

University of Maryland School of Medicine  
45<sup>th</sup> Annual Medical Student Research Day  
Wednesday, November 16, 2022  
Noon – 6:10p.m.  
SMC Campus Center, 621 W. Lombard Street

## Presentation Titles List

### Oral Presentations

Time Block: 1:30-2:30 p.m.

#### Theme – Breast and Prostate Cancer, Urogenital Health

- *Adjuvant Proton Therapy for Breast Cancer Treatment: Why Black Women May Derive a Greater Benefit from This Treatment Modality*  
Presenter: Gurbani Singh, Mentor: Dr. Melissa Vyfhuis
- *Prostate Cancer and Podcasts: An Analysis and Assessment of the Quality of Information About Prostate Cancer Available on Podcasts*  
Presenters: Scott Colin and Peter Campbell, Mentor: Dr. Rena Malik
- *Percent Gleason Pattern 4 in Stratifying the Prognosis of Favorable vs. Unfavorable Intermediate-Risk Prostate Cancer*  
Presenter: Claire Macatee, Mentor: Dr. Mohummad Siddiqui
- *The Role of Estrogen in Sexually Dimorphic Regulation of Lower Urinary Tract Function via Population-3 Neurons of Barrington's Nucleus*  
Presenter: Cassandra Seifert, Mentor: Dr. Hanneke Verstegen
- *Experiences with abortion in a hospital-based operating room setting during COVID-19: A retrospective cohort study*  
Presenter: Rachel Cermak, Mentor: Dr. Jessica Lee
- *Mitigating Gender Bias in Surgical Treatments: a qualitative systematic review*  
Presenters: Emma Barry, Mariam Elsafty, and Parsa Shirin, Mentor: Dr. Rena Malik

#### Theme – Immunology: Inflammation, Infectious Disease

- *The role of epithelial-intrinsic IL-36R signaling in lung inflammation*  
Presenter: Yoshine Saito, Mentors: Drs. Nathan Archer and Sabrina Nolan

- *COVID Card: A Pilot Study Investigating the Clinical Performance of a Point-of-Care, Semi-Quantitative Test for SARS-CoV-2 Antibodies*  
Presenter: Olivia Yoon, Mentor: Dr. R. Gentry Wilkerson
- *COVID-19 Hotline Data Analysis - Presenting to Campus with Symptoms During COVID-19*  
Presenter: Adi Kadosh, Mentor: Dr. Marianne Cloeren
- *Vpr Modulates Methylation of the HIV-1 RNA Genome*  
Presenter: Issac Chaudry, Mentor: Dr. Lishan Su
- *Prevalence of unmet needs for ancillary care services among adults with HIV by provider type*  
Presenter: Celina Thomas, Mentor: Dr. David Riedel
- *Hepatitis C Screening and Treatment at THRIVE Infectious Disease Clinic*  
Presenter: Ayda Soltanian, Mentors: Drs. Sarah Schmalzle and Shah Zafar

### Theme – Ophthalmology and Eye Disease

- *Using a Multimedia Education Program to Improve Retinopathy of Prematurity Education and Follow Up*  
Presenter: Susanna Yau, Mentor: Dr. Moran Levin
- *Using Laser Speckle Contrast Imaging and Fluorescein Angiography to determine blood flow in infants with Retinopathy of Prematurity*  
Presenter: Daniel Shats, Mentor: Dr. Janet Alexander
- *Characterization of the Anterior Eye in Trisomy 21 Patients using Ultrasound Biomicroscopy*  
Presenter: Esther Xu, Mentor: Dr. Janet Alexander
- *Characterization of the Iris, Ciliary Body, and Lens in Pediatric Primary Congenital Glaucoma using Ultrasound Biomicroscopy: A Case-Control Study*  
Presenter: Radhika Gholap, Mentor: Dr. Janet Alexander
- *Optical Coherence Tomography Angiography and Erythrocyte-Mediated Angiography: A Quantitative Assessment of Blood Flow in Glaucoma*  
Presenter: Allison Kang, Mentor: Dr. Osamah Saeedi
- *Ocular blood flow association with retinopathy of prematurity disease staging using laser speckle contrast imaging*  
Presenter: Danielle Sidelnikov, Mentor: Dr. Janet Alexander

