

RESEARCH IN THE LIFE SCIENCES

SILKE HAUF
DEPARTMENT OF
BIOLOGICAL SCIENCES
BIOCOMPLEXITY INSTITUTE



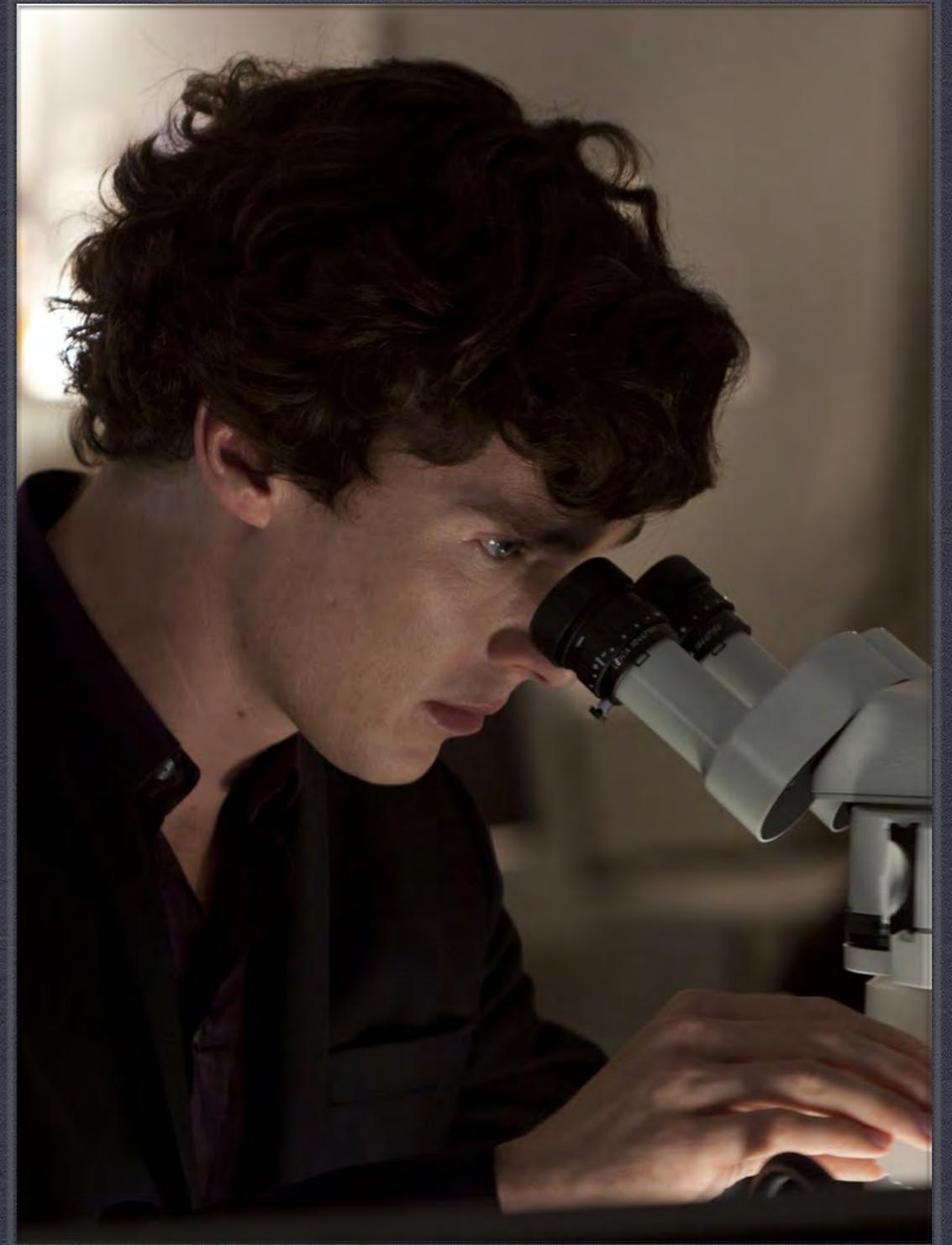
Questions you may have on your mind

- What is research like?
- How do I get started?
- What are the benefits?

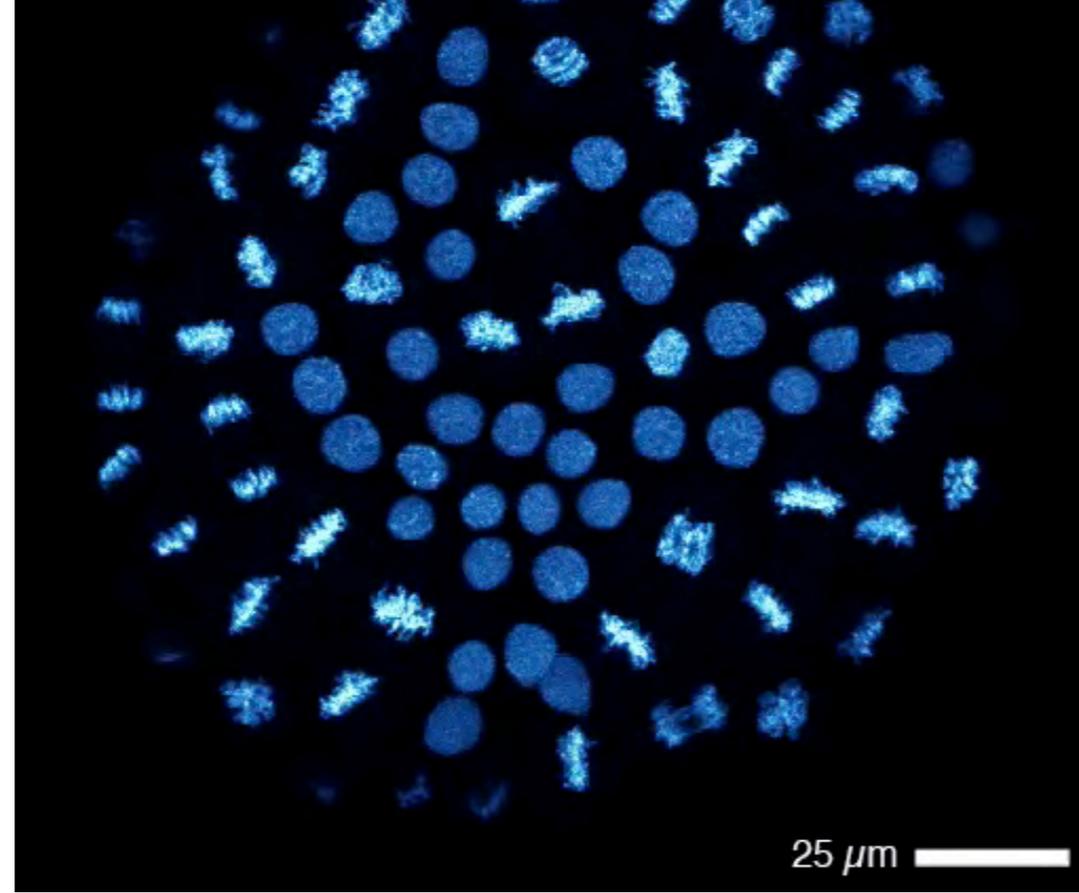
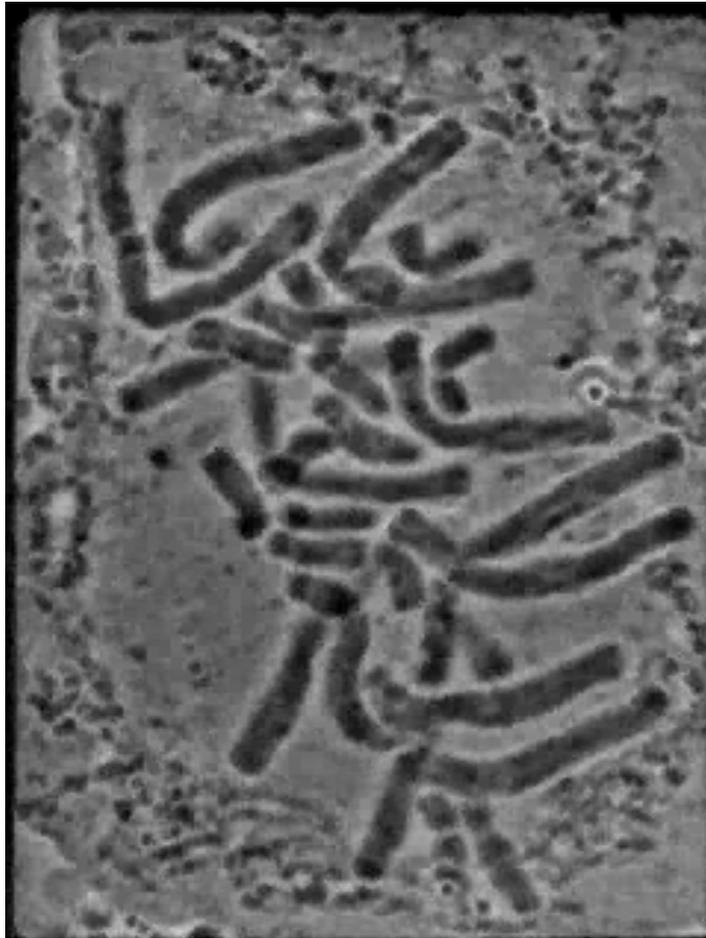
What I will try to answer

