2024-25 URC Award Recipients

Arts: Visual and Performing

Maho, Ishiguro, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MUSIC

Gifts from the Waves: Acehnese Dance and Music in Post-Tsunami Aceh, Indonesia and Beyond

Where are the voices of female Acehnese performing artists living under Aceh's current Sharia law? My research focuses on the performing arts from Indonesia's Aceh province, an understudied area due to its 30-year political and military struggle with the central government of Indonesia (1976 - 2004). Since the resolution of the conflict, only achieved through a devastating tsunami in 2004, political scientists have produced scholarly works which focus on male-dominated political and religious spaces. Overlooked is how Muslim women have been marginalized by Aceh's recent move away from a traditionally matrifocal society to an increasingly patriarchal and conservative society governed under Sharia law. My book project, Gifts from the Waves: Acehnese Dance and Music in Post-Tsunami Aceh, Indonesia and Beyond, is the first monograph on the Acehnese performing arts, exploring facets outside its male-dominated spaces that rarely include women's voices. I argue that the changing relationship between Acehnese performing arts, discourses on gender and localized forms of Islam in Indonesia have shaped unique spaces for their creative and devotional practices, transforming the ways Muslim women dancers navigate their artistic, religious, and social worlds. Based on ethnographic research conducted in Indonesia, my project foregrounds the voices of arts practitioners in order to illustrate a manifold world of profound artistic expressions and powerful religious belief in Acehnese society. The URC award will assist me in completing this book project by granting the time for revisions and for conducting a two months period of fieldwork in Indonesia.

Tanju Ozdemir, MFA

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, FILM & MEDIA

Border

This proposal seeks funding for ***Border***, a short narrative film exploring the escalating crisis of migrant influx through the perspective of Richard Turner, a conservative landowner in Jacumba Hot Springs on the US-Mexico border. Turner, not only a legal citizen but also a landowner expecting state protection as migrants daily cross his property. Initially pursuing legal solutions, Turner is thwarted by the expiration of Title 42 in May 2023 and California law limitations on local enforcement. His breaking point comes with the destruction of his land and trees, leading Turner to craft a trap to safeguard his property. The film pivots at this moment when a group of Turkish and Kurdish migrants, including a pregnant woman, falls victim to the trap. Eschewing the language of victimization, "Border" is instead interested in the clashing of claims to civic and humanitarian rights, with migrants on one side and Turner on the other, both seeking protection from the state, and both equally justified. In doing so, the film delves into the complexities

surrounding immigration, human desperation, and the unforeseen consequences of one man's attempt to secure his land. Considering the escalating global migration crises prompted by political turmoil and environmental disasters, it is crucial to depict the vicissitudes of the migrant condition with ethical considerations. In collaboration with established film producer Mehmet Gungoren (Netflix) and Award-winning woman cinematographer Idil Eryurekli, We plan to produce it in early 2025, aiming to ready it for the festival circuit before offering it to worldwide streaming services.

Biological and Health Sciences

Mandakh Bekhbat, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PSYCHIATRY AND BEHAVIORAL SCIENCES

The role of monocyte immunometabolism in brain-immune communication and symptoms of anhedonia in depression

Approximately 30-50% of patients with major depression (MD) have increased inflammation, which promotes anhedonia – a core and disabling symptom that is often treatment-resistant. While rodent studies have demonstrated a key role for monocytes, immune cells that traffic to reward-related brain regions to lead to depressive and anhedonic behavior, how these cells communicate with the brain to contribute to anhedonia symptoms is not fully known. A better understanding of these mechanisms is required to develop more nuanced and specific immune-based treatment strategies in MD. When activated by inflammatory stimuli, monocytes are metabolically rewired to favor the glycolysis pathway, thus providing the energy and nutrients required for pro-inflammatory functions. My preliminary findings in MD patients with high inflammation revealed an increase in circulating monocytes with glycolytic reprogramming in association with the severity of anhedonia. These glycolytically activated monocytes also expressed gene signatures of inflammation and trafficking to the brain, suggesting that monocyte glycolysis may promote inflammation, brain-immune communication, and anhedonia. Combining clinical studies, metabolic assays, and an innovative "human blood-brain barrier (BBB)-on-a-chip" *in vitro* platform, in this pilot I will test the hypothesis that monocyte glycolytic reprogramming will be associated with inflammation, BBB transmigration *in vitro*, and anhedonia severity. I will also explore existing immunometabolic modulators for their potential to reverse monocyte phenotypes *in vitro*. This work will provide pilot data and conceptual and technical platforms for subsequent NIH grants to test clinically-relevant strategies targeting monocyte immunometabolic and migratory pathways to reverse the effects of inflammation on the brain and behavior.

Candace Floyd, PhD

PROFESSOR, SCHOOL OF MEDICINE, EMERGENCY MEDICINE

Optimization of Ommaya intraventricular cannulation in pig models for CNS drug discovery

The overarching goal of this project is to develop and optimize a new tool that will increase the armamentarium of translational research and fill a critical technological gap in the development of drugs to treat diseases, disorders, and injury of the central nervous system (CNS). We propose to develop and optimize the use of an Ommaya reservoir intraventricular catheter system that can be used for safe, longitudinal (i.e., repetitive) sampling of cerebrospinal fluid (CSF) or intracerebroventricular (ICV) drug delivery in pigs. There are three goals to the research. The first is to compare the "classical" trajectory to a novel trajectory for intrventricular cannulation with the Ommaya reservoir in adult pigs using MRI image-guide neuronavagation. The second goal is to assess the ability to obtain longitudinal CSF draws in unanesthetized pigs using humane methods. The third goal is to assess the CSF cytology and expression of inflammatory markers from longitudinal CSF samples. This new method will be used as a translational research tool in drug development settings that will facilitate our ability to transcend the boundaries and undertake transformative research that leads to development and translation of new drugs for treatment of CNS injury and disease.

Masayuki Hirano, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PATHOLOGY AND LABORATORY MEDICINE

Max Cooper, MD

PROFESSOR, SCHOOL OF MEDICINE, PATHOLOGY AND LABORATORY MEDICINE

Identification and characterization of innate lymphoid cells in jawless vertebrates

We have shown that the jawless vertebrates, a lineage that diverged from jawed vertebrates approximately 500 million years ago, possess a system of somatically diversified antigen receptors, the Variable Lymphocyte Receptors (VLRs), that are structurally unlike the Ig/TCR of jawed vertebrates. Nonetheless, they are expressed on cells with features of B and T cells, suggesting that the vertebrate common ancestor had a complex, lymphocyte-based adaptive immune system. Innate Lymphoid Cells (ILCs), recently identified as non-T and non-B lymphocytes in mammals, are divided into five groups, including natural killer (NK) cells, that play vital roles in immunity and mucosal homeostasis. This prompts questions about the evolution and function of ILCs, and of the origins of lymphocytes in general. This proposal outlines a research project aimed at elucidating the characteristics and function of ILCs in lampreys. Specifically, the research will focus on transcriptome analysis and scRNA-seq studies of lymphocytes from gut mucosal and hematopoietic tissues, and CRISPR/Cas9 gene knockout of key ILC genes in lamprey embryos. The significance of this research lies in its potential to transform our understanding of vertebrate immunity, offering insights into the early forms of immune mechanisms and their evolution. This work is fundamental for the broader fields of evolutionary biology and immunology, as it seeks to reconstruct the evolutionary lineage of vertebrate immune cells.

