

[SE17-CCI]

Measuring Development Outcomes: A New Frontier in Development Engineering

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Brief Bio
Session Leader(s)

Temina Madon directs the Center for Effective Global Action (CEGA), a research network headquartered at the University of California, Berkeley. CEGA creates innovative products, services, and technologies for economic development. Madon has advised the WHO, World Bank, and Gates Foundation. Previously, she held positions in science policy at the National Institutes of Health and U.S. Congress, where she served as AAAS Science and Technology Policy fellow. She has a PhD in health sciences from Berkeley and an SB in engineering from MIT.

Abstract
Short description, including alignment with conference themes and objectives

Development engineering (Dev Eng) applies principles from engineering, economics, and the social sciences to solve challenges arising from global poverty. A core focus of the Dev Eng research community is to improve the measurement of development indicators. How can we cost-effectively capture inputs from low-income, remote, and excluded communities? How can real-time, high-frequency, more reliable information be integrated into social policy and program design? How can we track progress toward poverty reduction—especially in light of the new Sustainable Development Goals (SDGs)?

New technologies—from satellites and mobile data streams, to sensors and administrative “big data”—are revealing the demands, preferences, and realities of people living in poverty. This rich information can inform the design of new products, services, and interventions that target poverty alleviation. It also facilitates the evaluation of new anti-poverty strategies and learning about what works. However, mainstreaming these innovations within the social sector has proven slow, given budget constraints, missing technical expertise, and lack of incentives to improve efficiency.

This session invites researchers and private sector product developers to showcase new measurement technologies and strategies that have been adapted for use in developing country contexts. Presentations will highlight how these innovations affect development practice in the field—in terms of resource allocation, program decision-making, and evaluation. We will also examine issues related to privacy and safety, particularly in fragile or conflict-affected areas.

Description
Proposed discussion focus

Global social, ecological, and financial systems have become increasingly unstable and unpredictable in recent years, fueled by climate change, population growth, and resource scarcity. These shifts profoundly affect the poor and require development agencies to become more resilient to change. Organizations that provide social services—from NGOs and social enterprises to governments and multilaterals—will need to become more aware, networked, self-regulating, and adaptive.

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Description (Cont.)

All of this relies on accurate measurement and monitoring of human and environmental welfare indicators, across different scales and units of analysis. Agencies need to know which communities to target in a disaster, and which households are most vulnerable to shocks. They need to know which services to offer, and how users will respond over time. Recent advances in information technology and remote sensing have revolutionized our ability to track community-level trends, often in real-time and in difficult settings. Yet few governments or NGOs are keeping pace with this trend.

We will invite speakers from the World Bank/multilaterals, USAID/development agencies, and large NGOs to discuss the ways that they are integrating novel measurement technologies into their work. We will also invite contributions from private sector companies (like Planet Labs, Skybox, Premise, Real Impact Analytics, Visa) to discuss the novel data streams they are generating in emerging countries. Finally, we will hear from academics who have partnered with both development organizations and companies to drive innovation in the measurement of development.

Objectives

Justification and expected impact during and after the conference

This conference session will provide development practitioners with opportunities to learn about continuous, reliable, and real-time measurement technologies that are capturing outputs related to agriculture, food security, water quality, market prices, energy access, and more. It is expected to foster new partnerships and collaborations among Dev Eng researchers, technology developers, and service agencies. Results may include new research projects, the scale-up or adoption of innovative approaches, and the development of a more formal network of people and institutions involved in measuring development outcomes.

Target Audience

Researchers in development economics, ICTD/computer science, electrical engineering, mechanical engineering, environmental sciences, and political science; private sector software development companies (e.g. satellite, mobile/telco, IoT); development practitioners and decision makers seeking to adopt better measurement technologies and solutions.