- What is research like?
 - What is research like in general?
 - What do we do in my lab?
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 - What is the best way to get in touch with me (or my colleagues)?
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 - What can you learn?

RESEARCH IS
DETECTIVE WORK

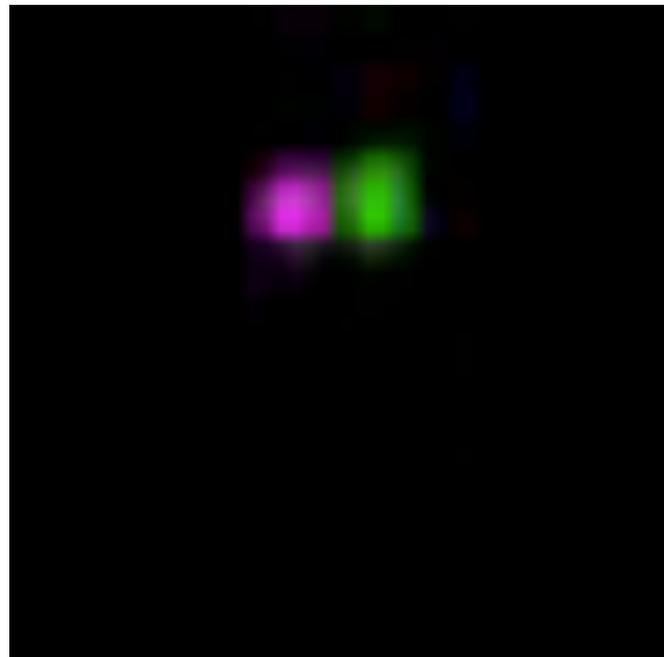
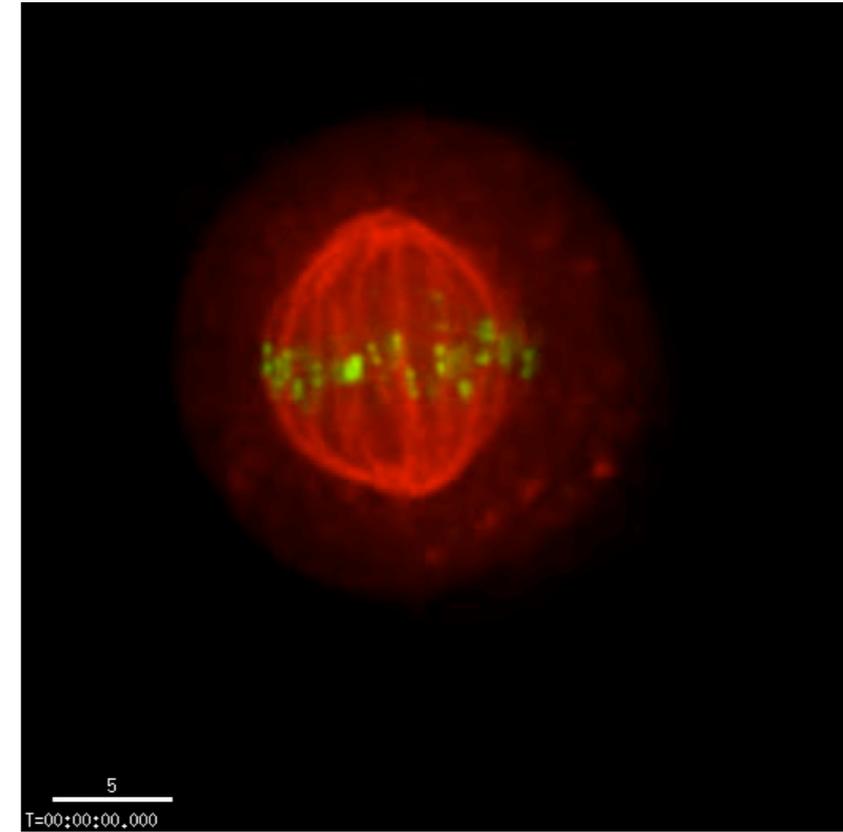