Judith Fridovich-Keil, PhD

PROFESSOR, SCHOOL OF MEDICINE, HUMAN GENETICS

Rabindra Tirouvanziam, PhD

ASSOCIATE PROFESSOR, SCHOOL OF MEDICINE, PEDIATRICS

Extending the reach and efficacy of gene therapy

The long-term goal of the proposed work is to extend the reach and efficacy of gene therapy by enabling transduced cells to share their expressed transgene product with other cells. This could make gene therapy, already FDA-approved for a small number of disorders, more viable for others, and effective at lower viral doses for most. The short-term goal of this pilot study is to test the ability of small tags, added individually to a transgene encoding human galactose-1P uridylyltransferase (GALT), to drive the encoded GALT mRNA or protein product into extracellular vesicles (EVs) for distribution both locally to neighboring cells and distally via transport through the blood stream. If successful, this approach could dramatically increase the percentage of cells rendered GALT+ for a given dose of virus. This approach could also extend the duration of gene therapy efficacy by enabling low mitotic tissues, such as muscle, to serve as endogenous “factories” producing EVs that enter the blood stream and distribute virus-encoded transgene product to high mitotic tissues, such as liver, that have lost their viral genomes due to tissue expansion and turn-over. The results of the proposed work will serve as preliminary data for extramural grant applications and inform the design of more extensive future studies testing the potential of EV-targeting of viral transgene products to improve efficacy and duration of gene therapy.

Cynthia Giver, PhD

ASSOCIATE PROFESSOR, SCHOOL OF MEDICINE, HEMATOLOGY AND MEDICAL ONCOLOGY

Joshua Chandler, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PEDIATRICS

Identifying indoles that limit graft vs host disease and promote survival in allogeneic BMT/HSCT patient

Allogeneic bone marrow transplantation [allo-BMT] is a curative therapeutic option for patients with hematologic diseases. However, in ~40% of transplant recipients, allogeneic donor T cells in the transplanted bone marrow induce a progressive and deleterious hyper-inflammatory response called Graft vs. Host Disease [GvHD], which may be fatal. GvHD pathophysiology starts with damage to the intestinal epithelium caused by pre-transplant irradiation or chemotherapy. This leads to allogeneic inflammatory responses resulting in colitis and enteritis, and leakage of bacteria and microbial metabolites across the epithelium into the lymph and blood. We have shown that one class of microbial metabolites, indoles, derived from tryptophan, provide protection against GvHD, while preserving anti-tumor immune responses (Graft vs. Leukemia, [GvL]) in murine MHC mismatched allograft transplantation models. Limited clinical data in the literature show that human BMT patients with diminished levels of indoles (from fecal and urinary measurements) exhibit increased susceptibility to intestinal GvHD and higher mortality. An important knowledge gap is whether directly measured indole levels in circulating blood are correlated with GvHD risk and progression in allo-BMT/HSCT patients. This question forms the basis of the current URC proposal. Using clinical

plasma samples previously collected by our team, and carefully executed targeted mass spectrometry measurements, we will correlate plasma levels of indole metabolites in BMT patients with the incidence of severe GvHD to identify potentially beneficial indole metabolites. **These studies will contribute support to the rationale for developing indoles as a therapeutic option for BMT patients at risk for developing GvHD.**

Claire-Anne, Gutekunst, PhD

ASSOCIATE PROFESSOR, SCHOOL OF MEDICINE, NEUROSURGERY

Exploring the role of neurons of the anterior nucleus of the thalamus in temporal lobe epilepsy

Epilepsy is one of the most common neurological disorders. Approximately one third of patients are drug-resistant, underscoring the need for alternative therapies. One of the biggest challenges to developing disease-modifying therapies is the limited understanding of the underlying mechanisms behind epileptogenesis and propagation of seizures. While electrical stimulation of the anterior nucleus of the thalamus (ANT) has been effective in reducing seizure burden in patients with drug resistant mesial temporal lobe epilepsy (MTLE), few patients become seizure free. Lesions in the ANT may curb seizures in MTLE, but the associated memory risk could be too high.To enhance therapy by better understanding pathogenesis, we aim to investigate intrinsic ANT neurons in the intrahippocampal kainic acid (IHKA) mouse model of MTLE for their role in epileptogenesis and spontaneous seizures. We will use a combination of viral vectors to express an inhibitory DREADDS in specific cell populations in the ANT and determine whether turning off the ANT glutamatergic neurons prevents the progression of epileptogenesis. We will also investigate whether ANT inhibition has therapeutic effects and is able to suppress spontaneously recurrent seizures. We hypothesize that inhibition of glutamatergic neurons in the ANT will delay epileptogenesis and suppress spontaneous seizures in the IHKA model. These studies will shed light on the role of ANT neurons during the epileptogenic period as well as after epilepsy has become established. Our findings will bring a better circuit-level understanding of how seizures develop and propagate and could lead to development of cell specific therapies.

Daniel Kalman, PhD

PROFESSOR, SCHOOL OF MEDICINE, PATHOLOGY AND LABORATORY MEDICINE

Indole limits sarcopenia during aging

Aging is associated with loss of mobility and infirmity. Frailty is associated with dysbiosis[2-5], but it is unclear what microbiota products contribute to health or frailty. We identified indole and its derivatives as molecules secreted by commensal bacteria or from food that act in *C. elegans*, *Drosophila* and mice to augment healthspan, allowing aging animals to retain mobility for longer[1]. Indoles promote healthy intestinal homeostasis[1,2,6], DNA repair and genome integrity in germ cells[7], and limit the loss of muscle proteins during aging concomitant with loss of mobility. Recent metabolomic studies found loss of indole-producing bacteria and reduced plasma indole levels also correlated with decreased mobility in aged humans[8,9]. Our finding that indole promotes stability of muscle proteins essential for the contractile apparatus in aged

animals, led us to ***hypothesize*** that indole promotes refolding of damaged proteins, regulates proteasome activity to promote loss of irreparable proteins and limit aggregation of damaged proteins, and/or reduces age-associated oxidative damage to muscle proteins. To determine the mechanistic basis for indole effects, we will use genetic analysis in *C. elegans* to identify cellular pathways utilized by indole to maintain mobility during aging. *C. elegans* striated muscle exhibits significant structural conservation with mammals, and, as they age, dysregulation of mobility and proteostasis, resulting in loss of the contractile apparatus and mitochondrial function, characteristics of sarcopenia in mammals. These studies will provide mechanistic information on how indoles counteract sarcopenia during aging and are essential to developing indoles as possible therapeutics to treat sarcopenia in elderly people.

Kosuke Kato, Ph.D.

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, MEDICINE

Targeting MUC1 in Chronic Airway Mucus Hypersecretion

Chronic Obstructive Pulmonary Disease (COPD) is the sixth leading cause of morbidity and mortality in the United States, characterized by persistent respiratory symptoms and airflow limitation. Among these symptoms, mucus hypersecretion is a critical factor contributing to airway obstruction, infection risk, and exacerbation frequency, significantly impairing patients' quality of life. Despite this, therapeutic options to manage mucus hypersecretion in COPD patients are limited and largely ineffective.

