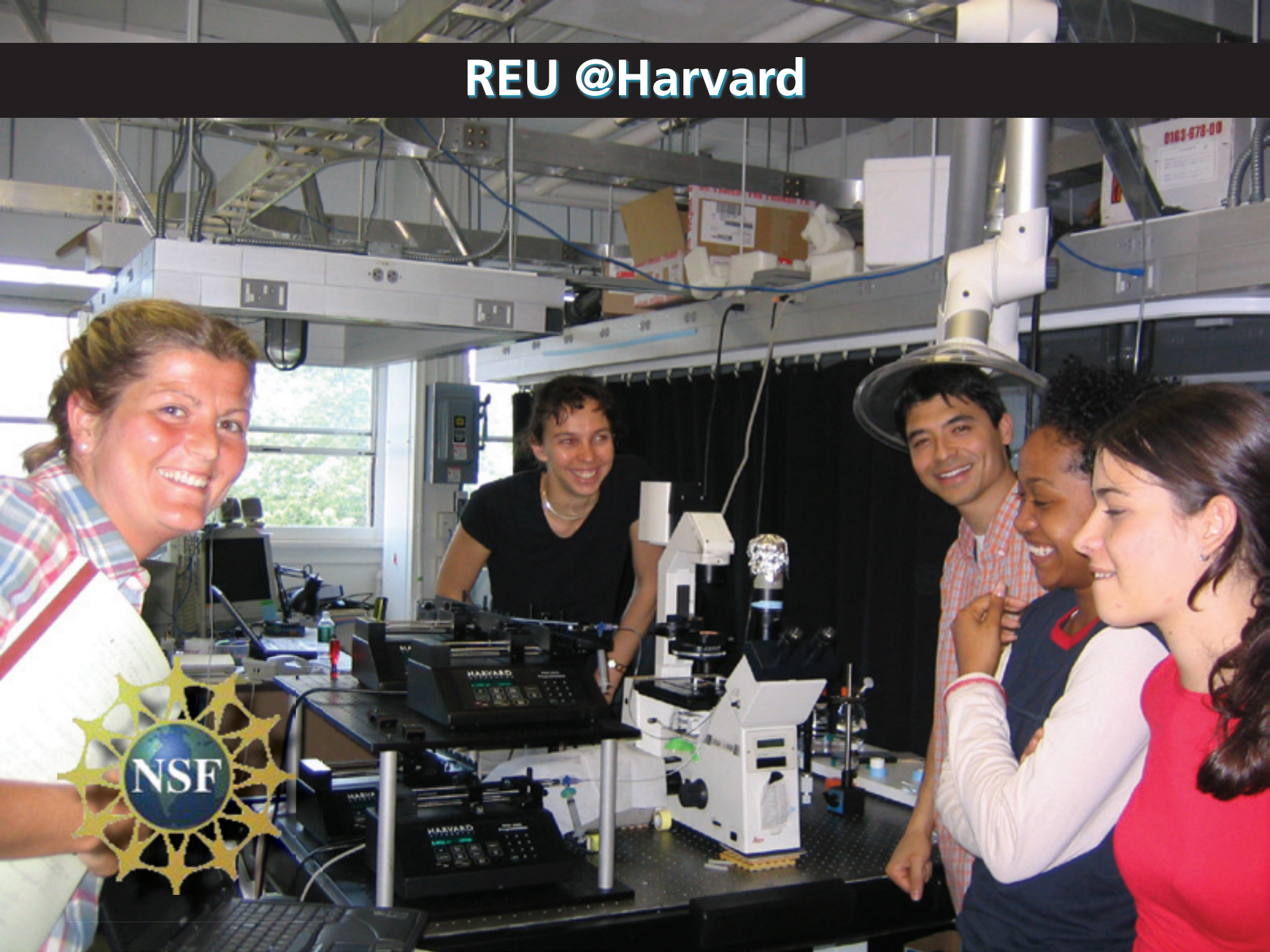
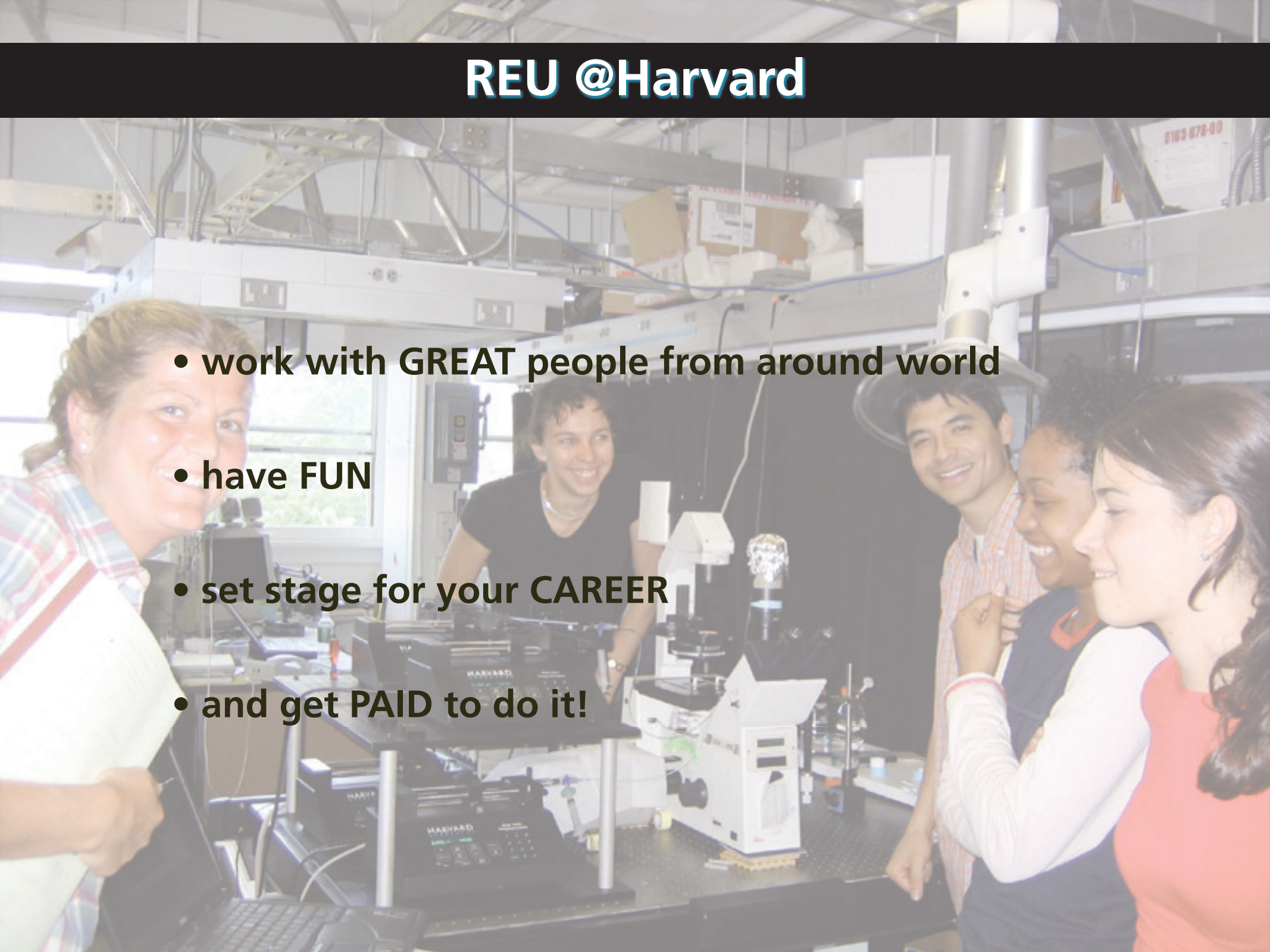
Research Experience for Undergraduates @Harvard University

University of Puerto Rico
Humaco, Puerto Rico, 18 February 2010

REU @Harvard



REU @Harvard



- work with GREAT people from around world
- have FUN
- set stage for your CAREER
- and get PAID to do it!

