for Cystic Fibrosis”
Dr. Paul McCray, Pediatrics

9:45  Chandini Reddi, M1
“Functional Interactions of NIAM and RGS6 Tumor Supressors in Breast Cancer”
Dr. Dawn Quelle, Pharmacology

Room 2117

8:15  Morgan Bobb, M2
“Identification of Key High Efficiency Practices of Providers in a Community Emergency Department”
Dr. Nicholas Mohr, Emergency Medicine

8:30  Nicholas Parker, M2
“Alterations in Nighttime Systolic Blood Pressure Dipping is Associated with Aortic Stiffness and Inflammation Among Middle-Aged/Older Adults with Obesity”
Dr. Gary Pierce, Exercise Science

8:45  Collin Kramer, M1
“Safety and Efficacy of Atrial Anti-tachycardia Pacing in Congenital Heart Disease”
Dr. Ian Law, Pediatrics
9:00 Chermaine Hung, M2
“Examining the differences in characteristics and outcomes between married and unmarried radical cystectomy patients”
Dr. Kenneth Nepple, Urology

9:15 Danielle Pohl, M1
“Sex Differences in the Consequences of Prenatal Stress on Neurobiology and Behavior: Habit Learning and Locomotion”
Dr. Hanna Stevens, Psychiatry

9:30 Alexander Volkmar, M2
“Assessment of Pain and Opioid Use after Common Trauma Procedures”
Dr. Matthew Karam, Orthopaedics and Rehabilitation

9:45 Mackenzie Noonan, M2
Dr. Steven McElroy, Pediatrics

Room 2135

8:15 Andrew Holte, M2
“Recovery and Cycling Endurance Capacity Following Consumption of Chocolate Milk, Calorie Replacement Beverage or Beer”
Dr. Andrew Peterson, Pediatrics

8:30 Mateen Manshadi, M2
“Injuries in Youth Football”
Dr. Andrew Peterson, Pediatrics

8:45 Edward Rojas, M2
“Evaluation of Carpal Tunnel Syndrome with Ultrasound: Reliability of Medical Trainees and Physicians”
Dr. Andrew Peterson, Pediatrics

9:00 Robert Humble, M2
“Establishing reference intervals in laboratory testing for transgender patients”
Dr. Matthew Krasowski, Pathology

9:15 Sandhya Mainali, M2
“Frequency and causes of lipemic interference on clinical laboratory assays”
Dr. Matthew Krasowski, Pathology

9:30 Drake Bouzek, M2
“Early lung disease exhibits bacterial-independent pathogenesis in cystic fibrosis pigs”
Dr. David Stoltz, Internal Medicine

9:45 Allen Choi, M2
“Is Multifocality an Indicator of Aggressive Behavior in Small Bowel Neuroendocrine Tumors?”
Dr. James Howe, Surgery
Room 2155

8:15  Morgan Bertsch, M2
      “The Utility of Magnetic Resonance Imaging in the Clinical Evaluation of Infantile Nystagmus”
      Dr. Arlene Drack, Ophthalmology & Visual Sciences

8:30  Tai Holland, M2
      “The Pathomechanical Basis of Post-Traumatic Osteoarthritis following Acetabular Fracture”
      Dr. Don Anderson, Orthopaedics and Rehabilitation

8:45  Franklin Canady, M2
      “JNK inhibitor AS602801 (bentamapimod) decreases schwannoma tumor volume and cell proliferation”
      Dr. Marlan R Hansen, Otolaryngology - Head & Neck Surgery

9:00  Maria Arulraja, M2
      “Redefining the Target Area For Leprosy Elimination Programs Through Serological Evaluation of A Broader Definition of Leprosy Contacts”
      Dr. Mary Wilson, Internal Medicine

9:15  Julia Collison, M1
      “Cardiomyopathy in the dystroglycanopathies”
      Dr. Katherine Mathews, Pediatrics

