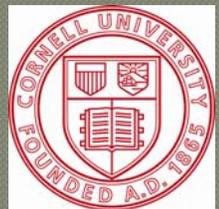


**Engineering capacity:
Human, economic, & social
dimensions and enterprise**

**The New Knowledge Fusion
Project**

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Background - change

- ◉ Change breeds innovation
- ◉ Innovation creates new technologies
- ◉ New technologies build new businesses
- ◉ New businesses are economic development
- ◉ Economic development creates societal wealth

Background – more change

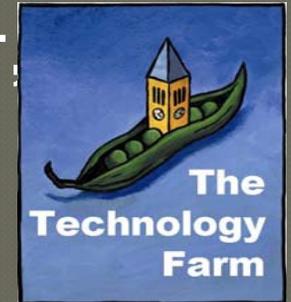
- Universities and funding agencies now consider economic development to be part of their mission
- The Bayh-Dole Act (1980) has allowed this to become a reality

Background – new collaborators

- New York State Agricultural Experiment Station, Ontario County, NY



- Cornell Agriculture and Food Technology Park, Ontario County,



- Infotonics Technology Center, Ontario County, NY



Background – “Strengthening the Links in the Food Chain: Technology Collaboration for Food and Agriculture” (March 2004)

- Develop linkages between agriculture, food and engineering/microsystems
- Create a roadmap of opportunities to improve the safe and efficient agriculture and food systems
- Enhanced collaboration among New York State research and development institutions from multidisciplinary fields

Background - NSF Partnerships for Innovation

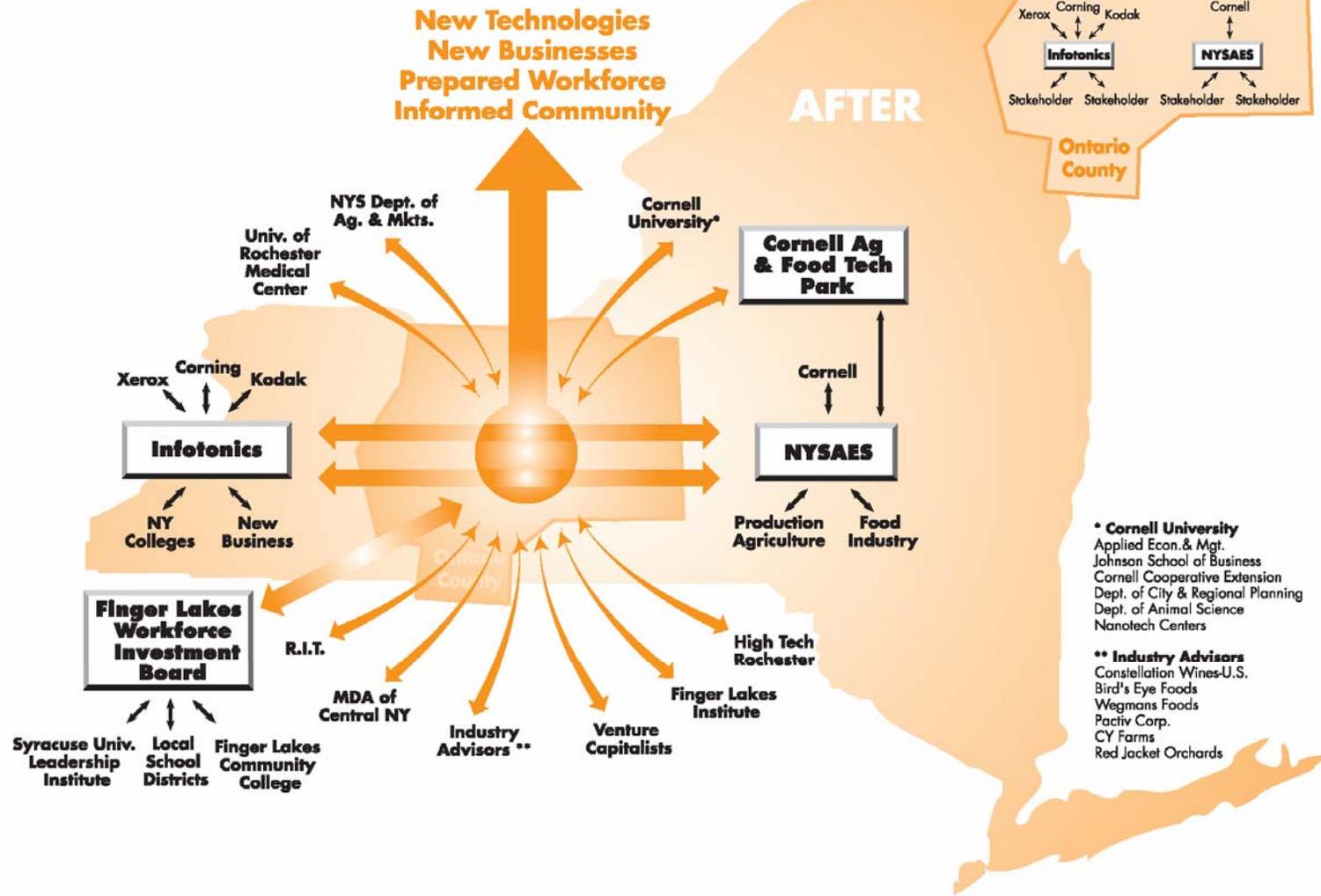
- Stimulate the transformation of knowledge created by the research and education enterprise into innovations that create new wealth, build strong local, regional and national economies and improve the national well-being
- Broaden the participation of all types of academic institutions and all citizens in NSF activities to meet the broad workforce needs of the national innovation enterprise
- Catalyze or enhance enabling infrastructure necessary to foster and sustain innovation in the long-term

