

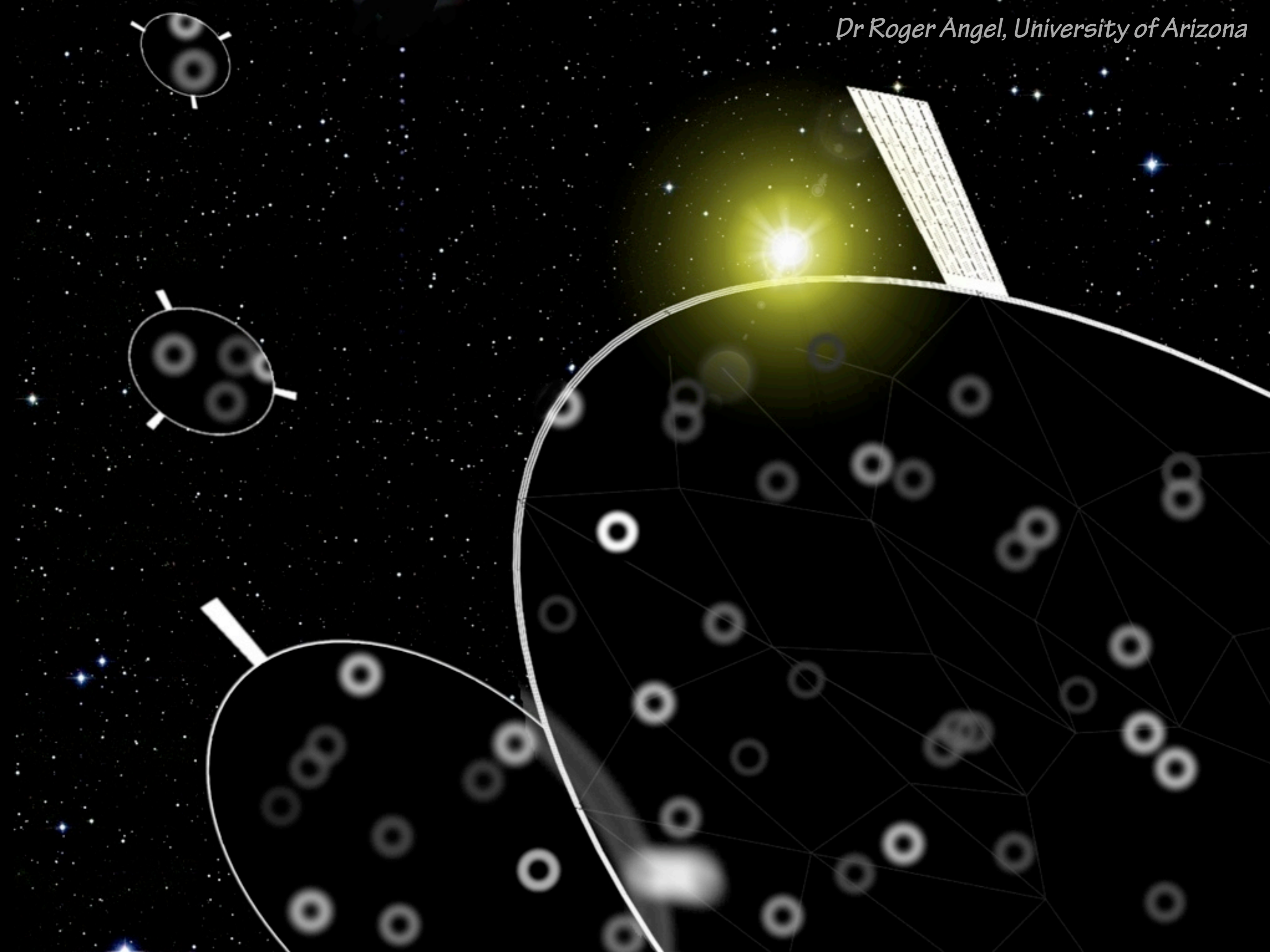
Managing risk in a changing world

What's science got to do with it?