9:30  Elizabeth Shirazi, M1
      “Novel Viral Vector Variants for Improved Delivery Through Airway Epithelial Cells”
      Dr. Patrick Sinn, Pediatrics

9:45  Adam Vesole, M1
      “Epileptic Seizure Activity Originating from Heschl’s gyrus does not Disrupt Normal Electrophysiological Auditory Function”
      Dr. Brian Dlouhy, Neurosurgery

Room 2165

8:15  Allie Simpson, M2
      “Novel Gene for Lacrimo-auriculo-dento-digital (LADD) Syndrome with Glaucoma”
      Dr. John Fingert, Ophthalmology & Visual Sciences

8:30  Christina Macenski, M2
      “Clinical Characteristics Associated with Allograft Performance and Future Biomarker Implications”
      Dr. Diana Zepeda-Orozco, Pediatrics

8:45  Ryan Lechtenberg, M2
      “The effect of 5-HT2A and 5-HT7 receptor antagonists on baseline breathing and the hypercapnic ventilatory response (HCVR) in vivo”
      Dr. George Richerson, Neurology

9:00  Nicole Westergaard, M2
      “Role of transient receptor potential channels in Marfan syndrome-induced aortopathy and cardiomyopathy”
      Dr. Joseph Turek, Cardiothoracic Surgery
9:15  Anthony Marincovich, M2  
“The role of the amygdala in seizure-induced apnea and death”  
Dr. George Richerson, Neurology

9:30  Sanam Zarei, M2  
“The Role of Sonic Hedgehog in Neuromuscular Development and Vestibular Functioning”  
Dr. Bernd Fritzsch, Biological Sciences

9:45  Noah Frydenlund, M2  
“Investigating Low Dose Decitabine as a Strategy to Delay Acquired Resistance to Vemurafenib in Melanoma”  
Dr. Michael Henry, Molecular Physiology & Biophysics

Room 2156

8:15  Eric Lee, M2  
“Patterns of Vision Loss in Idiopathic Intracranial Hypertension: The Central vs. Peripheral Visual Field”  
Dr. Michael Wall, Neurology

8:30  Nayasha Madhan, M2  
“Impact of Socioeconomic Factors on Racial and Ethnic Disparities in the Receipt of Mammography”  
Dr. Gary Rosenthal, Internal Medicine

8:45  Ashwin Subramani, M2  
“Detection of IIH Vision Loss: The Outer Periphery”  
Dr. Michael Wall, Neurology

9:00  Nicole Morrow, M2  
“Do High Healthcare Costs in Prior Years Reliably Identify High Healthcare Utilizers in Subsequent Years?”  
Dr. Gary Rosenthal, Internal Medicine

9:15  Marissa Martin, M2  
“Evaluation of the Delirium Observation Screening Scale in the Diagnosis of Elderly ICU Patients”  
Dr. Michelle Weckmann, Family Medicine

9:30  Jonathan Heinzman, M2  
“GWAS and System Biology Analysis of Depressive Symptoms among the COPDGene Cohort”  
Dr. Gen Shinozaki, Psychiatry

9:45  James Hall, M2  
“Determining Return of Scapulohumeral Rhythm in Patients After Reverse Total Shoulder Arthroplasty”  
Dr. Jess Goetz, Orthopaedics and Rehabilitation
**Poster Session**  
11:30 a.m. – 1:30 p.m.

3  **Lindsay Agostinelli, M1**  
“LJA5: A Novel Population of Neurons in the Brainstem”  
Mentor: Dr. Alexander Bassuk, Pediatrics

63  **Erik Arneson, M2**  
“Compensatory Effects of Carotid Body in Lmx1b Mice Suggests Central Chemoreceptor Role of Serotonergic Medullary Neurons”  
Mentor: Dr. George Richerson, Neurology

40  **Samantha Aust, M2**  
“Developing an Organ Culture Model for the Autoimmune Blistering Disease, Bullous Pemphigoid”  
Mentor: Dr. Kelly Messingham, Dermatology