REU @Harvard

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Eric Martin

REU ‘09

University of California Santa Barbara

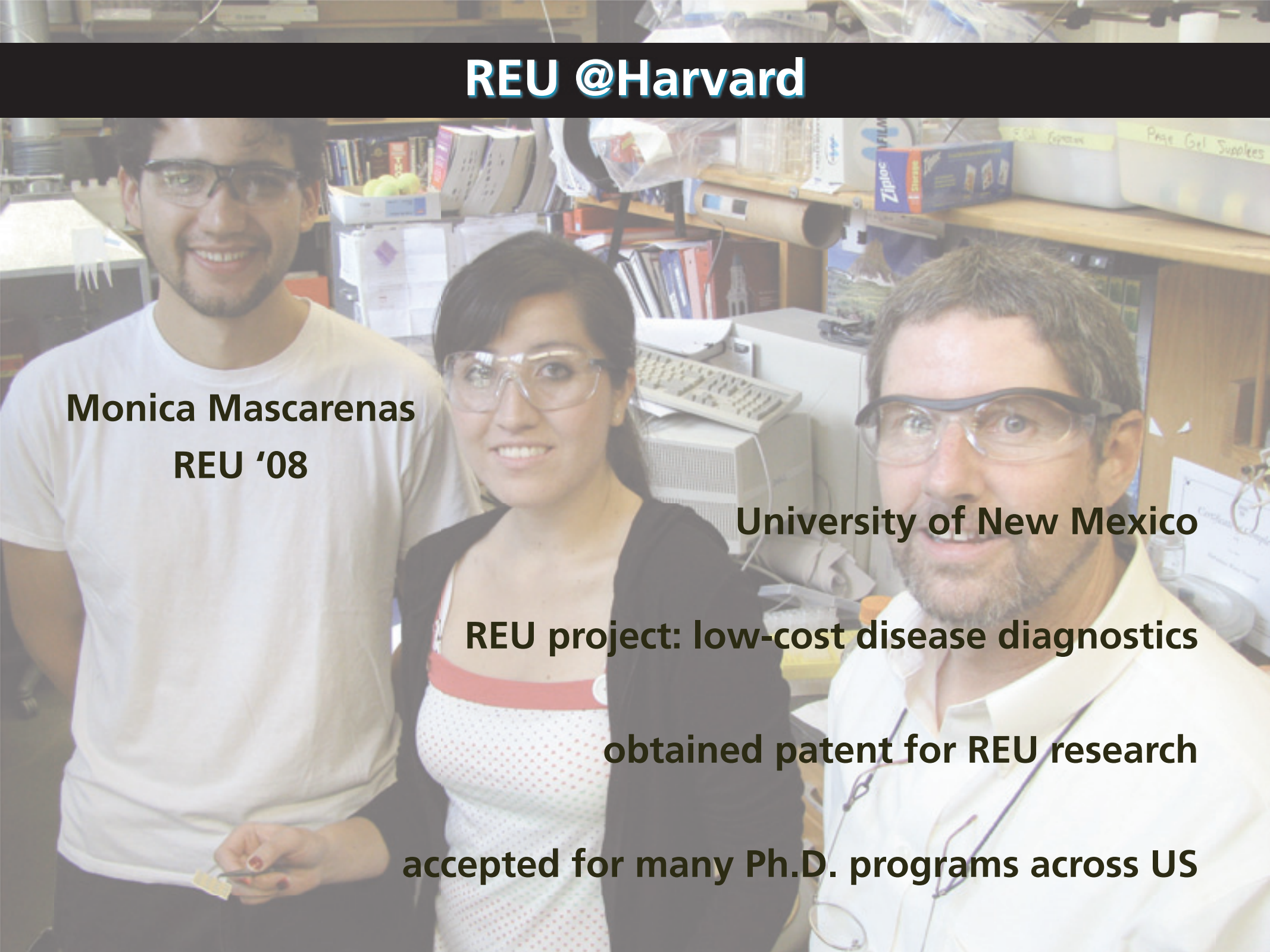
REU project: holographic microscopy

Steven Chu Award for REU research

accepted for Ph.D. program at Harvard

REU @Harvard

REU @Harvard



Monica Mascarenas

