

Stanley Manne Children's Research Institute™

Internal Grant Award Program Announces Awardees

Stanley Manne Children's Research Institute is pleased to announce the winners of the Fall 2021 Internal Grant Award (IGA) Program. The IGA Program provides researchers with resources to develop projects that will lead to a highly competitive extramural application for sustained research support within 18 months of receiving the award. All awards are for a one-year period.

The Fall 2021 IGA Program accepted proposals for five award categories:

- **Proposal Revision Award** is for up to \$100,000 to support the preparation of a revision and resubmission of an application for federal research support.
- **Program Accelerator Award** is for up to \$75,000 to support planning and development of program project-related applications expected to lead to a submission within 18–24 months of the start of funding.
- **Visionary Award** is for up to \$75,000 to support potentially paradigm-shifting research.
- **Interdisciplinary Colloquia Award** is for up to \$5,000 to bring together multi-disciplinary investigators from Manne Research Institute and Northwestern University to share scientific knowledge and envision future research related to children's health research.
- **Scientific Advocacy Award** is for up to \$1,000 per year to advocate for children's health research at the regional and national level and raise the stature of Manne Research Institute and Lurie Children's investigators in scientific advocacy.

Congratulations to the recipients of the Fall 2021 Internal Grant Awards.

Wendy Brickman, MD

Attending Physician, Endocrinology, with Ann & Robert H. Lurie Children's Hospital of Chicago, and Associate Professor of Pediatrics with Northwestern University Feinberg School of Medicine

IGA type: Proposal Revision Award

Title: Revisions for Hyperglycemia and Adverse Pregnancy Outcomes Study—Cardiovascular Health of HAPO Offspring (HAPO CVH)

Amount funded: \$17,000

The grant allows Dr. Brickman to prepare for the resubmission of application 1 RO1 HL160921-01, "Hyperglycemia and Adverse Pregnancy Outcomes Study—Cardiovascular Health of HAPO Offspring (HAPO CVH)." Specifically, the funds support a feasibility site at each of the four study sites in North America to demonstrate their ability to recruit young adults for a second HAPO follow-up study visit.



FALL 2021 IGA RECIPIENTS

Isabelle De Plaen, MD

Attending Physician, Neonatology, with Ann & Robert H. Lurie Children's Hospital of Chicago, and Professor of Pediatrics with Northwestern University Feinberg School of Medicine

IGA type: Proposal Revision Award

Title: Novel Non-invasive Approach for Predicting Retinopathy of Prematurity in Premature Neonates

Amount funded: \$100,000

Maldevelopment of the microvasculature in premature neonates plays a major role in the development of diseases such as retinopathy of prematurity, necrotizing enterocolitis, and pulmonary hypertension associated with bronchopulmonary dysplasia, which are major causes of morbidity and mortality in premature infants. Nailfold capillaroscopy is a non-invasive technique useful in adults and children with connective tissue diseases to predict relapses, but it is not currently used in premature neonates to assess capillary development. Dr. De Plaen's research team plans to identify the longitudinal development changes of nailfold capillaries in premature infants and define capillary nailfold parameters that most reliably predict retinopathy of prematurity development in very-low-birth-weight infants.



Tracy Gertler, MD, PhD

Attending Physician, Neurology, with Ann & Robert H. Lurie Children's Hospital of Chicago, and Professor of Pediatrics (Neurology) with Northwestern University Feinberg School of Medicine

IGA type: Interdisciplinary Colloquia Award

Title: Building a Translational Neurogenetics Forum

Amount funded: \$5,000

The translational neurogenetics team, comprised of Dr. Gertler, Dr. Divakar Mithal, genetic counselors Erin McGinnis and Jelena Ivanisevic, and nurse coordinator Cat Hanneken, is supporting new presentations and discussions among a diverse range of clinicians and researchers as part of efforts to foster multidisciplinary interest in neurogenetics research across clinical and basic neuroscience groups on campus. Their outreach will include cohort assembly and classification of rare neurogenetic disease as well as early publication of functional, experimental investigations that have clarified a clinical test result; when broader opportunities arise, they will support identification of potential mechanisms for pilot funding of translational efforts. They will also encourage participation and presentation of ongoing studies by trainees at Lurie Children's and Northwestern Research Symposia and departmental (e.g., pharmacology, neurology, physiology) research discussions.