## Theme – Eye Health, Epidemiology and Public Health

- *Pain and stress responses during retinopathy of prematurity screening: Non-contact laser speckle contrast imaging versus the standard of care*  
Presenter: Urjita Das, Mentors: Drs. Janet Alexander and Sripriya Sundararajan
- *Histological Evaluation of the Cornea in Ocular Graft Versus Host Disease in a Murine Model*  
Presenter: Fernando Martinez Guasch, Mentor: Dr. Sarah Sunshine
- *Tear cytokine profiling for ocular graft versus host disease in a new multiplex assay*  
Presenter: Andrew Li, Mentor: Dr. Sarah Sunshine
- *Reported Food Insecurity, Living within a Low-Income and Low Food Access Census Tract, and Associated Community Health Barriers in One Urban Reproductive Clinic*  
Presenter: Sanyukta Deshmukh, Mentor: Dr. Jessica Lee
- *Is Food Insecurity Associated with Previous Spontaneous or Induced Abortion? A Survey of Patients Seeking Reproductive Care in One Urban Clinic*  
Presenter: Sanyukta Deshmukh, Mentor: Dr. Jessica Lee
- *Incentivizing Provider Service in Maryland's Underserved Areas: An Analysis of the Maryland Loan Repayment Programs Impact*  
Presenter: Mary Carbonell, Mentor: Dr. Sara Seitz

## **Oral Presentations**

Time Block: 2:35-3:35 p.m.

## Theme – Psychiatric and Mental Health

- *Examining the role of Ventral Pallidal inputs in stressed-induced social avoidance*  
Presenter: Daisy Martinez, Mentor: Dr. Mary Kay Lobo
- *Pre-existing Psychiatric Illness Results in Poor Ambulatory Status Following Major Limb Amputation in Patients with Chronic Kidney Disease*  
Presenter: Natalie Chao, Mentors: Drs. Khanjan Nagarsheth and Nora Dunlap
- *The Buffering Role of Prenatal Health Practices on Postnatal Depression and Attachment for Low-Income, Black Mothers*  
Presenter: Maria Gianelle, Mentor: Dr. Brenda Jones-Harden
- *The Impact of Perinatal THC and Stress on Motivation in Juvenile Mice*  
Presenter: Mahima Dewan, Mentor: Dr. Mary Kay Lobo

- *Investigating a Novel Animal Model of Anti-NMDAR Encephalitis*  
Presenter: Andres Chavez-Barragan, Mentor: Dr. David Benavides
- *Hiking Away the Blues: A Cross-Sectional Study Looking at the Association Between Consecutive Time in Nature and Mental Health*  
Presenter: Emilie Disviscour Berman, Mentors: Drs. Doug Sward and Daniel Gingold

### **Theme – Neuroscience, Brain injury**

- *The Interaction between KATP channel and LDHA Forms the Link Between Metabolism and Epilepsy.*  
Presenter: Darrian McAfee, Mentor: Dr. Alexander Ksendzovsky
- *Distinct Pain Trajectories Following Subarachnoid Hemorrhage are Associated with Cerebral Vasospasm and Delayed Cerebral Ischemia*  
Presenter: Dina Elsaesser, Mentor: Dr. Nicholas Morris
- *Differential expression of cannabinoid receptor subtypes in the developing medial amygdala in the rat*  
Presenter: Neema Moin Afshar, Mentor: Dr. Margaret McCarthy
- *Myeloperoxidase Mediated Neuroinflammation following Exposure of Rats to Under-Vehicle Blast plus Controlled Cortical Impact Traumatic Brain Injury*  
Presenter: Lidia Castillo, Mentor: Dr. Gary Fiskum, Julie Proctor
- *Prefrontal cortex activation predicts impulsiveness in children with sleep-disordered breathing*  
Presenter: Nidhi Mathew, Mentor: Dr. Amal Isaiah
- *Antithrombotics and Stroke Survival in Patients with Concurrent Blunt Cerebrovascular Injury and TBI*  
Presenter: William Kelley, Mentor: Dr. Margaret Lauerman

