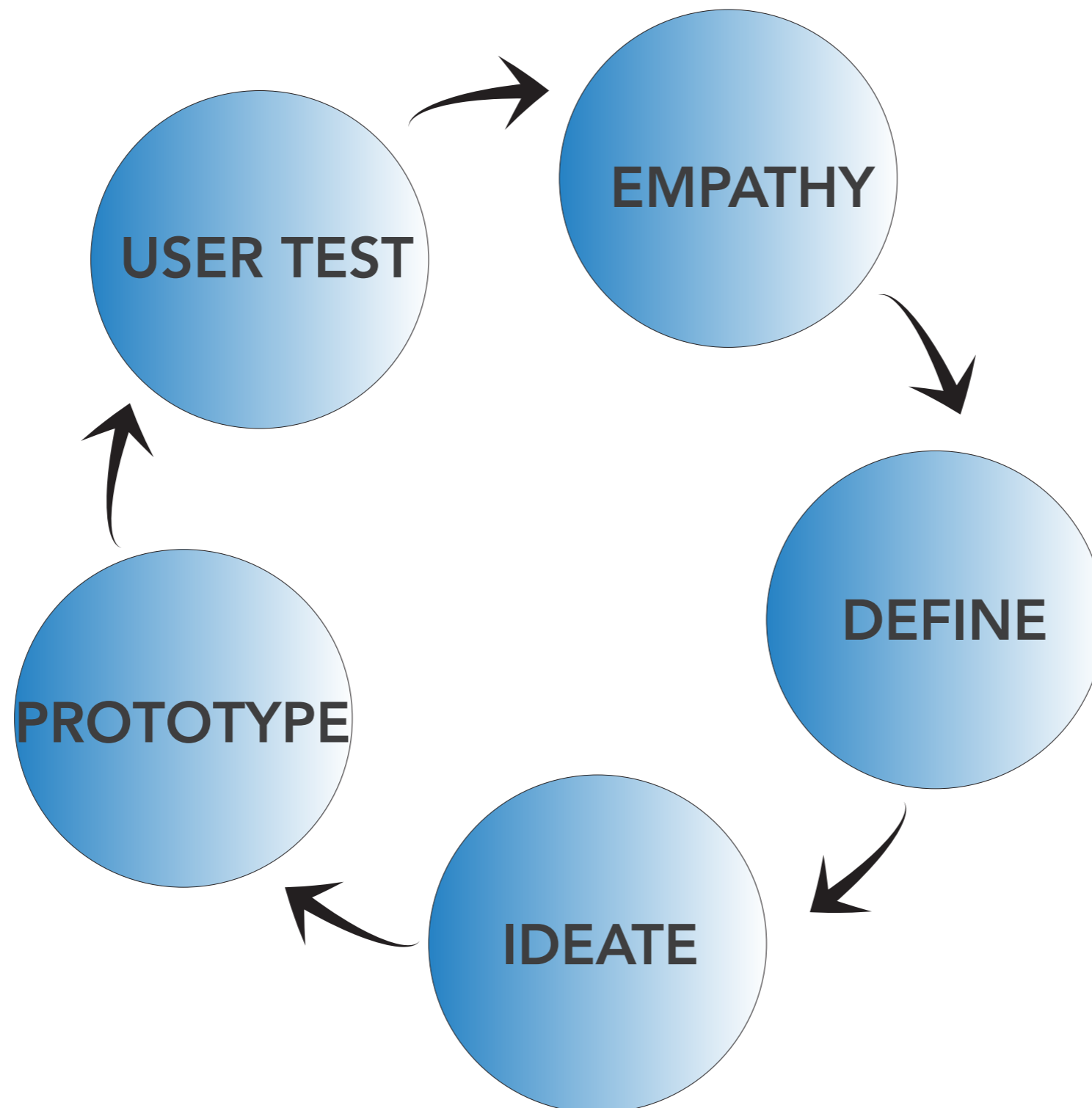


DESIGN THINKING

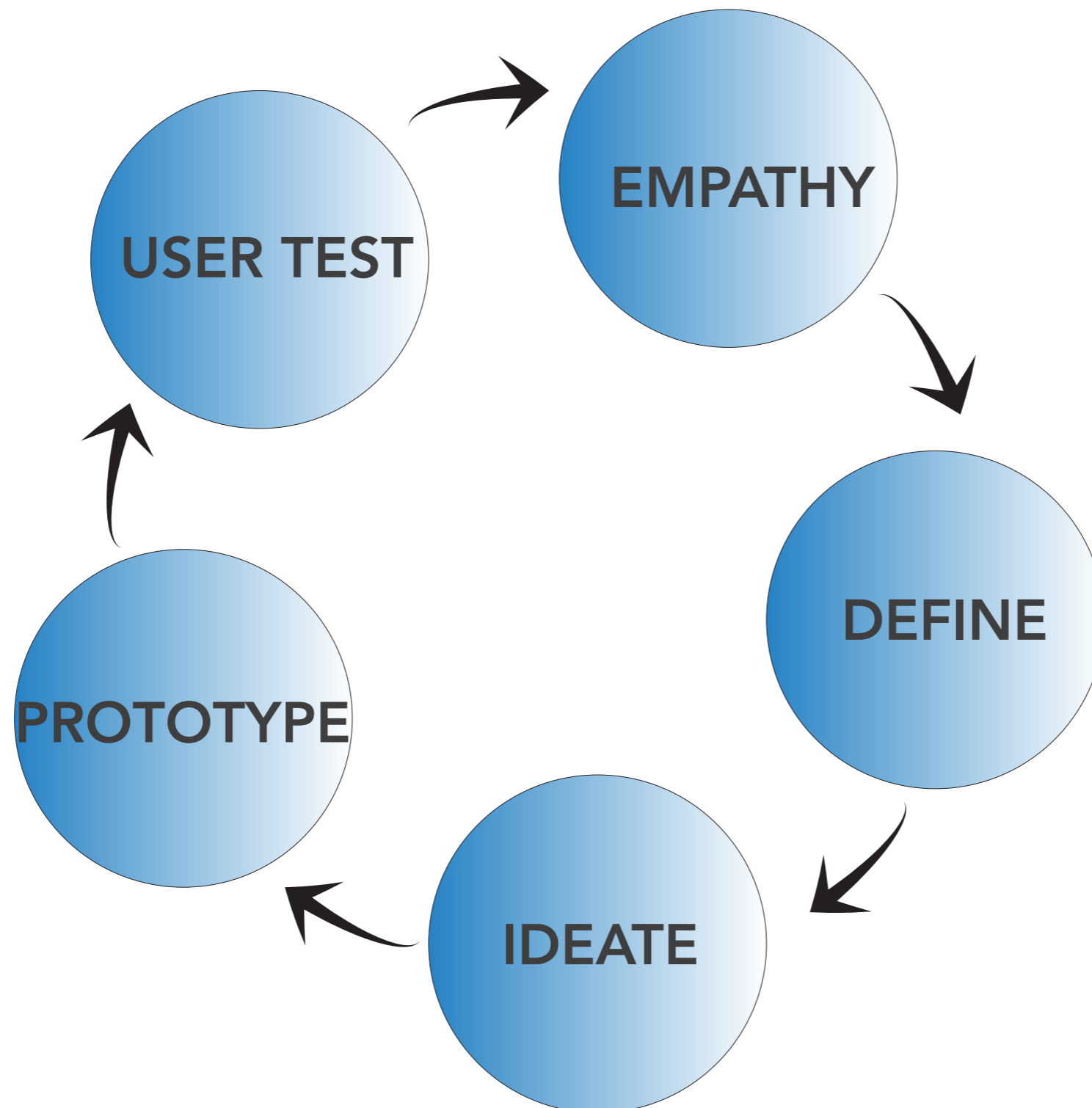
Exercise 3 - Design Brief: Waste Reduction

CIID 2013
Exploring Biomimetic Interfaces
Gabriella Levine + Genevieve Hoffman

DESIGN THINKING



ELIMINATION OF WASTE



TODAY

- 1. Form teams of 3*
- 2. Launch project*
- 3. Start Empathy work*

DESIGN BRIEF

