

Acknowledgements

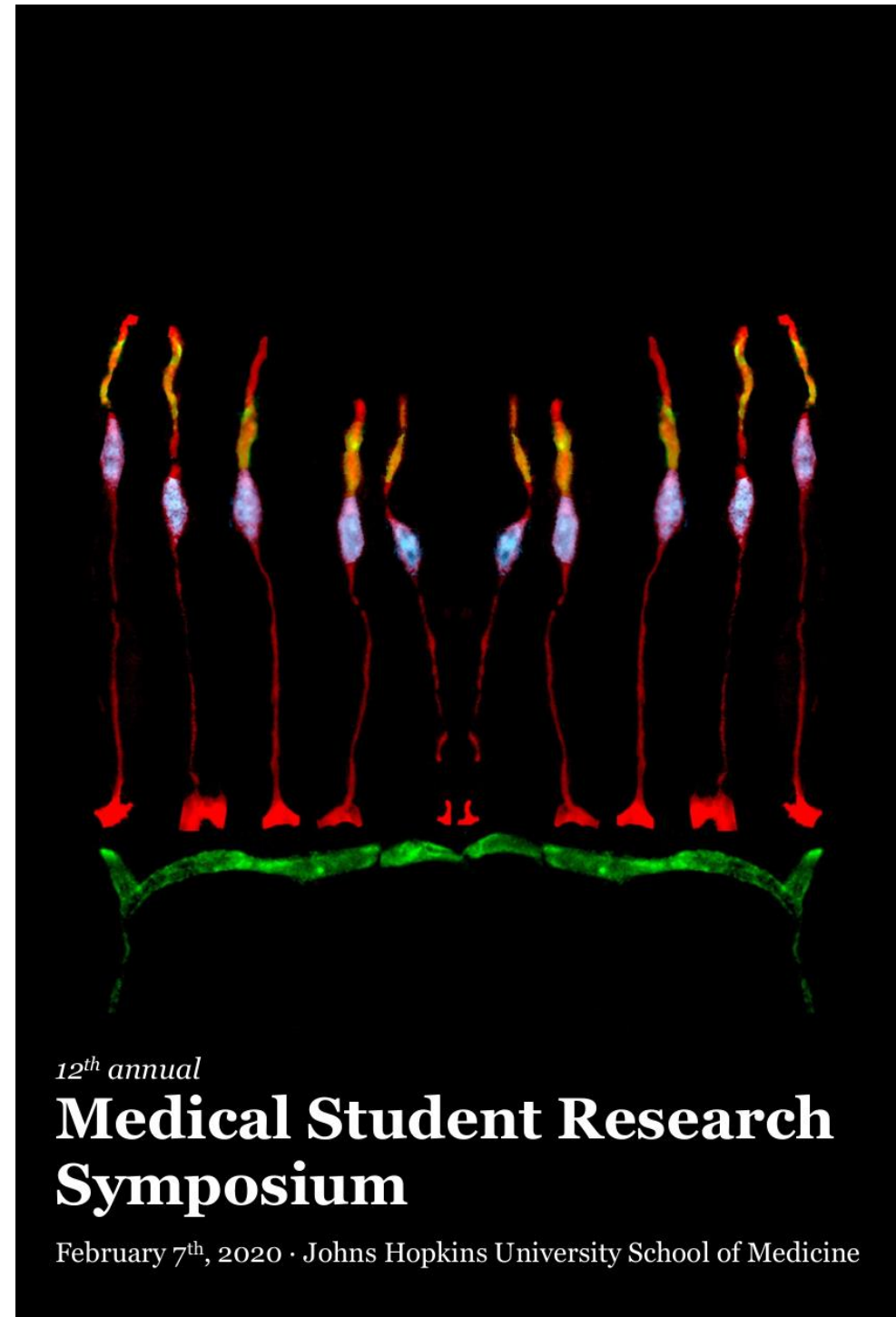
The MSRS Organizing Committee would like to thank the following people for their support putting this event together. Without their help, this day would not have been possible.