69  **Armin Avdic, M1**  
“Physics-Based Protein Optimizations Determine Missing Loops and Predict Structural Consequences of Missense Variants”  
Mentor: Dr. Michael Schnieders, Biomedical Engineering

39  **Stephanie Baldwin, M2**  
“Quality of Life and Burn Support Services Among Burn Survivors in Iowa”  
Mentor: Dr. Lucy Wibbenmeyer, Surgery

46  **Matthew Becker, M2**  
“A Comparative Study of Ponseti Method Pedagogy in Peru”  
Mentor: Dr. Jose A Morcuende, Orthopaedics and Rehabilitation

2  **Michael Bottke, M2**  
“The effect of preoperative status of patellofemoral joint surfaces on the outcome scores of patients who have undergone Fulkerson realignment surgeries for chronic patellofemoral instability”  
Mentor: Dr. John Albright, Orthopaedics and Rehabilitation

42  **Leo Brueggeman, M2G**  
“Regulatory consequences of mutation in a human mental illness risk gene”  
Mentor: Dr. Jacob Michaelson, Psychiatry

29  **Kimberlee Burckart, M2**  
“Effects of trypan blue 0.06% on mitochondrial respiration in human corneal endothelial cells”  
Mentor: Dr. Mark Greiner, Ophthalmology & Visual Sciences
Luke Byerly, M2
“Symptomatic synovial plica syndrome diagnosed by physical exam in patients with MRI images and anterior knee pain”
Mentor: Dr. John Albright, Orthopaedics and Rehabilitation

Scarlett Cao, M2
“Evaluation of Temporal Control in Parkinson's Disease”
Mentor: Dr. Nandakumar Narayanan, Neurology

Sean Chen, M1
“An in vitro/in vivo genome-wide CRISPR screen identifies novel tumor suppressors controlling sensitivity to endocrine therapies and tumor metastasis”
Mentor: Dr. Songhai Chen, Pharmacology

Jian Chu, M2
“A Novel Method for Extracorporeal Life Support Oxygenator Monitoring”
Mentor: Dr. Joseph Turek, Cardiothoracic Surgery

Colin Clark, M1
“The NLRP3 Inflammasome as a Candidate for Pro-Inflammatory Signaling in the Fluid Percussion Mouse Model of Traumatic Brain Injury”
Mentor: Dr. Alexander Bassuk, Pediatrics

Jeffrey Daniels, M1
“Quantitative Assessment of Activity of Statistical Editor for Reviews of Anesthesia Patient Safety Research”
Mentor: Dr. Franklin Dexter, Anesthesia

Chandni Desai, M1
“Retrospective Histopathologic Evaluation of Fibroblastic Versus Myofibroblastic Entities of the Oral Mucosa”
Mentor: Dr. Robert A Robinson, Pathology

Jane Duplantis, M1
“The Effects of Risperidone on Human Gut Bacteria In Vitro”
Mentor: Dr. John Kirby, Microbiology

Mitchell Edwards, M1
“Role of ULK1 and ULK2 Kinase Activity in Regulation of Skeletal Muscle Autophagy”
Mentor: Dr. Vitor Lira, Health & Human Physiology

