

McDonnell Academy supports COVID-19-related global research

To help address social, economic and public health ramifications of COVID-19 across the globe, in July 2020 the McDonnell International Scholars Academy awarded \$250,000 in seed grants to kick-start 11 research projects led by Washington University faculty members and their international collaborators.

The recipients were selected from a highly competitive applicant pool, which included 34 teams from six WashU schools and 23 partner institutions.

Projects will produce academic scholarship and inform policy in two areas:

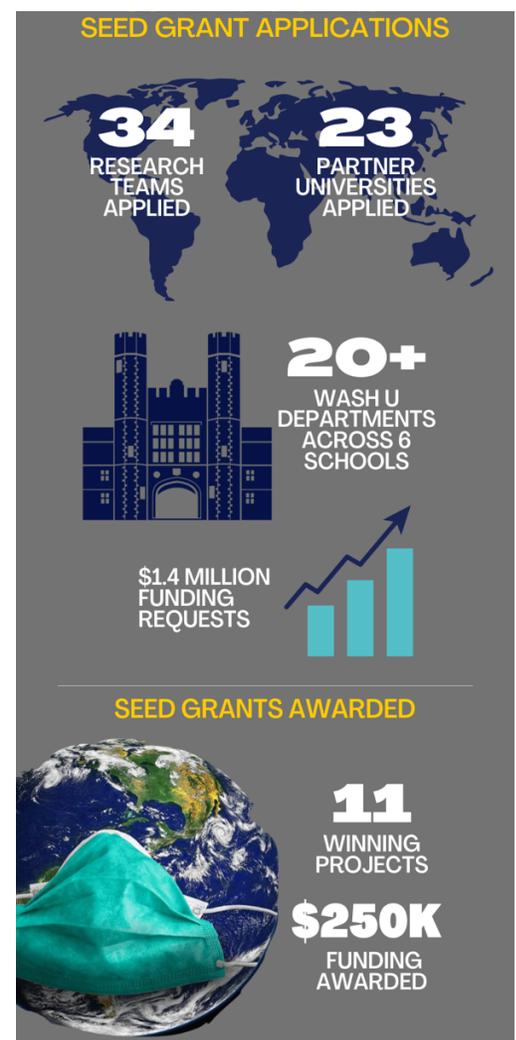
- Public health issues stemming from COVID-19;
- Societal impact of the pandemic.

The projects will advance international collaboration among McDonnell Academy research partners around the world.

“COVID-19 has been one of the most disruptive forces the world has experienced in decades. Our faculty were eager to tackle the multitude of problems, in collaboration with experts from across the globe, but needed some immediate resources to get started.

Thanks to the generosity and foresight of Bethany and Bob Millard, the McDonnell Academy was able to provide the support needed to begin this very important work.”

- Kurt Dirks, Director, McDonnell Academy,
Vice Chancellor for International Affairs



Funded research projects

PUBLIC HEALTH ISSUES STEMMING FROM COVID-19



Improved antibody surveillance

PI: Peter Fischer, Professor of Medicine, Washington University School of Medicine

COVID-19 is a major emerging problem in Indonesia. However, response to the pandemic has been hampered by limited diagnostic capacity. This project will improve rapid format antibody testing to monitor COVID-19 activity in Indonesia. Antibody tests are useful for establishing baseline seroprevalence and for monitoring trends. Dr. Fischer's group at Washington University will work with colleagues at the **University of Indonesia** to pilot the use of a lateral flow antibody test in asymptomatic subjects by systematic sampling to assess COVID-19 activity at the UI Teaching Hospitals in Depok and Jakarta and two other referral hospitals in central Java. Beyond this study, lateral flow antibody testing could be useful and feasible for COVID-19 diagnosis and surveillance in more remote areas of Indonesia that have few clinicians and no local molecular diagnostic testing capacity.

Disruptions to health systems and HIV care

The COVID-19 pandemic will impact human health not only through the direct effects of infection, but also indirectly by disrupting health systems and increasing chronic care needs. Understanding such disruptions is crucial for designing more resilient health systems that are able to mitigate the effects of COVID-19 as well as withstand future crises. The McDonnell Academy funded two research teams to study how the pandemic is affecting HIV care across different countries.



PIs: George Kyei, Assistant Professor of Medicine & **Victor Davila-Roman**, Professor of Medicine, Anesthesiology, and Radiology, Washington University School of Medicine

In Africa, models predict that more people will die from HIV and non-communicable diseases than from coronavirus. George Kyei and Victor Davila-Roman are working with colleagues at the **University of Ghana** to determine the impact of COVID-19 on HIV patient care in Ghana and to find novel ways to continue care for these patients.