Faculty Judges
The Office of Student Affairs
The Scholarly Concentrations Faculty
Delena Dodd

Mark Dodd
Doug Hughes
Victor Raspa
John Steele

2020 MSRS Organizing Committee

Kevin Biju
Anna Clements
David Elias
Harshath Gupta
Sarah Sun Young Jang
Aamna Kabani
Anya Kim
Elizabeth Liu
Alex Lu
Rohan Panaparambil
Harry Paul
Sahba Seddighi
Vorada Sakulsaengprapha
Matthew Tan
Nancy Zhou



Medical Student Research Symposium 2020

We are pleased to have you join us for the 12th annual Medical Student Research Symposium of the Johns Hopkins University School of Medicine. As clinicians in training, we are fortunate to work among faculty who conduct a broad range of investigation that yields advances in the knowledge of human health. For the past twelve years, we have been privileged to have an event that presents the extensive endeavors that students take to advance this mission at the school.

The mission of the Johns Hopkins University School of Medicine is to educate medical students, graduate students, and postdoctoral fellows in accordance with the highest professional standards; to prepare clinicians to practice patient-centered medicine of the highest standard; and to identify and answer fundamental questions in the mechanisms, prevention and treatment of disease, in health care delivery and in the basic sciences.

The Medical Student Research Symposium is a forum for medical students at Johns Hopkins to present their own research to the greater Hopkins community. It is an opportunity for students to participate in the exchange of intellectual ideas in a professional format and meet faculty who relish the pursuit of better science and more effective medicine. Our mission is for the Medical Student Research Symposium to foster the development of young researchers who will aid in the advancement of scientific medicine for years to come.

Cover Image Courtesy of Vismaya Bachu and Michael Kaufman

“Cones” is an actual photograph of antibody-stained cone photoreceptors taken by a very powerful confocal laser microscope at the Brzezinski Lab. It is related to my time studying retinal tissue differentiation with the Department of Ophthalmology at the University of Colorado. At a lab bench was perhaps where the overlap between engineering technology and medical advances intrigued me the most. I was just as fascinated with embryonic eye dissections as with transfection machine circuits. In this photograph, the cone cells and retinal vessel (green) are stained with cone arrestin in red, RXRGamma in blue, and Podxl in green. The small dark room where “Cones” was photographed did much more than teach me how to meticulously image mammalian tissue; it exposed me to the potential of interdisciplinary collaboration and inspired me to appreciate the multifaceted nature of scientific discovery.

51	Hulaimatu Jalloh	Assessing Post-Operative Infection in Patients with Pilon Fractures
52	Hursuong Vongsachang	Are screening failure rates and consent rates in school-based vision programs correlated?
53	Insia Zufer	Assessment of Social Determinants of Health in an Integrated Maternal Mental Health Clinic within an Urban Pediatric Primary Care Practice
54	Isabel Lake	Non-Invasive Management of Pediatric Isolated, Condylar Fractures: Less is More?
55	Jacob Roberts	Determining the prevalence of tuberculosis (TB) in emergency departments in the Eastern Cape region of South Africa and the utility of an emergency department (ED)-based testing strategy.
56	Laura Pugh	Multidisciplinary Treatment Planning for Breast Cancer in Tanzania: Time to ACT
57	Mohamed Mohamed	Development of a Standardized Breast Cancer Diagnostic Pathway for Bugando Medical Centre
58	Mya Abousy	Policies and Price Tags: the public's perception of face transplants and their funding
59	Nicholas Daneshvari	Could ischemic stroke infarct volume aid in determining stroke subtype?
60	Rochelle Prokupets	The Effect of Re-exploration for Bleeding on Postoperative Outcomes for Cardiac Surgery
61	Rohanit Singh	Systematic Review of Selected CKD Websites
62	Sarah Frey	Identification of Primary Site of Malignancy in Patients with Skeletal Metastases and Unknown Primary Malignancy in a Modern Cohort
63	Shanna Yue	Analyzing outcomes for a school-based directly observed therapy program for asthma.
64	Tina Esfandiary	Assessing the Face Validity of Myositis Patient-Reported Outcome Measures

37	Sharon Pang	Health Outcomes in Older Adults Undergoing Endovascular Therapy for Acute Ischemic Stroke
38	Xinyi Chen	Factors Influencing Post-Graduate Career Decisions of Ophthalmology Residents
39	Yangshu Linda Pan	Antenatal and Postpartum Contraceptive Concordance: How Often do Patients Receive Their Requested Method?
40	YoonJi Moon	Implementation of a Stroke Center in Latin America: benchmarks, demographics, and outcomes of acute ischemic stroke

