

UGS 303- Research Methods-FRI

Dr. Stuart Reichler



CO₂ levels in Hawaii and average global temp.

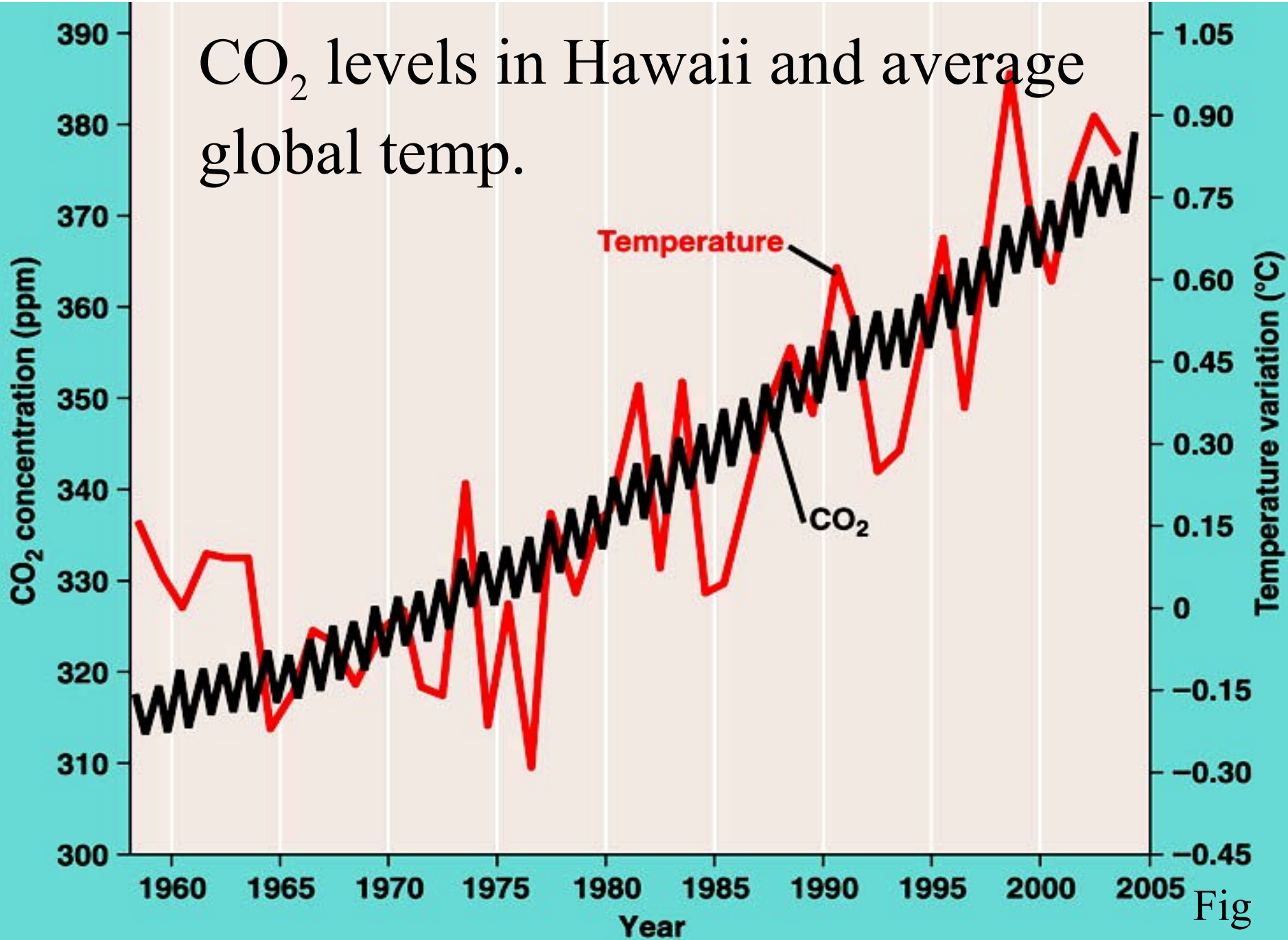