### **Theme – Musculoskeletal Surgery**

- *Retrospective review of pediatric 1st metacarpal fractures: Epidemiology, outcomes, complications*  
Presenter: Lindsay Kohan, Mentor: Dr. Joshua Abzug
- *Modified Frailty Index Helps Predict Mortality and Ambulation in Patients with Chronic Kidney Disease Following Major Lower Extremity Amputation*  
Presenter: Maria Som, Mentor: Dr. Khanjan Nagarsheth

- *Effects of Perioperative Video Education on Patient Postoperative Narcotic Use*  
Presenter: Cameron Lingenfelter, Mentor: Dr. Mohit Gilotra
- *Frequency and Characteristics of Labral Injuries in Operative Acetabular Fractures*  
Presenters: Parsa Shirin and Maria Som, Mentors: Drs. Robert O'Toole, M. Gerard-Paul Slobogean, and Nathan O'Hara
- *A Retrospective Cohort Study of Latarjet Shoulder Surgery: Two-year Predictors of Improved Outcomes and PROMIS Physical Function*  
Presenter: Antoan Koshar, Mentor: Dr. R. Frank Henn III
- *Evaluation of Intraoperative Subjective Stability Testing in Reverse Total Shoulder Arthroplasty According to Level of Physician Training*  
Presenter: Lauren Sands, Mentor: Dr. Mohit Gilotra

## Oral Presentations

Time Block: 3:40-4:40 p.m.

### Theme – Cardiovascular and Vascular Surgery

- *The Impact of Neighborhood Socioeconomic Status, Race and Ethnicity, and Language on Prenatal Diagnosis of Congenital Heart Disease*  
Presenter: Maria Gianelle, Mentor: Dr. Alicia Chaves
- *Chronic Kidney Disease Predicts Greater 5-Year Mortality Following Major Limb Amputation*  
Presenter: Luke Pitsenbarger, Mentor: Dr. Khanjan Nagarsheth
- *Earlier Closure of Guillotine Major Lower Extremity Amputation is Associated with Shorter Hospital Length of Stay Without Increased Risk of Post-Amputation Infections*  
Presenter: Eyerusalem Workneh, Mentor: Dr. Khanjan Nagarsheth, Eleanor Dunlap
- *Case Report: Direct Aortic Access for Endovascular Thoracoabdominal Aneurysm Repair Using a Bifurcated Endograft as a Branched Device*  
Presenter: Jeffrey Lu, Mentors: Drs. Shahab Toursavadkahi and Michael Hall
- *Post-Operative Outcomes Following Major Lower Extremity Amputations are Dependent on Surgical Service Line and Patient Frailty*  
Presenter: Allison Karwoski, Mentor: Dr. Khanjan Nagarsheth
- *A Cross-Sectional Analysis of American Insurance Coverage of Endovenous Laser Ablation for Greater & Lesser Saphenous Varicose Veins*  
Presenter: Chinenye Onyima, Mentor: Dr. Michael Ha, Yvonne Rasko

## Theme – Pulmonary Care, Informatics, Surgery

- *The use of Extracorporeal Membrane Oxygenation for COVID-19 is not associated with improved pulmonary function or 6-minute walk tests at follow up*  
Presenter: Mackenzie Snyder, Mentor: Dr. Andrea Levine
- *Pulmonary Function Associated with Systemic Metal Exposure in Veterans with Toxic Embedded Metal Fragments*  
Presenter: Emma Lawrence, Mentor: Dr. Stella Hines
- *Pulmonary Contusion: Automated Quantitative Visualization with Deep Learning*  
Presenter: Nathan Sarkar, Mentor: Dr. David Dreizin
- *The value of detailed first-trimester ultrasound screening in the era of non-invasive prenatal testing.*  
Presenters: Nicol Tugarinov and Grace Lechmann, Mentor: Dr. Shifa Turan
- *Massive Hydroceles as a Presenting Symptom of Nephrotic Syndrome*  
Presenter: Jessica Palmer, Mentor: Dr. Lee-Ann Wagner
- *Management of Zygomaticomaxillary Complex Fractures at a Level 1 Trauma Center: Retrospective Study and Review of Literature*  
Presenter: Pharibe Pope, Mentor: Dr. Natalie Justicz

