



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

43rd Annual
Medical Student Research Day

Hosted by
Office of Student Research, Dean's Office
Alpha Omega Alpha Honor Society

Thursday, November 12 and
Friday, November 13, 2020
University of Maryland School of Medicine
Baltimore, MD 21201
Two-Day Virtual Event Through Zoom

Event Program

Office of Student Research

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

Gregory B. Carey, Ph.D.
Associate Professor of Microbiology and Immunology
Executive Director of Student Research and Community Outreach

Donald R. Matteson, Ph.D.
Associate Professor of Physiology
Executive Director of Student Research Education and Dual Degree Programs

Qi Cao, J.D.
Research Coordinator

Eileen M. Eldridge
Administrative Assistant

Alpha Omega Alpha Honor Society Members and Additional Event Staff

Stephanie Cabral, MS IV
Event Staff

Alex Casella
MD/MS Dual Degree
Event Staff

Matthew Chu, MS IV
Event Staff

Sarah Doran, MS IV
MD/PhD Dual Degree
Event Staff

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Andrea Lin, MS III
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Event Staff

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Benjamin Twery, MS III
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Libby Wei, MS IV
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Rebecca Zhang, MS IV
Event Staff

Acknowledgements

We would like to express our gratitude to the Dean's Office for providing the financial support for Medical Student Research Day.

We would also like to express our appreciation for all the research programs, faculty mentors and other mentors who supported and guided the students in their research.

Our special thanks go to the faculty, resident, fellow, post-doctoral fellow and AOA student member judges who so willingly provided their time and knowledge.

Dr. Pavlos Anastasiadis
Dr. Ola Awad
Dr. Daya Bagdure
Dr. Elizabeth Balcer-Kubiczek
Dr. Julian Baptiste
Dr. Jonathan Bromberg
Dr. Svetlana Chapoval
Dr. Som Chatterjee
Dr. William Chiu
Dr. Curt Civin
Dr. Nathan Cramer
Dr. Nader Hanna

Dr. Daniel Hasse
Dr. Bret Hassel
Dr. Laundette Jones
Ms. Laura Kaddis
Dr. Kazuyo Kegan
Dr. Sunita Khanal
Dr. Yuxing Li
Dr. Rena Malik
Dr. Madeline Marks
Dr. Parikshit Moitra
Dr. Jason Molitoris
Dr. Mohammed Rahman

Dr. Katharina Richard
Dr. Mary Shriver
Dr. Giovannino Silvestri
Dr. Sripriya Sundararajin
Dr. Julia Terhune
Dr. Mohan Tulapurkar
Dr. Areck Ucuzian
Dr. Angela Verma
Dr. Georgios Vrakas
Dr. Rezwanul Wahid
Dr. R. Gentry Wilkerson
Dr. Yuji Zhang

Plenary Speakers and Student Panelists Descriptions

Keynote Speaker

Matthew Frieman, Ph.D. is a Tenured Associate Professor in the Department of Molecular Microbiology and Immunology at the University of Maryland School of Medicine. Dr. Frieman completed his BA in Biology at Washington University in St. Louis. He completed his PhD in Molecular Biology and Genetics at Johns Hopkins University before joining the laboratory of Dr. Ralph Baric at University of North Carolina, Chapel Hill for his postdoctoral studies. It was in Dr. Baric's lab and under his mentoring that Dr. Frieman began studying acute respiratory viruses. Dr. Frieman has always sought to both understand fundamental molecular mechanisms of disease and moreover, how this translates at the Epidemiological level to public health.

Dr. Frieman began making major contributions in this field from his early graduate and postdoctoral years before becoming a faculty member at UM SOM. He has made and continues to make important contributions to our understanding of respiratory viruses, including COVID and the pursuit of effective therapeutics and novel therapeutic and vaccine strategies to mitigate them. To date, he has published over 75 articles and is robustly funded by the NIH, and other public and private interests for his cutting-edge research. He is an internationally recognized figure in respiratory virus research such as MERS, SARS, influenza, CoV and now, the novel corona virus, COVID19. His extensive biosketch also includes his winning undergraduate, graduate, postdoctoral, research awards, underscoring his longstanding passions for research excellence. Importantly, he is a highly sought-after mentor and teacher for undergraduate, medical and graduate students and postdocs. As with his research, he is recognized and has been awarded for teaching and mentoring excellence as well.

Student Plenary Speakers and Panelists

Albert Zhou (Plenary, Day 1)

Albert Zhou is currently in his third year of medical school and is an MD/PhD candidate in the University of Maryland Medical Scientist Training Program. He completed his undergraduate degree in Biochemistry and Molecular Biology at the University of Maryland-Baltimore County (UMBC) where he was a Meyerhoff Scholar. The Meyerhoff scholarship program promotes diversity in STEM. Albert recently completed his PhD in Epidemiology and Human Genetics under the guidance of his UM SOM mentor, Dr. Mark Travassos. Albert's dissertation research focuses on the goal of creating better understanding the RIFIN and STEVOR multigene families of the malaria parasite *Plasmodium falciparum* through reverse vaccinology and comparative genomic and bioinformatic approaches. His research interests are in personalized medicine and include a desire to integrate immunology, genetics, bioinformatics, and genomics with a passion for patient care in an academic setting. Albert has earned a number of research and academic awards and two grants for his scholarship and research. He has published 7 peer reviewed articles, has two in review and he has given 9 local, national and international presentations on his research.

