Impacts and Engagement:
The Intersection of Science, Technology & Society

Cal Earth Day: Saturday, April 22, 2017

Alice M. Agogino
Professor of Mechanical Engineering
Education Director, Blum Center for Developing Economies
Chair, Development Engineering Graduate Group

"I have the audacity to believe that peoples everywhere can have three meals a day for their bodies, education and culture for their minds, and dignity, equality, and freedom for their spirits."
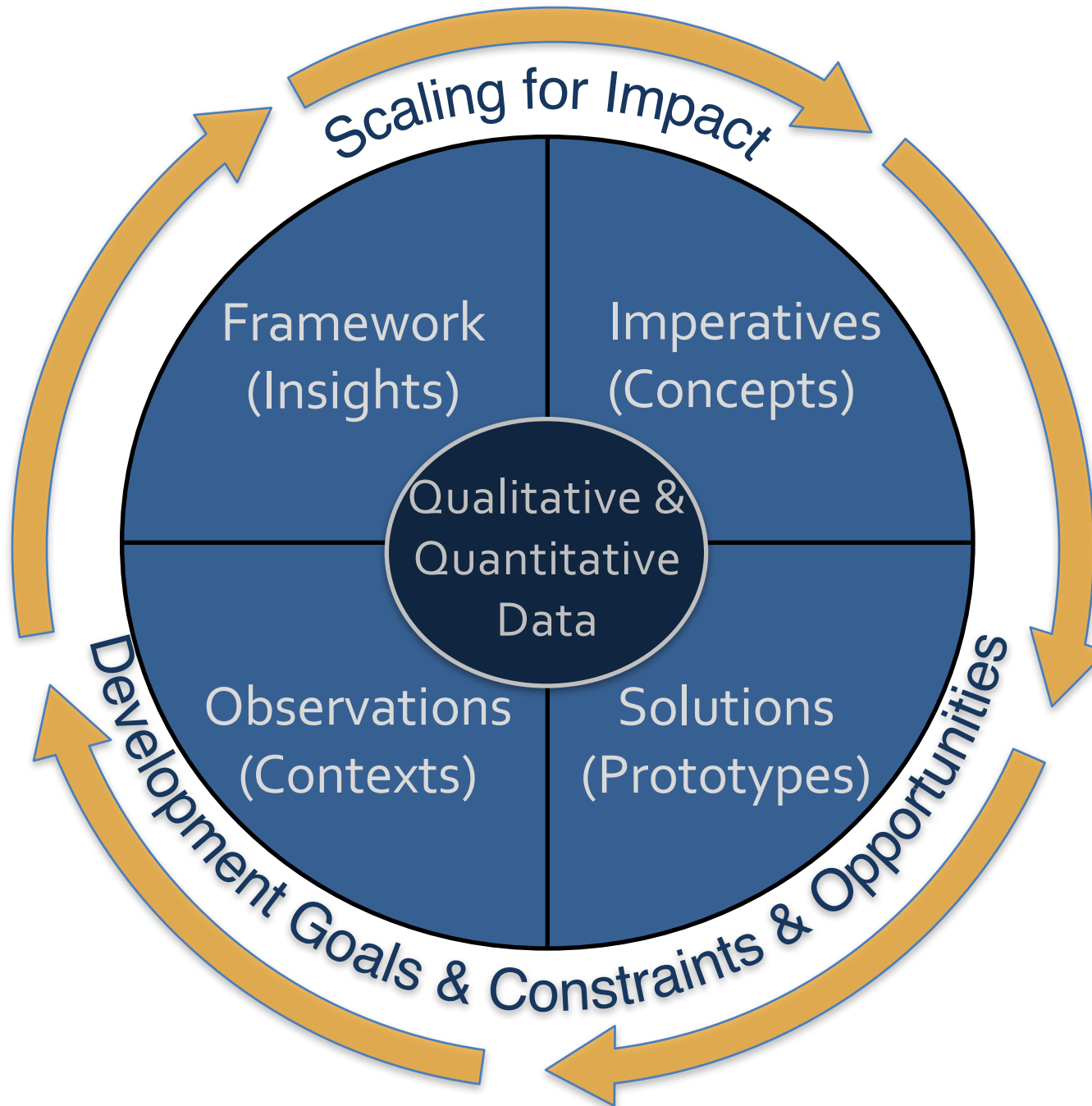
Martin Luther King, Jr.