How might we redesign an interface that addresses waste management to reduce or repurpose waste?

Build a system that explicitly draws inspiration from an example of feedback inhibition loop in biology: as more waste gets produced, some catalyst gets triggered to decrease waste production.

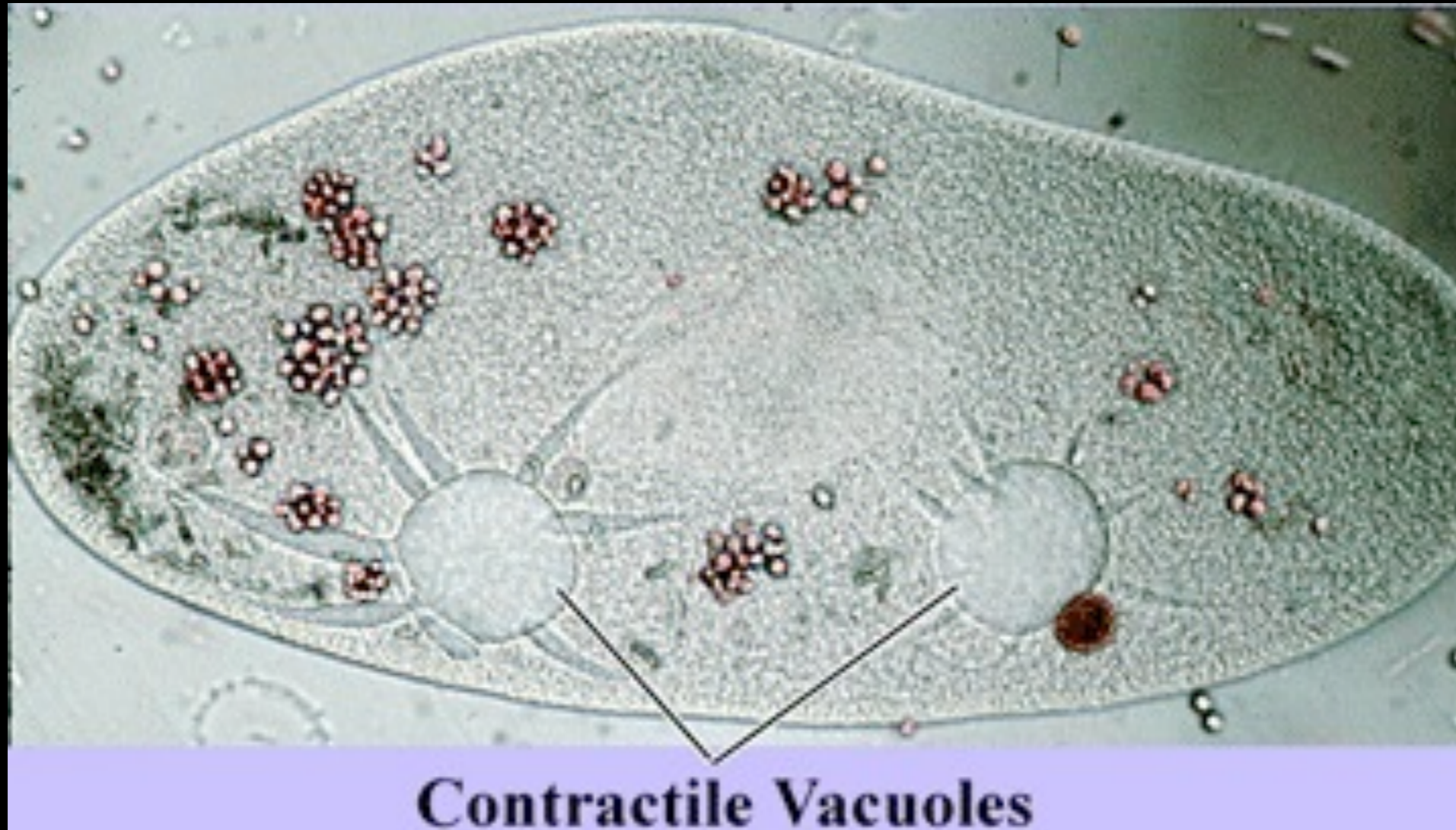
Your system must contain an interface with both a digital layer and a tangible layer.