Emily Miller (Plenary, Day 2)

Emily Miller is a fourth-year medical student and she is currently in the process of applying to otorhinolaryngology residencies. She grew up in Baltimore County and then attended Washington University in St. Louis, where she majored in linguistics and environmental biology. Emily came directly from her undergraduate studies to medical school at UM SOM and she continues to bridge research excellence between the Wash U. and UM SOM campuses. While in medical school, she returned to Wash U., St. Louis to participate in a funded summer research project in a clinical outcomes laboratory within the otolaryngology department. In addition, during her clinical rotations of her third year of medical school, she decided that she wanted to pursue a career path as an academic otolaryngologist and sought opportunities for more research experience to achieve that goal. She was selected as one of two NIH-funded T32 predoctoral research trainees in the department of otolaryngology at Wash U. and immediately became immersed in multiple research projects in addition to pursuing a Master of Science in Clinical Investigation. Emily has published one peer reviewed article, with a second currently under review, and recently gave an oral presentation at a national conference. She has served at the President and Vice President levels in several groups, developing leadership skills she hopes to employ as a leader in academic medicine."

Kavita Bhatnagar (Plenary, Day 2)

Kavita Bhatnagar is a fourth-year medical student at UM SOM. She earned her BA in Public Health from the JHU Bloomberg School of Public Health. She continued her interest in public health, and after her first year of medical school at University of Maryland School of Medicine, she seized an internship opportunity with the World Health Organization, assisting with the development of global vaccine guidelines. Since that experience, she has studied accelerometry as a means to evaluate upper extremity function following strokes. She has also completed several otolaryngology (ENT) projects relating to sigmoid sinus wall anomalies, intubation-related laryngotracheal lesions and outcomes of temporal bone resection. It is in ENT that she found her clinical passion. Through her ENT projects, she not only learned more about the field, but also gained outstanding mentors who guided her through the research process. Kavita expresses that these mentors have also served as outstanding role-models, greatly influencing her future career path. Her goal is to deliver the highest level of humanistic and relational care to her patients, something she has admired about her mentors. Kavita states that her research experiences helped her understand both what residency she wanted to pursue and what she wanted the complete residency experience to be like. She looks forward to interdisciplinary collaborations and training in an environment that promotes innovation towards the goal of improving health equity in otolaryngology. Kavita has published 4 peer-reviewed articles and has 3 articles in review. She has authored and co-authored a number of proffered articles and has given 9 conference presentations on her research.

Noah Lessing (Student Panel, Day 2)

Noah earned his BS degree in Neuroscience from Washington and Lee University and is currently completing his 4th year of medical school at UM SOM. His plans are to enter a neurosurgery residency. When asked about what sparked his interest in neurosurgery, Noah shares that in the winter of his MS2 year, he read an article concluding that 23,000 neurosurgeons were needed worldwide to match the 5 million neurosurgical cases that go unaddressed each year. He then proceeded to connect with the authors of the article and soon thereafter, was invited to spend two months in the Department of Neurosurgery at Muhimbili Orthopaedic Institute (MOI), a tertiary referral center in Dar es Salaam, Tanzania. The program is a joint venture between Weill Cornell, Vanderbilt and the MOI. Noah worked with his mentors on implementing a spine trauma protocol at MOI. He noted that since spine trauma surgery is not covered by insurance in Tanzania, patients who lack funds are relegated to up to three months of bed rest as they wait for care. The economic hardship was trying as patients sometimes had to sell their only assets, livestock or their land, to pay for their care. Moreover, liquidating those assets was a slow process, exacerbating the neurological conditions. Noah and his mentors helped reduce the time from admission to surgery for spine trauma patients from 22 days to 2. They also undertook a cost-effectiveness analysis, which suggested that the upfront costs of spine trauma surgery may be offset by a downstream reduction in disability. Leveraging the potential boost in gross domestic product by returning young, wage-earning people to productive jobs, local Tanzanian neurosurgeons continue to lobby for increased access for providing spinal implants. Noah was concerned about his academics at a time. However, engaging in research has led to him winning several prestigious research awards and he has 11 research articles published or in press. He also now has 8 research poster and oral presentations to his credit. Noah says that his research performance has opened additional doors for his future residency, preferably in neurosurgery.