African blood lily
A.S. Bajer and J. Molè-Bajer, 1960s



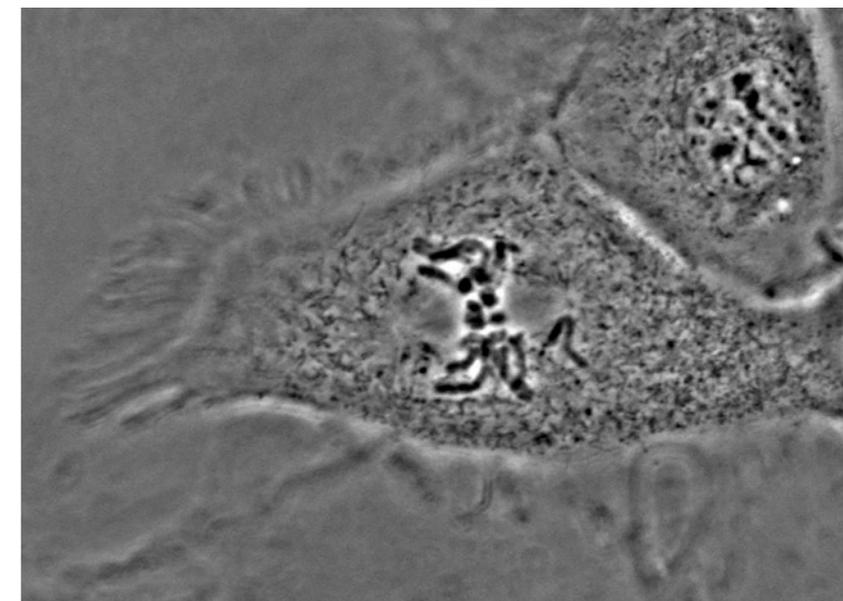
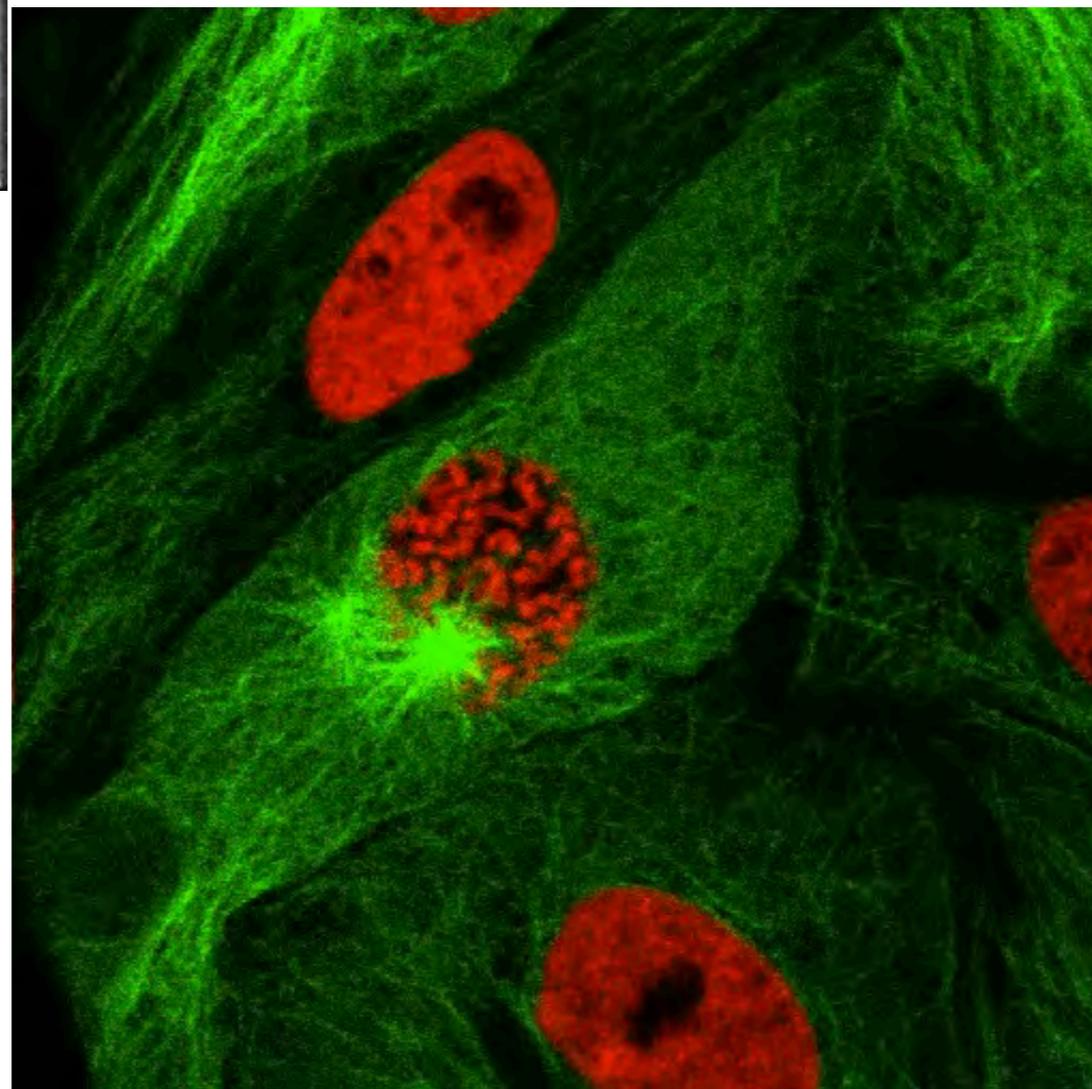
Sand dollar embryo,
George von Dassow

