

# **Engaging Diverse Communities Science**

Raj Pandya

American Geophysical Union

**Thriving Earth Exchange**

# **Engaging Science in Diverse Communities**

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# Why do we learn science?

EJ Action Network



# Who gets to define the sciences?

Laura Morales



# How do the sciences respond to legacies of injustice?

Theresa Dardar



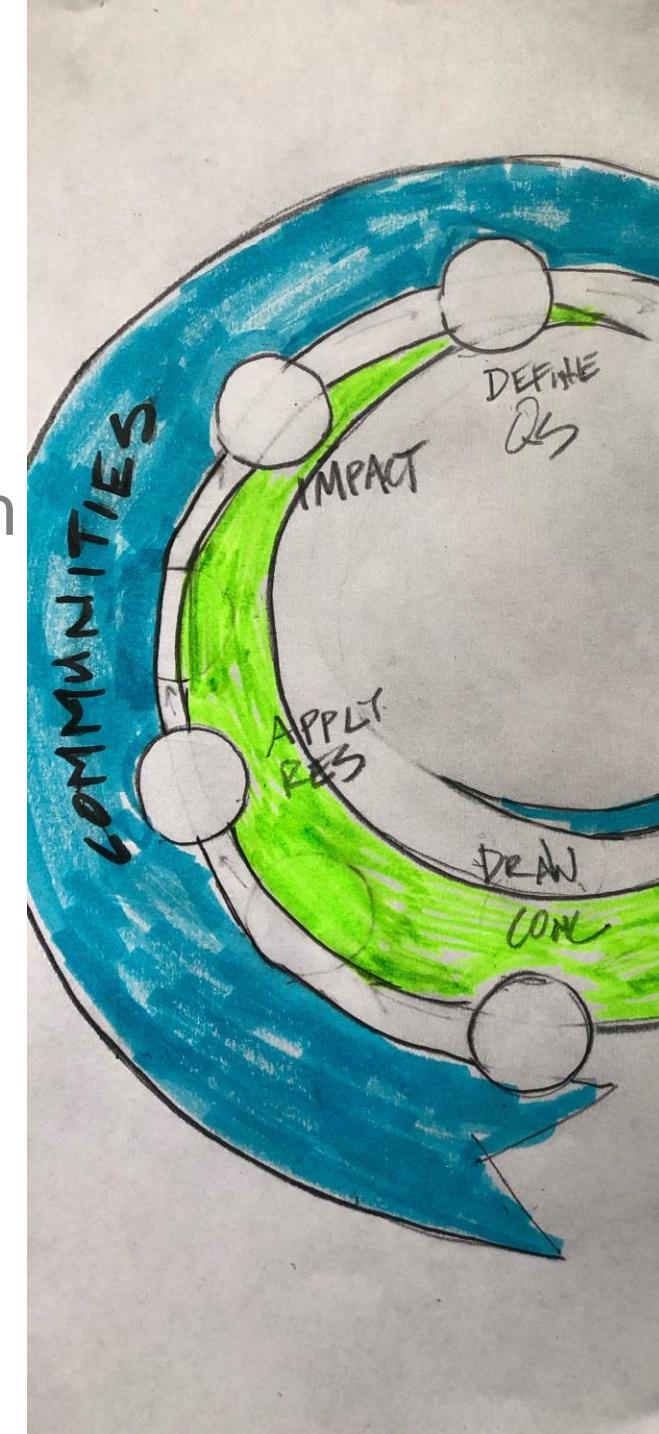
# Loading Dock Science



Public Participation in Science Research  
Co-created Citizen Science  
Collaborate Science  
Co-management  
Community Based Participatory Research

# Community Science

Use Inspired Science  
Usable Science  
Participatory Action Research  
Extreme Citizen Science  
Pedagogy of the Oppressed  
Coproduction  
Sustained Assessment  
Solutions Science



# Design for Action

Andy Cross, The Denver Post



# Advance Community Agency

Photo Courtesy of WHO



# Practice Humility

Photo Courtesy of Karim Ali-Kassam





- **Scope** projects that connect science priorities;
- **Match** communities with well-prepared scientists;
- **Solve** challenges, make impact, and create a community science agency, and academic science
- **Share** results to inspire change (institutions and communities)

# Community Science (potentially)

...attracts new and more diverse people to the sciences.