Nobel Peace Prize acceptance speech • Oslo, Norway, 1964

Development
Engineering:
Designing products & services
that improve poor people's lives
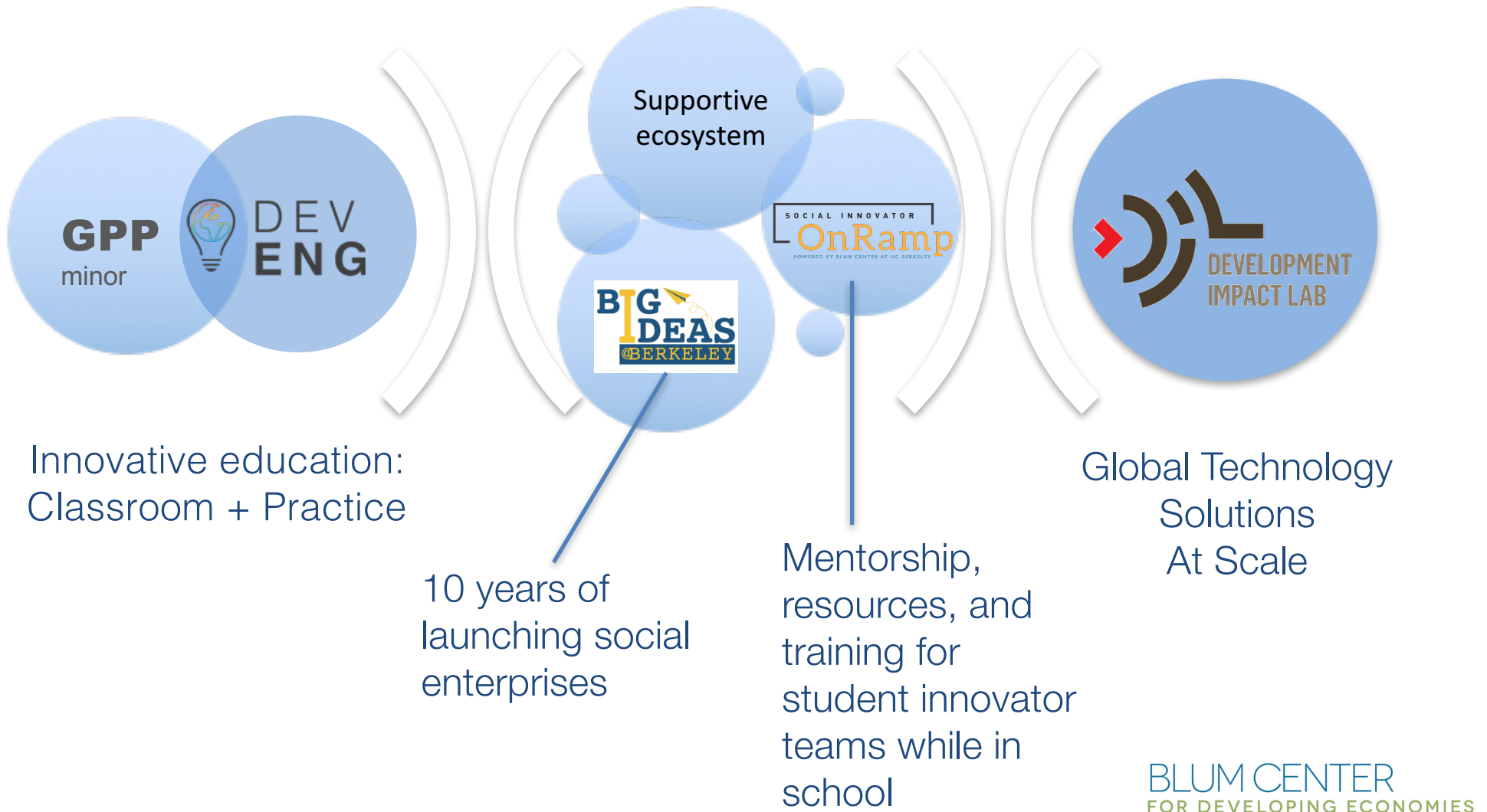at scale

