

USAID | Notre Dame **Global Development Fellowships**



2015 PROFILES



**U.S. GLOBAL
DEVELOPMENT
LAB** Powered by **USAID**



**UNIVERSITY OF
NOTRE DAME**
Keough School of Global Affairs

USAID | Notre Dame **Global Development Fellowships**

How can we make education “smarter” through the innovative use of technology? What has been the result of the reduction in the drug trade in the Brazilian favelas? What are the best indicators of effective and sustainable democracy?

These are just a few of the questions that Notre Dame students are researching while abroad during the 2015–2016 academic year. The Notre Dame Initiative for Global Development is working with the U.S. Global Development Lab to offer research and innovation fellowships to graduate students. Focused on science, technology, and social sciences, the program’s goal is to solve development challenges through innovative research.

USAID | Notre Dame Global Development Fellowships allow students to work with cutting edge scientists, scholars, and innovators from around the globe, and provide the opportunity to form new and lasting professional networks.

From democracy to disease prevention, education to peace, this year’s fellows are working with local organizations, research labs, and universities in Brazil, Colombia, India, and South Africa for two to twelve months. Their work is poised to leave a lasting impact on the world.

2015 FELLOW ACADEMIC PROGRAMS

- 1** COMPUTER SCIENCE
- 1** ENGLISH
- 1** GLOBAL HEALTH
- 3** PEACE STUDIES
- 3** POLITICAL SCIENCE
- 2** SOCIOLOGY
- 1** THEOLOGY

“These fellowships provide a beneficial dimension to the research work and professionalization of our students. The USAID Notre Dame partnership is particularly timely, as it comes at a time when Notre Dame is preparing to open the Keough School of Global Affairs, the first new college or school at Notre Dame in nearly a century. This partnership provides an enriching opportunity for our students, and is valuable for the university as a whole.”

–Theresa Ricke-Kiely
Faculty mentor and Associate Director
Kroc Institute for International Peace Studies



Dillon



Ditta



Gallagher



Iffland

JOHN DILLON ▪ *PhD Student, English* ▪ *Bangalore, India*

IBM Smarter Education Initiative: John's research involves educational big data and computational text analysis methods to investigate research questions related to education. He looks at such questions as: can we use affective computing to determine how students are responding to different aspects of online courses? How can we tell if a student is frustrated, bored, or engaged? Can a student's development be mapped and recorded over time for more personalized teaching and tutoring, both in online and traditional learning contexts? Finally, can we identify at-risk students well in advance and make timely interventions? This project forges important collaborations between the University of Notre Dame and the IBM Smarter Education research team.

ELISE DITTA ▪ *Master's student, Peace Studies* ▪ *Cartagena, Colombia*

Challenges for Schools for a Culture of Peace in Post-Conflict Colombia: Elise is working with the Observatorio para el Desplazamiento Forzado (Institute on Forced Displacement) at Universidad de Cartagena. Colombia is currently engaged in a peace process after more than forty years of internal conflict. The Universidad de Cartagena is involved in various research efforts surrounding internal displacement, victim reparations, and the peace process. Elise joins research efforts regarding how the national Colombian peace process can be meaningful at the community level in communities affected by the armed conflict.

MEGHAN GALLAGHER ▪ *Hesburgh-Yusko Scholar, Political Science/French* ▪ *Stellenbosch, South Africa*

Exploring Mobile Technologies and Applications to Advance Development Objectives: Meghan is spending the summer working with Mxit Reach Trust. Mxit offers a variety of mobile applications targeted at low-income communities focusing on health and education resources via mobile phones. Meghan is conducting impact assessments of the newly launched Learn2Earn, a mobile application that incentivizes learning and homework completion through interactive quizzes aligned with weekly lesson plans. She is looking at grade improvement and user satisfaction to discover how the application can be improved, altered, and expanded. Meghan is visiting schools and interviewing teachers and students who use the mobile application, and is also conducting a larger survey of all mobile app users.

CRAIG IFFLAND ▪ *PhD student, Theology* ▪ *Johannesburg, South Africa*

The Applicability of International Humanitarian Law (IHL) in Contemporary Armed Conflict: IHL is a set of legal norms that regulate wartime conduct between armed groups. Chief among these norms is the 'principle of distinction,' which forbids the targeting of noncombatants. In more recent armed conflicts, however, combatant groups have frequently, and sometimes purposefully, intermingled with the civilian population during the course of hostilities. Today, there is considerable legal debate as to whether the 'principle of distinction' should be applied differently in such cases, given the proximity of combatant and noncombatant groups. In South Africa, Craig is exploring the intricacies of this debate as they pertain to recent instances of armed conflict in Africa and the Middle East. His distinctive contribution to this collaborative project will be to provide an analysis of these debates in light of the history of Catholic moral reflection on the use of lethal force during wartime.



Israel



Lero



Maiden



McCune

STEFANIE ISRAEL ▪ *PhD student, Sociology* ▪ *Rio de Janeiro, Brazil*

Comparative Ethnography of Pacified Favelas: Favelas are informal communities that are undergoing rapid change on a number of levels as a result of pacification, a proximity policing program aimed at undermining the longstanding territorial domination of heavily armed drug traffickers in select favelas. Stefanie's research explores the social change occurring in four "pacified" communities on very different trajectories. She has been closely following one of these communities since 2012 via summer research trips, and will return to Brazil for a year of fieldwork in 2016 to investigate changes that occur before, during, and after the crucial period of Rio's hosting of the 2016 Summer Olympic Games.