...generates new research questions and approaches.

...increases public support for sciences.

...helps scientists hone skills and prepare for diverse careers.

...improves the culture and practice of science.

Helps communities become resilient and sustainable.

...enhances communities' ability to participate in, contribute to, help guide, and benefit from science.

...leverages science to advance justice and equity.

...chips away at pressing global challenges.

# LEARNING THROUGH CITIZEN SCIENCE

*Enhancing Opportunities by Design*

Designing ***with*** all learners advances research, broad learning, and community outcomes

Unless you design for equity, you allow inequity to persist



# Research Questions...

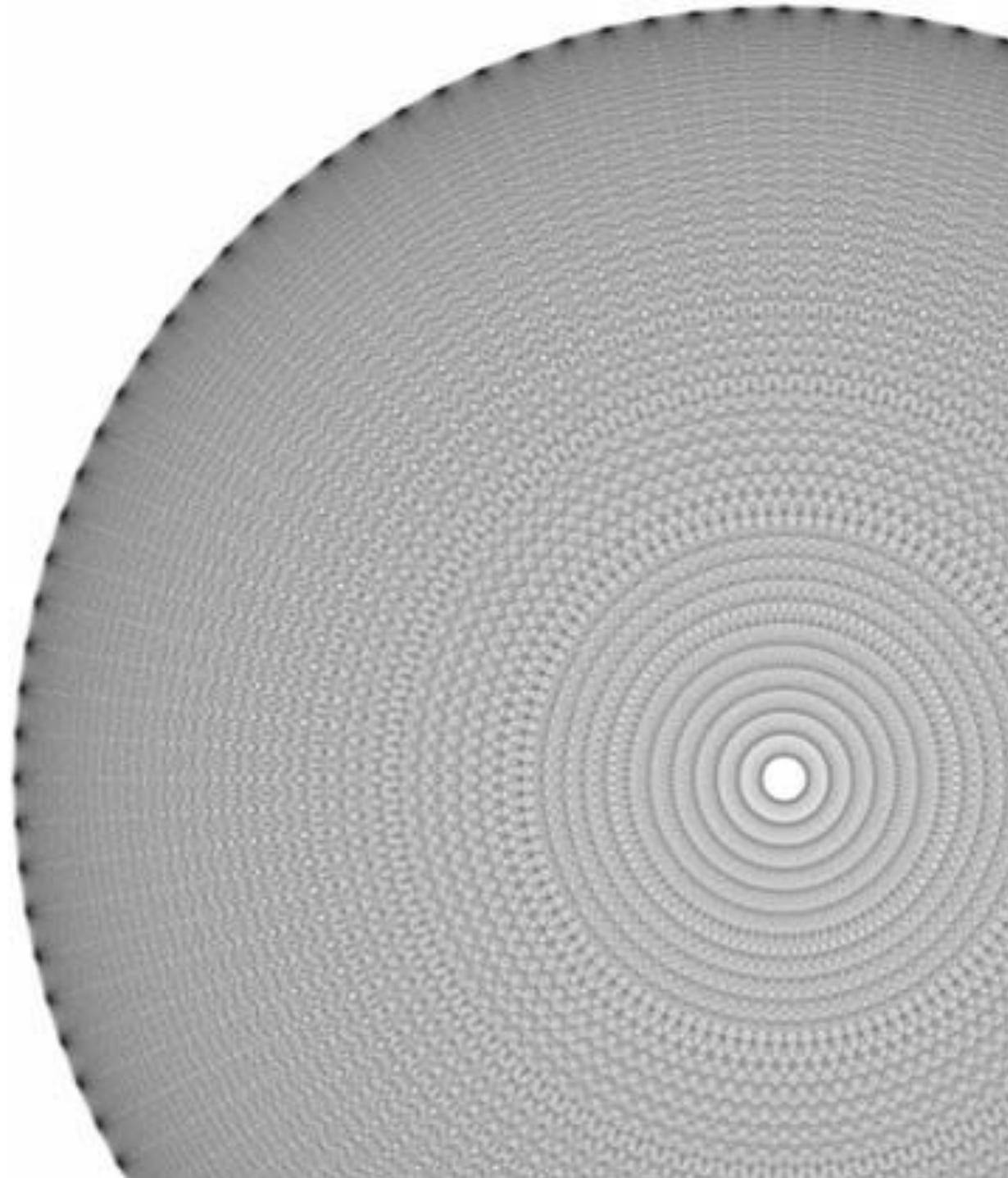
- How can we characterize shared capacity to engage in and use science? (community science literacy/agency/capital)
- What science research and education outcomes is community science particularly suited to? For whom?
- What are the best practices in design? For implementation? In diverse learning environments and for diverse learners?
- What characteristics contribute to successful community science projects? Unsuccessful?
- How do we prepare and support both professionals and learners who engage in community science? *All of them?*
- How can community science approaches expand scientific enterprise?