HeLa cell, mCherry-tubulin, GFP-CENP-B
Porter et al., JCB 2007



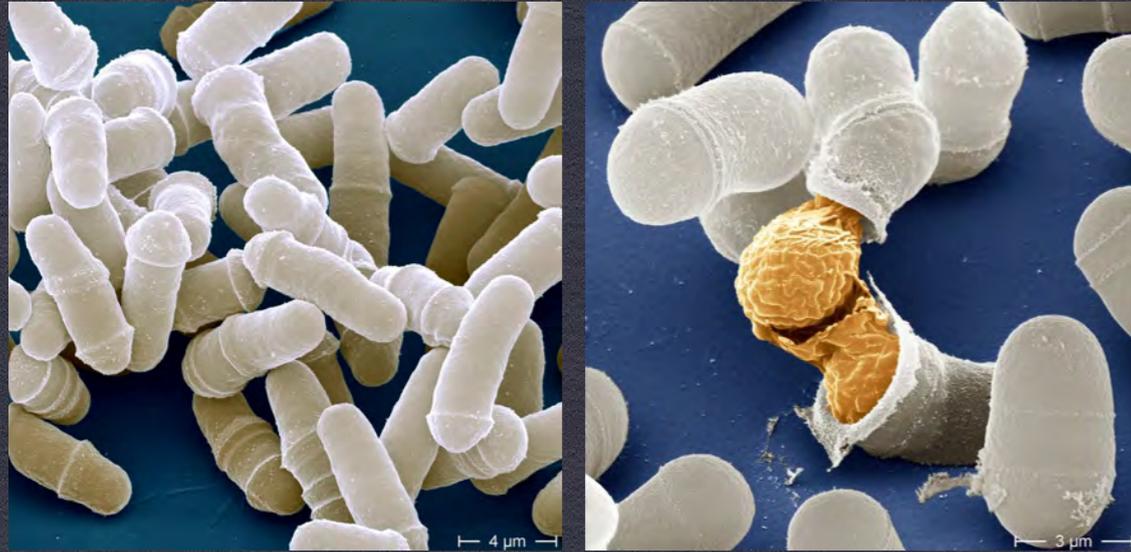
S. pombe centromeres

Pig cells, Nikon microsc.
EGFP-tubulin mcherry-H2B



PtK cell, Cimini Lab

Fission yeast



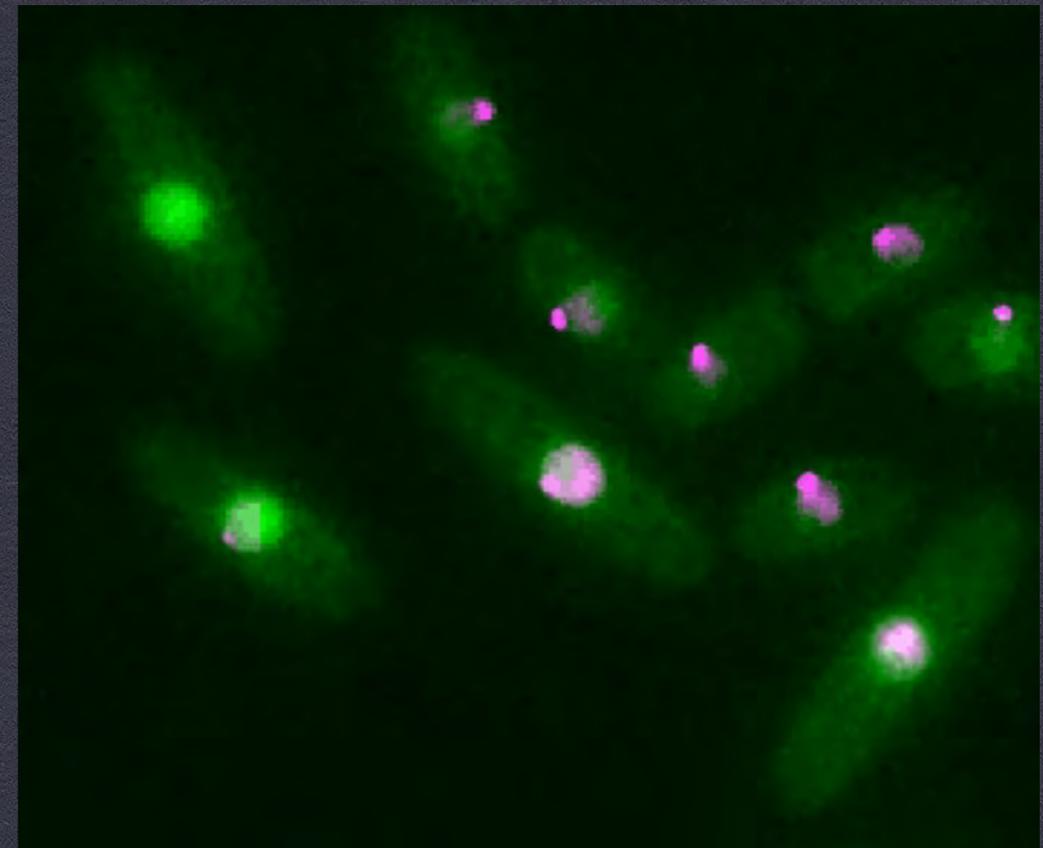
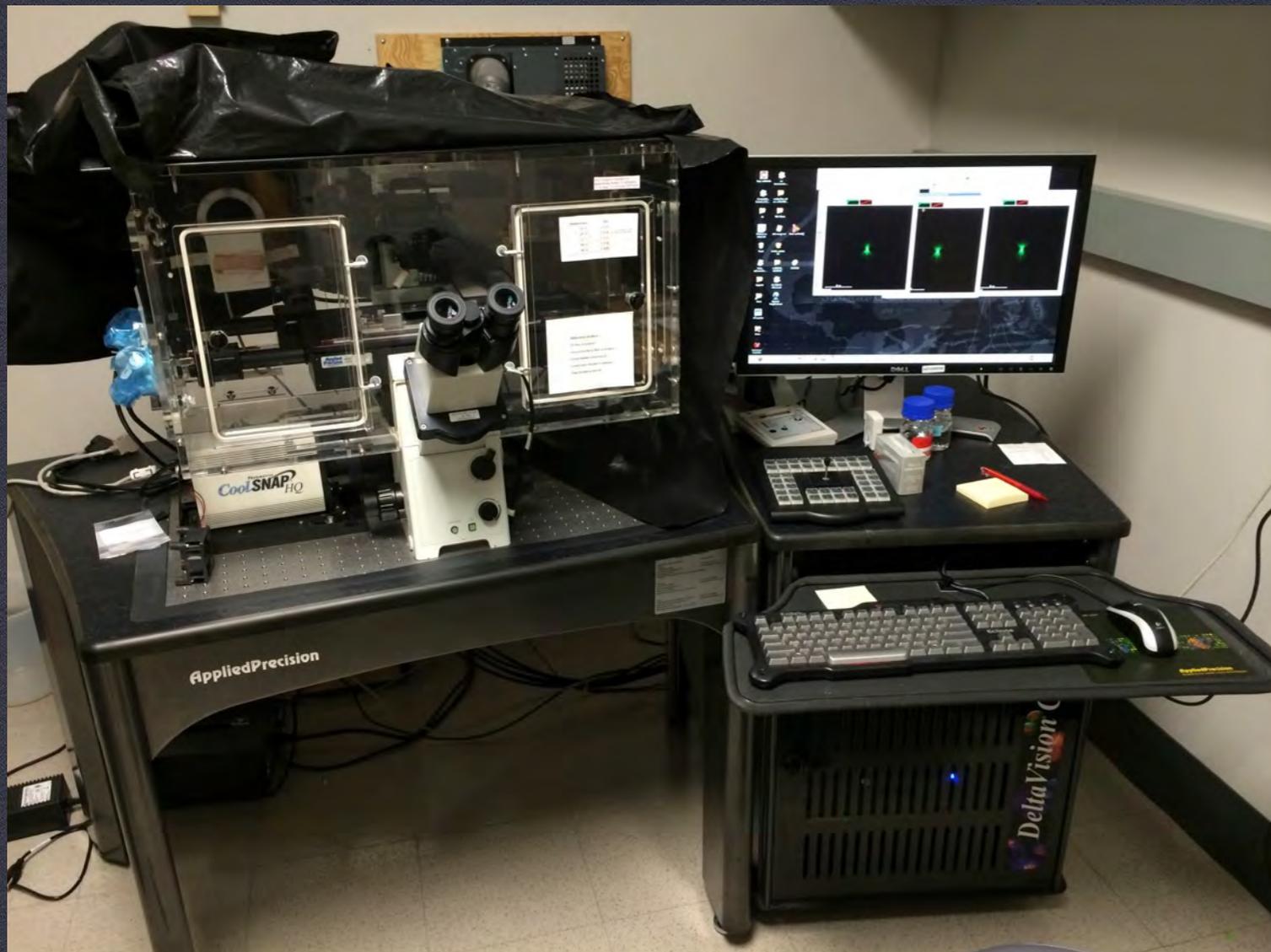
Jürgen Berger / Hauf Lab

