

**University of Maryland School of Medicine
Office of Student Research and
Alpha Omega Alpha Honor Medical Society**

43rd Annual Medical Student Research Day

Thursday, November 12, 2019, 1 – 5:30 p.m. and

Friday, November 13, 2019, 1 – 4:25 p.m.

2-Day Virtual Event through Zoom

Preliminary General Schedule

Day 1: Thursday, November 12

Opening

1:00 – 2:00 p.m. (Zoom Main Room)

1:00 – 1:25 p.m.

Opening Remarks

Gregory B. Carey, Ph.D.

Associate Professor of Microbiology and Immunology

Executive Director of Student Research and Community Outreach

Director of PRISM and UM Scholars at SOM Programs

Director of STAR-PREP Program

Miriam K. Laufer, M.D., M.P.H.

Professor of Pediatrics

Assistant Dean for Student Research and Education

Director of the Office of Student Research

Malaria Research Program Director

Center for Vaccine Development and Global Health Associate

AOA Representative

Maryland Beta Chapter

Alpha Omega Alpha Honor Medical Society

1:25 – 1:55 p.m.

Keynote Address

Matthew B. Frieman, Ph.D.

Associate Professor of Microbiology and Immunology

Student Plenary Session I**2:00 – 2:20 p.m. (Zoom Main Room)**

Special Plenary Presentation by Outstanding Student Researcher

Theme: Vaccine Development

2:00 – 2:20 p.m.

Albert Zhou, MS III

MD/PhD Candidate

Ph.D. in Epidemiology and Human Genetics (recently completed)

2:20 – 2:30 p.m.

*Break***Oral Presentations****2:30 – 5:20 p.m.**

2:30 – 3:50 p.m.

Oral Presentation Session I (Zoom Room A)

Oral Presentation Session II (Zoom Room B)

Oral Presentation Session III (Zoom Room C)

3:50 – 4:00 p.m.

Break

4:00 – 5:20 p.m.

Oral Presentation Session IV (Zoom Room D)

Oral Presentation Session V (Zoom Room E)

5:20 – 5:25 p.m.

*Break***Day 1 Closing****5:25 – 5:30 p.m. (Zoom Main Room)**

5:25 – 5:30 p.m.

Day 1 Closing Remarks

Gregory B. Carey, Ph.D.**Day 2: Friday, November 13****Student Plenary Session II****1:00 – 1:40 p.m. (Zoom Main Room)**

Special Plenary Presentations by Outstanding Student Researchers

1:00 – 1:20 p.m.

Kavita Bhatnagar, MS IV

Awardee of Doris Duke Fellowship

Well Published

Recipient of FRCT Certificate of Outstanding Achievement

1:20 – 1:40 p.m.

Emily Miller, MS IV

MS degree (recently conferred)

Published

1:40 – 1:50 p.m.	<i>Break</i>
Poster Presentations	1:50 – 3:10 p.m.
1:50 – 3:10 p.m.	Poster Presentation Session I (Zoom Room A) Poster Presentation Session II (Zoom Room B)
3:10 – 3:20 p.m.	<i>Break</i>
Special Student Research Panel	3:20 – 3:55 p.m. (Zoom Main Room)
3:20 – 3:55 p.m.	Tips on Being a Productive Student Researcher Carly Rosen, MSIV Noah Lessing, MSIV Qaren Qartey, IV Joseph Puthumana, IV Panelists are all recipients of the FRCT Certificate of Outstanding Achievement, awarded for publications, research awards, and presentations.
Awards	3:55 – 4:25 p.m.
3:55 – 4:05 p.m.	Honoring Faculty Mentors: Mentor Recognition Awards
4:05 – 4:20 p.m.	Presentation of Student Awards AOA Representatives Gregory B. Carey, Ph.D. Miriam K. Laufer, M.D., M.P.H.
4:20 – 4:25 p.m.	Closing Remarks Gregory B. Carey, Ph.D.

University of Maryland School of Medicine
43rd Annual Medical Student Research Day

Presentation Titles List

Oral Presentations

Time Block: Thursday, November 12, 2:30-3:50 p.m.