HEART: Humanism, Ethics, Education and the Art of Medicine

No.	Name	Title
41	Ashlyn McRae	Assessing Medical Students' and Residents' Attitudes Towards Student Note Writing and Use of Student Notes for Billing
42	Harisa Spahic	Farm to Clinic – Does Having a Choice Influence Program Adherence and Food Consumption?
43	John Bliamptis	Physician attitudes toward deceptive administration of placebos as therapeutics
44	Lillian Hayes	“One foot in front of the other”: A qualitative exploration of thru-hikers' experiences on the Pacific Crest Trail
45	Vignesh Sadras	Exploring patients' and spiritual care providers' perspectives on a spiritual care program and its influence on patients and their primary care.

History of Medicine

No.	Name	Title
46	Nabila Ali	The Most Magnificent Work of the Most Excellent Art: Anatomical Representation in the 18th Century in Cheselden's Osteographia

Public Health Research

No.	Name	Title
47	Alexander Blum	Rohingya Refugee Family Perspectives on Birth Delivery Location
48	Austin Peer	HIV, STIs, and pregnancy among women of reproductive age in a Lake Victoria fishing community: a population-based study
49	Chelsea Moriarty	The ACA's Medicaid Expansion on Access to Obesity Treatment
50	Danielle Amundsen	Taking Another Look: Diphtheria in India

2020 MSRS Program Schedule

12:00 - 12:15 PM Registration/Lunch

AMEB main lobby

12:15 - 2:00 PM Podium Presentations

AMEB 1st floor lecture hall

2:00 - 3:30 PM Poster Session

AMEB 2nd floor atrium

3:30 PM Refreshments

AMEB 3rd floor

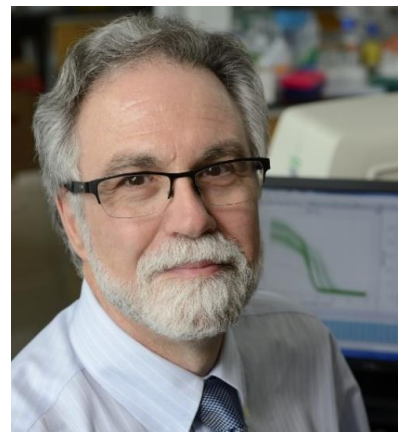
3:40 - 4:45 PM Concurrent Oral Presentations

AMEB 3rd floor presentation rooms

4:50 - 5:30 PM MSRS Award Ceremony featuring

**Keynote speaker,
Dr. Gregg L. Semenza**
AMEB 1st floor lecture hall

Keynote speaker



Gregg L. Semenza, M.D., Ph.D.

Nobel Laureate

American Cancer Society Research Professor
The C. Michael Armstrong Professor of Genetic Medicine
Director, Vascular Program, JHUSOM Institute for Cell Engineering

Schedule of Podium Presentations

12:20 PM	Eleanor Burton	A novel role for the aryl hydrocarbon receptor in the pathogenesis and treatment of necrotizing enterocolitis
12:32 PM	Andrew Schilling	Novel MRI-based score for assessment of trabecular bone quality to predict vertebral compression fractures in spinal metastatic disease
12:44 PM	Sunyoung Jang	The Association of the Novel Inflammatory Marker GlycA and Incident Heart Failure and its Subtypes of Preserved and Reduced Ejection Fraction: The Multi-Ethnic Study of Atherosclerosis
12:56 PM	Jenny Chen	IL-6 from smooth muscle cells is associated with clinical phenotypes and survival in adults with pulmonary arterial hypertension
1:08 PM	Ethan Morris	Socialized Medicine in mid-20th Century Baltimore: A Local Reflection of the Fight for American Health Care
1:20 PM	Macy Early	Patient education materials regarding reproductive technology: A need for improvement
1:32 PM	Joshua Materi & Giorgio Caturegli	Simplified Prescribing Tool for Tuberculosis Preventative Therapy: A Pilot Study in Matlosana, South Africa
1:44 PM	Jareatha Abdul-Raheem	Left Ventricular Diastolic Dysfunction among Children with Obesity and History of Elevated Blood Pressure