CECILIA LERO ▪ *PhD student, Political Science* ▪ *São Paulo, Brazil*

Varieties of Democracy: Partnering with the Fundação Getúlio Vargas, Cecilia is working on the Varieties of Democracy Project, a collaboration among more than 50 scholars to gather data and measure democracy in a new way that is systematic, historical, specific, and disaggregated. This new measure will allow scholars and practitioners to construct their own indices of democracy and advance our understanding of the historical process of democratization. Cecilia will act as a "bridge coder," an expert of two or more countries ensuring that data is cross-nationally consistent and comparable. The Varieties of Democracy Project is co-hosted by the University of Notre Dame's Kellogg Institute for International Studies.

EMILY MAIDEN ▪ *PhD student, Political Science and Peace Studies* ▪ *Cape Town, South Africa*

Varieties of Democracy: Working with the Democracy in Africa Research Unit at the University of Cape Town, Emily is researching South Africa's democracy from 1900-2014. Her goal is to gather data on a number of various indicators of democracy, including elections, human rights, and freedom of speech in order to understand changes and trends in South Africa's process of democratization. This research is part of a larger study housed within the Varieties of Democracy Project, co-hosted by the University of Notre Dame's Kellogg Institute for International Studies.

RYAN MCCUNE ▪ *PhD student, Computer Science* ▪ *Pretoria, South Africa*

Measurement Metrics and Performance Evaluation of New Real Time Media Overlay Network Distribution Protocols: Ryan is developing a big data analytics system in support of a new streaming video technology designed for low-bandwidth environments. Areas such as rural Africa are not supported by modern technological infrastructure like 4G that can reliably stream high quality video to mobile devices. Ryan is working with the CSIR Meraka Institute, content producers, and advertisers to develop a data-driven analytics system that utilizes machine learning to help better understand user demographics, deliver content recommendations, and guide further technological development.

MICHAEL PENTA ▪ *PhD student, Sociology* ▪ *São Paulo, Brazil*

Research on the Network Effects of Pacification: Changes in regional, political, or economic situations can lead to rapid capital development in urban areas that are traditionally underserved, causing significant effects on local social networks. Michael's research is looking into how this is occurring in a recently pacified favela. By taking control of areas previously controlled by local drug trafficking organizations, the Pacification process has significantly altered the resources and individuals entering into this once



Penta



Ruth



Tiscornia



Whiting-Jones

largely isolated community. As the social dynamics of this community change, this will alter the type and diversity of relationships in the network. Working with the Centro de Estudos da Metrópole at the University of Sao Paulo, and using technology and methodology developed at iCeNSA and the Wireless Institute at the University of Notre Dame, the goal is to measure these changes by monitoring the local network activity of the community over 12 months. In addition to providing valuable data on the effects of this type of urban development, this information will also be used by the Brazilian government to better inform urban policy recommendations. Michael is also supported by the Kellogg Institute for International Studies.

ANNETTE RUTH ▪ *Master's of Science in Global Health graduate* ▪ *Bogota, Colombia*
Zebrafish as an Animal Model to Study Trypanosoma Cruzi Motility: Working at the Faculty of Medicine at La Universidad de los Andes, Annette is working with *Trypanosoma cruzi*, the flagellate protozoan that causes Chagas' disease in the Americas. The mechanism and progression of *T. cruzi* infection in the living host are poorly understood; the primary objective of her research is to investigate the motility of the parasite in vivo inside the larval zebrafish. Annette is working to establish the zebrafish as an animal model to study protozoan infections via standardization of infection protocols; followed by an analysis of the survival of the protozoan, survival of the host, and *T. cruzi* migration patterns according to the injection site and colonization of target organs to elucidate the clinical progression of the disease.

LUCIA TISCORNIA ▪ *PhD student, Political Science* ▪ *Cape Town, South Africa*
Varieties of Democracy: Lucia is contributing in creating a new network between practitioners at the Institute for Justice and Reconciliation (IJR) through the Varieties of Democracy Project, a venture co-hosted by the Kellogg Institute for International Studies. Through this collaboration, IJR staff are exposed to and able to use V-Dem's analytical tools for policy advocacy, and also gain access to additional mechanisms to better benchmark South Africa's progress on a series of dimensions of democracy, as well as identify areas for improvement. Lucia is also coding dimensions of South Africa's democracy that will be added to V-Dem's comprehensive database to contribute in improving the cross-national measurement of democracy.

KELSEY WHITING-JONES ▪ *Master's student, Peace Studies* ▪ *Cape Town, South Africa*
African Transitional Justice Study: Kelsey is working with the Centre for the Study of Violence and Reconciliation (CSV), a multidisciplinary institute concerned with policy formation, implementation, service delivery, education and training, and consultancy services. She is working on two primary projects during her six-month fellowship. The first is a comparative study of transitional justice processes throughout the African continent, involving the analysis of different legislative mechanisms and the impact of these mechanisms on victims, local communities, and civil society. This research will culminate in recommendations to inform the African Commission for Human and People's Rights' strategy for engaging with these challenges. Kelsey also supports CSV's trainings, media campaigns, and outreach on the newly adopted (but not yet integrated) African Union Transitional Justice Policy Framework across African intergovernmental, governmental, and nongovernmental bodies.

**NOTRE DAME
INITIATIVE FOR
GLOBAL
DEVELOPMENT**

University of Notre Dame
940 Grace Hall
Notre Dame, Indiana 46556
ndigd.nd.edu ■ 574 631 2940



**U.S. GLOBAL
DEVELOPMENT
LAB** Powered by **USAID**



**UNIVERSITY OF
NOTRE DAME**

Keough School of Global Affairs