REU ‘08

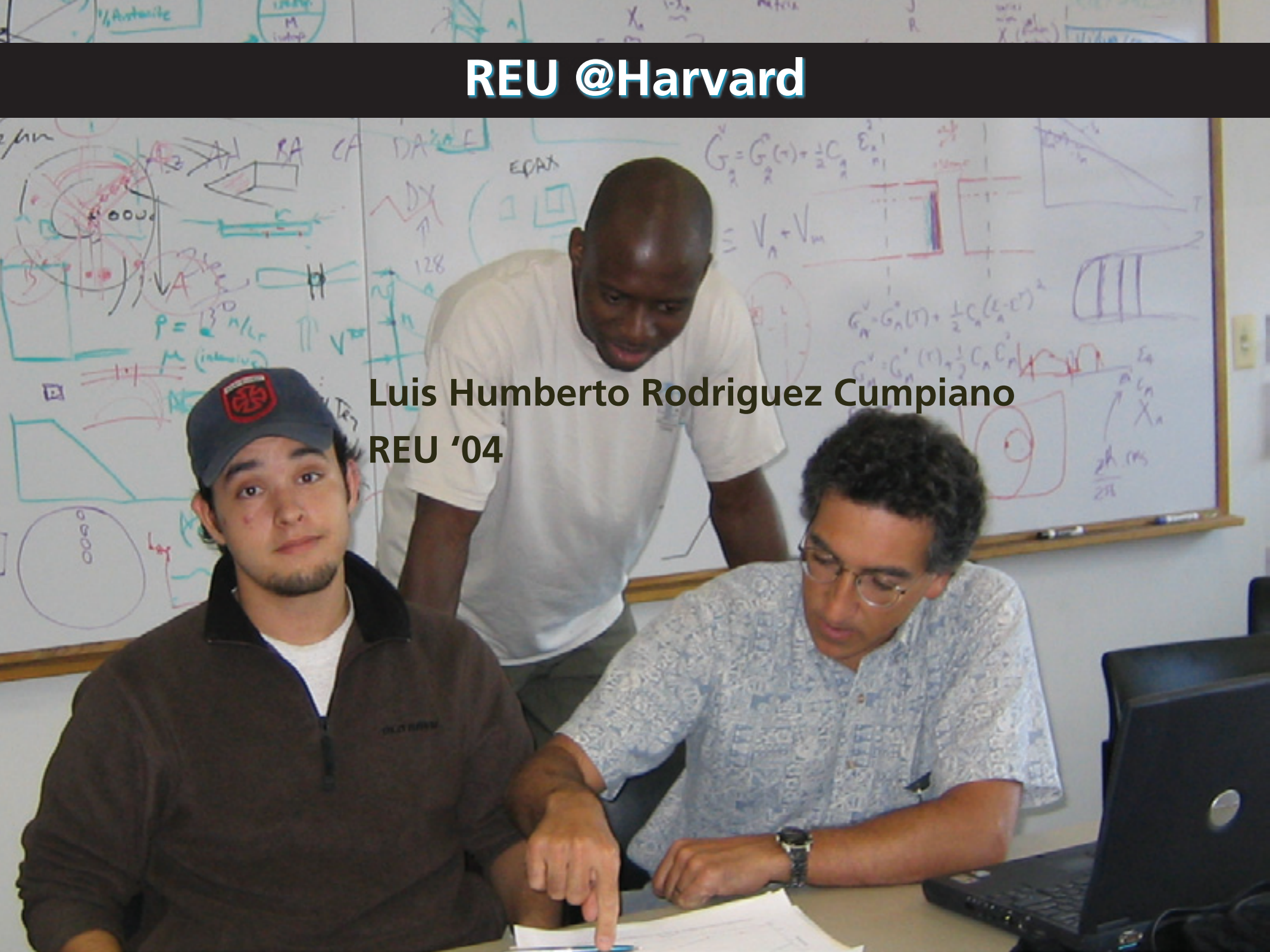
University of New Mexico

REU project: low-cost disease diagnostics

obtained patent for REU research

accepted for many Ph.D. programs across US

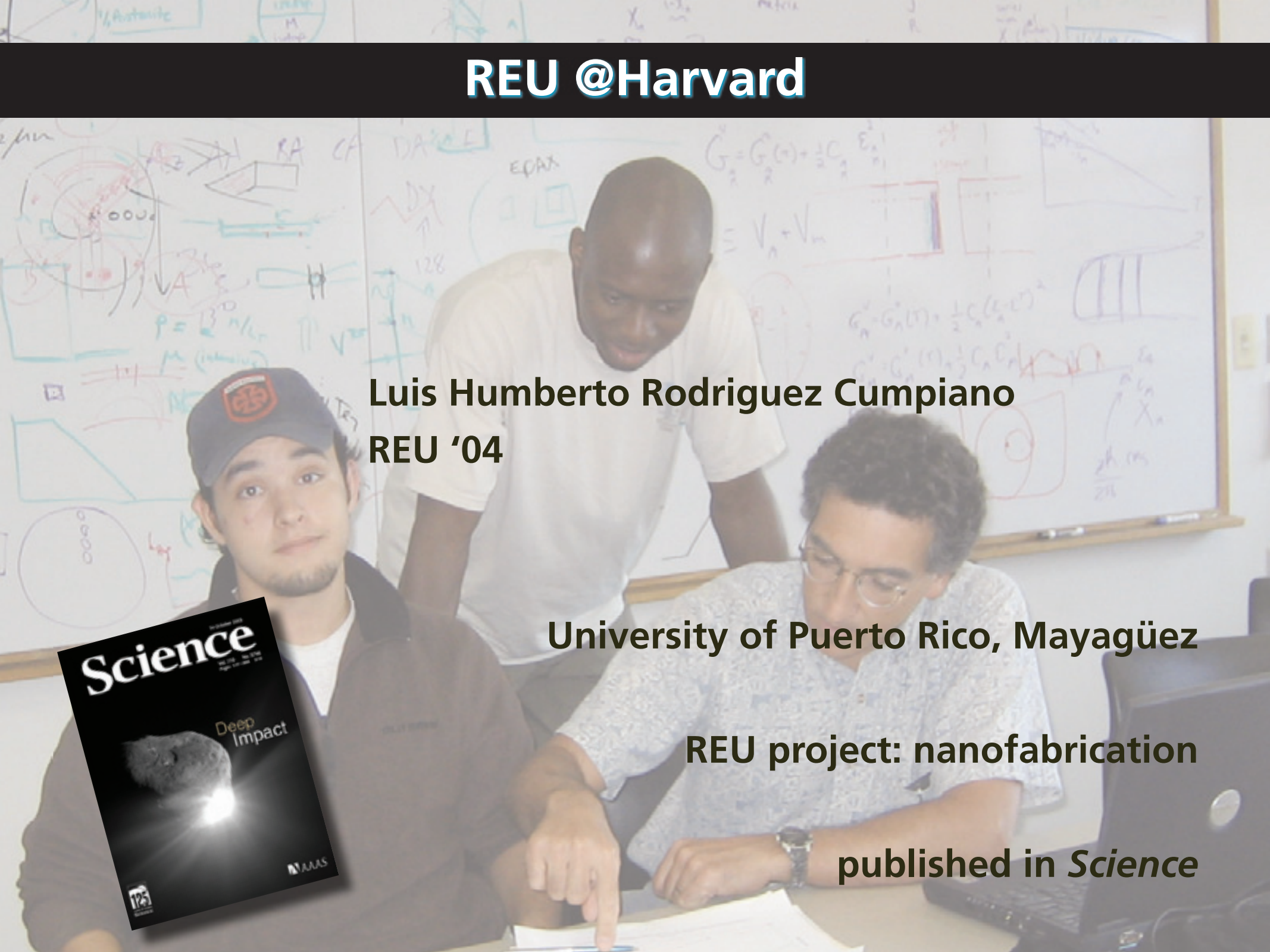
REU @Harvard



Luis Humberto Rodriguez Cumpiano

REU ‘04

REU @Harvard