This research proposal aims to address the gap in COPD treatment by targeting MUC1, a membrane-associated mucin implicated in the regulation of mucus production. Our preliminary findings indicate that MUC1 plays a pivotal role in airway mucus hypersecretion, suggesting a potential novel therapeutic target for COPD management.

The proposed studies are designed to elucidate the mechanistic role of MUC1 in COPD-associated mucus hypersecretion and to evaluate the pre-clinical efficacy of a novel MUC1 memetic inhibitor to prevent pathological airway remodeling and reduce mucus overproduction. Using state-of-the-art molecular biology techniques and robust in vitro models, we will investigate the MUC1 signaling pathways that mediate these pathological changes in COPD.

By advancing our understanding of MUC1's role in COPD pathogenesis and exploring its inhibition as a therapeutic strategy, this research has the potential to lead to the development of new treatments for mucus hypersecretion, enhancing disease management, and improving the quality of life for COPD patients.

Allison Linden, MD, MPH

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, SURGERY, DIVISION OF PEDIATRIC SURGERY

Development of a multi-institutional registry for anorectal malformations in Rwanda

Congenital anorectal malformations (ARM) are a significant source of morbidity and mortality in low-income countries due to challenges in access to safe, timely, affordable pediatric surgical care. Current data regarding epidemiology, suggested operative approach, and short- and long-term outcomes originate in well resourced, high-income countries with multidisciplinary care

teams. This environment is immensely different than that in low-income countries. Access to appropriate care, cultural differences, equipment availability and cost of care are only a few of the elements which can greatly affect suggested optimal care in a low-income country setting. The effect of these elements on ARM short- and long-term outcomes has not been studied. Better outcomes cannot be achieved without a greater understanding of these elements.

The goal of this proposed research is to establish an ARM patient registry at the three hospitals that perform pediatric surgical care in Rwanda in order to better inform outcomes and provide a platform for quality improvement. This valuable data will provide essential information to develop more effective treatment pathways for ARM care that are culturally relevant and context appropriate.

Maud Mavigner, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PEDIATRICS

Disrupting HIV persistence in memory CD4+ T cells by targeting stemness signaling pathways

Antiretroviral therapy (ART) inhibits HIV-1 replication but is not curative. Latent HIV-1 persists indefinitely as replication-competent silent proviruses in long-lived memory $CD4^+$ T cells maintained through clonal expansion. Long-lived cells such as central (CM) and stem cell memory (SCM) $CD4^+$ T cells that continually maintain their own pool size through proliferation likely represent this HIV reservoir core. Disrupting this reservoir core may prove essential for an HIV cure. Stemness signaling pathways such as Wnt or Notch regulate the fate of these long-lived memory T cells to self-renew or differentiate. We previously demonstrated that inhibition of proliferation and induction of differentiation of SCM and CM and $CD4^+$ T cells can be achieved in ART-treated SIV-infected rhesus macaques (RMs) through modulation of the Wnt pathway. We also showed that the combined pharmacological modulation of Wnt and Notch stemness pathways during acute SIV infection of RMs impacts viral reservoir seeding by transiently reducing the relative contribution of the CM cells to the peripheral $CD4^+$ T cell compartment and to the pool of the infected $CD4^+$ T cells.

Here, we seek to perform a detailed *ex vivo* analysis of the effect of pharmacological modulation of stemness signaling pathways on SIV latency and SIV reservoir cells to evaluate the therapeutic potential of this approach for HIV cure an to expand our understanding of the basic biology and dynamics of persistent HIV reservoirs.

Eleftherios Michailidis, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PEDIATRICS

Host-dependency factors of coronaviruses

The emergence of coronaviruses that result in epidemics and pandemics have a serious impact on global health and economy. The COVID-19 pandemic that is caused by SARS-CoV-2 has resulted in more than six million deaths worldwide. Vaccines and antivirals have ameliorated the spread of the virus and the disease outcomes, but new variants continue to emerge. Zoonotic infections like coronaviruses will continue to be a problem in the future as the global population increases and people inhabit areas where coronaviruses are present. Basic biological studies that address virus-host interactions in the context of coronaviruses are necessary for understanding and preparing for the emergence of future epidemics and pandemics. Major

components of virus-host interactions are the innate immune defense mechanisms that cells have in place to counteract invading viruses. Type I interferons (IFNs) and the IFN signaling pathway have been studied in the context of multiple viruses and cell types and constitute a continuous source of information about novel antiviral strategies. Towards this direction we have done extensive studies on a subset of genes that are regulated by IFN and are termed interferon-stimulated genes (ISGs). Our work on coronaviruses and the use of innovative CRISPR-based screens identified an ISG that acts as a host-dependency factor in the context of coronaviruses. Here we propose to characterize the mechanism of action of this ISG and determine which cellular pathways affect coronavirus biology. We hope that our proposed work will yield new information about host-virus interactions and will provide insights into coronavirus biology.

Jay Patel, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, ORTHOPAEDICS

Harnessing Marrow Stimulation for Enhanced Musculoskeletal Regeneration

Articular cartilage lines the ends of joints and is critical to daily movement and function. Unfortunately, it is frequently injured and poor at self-healing. The most common repair procedure is microfracture (MFx), which involves puncturing the bone under cartilage to recruit “regenerative elements” into the defect site. In fact, this concept of marrow stimulation has been widely adapted to augment the surgical management of a variety of musculoskeletal tissues, including meniscus and rotator cuff. However, MFx typically fails long-term, likely due to the formation of inferior fibrous tissue that cannot withstand the loads of the joint. Interestingly, the cellular and molecular makeup of the early MFx environment is relatively unknown, yet it remains the gold standard of cartilage repair. Moreover, while a host of MFx augmentation approaches using scaffolds or growth factors have shown promise, these approaches fail to address the “fibrous” mechanisms that thwart functional repair. In this URC Grant, we will attempt to define the early drivers of MFx fibrosis using a Yucatan minipig model. Particularly, single cell RNA-sequencing will determine the types and transcriptomic profiles of cells within, which can then be correlated with functional outcomes (e.g., mechanical testing, proteomics). The impact of these biophysical stimuli will also be explored further, *in vitro* in a fibrin clot system. The proposed work will lay the groundwork for specific therapeutic targets to augment not only MFx, but all marrow stimulation techniques. Improving cartilage formation after MFx by limiting fibrosis provides an avenue to improve long-term cartilage repair.

Sarwish Rafiq, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, HEMATOLOGY AND MEDICAL ONCOLOGY

Determining the Mechanisms of VIP Receptor Antagonism by CAR T cells

Chimeric Antigen Receptor (CAR) T cell therapies have shown tremendous success in blood cancers but applying these therapies to solid tumors, particularly pancreatic ductal adenocarcinoma (PDAC), faces significant challenges. PDAC, predicted to be the second leading cause of cancer-related deaths by 2030, presents a tough environment for immune response, hindering CAR T cell effectiveness. To address this, a novel approach involves targeting the

Vasoactive Intestinal Peptide (VIP) pathway, an immunosuppressive mechanism prevalent in PDAC.

We have engineered CAR T cells that secrete a novel VIP receptor blocking peptide (termed CAR/VIPRa T cells), to counteract the immune evasion strategies of PDAC. Preliminary studies indicate that CAR/VIPRa T cells exhibit enhanced activation and anti-tumor effects. The proposed project has two key objectives. First, using CRISPR/Cas9 gene-editing technology, we aim to confirm that the improved CAR T cell performance we observe is a direct result of VIP pathway antagonism. Second, we intend to evaluate the anti-tumor efficacy of CAR/VIPRa T cells in a mouse model with an intact immune system, exploring potential effects on non-engineered host T cells.