Design for Social Impact

BLUM CENTER METHODOLOGY

Train
a new generation
of global innovators

Transform ideas
into inventions and action

Drive
discovery & innovation

Supportive
ecosystem

GPP
minor

DEV
ENG

SOCIAL INNOVATOR
OnRamp
POWERED BY BLUM CENTER AT UC BERKELEY

BIG
IDEAS
@BERKELEY

DEVELOPMENT
IMPACT LAB

Innovative education:
Classroom + Practice

10 years of
launching social
enterprises

Mentorship,
resources, and
training for
student innovator
teams while in
school

Global Technology
Solutions
At Scale

BLUM CENTER
FOR DEVELOPING ECONOMIES

APPROACH
THE INNOVATION PIPELINE

Lumina

Village Base Station

CellScope

UV Waterworks

WE CARE Solar

Readymade

Microgrids

ECAR

Darfur Stoves

Microclinics International

DISCOVERY

FIELD EVALUATION

SCALE UP & COMMERCIALIZATION

PROTOTYPE

INCUBATION & ITERATION

SPIN OUT

technology design

field tests & user input

business & economic model
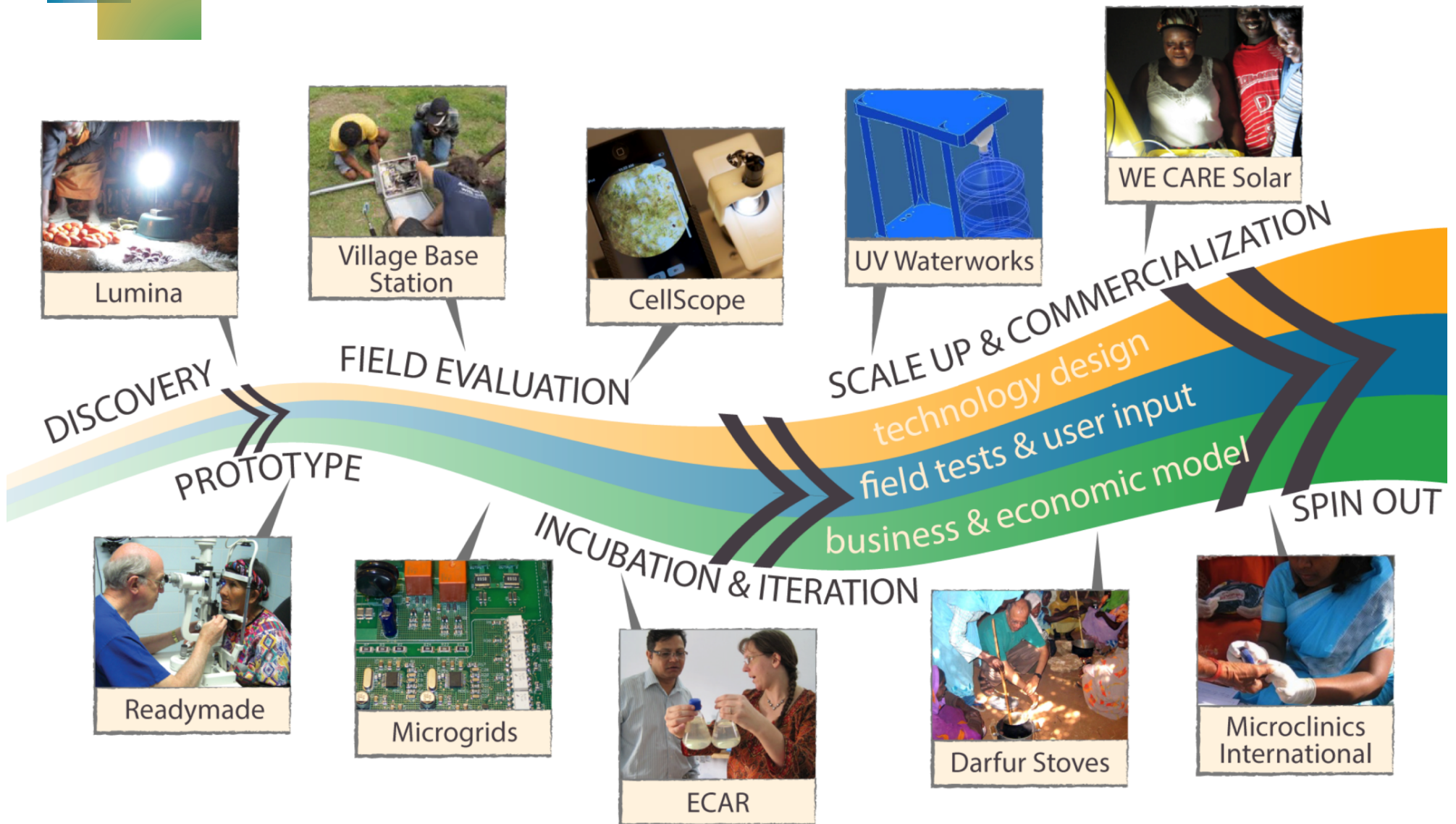
REVERSE INNOVATION

Create high-performance, high-value products and services that appeal to consumers in poor and rich countries alike.