They plan to interview HIV patients, clinicians, counselors, policymakers and other stakeholders to determine barriers and facilitators to chronic care and find novel ways to re-engage patients in care.



PIs: Shanti Parikh, Associate Professor of Sociocultural Anthropology and of African and African-American Studies, Arts & Sciences & **Elvin Geng**, Professor of Medicine, Washington University School of Medicine

Shanti Parikh and Elvin Geng are exploring the impact of COVID-19 on HIV care in St. Louis and Campinas, Brazil, two cities of approximately equal size, disease burden, and transmission risk categories. Together with colleagues from **State University of Campinas**, they will examine changes to the cascade of care including the number of new diagnoses, the number of patients newly starting antiretroviral therapy, and the adequacy of viral load monitoring before and after COVID-19. They will also conduct in-depth interviews with patients to understand the societal and health systems determinants of health care for HIV patients in the COVID-19 era as well as social, psychological and whole-person effects.

Strain on healthcare personnel



PIs: Caline Mattar, Assistant Professor of Medicine & **George Kyei**, Assistant Professor of Medicine, Washington University School of Medicine

The COVID-19 pandemic has disproportionately impacted healthcare personnel (HCP). In Ghana, COVID-19 cases involving HCP and lack of robust infection control programs have created additional demands on healthcare systems with limited resources. Caline Mattar and George Kyei will lead a study to identify barriers and opportunities to implement a formal infection control program at the **University of Ghana Medical Center** and characterize factors associated with SARS-CoV-2 transmission, including lapses in infection control practices, environmental contamination with the virus, and HCP infection.

Consequences in pregnancy



PI: Indira Mysorekar, James P. Crane Professor of Obstetrics and Gynecology, Washington University School of Medicine

A research team led by Indira Mysorekar is partnering with collaborators from **State University of Campinas** to explore how COVID-19 affects pregnancy in the United States and Brazil. Both countries are among the most affected globally and have reported multiple cases of maternal morbidity and mortality due to COVID-19. However, the mechanisms underlying the effects of COVID-19 on pregnant women are unknown, including consequences for placental health and vertical transmission. The research team will test the central hypothesis that COVID-19 increases the risks of pregnancy complications through the placental renin angiotensin (RAS) system, an important regulator of vascular function.

“We are happy to receive funding from the McDonnell International Scholars Academy to support our work on addressing this highly significant issue, namely, the impact of COVID-19 on pregnant women and their developing fetuses or newly born babies. Our goal is to provide high-quality data regarding the mechanisms by which COVID-19 increases women’s risk for pregnancy complications and provide a platform to design rigorous studies to assess treatment strategies to prevent those complications.”

- Indira Mysorekar, James P. Crane Professor of Obstetrics and Gynecology

SOCIETAL IMPACT OF THE PANDEMIC

Pandemic's impact on retirement



PI: Hillary Elfenbein, Professor of Organizational Behavior, Olin Business School

Researchers from Olin Business School are studying how the pandemic could affect retirement in the United States, South Korea and Australia. COVID-19's impact on the older population could increase discrimination against older workers, who may be seen as weak and vulnerable. This project will investigate how the experience of COVID-19 affects retirement expectations and decisions, such as interest and pressure to retire and post-retirement plans. It will explore effects across three countries, each with differing aging norms, retirement norms and resources, and experiences of COVID-19. Preliminary analysis of pilot data shows that the more time spent watching COVID-19 news, the earlier older workers think their age cohort will retire. The project engages partners from **Seoul National University** and **The University of Queensland**.

Economic fallout and policy responses



PI: Michal Grinstein-Weiss, Shanti K. Khinduka Distinguished Professor, Brown School

The COVID-19 pandemic has caused significant social and economic turmoil on a global scale. As nations work to contain the spread of the virus, they are also grappling with economic fallout due to the pandemic. A team from the Brown School and the Social Policy Institute, together with researchers from **Interdisciplinary Center Herzliya** and **The Hebrew University of Jerusalem**, will conduct a comparative study of the U.S. and Israel. The project will investigate the immediate and long-term economic impacts of COVID-19 on household welfare in each country, as well as assess how government policies and programs can mitigate the negative effects of the pandemic on household wellbeing. The team will implement two comparable household surveys in Israel and the U.S. This comparative study will illustrate the diversity of impacts of COVID-19 across countries, identify commonalities and differences in impact in economically vulnerable populations within each country, and inform the development of cross-national strategies to help prepare for similar outbreaks in the future. The project is a trans-disciplinary collaboration between social work, economics, public health, and public policy researchers from the three universities.