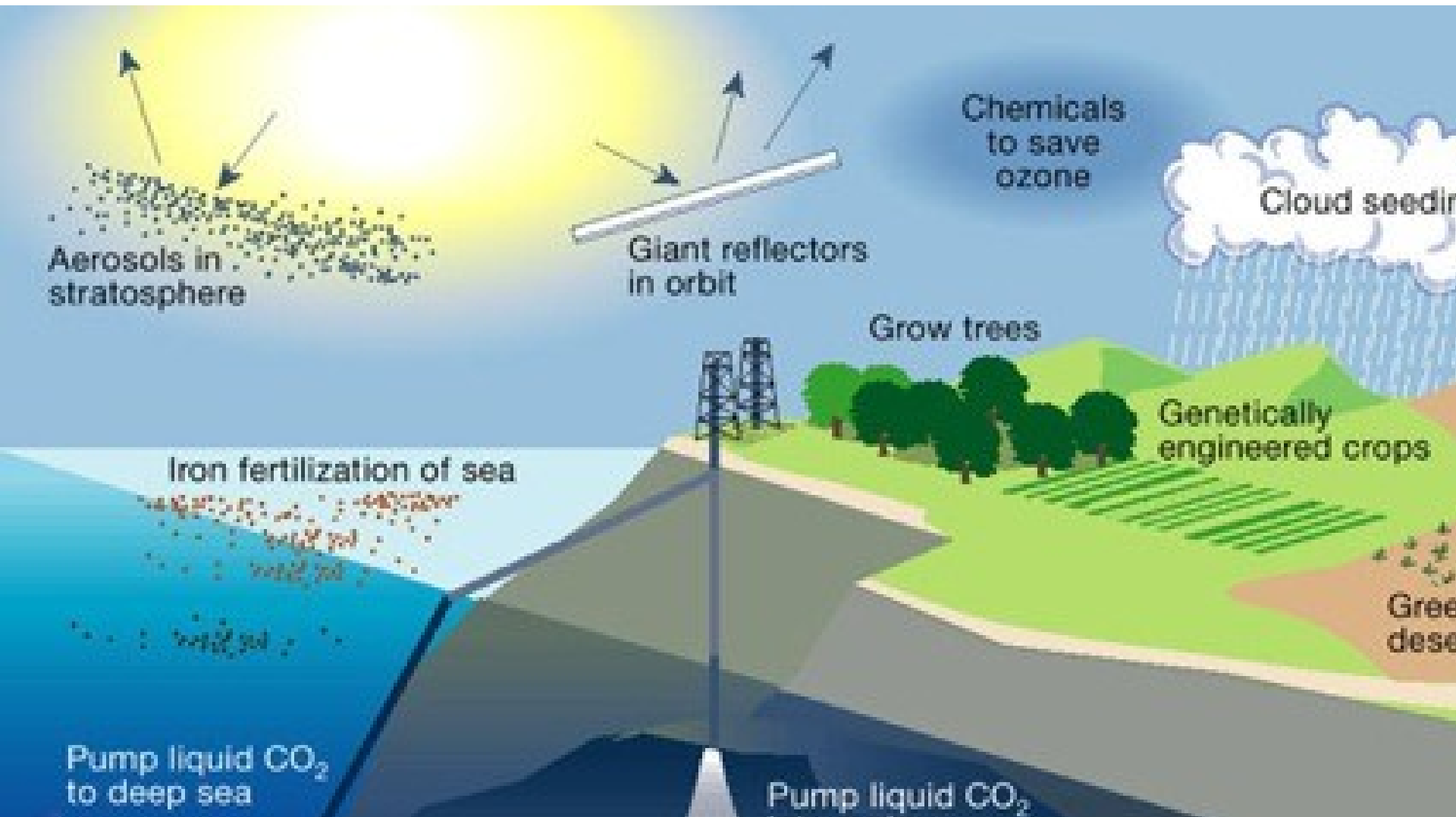
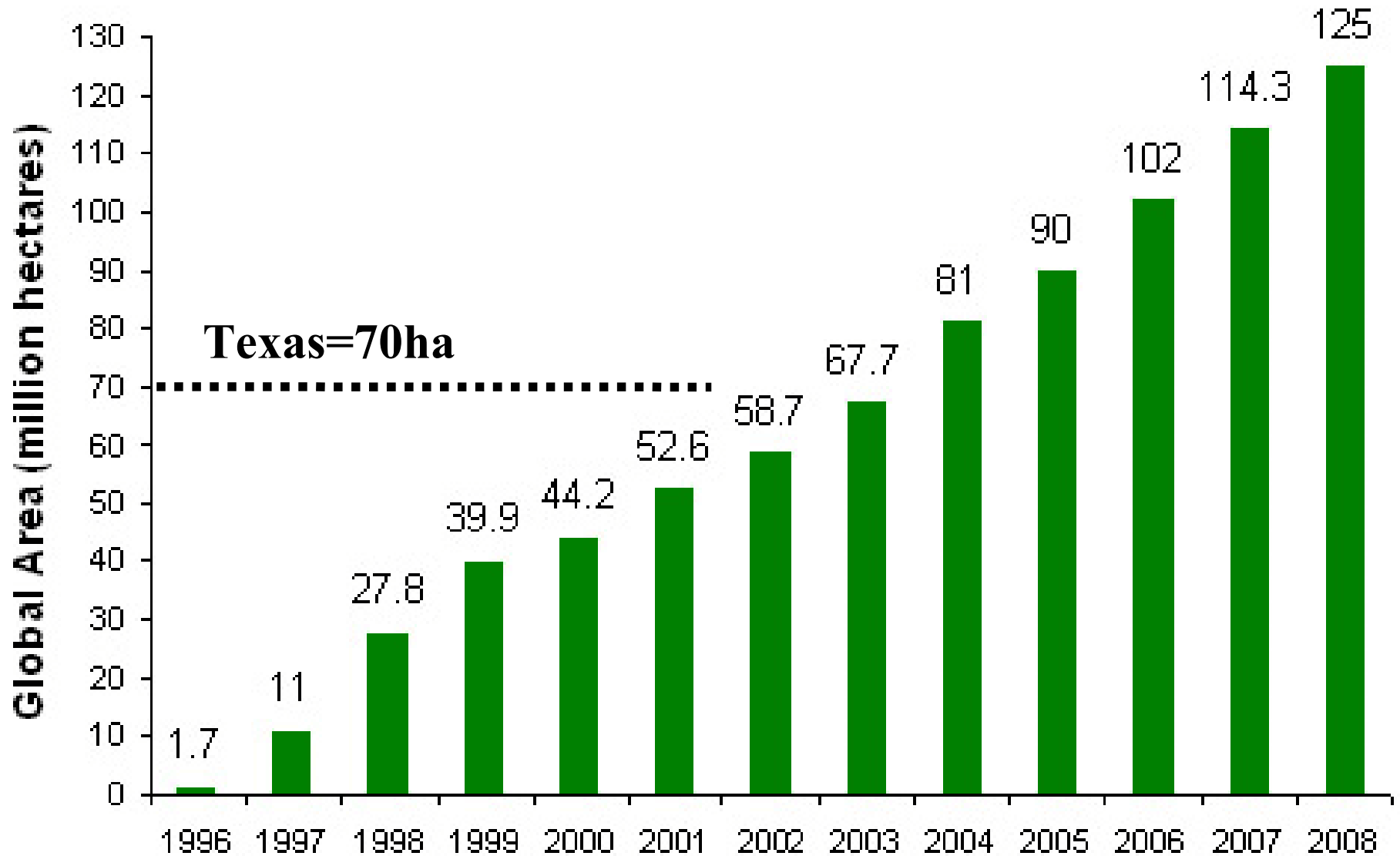