Luis Humberto Rodriguez Cumpiano

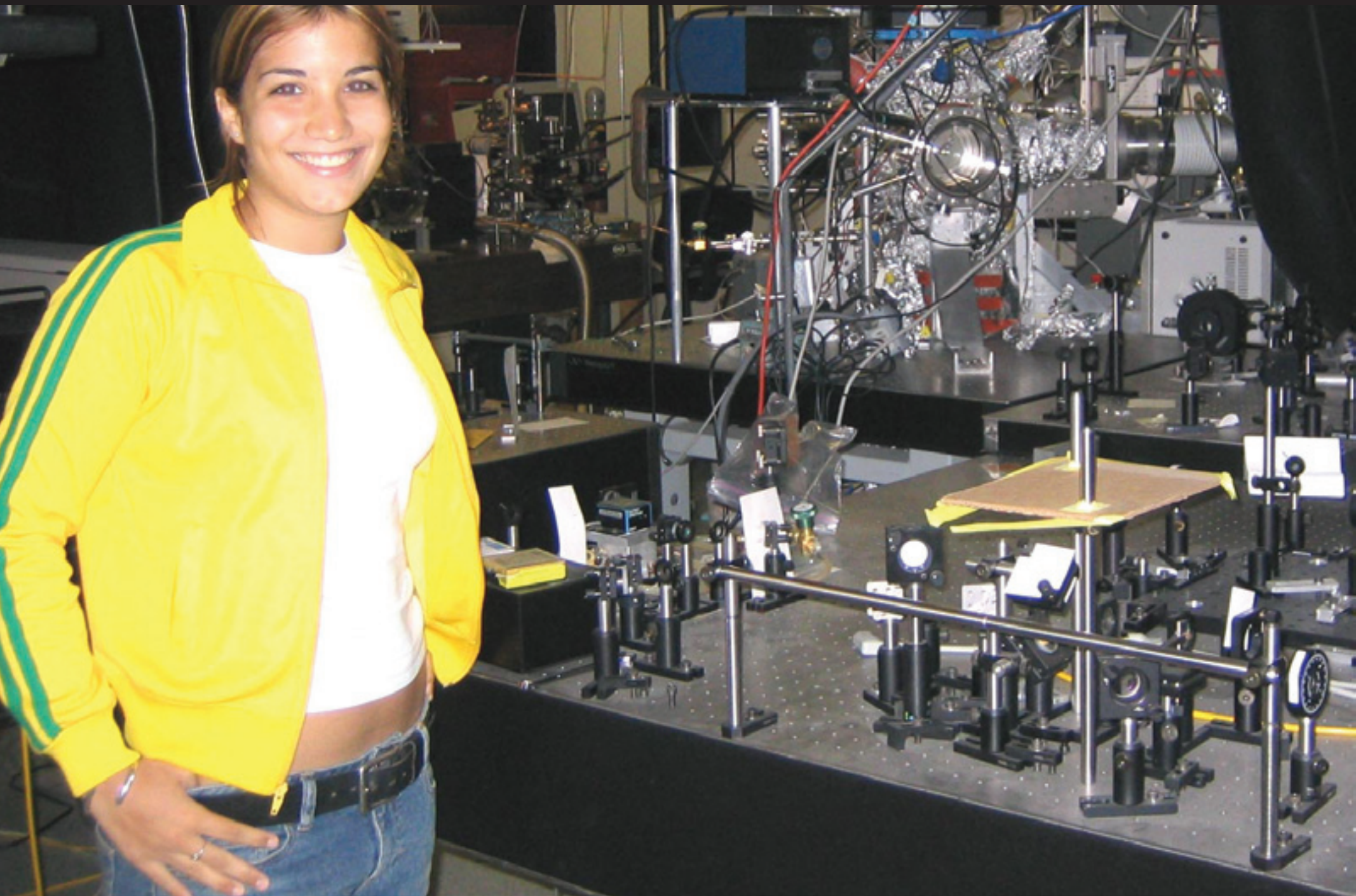
REU '04

University of Puerto Rico, Mayagüez

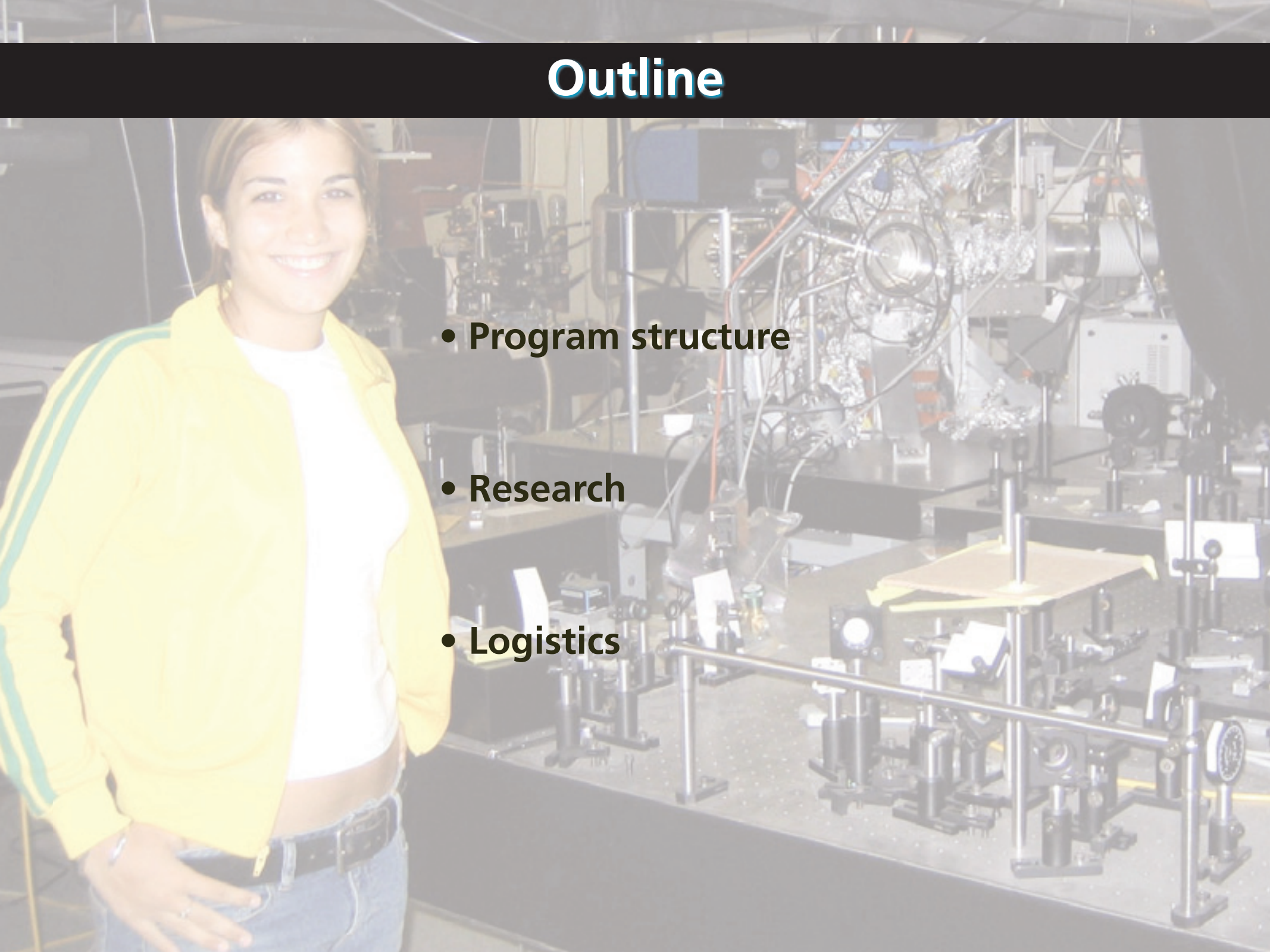
REU project: nanofabrication

published in *Science*

Outline



Outline



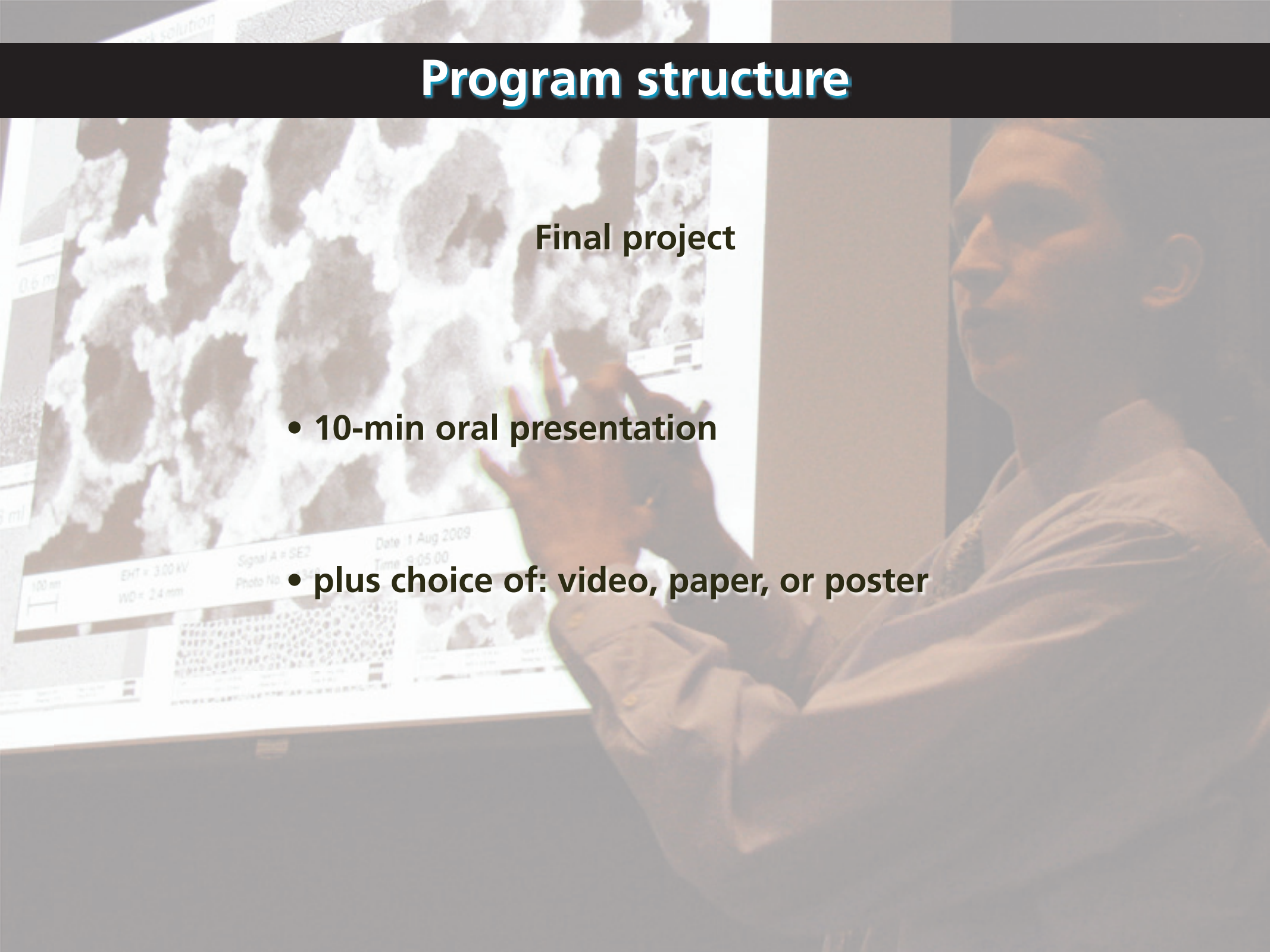
- Program structure
- Research
- Logistics