The project's goals include validating the mechanism behind CAR/VIPRa T cell enhancement and assessing their effectiveness in a preclinical setting. By understanding the intricate interactions within the tumor microenvironment, this research holds promise in advancing CAR T cell therapies for solid tumors, with a particular focus on improving outcomes for PDAC patients.

Hongjie Yuan, MD, PhD

ASSOCIATE PROFESSOR, SCHOOL OF MEDICINE, PHARMACOLOGY AND CHEMICAL BIOLOGY

Disease-associated genetic variations in human GRIN3A gene: from molecular mechanisms to rescue pharmacology

Neurodevelopmental disorders are associated with disabilities in brain function that affect a child's behavior, memory or ability to learn. Such disabilities carry devastating mental, emotional, and economic consequences for individuals, their families, as well as society. The molecular basis for a subset of disabilities involves disease-causing variants in various ion channel families, which recently have been shown to also include *GRIN3A*/GluN3A receptors. The cation selective GluN3A channels play important roles in normal brain development and cognition. A large number of genetic variations have been identified in the past years, leading to the view that these variants are present in a subset of patients with various neurological disorders, including epilepsy, autism, ADHD, intellectual disability, movement disorders, language problems, sleep disturbance, bipolar, and schizophrenia. Unfortunately, virtually no systemic functional analysis of these variants exists, confounding a meaningful analysis of clinical phenotype. In this grant application for 1 year of funding, I propose 3 lines of experimentation that address the molecular mechanism underlying the neuropathological conditions that arise from ~40 *GRIN3A* variants and potential rescue pharmacology. Three aims are proposed

Aim 1. How do human GRIN3A variants impact receptor function?

Aim 2. How does the altered GluN3A function influence synaptic connectivity and glial activation?

Aim 3. Can function-altering GluN3A variants serve as therapeutic targets?

The data obtained from these studies will be used to support an application for extramural support (e.g. an MPI R01 from NINDS) to explore in more detail all human disease-causing *GRIN3A* variants.

Humanities

Emma Davenport, PhD, JD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ENGLISH

Subject to Contract: Liberalism and the Victorian Novel

This book project brings literary and legal analysis together to offer a new way of understanding why democratic states often fail to ensure their citizens' personal liberty and collective welfare. Liberalism—a broad political ideology espousing ideals of individual agency and personal rights—has historically located its legitimacy in the consent of the governed. Even as old metaphors of "social contract" have given way to newer formulations of capital exchange, freedom of contract remains at liberal democracy's conceptual core. But even—or especially—in those states that most jealously safeguard contract rights (like the US and Britain), structural inequity remains intractable. This project aims to explain why.

"Subject to Contract: Liberalism and the Victorian Novel" reads the fiction produced contemporaneously with the ascent of modern liberalism as diagnosing the surprising similarity between consensual contract and structural coercion. From the late 1850s to 1900, when political philosophers were developing the contract theory that grounds contemporary liberalism, British novelists were engaged in a parallel project of reflecting on the strange failure of consensual procedures to produce a thriving society. I contend that the affordances of literature—including, for instance, fiction's dexterity in scrutinizing metaphors like "social contract"—enabled fiction writers to interrogate liberalism's purported commitment to enacting willed consent. I argue that Victorian novels expose contract as the mechanism by which coercion is integrated into and concealed within ostensibly consensual transactions. This project ultimately demonstrates how the novel is a critical medium for theorizing liberalism's foundational fictions of consent.

Aminah Hasan-Birdwell, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, PHILOSOPHY

Early Modern Women on War and Peace

This book project excavates the philosophical responses of early modern women to war and its catastrophic consequences. My analysis reveals the centrality of war to the development of early modern philosophy and the distinctive contribution that these early modern women philosophers make to thinking about this topic. Although there has been a considerable body of scholarship on early modern women philosophers, no study has yet explored how these thinkers are linked by the experience of war and the possibility of peace. The horrors of violent combat and its aftermath and the struggles for peace were profoundly important to early modern philosophical thinking; therefore, the analysis of these topics provides a more complex and deepened understanding of the period. *Early Modern Women on War and Peace* focuses on the works of Elisabeth of Bohemia (1618-1680), Mary Astell (1666-1731), Madeleine de Scudery (1607-1701), Madame de Lafayette (1634-1693), Margaret Cavendish (1623-1673), and the Duchess of Montpensier (1627-1693). I show that these philosophers who have been underrepresented in, or altogether excluded from, the history of philosophy and history of political thought have made distinctive contributions to the subjects of war and peace. They broke with the traditional thinking about war within the natural right and early liberal framework, which defines it as an essential component of human relations, woven into the fabric of human nature. Understanding these female philosophers' intervention in this tradition, I contend, changes the landscape of how scholars have conceptualized the political and philosophical ideas in the seventeenth century.

Harshita Kamath, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MIDDLE EASTERN AND SOUTH ASIAN STUDIES

Annamayya: Poetry, Power, and the Making of Gods and Kings

My proposed project will culminate in a critical history of the poet Annamayya (1424-1503 C.E.), his songs inscribed on nearly three thousand copper plates, and his impact on shaping the powerful presence of the Tirumala temple located in Andhra Pradesh, India. My project examines the life of Annamayya and his songs in order to trace the rise of Tirumala from a regional sectarian site to the most popular Hindu temple in the world today. At the broadest level, my research demonstrates that poetry was historically essential to the consolidation of power throughout South India. Annamayya mobilized multiple modes of power, including royal patronage of Tirumala and devotional discourse of the sectarian Srivaishnava community in order to exalt his god and popularize the Tirumala temple. Through Annamayya's corpus, the god in the Tirumala temple shifted from being a regional manifestation of Vishnu to the primary god of the South Indian landscape, one who is visited by twenty million pilgrims annually.

Erwin Rosinberg, PhD

ASSOCIATE TEACHING PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ENGLISH

Modernity, Fiction, and the Countryside

My book project *Modernity, Fiction, and the Countryside* revises literary-critical narratives that characterize the modernist and contemporary British novel as exclusively urban or cosmopolitan in nature. I argue that the novel as a genre has been and continues to be instrumental in the conceptualization of the countryside and, counterintuitively, that the countryside as we now understand it is a concept largely produced in the twentieth century. Twentieth-century fictions of the countryside tend not to present the "knowable communities" theorized by Raymond Williams; rather, they highlight definitional uncertainties around the boundaries and the uses of the term *countryside* and its alliance with conflicting ideological trajectories. Although the idea of the countryside may first call to mind the quaint and the nostalgic, I argue that the countryside's imprecise positioning allows it to act as a container for contested notions of progress and belonging and potentially contradictory systems of value. Moreover, I show how the twentieth-century British novel, in both its high modernist and postmodern phases, remains surprisingly invested in the shifting, supposedly outmoded space of the countryside as an index of potential futures—aspirations toward more ethical forms of community and more sustainable relations to the physical earth—that we are still in the process of imagining.