Fig
55.21

Ideas for using Geoengineering to lessen the impacts of Global Climate Change



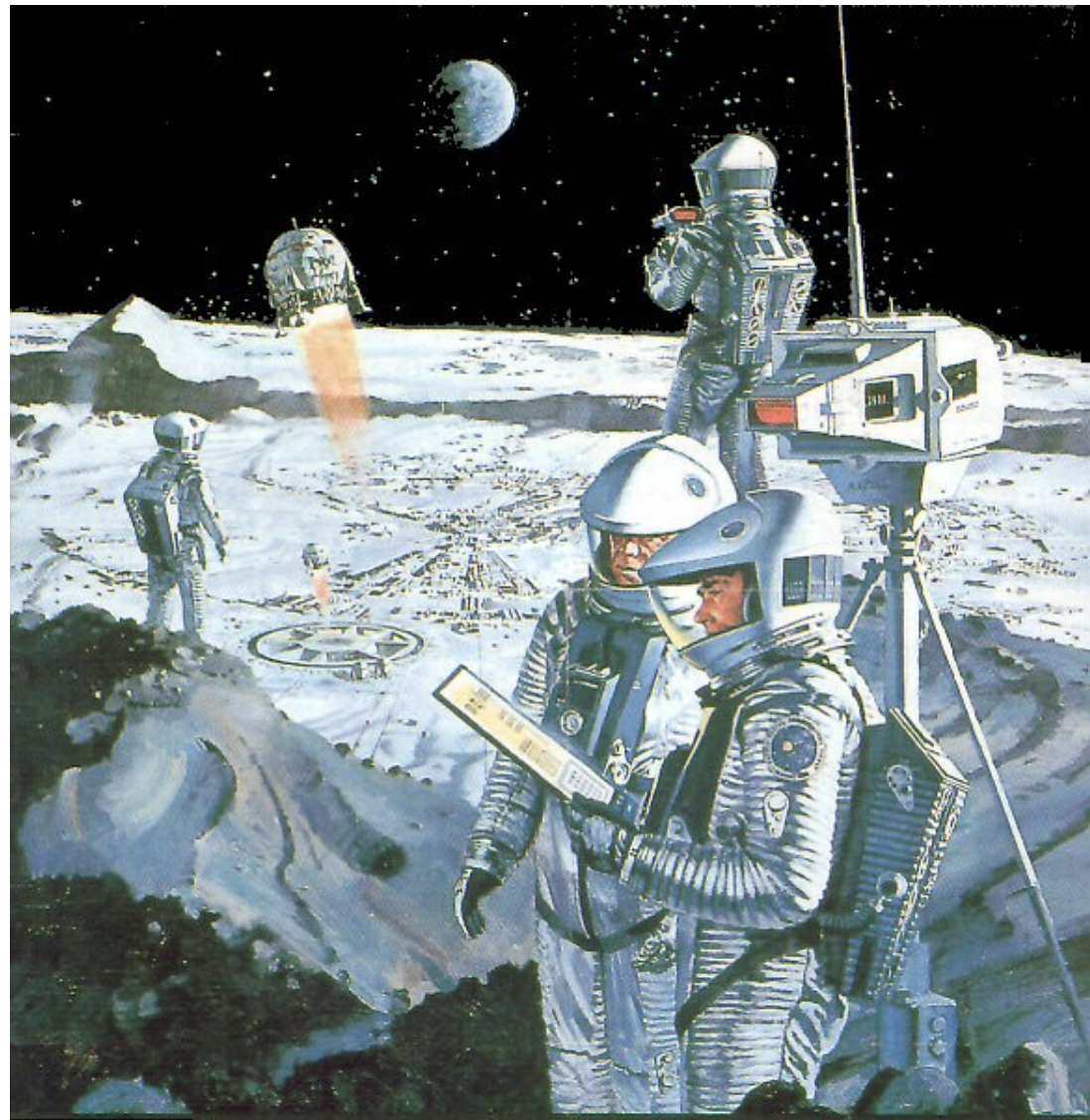
Global area planted with GM crops



http://www.gmo-compass.org/eng/agri_biotechnology/gmo_planting/257/global_gm_planting_2006.html

And http://www.monsanto.com.au/_images/global_area_chart.gif

Should we
explore/colonize
space?