16	Breanne McCarthy	AKAP13 Interacts With the Vitamin D Receptor to Alter Vitamin D-Dependent Gene Activation in Uterine Fibroid Cells
17	Caroline Qin	Medication, Supply, and Blood Product Cost Awareness Among Anesthesia Providers
18	David Botros	Assessing the Efficacy of Repeat Resection for Glioblastoma
19	Elizabeth Liu	Prevalence of aspirin use for prevention of cardiovascular disease in U.S. adults with and without diabetes: National Health and Nutrition Examination Survey (NHANES), 2011-2016
20	Emerson Lee	Dysphagia in a geriatric, care-seeking population: a descriptive study
21	Erik Almazan	Association of diabetes, cigarette smoking, liver disease, and headache with granuloma annulare: a case-control study
22	Evelyn Leland	Leukocytoclastic vasculitis with and without IgA deposition is associated with renal damage: a case-control study
23	Feras Shamoun	The Evolving Trends in the Impact Factor of Plastic Surgery Journals: A 22-Year Analysis
24	Galen Shi	Erythema Multiforme: Characteristics, Associations, and Treatment in a Series of Johns Hopkins Hospital Patients
25	Gilberto Lobaton	Workforce and Compensation Trends in Maryland Hospitals after Introduction of Global Budget Revenue
26	Glory Mgbogi	Predictive Factors for Fertility Preservation in Pediatric Patients with Planned Gonadotoxic Treatment
27	Grace Ma	New Onset Epilepsy during Pregnancy
28	Ha Vi Nguyen	The Clinical Importance of Postpartum Contraception Upon Hospital Discharge
29	Heba Mahjoub	Analysis of tumor characteristics and circulating tumor DNA (ctDNA) in women with early stage hormone receptor (HR)-positive breast cancer
30	Matthew Tan	Accuracy of propofol doses in the electronic medical record (EMR) system
31	Meghana Jami	Treatment and Prognosis of Patients with Skip Metastasis and Extremity-Only Osteosarcoma: A Case Series
32	Michelle Colbert	Broadly-neutralizing antibodies with the same antigenic specificity show preference for single polymorphisms within the AR3 epitope
33	Mitchell Huang	Evidence-Based Analysis of Online Consumer Information about Prostate Artery Embolization for Benign Prostatic Hyperplasia
34	Prachi Aggarwal	The natural history of prurigo nodularis: an online, global questionnaire-based study
35	Ravi Medikonda	The Effects of Postoperative Neurological Deficits on Survival in Patients with Single Brain Metastasis
36	Rohan Bajaj	A Quantitative Method of Grading Fuchs' Dystrophy Using Images Taken at the Slit Lamp

Poster Directory

AMEB 2nd floor, *Listed Alphabetically by First Name of Author*

Basic Science

No.	Name	Title
1	Catherine Yip	The Application of Epigenetic Modulation to the Immunogenicity of Pediatric Sarcomas
2	Harshath Gupta	Investigating Complex Chromosomal Rearrangements in Prostate Cancer with Synthetic Long Read Assembly
3	Jack Korleski	Verifying genes regulated by PRC2 in Glioblastoma multiforme stem cells
4	Josh Gray	Whole-Genome Sequencing of Staph aureus for Nosocomial Outbreak Analysis
5	Mary Rostom	Potential of Subcutaneous Cell Implantation for Treatment of Lysosomal Storage Diseases
6	Melissa Staley	How does Electroconvulsive Therapy suppress Self-Injurious Behavior associated with Intellectual and Developmental Disabilities: Focus on Mechanism
7	Nancy Zhou	In Vitro Biocompatibility of Engineered Magnetic Nanoparticles in Mouse Organ of Corti Explant Cultures

Clinical Science

No.	Name	Title
8	Abhishek Gami	Decision-making in unruptured intracranial aneurysms: correlation of the Unruptured Intracranial Aneurysm Treatment Score and PHASES score with referral center practice
9	Adaobi Ugochukwu	Medical Cannabis, Cannabinoids, and Myositis: Understanding Patient and Physician Attitudes, Beliefs, and Knowledge
10	Ainsley Taylor	Open Payments: Evaluating sex-based disparities of physician-industry payments within the 2016 American Academy of Orthopaedic Surgeons (AAOS) committee leadership
11	Amancio Romero-Sackey	Multidisciplinary Team Integration Improves Treatment Completion and Reduces Racial Disparity in Cervical Cancer
12	Andrew Supron	Primary Robotic Retroperitoneal Lymph Node Dissection Following Orchiectomy for Testicular Germ Cell Tumors: A Single-Surgeon Experience
13	Anthony Salerno	Bronchoscopic transbronchial biopsies for assessment of lung allograft rejection: factors that impact specimen adequacy
14	Anna Gong	Effect of IV Bevacizumab Therapy on Visceral Arteriovenous Malformations in Patients with Hereditary Hemorrhagic Telangiectasia
15	Annie Cho	Predicting orbitorrhea using optic nerve stretch in anterior skull base fractures