Caroline Schaumann, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, GERMAN STUDIES

Kinship and Conflict: The Schlagintweit Brothers' Explorations in the Alps, Himalaya, and Sierra Nevada

My third monograph critically examines the lives and research of the scientists, explorers, and mountaineers Schlagintweit brothers 1842-1880 in the Alps, Himalaya, and Californian Sierra Nevada (the latter of which only Robert Schlagintweit visited). This project revives my interest in

nineteenth-century naturalists and depictions of mountains and glaciers while adding a focus on the bigoted legacies of colonial science and early ethnography.

As the brothers measured the land and documented its peoples and cultures, uninhibitedly amassing more than 14,000 artifacts, they ascribed to a world view indebted to enlightenment and European liberalism but rooted in deep-seated beliefs of Western superiority. The Schlagintweits' extensive writings and publications also including many sketches and photographs provide important insights into the emerging imperial sciences and violent enacting of colonial voyaging but also lay bare the precarious conflicts that challenge one-sided British and German historiographies. Since their journey was dependent on the backing of governing powers in three states—the British East India Company, Prussian King Friedrich Wilhelm IV, and King Maximilian of Bavaria—the expedition's aims became continually at odds with one another and occasionally undermined from within. Crossing borders from Bavaria to Austria, Prussia, Switzerland, England, India, Tibet, Nepal, and later the United States, the brothers negotiated conflicting European expansionist interests while working with indigenous laborers, assistants, and collaborators. My manuscript considers the Schlagintweits' attempts to establish their reputation as scientists within these geopolitical frameworks and local networks of indigenous knowledge and practices, offering close analysis of select documents from different parts of their journeys.

Carl Suddler, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, HISTORY

No Way Out: The Carceral Boundaries of Race and Sports

In *No Way Out: The Carceral Boundaries of Race and Sports,* I uncover the hidden fingerprints of police power in sports over the past 150 years and tell the stories of how Black athletes have been forced to navigate the constantly growing police presence in their daily lives. It is a social history of sports, race, and police power in the United States, arguing that Black athletes and communities' search for liberation in sports have collided with state surveillance, arrested ambition, and carceral boundaries. This story is not just about police presence, but structures that empower the police to control Black people's lives and futures. The normalization of police presence in predominantly Black spaces of relaxation, play, and competition shapes how young Black folk learn to think about their bodies, how young athletes express themselves on and off the court, how tolerant we become to surveillance, and, most distressing of all, how deeply we internalize the idea that it is "natural" to be corralled and surveilled in spaces meant to facilitate joy and communion. Ultimately, this history encourages us to consider how structural powers serve to take choices away from young, Black people.

With the support of the URC award, I will conduct research for and make significant progress towards completing my second book manuscript.

Nathan Suhr-Sytsma, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ENGLISH

African Poetry Worlds

African Poetry Worlds addresses the questions: what is new about twenty-first-century African poetry in English? How is anglophone African poetry distinct from other bodies of anglophone poetry? Why does poetry continue to matter for writers and readers in and beyond Africa? I argue that twenty-first-century African poets—and the pan-African communities they constitute—are engaged in worldmaking; they renew a quest for freedom amidst historic and

continuing unfreedom, not just by challenging neoliberal political economies or stereotypical images of Africa that circulate globally, but also by breaching customary norms of representation for gender, sexuality, and family. More than just representing new social realities, recent poems by Africans enact new self-understandings about what it means to inhabit African lifeworlds. Each chapter of this book manuscript concerns how poems think sensuously through dilemmas pertaining to African peoples' experiences of race (Ch 1), nation/diaspora (Ch 2), generation (Ch 3), motherhood (Ch 4), and futurity (Ch 5), with a conclusion on planetary crisis. Composed and circulated in performance, in print, and on screen, these poems increasingly depend, in turn, on a new media ecology. As contemporary African poets work through dilemmas of how to confront socio-existential situations and forge institutional networks, they fashion original poems with particular technical repertoires and mediated formats. Reorienting understandings of African literature and lyric poetry, the book will at once address the tendency of African literary/cultural studies to discount poetry and challenge scholars of poetry to do justice to living writers from the Global South.

Daniel Walter, PhD

ASSISTANT PROFESSOR, OXFORD COLLEGE, HUMANITIES

Forced Migration and Second Language Learning: Investigating Syrian and Ukrainian Refugees learning German in Hamburg

The aim of this project is to understand how Syrian and Ukrainian refugees in Germany are engaging (or not) in German language learning through language and culture courses offered through the German government, as well as their daily experiences in work and community spaces.

I am interested in collecting interviews with speakers within these communities in Hamburg, Germany through connections with educators teaching German as a foreign language. In doing so, I hope to gain insight into their ability to express themselves in German and how their feelings about language education in Germany plays a role in their life.

The interviews conducted for this project will consist of questions related to the goals expressed in the government provided programming, what the refugees believe the purpose of these courses is, the effectiveness of these courses, challenges that these people face within these courses, and their recommendations for improvements to current practices.

The information these people can provide about their learning experiences, as well as aligning those experiences with linguistic outcomes measured through our questions, will provide important information for the German government about the effectiveness of its programming, as well as more broadly for how language training can be improved for refugees in other contexts.

Jing Wang, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, FILM AND MEDIA

Globalizing Independent Cinema: Circulation of Independent Chinese Documentaries in Global Media Industries (1991-2017)

Using a media industry studies approach, my book *Globalizing Independent Cinema* examines the multi-dimensional, dynamic relationships between national independent cinema culture and the global film industry, as manifested in the overseas circulation of Chinese independent

documentaries, from their domestic production sectors into global markets. My methodologies include extensive interviews with both domestic and transnational industrial professionals, evaluation of previously overlooked archival materials, discourse analysis within trade journals, and my own experience as a former documentary filmmaker for China Central Television.

The book argues that overseas circulation of nonmainstream Chinese documentary film has been mediated by transnational independent film circulation networks, consisting of key non-major industry stakeholders rather than Hollywood media conglomerates. These networks involve multidirectional cross-border flows of funding, production and distribution partnerships, creative talent and ideas, and media products. By analyzing particular stakeholders' roles and mapping out their manifold interconnections, it uses Chinese independent cinema to demonstrate how transnational media contra-flows from non-Western countries have become multilayered, hybrid processes. These encompass both powerful forces for cultural homogeneity as well as countervailing pulls toward maintaining cultural specificity and autonomy on local levels. An understanding of Chinese independent documentary's integration into global independent film circulation networks is useful in two respects: First, it exemplifies a model of transnational film networks in which national and global collaborators are fully intertwined, and second, it reveals the deep complexities and challenges for nonmainstream media products that flow from the non-Western world into the global media marketplace.

Interdisciplinary

Ilya Nemenman, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, PHYSICS / BIOLOGY

Priyathama Vellanki, MD

ASSOCIATE PROFESSOR, EMORY UNIVERSITY SCHOOL OF MEDICINE, MEDICINE

Modeling ketosis-prone diabetes remission via diverse mechanisms of glucotoxicity

Type 2 diabetes (T2D) is one of the most common chronic diseases worldwide. It is characterized by a runaway increase of blood glucose levels due to glucose being toxic to pancreatic beta-cells, decreasing their ability to secrete insulin, which, in turn, is needed for glucose disposal. Remission is rare, and treatment with multiple medications is typically required. However, T2D is a heterogeneous disease, and a subtype called "ketosis-prone diabetes" (KPD) has been identified, which especially affects patients of African origin. Unlike other types of T2D, KPD emerges suddenly, and intensive insulin therapy often leads to KPD remission in weeks or months. Mechanisms of this remission are poorly understood. We hypothesize that KPD is caused by a distinct form of glucose toxicity, which is acute and reversible. The faster rate of this toxicity can account for the rapid onset of KPD, and its reversibility allows for the remission. In this proposal we will create and clinically validate—using newly collected patient data—the first mathematical model of the onset and remission of KPD, enabling us to predict diverse diabetes remission outcomes following insulin treatment.