Finger Lakes New Knowledge Fusion Project

- Create new technologies via the Finger Lakes knowledge fusion process
- Establish new businesses and investment from these fused technologies
- Build a prepared workforce
- Develop a well-informed community

Finger Lakes New Knowledge Fusion

Unique Collaboration for Economic Impact



Create new technologies via the Finger Lakes knowledge fusion process

- ◉ Foster interdisciplinary interaction
- ◉ Create a seed grant program to support crosscutting research and development
- ◉ Work with and through area economic development agencies

Finger Lakes New Knowledge Fusion

Unique Collaboration for Economic Impact

500 Technology Farm Drive
Geneva, NY 14456
315.781.0070 ext. 2018



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GRANT OBJECTIVES

FUNDING OPPORTUNITIES

PROJECTS

LINKS

CONTACT

NEWS

EDUCATIONAL MATERIALS

The Finger Lakes New Knowledge Fusion Project *Funding Opportunities*

Second call for proposals for Pre-seed grant funding through the Finger Lakes New Knowledge Fusion Project was made 21 February 2007.

[View Proposal](#)

All proposals are due 30 April 2007.



Establish new businesses and investment from these fused technologies

- ◉ No businesses yet, but just started year 2 of a 3-year project
- ◉ BUT, existing small technology businesses are now exploring new uses for their products

Build a prepared workforce

- ◉ Active outreach programs to area schools (3-12): Career days; career cards; coloring books; etc.
- ◉ Teacher awareness programs
- ◉ Collaboration with other area institutions

Develop a well-informed community

- Some businesses on the cutting edge create concern about human and environmental safety
- Will communities welcome new technologies like biotechnology and nanotechnology?
- How we inform and educate them is critical

A baseline study to assess community perceptions about science risks

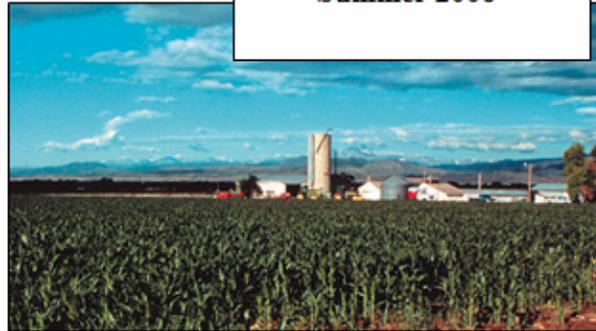
PUBLIC VIEWS ABOUT SCIENCE, RISK, AND RESEARCH IN YOUR COMMUNITY



SUMMARY REPORT

**Results of a Mail
Survey of Tompkins
and Ontario County
Residents,**

Summer 2006



Principal Investigator: Dr. Katherine A. McComas, Cornell University; Project Collaborators: Dr. John Besley, University of South Carolina, Dr. Leah Waks, University of Maryland; Ms. Janet Yang, Cornell University. Report prepared by Janet Yang.

October 2006

Summary

There is much to harvest from crosscutting technologies, considering...

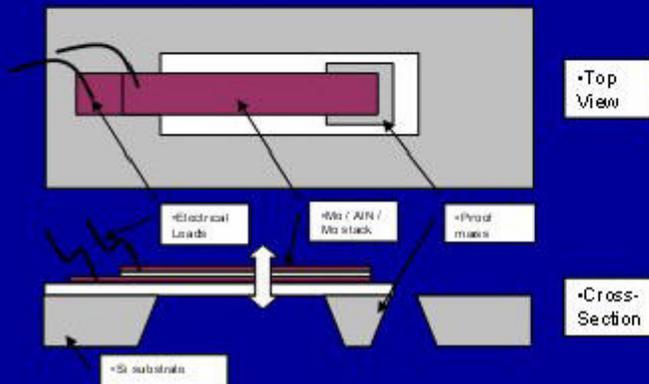
- ⦿ Social and economic issues must not be ignored
- ⦿ It is economic development, new businesses and wealth creation