Program structure

Calendar

week 1:	orientation & lab tours
week 2–8:	research
	weekly faculty seminars
week 9:	final project presentation
week 10:	campus-wide symposium

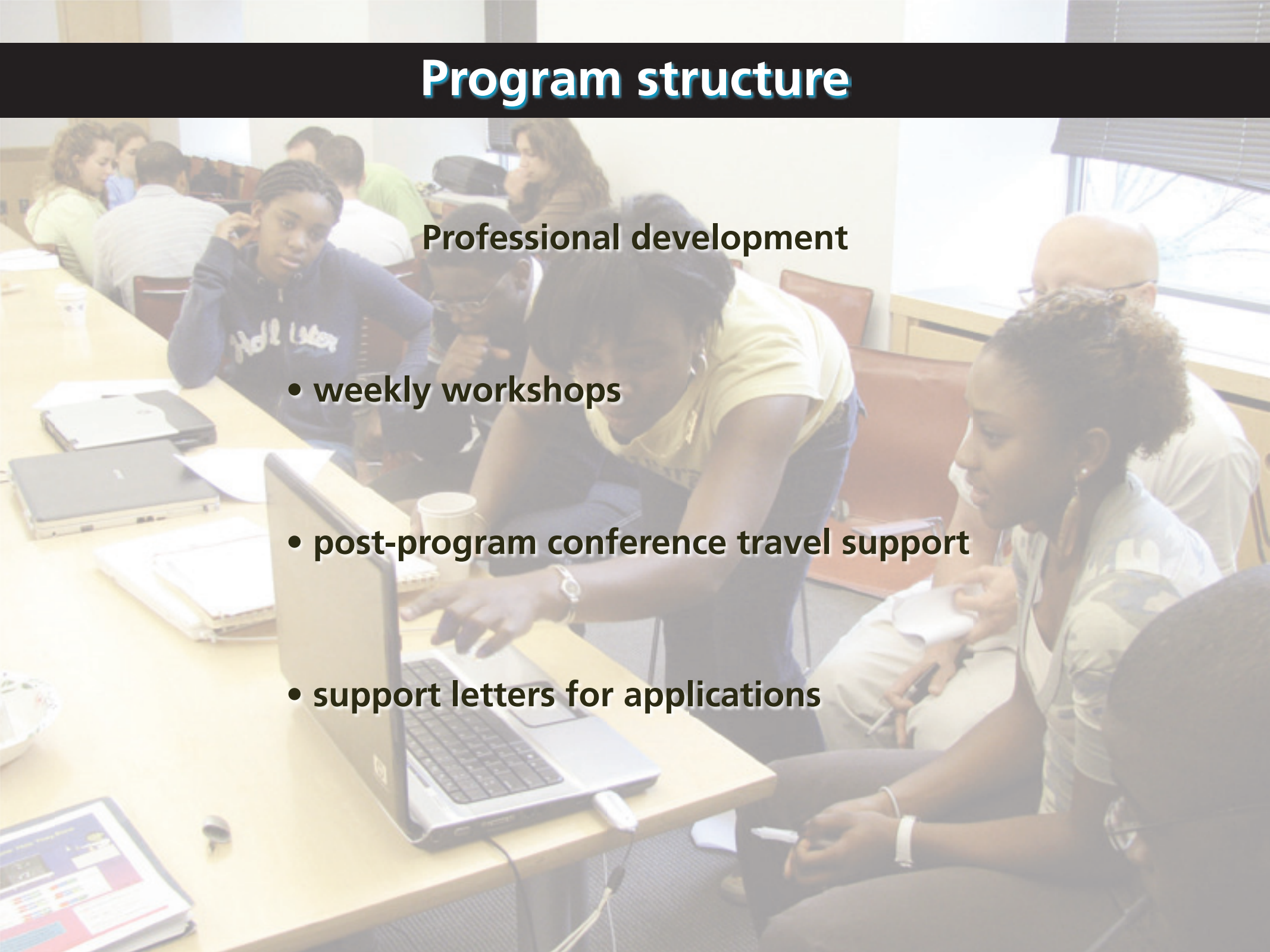
Program structure



Final project

- 10-min oral presentation
- plus choice of: video, paper, or poster

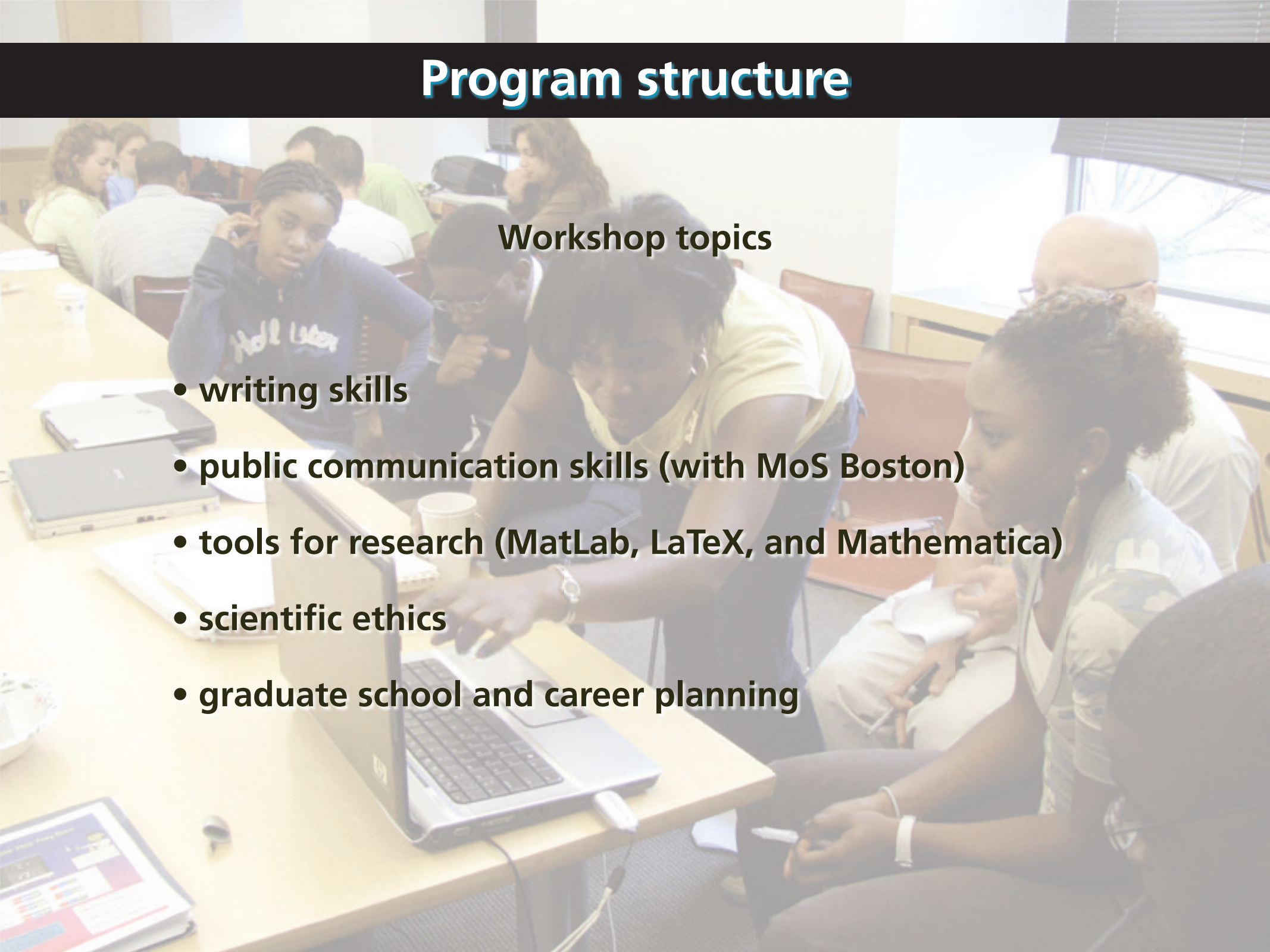
Program structure



Professional development

- weekly workshops
- post-program conference travel support
- support letters for applications