Theme – Epidemiology, Aging, Toxicology, Surgery, Radiology, Ophthalmology

- *Preventive Care Utilization Among Adults with Hearing Loss in the United States*
Presenter: Nicholas Fioravante, Mentor: Dr. Lama Assi
- *General Health Status among Veterans with Embedded Metal Fragments*
Presenter: Jessica Palmer, Mentor: Drs. Stella Hines and Joanna Gaitens
- *Insurance Coverage of Ventral Hernia Repair*
Presenter: Annie Yang, Mentor: Drs. Yvonne Rasko and LediBabari Millie Ngaage
- *Associations Between Third Trimester Ultrasound and Glucose Testing*
Presenter: Madalyn Myers, Mentor: Dr. Sarah Crimmins
- *Performance of CT Volumetry for Traumatic Hemothorax Is on Par with Expert Radiologist Volume Estimation for Prediction of Hemorrhage-Related Outcomes*
Presenters: Bryan Nixon and Nahye Kim, Mentor: Dr. David Dreizin
- *Vascular Autoregulation and Glaucoma: Development of a Machine Learning Algorithm for Vasomotion Quantification*
Presenter: Caroline Simon and Wei Chen Lai, Mentor: Dr. Osamah Saeedi
- *Use of Ultrasound Biomicroscopy to Assess Corneal Hydration and Edema*
Presenter: Robert Liu, Mentor: Dr. Janet Alexander
- *Novel Ultrasound Biomicroscopy Image Analysis Technique Of Human Iris Using Imagej Software: Intra-Observer Repeatability And Inter-Observer Agreement*
Presenter: Trisha Miglani, Mentors: Drs. Janet Alexander and Moran Levin

Theme – Addiction Medicine, Orthopedic Care and Surgery

- *Opioid Overdose Risk Factors in PWID Receiving HCV Treatment*
Presenter: Rachel Cermak, Mentors: Drs. Sarah Kattakuzhy and Elana Rosenthal

- *Perceived Risks of Psilocybin and the Acceptability of Psilocybin Therapy in Black/African-American Patients with Opioid Use Disorder*
Presenter: John Clifton, Mentor: Dr. Annabelle Belcher
- *Recreational Marijuana Use Is Not Predictive of Two- Year Patient Reported Outcomes in an Orthopaedic Cohort*
Presenter: Fernando Albelo, Mentor: Dr. Frank Henn
- *Opioid Prescribing Patterns in an Academic Orthopedic Setting*
Presenter: Francia Fang, Mentor: Dr. Joshua Abzug
- *A Deep Learning-Based Pose Estimation Approach Can Objectively Measure Repetitive Movements*
Presenter: Hannah Cornman, Mentor: Dr. Ryan Roemmich
- *Reliability, Validity and Responsiveness of a Novel Subscapularis Outcome Score*
Presenter: Samir Kaveeshwar, Mentor: Dr. Mohit Gilotra
- *Press Ganey Scores Do Not Correlate with Surgical Satisfaction After Anterior Cruciate Ligament Reconstruction*
Presenter: Justin Kung, Mentors: Drs. R. Frank Henn, III and Tina Zhang
- *Is a Low-Cost Drill Cover System Non-Inferior to Conventional Surgical Drills for Skeletal Traction Pin Placement?*
Presenter: Samantha Selhorst, Mentors: Drs. Nathan O'Hara, Robert O'Toole, and Gerard Slobogean

Theme – Medical Training and Evaluation, Epidemiology

- *Investigating the role of Hepatitis B surface Antigen level in humoral immunity in patients with chronic hepatitis B to find seroconversion biomarkers*
Presenter: Natalia Sampaio Moura, Mentors: Drs. Shyam Kottilil, Bhawna Poonia, and Lydia Tang
- *The Effect of Blunt Hepatic Trauma Management on Patient Outcomes*
Presenter: Alexandria Riedel, Mentor: Dr. Margaret Lauerman
- *Virtual Grand Rounds as a Novel Means for Applicants and Programs to Connect in the Era of COVID-19*
Presenter: Juhye Kang, Mentor: Dr. Rena Malik
- *Interrogating the Natural History of Obstructive Sleep Apnea During the Pandemic*
Presenter: Emily Hamburger, Mentor: Dr. Amal Isaiah
- *Factors Affecting Spontaneous Chlamydia trachomatis Clearance*
Presenter: Carson Klasner, Mentors: Dr. Rebecca Brotman and Susan Tuddenham