Joseph Humana (Student Panel, Day 2)

Joseph Puthumana is a 4th year medical student who has accumulated a number of research commendations and products. Joseph completed his BA at the at the Georgetown University College of Arts and Sciences and after enrolling at UM SOM, he endeavored to take advantage of as many research opportunities as he was able. He was a PRISM scholar in 2017 and built on and extended his research passion into a number of research experiences and products. He has authored and co-authored 10 published articles and has several in review and preparation. He has 7 major research presentations to his credit as well. Joseph credits his research passion and experiences for creating an increased number of possibilities for residency and his future career in medicine and research.

Carly Rosen (Student Panel, Day2)

Carly earned her BS in Neuroscience at Tulane University. She began working with the department of Plastic Surgery in the winter of her first year of medical school and met her main mentor, Dr. Yvonne Rasko, at departmental research meetings. Mentored by Dr. Rasko, Carly won the Steuber Research Fellowship in Plastic Surgery for her first summer. Because of hard work and excellent team mentoring, Carly soon completed a first authored manuscript and was published. She eagerly assisted with additional research tasks including data collection, IRB completions, and manuscript editing. These activities honed skills and with additional diversified projects, Carly published 10 manuscripts and gave presentations in 2 national Plastic Surgery conferences. Even in consideration of this remarkable productivity, Carly ultimately found her passion and path in Emergency Medicine, still working with her supportive team to complete projects. Her research productivity has opened opportunities for residency to the extent that she recalls the positive comments and accolades given by interviewers on the opportunities her research currencies were affording her. Carly wishes to pursue a career that includes medicine and research and where she can continue to make contributions and grow. She urges students to find project that interest them and mentors that motivate and inspire them, bearing in mind that the skills they acquire will be useful for any field of medicine they decide to pursue.

Qaren Quartey (Student Panel, Day2)

Qaren earned her BS degree in Molecular and Cellular Biology at Harvard University. Starting in Qaren's first year, she worked with Drs. Ginette Okoye and Angel Byrd on phenotypic analysis of a xenograft mouse model of Hidradenitis suppurativa. She expresses that research made her a multifaceted candidate for residency and the products and activities allowed her to demonstrate commitment to scholarly pursuits. Qaren states that research inspires her to continue thinking of ways to apply discoveries in translational research to medical practice at the bedside. She hopes to pursue a career in academia where she will engage in research and mentorship. She has published 2 articles, 3 abstracts, and has given several presentations on her research. She admits to academic challenges at a time during her medical school training and that the research products gave her a chance to discover her passions and to compensate and contribute as a scholar. Importantly, she found that scholarly contributions enhanced her appeal as a future academic physician. Qaren advises MSIs-MSIIs to 1) be careful and deliberate in choosing a quality mentor, 2) be persistent and commit to accomplishing tasks on time (or better yet, early!), and 3) always do their best to go above and beyond what is asked. This will result in both tangible and intangible rewards.

**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

(See [Zoom Room Information](#))

See [MSRD 2020 Webpage](#) for more information about the event and any updates

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

Autusa Pahlavan, MS IV

MSRD Chair

Maryland Beta Chapter

Alpha Omega Alpha Honor Medical Society

1:25 – 1:55 p.m.

Keynote Address

Title: *Coronavirus Therapeutic Development in the time of COVID19*

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)**

1:00 – 1:20 p.m.

Special Plenary Presentations by Outstanding Student Researchers

Kavita Bhatnagar, MS IVGlobal Health Fellow in the Duke Program on Global Policy and
Governance

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. *Break*

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. *Break*

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
Gregory B. Carey, Ph.D.
Miriam K. Laufer, M.D., M.P.H.

4:05 – 4:20 p.m. Presentation of Student Awards
Sarah Helman, MS IV
MSRD Chair
Maryland Beta Chapter
Alpha Omega Alpha Honor Medical Society

4:20 – 4:25 p.m. Closing Remarks
Gregory B. Carey, Ph.D.

Oral Presentation Schedule

Oral presentations are 15 minutes each.

Presenters are indicated with “*” next to their names.

The “A” designation in some of the presentation IDs is arbitrary and used to maintain order and sequencing following slight changes in the presentation line-up.

Oral Presentation Session I

2:30 – 3:50 p.m.

Zoom Room A

O.01 2:30 p.m.

PREVENTIVE CARE UTILIZATION AMONG ADULTS WITH HEARING LOSS IN THE UNITED STATES. Nicholas Fioravante*, Jennifer Deal, Amber Willink, Clarice Myers, and Lama Assi, Department of Cochlear Center for Hearing and Public Health, Johns Hopkins University School of Bloomberg School of Public Health, Baltimore, MD.

O.02 2:40 p.m.

GENERAL HEALTH STATUS AMONG VETERANS WITH EMBEDDED METAL FRAGMENTS. Jessica Palmer*, Stella Hines¹, Melissa McDiarmid¹, Clayton Brown², Joanna Gaitens¹, ¹Division of Occupational and Environmental Medicine, Department of Medicine and ²Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD.

O.03 2:50 p.m.