1. FORM TEAMS

DESIGN REQUIREMENTS

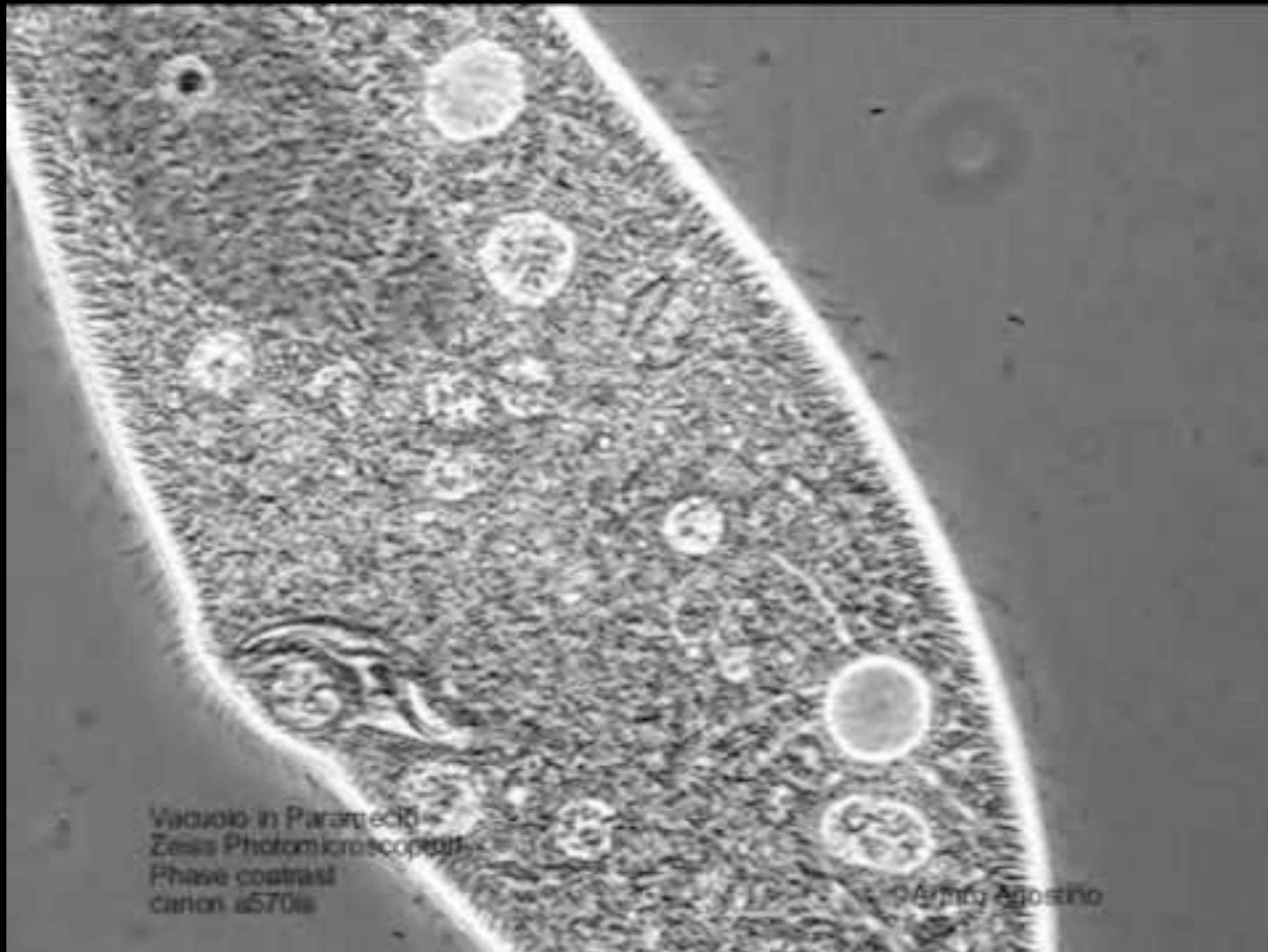
- *Integrate physical and digital systems*
- *Define the User*
- *Define the waste you are addressing: is it physical, chemical, energy, time?*
- *What is the input and output?*
- *Documentation*

EXCRETION



Cells put waste into containers that they push through the cell wall

EXCRETION



EXCRETION



EXCRETION

A large pile of black plastic trash bags is stacked on a sidewalk. The bags are full and crinkled, with some showing red drawstrings. In the background, a city street with buildings and a few other bags is visible.

