



## **Governing Complex and Emerging Technologies: Lessons for the Governance of Climate Engineering**

A One-Day Workshop, at Hotel Shattuck Plaza, Berkeley, CA

organized by the

Forum for Climate Engineering Assessment

School of International Service, American University

**February 9, 2017**

8:00 – 9:00 AM

**Breakfast**

White Cotton Room, Hotel Shattuck Plaza

### **Welcome**

9:00 – 9:15 AM

***Wil Burns, PhD, FCEA***

***Simon Nicholson, PhD, FCEA***

### **Panel I: Thinking Through Technology**

To govern means, in its broadest sense, to steer. To govern powerful emerging technologies means to steer towards beneficial outcomes while steering clear of potential problems and pitfalls. What does that mean in theory and in practice? This opening panel will provide questions, categories, and analytical frames that inform the governance of emerging and complex technologies.

9:15 – 10:30 AM

Moderator: ***Les Thiele, PhD, University of Florida***

***Robert Olson, PhD, Institute for Alternative Futures***

***Steve Rayner, PhD, University of Oxford***

10:30 – 10:45 AM

**Coffee**



## **Panel II: Nuclear Energy and Energy Issues**

Debates about the ethical, environmental, and social desirability of climate engineering have some important parallels in earlier and ongoing debates about nuclear energy. A separate set of insights can be drawn from cooperative non-proliferation monitoring efforts. Panelists working at the science/policy interface will speak to their experience in these two distinct but overlapping areas.

10:45 AM – Noon      Moderator: ***Catriona McKinnon, PhD, University of Reading***  
***Peter Davies, PhD, Sandia National Labs***  
***Jane Long, PhD, University of California, Berkeley***

Academic Working Group respondents:

***Richard Falk, PhD, Princeton University***  
***Prakash Kashwan, PhD, University of Connecticut***

12:00 – 1:00 PM      **Lunch**

## **Panel III: Nanotech, Biotech and Synthetic Biology**

Climate engineering is, potentially, a planet-spanning enterprise. In this panel our invited guests will extract governance lessons from technological developments at the nano and sub-cellular scales. Though the scales differ, still, the balancing act between potential societal benefits and potent risks is again apparent, and again must be managed. What lessons apply across such different scales of technological development and intervention?

1:15 – 2:30 PM      Moderator: ***Dan Chong, PhD, Rollins College***  
***Sam Evans, PhD, Harvard University***  
***Tracy Hester, University of Houston Law School***  
***Eleonore Pauwels, PhD, Woodrow Wilson Center***

Academic Working Group respondents:

***Netra Chhetri, PhD, Arizona State University***  
***Paul Wapner, PhD, American University***

2:30 – 3:00 PM      **Coffee**



#### **Panel IV: Artificial Intelligence, Automation, & Information Technology**

Rapid expansions of computational power now underpin and drive forward technological developments in other domains. This panel will look at some of the most obvious beneficiaries of computing innovation, from the startling emergence of the precursors to artificial intelligence to extraordinary changes in the realms of information technology.

3:00 – 4:15 PM

Moderator: **Walter Valdivia, PhD**, *Arizona State University*

**Miles Brundage**, *University of Oxford*

**Leon Gurevitch, PhD**, *University of Wellington*

**JP Singh, PhD**, *University of Edinburgh*

**Jack Stilgoe, PhD**, *University College London*

Academic Working Group respondents:

**Myanna Lahsen, PhD**, *The Brazilian Institute for Space Research*

**Andrew Light, PhD**, *World Resources Institute*

#### **Panel V: Tracing Lines to Climate Engineering**

In the day's final session, guests with substantial cross-cutting expertise in the climate engineering governance conversation in addition to other technological domains will offer closing thoughts, on the way to general conversation about lessons learned and follow-up. The central purpose here is to pull out themes, insights, questions, and analogues directly applicable to the deliberations of the AWG.

4:15 – 5:30 PM

Moderator: **Aarti Gupta, PhD**, *Wageningen University*

**Jane Flegal, PhD**, *University of California, Berkeley*

**Dave Rejeski, PhD**, *Environmental Law Institute*

**Stefan Schaeffer, PhD**, *Institute for Advanced Sustainability Studies*

Academic Working Group respondents:

**Al Gillespie, PhD**, *University of Waikato*

**Sikina Jinnah, PhD**, *University of California, Santa Cruz*

7:00 PM

**Workshop Dinner**

Berkeley Social Club, 2050 University Ave, Berkeley, CA 94704