INSURANCE COVERAGE OF VENTRAL HERNIA REPAIR. Annie Yang*, Marissa Klein¹, Ledibabari Ngaage², Michael Ha³, and Yvonne Rasko³, ²Division of Plastic Surgery, Department of Plastic Surgery, Johns Hopkins School of Medicine, and ³Division of Plastic Surgery, Department of Surgery, ¹University of Maryland School of Medicine, Baltimore, MD.

O.04 3:00 p.m.

ASSOCIATIONS BETWEEN THIRD TRIMESTER ULTRASOUND AND GLUCOSE TESTING. Madalyn Myers*, Sarah Crimmins¹, Lucille Martin², Emad Elsamadicy³, Tabitha Quebedeaux³, and Jerome N. Kopelman³, ¹Division of Maternal and Fetal Medicine, ³Department of Obstetrics, Gynecology and Reproductive Sciences, ²University of Maryland School of Medicine, Baltimore, MD.

O.05 3:10 p.m.

PERFORMANCE OF CT VOLUMETRY FOR TRAUMATIC HEMOTHORAX IS ON PAR WITH EXPERT RADIOLOGIST VOLUME ESTIMATION FOR PREDICTION OF HEMORRHAGE-RELATED OUTCOMES. Bryan Nixon*, Nahye Kim*, Jean Judy, Guang Li, and David Dreizin, Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD.

O.06 3:20 p.m.

VASCULAR AUTOREGULATION AND GLAUCOMA: DEVELOPMENT OF A MACHINE LEARNING ALGORITHM FOR VASOMOTION QUANTIFICATION. Caroline Simon*, Wei Chen Lai*, Jessica Pottenburgh¹, Dongyi Wang², and Osamah Saeedi¹, ¹Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD and ²University of Maryland, College Park, College Park, MD.

O.07 3:30 p.m.

USE OF ULTRASOUND BIOMICROSCOPY TO ASSESS CORNEAL HYDRATION AND EDEMA. Robert Liu* and Janet Alexander, Division of Pediatrics, Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD.

O.08 3:40 p.m.

NOVEL ULTRASOUND BIOMICROSCOPY IMAGE ANALYSIS TECHNIQUE OF HUMAN IRIS USING IMAGEJ SOFTWARE: INTRA-OBSERVER REPEATABILITY AND INTER-OBSERVER AGREEMENT. Trisha Miglani*, Michael Chang¹, Moran Levin², and Janet Alexander², ²Department of Ophthalmology and Visual Sciences, ¹University of Maryland School of Medicine, Baltimore, MD.

Oral Presentation Session II

2:30 – 3:50 p.m.

Zoom Room B

O.09 2:30 p.m.

OPIOID OVERDOSE RISK FACTORS IN PWID RECEIVING HCV TREATMENT. Rachel Cermak*, Elana Rosenthal, and Sarah Kattakuzhy, Division of Infectious Disease, Department of Medicine, University of Maryland School of Medicine, Baltimore, MD.

O.10 2:40 p.m.

PERCEIVED RISKS OF PSILOCYBIN AND THE ACCEPTABILITY OF PSILOCYBIN THERAPY IN BLACK/AFRICAN-AMERICAN PATIENTS WITH OPIOID USE DISORDER. John Clifton*, Alan Davis¹, Annabelle Belcher², Christopher Welsh², and Aaron Greenblatt², ¹Ohio State University School of Social Work, Columbus, OH, and ²Division of Addiction Research and Treatment, Department of Psychiatry, University of Maryland School of Medicine, Baltimore, MD.

O.11 2:50 p.m.

RECREATIONAL MARIJUANA USE IS NOT PREDICTIVE OF TWO- YEAR PATIENT REPORTED OUTCOMES IN AN ORTHOPAEDIC COHORT. Fernando Albelo*, Mitchell Baker, Matheus Schneider, Tina Zhang, and Frank Henn, III, Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

O.12 3:00 p.m.

OPIOID PRESCRIBING PATTERNS IN AN ACADEMIC ORTHOPEDIC SETTING. Francia Fang*, Tristan Weir, Casey Codd, and Joshua Abzug, Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

O.13 3:10 p.m.

A DEEP LEARNING-BASED POSE ESTIMATION APPROACH CAN OBJECTIVELY MEASURE REPETITIVE MOVEMENTS. Hannah Cornman*, Ryan Roemmich¹, and Jan Stenum², ¹Department of Physical Therapy and Rehabilitation Science, Johns Hopkins University School of Medicine and ²Department of Physical Therapy and Rehabilitation Science, Johns Hopkins School of Kinesiology, Baltimore, MD.

O.14 3:20 p.m.

RELIABILITY, VALIDITY AND RESPONSIVENESS OF A NOVEL SUBSCAPULARIS OUTCOME SCORE. Samir Kaveeshwar*, Max Hamaker, Blessing Enobun, Syed Hasan, and Mohit Gilotra, Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

O.15 3:30 p.m.