MGM PRESENTS A STANLEY KUBRICK PRODUCTION
2001: a space odyssey
CINERAMA[®] Super Panavision[®]
and Metrocolor

What is the best search engine?

bing™

vs.

Google™

vs.

YAHOO!®

Robots?



WILL SMITH

i,ROBOT

ONE MAN SAW IT COMING

TWENTIETH CENTURY FOX PRESENTS A DAVIS ENTERTAINMENT COMPANY / LAURENCE MARK / OVERSTOCK FILMS PRODUCTION BY ALEX PROYAS WITH WILL SMITH "I,ROBOT" GIBRETT MOYNIHAN BRUCE GREENWOOD JAMES CROMWELL FOR MESSOR AND ALVIN TONY
MARCH BELTRAMI MUSIC BY JOHN NELSON COSTUME DESIGNER DOMINIC LEE STEVEN R. MCELREATH EDITOR RICHARD LEIGHTON EXECUTIVE PRODUCERS WILLIAM HOY AND PETER PATRICK TITOPOLLOS PRODUCED BY SHAWN DUGAN WRITTEN BY WILL SMITH AND JAMES LASISTER
DIRECTED BY ALEX PROYAS EXECUTIVE PRODUCERS MICHAEL SPANE ANTHONY ROIANO PRODUCED BY ISAAC KRASNY'S AND JEFF VINTAR PRODUCED BY JEFF VINTAR AND ANITA GOLDSMAN WRITTEN BY LAURENCE MARK JOHN DAVIS TOPHER BOW WYCK GORFET BY ALEX PROYAS
www.i-robotmovie.dk

How much
autonomy should
our computer
networks have?

SCHWARZENEGGER

**In the Year of Darkness, 2029,
the rulers of this planet
devised the ultimate plan.
They would reshape the
Future by changing the Past.
The plan required something
that felt no pity. No pain.
No fear.
Something unstoppable. They created**

**THE
TERMINATOR**

Hemdale Presents a Pacific Western Production of a James Cameron Film
Arnold Schwarzenegger "The Terminator" Michael Biehn, Linda Hamilton and Paul Winfield
Make-Up Effects By Stan Winston · Executive Producers John Daly and Derek Gibson
Written by James Cameron with Gale Anne Hurd · Produced by Gale Anne Hurd