COVID-19 and intimate partner violence



PI: Kim Thuy Seelinger, Research Associate Professor, Brown School & Visiting Professor, School of Law

Experts are concerned that the COVID-19 pandemic will increase many women's risk of intimate partner violence (IPV), due to heightened economic stress and public health measures that may trap survivors at home with their abusers.

Kim Thuy Seelinger is partnering with researchers from **Makerere University** and the **University of Chile** to collect evidence of these complex dynamics in three cities: St. Louis, Kampala (Uganda), and Santiago (Chile). The project will collate existing data related to intimate partner violence and COVID-19 in each city, illuminating it with insights from service providers about trends in IPV rates and reported causes during the pandemic.

Role of political ideology on COVID-19 mitigation



PIs: Guillermo Rosas, Professor of Political Science, Arts & Sciences, **Deborah Salvo**, Assistant Professor, Brown School & **Rodrigo Reis**, Professor, Brown School

‘Does politics make you sick?’ To answer this question, a transdisciplinary team of WashU researchers is partnering with colleagues from Brazil, Colombia, Chile and Mexico to study how political ideology affects COVID-19 mitigation efforts across the Americas. Emerging evidence from the United States

suggests that partisanship and ideology drive attitudes towards evidence-informed public health responses. Is there a similar dynamic at play elsewhere in the Americas? If so, what impact will this have on COVID-19 control, health disparities, and other health-related outcomes? This collaboration involves researchers from McDonnell Academy partner **Tecnológico de Monterrey** as well as four other leading universities in the region. Their goal is to understand how politically driven attitudes aid or thwart efforts to manage the COVID-19 pandemic and the health and social effects across the Americas. The seed grant will facilitate surveys to gather crucial data.

World Health Organization and global governance



PI: Leila Sadat, James Carr Professor of International Criminal Law, School of Law

The World Health Organization (WHO) plays a critical role in how states and the international community handle global health emergencies. COVID-19 has tested the effectiveness of the WHO’s International Health Regulations (IHR 2005), the only binding legal instruments regarding international disease prevention and control. The IHR 2005 include a process for declaring a Public Health Emergency of International Concern (PHEIC). They impose requirements upon states, but their application and implementation are insufficiently robust. The coronavirus crisis and states’ attacks on the WHO itself have compounded these challenges. This project will convene an interdisciplinary group of experts to steer a comprehensive examination of the IHR 2005 and the six PHEICs declared, including COVID-19. It will produce and disseminate a report with recommendations for constructive reform, including amendments to the IHR, that can improve the effectiveness of existing international mechanisms and provide incentives for state implementation. The project engages collaborators from multiple partner institutions, including **National Taiwan University**, **National University of Singapore**, **The University of Melbourne** and **Utrecht University**.

Reshaping the global intellectual property system

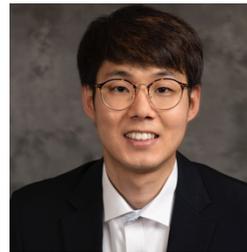


PI: Minyuan Zhao, Associate Professor of Strategy, Olin Business School

The current global intellectual property (IP) system took shape 25 years ago, following the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) under the World Trade Organization. The COVID-19 pandemic has already upended many assumptions behind TRIPS and is expected to transform global innovation in healthcare and beyond.

This project, led by Minyan Zhao, aims to answer three interrelated questions: (1) How will COVID-19 reshape the global IP system? (2) How will firms compete and collaborate differently under the new frameworks? and (3) What are the implications for national innovation systems and the coordination among them? The seed grant will facilitate qualitative case studies in four countries (China, Singapore, South Korea, and the U.S.) to better understand the strategic interactions among the players, followed by a large-scale empirical analysis using global patent application and litigation data after the end of the pandemic. The research team includes a current McDonnell Academy Scholar, Charlie An, as well as collaborators from several partner institutions: **National University of Singapore**, **Peking University** and **Seoul National University**

“The McDonnell Academy is providing unparalleled educational opportunities. The Academy has made it possible for me to pursue a PhD degree at Olin Business School and to be connected with excellent scholars from all around the world. It is also directly supporting my research with Dr. Zhao on the global intellectual property system. We are excited to engage several institutions from the partnership network across Asia in this collaboration.”



Byung Uk (Charlie) An,
McDonnell Academy
Scholar & Fila Korea
Corporate Fellow

ABOUT THE MCDONNELL ACADEMY

The McDonnell Academy is a graduate-level endowed scholarship program for international students to study at Washington University in St. Louis. Founded in 2005, the Academy's core mission is to develop a community of future global leaders from partner institutions worldwide. Through its network comprising more than 30 partner universities, the Academy also facilitates research collaboration across institutions on critical global issues.

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