PRESS GANEY SCORES DO NOT CORRELATE WITH SURGICAL SATISFACTION AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION. Justin Kung*, Tina Zhang¹, and R. Frank Henn, III², ²Division of Sports Medicine, ¹Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

O.16 3:40 p.m.

IS A LOW-COST DRILL COVER SYSTEM NON-INFERIOR TO CONVENTIONAL SURGICAL DRILLS FOR SKELETAL TRACTION PIN PLACEMENT? Samantha Selhorst*, Robert O'Toole¹, Gerard Slobogean¹, and Nathan O'Hara², ¹Division of Orthopaedic Trauma, ²Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

Oral Presentation Session III

2:30 – 3:50 p.m.

Zoom Room C

O.17 2:30 p.m.

INVESTIGATING THE ROLE OF HEPATITIS B SURFACE ANTIGEN LEVEL IN HUMORAL IMMUNITY IN PATIENTS WITH CHRONIC HEPATITIS B TO FIND SEROCONVERSION BIOMARKERS. Natalia Sampaio Moura*, Alip Ghosh¹, Lydia Tang², Bhawna Poonia², and Shyam Kottilil³, ¹Division of Basic Science and Vaccine Research, Institute of Human Virology, University of Maryland School of Social Work and ²Division of Basic Science and Vaccine Research and ³Division of IHV Clinical Research Unit, Institute of Human Virology, University of Maryland School of Medicine, Baltimore, MD.

O.18 2:40 p.m.

THE EFFECT OF BLUNT HEPATIC TRAUMA MANAGEMENT ON PATIENT OUTCOMES. Alexandria Riedel* and Margaret Lauerman, Division of Trauma, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.19 2:50 p.m.

VIRTUAL GRAND ROUNDS AS A NOVEL MEANS FOR APPLICANTS AND PROGRAMS TO CONNECT IN THE ERA OF COVID-19. Juhye Kang*, Linhan Xu¹, David Ambinder¹, and Rena Malik², ²Division of Urology, Department of Surgery, ¹University of Maryland School of Medicine, Baltimore, MD.

O.21 3:00 p.m.

INTERROGATING THE NATURAL HISTORY OF OBSTRUCTIVE SLEEP APNEA DURING THE PANDEMIC. Emily Hamburger* and Amal Isaiah, Division of Pediatrics, Department of Otorhinolaryngology - Head and Neck Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.22 3:10 p.m.

FACTORS AFFECTING SPONTANEOUS *CHLAMYDIA TRACHOMATIS* CLEARANCE. Carson Klasner*, Susan Tuddenham¹, and Rebecca Brotman², ¹Division of Infectious Diseases, Department of Medicine, Johns Hopkins University School of Medicine and ²Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD.

O.23 3:20 p.m.

IDENTIFYING PATIENT-CENTERED RESEARCH PRIORITIES IN OVERACTIVE BLADDER BY CROWDSOURCING. Aidan Kennedy*, Riley Kennedy¹, Olga Goloubeva², Philippe Zimmern³, and Rena Malik⁴, ¹George Washington University, San Francisco, CA, ³Division of Urology, Department of Surgery, UT Southwestern Medical Center, Dallas, TX, and ²Department of Oncology and ⁴Division of Urology, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.24 3:30 p.m.

PSEUDOMONAS AERUGINOSA BACTEREMIA AND THE NEED FOR FOLLOW-UP BLOOD CULTURES. Alexis Green*, Lyndsay O'Hara, Lisa Pineles, Scott Sorongon, Anthony Harris⁴, and Jonathan Baghdadi, Division of Genomic Epidemiology and Clinical Outcomes, Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD.

O.24A 3:40 p.m.

CHARACTERIZATION OF NERVE GROWTH FACTOR RECEPTOR (NGFR) EXPRESSING SKIN-DERIVED PRECURSOR CELLS (SKPS). Milena Aksentijevich*, Bishal Tandukar¹, Sandeep Joshi¹, and Thomas Hornyak², ¹Department of Biochemistry and Molecular Biology, and ²Department of Dermatology, University of Maryland School of Medicine, Baltimore, MD.

Oral Presentation Session IV

4:00 – 5:20 p.m.

Zoom Room D

O.25 4:00 p.m.

RGC-32 CONTRIBUTES TO MS PATHOGENESIS BY MAINTAINING A MATURE ASTROCYTE PHENOTYPE. Austin Beltrand*, Horea Rus¹, Alexandru Tatomir², ¹Division of Neuroimmunology, Department of Neurology, University of Maryland School of Medicine, Baltimore, MD, and ²Division of Neuroimmunology, Department of Neurology, University of Maryland School of Medicine, Baltimore, MD.

O.26 4:10 p.m.

MR-GUIDED FOCUSED ULTRASOUND (MRGFUS)-MEDIATED BLOOD-BRAIN BARRIER DISRUPTION OF MALIGNANT GLIOMAS IN RAT MODELS. Yamini Vyas*, Pavlos Anastasiadis¹, Jeffrey Winkles², and Graeme Woodworth¹, ¹Department of Neurosurgery, and ²Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.27 4:20 p.m.