Mathematics and Natural Sciences

Sergei Urazhdin, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, PHYSICS

Direct observation of the Berezinskii-Kosterlitz-Thouless state

Kosterlitz and Thouless received the 2016 Nobel prize in Physics for the prediction of the Berezinskii-Kosterlitz-Thouless (BKT) transition – a topological phase transition expected for two-dimensional (2d) systems characterized by the single-parameter continuous [U(1)] symmetry. Instead of the typical transition from a disordered high-temperature state to the ordered low-temperature state, such systems are expected to exhibit a unique strongly-interacting vortex-antivortex plasma state at temperatures above a certain transition temperature T_{BKT}, which becomes frozen below T_{BKT}. This state has far-reaching implications for our understanding of symmetry and topology in collective phenomena, as well as applications, but it has been never directly observed.

The project will create and directly observe the BKT state in magnetic systems by utilizing a state-of-art magnetic imaging setup designed and nearly completed in the PI's laboratory. Three main issues prevent the BKT state in magnetic systems: i) dipolar fields, ii) anisotropy favoring the multidomain state, and iii) history-dependence of the magnetic state (glassiness). The first two issues will be overcome by developing magnetic materials characterized by almost vanishing magnetization and random magnetic anisotropy and/or frustration of exchange interaction which are expected to destabilize the domain state and stabilize the BKT state. The last issue will be overcome by utilizing a specially devised magnetic field sequence enabling generation of vortex-antivortex pairs. The proposed observation of the magnetic BKT state will provide the first direct confirmation of the long-standing predictions, and facilitate the development of novel highly efficient analog magnetic memory for neuromorphic device applications.

Lili Wang, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, CHEMISTRY

Pseudo-Solid-State Optical Upconversion for Solar Energy Harvesting

Optical upconversion is a process that converts two or more low-energy photons into a singular, high-energy photon. By exploiting sub-bandgap photons, optical upconversion holds significant promise in overcoming the Shockley–Queisser limit imposed on the maximum power conversion efficiencies of conventional single-junction solar cells. Among various upconversion approaches, quantum dot (QD)-sensitized triplet–triplet annihilation is the most promising avenue toward achieving upconversion beyond the silicon bandgap. Despite the superior upconversion efficiency demonstrated in solution, the translation to solid-state upconversion is hindered by a notable decrease in performance. This decrease is attributed to restricted exciton diffusion and parasitic back energy transfer near the device interface, limiting the practical application of solid-state upconversion devices. In this proposal, we will employ chemical design at the mesoscale to develop pseudo-solid-state devices, effectively mitigating the efficiency constraints in solid-state devices. Specifically, we plan to confine the QD-sensitized upconversion process within nanodroplet-containing organic glasses, leveraging the high efficiency of solution-phase upconversion while simultaneously providing the structural integrity required for seamless integration with devices—something that the solution phase alone lacks. Fundamental photophysics of these devices featuring different nanodroplet sizes will be investigated to reveal the influence of mesoscale confinement on diffusion-mediated upconversion processes and inform the optimal design strategy. Our approach represents a pivotal advancement in expediting the integration of upconversion into commercial applications. We anticipate preliminary results from the proposed research to lead to competitive funding from federal agencies.

Kristin Williams, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, COMPUTER SCIENCE

Tangible Access to Data Physicalization

Data permeates every corner of society, but is largely communicated through visual graphics. To those without data literacy skill (32% of the US population) or who are blind or visually impaired (BVI), this visual bias impacts central daily activities like those found in learning, consuming news media, and synthesizing financial trends. To provide alternative routes to access data, data physicalization represents data tangibly to communicate via tactile perception. However, through its visual bias, data physicalization relies wholly on visual expression. The role of tangible access could be better leveraged for data physicalization's communication by investigating ways to provide tangible access to data exploration and synthesis. The project advances a research agenda to both uncover fundamental features of data physicalization that enable tangible access and to use this work to inform the design of toolkits for composing data physicalizations. To do so, it will 1) uncover the constraints tactile perception imposes on data physicalization designs, 2) chunk and group both active and passive touch to develop exploration command sets and features sets for data physcalizations, and 3) develop a toolkit and fabrication pipeline for composing the primitive building blocks of data physicalizations to support data synthesis. The results of this project will contribute a form of tangible communication that is informed by the route from low-level tactile perception to the elementary building blocks of data physicalization. This will enable effective guidance on tactile encodings to support both active and passive touch when exploring data physicalizations.

Social Sciences

In-Koo Cho, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ECONOMICS

Collusion through Algorithms: Fact or Myth?

Economic activities are increasingly assisted by artificial intelligence, driven by an algorithm. As the algorithm becomes more powerful, one firm can closely monitor the competing firm's strategy in real time, which might facilitate collusion or anti-competitive agreement among firms. Observing seemingly anti-competitive behaviors by large high-tech companies, regulators, legal professionals, and economists raised suspicion of collusion through algorithms.

Existing economic papers on the collusion among algorithmic players examined oligopolistic Bertrand competitors producing strategic complements through numerical analysis. Generating the collusive outcomes numerically, the authors conclude that oligopolistic firms can learn to collude through algorithms.

We challenge the conventional reasoning by constructing a "counterexample." Algorithmic duopolists can generate seemingly collusive behavior by precisely coordinating their actions to achieve the cartel price, even though we rigorously impose behavioral and institutional restrictions to block any explicit or implicit collusion. Roughly speaking, accusing the algorithmic firms of collusion in our example is essentially to blame the firms for processing the public market data through a well known statistical procedure.

A numerical analysis does not reveal the mechanism of how the algorithm processes the data to sustain the collusive outcomes but only shows the consequence of processing data. We aim to identify the features of an algorithm necessary for oligopolistic firms to learn to collude. Instead of numerical analysis, we opt for an analytic approach to investigate the price dynamics generated by interacting algorithms to understand how the collusive outcome arises, even though the firms do not have the ability or preference to collude.

Kiela Crabtree, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, POLITICAL SCIENCE

Missing, Murdered, Demobilized: The Impact of Childhood Violence on Electoral Outcomes

What is the legacy of discrimination and childhood violence on political participation? This project considers the political impact of the “Atlanta Child Murders” in Atlanta, Georgia, where the kidnapping and murder of 28 Black children between 1979 and 1981 revealed cross-cutting racial and class divisions within “Black Mecca.” Led by its first Black mayor, Maynard Jackson, the city seemed exemplary of Black political empowerment. Yet, a lack of urgency regarding the crisis – until it became a public relations problem – demonstrated disappointing limits on descriptive representation as well as leadership’s apathy toward lower socio-economic status constituents. The murders are imprinted in the collective memory of Black Atlantans, perhaps most of all among those who were themselves children at the time. This project unpacks the time period’s consequences by asking: How did the Murders impact Black electoral politics in the city? Was there a measurable impact on the later electoral engagement of those who, at the time, were children themselves? And how can such legacies best be identified? This study uses a multi-method design, combining original interviews and surveys with historical electoral returns to trace the political legacies of the Child Murders. Through a focus on Atlanta, this project draws the United States into a broader literature on the political legacies of violence around the world. In the process, I develop a causal framework for understanding the impact that violence in childhood has on political engagement later in life, expanding our understanding of the political legacies of violence.