Program structure



Workshop topics

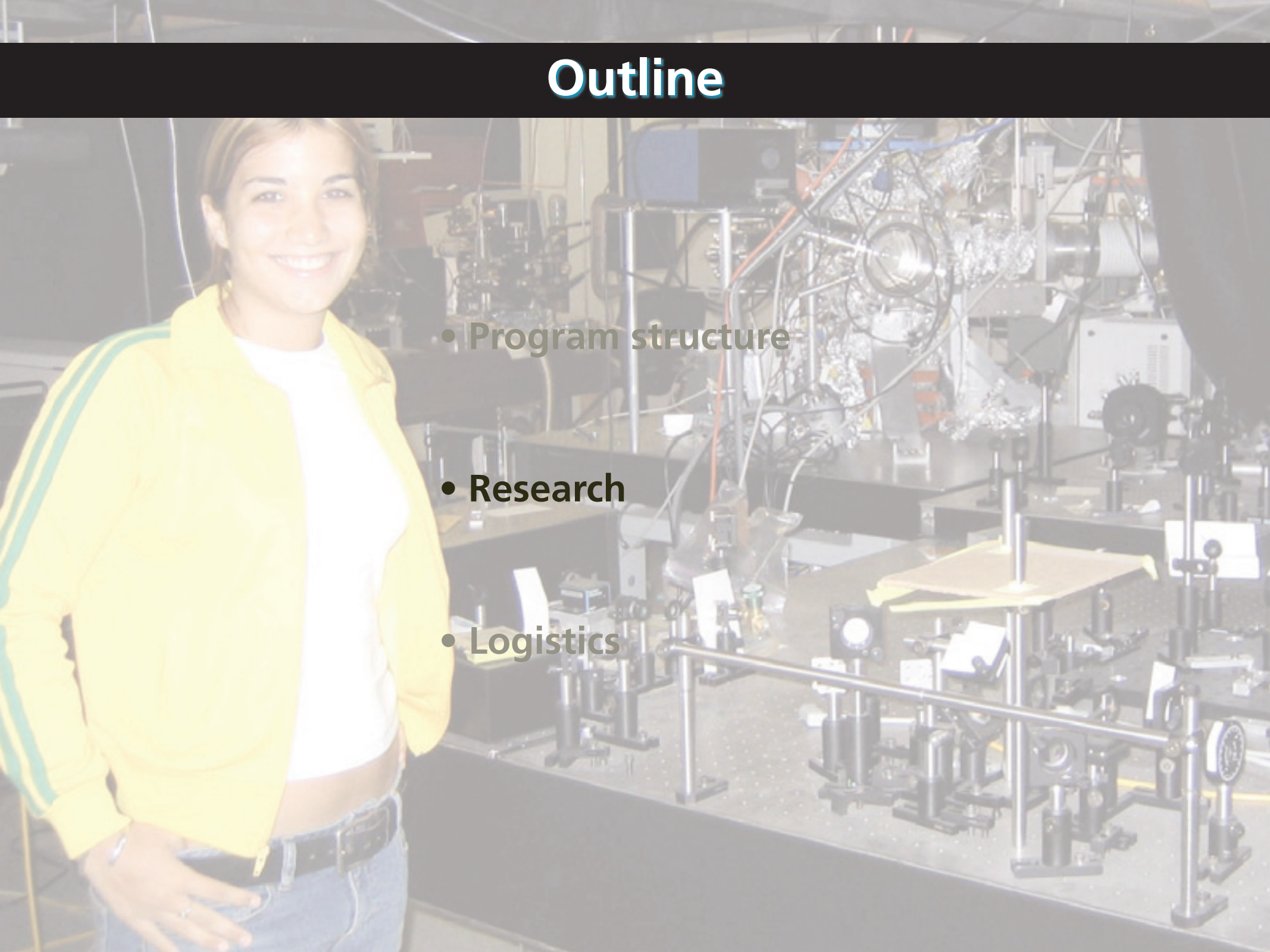
- writing skills
- public communication skills (with MoS Boston)
- tools for research (MatLab, LaTeX, and Mathematica)
- scientific ethics
- graduate school and career planning

Program structure

Social program

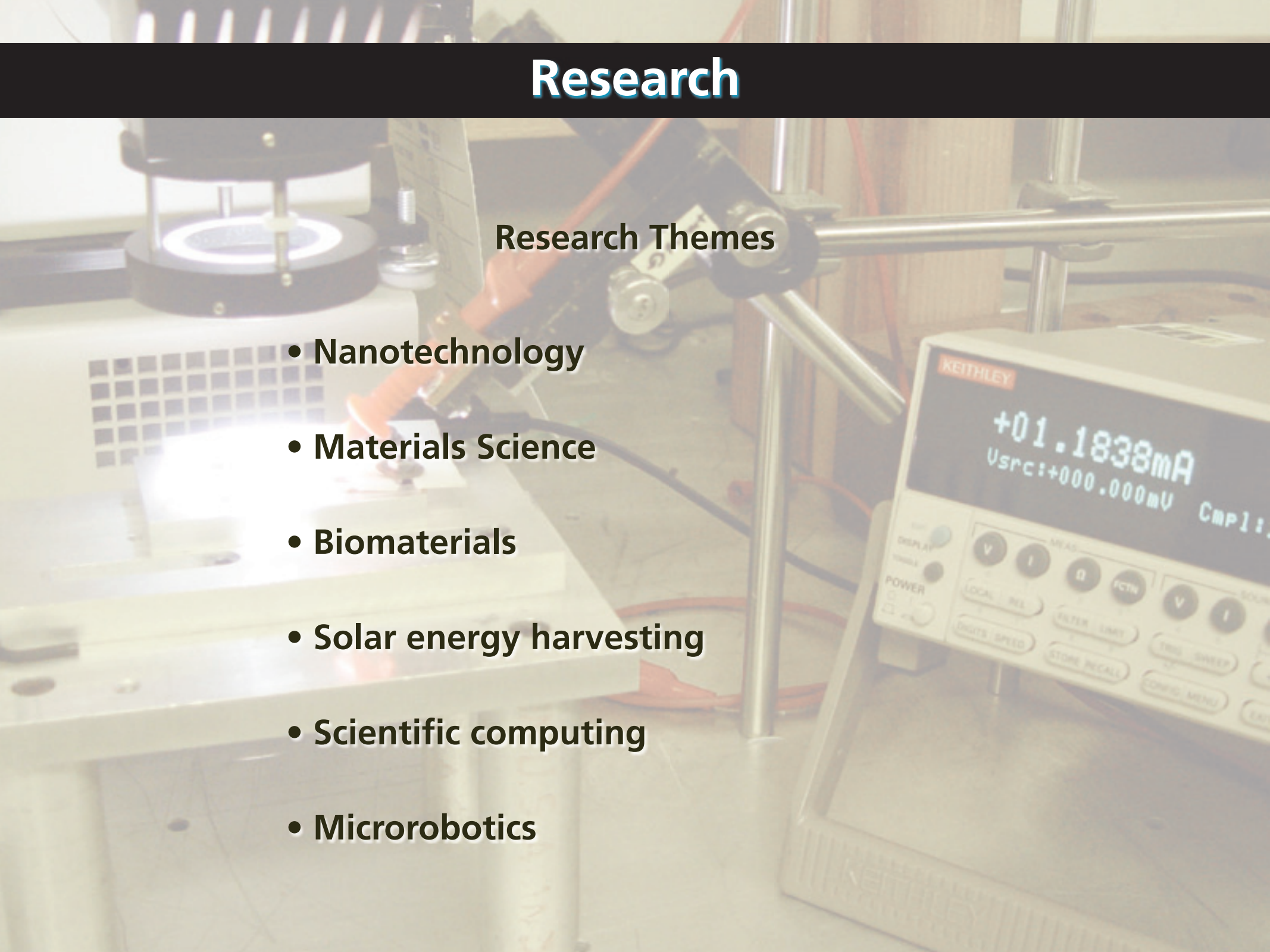
- excursions
- BBQ's and potlucks
- sports, dancing, and cultural activities