Faculty Judges

Aarti Mathur	Gerald Brandacher	Noton Dutta
Alan Scott	Gislin Dagnelie	Padmini Ranasinghe
Alejandro Garcia	Graham Redgrave	Paul Fuchs
Alexandra Maertens	Hanseok Ko	Paul Rosenberg
Amin Herati	Heather McKay	Paul Sponseller
Amol Narang	Hernando Lopez-Bertoni	Rachel Salas
Anne Murphy	Israel Gannot	Rafael Llinas
Ashwini Davison	James Brasic	Rajani Sebastian
Balaji Krishnamachary	James Ferriss	Ralph Hruban
Barry Nelkin	Janet Crane	Randall Packard
Barry Solomon	Jeffrey Scott	Raquel Greer
Betty Chou	Jennifer Coughlin	Raul Chavez-Valdez
Brian Caffo	Jonathan Coulter	Robert Sterling
Bruce Klein	Khalil Ghanem	Russell Margolis
Byoung Chol Oh	Kim Davis	Sangeeta Ray
Caitlin Hicks	Kristin Bibee	Sanjay Desai
Carol Newill	Kristin Riekert	Sharon Bord
Charles Steenbergen	Leticia Ryan	Shaun Kunisaki
Christine Ruggere	Logan Weygandt	Sheela Magge
Clint Cappiello	Lois Eldred	Silka Patel
Corey Tapper	Luciane Kagohara	Som Saha
Cozumel Pruette	Marc Halushka	Stefano Schena
Daniel Ford	Marcelo Diaz-Bustamante	Stephen Yang
Debraj Mukherjee	Mariana Brait	Sudipto Ganguly
Donna Magid	Mark Anderson	Thomas Smith
Douglas Gladstone	Marta Hanson	Tim Witham
Elisabeth Marsh	Mary Catherine Beach	Tina Tran
Elizabeth Wise	Mary Fissell	Tracy Friedlander
Eric Bass	Meghan Berkenstock	William Nelson
Frederick Nucifora	Mohammad Hoque	Young Bong Choi
Gail Geller	Nilanjan Chatterjee	Yu-Hsiang Hsieh

Schedule of Concurrent Oral Presentations (3:40 – 4:45 pm)