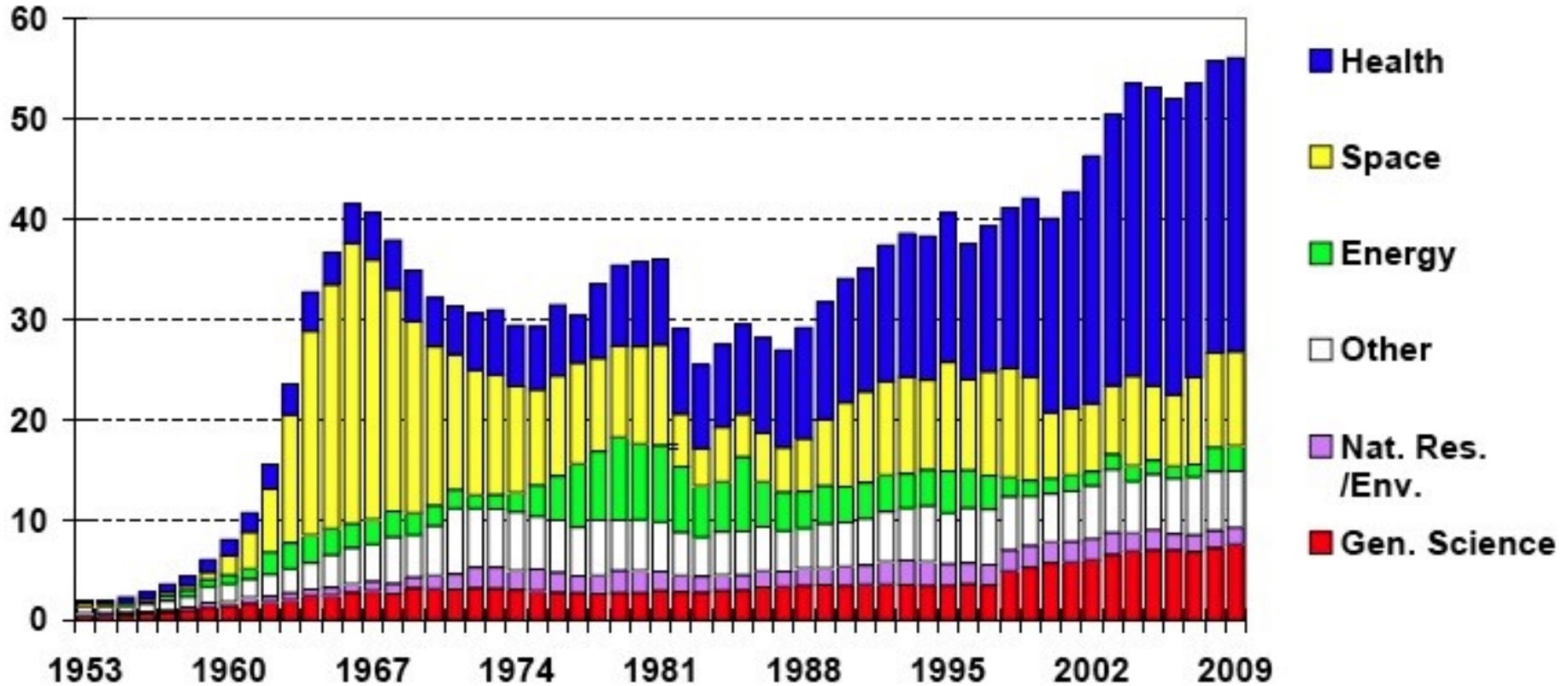
An **ORION** PICTURES Release Directed by James Cameron · Prints by DeLuxe®

© 1984 Cinema '84, A Greenberg Brothers Partnership. All rights reserved.

R RESTRICTED
PARENT STRONGLY CAUTIONS
REQUIRES ACCOMPANYING
PARENT OR ADULT GUARDIAN

How should we allocate research resources?

Nondefense R&D by Function, FY 1953-2009
(in billions of constant FY 2008 dollars)



Source: AAAS, based on OMB Historical Tables in *Budget of the United States Government FY 2009*. Constant dollar conversions based on GDP deflators. FY 2009 is the President's request.

Note: Some Energy programs shifted to General Science beginning in FY 1998.