# Chris Jordan

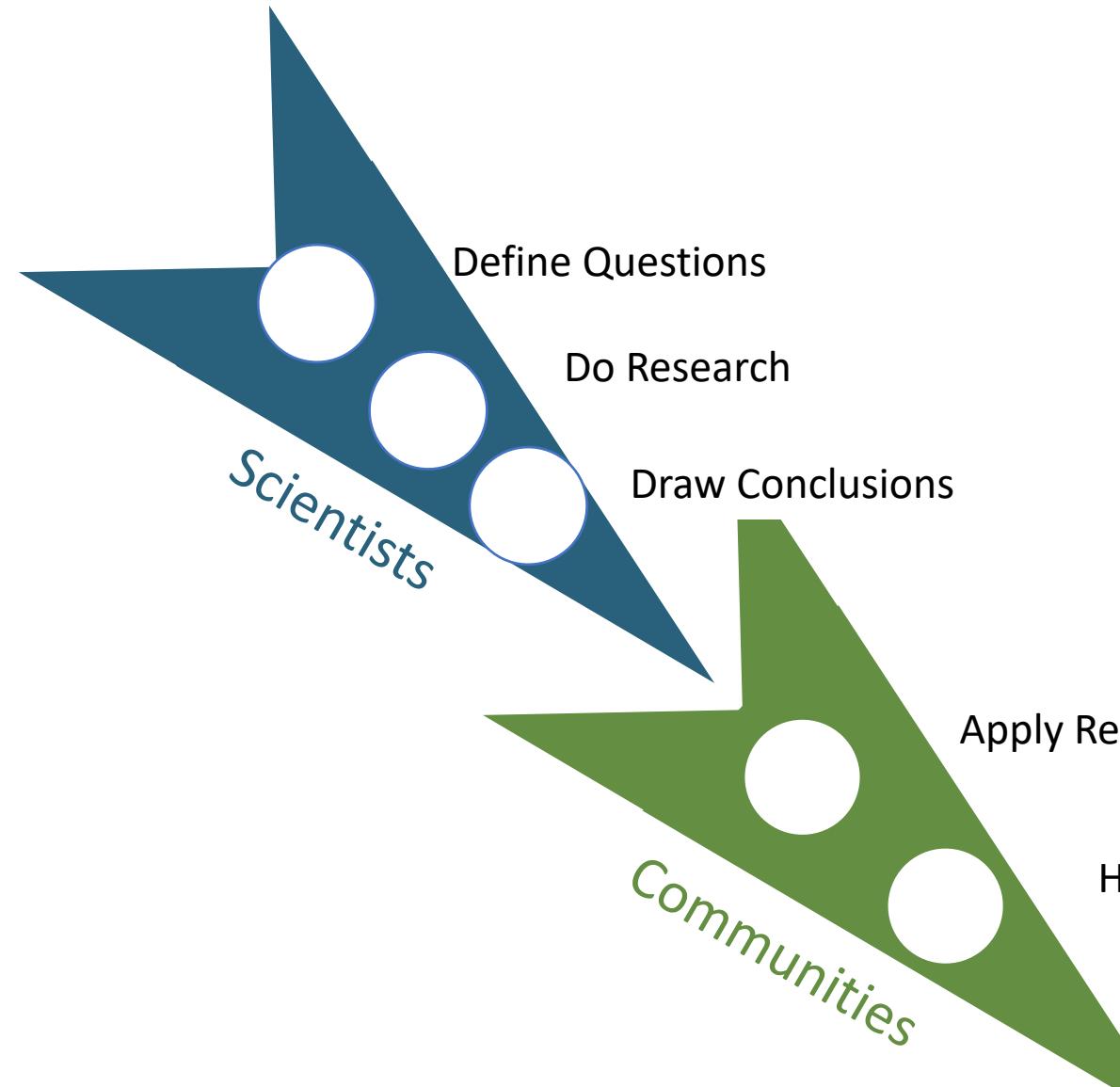


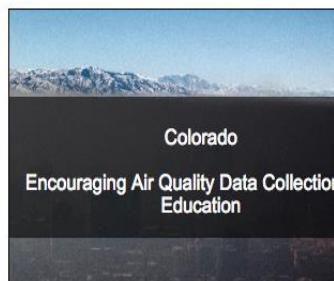
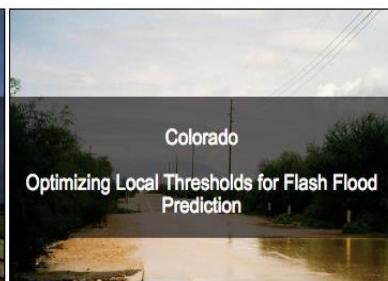
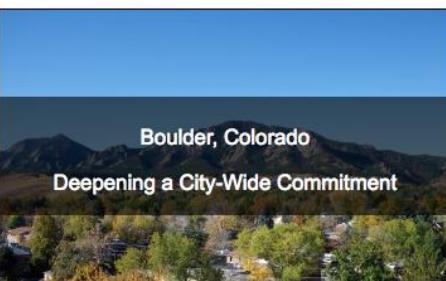