Andrew D. Maynard

Chief Science Advisor, Project on Emerging Nanotechnologies

Woodrow Wilson International Center for Scholars (in partnership with the Pew Charitable Trusts)



Communication

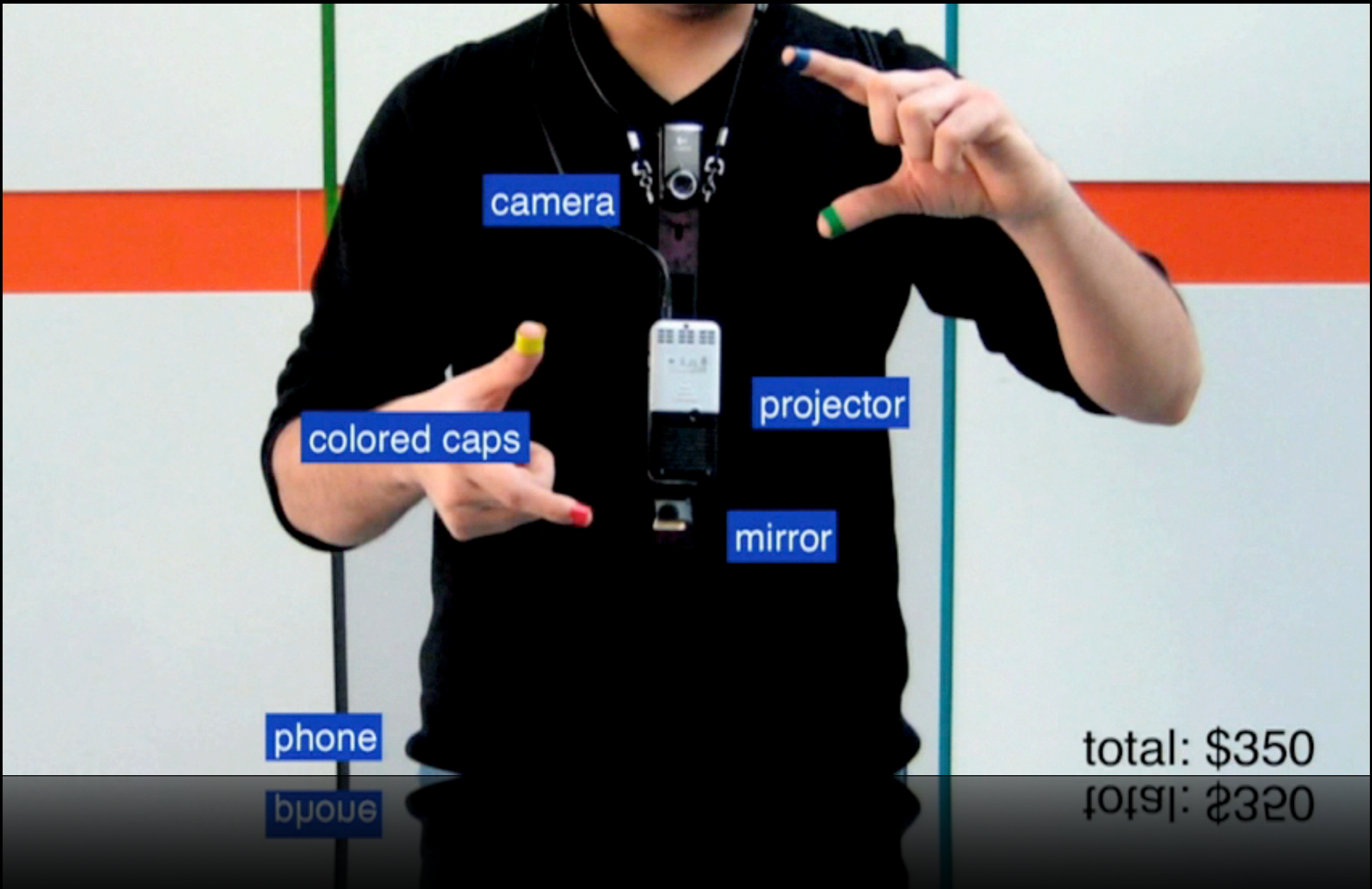
Coupling