REDUCING INSTITUTIONAL IMAGING COSTS AND PROCEDURES BY USING OUTSIDE MAGNETIC RESONANCE IMAGING FOR STEREOTACTIC BRAIN BIOPSY. Francia Fang*, I. Pomeraniec, Panos Mastorakos, and John Heiss, Department of Neurosurgery, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD.

O.28 4:30 p.m.

PD-L1 EXPRESSION AS A PROGNOSTIC MARKER FOR LOCAL CONTROL FOLLOWING IMMUNE CHECKPOINT INHIBITION AND STEREOTACTIC RADIATION IN BRAIN METASTASES. Lars Berg*, Gregory Alexander, and Mark Mishra, Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD.

O.29 4:40 p.m.

PYRUVATE DEHYDROGENASE IN CEREBRAL ISCHEMIA. Mehnaz Ali*, Apurva Borcar, and Gary Fiskum, Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, MD.

O.30 4:50 p.m.

PROTON RADIATION PACKAGE TIME AND OUTCOMES IN PATIENTS UNDERGOING CURATIVE TREATMENT FOR HEAD AND NECK CANCERS: A SINGLE INSTITUTION EXPERIENCE. Danielle Arons*, Gregory Alexander, and Matthew Witek, Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD.

O.31 5:00 p.m.

PATTERNS OF CARE AND OUTCOMES OF PATIENTS RECEIVING RADIATION THERAPY FOR LOCALLY-ADVANCED LARYNGEAL CANCER: THE UNIVERSITY OF MARYLAND EXPERIENCE. Pragnya Dontu*, Antony Koroulakis, Matthew Witek, and Jason Molitoris, Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD.

O.32 5:10 p.m.

TARGETING BRAF MUTANT MELANOMA WITH NOVEL HSP90, BRAF, AND MEK INHIBITOR COMBINATION THERAPY. Jacqueline Hwang*, Emmanual Unni¹, Sandeep Joshi¹, and Thomas Hornyak², ¹Department of Biochemistry and Molecular Biology and ²Department of Dermatology, University of Maryland School of Medicine, Baltimore, MD.

Oral Presentation Session V

4:00 – 5:20 p.m

Zoom Room E

O.32A 4:00 p.m. (Added presentation in place of O.33)

THE USEFULNESS OF DEAMIDATED GLIADIN PROTEIN ANTIBODIES IN DIAGNOSING CELIAC DISEASE IN CHILDREN YOUNGER THAN 3-YEARS-OLD. Madison Hill*, Runa Watkins¹, Elaine Leonard-Puppa¹, Jaylyn Waddell², Samra Blanchard¹, and Howard Kader¹, ¹Division of Gastroenterology and Nutrition, ²Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD.

O.33 4:00 p.m. (This Presentation has been withdrawn)

IMPACT OF ARREST OF LABOR ON MATERNAL OUTCOMES OF CESAREAN SECTION. Andrea Theodoru*, Tabitha Quebedeaux¹, Natalia Perez², and Sarah Crimmins³, ¹Tuoro, LCMC Health, New Orleans, LA and ³Division of Maternal Fetal Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences, ²University of Maryland School of Medicine, Baltimore, MD.

O.34 4:10 p.m.

A NATIONAL REVIEW OF INSURANCE COVERAGE OF NONCANCEROUS BREAST RECONSTRUCTION. Marissa Klein*, Annie Yang¹, Ledibabari M Ngaage², Michael Ha³, and Yvonne Rasko³, ²Division of Plastic Surgery, Department of Surgery, Johns Hopkins School of Medicine and ³Division of Plastic Surgery, Department of Surgery, ¹University of Maryland School of Medicine, Baltimore, MD.

O.35 4:20 p.m.

CARDIAC MAGNETIC RESONANCE IMAGING AS A MODALITY FOR CARDIOVASCULAR DISEASE RISK EVALUATION IN PATIENTS WITH HEPATITIS C: DATA FROM THE CHROME STUDY. Aaron D'Amore*, Arlene Sirajuddin¹, Shyam Kottili², and Poonam Mathur², ¹National Institutes of Health, Bethesda, MD and ²Division of Infectious Disease, Department of Medicine, University of Maryland School of Medicine, Baltimore, MD.

O.36 4:30 p.m.

MINIMALLY ISCHEMIC CARDIAC PRESERVATION TECHNIQUES IMPROVE OUTCOMES IN LIFE-SUPPORTING CARDIAC XENOTRANSPLANTATION. Shreya Singireddy* and Muhammad Mohiuddin, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.37 4:40 p.m.

NON-O BLOOD GROUP AND RISK OF EARLY-ONSET ISCHEMIC STROKE IN ORAL CONTRACEPTIVE USERS. Laura Chen*, Thomas Jaworek¹, Kathleen Ryan², Brady Gaynor², Allen Liu³, and Steven Kittner⁴, ²Division of Division of Endocrinology, Diabetes and Nutrition, ¹Department of Medicine and ⁴Division of Stroke and Cerebrovascular Diseases, Department of Neurology, ³University of Maryland School of Medicine, Baltimore, MD.