Petra Creamer, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MIDDLE EASTERN AND SOUTH ASIAN STUDIES

Rural Landscapes of Iron Age Imperial Mesopotamia

The Rural Landscapes of Iron Age Imperial Mesopotamia project (RLIIM) seeks funding to investigate the nature of the rural settlement Qach Rresh in the Assyrian Empire of the Iron Age Near East (c.900-600 BCE), located in modern-day Iraqi Kurdistan. This project involves targeted excavations and remote sensing of Qach Rresh and its surrounding landscape on the Erbil Plain, expanding from two seasons of excavation in 2022 and 2023 directed by the PI. Geophysical remote sensing investigations led by the PI at the site have revealed several structures potentially related to storage, administration, and associated pastoral practices. RLIIM seeks support from the URC for two seasons (6 weeks in June-July, 2 weeks in mid-August) of investigations at Qach Rresh and its surrounding area. Excavations will explore the Assyrian occupation phases of three large building complexes and their association with local agropastoral production and storage. Excavation will be accompanied by a vastly expanded remote sensing program using magnetic gradiometry to map site and landscape features. A

robust sampling and analysis program (isotopic analysis of faunal and botanical remains; petrographic analysis of ceramic material; etc.) carried out by the PI and other core team members will investigate the extent of centralized administrative systems, adjustments in local subsistence strategies and human-environment interactions in premodern imperial spaces.

Caroline Fohlin, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ECONOMICS

Leveraging 'Big Data' and Artificial Intelligence to Study the Rise of Authoritarian Rule and the Economic Impacts of Political Turbulence in the 1920s and 30s

This research explores the economic causes and effects of the global decline of democracy and the rise of authoritarianism over the interwar period. With a primary emphasis on Germany, complemented by a comparative analysis of France and the United States, the research is the first to use truly "big data" and advanced artificial intelligence and natural language processing to investigate the interconnections between political regimes, social upheaval, financial systems, and the macroeconomy.

The current stage of the project focuses on data collection and language model training for variable creation and preliminary analysis. The project design and methods therefore involve obtaining source materials, ascertaining the most efficient approach collecting raw data, developing language models to identify and create the necessary variables, and specifying robust statistical models for hypothesis testing. To achieve these project milestones, the URC grant will fund undergraduate and graduate student research assistance in both computer science and economics, data collection and modelling costs, and sabbatical travel to work with colleagues and archival materials in Europe.

The funding will expand and accelerate the PI's publication pipeline with articles that pose new questions and contribute new arguments to long-standing debates with the use of unique data sources. The work also contributes to the burgeoning research on applications of AI methods, language modelling, and the collection and analysis of "big data" in economics and financial history.

Allison LoPilato, PhD

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, PSYCHIATRY & BEHAVIORAL SCIENCES

Linking Decision-Making Alterations to Adolescent Suicide Risk

Adolescent suicide is an urgent public health crisis. In 2022, 22% of US adolescents reported seriously considering suicide, 18% made a specific plan, and 10% made an attempt. Despite decades of research, our current ability to predict suicide is only slightly better than chance. Thus, there is an urgent need to identify new and reliable predictors of suicide risk in adolescents. Recent work suggests that differences in how individuals make cost-benefit tradeoffs in decisions about pursuing reward and relief may be a promising marker of risk for suicidal thoughts and behaviors (STBs). However, more work is needed to determine which specific decision-making processes and tradeoffs are related to suicide risk in adolescents. The current project will determine whether alterations in decision-making processes related to reward, relief, effort, and delay underlie STBs in adolescents and whether these decision-making alterations are associated with childhood adversity. We will recruit a diverse sample of

high-risk adolescents (ages 13-17 years; N=60) from outpatient clinics with: (a) recent suicide attempts with current ideation (n=20), (b) current suicide ideation with no attempt history (n=20), and (c) psychiatric controls with no STB history (n=20). Specific Aim 1 will characterize alterations in reward and relief decision-making processes in adolescents with STBs. Specific Aim 2 will examine whether decision-making alterations distinguish adolescents who attempt suicide from those who only think about it. Specific Aim 3 will identify whether decision-making alterations are associated with childhood adversity exposures. This line of work has the potential to significantly improve youth suicide prevention.

Stephen O'Connell, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ECONOMICS

From Displacement to Resilience: Aid, Economic Recovery, and Social Cohesion in Post-War Iraq

Civil conflicts leave profound and lasting impacts on individuals and communities affected by forced displacement. Exposure to violence, displacement, the loss of physical and human capital, and ruptured economic and social ties contribute to post-conflict environments exhibiting low levels of liquidity, trade, and capital investment as well as faltering trust and social cohesion. Livelihoods programming in post-conflict contexts has the potential to both support inclusion in labour markets and alleviate the root causes of low social cohesion by increasing economic opportunity, reducing inequalities and grievances, increasing contact, and lowering competition for services and resources. The role of livelihoods programs in improving social cohesion and securing durable solutions for displaced persons, however, is often assumed and only rarely studied. The International Organization for Migration (IOM) in Iraq operates a cash grant program in displacement-affected communities targeting poor individuals who have the potential to develop a business or enter paid employment. The programme provides several thousand new microentrepreneurs per year with \$2,000 each to establish a business– a value approximately two thirds of program participants' baseline annual income. In collaboration with IOM, we will randomize the selection of individual beneficiaries for the program to study the effects of this program on both economic and social well-being among applicants and their broader communities. In particular, the study will investigate how postwar recovery programming encourages sustainable livelihoods, economic resilience, and social cohesion in displacement-affected contexts.

Vilma Todri, PhD

ASSOCIATE PROFESSOR, GOIZUETA BUSINESS SCHOOL, INFORMATION SYSTEMS AND OPERATIONS MANAGEMENT

Ad-blocking Technologies and the Internet Economy

Despite the promising projections of digital economy, the rise of ad-blocking technologies poses a significant potential threat to the digital ecosystem and the primary business model that drives the Internet economy. To counteract the adverse effects of ad-blockers on the digital economy, online websites have started to employ anti-ad-blocking strategies, urging web visitors who use ad-blockers to disable them. This project aims to dissect the repercussions of anti-ad-blocking strategies employed by online publishers and their influence on the digital economy. Leveraging a difference-in-differences approach within a robust web-behavior panel dataset, we will explore user interactions with these strategies, assessing compliance and resistance behaviors against various factors, including website quality, firm size, and ad-load. For instance, users may reciprocate by complying with anti-ad-blocking requests for free website access, driven by the

norm of reciprocity. Conversely, users might resist, perceiving these requests as impinging on their freedom and experiencing psychological reactance. This project aims to investigate the effectiveness of these increasingly prevalent anti-ad-blocking strategies and advance our knowledge of the digital economy's sustainability, offering insights into the balance between user experience and economic viability. The project explores critical digital behavior patterns and stands to benefit society by informing the equilibrium between free content access and advertising revenue. This project makes significant contributions by addressing a critical gap in the literature and extending our understanding of digital consumer behavior and the strategic response of online publishers in the digital economy, yielding important practical implications for all parties of the online ecosystem.