- *Identifying Patient-Centered Research Priorities in Overactive Bladder by Crowdsourcing*
Presenter: Aidan Kennedy, Mentor: Dr. Rena Malik
- *Pseudomonas aeruginosa Bacteremia and the Need for Follow-up Blood Cultures*
Presenter: Alexis Green, Mentors: Drs. Anthony Harris, Jonathan Baghdadi, and Lyndsay O'Hara
- *Characterization of Nerve Growth Factor Receptor (Ngfr) expressing skin-derived precursor cells (SKPs)*
Presenter: Milena Aksentijevich, Mentor: Dr. Thomas Hornyak

Oral Presentations

Time Block: Thursday, November 12, 4:00-5:20 p.m.

Theme – Basic, translational and clinical research, Brain, Neurology and Cancer

- *RGC-32 Contributes to MS Pathogenesis by Maintaining a Mature Astrocyte Phenotype*
Presenter: Austin Beltrand, Mentor: Dr. Horea Rus
- *MR-guided Focused Ultrasound (MRgFUS)-Mediated Blood-Brain Barrier Disruption of Malignant Gliomas in Rat Models*
Presenter: Yamini Vyas, Mentors: Drs. Graeme Woodworth, Jeffrey Winkles, and Pavlos Anastasiadis
- *Reducing Institutional Imaging Costs and Procedures by Using Outside Magnetic Resonance Imaging for Stereotactic Brain Biopsy*
Presenter: Francia Fang, Mentor: Dr. John Heiss
- *PD-L1 Expression as a Prognostic Marker for Local Control following Immune Checkpoint Inhibition and Stereotactic Radiation in Brain Metastases*
Presenter: Lars Berg, Mentors: Drs. Mark Mishra and Gregory Alexander
- *Pyruvate Dehydrogenase in Cerebral Ischemia*
Presenter: Mehnaz Ali, Mentor: Dr. Gary Fiskum
- *Proton Radiation Package Time and Outcomes in Patients Undergoing Curative Treatment for Head and Neck Cancers: A Single Institution Experience*
Presenter: Danielle Arons, Mentors: Drs. Matthew Witek and Gregory Alexander

- *Patterns of Care and Outcomes of Patients Receiving Radiation Therapy for Locally-Advanced Laryngeal Cancer: The University of Maryland Experience*
Presenter: Pragnya Dontu, Mentors: Drs. Antony Koroulakis and Jason Molitoris
- *Targeting BRAF Mutant Melanoma with Novel HSP90, BRAF, and MEK Inhibitor Combination Therapy*
Presenter: Jacqueline Hwang, Mentor: Dr. Thomas Hornyak

Theme – Women’s Health, Transplant, Stroke, Transfusion medicine

- *Impact of Arrest of Labor on Maternal Outcomes of Cesarean Section*
Presenter: Andrea Theodoru, Mentor: Dr. Sarah Crimmins
- *A National Review of Insurance Coverage of Noncancerous Breast Reconstruction*
Presenter: Marissa Klein, Mentor: Dr. Yvonne Rasko
- *Cardiac Magnetic Resonance Imaging as a Modality for Cardiovascular Disease Risk Evaluation in Patients with Hepatitis C: Data from the CHROME Study*
Presenter: Aaron D'Amore, Mentor: Dr. Poonam Mathur
- *Minimally Ischemic Cardiac Preservation Techniques Improve Outcomes in Life-Supporting Cardiac Xenotransplantation*
Presenter: Shreya Singireddy, Mentor: Dr. Muhammad Mohiuddin
- *Non-O Blood Group and Risk of Early-Onset Ischemic Stroke in Oral Contraceptive Users*
Presenter: Laura Chen, Mentor: Dr. Steven Kittner
- *Tracking the use of red blood cell transfusion post-delayed cord clamping in very low birth weight infants over a 4-Year Period*
Presenter: Mayuri Patel, Mentor: Dr. Sripriya Sundararajan
- *Ultra-Massive Transfusion Outcomes In A Modern Era: An EAST Multicenter Study*
Presenter: Pranaya Terse, Mentors: Drs. Rosemary Kozar and Amanda Chipman
- *Extending Limb Salvage After Fourth and Fifth Transmetatarsal Amputation in Diabetic Foot Infections Using ACell® Urinary Bladder Matrix*
Presenter: Phoenix Underwood, Mentor: Dr. Margaret Lauerman