Control

Communication

Coupling

Control



phone

phone

camera

colored caps

mirror

projector

total: \$350

total: \$320

Communication

Coupling

Control

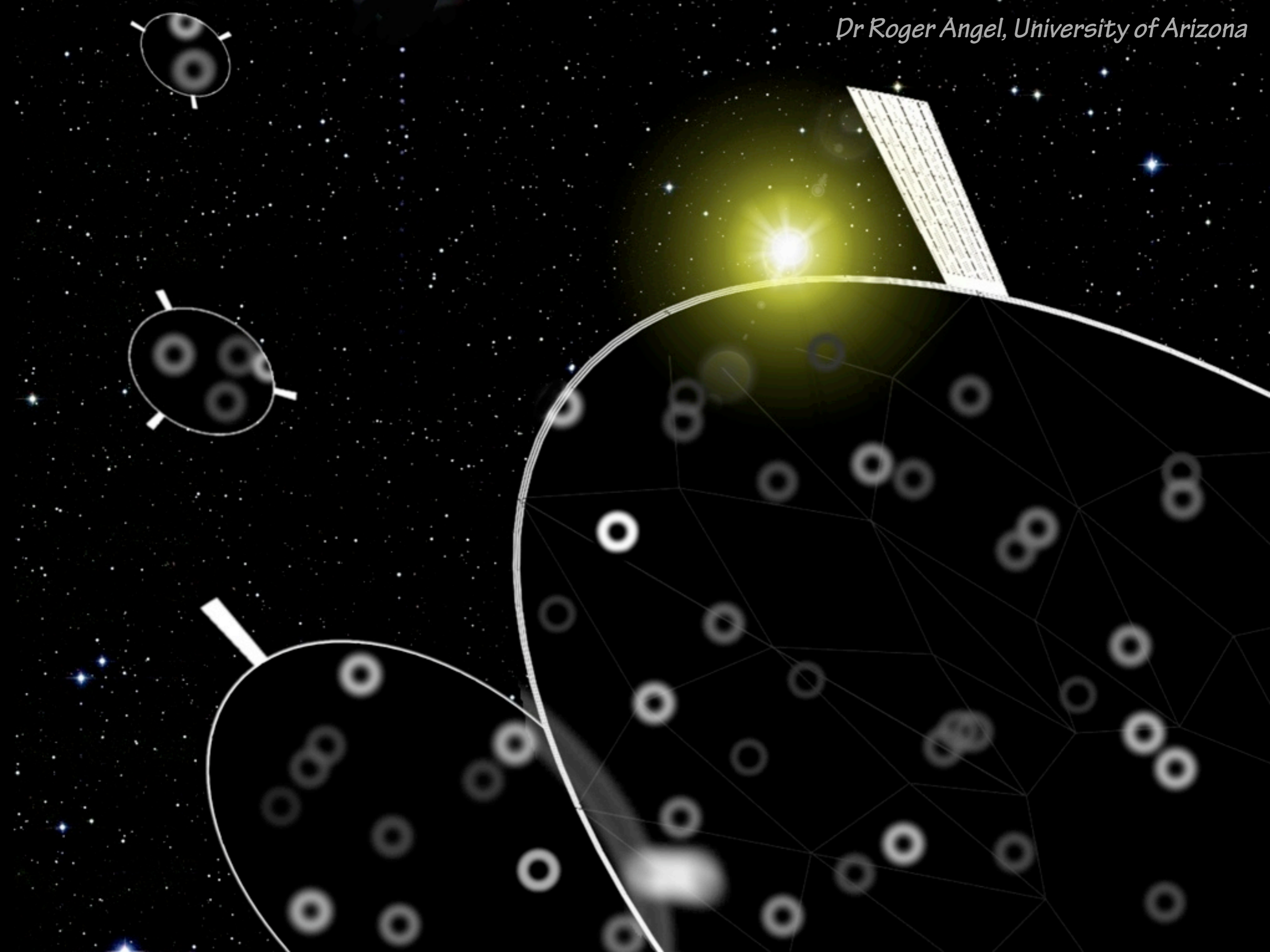


<http://www.youtube.com/watch?v=bV2RmpCfWBM>