FALL 2021 IGA RECIPIENTS

Larry Kociolek, MD, MSCI

Attending Physician, Infectious Diseases; Medical Director, Infection Prevention and Control; and Irene Heinz Given and John La Porte Given Professorship in Pediatrics with Ann & Robert H. Lurie Children's Hospital of Chicago, and Assistant Professor of Pediatrics with Northwestern University Feinberg School of Medicine

IGA type: Visionary Award

Title: Natural History of *Clostridioides difficile* Humoral Immunity in Children with Cancer

Amount funded: \$75,000

Children with cancer experience very high rates of both *Clostridioides difficile* infection and asymptomatic colonization with *C. difficile*. It is not known why some children with cancer develop gastrointestinal illness while others remain symptom free after exposure. Dr. Kociolek's research team hypothesizes that pre-existing and persistent immunity protects some children with cancer against *C. difficile* infection. If proven, this suggests that *C. difficile* infection may be vaccine preventable. Through a new interdisciplinary and multi-institutional translational research collaboration, the team aims to characterize the humoral anti-*C. difficile* toxin response in children with leukemia and establish that humoral anti-*C. difficile* toxin responses are protective against *C. difficile* infection.



Xiao-Nan Li, MD, PhD

Rachelle and Mark Gordon Endowed Professorship in Cancer Research with Ann & Robert H. Lurie Children's Hospital of Chicago; Director of Pediatric Xenograft Modeling with Stanley Manne Children's Research Institute; and Professor of Pediatrics (Hematology, Oncology, and Stem Cell Transplantation) with Northwestern University Feinberg School of Medicine

IGA type: Proposal Revision Award

Title: Humanized PDOX Models for Novel Immune Therapies of Pediatric Brain Tumors

Amount funded: \$100,000

Dr. Li's original application was a UO1 in response to Funding Opportunity Announcement RFA-CA-19-004 Pediatric Immunotherapy Discovery and Development Network. The need of immune-competent animal models for the development of novel anticancer therapy, including but not limited to immune-therapy, is still immense as the impact of tumor microenvironment and immune reactions on the overall responses of tumor cells to treatment are increasingly recognized. Lack of immune-competent, clinically relevant, and molecularly accurate animal models are hampering this important effort. This award will provide important support to enable the generation of critical preliminary results to facilitate the near-future re-submission of a new NIH UO1 grant application.



Shelly McQuaid, MS, CGC

Genetic Counselor III, Genetics, Birth Defects, and Metabolism, with Ann & Robert H. Lurie Children's Hospital of Chicago, and Instructor of Pediatrics (Genetics, Birth Defects, and Metabolism) with Northwestern University Feinberg School of Medicine

IGA type: Scientific Advocacy Award

Title: International Pleuropulmonary Blastoma/DICER1 Registry LCH Site Opening

Amount funded: \$1,000

Lurie Children's Cancer Predisposition Program currently oversees the cancer surveillance care for approximately 15 patients eligible for DICER1 registry enrollment. Approximately 5 adults (parents of patients) will be eligible for enrollment. In the future, McQuaid's team anticipates an increase in number of eligible participants as genetic testing is increasingly incorporated into standard oncologic care. The team anticipates that it will enroll approximately 5–10 new patients on the registry each year. McQuaid began to dedicate part of her full-time equivalent allocation towards cancer predisposition research in late 2020 and has worked to develop a relationship with study personnel at Children's Minnesota (originating site) with goals of opening a registry site at Lurie Children's. She plans to serve as the primary coordinator for the Lurie Children's registry site with goals of obtaining additional research professional support to promote Lurie Children's contributions to other hereditary cancer syndrome studies.



Arun Sharma, PhD

Director, Pediatric Urological Regenerative Medicine, with Ann & Robert H. Lurie Children's Hospital of Chicago; Director of Surgical Research with Stanley Manne Children's Research Institute; and Research Associate Professor of Urology and Biomedical Engineering with Northwestern University Feinberg School of Medicine and McCormick School of Engineering

IGA type: Visionary Award

Title: Self-Assembling Supramolecular Nanomolecules for Myocardium Repair Following Induced Myocardial Infarction

Amount funded: \$75,000

Pediatric patients presenting with prothrombic diseases, inflammatory blood vessel conditions stemming from developmentally abnormal vasculature, or coronary heart disease are at increased risk to suffer from myocardial infarction. Many biomedical platforms have been developed through nanoengineering strategies, including the implementation of unique supramolecular nanomolecules in the form of peptide amphiphiles. Dr. Sharma's team has recently demonstrated the utility of their unique anti-inflammatory peptide amphiphiles that express a specific peptide that is not only anti-inflammatory but also pro-regenerative in nature. The team's current study is examining the mechanisms of the anti-inflammatory peptide amphiphiles on tissue inflammation and wound resolution in myocardial infarction-induced mouse model.