## Theme – Surgery: facial, reconstructive, Head and Neck, Endocrine

- *Improvements In Patient Throughput After Creation of An Integrated Maxillofacial Trauma Service*  
Presenter: Seray Er, Mentor: Dr. Joshua Yoon
- *A Retrospective Review of Prophylactic Paraspinous Soft Tissue and Skin Reconstruction*  
Presenter: Madeline Brown, Mentor: Dr. Yvonne Rasko
- *Facial Trauma Management During the Covid-19 Pandemic*  
Presenter: Suneet Waghmarae, Mentor: Dr. Kalpesh Vakharia
- *Malpractice Litigation in Abdominoplasty*  
Presenter: Nicholas Hricz, Mentor: Dr. Yvonne Rasko
- *Evaluation of pre-operative effortful listening performance using functional near-infrared spectroscopy (fNIRS)*  
Presenter: Audrey Zauher, Mentor: Dr. Amal Isaiah

- *Total Thyroidectomy is More Cost-effective Than Radioactive Iodine as an Alternative to Anti-thyroid Medication for Graves' Disease*  
Presenter: Emily Ma, Mentor: Dr. Yinin Hu

## Poster Presentations

Time Block: 2:35-3:35 p.m.

### Theme – Women's Health

- *Comparing Adverse Maternal and Fetal Outcomes in Symptomatic versus Asymptomatic COVID-19 Infection*  
Presenter: Brianna Dubose, Mentor: Dr. Beth Pineles
- *Assessing the Impact of Telemedicine Implementation on Patient Satisfaction with and Adherence to Gynecologic Appointments*  
Presenter: Sue Junn, Mentors: Drs. Julie Hurvitz and Andrea Desai

### Theme – Cancer: Skin, Gastrointestinal

- *Assessing Skin of Color Representation in Literature about Mimickers of Mycosis Fungoides*  
Presenter: Yazmeen Tembunde, Mentor: Dr. Chesahna Kindred
- *Access to Pediatric Vision Screenings in North America: A Systematic Review*  
Presenter: Bhakti Panchal, Mentor: Dr. Janet Alexander
- *Time to definitive surgery in Mohs micrographic surgery*  
Presenter: Davies Gage, Mentor: Dr. Jeffrey Scott
- *Evaluation of tumor volume as a predictor of outcomes for patients with locally advanced esophageal cancer*  
Presenter: Alanna Stefano, Mentor: Dr. Jason Molitoris

### Theme – Surgery, Ortho

- *Performance of an Artificial Intelligence Pulmonary Embolism Triage Tool During a Global CT Contrast Shortage*  
Presenter: Youngjae Cha, Mentor: Dr. Jean Jeudy
- *Validating The Use of 3D Biplanar Radiography vs CT When Measuring Femoral Anteversion After Total Hip Arthroplasty-A Comparative Study*  
Presenter: Zachary Brilliant, Mentor: Dr. Christopher Anderson

- *Frequency And Characteristics of Labral Injuries in Operative Acetabular Fractures*  
Presenters: Joseph Blommer and Peter Kim, Mentor: Dr. Gerard Slobogean

### Theme – Surgery, Ortho, Teaching, Cardio

- *Shear wave elastography as a measure of tension in reverse total shoulder arthroplasty patients: a pilot study*  
Presenter: Ryan Curto, Mentor: Dr. Mohit Gilotra
- *From Anonymity to Identification in the Anatomical Dissection Room*  
Presenter: Marquis Berrey, Mentor: Dr. Adam Puche
- *Acute Health Effects of Summer Wildfire Smoke in Maryland*  
Presenter: Donald De Alwis, Mentor: Dr. Zhekang Ying

### **Poster Presentations**

Time Block: 3:40-4:40 p.m.