Sensors & Smartphones

Food, Energy, Water Systems

Visualize an End to Cervical Cancer

CARES: Community Assessment of Renewable Energy & Sustainability

Berkeley Engineer magazine cover — College of Engineering, University of California, Berkeley, Fall 2015, Volume 8. CellScope in Cameroon: Safe treatment for river blindness. Fortifying breast milk: Global delivery device. SOPHIE'S SUPER HAND — Fabricating custom prosthetics.

CORE SEED FUNDING OPPORTUNITIES

CITRIS AND THE BANATAO INSTITUTE

- Million Hands: Prosthetic Hands for Children
- Profs. Grace O'Connell & Alice Agogino, UC Berkeley
- Prof. Sanjay Joshi, UC Davis
- Graduate Student: Daniel Lim

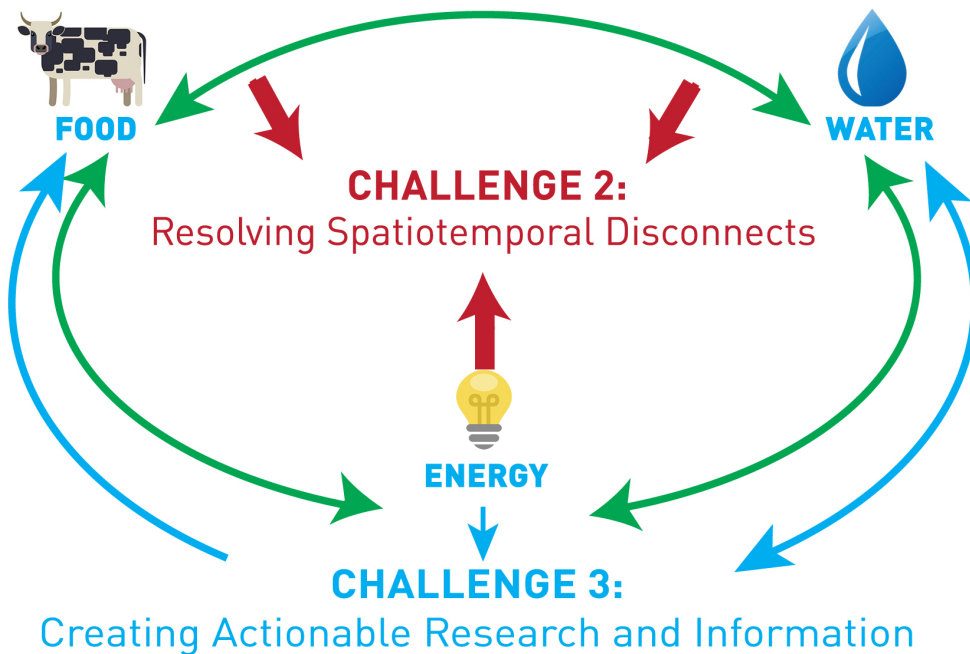# NRT-INFEWS: STEM Training for Actionable Research & Global Impact

STRESSORS   shifting demographics
climate variability   persistent waste and pollution

CHALLENGE 1:
Closing and Optimizing the FEWS Loop

FOOD   WATER

CHALLENGE 2:
Resolving Spatiotemporal Disconnects

ENERGY

CHALLENGE 3:
Creating Actionable Research and Information

SOLUTION MECHANISMS   information and data
incentives for behavior change   contextualized technology

- PI: Alice Agogino
- Co-Pis: Daniel Kammen, David Levine, Kara Nelson, Matthew Potts
- 23 affiliated faculty from 14 departments.
- Let's make the Earth great again – Bill Maher

Development Engineering

DESIGN FOR IMPACT

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BLUM CENTER
FOR DEVELOPING ECONOMIES