August 2026

Disruptive Discovery Seed Program

Supported by Emory's Office of the Provost, this internal seed program seeks to accelerate forward-thinking high-risk, high-reward projects that will successfully demonstrate feasibility and produce persistently disruptive scholarly products. The following teams were selected as awardees for their potential to be transformative and establish Emory scholars as thought leaders in their fields. Awardees received one year of funding and up to $100,000 of seed support for their work.

Rethinking the Patient Timeline with ACT-RL: A Decision-Centric Framework for Actionable Reinforcement Learning in Healthcare. This diverse project team is lead by Shengpu Tang, Assistant Professor, **ECAS**, Department of Computer Science, and supported by a diverse group of scholars including Siva Bhavani, **SOM**, and Xiao Hu and Hyunjung Gloria Kwak, **NHWSN**. As artificial intelligence becomes increasingly integrated into healthcare, ensuring that AI-generated recommendations align with real clinical workflows is critical. This project will develop a new framework called Actionable Clinical Timeline for Reinforcement Learning (ACT-RL) that better aligns AI models with the continuous nature of patient care. By addressing a common flaw in existing healthcare AI systems, the project seeks to produce more reliable treatment recommendations and establish new standards for trustworthy medical AI.

Structure-Resolved Metabolomics: A New Paradigm for Definitive Metabolite Discovery. Cassandra Quave, Professor, **SOM**, Department of Dermatology together with William Crandall (Postdoctoral Fellow) an analytical chemist and pharmacologist will work toward understanding how drugs are transformed in the body is essential for developing safer and more effective therapies. This project will create a new platform for directly visualizing and identifying drug metabolites at atomic resolution, overcoming limitations of current technologies. The research lays the foundation for structure-resolved metabolomics, a new approach that could transform drug development, toxicology, and precision medicine.

Redefining Pain in Sickle Cell Disease: A Decentralized Platform Integrating Animated Pain Phenotyping and Wearable Physiology to Replace the Numeric Pain Scale. This project team includes Charles Jonassaint, PhD, acting associate professor, **SOM**, Hematology and Medical Oncology, along with a diverse team including Fuad El Rassi, MD, Associate Professor and Chief of Hematology-Oncology, Emory/Grady Memorial Hospital; Stacey Fedewa, PhD, Department of Hematology and Medical Oncology; Vinita Singh, MD, Division Chief of Pain Medicine and Director of Cancer Pain; and community partner Sickle Cell Foundation of Georgia. Pain is the most common and debilitating symptom of sickle cell disease, yet the tools used to measure pain in clinical research have changed little in

decades. This seed-funded project will establish and validate RhythmSCD, a digital health platform that integrates wearable sensors, patient-reported outcomes, and novel pain visualization technology to better track pain over time. By improving the accuracy of pain measurement, the research could strengthen future clinical trials and support the development of more effective therapies for people with sickle cell disease.

Convergence Research Seed Program

Supported by Emory Research, awardees for this seed program seek to solve vexing research problems with societal impact by demonstrating success in early transdisciplinary projects by tackling grand challenges. Two funding phases were available for this program. Each phase is one year, with Phase I awardees receiving up to $10,000 in support and Phase II awardees receiving up to $120,000.

Phase 1 Awardees

Beyond the Margins: Community-Anchored, Low-Resource, High-Impact AI for Social Needs Screening and Referral in the Emergency Department. Co-lead by John Lewis, Assistant Professor, **SOM**, Department of Emergency Medicine, and Tina Baker Paulk, **NHWSN**, and in partnership with **Grady Memorial Hospital**. Social factors such as housing, food access, transportation, and safety have a profound impact on health outcomes, yet clinicians often lack efficient tools to connect patients with the support they need. This project will develop the foundation for an AI-powered platform that helps emergency department providers identify social needs, access reliable community resources, and track patient outcomes. The work has the potential to reduce health disparities and improve care for vulnerable populations.

African Studies in the Age of Artificial Intelligence. Co-lead by Mariana Candido, **ECAS**, Department of African Studies and Bamba Ndiaye, **Oxford College**. As artificial intelligence increasingly influences how knowledge is created and shared, African perspectives are often overlooked in the development of emerging technologies. This project will position Emory's Institute of African Studies as a hub for conversations on equity, ethics, and AI. By fostering collaborations across disciplines, the initiative aims to develop new frameworks that ensure diverse knowledge systems are represented in the design and use of AI technologies.

Toward Transformative Measurement and Management of Heavy Menstrual Bleeding. Co-led by Sheela Sinharoy, **RSPH**; Bethany Caruso, **RSPH**; and Alicia K. Smith, **SOM**, and including a diverse team of scholars. Heavy menstrual bleeding affects millions of individuals and is linked to anemia, depression, and reduced well-being, yet it remains underdiagnosed and inconsistently managed. This seed-funded project will unite

researchers across disciplines to create a shared framework for improving how HMB is measured, diagnosed, and treated. The work seeks to lay the foundation for more equitable care and better health outcomes for women and others affected by the condition.

Beyond the Handoff: Reimagining Medically Complex Pediatric-to-Adult Transitions. This project is co-lead by Stephen Patrick, **RSPH**; Dan Salina, **SOM**; Tina-Ann Thompson, **SOM**; and including patient representative and a diverse of researchers and clinicians. For young people with medically complex conditions, moving from pediatric to adult healthcare services can be a difficult and fragmented process. This seed-funded project will convene a multidisciplinary team to examine the clinical, operational, technological, and policy challenges that affect these transitions. The goal is to create a roadmap for more coordinated, patient-centered care that reduces burden on families and improves continuity across healthcare systems.

Phase 2 Awardee

Precision Survivorship Through Behavior-Gene Congruence: A Convergence Pilot in Pediatric Medulloblastoma. This project is lead by Tricia King, **NHWSN**, and co-supported by Jennifer Frediani, **NHWSN**; Stephanie Griggs, **NHWSN**; Manoj Bhasin, **SOM**; and Tobey MacDonald, **SOM**. While survival rates for pediatric brain tumors have improved dramatically, many survivors continue to experience lasting challenges with memory, attention, and learning. This seed-funded project will explore how everyday behaviors, including exercise, sleep, and nutrition, may reduce these cognitive difficulties and whether genetic factors influence a child's response. The findings could help guide personalized recommendations to support healthier outcomes for brain tumor survivors.