Communication

Coupling

Control



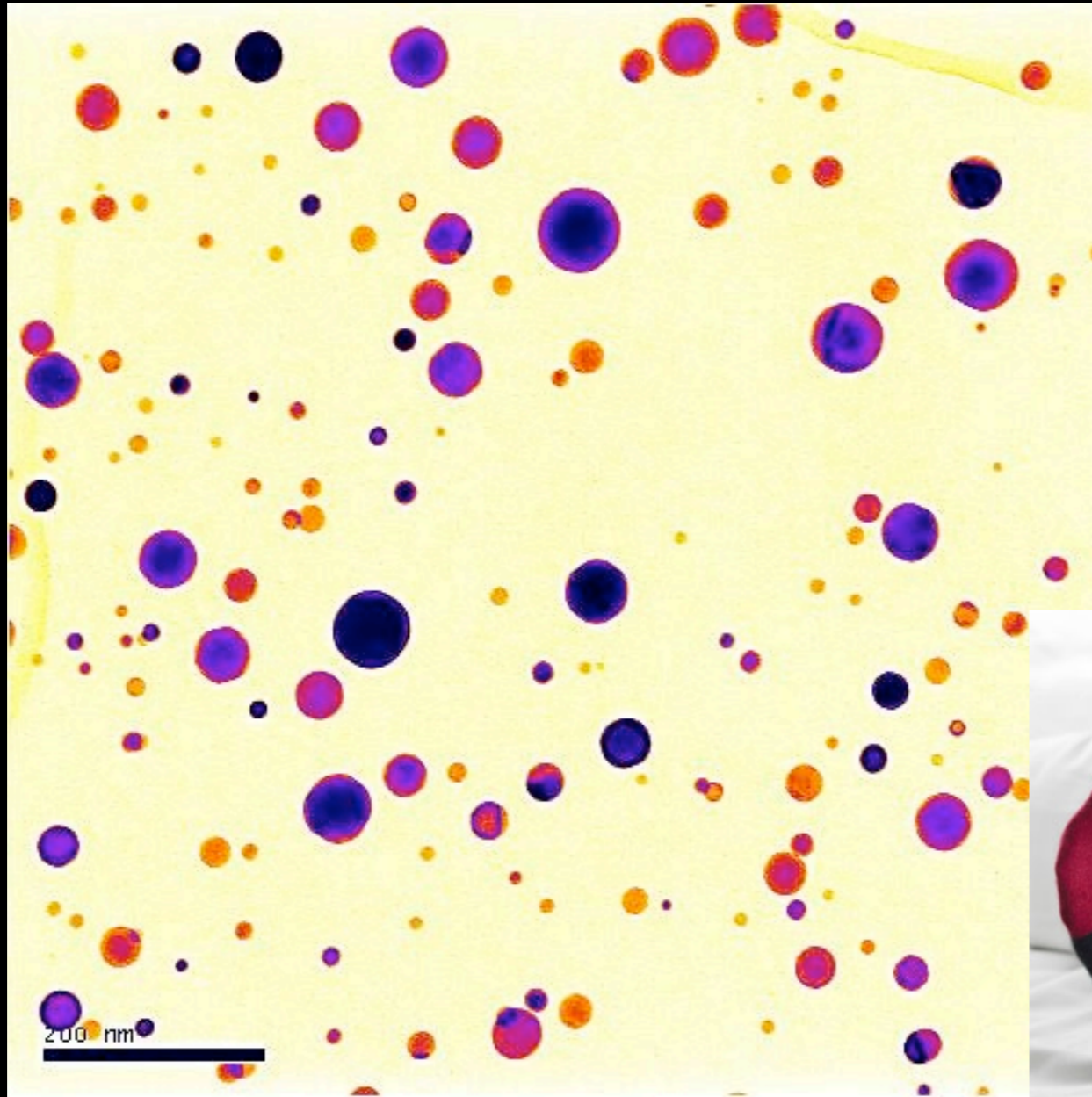
Our ability to ***control*** and
manipulate matter at the
nanometer scale will
underpin some of the ***most***
profound technological
advances of this century