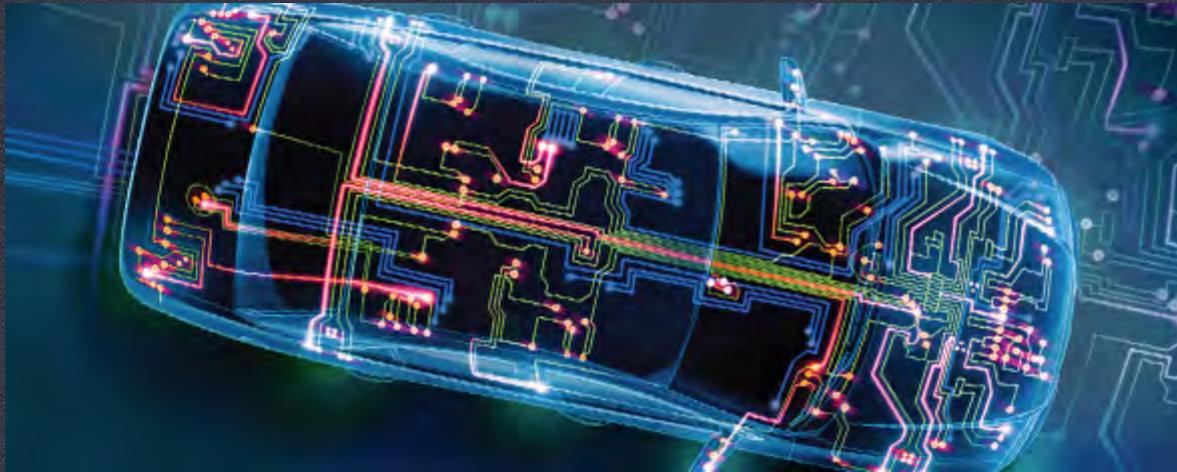
Molecular genetics

Live cell microscopy

Quantitation

Computational Modeling





**COMPLEXITY IS THE ENEMY
OF RELIABILITY**

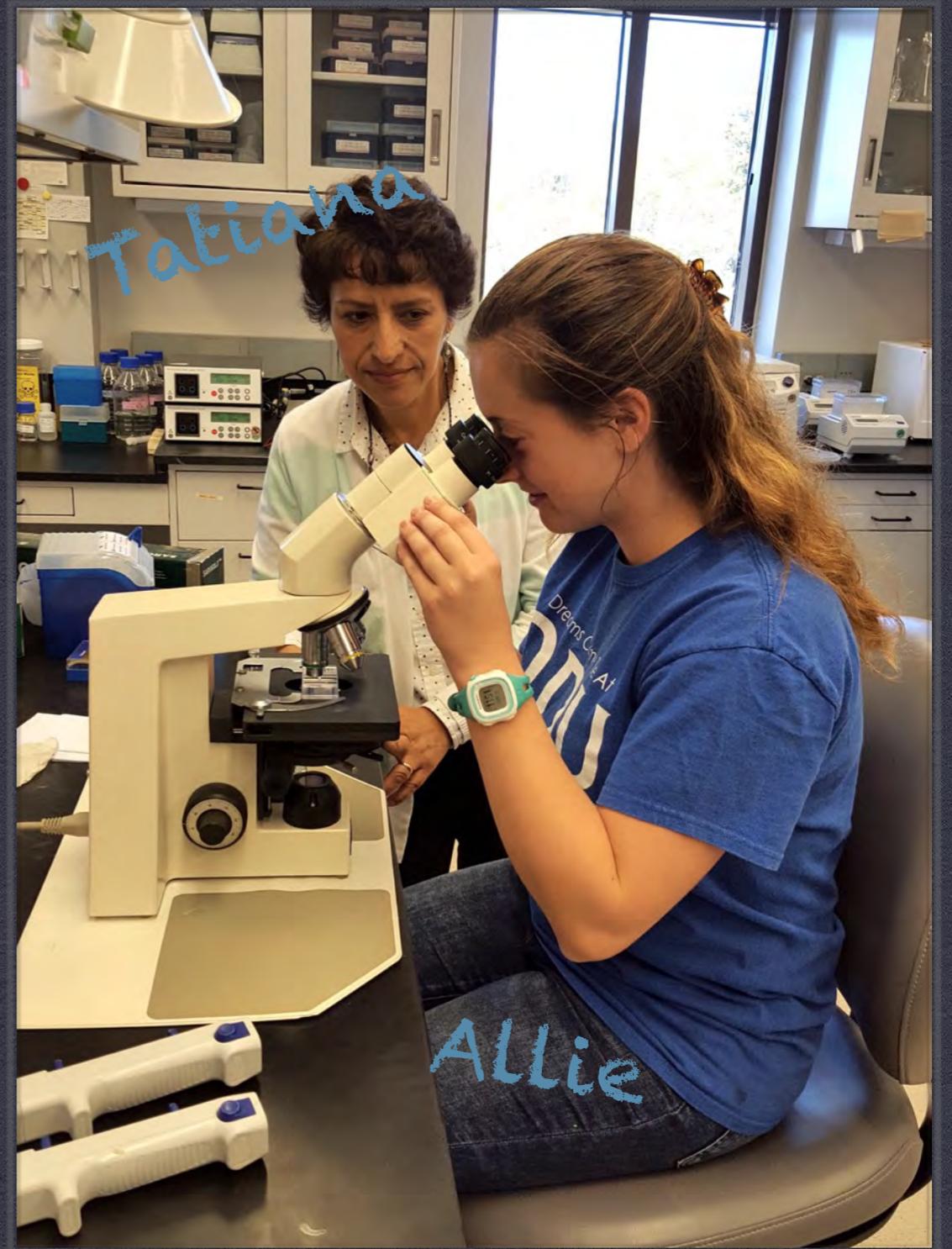
ENGINEERING



CELLS RECONCILE COMPLEXITY WITH RELIABILITY

HOW?