	Room 226 History of Medicine/HEART	Room 260 Basic Science	Room 320 Clinical Science	Room 326 Clinical Science	Room 341 Clinical Science	Room 342 Clinical Science	Room 343 Public Health	Room 344 Public Health	Room 345 Public Health
3:40 PM	Margo Peyton Segregated in Life and Death: Autopsy and the Racial Science of Tuberculosis at Johns Hopkins	Harsha Malapati Engineered IGF-1 Nanoparticles Delivered in Nanofiber Hydrogel Carrier to Improve Functional Recovery After Peripheral Nerve Injury	Jack Campbell Improving accuracy of intraocular lens formulas in eyes undergoing combined cataract extraction and DMEK	Anna Christina Clements Preoperative Testing and Outcomes in Pediatric Adenotonsillectomy for Very Severe Obstructive Sleep Apnea	Priyanka Kumar Age-Based Gaps between Awareness of Photoaging and Photoprotective Practices among Skin of Color Adults: Opportunities for Intervention	Kaushik Parvathaneni Association Between Mid-Life Physical Activity and Incident Kidney Disease: The Atherosclerosis Risk in Communities Study	Alexa Mullins Caregivers' healthy eating value systems under economic constraints: perspectives on utilizing federal nutrition assistance benefits in the interest of their children's health	Yesha Shah Ability to Predict Visual Field Damage in Glaucoma Using Patient Reported Symptoms	Malcolm Matheson Biomarkers of Ketamine's Antidepressant Effect: A Systematic Review of Neuroimaging Studies
3:52 PM	Andrew Lea MYCIN Explains Itself: Computing, Authority, and Trust in American Medicine	Rohan Verma Proteogenomic single cell analysis of skeletal muscle myocytes	Pavan Shah Mutation Status as a Prognostic Marker for Survival Post-Resection of Non-Small-Cell Lung Cancer Brain Metastases	Waverley He Comparing Clinical Outcomes for TRAM, DIEP, and Latissimus Dorsi Flap Breast Reconstructions: A Systematic Review and Meta-Analysis	Samantha Ip Non-Accidental Trauma in Pediatric Patients: Evidence-Based Screening Criteria for Ophthalmologic Examination	Daisy Dai The Effect of Language Barriers at Discharge on Pediatric Adenotonsillectomy Outcomes and Healthcare Contact	Trevor Glenn Engagement and Affective Communication During Pediatric Nephrology Clinic Visits: Associations with Medication Adherence	Mary Chen The Effectiveness of a Breathing Biofeedback Device on Pediatric Anxiety	Amanda Jones What antenatal fetal surveillance parameters predict fetal demise in Down syndrome?
4:04 PM	Erica Lee Body Image and Race in Online Resources for Breast Reconstruction: What Do Patients See?	Aria Shi Microglial Activation and Functional Changes in a Rabbit Model of Cerebral Palsy	Vorada Sakulsaenggrapha Analysis of Variation in Pre-Procedural Fasting Duration for Common Inpatient Gastrointestinal Procedures	Dana Huh Association of Clinical and Demographic Factors with Phototherapy Outcomes in Patients with Atopic Dermatitis	Vasu Munjapara Exploring Parental Decision-Making Regarding Long-term Ventilation for Children with and without Severe Neurological Impairment	Joon Ying Boon Characterizing Drivers of Medical Resource Utilization Among Adolescents and Young Adults with Sickle Cell Disease	Derek Teng Prevalence and Cost of Unnecessary Preoperative Testing in Patients Presenting for Emergent Open Globe Surgical Repair	Nivedha Kannapadi Risk Factors for LVAD-Associated Stroke and Other Adverse Outcomes	Shirley Wang Barriers to Receipt of Intended Treatment for HIV-Positive Women with Cervical Cancer
4:16 PM	Michelle Recto Implementation of an Expanded Clinical Reasoning Curriculum in the Pediatrics Core Clerkship	Vismaya Bachu Intronic Element of Pde6c Acts as an Early Cone-Specific Enhancer in the Murine Retina	Jennifer Franke Glycerol Rhizotomy for Tumor Associated Trigeminal Neuralgia: A Case Series	Srujan Kopparapu Predictors of Postoperative Visual Improvement Following Surgical Intervention for Craniopharyngiomas	Jack Gatti Childhood Arterial Ischemic Stroke and Vasculopathy Subtypes: Etiologies, Natural History, and Outcomes	Angela Liang Reducing fields of radiation to decrease treatment toxicity in differentiated thyroid cancers	Carolyn Reuland Barriers and Facilitators to the Implementation of a Pediatric Early Warning Score (PEWS) in a Limited-Resource Setting	Alyssa Kretz Stakeholders' Perceptions of a School-Based Eye Care Program in Baltimore, MD	Alexandra Lombardo Changing Characteristics of Decedents with HIV over 10 Years in South Africa
4:28 PM	Larisa Breden Farm to Clinic: Does Nutrition Education Impact Diet Modification?	Zaw Phyo Site-specific profiling of TCR signaling	Darya Fadavi Do Capitated Hospital Budgets Influence Rates of Select Procedures?	James Whitbread VAD Status and Age Impacts Rate of Heart Transplantation for Waitlist Candidates	Julie Kim Frequency of Post-Tonsillectomy Hemorrhage Relative to Time of Day	Michael Bray Educational Achievement and Youth Homicide Mortality: A City-Wide, Neighborhood-Based Analysis	Hursuong Vongsachang Students Who Failed School-based Vision Screening: How Significant is Their Refractive Error?	Giorgio Caturegli Acute Brain Injury in Infant ECMO: An Autopsy Study	Jaclyn Nguyen Suicide Among Maryland Decedents with Parkinson's Disease