Smallness



Gets you to new places

Smallness



Silver

Small

Suffocated bugs

Sweet feet



Gets you to new places

Strangeness

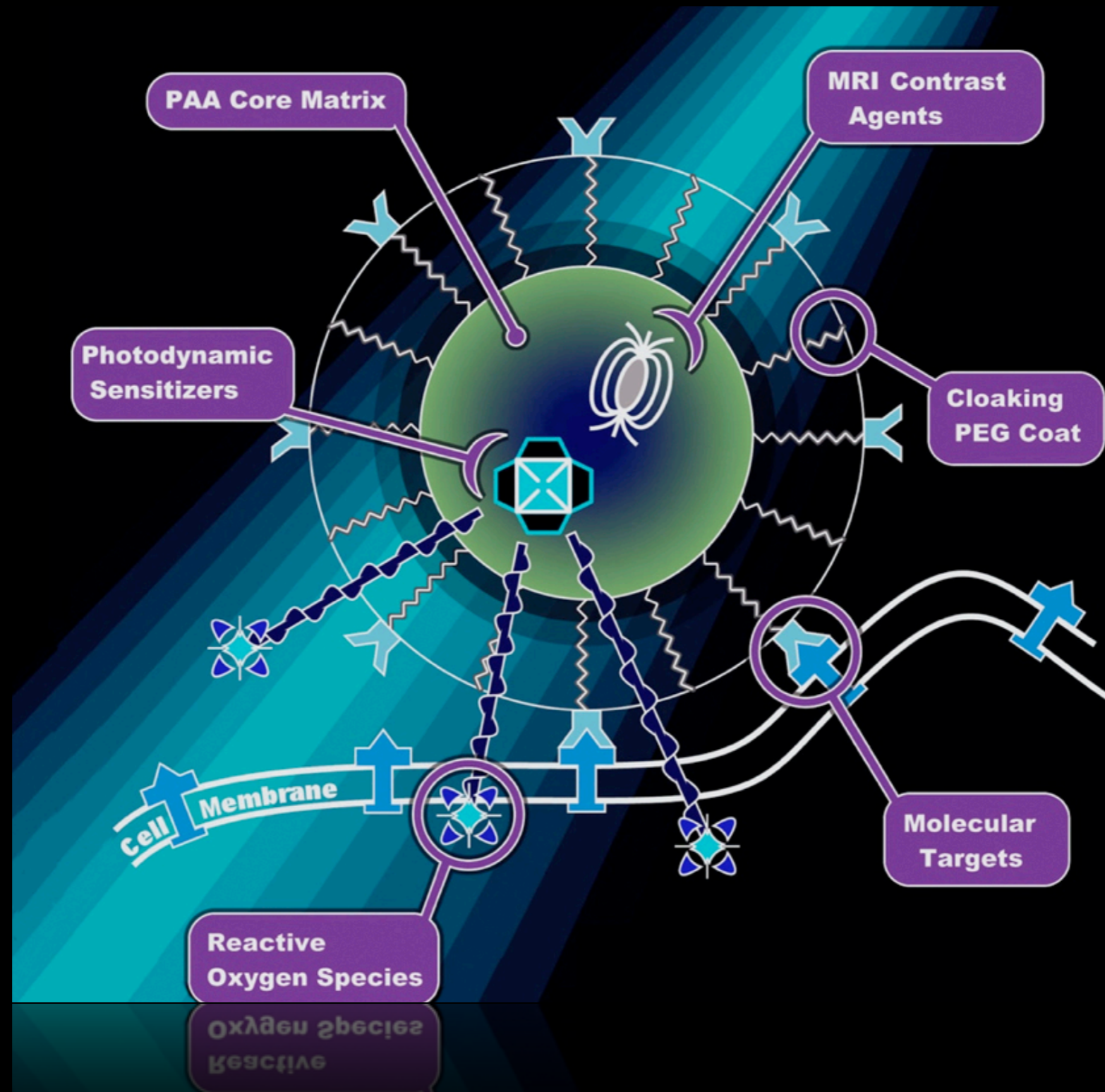


Lycurgus Cup



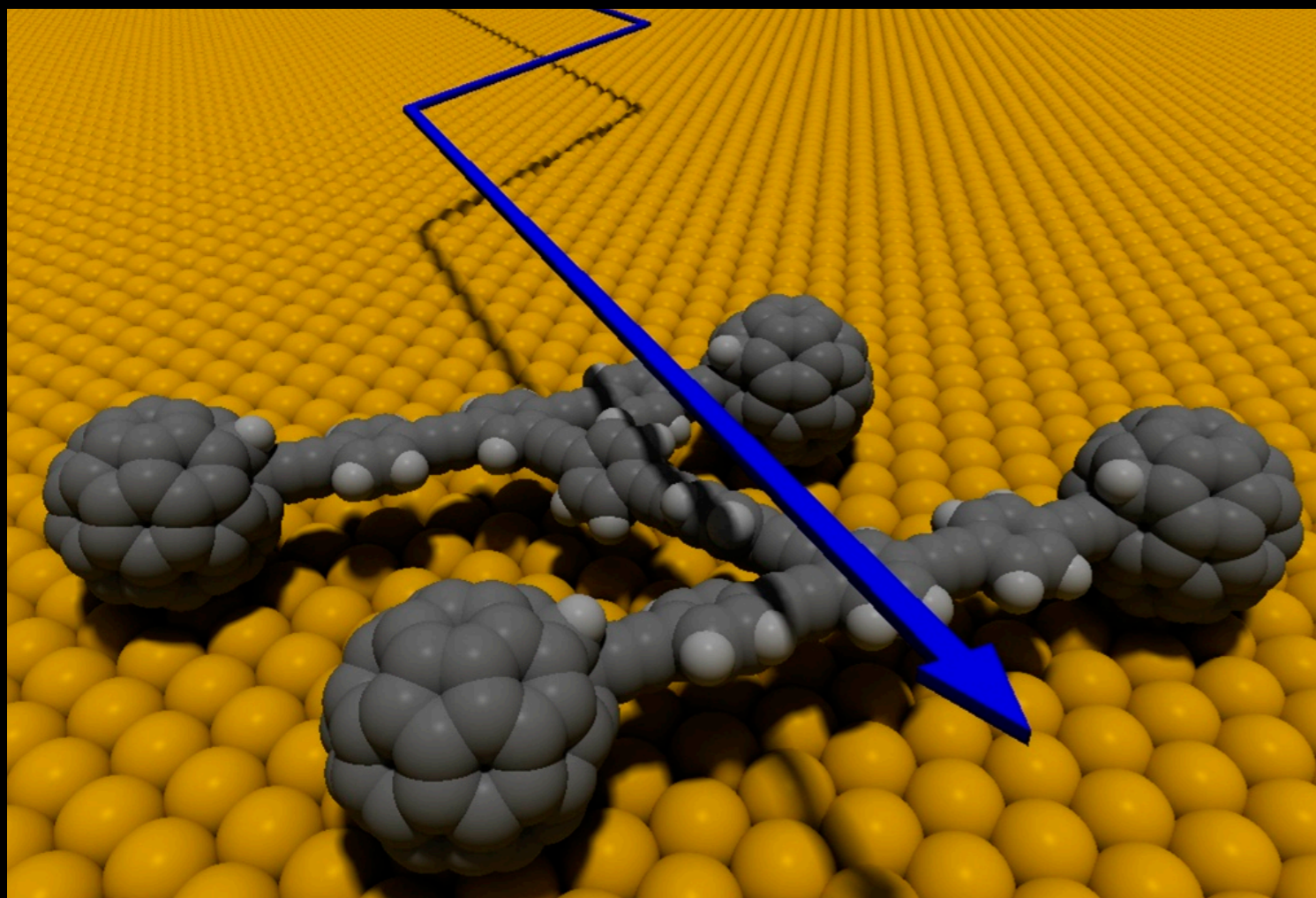
Behaves differently

Sophistication

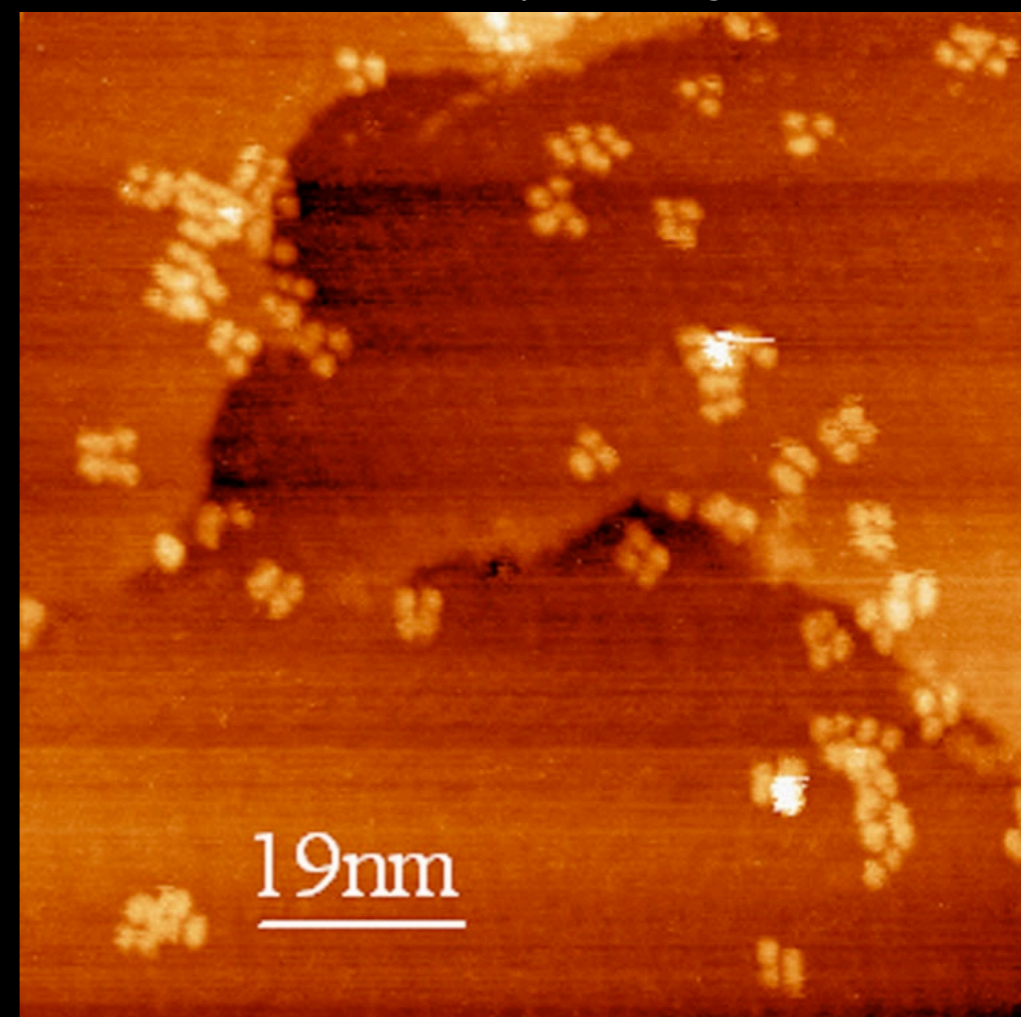


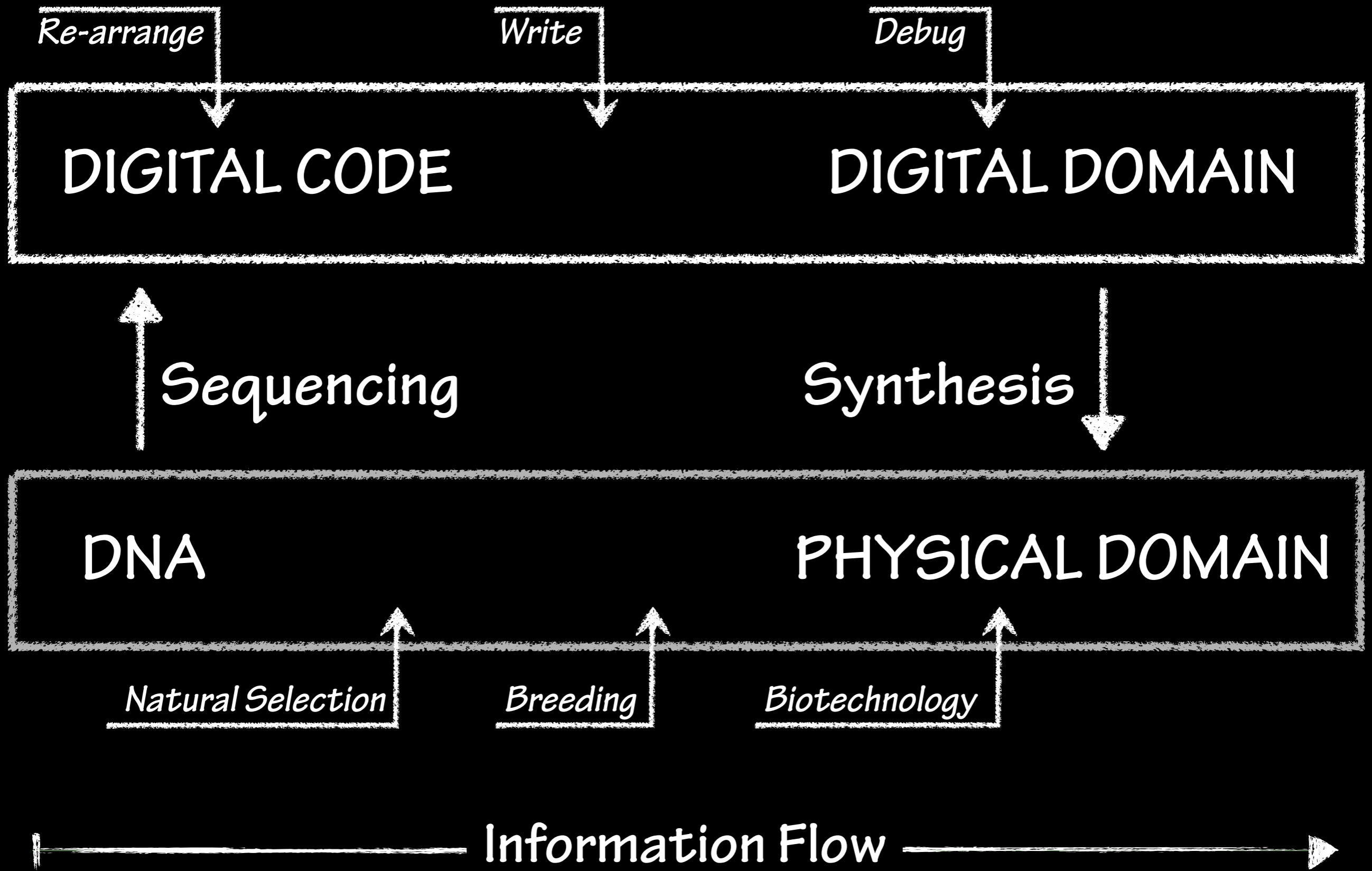