Outline



- Program structure
- **Research**
- Logistics

Research

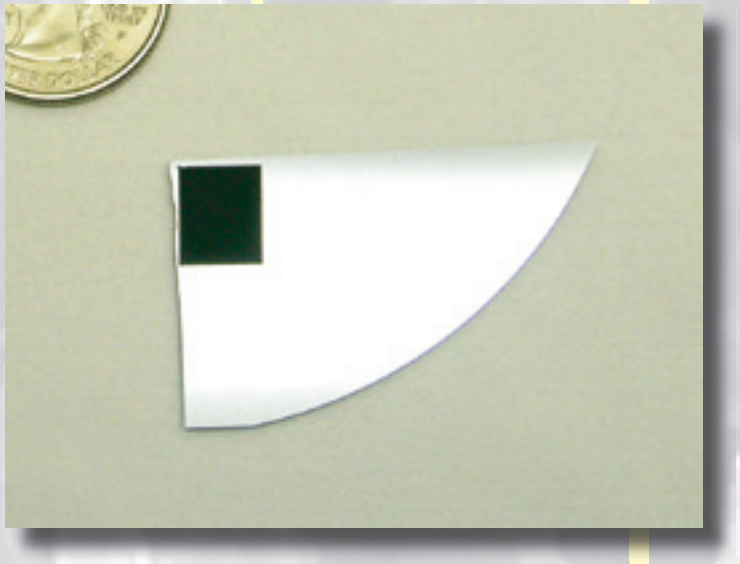


Research Themes

- Nanotechnology
- Materials Science
- Biomaterials
- Solar energy harvesting
- Scientific computing
- Microrobotics