O.38 4:50 p.m.

TRACKING THE USE OF RED BLOOD CELL TRANSFUSION POST-DELAYED CORD CLAMPING IN VERY LOW BIRTH WEIGHT INFANTS OVER A 4-YEAR PERIOD. Mayuri Patel*, Sripriya Sundararajan¹, and Mathangi Gopalakrishnan², ¹Division of Neonatology, Department of Pediatrics, University of Maryland School of Medicine, and ²Department of Pharmacology, University of Maryland School of Pharmacy, Baltimore, MD.

O.39 5:00 p.m.

ULTRA-MASSIVE TRANSFUSION OUTCOMES IN A MODERN ERA: AN EAST MULTICENTER STUDY. Pranaya Terse*, Amanda Chipman¹, and Rosemary Kozar², ¹Division of General Surgery, Department of Surgery and ²R. Adams Cowley Shock Trauma Center, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

O.40 5:10 p.m.

EXTENDING LIMB SALVAGE AFTER FOURTH AND FIFTH TRANSMETATARSAL AMPUTATION IN DIABETIC FOOT INFECTIONS USING ACELL® URINARY BLADDER MATRIX. Phoenix Underwood*and Margaret Lauerman, Division of Trauma, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

Poster Presentation Schedule

Presenters are indicated with “*” next to their names.
The “A” designation in some of the presentation IDs is arbitrary and used to maintain order and sequencing following slight changes in the presentation line-up.

Poster Presentation Session I

1:505 – 3:10 p.m.
Zoom Room A

P.01 1:50 p.m. [See Poster](#)

NEONATAL MESENCHYMAL STEM CELL (NMSC) SECRETOME INDUCES CARDIAC REPAIR IN A PORCINE MODEL OF MYOCARDIAL INFARCTION. [Samantha Kegel*](#), [Mohamed Abdullah](#), and [Sunjay Kaushal](#), Division of Cardiac Surgery, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

P.02 2:00 p.m. [See Poster](#)

AN ANALYSIS OF KINEMATIC INDICATORS OF MOTOR RECOVERY USING ROBOTIC REHABILITATION THERAPY FOLLOWING UNILATERAL HEMIPARETIC STROKE. [Melissa Nicholas*](#), [Elsa Ermer](#), and [Michael Dimyan](#), Division of Neuro-Rehabilitation, Department of Neurology, University of Maryland School of Medicine, Baltimore, MD.

P.03 2:10 p.m. [See Poster](#)

PROMIS DEPRESSION AND ANXIETY IN SHOULDER SURGERY PATIENTS. [Mitch Baker*](#), [Fernando Albelo](#)¹, [Matheus Schneider](#)², [Tina Zhang](#)², and [Frank Henn, III](#)², ²Department of Orthopaedics, University of Maryland School of Medicine¹, Baltimore, MD.

P.04 2:20 p.m. [See Poster](#)

PREOPERATIVE OPIOID USE AND 2-YEAR PATIENT REPORTED OUTCOMES IN HAND SURGERY PATIENTS. [Cameran Burt*](#), [Michael McCurdy](#)¹, [Matheus Schneider](#)², and [Frank Henn, III](#)³, ³Division of Sports Medicine, ²Department of Orthopaedics, ¹University of Maryland School of Medicine, Baltimore, MD.

P.05 2:30 p.m. [See Poster](#)

PREOPERATIVE OPIOID USE CORRELATES WITH WORSE PATIENT-REPORTED OUTCOMES AT TWO-YEAR FOLLOW-UP IN PATIENTS UNDERGOING SHOULDER SURGERY. [Mike McCurdy*](#), [Cameran Burt](#)¹, [Matheus Schneider](#)², and [Frank Henn, III](#)², ²Division of Sports Medicine, Department of Orthopaedics, ¹University of Maryland School of Medicine, Baltimore, MD.

P.06 2:40 p.m. [See Poster](#)

PREDICTORS OF PATIENT SATISFACTION TWO YEARS FOLLOWING ORTHOPAEDIC SHOULDER SURGERY. [Dominic Ventimiglia*](#), [Matthew Chrencik](#)¹, [Matheus Schneider](#)², [Tina Zhang](#)³, [Mohit Gilotra](#)³, and [R. Frank Henn III](#)², ²Division of Sports Medicine, ³Department of Orthopaedics, ¹University of Maryland School of Medicine, Baltimore, MD.

P.07 2:50 p.m. [See Poster](#)

PREOPERATIVE CHARACTERISTICS PREDICTIVE OF PROMIS PAIN INTERFERENCE TWO YEARS AFTER SHOULDER SURGERY. Matthew Chrencik*, Dominic Vetimiglia¹, Matheus Schneider¹, Tina Zhang¹, Mohit Gilotra¹, and R. Frank Henn, III², ²Division of Sports Medicine, ¹Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD.