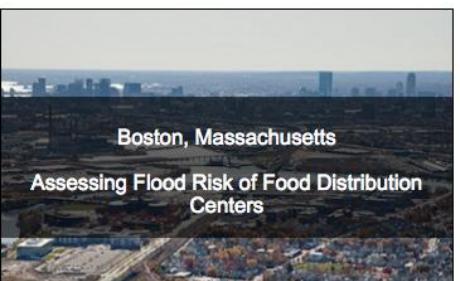
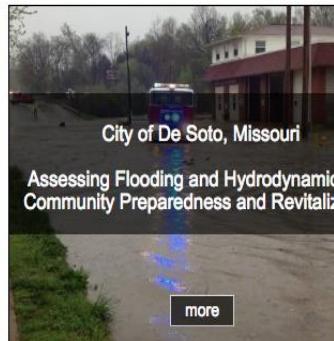
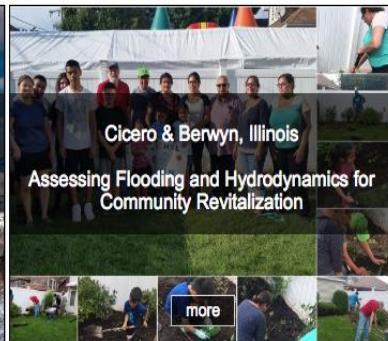
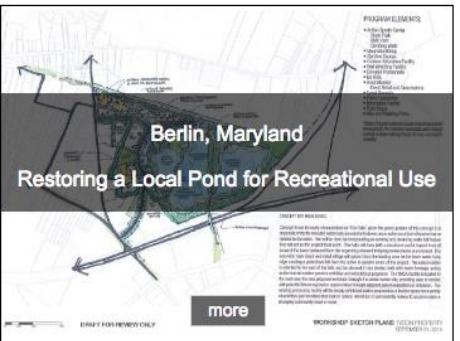
Chris  
Jordan