EXCRETION



WASTE

- Organic Waste
- Byproducts of physical, chemical or biological processes
- Physical Trash
- Environmental Pollution
- Data and Digital waste or traces
- Waste Disposal Networks
- Emotional or Temporal Waste

SCALE

- *Micro*
- *Personal*
- *Domestic*
- *Community*
- *Urban*
- *Global*

FEEDBACK IN BIOLOGY

FEEDBACK INHIBITION

- *Thermostats: Heaters / AC*
- *Body temperature regulation*
- *Insulin to lower blood sugar levels*

TYPES OF WASTE

GARBAGE



PLASTIC TRASH



EMISSIONS



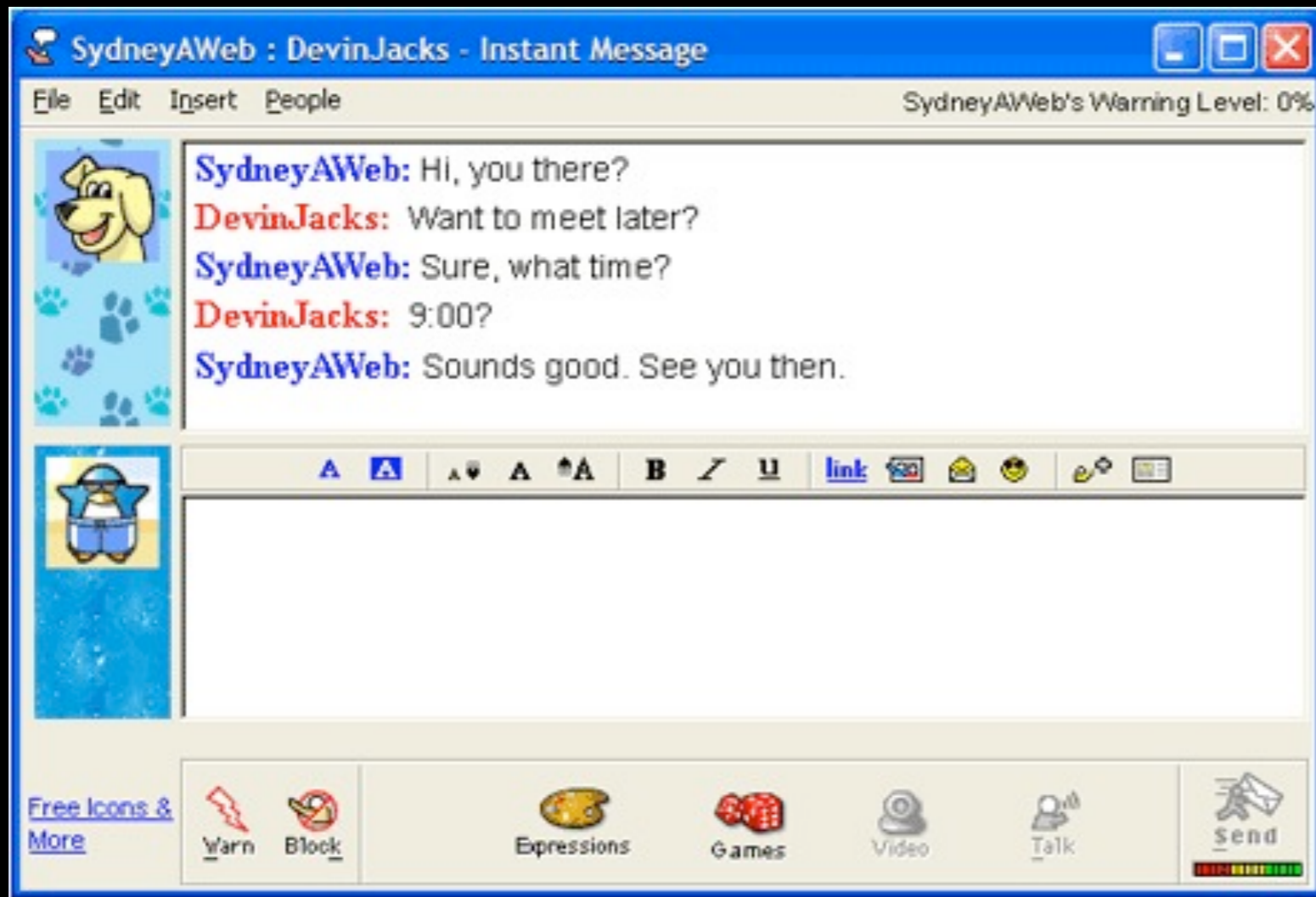
EMISSIONS



E-WASTE



DIGITAL WASTE



TIME WASTE

Call waiting



WASTE OF RESOURCES



PROJECTS

NATURAL FUSE



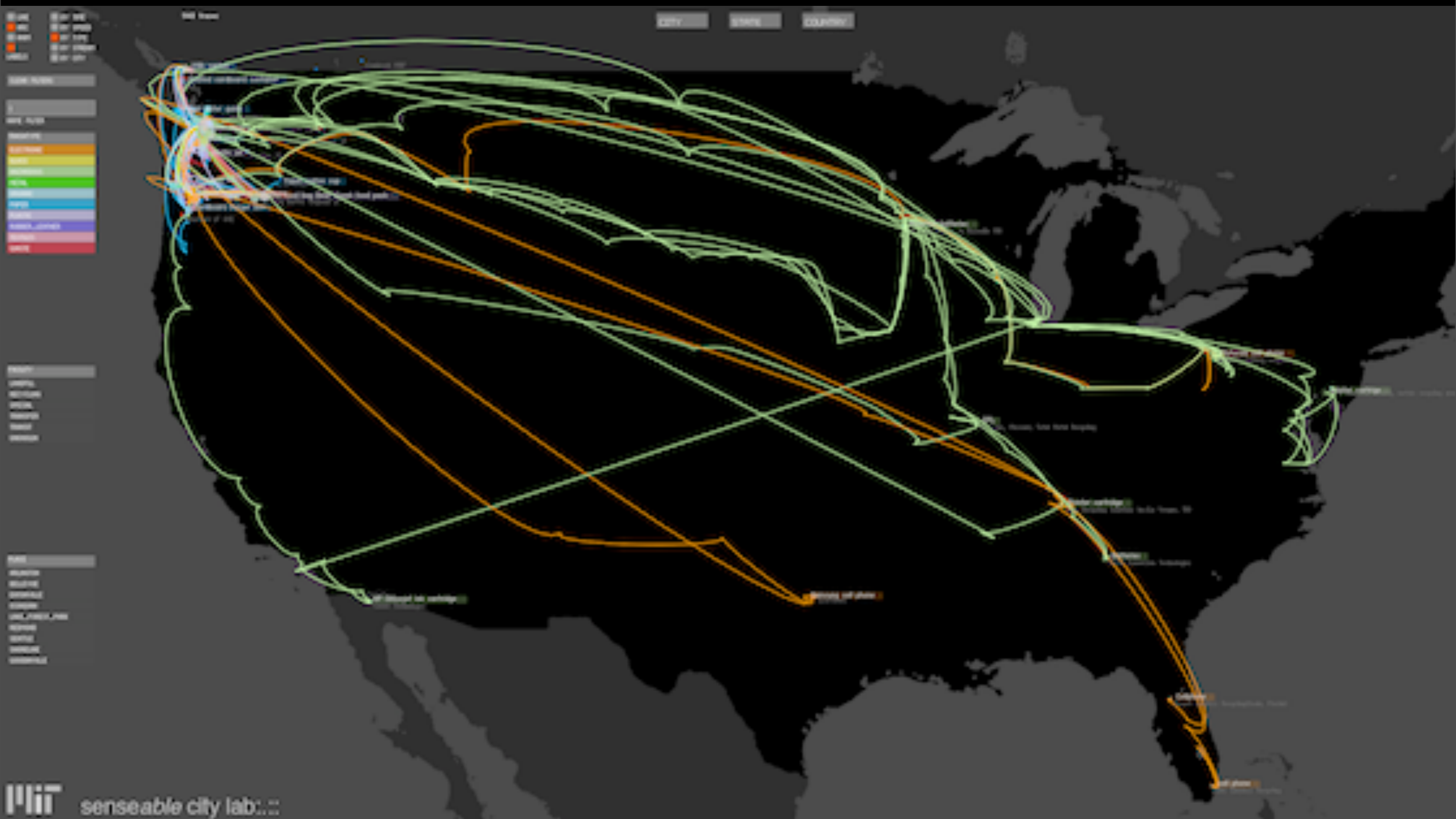
CO₂ overload protection framework for a networked plant system that powers light

TRASH | TRACK



Tracking our trash

TRASH | TRACK



WASTELAND TO WETLAND



Jon Cohrs and Myriel Millicevic, ReMarshing

FRESH KILLS



*Fresh Kills Landfill Park Plan, Staten Island, New York.
Design by James Corner Field Operations.*