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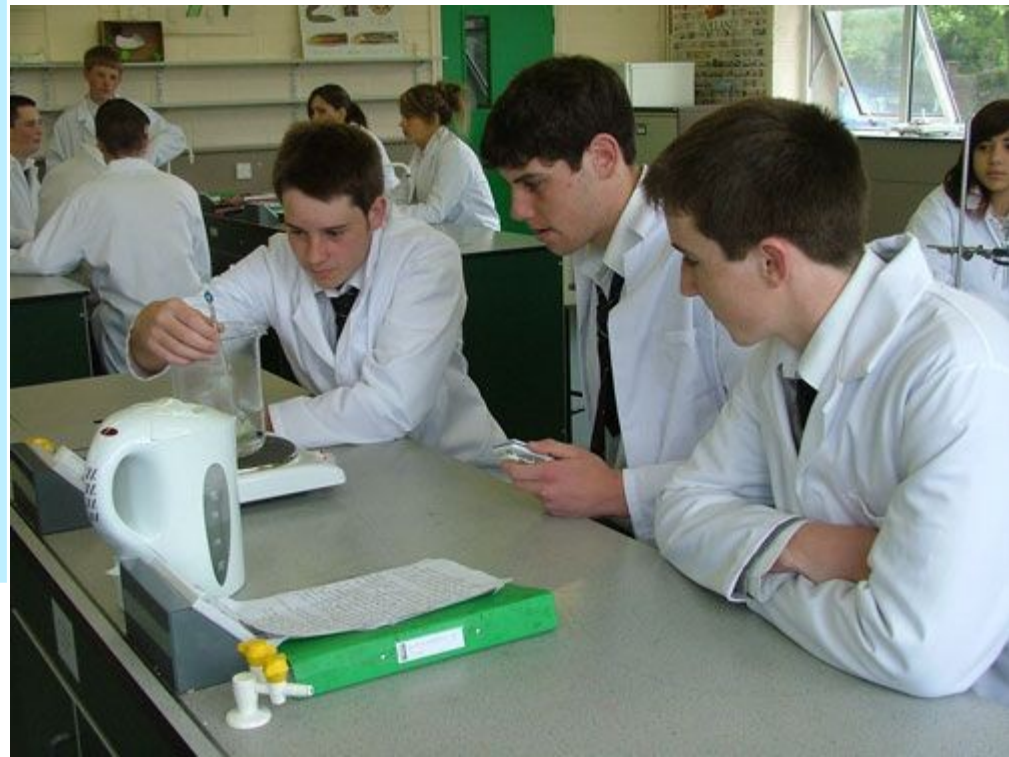
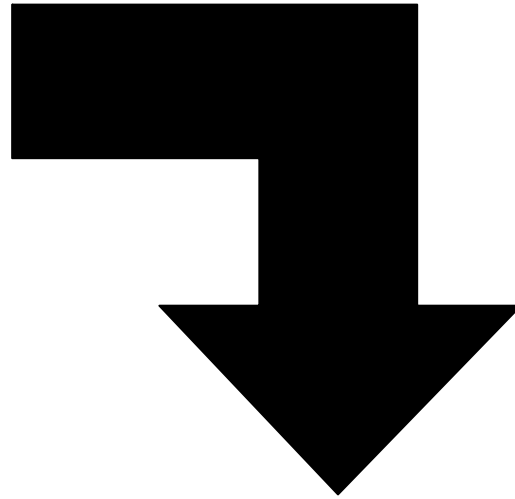
<u>Week</u>	<u>Lecture 1</u>	<u>Lecture 2</u>	<u>Lab</u>
1. W 8/24		Introduction	<i>no lab</i>
2. 8/29	Strong Inference	What is an inquiry?	Journals, Database Searches, Strong Inference, Termites
3. 9/5	<i>no class (Labor Day)</i>	Statistics	Inquiry 1 Proposals due
4. 9/12	Statistics	Statistics	Statistics Practice
5. 9/19	Lab Safety and Inquiry 2	University Lecture Series	Inquiry 1 Presentation
6. 9/26	Authorship and Peer Review	Ethics	Inquiry 2 Proposals due
7. 10/3	Ethics	Presenting and Writing	Ethics Discussion
8. 10/10	Funding Research	Patents	Peer Review
9. 10/17	Research vs Education	If you can't say something nice... criticizing research about GM crop safety	Inquiry 2 Presentations
10. 10/24	University Research (Who are all these people?)	My Job	Inquiry 3 Proposals due
11. 10/31	Ethics	Ethics	Ethics Discussion
12. 11/7	My Job	Holism vs Reductionism	Peer Review
13. 11/14	What is success?	What happens after graduation?	Inquiry 3 Presentations
14. 11/21	My Job	<i>no class (Thanksgiving)</i>	<i>no lab... Thanksgiving</i>
15. 11/28	Why do we not solve more problems?	Wrap-up	Group Problem Solve

Most classes...





This class...



How would you solve a problem/get an answer to a question?



What should you do this Saturday?



Getting Answers:

- Start with a question.

- For example:

How? Why? When? Where? Etc?

- How do we get answers?

- Strong Inference presents one method
(article on webpage)

Getting Answers:

How do we get answers?

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Be ready to discuss this article on T 8/30

- Class webpage-

<http://www.bio.utexas.edu/courses/stuart/class.html>

- No labs this week. First lab next week.

- Strong Inference article on webpage for the next class.

Looking for something to do
this weekend?

The Hot Sauce Festival on
Sunday (8/28)

<http://www.austinchronicle.com/Market/HotSauce>