URC – Halle Global Research

Petra Creamer, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MIDDLE EASTERN AND SOUTH ASIAN STUDIES

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Maho, Ishiguro, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MUSIC

Gifts from the Waves: Acehnese Dance and Music in Post-Tsunami Aceh, Indonesia and Beyond

Where are the voices of female Acehnese performing artists living under Aceh's current Sharia law? My research focuses on the performing arts from Indonesia's Aceh province, an understudied area due to its 30-year political and military struggle with the central government of Indonesia (1976 - 2004). Since the resolution of the conflict, only achieved through a devastating tsunami in 2004, political scientists have produced scholarly works which focus on male-dominated political and religious spaces. Overlooked is how Muslim women have been marginalized by Aceh's recent move away from a traditionally matrifocal society to an

increasingly patriarchal and conservative society governed under Sharia law. My book project, Gifts from the Waves: Acehnese Dance and Music in Post-Tsunami Aceh, Indonesia and Beyond, is the first monograph on the Acehnese performing arts, exploring facets outside its male-dominated spaces that rarely include women's voices. I argue that the changing relationship between Acehnese performing arts, discourses on gender and localized forms of Islam in Indonesia have shaped unique spaces for their creative and devotional practices, transforming the ways Muslim women dancers navigate their artistic, religious, and social worlds. Based on ethnographic research conducted in Indonesia, my project foregrounds the voices of arts practitioners in order to illustrate a manifold world of profound artistic expressions and powerful religious belief in Acehnese society. The URC award will assist me in completing this book project by granting the time for revisions and for conducting a two months period of fieldwork in Indonesia.

Caroline Fohlin, PhD

PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ECONOMICS

Leveraging 'Big Data' and Artificial Intelligence to Study the Rise of Authoritarian Rule and the Economic Impacts of Political Turbulence in the 1920s and 30s

This research explores the economic causes and effects of the global decline of democracy and the rise of authoritarianism over the interwar period. With a primary emphasis on Germany, complemented by a comparative analysis of France and the United States, the research is the first to use truly "big data" and advanced artificial intelligence and natural language processing to investigate the interconnections between political regimes, social upheaval, financial systems, and the macroeconomy.

The current stage of the project focuses on data collection and language model training for variable creation and preliminary analysis. The project design and methods therefore involve obtaining source materials, ascertaining the most efficient approach collecting raw data, developing language models to identify and create the necessary variables, and specifying robust statistical models for hypothesis testing. To achieve these project milestones, the URC grant will fund undergraduate and graduate student research assistance in both computer science and economics, data collection and modelling costs, and sabbatical travel to work with colleagues and archival materials in Europe.

The funding will expand and accelerate the PI's publication pipeline with articles that pose new questions and contribute new arguments to long-standing debates with the use of unique data sources. The work also contributes to the burgeoning research on applications of AI methods, language modelling, and the collection and analysis of "big data" in economics and financial history.

Harshita Kamath, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, MIDDLE EASTERN AND SOUTH ASIAN STUDIES

ANNAMAYYA: POETRY, POWER, AND THE MAKING OF GODS AND KINGS

My proposed project will culminate in a critical history of the poet Annamayya (1424-1503 C.E.), his songs inscribed on nearly three thousand copper plates, and his impact on shaping the powerful presence of the Tirumala temple located in Andhra Pradesh, India. My project examines the life of Annamayya and his songs in order to trace the rise of Tirumala from a regional sectarian site to the most popular Hindu temple in the world today. At the broadest level, my research demonstrates that poetry was historically essential to the consolidation of power throughout South India. Annamayya mobilized multiple modes of power, including royal patronage of Tirumala and devotional discourse of the sectarian Srivaishnava community in order to exalt his god and popularize the Tirumala temple. Through Annamayya's corpus, the god in the Tirumala temple shifted from being a regional manifestation of Vishnu to the primary god of the South Indian landscape, one who is visited by twenty million pilgrims annually.

Allison Linden, MD, MPH

ASSISTANT PROFESSOR, SCHOOL OF MEDICINE, SURGERY, DIVISION OF PEDIATRIC SURGERY

Development of a multi-institutional registry for anorectal malformations in Rwanda

Congenital anorectal malformations (ARM) are a significant source of morbidity and mortality in low-income countries due to challenges in access to safe, timely, affordable pediatric surgical care. Current data regarding epidemiology, suggested operative approach, and short- and long-term outcomes originate in well resourced, high-income countries with multidisciplinary care teams. This environment is immensely different than that in low-income countries. Access to appropriate care, cultural differences, equipment availability and cost of care are only a few of the elements which can greatly affect suggested optimal care in a low-income country setting. The effect of these elements on ARM short- and long-term outcomes has not been studied. Better outcomes cannot be achieved without a greater understanding of these elements.

The goal of this proposed research is to establish an ARM patient registry at the three hospitals that perform pediatric surgical care in Rwanda in order to better inform outcomes and provide a platform for quality improvement. This valuable data will provide essential information to develop more effective treatment pathways for ARM care that are culturally relevant and context appropriate.

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program in displacement-affected communities targeting poor individuals who have the potential to develop a business or enter paid employment. The programme provides several thousand new microentrepreneurs per year with \$2,000 each to establish a business– a value approximately two thirds of program participants' baseline annual income. In collaboration with IOM, we will randomize the selection of individual beneficiaries for the program to study the effects of this program on both economic and social well-being among applicants and their broader communities. In particular, the study will investigate how postwar recovery programming encourages sustainable livelihoods, economic resilience, and social cohesion in displacement-affected contexts.

Nathan Suhr-Sytsma, PhD

ASSOCIATE PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, ENGLISH

African Poetry Worlds

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Jing Wang, PhD

ASSISTANT PROFESSOR, EMORY COLLEGE OF ARTS AND SCIENCES, FILM AND MEDIA

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Using a media industry studies approach, my book *Globalizing Independent Cinema* examines the multi-dimensional, dynamic relationships between national independent cinema culture and the global film industry, as manifested in the overseas circulation of Chinese independent documentaries, from their domestic production sectors into global markets. My methodologies include extensive interviews with both domestic and transnational industrial professionals, evaluation of previously overlooked archival materials, discourse analysis within trade journals, and my own experience as a former documentary filmmaker for China Central Television.

The book argues that overseas circulation of nonmainstream Chinese documentary film has been mediated by transnational independent film circulation networks, consisting of key non-major industry stakeholders rather than Hollywood media conglomerates. These networks involve multidirectional cross-border flows of funding, production and distribution partnerships, creative talent and ideas, and media products. By analyzing particular stakeholders' roles and mapping out their manifold interconnections, it uses Chinese independent cinema to demonstrate how transnational media contra-flows from non-Western countries have become multilayered, hybrid processes. These encompass both powerful forces for cultural homogeneity as well as countervailing pulls toward maintaining cultural specificity and autonomy on local levels. An understanding of Chinese independent documentary's integration into global independent film circulation networks is useful in two respects: First, it exemplifies a model of transnational film networks in which national and global collaborators are fully intertwined, and second, it reveals the deep complexities and challenges for nonmainstream media products that flow from the non-Western world into the global media marketplace.