Poster Presentations

Time Block: Friday, November 13, 1:50-3:10 p.m.

Theme – Surgery: Brain, Trauma, Musculoskeletal; Population Studies in Surgery

- *Neonatal Mesenchymal Stem Cell (nMSC) Secretome Induces Cardiac Repair in a Porcine Model of Myocardial Infarction*
Presenter: Samantha Kegel, Mentors: Drs. Sunjay Kaushal and Mohamed Abdullah
- *An Analysis of Kinematic Indicators of Motor Recovery Using Robotic Rehabilitation Therapy Following Unilateral Hemiparetic Stroke*
Presenter: Melissa Nicholas, Mentor: Dr. Michael Dimyan
- *PROMIS Depression and Anxiety in Shoulder Surgery Patients*
Presenters: Mitch Baker and Fernando Albelo, Mentor: Dr. Frank Henn
- *Preoperative Opioid Use and 2-year Patient Reported Outcomes in Hand Surgery Patients*
Presenter: Cameran Burt, Mentor: Dr. Frank Henn
- *Preoperative Opioid Use Correlates with Worse Patient-Reported Outcomes at Two-Year Follow-Up in Patients Undergoing Shoulder Surgery*
Presenter: Michael McCurdy, Mentor: Dr. Frank Henn
- *Predictors of Patient Satisfaction Two Years Following Orthopaedic Shoulder Surgery*
Presenter: Dominic Ventimiglia, Mentor: Dr. R. Frank Henn
- *Preoperative Characteristics Predictive of PROMIS Pain Interference Two Years After Shoulder Surgery*
Presenter: Matthew Chrencik, Mentor: Dr. Frank Henn
- *Anemia, Sex, and Race as Predictors of Morbidity and Mortality After Knee Arthroplasty Surgery*
Presenter: Monica Taneja, Mentor: Dr. Michael Mazzeffi

Theme – Gastroenterology, Oncology, Ophthalmology, Pharmacology, Biochemistry of Addiction

- *The Impact of Intermediate Titer Antibodies to Infliximab and Adalimumab on Clinical Outcomes in Patients with Crohn's Disease or Ulcerative Colitis*
Presenter: Chaoyang Wang, Mentor: Dr. Raymond Cross

- *Clinical Toxicity Outcomes from Proton Beam Therapy for Gynecologic Malignancies: A Matched-pair Analysis with Photon Radiotherapy*
Presenter: Hunter Risher, Mentor: Dr. Pranshu Mohindra
- *Assessing Enthusiasm of Screening Mammography Text Messages for African American Women*
Presenter: Paapa Nyanin, Mentor: Dr. Shana Ntiri
- *Ultrasound Biomicroscopy Characterization of Tissue Density in the Anterior Segment*
Presenter: Johnny Jung, Mentor: Dr. Janet Alexander
- *Optimizing Surgical Skills Training for Ophthalmology Residents Using a Novel Evidence-based Curriculum: A Systematic Review and Meta-analysis*
Presenter: Geoffrey Nguyen, Mentor: Dr. Janet Alexander
- *Interprofessional Approach to Educating Medical Students on Pediatric Medication Taste and Palatability*
Presenter: Bailey Howard, Mentor: Dr. Regina Macatangay
- *Factors Associated with Bleeding Complications in Tracheostomy Patients*
Presenters: Lawrence Lee, Cecelia Kim, Joshua Finkel, Mentor: Dr. Mira Ghneim
- *Role of tRNA in Substance Use Disorders: A Systematic Review*
Presenter: Danny Herrera, Mentor: Dr. Chamindi Seneviratne