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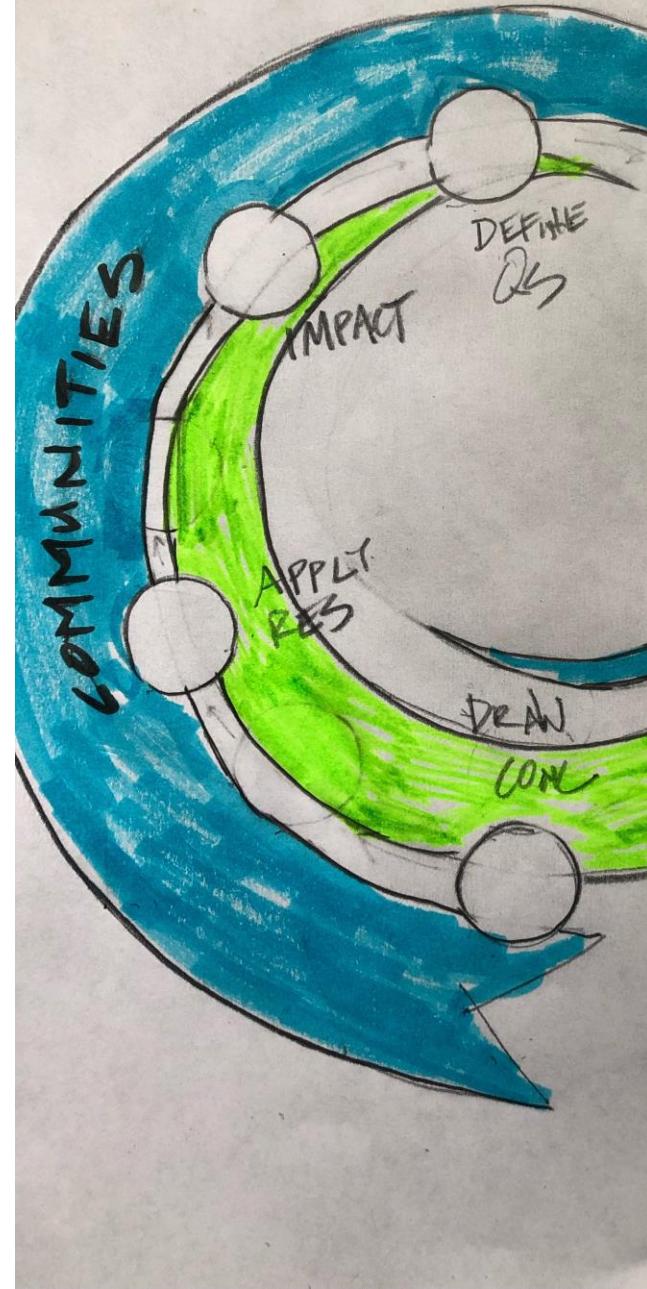
# Old School Science