Aaron Fairbanks, M4
“CGRP influences periocular muscle activity and facial cues of discomfort in a migraine mouse model”
Mentor: Dr. Andrew Russo, Molecular Physiology & Biophysics
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<tr>
<th></th>
<th>First Name</th>
<th>Last Initial, Year</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>5</td>
<td>Nicholas</td>
<td>Fleege, M2</td>
<td>“Bone Contusion Patterns Used to Predict Certain Meniscal Tears on MRI When an ACL Tear is Present”</td>
<td>Dr. D Lee Bennett, Radiology</td>
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<td>8</td>
<td>Jonathan</td>
<td>Gilmore, M2</td>
<td>“Factors affecting outcomes following the operative treatment for patellofemoral instability”</td>
<td>Dr. Matthew Bollier, Orthopaedics and Rehabilitation</td>
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<td>2</td>
<td>Lindsay</td>
<td>Goad, M4</td>
<td>“Small bowel obstruction, a recurrence of metastatic melanoma during the second trimester of pregnancy”</td>
<td>Dr. Yousef Zakharia, Internal Medicine</td>
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<td>14</td>
<td>Fillan</td>
<td>Grady, M1</td>
<td>“Analyzing complex heterozygotes to identify novel mutations in epilepsy”</td>
<td>Dr. Alexander Bassuk, Pediatrics</td>
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<td>47</td>
<td>Wade</td>
<td>Gutierrez, M1</td>
<td>“The Role of Cav1.4 a2d4 Subunit in Vision Impairment”</td>
<td>Dr. Amy Lee, Molecular Physiology &amp; Biophysics</td>
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<tr>
<td>74</td>
<td>Petra</td>
<td>Hahn, M2</td>
<td>“Preliminary Comparison of Outcomes in Low-Risk Women in Centering Pregnancy® versus Traditional Certified Nursing Midwife Prenatal Care”</td>
<td>Dr. Colleen Stockdale, Obstetrics &amp; Gynecology</td>
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<td>12</td>
<td>Mackenzie</td>
<td>Hines, M2</td>
<td>“Assessment of relationship between postoperative angles of alignment and functional outcomes following high tibial osteotomy”</td>
<td>Dr. Matthew Bollier, Orthopaedics and Rehabilitation</td>
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<tr>
<td>48</td>
<td>Alex</td>
<td>Hoover, M4</td>
<td>“Ponseti Method Treatment of Neglected Idiopathic Clubfoot: Preliminary Results of a Multi-center Study in Nigeria”</td>
<td>Dr. Jose A Morcuende, Orthopaedics and Rehabilitation</td>
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<tr>
<td>33</td>
<td>Ryan</td>
<td>Horne, M1</td>
<td>“Preparing Silastic Cochlear Implants with Surface Zwitterionic Polymer by Dip Coating and Photopolymerization”</td>
<td>Dr. C Allan Guymon, Chemical &amp; Biochemical Engineering</td>
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<td>64</td>
<td>Lucille</td>
<td>Howard, M2</td>
<td>“Understanding of Cervical Cancer and Attitudes Towards Cervical Cancer Screening Following Loop Electrosurgical Excision Procedures in Haiti”</td>
<td>Dr. Ginny Ryan, Obstetrics &amp; Gynecology</td>
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Joseph Hudson, M2
“Evaluation of a Microwave Tomography Imaging Modality for Cerebral Hemorrhage and Ischemic Stroke”
Mentor: Dr. David Hasan, Neurosurgery

Lauren Javernick, M4
“Comparison of Spinal and General Anesthesia in Unilateral Total Knee Arthroplasty”
Mentor: Dr. Kyle Duchman, Orthopaedics and Rehabilitation

Amber Kazi, M2
“Impact of IL-1RI blockade on inflammatory response and functional outcome following murine traumatic brain injury”
Mentor: Dr. Elizabeth Newell, Pediatrics

Levi Kellogg, M2
“The Impact of Legislation on Gas Can and Mattress Related Burn Injuries”
Mentor: Dr. Lucy Wibbenmeyer, Surgery

Sean Kennedy, M2
“What are the results of surgical treatment of postoperative wound complications in soft tissue sarcoma? A retrospective, multi-center case series”
Mentor: Dr. Benjamin Miller, Orthopaedics and Rehabilitation

Irtaza Khalid, M2
“Vertebral Wedging in Adolescent Idiopathic Scoliosis: a Study Using 3-D Models Adapted from 2-D Radiographs”
Mentor: Dr. Stuart L Weinstein, Orthopaedics and Rehabilitation

Sheps King-McAlpin, M2GB
“The role of BST-2 in anoikis resistance of breast cancer cells”
Mentor: Dr. Chioma M Okeoma, Microbiology