REUSING HUMAN WASTE

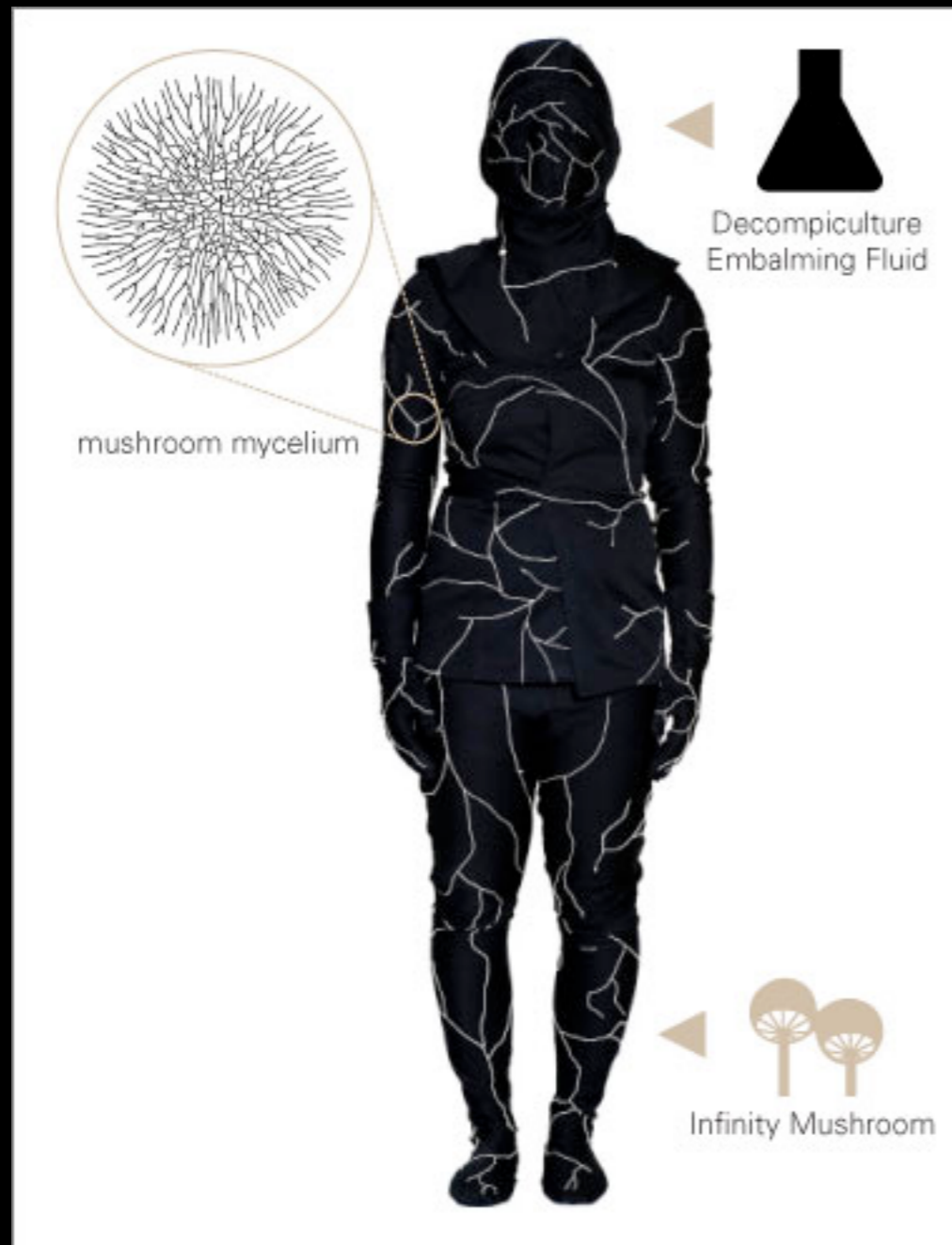


Waste Enterprises, Ghana, Accra