RESEARCH IS COLLABORATIVE

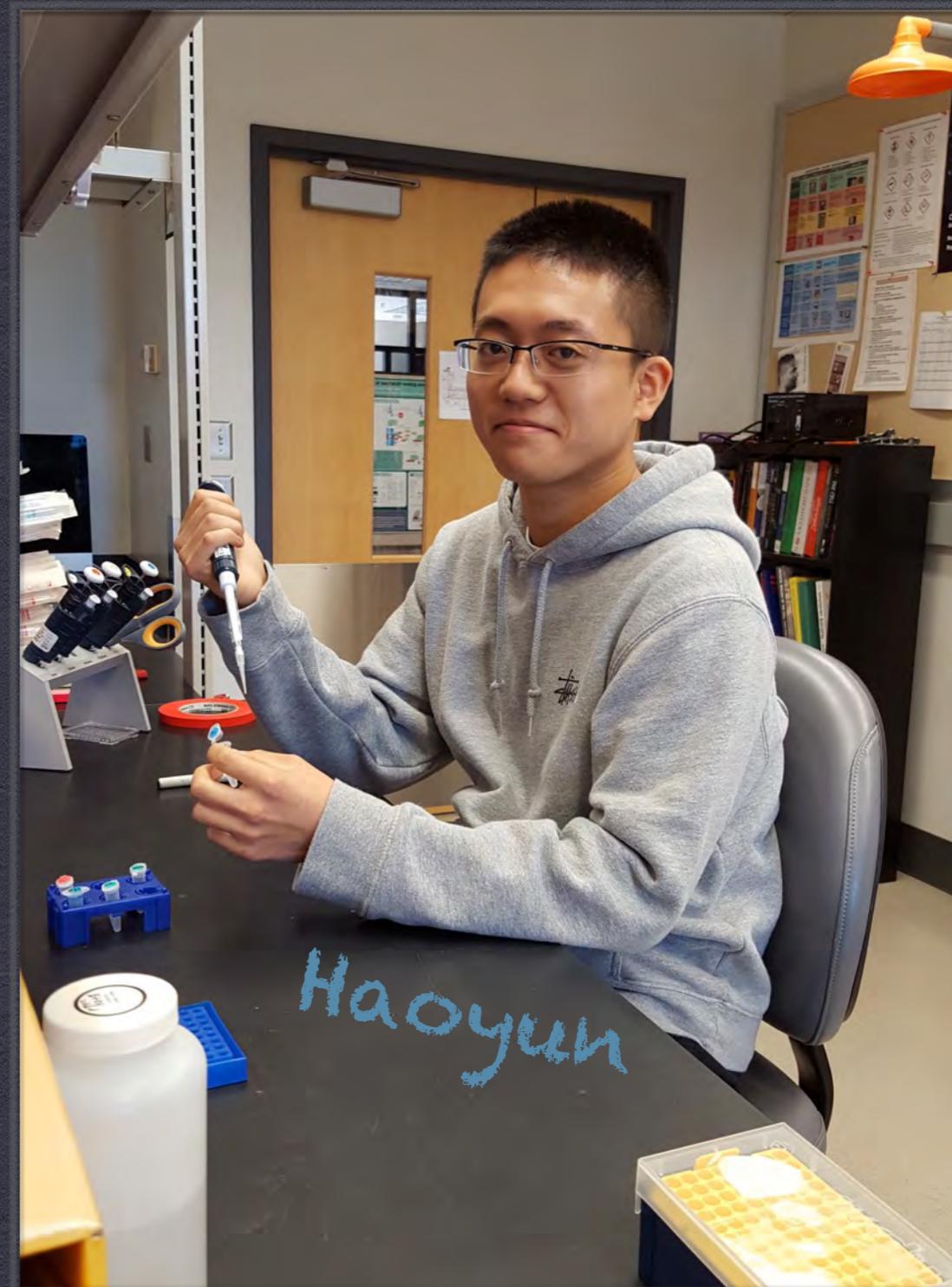


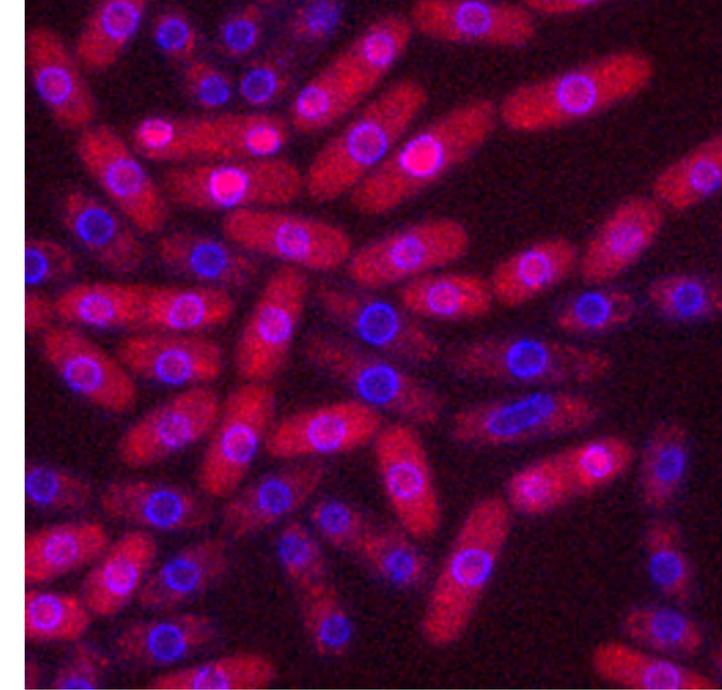
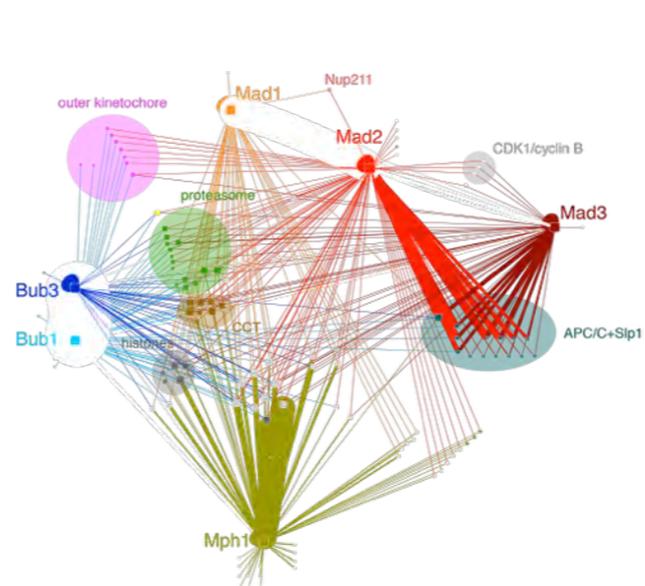
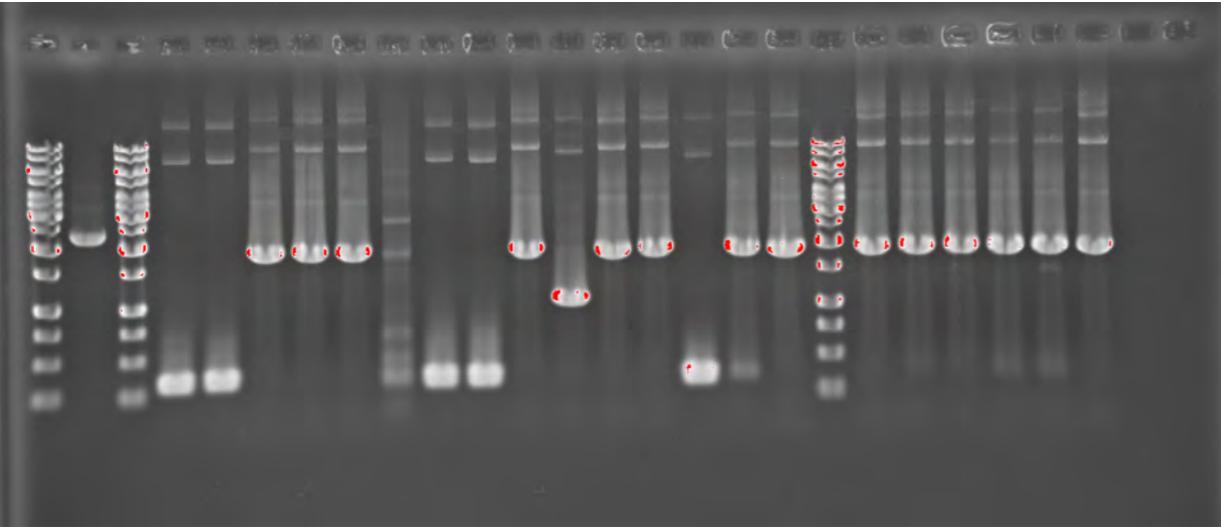


RESEARCH IS

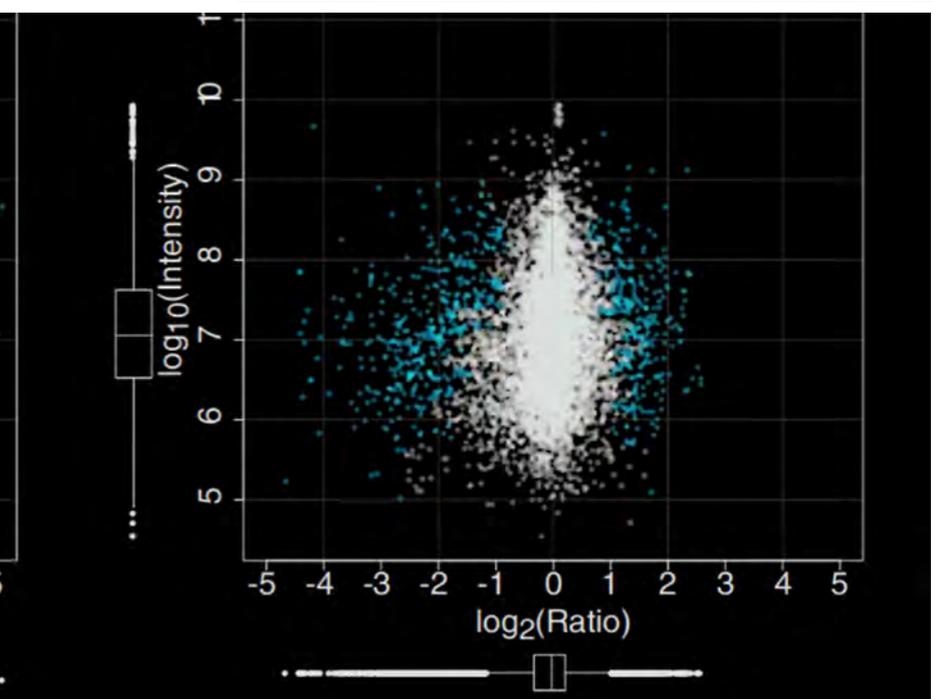
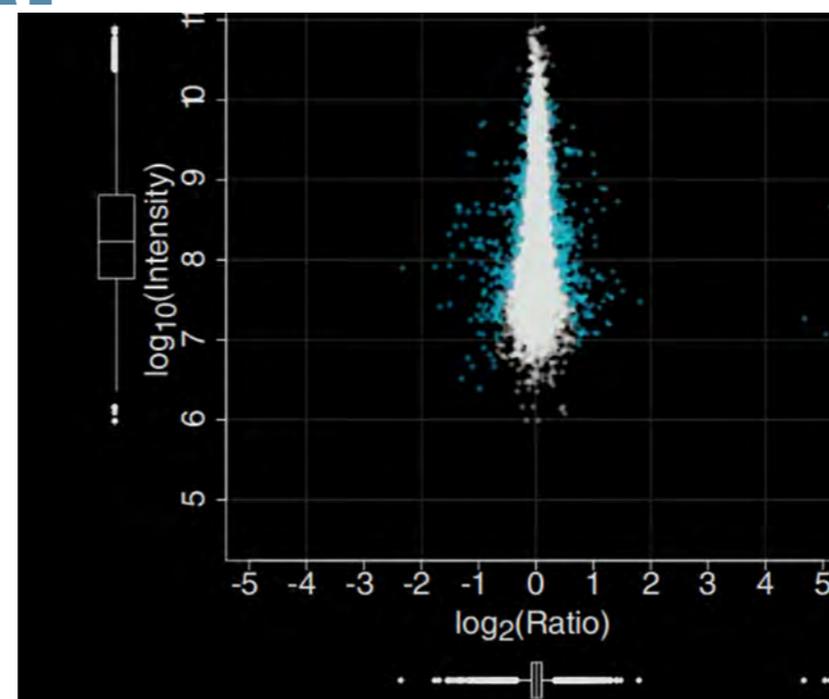
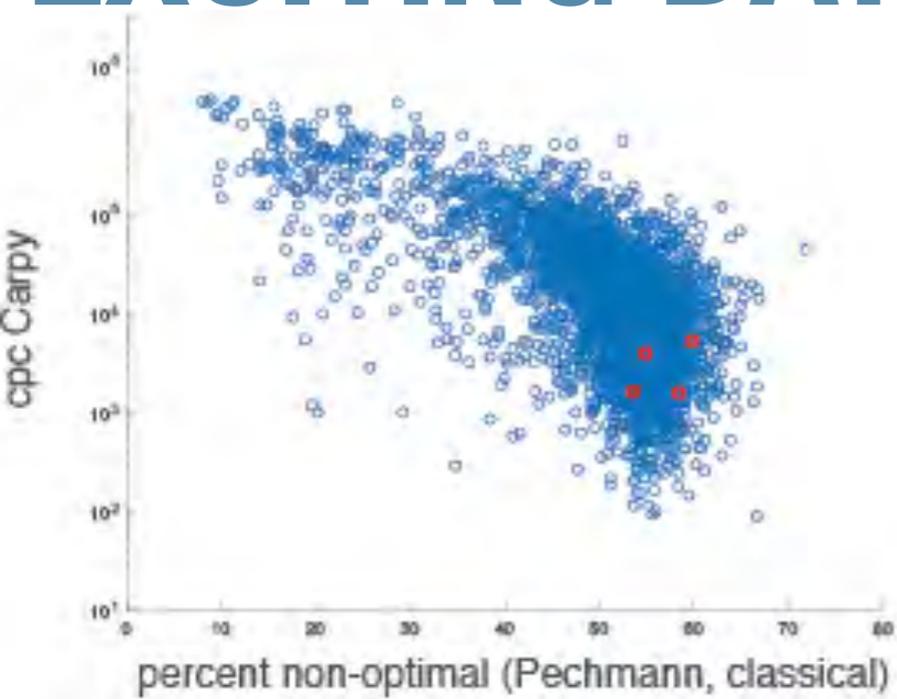
FUN