Mohammad Kotob, M2
“Correlation of Radiographic and Biomechanical Data Following Periacetabular Osteotomy”
Mentor: Dr. Michael Willey, Orthopaedics and Rehabilitation

Leah Laageide, M2
“A Multiplex Approach to Understanding the Pathogenesis of Bullous Pemphigoid”
Mentor: Dr. Janet Fairley, Dermatology

Mitchell LeFebvre, M2G
“Observation of a Solvent Kinetic Isotope Effect (SKIE) in Flavin-Dependent Thymidylate Synthase Synthesis of dTMP”
Mentor: Dr. Amnon Kohen, Chemistry
53  Thomas Locke, M1
“CFTR Gene Editing by CRISPR/Cas9 to Repair Cystic Fibrosis Mutations by Non-Homologous End Joining or Homology-Directed Repair”
Mentor: Dr. Paul McCray, Pediatrics

32  Clayton Long, M2
“Designing a Clinical Survey Study for Vulnerable Populations: Navigating Child Abuse Laws and Ethics”
Mentor: Dr. Charles Jennissen, Emergency Medicine

23  Michael Maidaa, M2
“Analysis of Compliance with Post-operative Follow-up Protocols after Anterior Urethroplasty”
Mentor: Dr. Bradley Erickson, Urology

16  Rosalyn Marar, M2
“Sex differences in the sleep state-dependence of seizure-induced respiratory dysfunction”
Mentor: Dr. Gordon Buchanan, Neurology

68  Nicoll Martins-Manhica, M2
“Increasing Focus on Communication Skills in Clinical Teaching: A pilot study”
Mentor: Dr. Marcy Rosenbaum, Family Medicine

41  Zachary Mayo, M2
“What is the clinical significance of incidental findings on staging CT scans in patients with sarcoma?”
Mentor: Dr. Benjamin Miller, Orthopaedics and Rehabilitation

4  Marielle Meurice, M4
“Needs Assessment of Wellbeing and Unmet Health Needs in Homeless Persons”
Mentor: Dr. Patrick Barlow, Internal Medicine

19  Matthew Miller, M1
“Identification and Characterization of Non-Coding DNA Regulatory Elements in the Zebrafish Periderm”
Mentor: Dr. Robert Cornell, Anatomy & Cell Biology

44  Moneeb Akhtar, M2
“The Usage of Telemedicine for the Evaluation of Pharyngitis Compared to In-Person Physical Exams”
Mentor: Dr. Nicholas Mohr, Emergency Medicine

55  Mark Moubarek, M2
“Impact of a CMS Metric On Physicians’ Brain CT Ordering Practices”
Mentor: Dr. Daniel Miller, Emergency Medicine
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>1</td>
<td>Alexander Novak, M1</td>
<td>Dr. Lee-Ann Allen, Internal Medicine</td>
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<td>2</td>
<td>Jack O’Brien, M2</td>
<td>Dr. Janice Staber, Pediatrics</td>
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<td>3</td>
<td>Connor Parker, M1</td>
<td>Dr. Michael Welsh, Internal Medicine</td>
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<td>Jane Persons, M1</td>
<td>Dr. Jess Fiedorowicz, Psychiatry</td>
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<td>5</td>
<td>Leigh Rettenmaier, M2</td>
<td>Dr. Chandan Reddy, Neurosurgery</td>
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<td>6</td>
<td>Connor Richardson, M2</td>
<td>Dr. Andrew Peterson, Pediatrics</td>
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<td>Ruth Riedl, M1</td>
<td>Dr. Justin Grobe, Pharmacology</td>
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<td>8</td>
<td>David Riffe, M2</td>
<td>Dr. Douglas R Spitz, Radiation Oncology</td>
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<td>Tony Rosenberg, M2</td>
<td>Dr. Daniel Tranel, Neurology</td>
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<td>Doug Russo, M2</td>
<td>Dr. Joel Shilyansky, Surgery</td>
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<td>11</td>
<td>Philip Ryan, M2</td>
<td>Dr. Peg Nopoulos, Psychiatry</td>
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</table>