### Theme – Education Programs

- *Effects of Implementing a Mandatory Mentored Scholarly Project (FRCT) at University of Maryland School of Medicine*  
Presenter: Sarah Flaherty, Mentors: Drs. Donald Matteson and Greg Carey
- *Educational Intervention for Management of Acute Trauma Pain*  
Presenter: Ariana Taj, Mentor: Dr. Luana Colloca
- *Declining Experience With Neostigmine Administration Among Graduating Anesthesiology Residents In The Sugammadex Era*  
Presenter: Kelly Poe, Mentor: Dr. Megan Anders

### Theme – Infection and Disease

- *Neutrophilic Signatures Associate with Disease Severity in SARS-CoV-2 Infection in a Sex Specific Manner*  
Presenter: Guido Massaccesi, Mentor: Dr. Eileen Scully
- *Using Bioinformatic Analyses to Identify Plasmodium falciparum PfRipr Epitopes for High Immunogenic Potential*  
Presenter: Alexander Laurenson, Mentor: Dr. Matthew Laurens



## Theme – Liver, Cancer

- *Analysis of Treatment Toxicity in Liver Re-Irradiation with Proton Beam Therapy after 90Y Transarterial Chemo-embolization*  
Presenter: Manaahil Rao, Mentor: Dr. Jason Molitoris
- *Evaluating Changes in Cannabis Use During Pregnancy*  
Presenters: Kajal Parikh and Margaret Besse, Mentor: Dr. Katrina Mark

## Theme – Brain and Neuroscience, Mental And Psychiatric Health

- *Localization of Estrogen Receptor  $\alpha$  and  $\beta$  (ER $\alpha$  and ER $\beta$ ) mRNA in Sleep-Regulating Neurons of the Median Preoptic Nucleus (MnPO) of the Female Rat Brain*  
Presenter: Amy Huddleson, Mentor: Dr. Jessica Mong
- *KCNMA1-Linked Channelopathy: Human Patient Case Study and Animal Model of Dyskinesia*  
Presenter: Indira Jetton, Mentor: Dr. Andrea Meredith
- *Quality and Outcomes Following Implementation of Anesthesiology for all Mechanical Thrombectomy Cases*  
Presenter: Madison McGann, Mentor: Dr. Michael Phipps
- *Cellular mechanism involved in hemorrhagic progression of contusion following traumatic brain injury*  
Presenter: Madison Evans, Mentor: Dr. Marc Simard
- *The Impact of Sleep Duration on Functional Brain Networks and Pubertal Hormone Levels in Young Adolescents*  
Presenter: Ozerk Turan, Mentors: Drs. Linda Chang and Amal Isaiah
- *RGC-32 Contributes to Reactive Astrocytosis in Experimental Autoimmune Encephalomyelitis by Maintaining a Mature Phenotype*  
Presenter: Jacob Cuevas, Mentor: Dr. Horea Rus
- *Assessing Unmet Eye Care Needs Among Patients with Chronic Kidney Disease Undergoing Hemodialysis*  
Presenter: Priya Agrawal, Mentors: Drs. Ramya Swamy and Ami Patel

## Theme – Dermatology and Inflammation

- *Laser-delivered Bio-Identical Growth Factors as a Treatment for Central Centrifugal Cicatricial Alopecia*  
Presenter: Yazmeen Tembunde, Mentor: Dr. Chesahna Kindred
- *Long-term complications of COVID-19 in Transplant Recipients*  
Presenter: Kaitlyn Freels, Mentor: Dr. Silke Niederhaus

## Theme – Surgery and Epidemiology

- *Farther geographic distance and lower socioeconomic status should not preclude transfer of acute limb ischemia to tertiary care centers*  
Presenter: Gillian Murray, Mentor: Dr. Khanjan Nagarsheth