

EXPLORE Symposium Student Projects

The following is a sample of recent student projects presented at the EXPLORE Symposium, organized by EXPLORE Program. More information is available through EXPLORE or from the Office of Medical Student Research.

Advocacy/Global Health

- Optimizing Health Care Access for American Indians and Alaskan Natives
- Estimating the Impact of the COVID19 Pandemic on Routine Childhood Vaccination Coverage, a Global Analysis 2020-2021
- Outcomes After Cardiac Surgery During the COVID-19 Pandemic at a Quaternary Referral Center
- Monkeypox in the Media: Unbiased Language Matters
- Cardiovascular Disease Preventive Medication Use in 40 Low- and Middle-Income Countries
- Risk of Delivery Complications Among Pregnant Women Experiencing Housing Problems
- Accessible Medical Education & TIC: Increasing Equitable Care for Disabled Patients
- The Interaction of Race and SES on Survivorship of Laryngeal and Oral Cavity Cancer
- Developing a Dissemination Plan for a Mixed-Methods Study of St. Louis's School Desegregation Program Health Impacts and Participation
- WHO COVID-19 Vaccine Project: Implementation Science Perspective
- Geographical Disparities in Cerebral Palsy Epidemiology
- Timing of Medicaid Enrollment and Breast Cancer Stage at Diagnosis, Treatment Delays, and Mortality
- Racial Disparities in NICU Care of Preterm Infants: Perspectives of Non-Hispanic Black Mothers
- Perspectives on Gender Affirming Care from the Ballroom Community

Education

- Art & Stigma Curriculum: Facilitating Reflection About Patient Stigma Among Medical Students
- Assessing the Need to Integrate an Artificial Intelligence Curriculum in Undergraduate Medical Education: A Survey of Medical Students and Faculty Educators
- Assessing The Value of Research in Residency Applications: Insights from Academic Plastic Surgeons
- Optimizing the Work of Learning through Burnout Prevention: A Randomized Pilot Study of the OptimalWork Program in Medical Students
- Teaching Shared Decision-Making during Virtual Care to Rheumatology Fellows
- A Picture Speaks a Thousand Words: Teaching Visual Communication Skills to Medical Students
- Demographic Differences and the Impact of Research Years for Reapplicants to Dermatology Residency Programs: A Retrospective Cohort Study
- Developing an Online Module for Washington University's Student-Resident IPE Teaching Certificate Program
- Gender and Racial Diversity Among Colon and Rectal Surgery Trainees and Leaders
- Strong Together: Forum for Women in Medicine, a Professional Development Initiative for Trainees
- An Educational Intervention to Develop Medical Students' Self-Efficacy and Confidence in Assessing Patient Sexual Health
- Gender and Racial Diversity in Neurosurgery: Resident Trainee Specialty Decision Making

Innovation

- Empowering Physicians: Innovating for Transparency and Culture in Healthcare
- Redesigning the Hospital Environment to Improve Restfulness
- Exploration of Mixed Reality Technology in Surgical Resident Training
- CHOOSE CMN: Development of a Novel Decision Aid for Use in Pediatric Dermatology
- Between Tradition and Technology: FlashChat AI's Potential Role in Medical Education
- Private Equity's Impact on Fertility Clinics: A Comprehensive Study

- A Quality Improvement Project to Standardize Assessment of Hospital-Acquired Venous Thromboembolism (HA-VTE) Risk in Pediatric Patients
- Mercury Patch: Pressure Sensor
- A Student Directed Approach to Vessel Anastomosis Innovation
- Application of Spiral Flow to Wide Neck Bifurcation Aneurysms
- Improving Antibiotic Prescribing Practices for Acute Otitis Media in a Pediatric Emergency Unit
- Comparison of Patient Outcomes and Efficiency of Microsurgeries Performed by Single Surgeon Versus Co-Surgeon
- Grapevine Biosciences – Rapid Diagnostic Testing for Central IV Line Infections
- Intrarenal Pressure with Vacuum Assisted Ureteral Access Sheaths using an In Situ Cadaveric Porcine Model
- Opstomize - Ostomy Life Optimized
- Sleep Preservation in the Inpatient Setting
- ChronoCast: An Application for Machine Learning in Patient Discharge