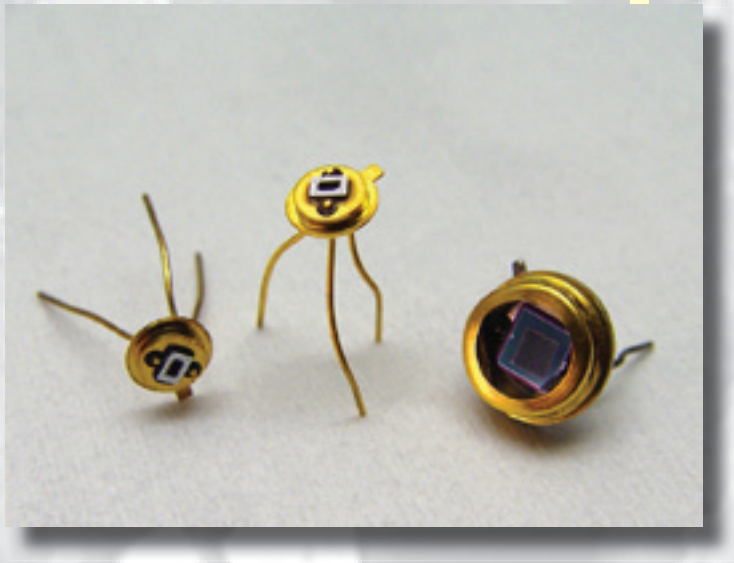
Research

Black silicon



novel form of silicon

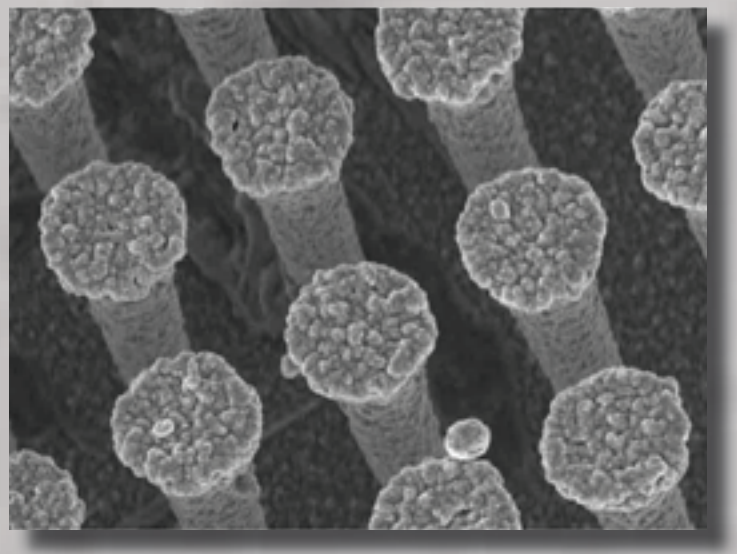
more efficient solar cells



build & characterize devices

Research

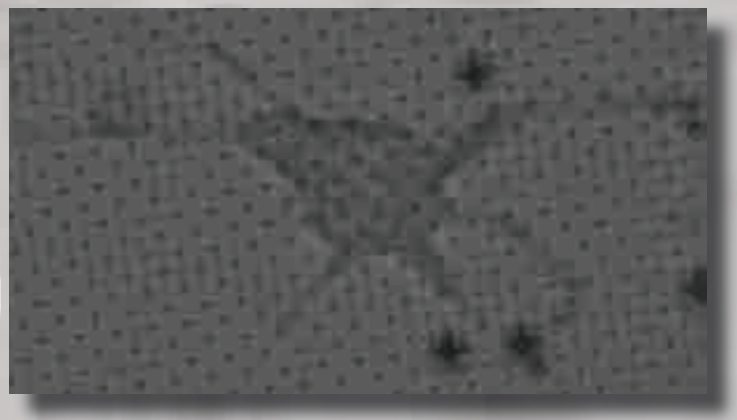
Biomaterials for cell adhesion



control cell attachment/detachment

tissue engineering, medical implants

fabricate “nanograss” observe cell spreading



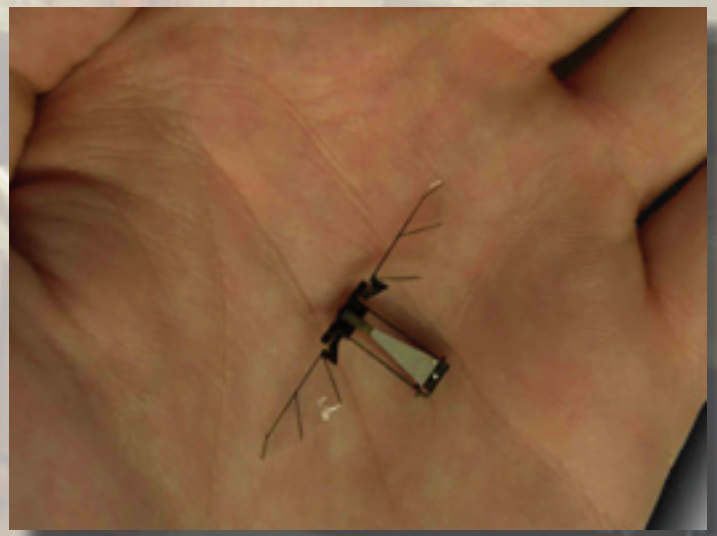
Research

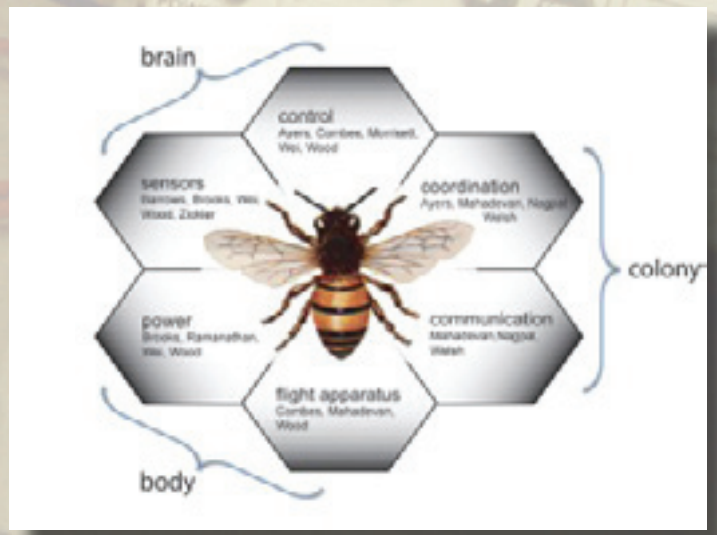
Robobees

autonomous insect-like microrobots

search and rescue, pollination

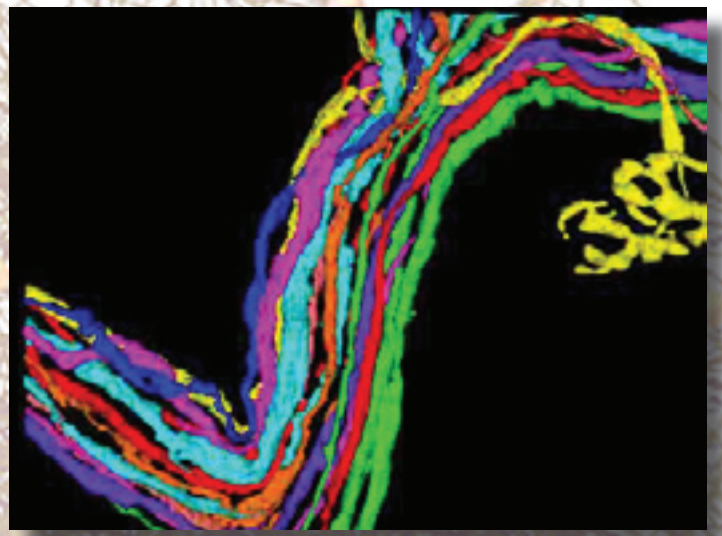
build & characterize devices





Research

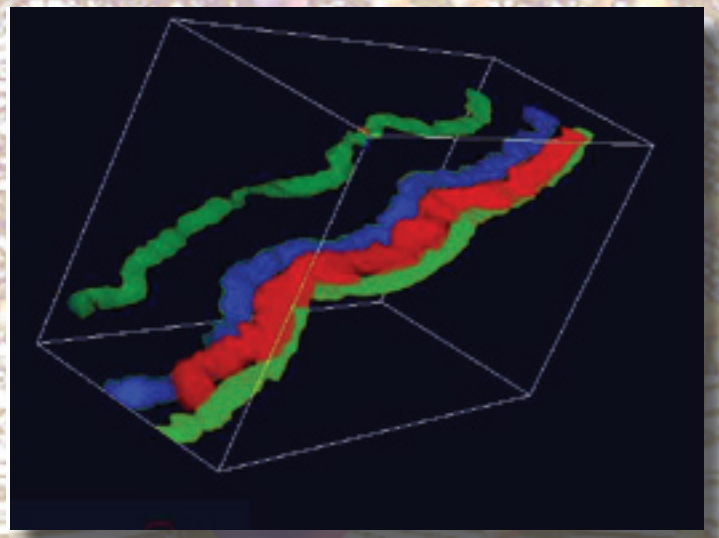
Scientific computing



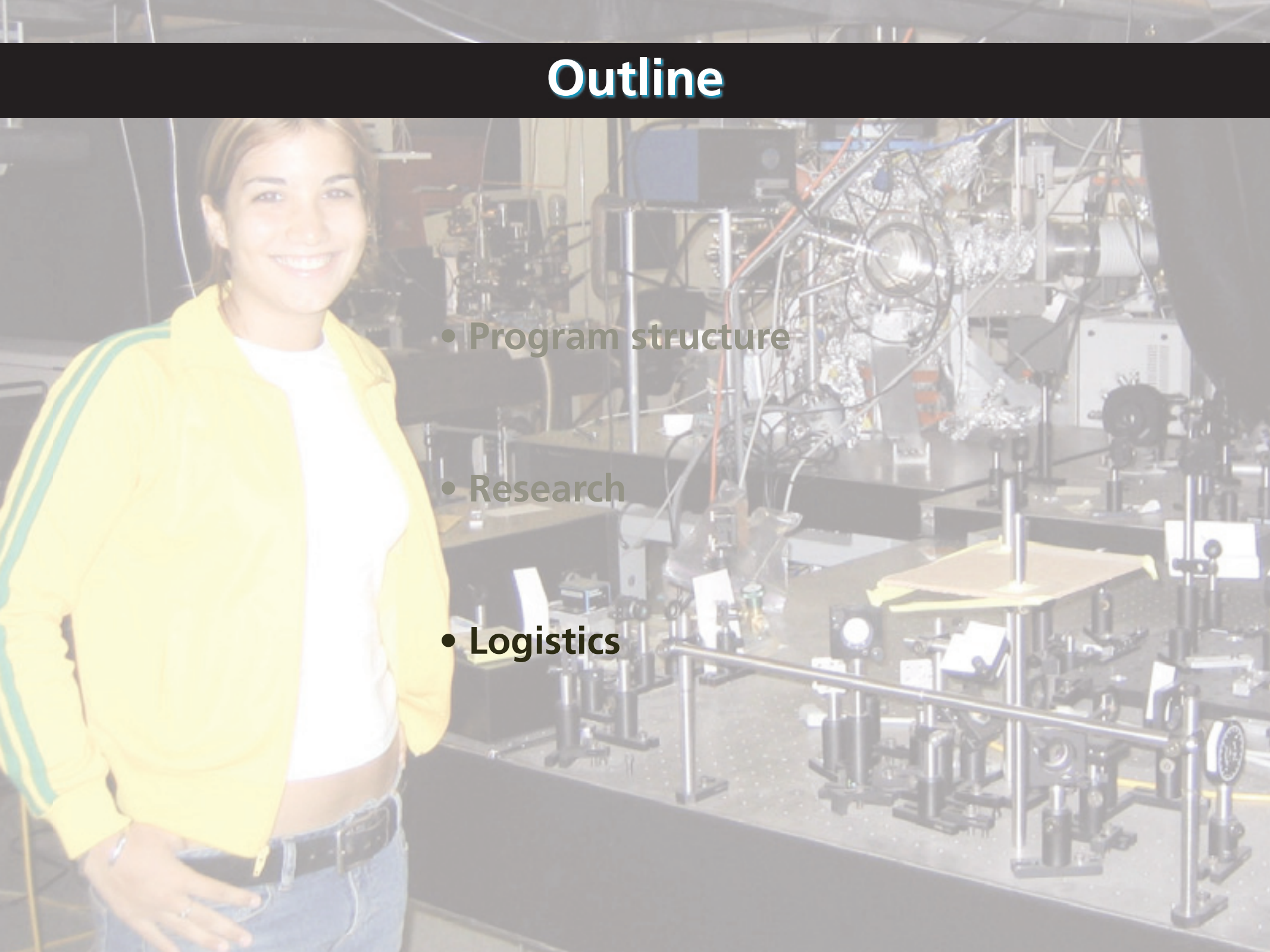
use GPUs to visualize complex systems

biology, astrophysics, quantum chemistry

obtain 3D structure of neurons



Outline



- Program structure
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- Logistics

Logistics

Program dates

June 6 – August 14, 2010

Logistics

Applying

Where: reusite.seas. harvard.edu/application

Need: 2 recommendation letters & transcript

Deadline: February 28

Selection: mid-April

Logistics

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Need: 2 recommendation letters & transcript

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Selection: mid-April

NO PREVIOUS EXPERIENCE REQUIRED!

Logistics

Financial

$4000 stipend

$350 travel reimbursement

free university housing

option to purchase mealplan

“I keep in touch with my mentors, and they have continued to support me through graduate school decisions. … I was lucky to be in a lab environment where investment in the student was just as important as investment in the research project.”

“I had a very memorable summer […]. I made great friends [… and] developed a great relationship with my professor who continues to consult me in regards to my future endeavors.”

“I feel strongly that the REU has been my best academic research experience to date, and […] I decided that research is my passion, and that I want to pursue it regardless of my future career goals.”

YOU COULD BE ONE OF THEM!

Apply by February 28

reusite.seas.harvard.edu/application

notification by April 15

Program dates: June 6 – August 14

http://twitter.com/eric_mazur