1. **Alexander Novak, M1**
   - *Autophagy Induction by Francisella tularensis*
   - Mentor: Dr. Lee-Ann Allen, Internal Medicine

2. **Jack O’Brien, M2**
   - *Overcoming Inhibitors Using piggyBac in factor VIII Deficiency*
   - Mentor: Dr. Janice Staber, Pediatrics

3. **Connor Parker, M1**
   - *Modeling Bacterial Attachment in the Cystic Fibrosis Airway*
   - Mentor: Dr. Michael Welsh, Internal Medicine

27. **Jane Persons, M1**
   - *Mixed State and Suicide: is the effect of mixed state on suicidal behavior more than the sum of its parts?*
   - Mentor: Dr. Jess Fiedorowicz, Psychiatry

61. **Leigh Rettenmaier, M2**
   - *Epidural Spinal Cord Stimulation: A Potential Novel Therapy in the Treatment of Restless Legs Syndrome*
   - Mentor: Dr. Chandan Reddy, Neurosurgery

58. **Connor Richardson, M2**
   - *Effects of Long Distance Cycling on Median Nerve Sonographic Appearance*
   - Mentor: Dr. Andrew Peterson, Pediatrics

31. **Ruth Riedl, M1**
   - *Novel Targets for Obesity: Gut Microbiota & Anaerobic Resting Metabolic Rate*
   - Mentor: Dr. Justin Grobe, Pharmacology

73. **David Riffe, M2**
   - *Enhancing Head and Neck Squamous Cell Carcinoma (HNSCC) Cell Killing via Modulation of Hydroperoxide Metabolism*
   - Mentor: Dr. Douglas R Spitz, Radiation Oncology

75. **Tony Rosenberg, M2**
   - *Asymmetrical PET Hypometabolism in Temporal Lobe as a Predictor of Neuropsychological Outcomes for Patients with Language-Dominant Temporal Lobe Resection*
   - Mentor: Dr. Daniel Tranel, Neurology

71. **Doug Russo, M2**
   - *Patient outcomes and satisfaction in treatment for Pectus Excavatum*
   - Mentor: Dr. Joel Shilyansky, Surgery

54. **Philip Ryan, M2**
   - *Cortical Morphology in Children with the Gene Expansion for Huntington’s Disease*
   - Mentor: Dr. Peg Nopoulos, Psychiatry
30 Katherine Ryken, M4
“Contraceptive use postpartum at an academic medical center”
Mentor: Dr. Abbey Hardy-Fairbanks, Obstetrics & Gynecology

65 Shakoorah Sabree, M1
“Cloning Porcine Programmed Death 1 (PD-1) for the study of checkpoint blockade in Porcine Lymphoma Model”
Mentor: Dr. George Weiner, Internal Medicine

13 Jenna Schade, M1
“The NAB2-STAT6 gene fusion in solitary fibrous tumor can be reliably detected by anchored multiplexed PCR for targeted next-generation sequencing”
Mentor: Dr. Aaron Bossler, Pathology

81 Issac Schwantes, M1
“Genetic Suppression of Lamin-Associated Muscular Dystrophy”
Mentor: Dr. Lori Wallrath, Biochemistry

83 Christine Schwartz, M1
“Identification of amyloid chaperones in early Xenopus development”
Mentor: Dr. Daniel Weeks, Biochemistry

36 Kelsey Sheets, M2
“Women’s Attitudes, Knowledge and Experiences with Misoprostol For Self-Induced Abortion”
Mentor: Dr. Abbey Hardy-Fairbanks, Obstetrics & Gynecology

26 Brenton Sherwood, M3
“Managing the High Incidence of Genital Pain and Pathology in the Male Prison Population with Telemedicine”
Mentor: Dr. Bradley Erickson, Urology