**(ALSO SOMETIMES PAINFUL, BUT
LET'S IGNORE THIS FOR NOW)**

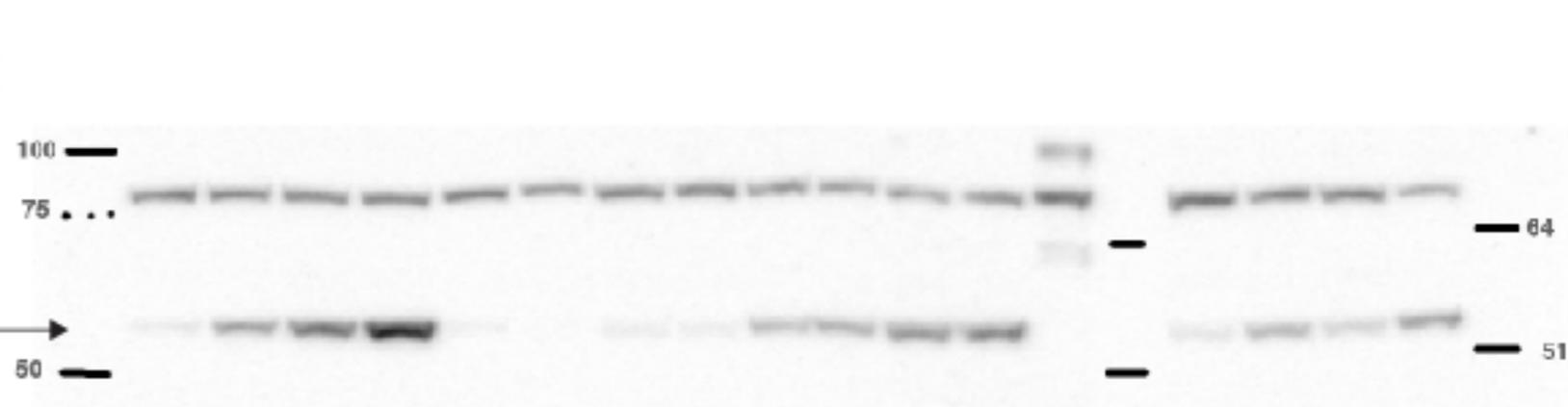
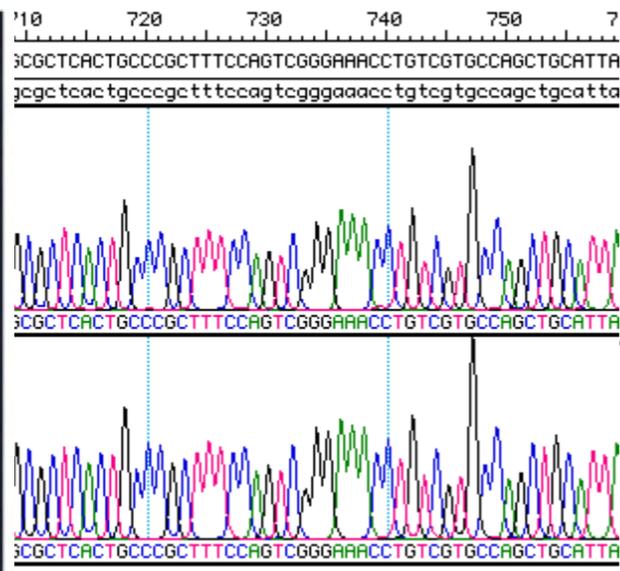
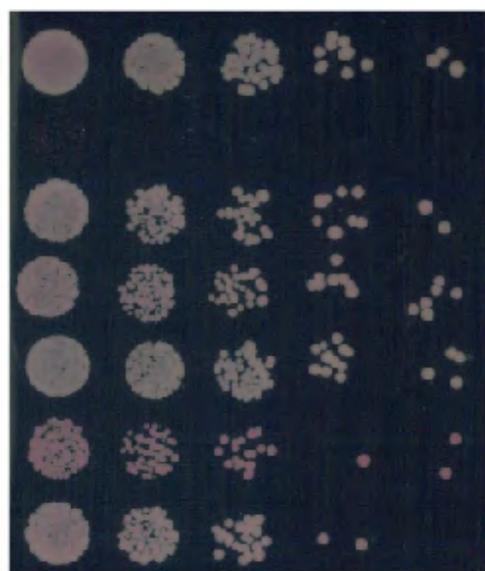




EXCITING DATA!



34 °C / 2 days



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What is the best way to get in touch?

- e-mail
 - be specific about why you are interested
 - mention anything that is particular about you/your situation
- in person
- I typically ask for CV/resume and unofficial transcript as a starting point for the discussion during the interview

What are prerequisites and what aren't?

We strive to create an atmosphere where everyone enjoys what she/he does and can grow and learn. Particularly important to us are:

Curiosity

Curiosity should be the driving force. If you are not curious about a result or passionate about a project or experiment, don't even start. Find your passion and pursue it.