P.08 3:00 p.m. [See Poster](#)

ANEMIA, SEX, AND RACE AS PREDICTORS OF MORBIDITY AND MORTALITY AFTER KNEE ARTHROPLASTY SURGERY. Monica Taneja*, Michael Mazzeffi¹, Magali Fontaine², Steven M. Frank³, and Kenichi Tanaka¹, ¹Department of Anesthesiology, University of Maryland School of Law and ²Department of Pathology, University of Maryland School of Medicine, and ³Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.

Poster Presentation Session II

1:50 – 3:10 p.m.

Zoom Room B

P.09 1:50 p.m. [See Poster](#)

THE IMPACT OF INTERMEDIATE TITER ANTIBODIES TO INFLIXIMAB AND ADALIMUMAB ON CLINICAL OUTCOMES IN PATIENTS WITH CROHN'S DISEASE OR ULCERATIVE COLITIS. Chaoyang Wang*, Mazen Tolaymat¹, and Raymond Cross, Division of Gastroenterology and Hepatology, Department of Medicine, University of Maryland School of Medicine, Baltimore, MD.

P.10 2:00 p.m. [See Poster](#)

CLINICAL TOXICITY OUTCOMES FROM PROTON BEAM THERAPY FOR GYNECOLOGIC MALIGNANCIES: A MATCHED-PAIR ANALYSIS WITH PHOTON RADIOTHERAPY. Hunter Risher*, Ariel Pollock¹, Kai Sun², Ishan Oza³, Elizabeth Nichols¹, and Pranshu Mohindra¹, ¹Department of Radiation Oncology and ²Division of Biostatistics and Bioinformatics, Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD, and ³University of Maryland, College Park, College Park, MD.

P.11 2:10 p.m. [See Poster](#)

ASSESSING ENTHUSIASM OF SCREENING MAMMOGRAPHY TEXT MESSAGES FOR AFRICAN AMERICAN WOMEN. Paapa Nyanin*, Amina Dhahri¹, and Shana Ntiri², ¹Department of Medicine, University of Maryland Prince George's Hospital Center, Cheverly, MD, and ²Department of Family and Community Medicine, University of Maryland School of Medicine, Baltimore, MD.

P.12 2:20 p.m. [See Poster](#)

ULTRASOUND BIOMICROSCOPY CHARACTERIZATION OF TISSUE DENSITY IN THE ANTERIOR SEGMENT. Johnny Jung* and Janet Alexander, Division of Pediatric Ophthalmology and Strabismus, Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD.

P.13 2:30 p.m. [See Poster](#)

OPTIMIZING SURGICAL SKILLS TRAINING FOR OPHTHALMOLOGY RESIDENTS USING A NOVEL EVIDENCE-BASED CURRICULUM: A SYSTEMATIC REVIEW AND META-ANALYSIS. Geoffrey Nguyen*, Jamie Palmer¹, Moran R. Levin², Ramya Swamy³, Emilie Ludeman⁴, and Janet Alexander⁵, ¹University of Maryland School of Medicine, Baltimore, MD, and ²Division of Pediatric Ophthalmology, ³Division of Glaucoma, and ⁵Division of Pediatric Ophthalmology and Strabismus, Department of Ophthalmology and Visual Sciences, ¹University of Maryland School of Medicine and ⁴University of Maryland Health Sciences and Human Services Library, University of Maryland School of Nursing, Baltimore, MD.

P.14 2:40 p.m. [See Poster](#)

INTERPROFESSIONAL APPROACH TO EDUCATING MEDICAL STUDENTS ON PEDIATRIC MEDICATION TASTE AND PALATABILITY. Bailey Howard*, Jessica Biggs¹, MacKenzie Crist², Omamya Kishk³, Rebecca Carter⁴, and Regina Macatangay⁵, ¹Division of Newborn Intensive Care Unit, ²Division of Pediatrics and Oncology, and ³Division of Pediatrics, Department of Pharmacology, University of Maryland, Baltimore, and ⁵Division of Hematology and Oncology, ⁴Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD.

P.15 2:50 p.m. [See Poster](#)

FACTORS ASSOCIATED WITH BLEEDING COMPLICATIONS IN TRACHEOSTOMY PATIENTS. Lawrance Lee*, Cecelia Kim*, Joshua Finkel*, and Mira Ghneim, Division of Surgical Critical Care, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD.

P.16 3:00 p.m. [See Poster](#)

ROLE OF TRNA IN SUBSTANCE USE DISORDERS: A SYSTEMATIC REVIEW. Danny Herrera*, Cassie Wicken*, Jessica Cornell¹, Yunting Fu², and Chamindi Seneviratne¹, ¹Department of Psychiatry, University of Maryland School of Medicine and ²University of Maryland School of Health Sciences Library, Baltimore, MD.