57 Eric Sung, M2
“Volumetric tumor segmentation on magnetic resonance imaging (MRI) in patients with primary and secondary glioblastoma (GBM)”
Mentor: Dr. Toshio Moritani, Radiology

11 Eric Sweeney, M2
“Outcomes of oral (interferon-free) treatments for HCV in patients with decompensated cirrhosis”
Mentor: Dr. Kyle Brown, Internal Medicine

67 Vivian Tomkovicz, M1
“A Single Cytoplasmic Lysine Residue is Sufficient for ENaC Regulation by the E3 Ubiquitin Ligase Nedd4-2”
Mentor: Dr. Peter Snyder, Internal Medicine
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<th>Student Number</th>
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<tr>
<td>20</td>
<td>Hannah Trembath, M2</td>
<td>“Neural Correlates of Dispositional Mindfulness in Older Adults: A Structural MRI Study”</td>
<td>Dr. Natalie Denburg, Neurology</td>
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<td>28</td>
<td>Rachel Ullrich, M2</td>
<td>“Proteomic approach to pathway analysis in chronic recurrent multifocal osteomyelitis”</td>
<td>Dr. Polly Ferguson, Pediatrics</td>
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<td>50</td>
<td>Brian Wall, M1</td>
<td>“Does Fluid Resuscitation Yield Increased Extravascular Lung Water in Emergency Department Patients?”</td>
<td>Dr. Nicholas Mohr, Emergency Medicine</td>
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<td>66</td>
<td>David Wang, M2</td>
<td>“CMT1B: Transfection of RT4 Schwann cells with mutant Myelin Protein Zero DNA constructs induces quantifiable unfolded protein response”</td>
<td>Dr. Michael Shy, Neurology</td>
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<td>51</td>
<td>Kristin Weeks, M1</td>
<td>“Racial/Ethnic Differences in Thyroid Cancer Incidence in the US: 2007-2013”</td>
<td>Dr. Charles Lynch, Epidemiology</td>
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<td>17</td>
<td>Tianyi Wei, M2</td>
<td>“Development of Aortic Aneurysms in Angiotensin II-Infused Methionine Sulfoxide Reductase-A Deficient Mice: Contributions of Blood Pressure and Sympathetic Tone”</td>
<td>Dr. Mark W Chapleau, Internal Medicine</td>
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<td>79</td>
<td>Emily Weig, M2</td>
<td>“Follow up study: Pulse wave velocity as a predictor for postoperative cardiac events”</td>
<td>Dr. Kenichi Ueda, Anesthesia</td>
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<td>70</td>
<td>Avery Whitis, M4</td>
<td>“Posthumous assisted reproduction and patient perspectives of the consent process prior to embryo cryopreservation”</td>
<td>Dr. Ginny Ryan, Obstetrics &amp; Gynecology</td>
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<td>9</td>
<td>Connor Young, M2</td>
<td>“Exercise is associated with a decrease in brown adipose tissue temperature in mice”</td>
<td>Dr. Christopher Benson, Internal Medicine</td>
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<td>15</td>
<td>Grant Young, M2</td>
<td>“Cementing Constrained Liners into Secure Cementless Shells: A Minimum 15-Year Follow-Up Study”</td>
<td>Dr. John J Callaghan, Orthopaedics and Rehabilitation</td>
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</table>
10 Jeffrey Zavala, M4
“MRI incidence of synovial hypertrophy in patients read as having no pathology”
Mentor: Dr. John Albright, Orthopaedics and Rehabilitation

49 Malia Zhan, M2
“A Case-Control Study of Nipple-Sparing versus Skin-Sparing Mastectomy with Immediate Reconstruction: The Iowa Experience”
Mentor: Dr. Ingrid Lizarraga, Surgery

24 Eliot Zhu, M2G
“Peptide similarity between human and mouse proteins predicts polymorphism conservation”
Mentor: Dr. Adam Dupuy, Anatomy & Cell Biology