MYCOREMEDIATION

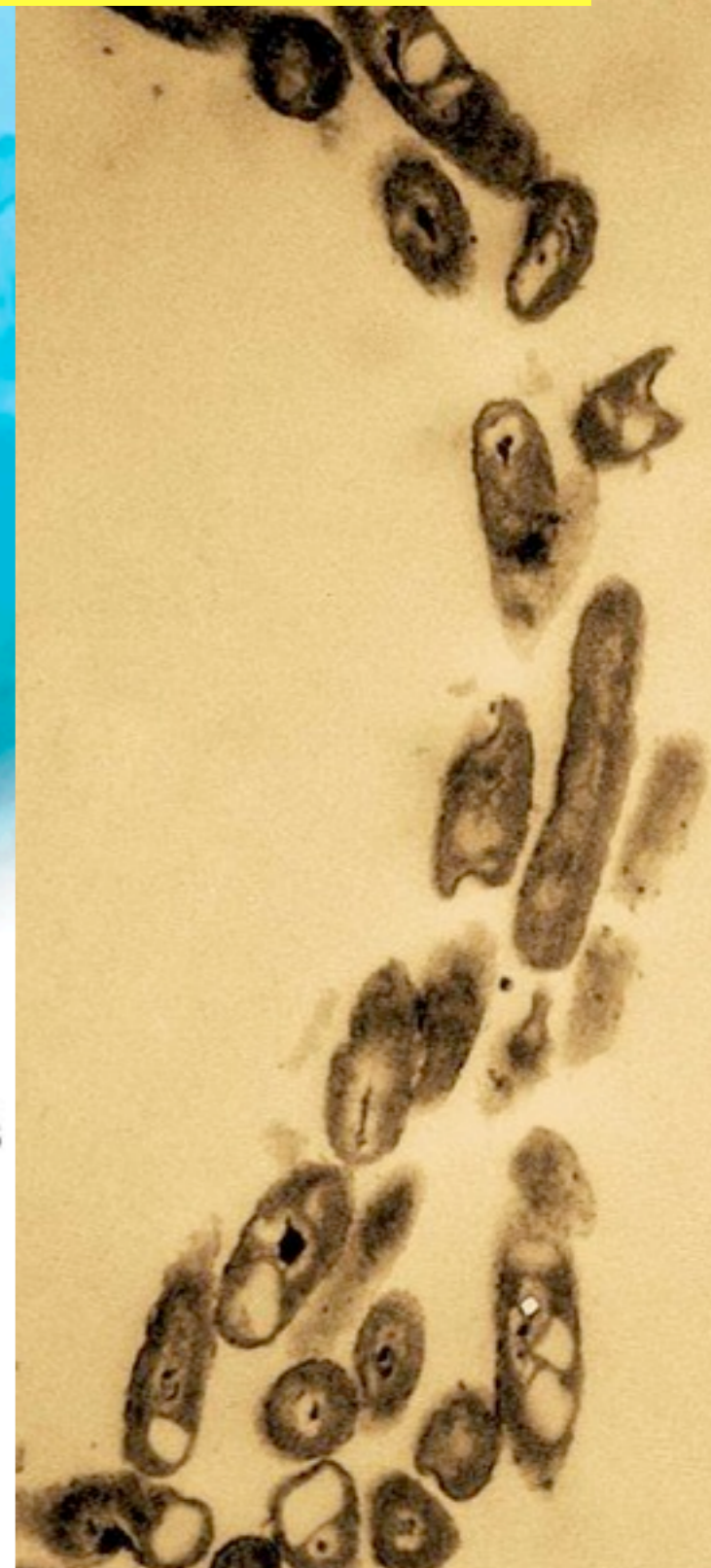
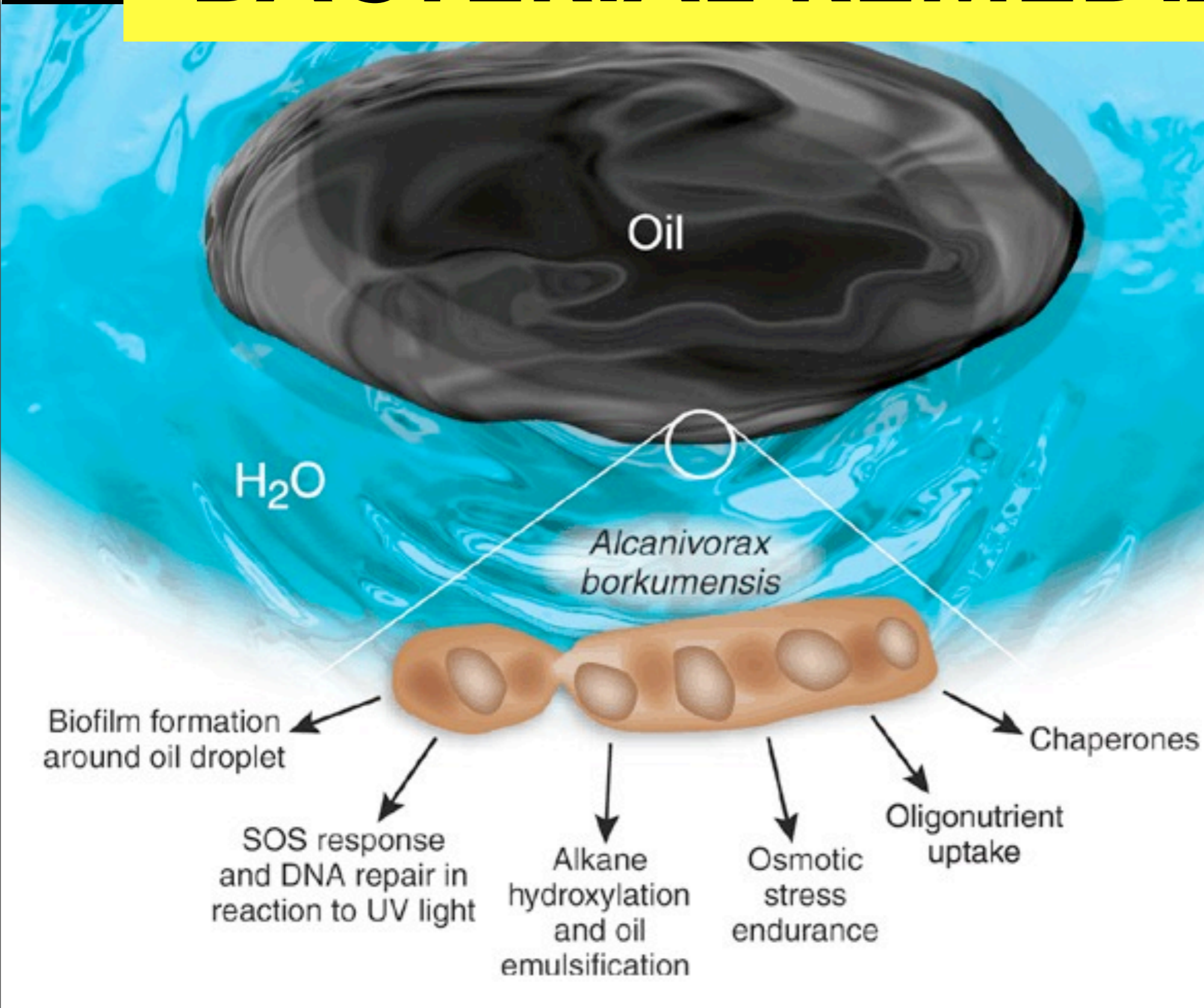