Research

- Investigation of Preoperative Mood and Pain Predictors for Acute Postoperative Anxiety and Depression Using Ecological Momentary Assessments (EMA)
- A 25 Year Follow Up Study of Pediatric Bipolar Patients May Reveal Differences in Adult Sleep Behavior
- Inflammatory Response in Peripheral Nerve Injury
- Transposable Element-Directed Lin28B Abrogation through Splice-Switching Oligonucleotides (TED LASSO)
- Sex-Related Differences in Spinal Cord Injury Outcomes
- Insurance Coverage and Patient Costs for Orthotic Helmeting Following Minimally Invasive Strip Craniectomy for Craniosynostosis
- Socioeconomic Status and Kidney Stones: Analysis of Area Deprivation Index and Changes in 24-Hour Urine Composition in Patients with Nephrolithiasis
- Surgical Fixation of Cartilage-Only Defects in the Knee: A Systematic Review
- Neighborhood Crime and Externalizing Behavior in Toddlers: A Longitudinal Study with Neonatal fMRI and Parenting
- Risk Factors for Dysphagia following Anterior Cervical Discectomy and Fusion: A Single Surgeon Experience
- Literature Review: Subjective Effects of Nitrous Oxide Inhalation
- An Aberrant INSM1-Dependent Intermediate Neuronal Progenitor State Drives Tumorigenesis in a Human Stem Cell Model of Glioblastoma
- Tracking Behaviors with Deep Learning During Virtual Reality Goal Learning
- Catatonic Syndrome with High Dose Ketamine
- Robotic Surgery - Financial and Operational Comparisons
- Assessing HbA1C Trajectories and the Risk of Diabetic Retinopathy in Pediatric Patients
- A Pupillary Contrast Response in Mice and Humans: Neural Mechanisms and Visual Functions
- Predictors of Progressing Toward Lifestyle Change among Participants of an Interdisciplinary Lifestyle Medicine Program
- Phenotypic Heterogeneity in a Family with a Late Cone-Rod Homeobox Truncation Mutation
- Targeted Deletion of ZFP36L2 Reveals Essential Role in Lens Growth
- Polycomb Repressive Complex 2 Mutations Shape the Transposable Element Transcriptional Landscape of Diffuse Midline Glioma and Malignant Peripheral Nerve Sheath Tumor
- Loneliness in Medicine and Relational Bioethics: A Phenomenology of the Patient-Physician Relationship
- Alterations in Cardiac Macrophages and Fibroblasts May Contribute to Radiation-Induced Attenuation of Adverse Cardiac Remodeling in a Murine Model of Heart Failure
- Inhibition of SARM-1 Reduces Neuropathic Pain in a Spared Nerve Injury Rodent Model
- Demographic Distribution of Neurosurgical Resident Distribution
- Statistical Shape Modeling of an Experimental Induced FAI-Cam Deformity in a Rabbit Model. A Platform to Study Mechanism of Hip Disease
- Diaper Rash Treatment: A Consensus Study

- Prevalence and Correlates of Preoperative Anxiety and Depression in Patients Undergoing Major Surgery
- Long-Term Outcomes of Combined Periacetabular Osteotomy and Hip Arthroscopy for Acetabular Dysplasia
- Porcine Acellular Dermal Matrix Graft for Canthal Reconstruction
- Presentation of Self Peptides Regulates and Guards the CNS from Autoimmunity
- Neutrophil Recruitment and Adherence to the Lung Capillary Vessels Lead to Respiratory Failure After Acute Kidney Injury
- Decisions, Decisions: Learning about Disseminating Information about New Surgical Treatments
- Role of Primary Cilia in Mediating ER Stress in Pancreatic Islet Cells
- Targeting Cell Type-Specific, Choroid-Peripheral Immune Signaling to Treat Age-Related Macular Degeneration
- A Structure-Function Approach to Developing Microbiota Directed Foods for Undernutrition
- The Utility of Ulnar Nerve Cross Sectional Area in Predicting Patient Outcomes After Cubital Tunnel Surgery
- Drug Specificity and Affinity are Encoded in the Probability of Cryptic Pocket Opening in Myosin Motor Domains
- Near-Infrared Fluorescent Probes for Cancer Microenvironment Imaging of Activated Fibroblasts
- Comparing Bladder Neck Contracture Rate between Robotic Intracorporeal versus Extracorporeal Neobladder Construction
- The Role of Thrombectomy in Large Core Strokes: A Look at Our Institutional Practice in Light of the SELECT2 Trial
- Telemedicine Use Following Onset of the COVID-19 Pandemic was Associated with Youth and White Race but Not with Socioeconomic Deprivation: a Retrospective Cohort Study of Orthopaedic Patients
- In Vitro MHC Class I Binding Validation of In Silico Predicted Follicular Lymphoma Neoantigens
- Developing Novel Drug Delivery System for Osteoporosis Using Cellular and Genome Engineering
- National Trends in the Utilization of Minimally Invasive and Open Liver Resections
- NF2 Loss-of-Function and Hypoxia Drive Radiation Resistance in Grade 2 Meningiomas
- Patient Perspectives on Cancer Cost Conversations: Insights and Opportunities to Reduce Cancer Disparities
- Primary Rhinoplasty Nasal Outcomes in Patients with Cleft Lip and Palate
- Transcriptomic Characterization of Cerebrospinal Fluid Microglia-Like Cells in Multiple Sclerosis
- Metastatic Renal Cell Carcinoma in a Patient with Autosomal Dominant Polycystic Kidney Disease
- Mandibular Condylar Neck Fractures: a Treatment Algorithm
- Does Gender Affect Experiences in the Operating Room for Surgeons and Anesthesiologists at a Large Academic Center?
- The Impact of Lumbar Microdiscectomy in Adolescents on PROMIS Pain, Physical Function, and Mental Health Domains
- MRI Findings in Preterm Infants Associated with Strabismus
- Hemagglutinin Stability Determines Susceptibility to Antibodies Targeting the Trimer Interface
- Outcomes of 2PN Freeze All Cycles: A Descriptive Study
- Mental Health Symptoms Among Non-binary College Students
- Efficacy of Dapagliflozin in the Progression of Geographic Atrophy secondary to Age-Related Macular Degeneration
- Probing the Neuro-Immune Circuits of Endometriosis-Induced Depressive-Like Symptoms in Mice