# Communities and volunteer scientists working together



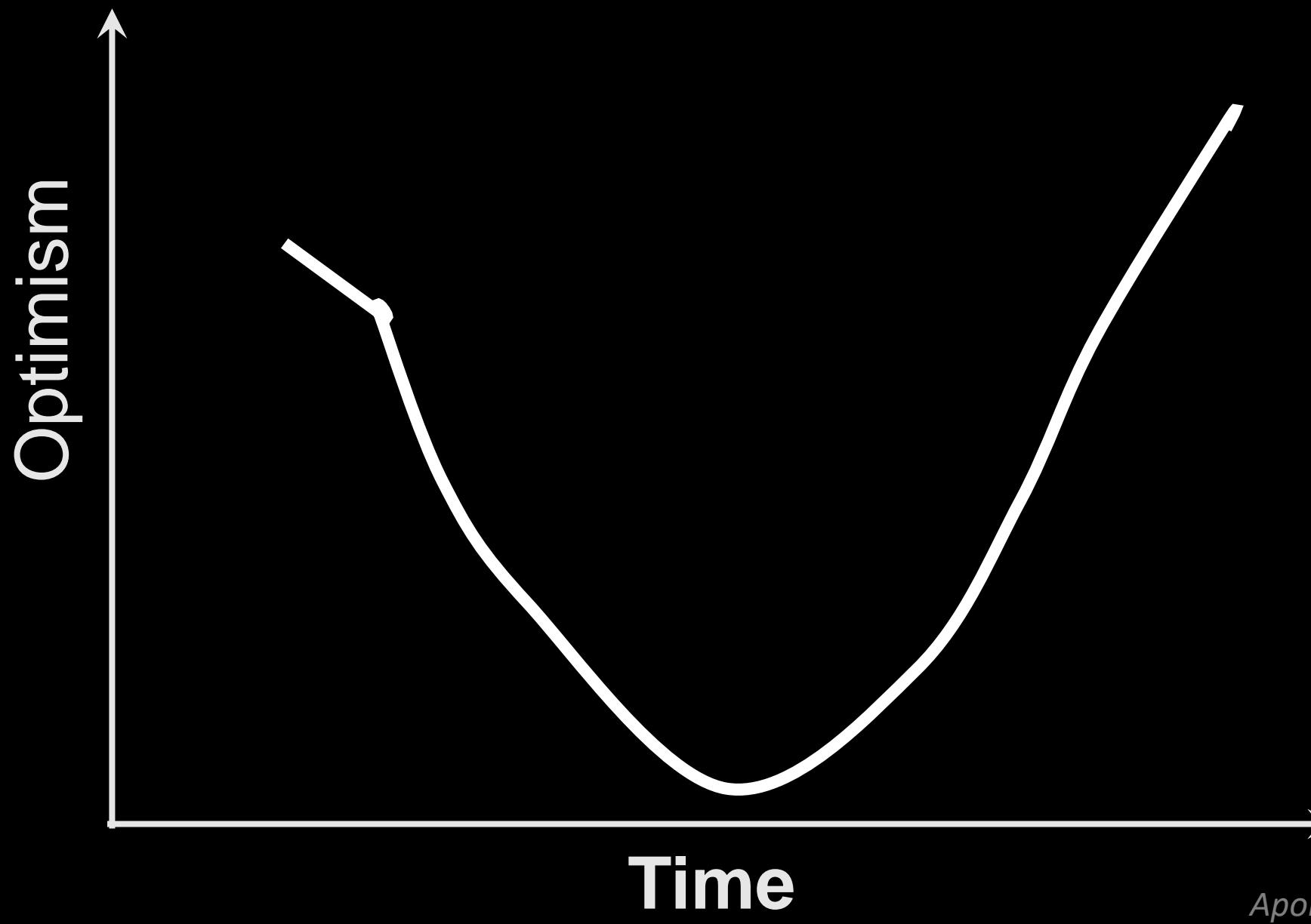


# What are our responsibilities as scientists?

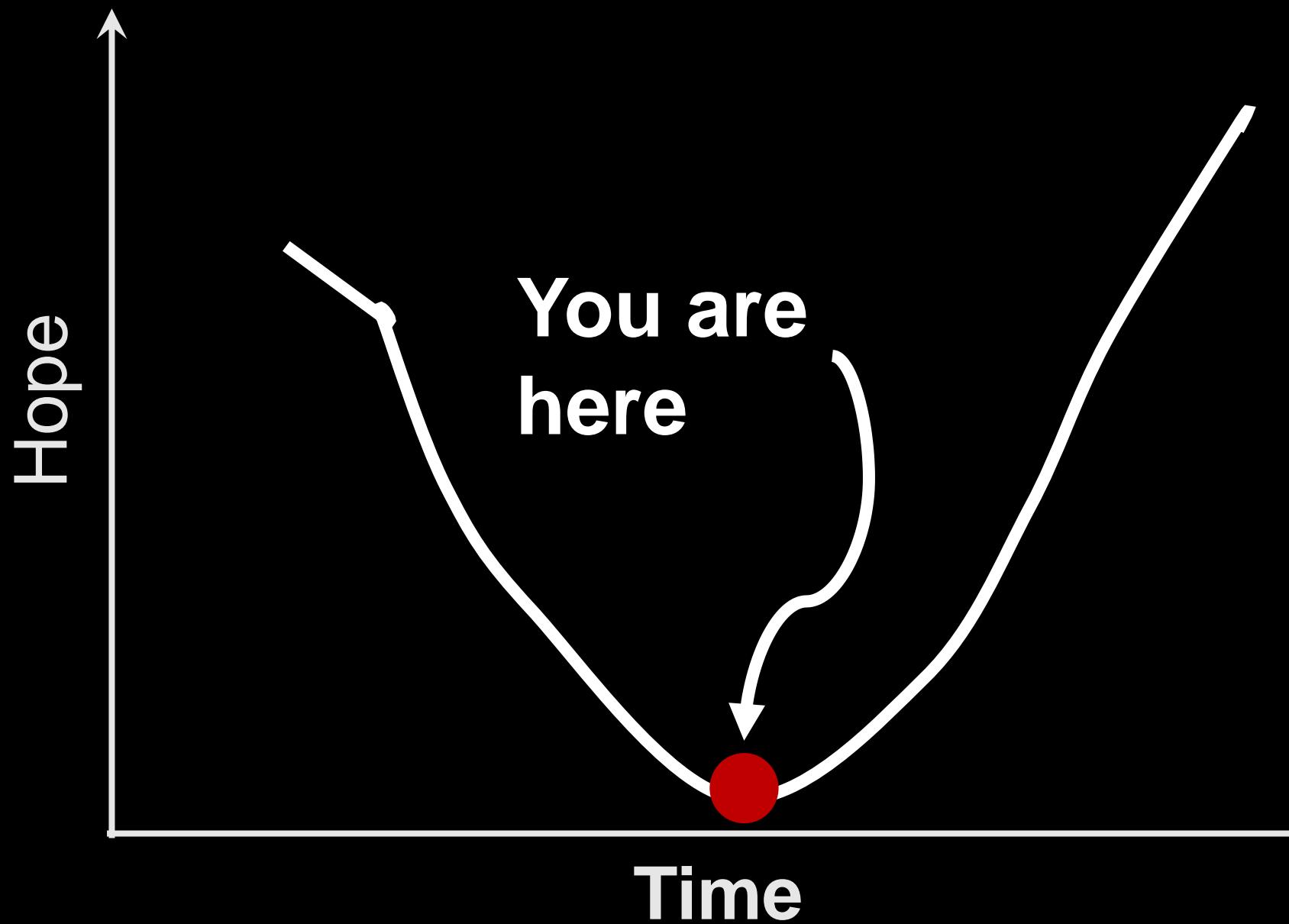
Rob Carr, The Associated Press



# Graph of this Talk



# Graph of this Talk



# Foreground Equity

Photo Courtesy of Institute for Society and Environmental Transition