INFINITY BURIAL PROJECT

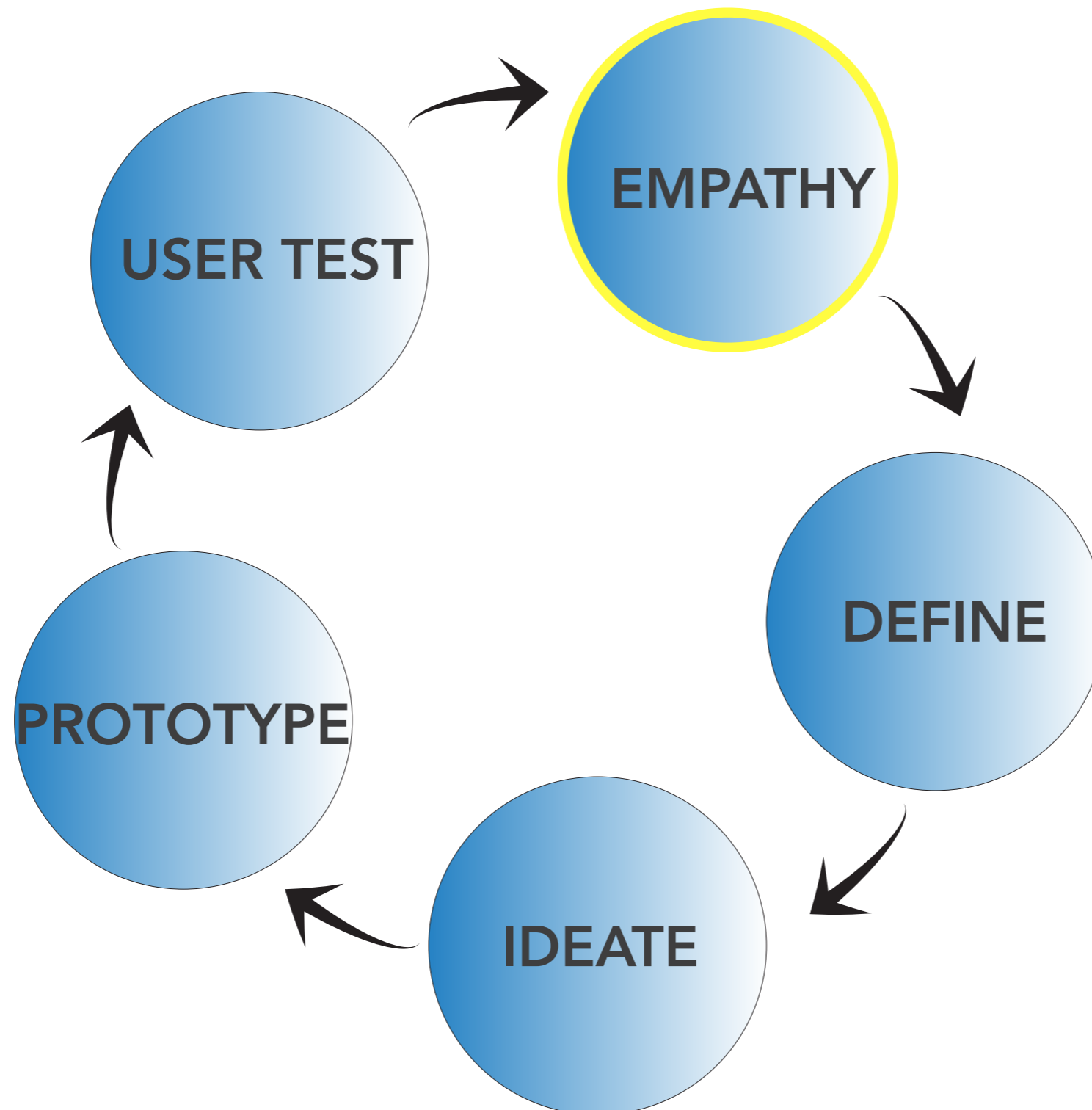


Jae Rhim Lee, Mushroom Death Suit

BACTERIAL REMEDIATION



DESIGN THINKING



EMPATHY

Observe
Visualize
Engage
Immerse

EMPATHY

What

Why

How

Draw

Write

Photograph

Video

DEFINE

POV Statement

IDEATE

The Rules of Brainstorming:

- 1. defer judgement*
- 2. wild ideas*
- 3. build on ideas*
- 4. lots of ideas*
- 5. be visual*
- 6. headline*
- 7. one conversation at a time*

EMPATHY MAP

the user:

SAY

DO

THINK

FEEL

POSSIBLE FORMS

Tool for every-day use

System for tracking or monitoring

Mapping, tracking or measuring device

Architectural replica

Web interface for communication

Art intervention

TODAY

What are your initial ideas?

Who is your user?

What is your research plan?

What or Who will you observe and engage?

LIST OF SENSORS

temperature

light

water / moisture

GPS

acceleration / position

magnetic

motion sensor

humidity

barometric pressure

flex

force

TONIGHT

1. BLOG:

Tech: screenshots, writing, photographs

2. Begin your empathy work and planning

3. Have fun !

TODAY

1. *Non human user based project*
2. *Presentations*

LUNCH

3. *Arduino & Serial Communication*
6. *Launch Final Project*

TOMORROW

WHAT YOU CAN LOOK FORWARD TO:

- 1. Lecture : Biomimetic examples in interface design*
- 2. PLAN : Empathize, Define*

LUNCH

- 3. Develop your concept sketches*
- 4. Present concept*

JULY 2013

CIID Summer Course

Exploring Biomimetic Interfaces

un	Mon	Tue	Wed	Thu	Fri	S
7						
14	<div>15</div> <div>-Intro</div> <div>-Design Thinking #1</div> <div>-Design Challenge</div>	<div>16</div> <div>-Outdoor observation</div> <div>-Design Thinking #2:</div> <div>[Empathy]</div> <div>[Define]</div> <div>[Ideate]</div>	<div>17</div> <div>-Design Thinking #2</div> <div>[Prototype]</div> <div>[User Testing]</div> <div>-Launch Project #3</div> <div>-Form teams</div>	<div>18</div> <div>-Project #3</div> <div>[Empathy]</div> <div>[Define]</div> <div>--POV statement--</div> <div>--wireframes--</div>	<div>19</div> <div>-Project #3</div> <div>[Ideate]</div> <div>[Prototype]</div> <div>PRESENTATION</div>	
21	<div>22</div> <div>-Project #3</div> <div>[Prototype]</div>	<div>23</div> <div>-Project #3</div> <div>[Prototype]</div> <div>[Begin User Testing]</div>	<div>24</div> <div>-Project #3</div> <div>[Finish Prototyping]</div> <div>[Finish User Testing]</div>	<div>25</div> <div>-Project #3</div> <div>-Final touches</div> <div>-setup for exhibition</div>	<div>26</div> <div>-Project #3</div> <div>-Documentat work</div> <div>-Exhibit</div> <div>PRESENTATION</div>	
28						