Increasingly complex

Y. Shirai/Rice University



K. Kelly and A. Osgood/Rice University





Coupling

Communication

**What
happens
here?**

Control

Goals

Funding

Mechanisms

Science &
Technology

Security

Innovation

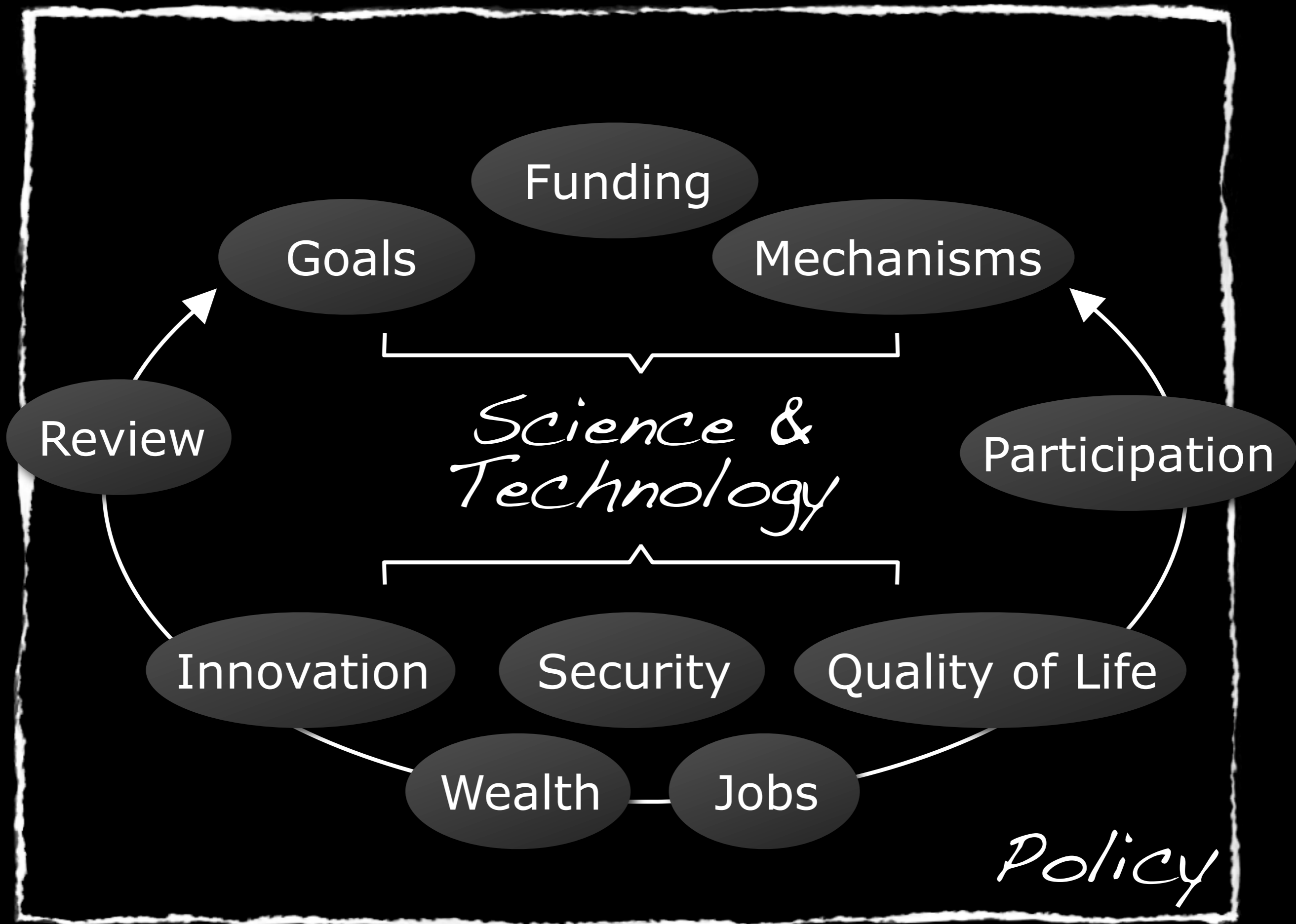
Jobs

Wealth

Quality of Life

Policy

...a simplistic perspective...



Funding

Goals

Mechanisms

Review

Participation

*Science &
Technology*

Innovation

Security

Quality of Life

Wealth

Jobs

Policy

Empower:

Stakeholders

For lay stakeholders

- Foster critical thinking
- Ensure knowledge is accessible
- Convey consequences of actions

For expert stakeholders

- Learn to communicate
- Learn to listen

Engage:

Stakeholders

For lay and expert stakeholders

Public discourse

Participation in decision-making

Integrate science into society

Build constituencies

Re-Evaluate:

Drivers, Mechanisms, Policies

For policy makers and funders

Challenge-informed science
New knowledge stimulation
Knowledge coupling