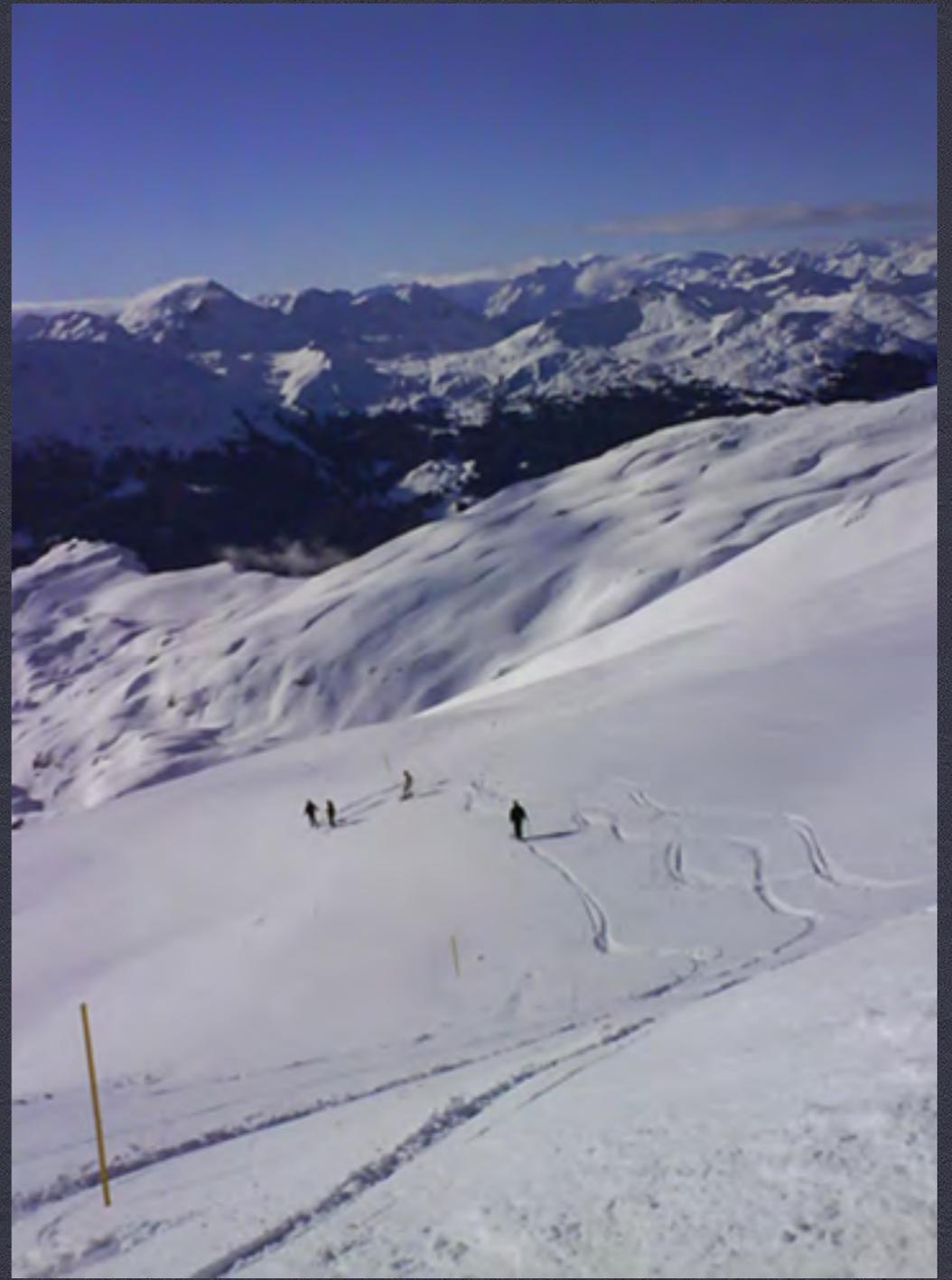
Continuous learning

One of the most enjoyable aspects of research is that something new can be learned or discovered every day. We want everyone in the group to acquire new knowledge and to apply it.

Collegiality

We find it self-evident that the lab works as a team, and that everyone contributes to the lab resources and helps lab members that are less experienced.

- Interview
 - your interests
 - anything that is specific about your life
 - what do you expect? how will you organize your time?
 - do you have some background knowledge?
 - can you solve problems?



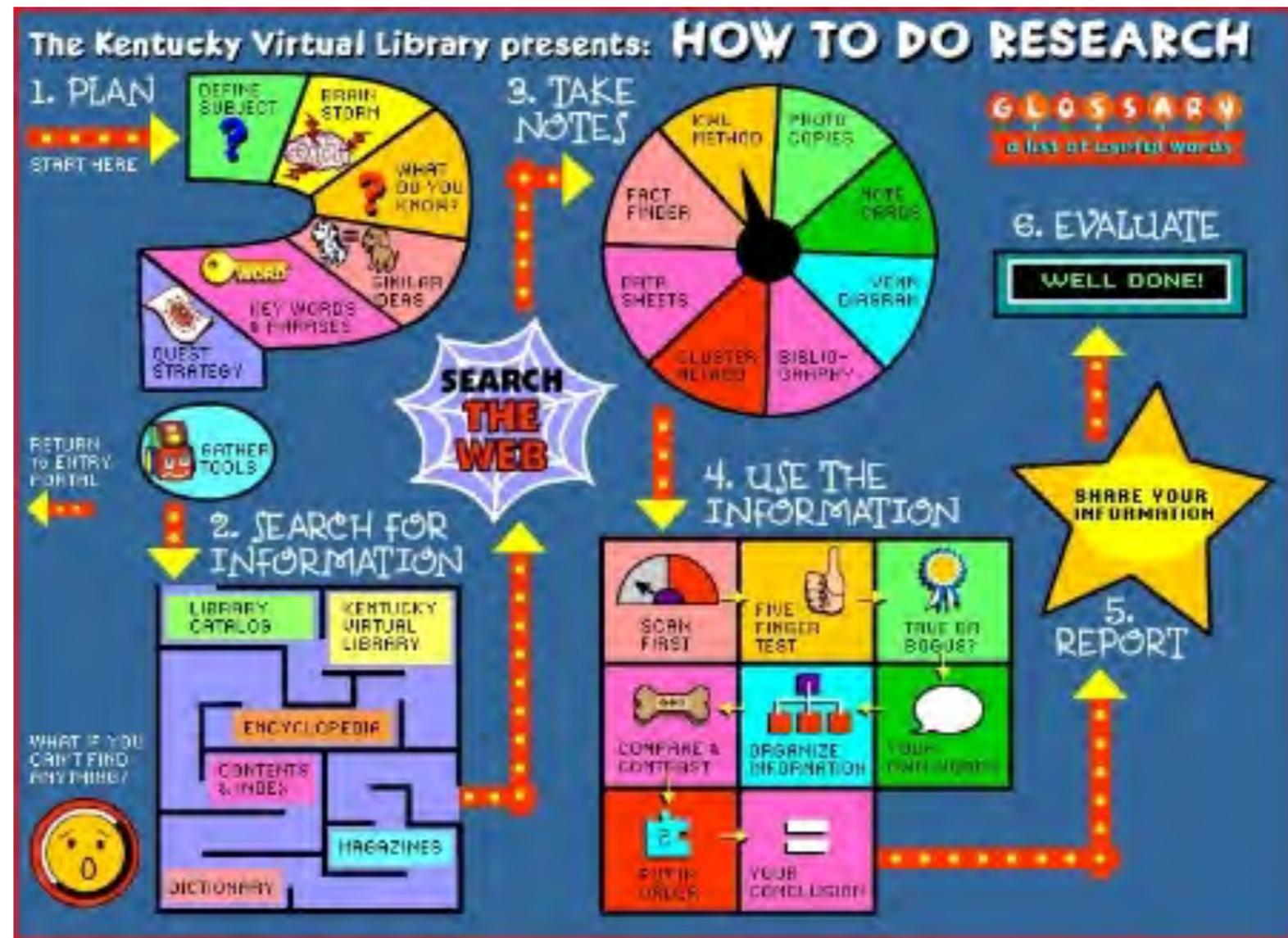
WORK HARD, PLAY HARD

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What can you learn?

- techniques
- scientific thinking
- how to search for relevant information
- how to solve problems
- team work
- organization skills
- communicating
- frustration tolerance



What your research supposedly looks like:

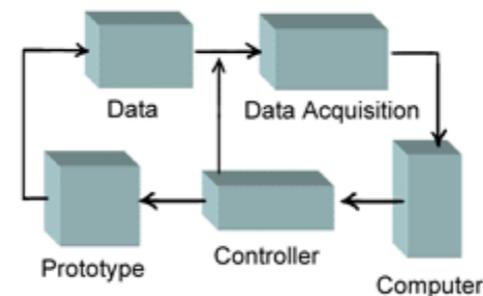


Figure 1. Experimental Diagram

What your research actually looks like:

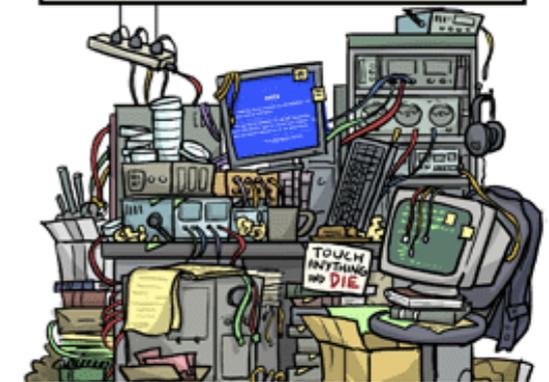


Figure 2. Experimental Mess

We are into principles

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Virginia Tech campus map

Google Maps



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PLEASE GET IN TOUCH IF YOU ARE INTERESTED