Microsystems Solutions

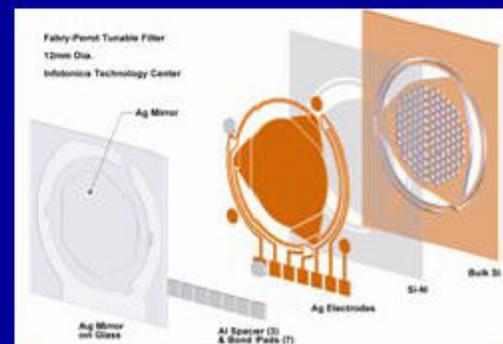
- Microneedle Chemical Sensors with Optical Read-out



- Microenergy harvesters for in vivo applications



- Tunable Fabry Perot Filters for Hyperspectral Imaging



FINGER LAKES VINEYARDS GIS ANALYSIS



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KEUKA
CAYUGA
SENECA

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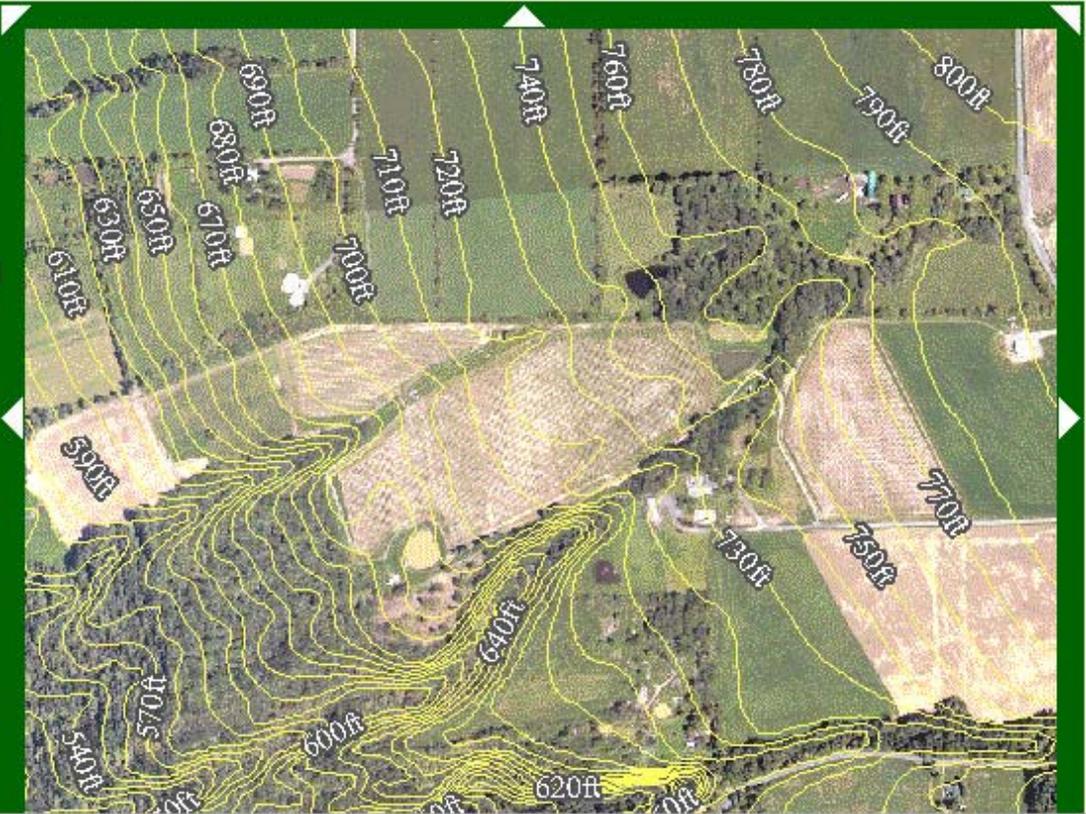
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 All Sensors

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Five Ways Your Company Benefits

One Stop Fabrication and Packaging Services

Most often, businesses looking for fabrication and packaging capabilities can't find them in one convenient location. At the Center, we offer full process flow--all the way from design to a finished package device.

Outstanding Flexibility

We have invested more than \$15 million in a hybrid fabrication process that offers significant device flexibility. Businesses are not restricted to working on just one type of device or in just one product area.

One Prototype - or Thousands

The Center can help build a single prototype, or it can scale up to build thousands of prototypes in pilot production lots.

Reduced Risk, Lower Cost

By sharing the Center's prototyping and pilot fabrication facilities for microsystems, cross-industry partners can reduce risks and costs of new product development and accelerate product innovation.

Support for Business Development

The Center offers seminars, mentoring and workshop in areas such as business creation, recruiting management, sales and marketing. We also offer professional guidance to help small companies with business and government proposals that require photonics and microsystems technology infrastructure.