

# Expanding SUNY's Research and Innovation Enterprise

Grace Wang

*Senior Vice Chancellor for Research and Economic Development*



The State University  
of New York

# SUNY Research Enterprise

**\$1.6Bn** Annual R&D Expenditure

**2,700** Principal Investigators

**7,100** Projects



# SUNY Innovation Activities

**1,522**

Issued Patents

**717**

Active License Agreements

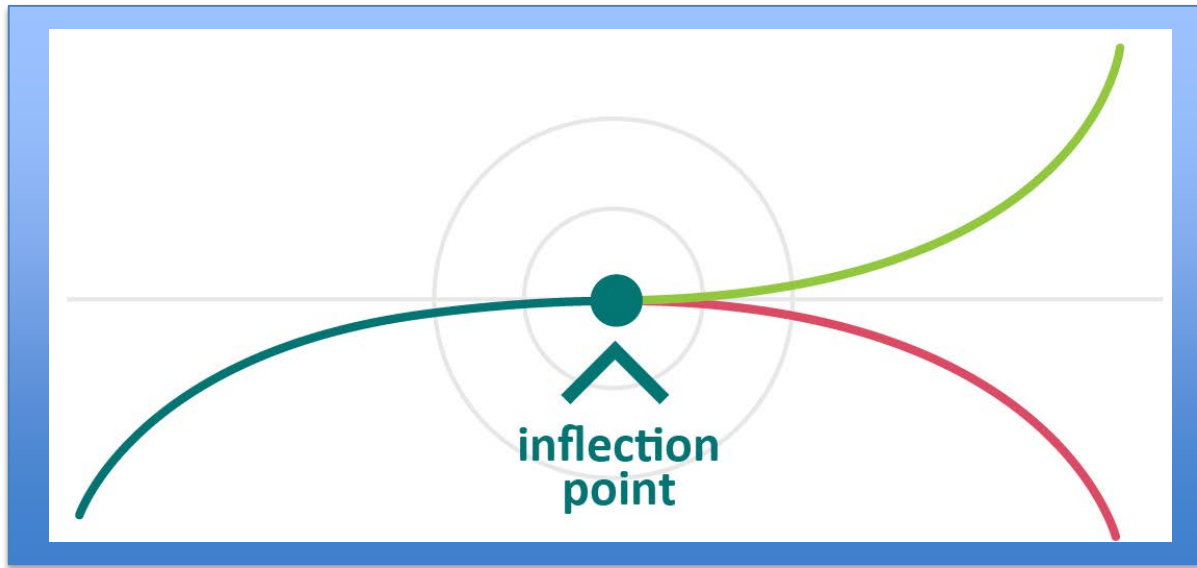
**110**

Active Startups

**18**

Incubators





“A strategic inflection point is a time in the life of business when *its fundamentals* are about to change.”

— Andrew S. Grove



Comparative Innovation Policy

## RISING TO THE CHALLENGE

U.S. Innovation Policy  
for the Global Economy

NATIONAL RESEARCH COUNCIL  
OF THE NATIONAL ACADEMIES

# Calling for high-impact research to address large-scale societal challenges



➤ **Projects**

➤ **Projects**

➤ **Large-scale Centers**

➤ **Disciplinary**

➤ **Multidisciplinary**

➤ **Disciplinary**

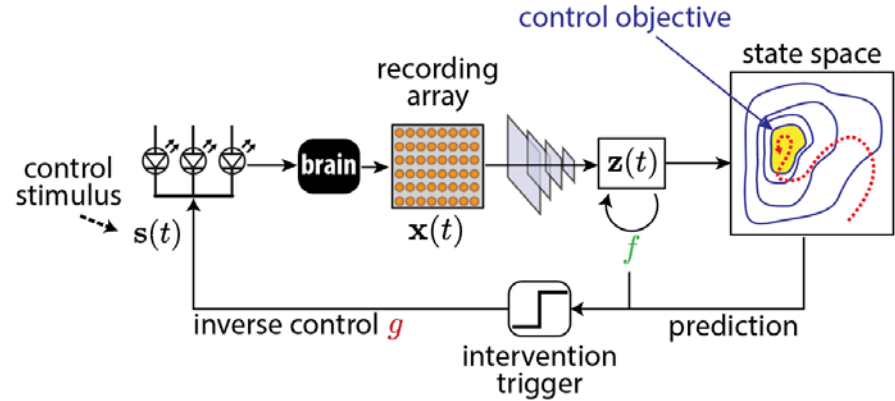
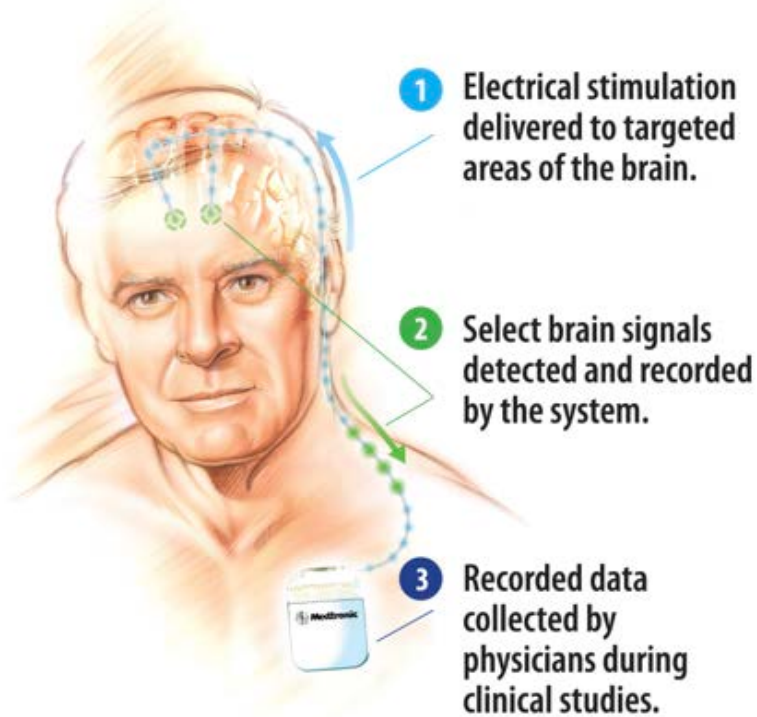
➤ **Multidisciplinary**

➤ **Highly convergent**

**Time**



# Personalized Smart Neuromodulation Device



[Hocker & Park bioRxiv 2017 <https://doi.org/10.1101/241299>]

**Memming Park et. al., Stony Brook University**

# Exponential Growth of Data and Computing Capability

4.4

ZETTABYTES

2013

In 2013, there were almost as many bits in the Digital Universe as stars in the physical universe

44

ZETTABYTES

2020

Source: IDC, 2014  
\* iPad Air – 0.29" thick, 128 GB

Source: The Digital Universe of Opportunities, IDC, 2014.



# Faulty Genomic Pathway Linked to Schizophrenia

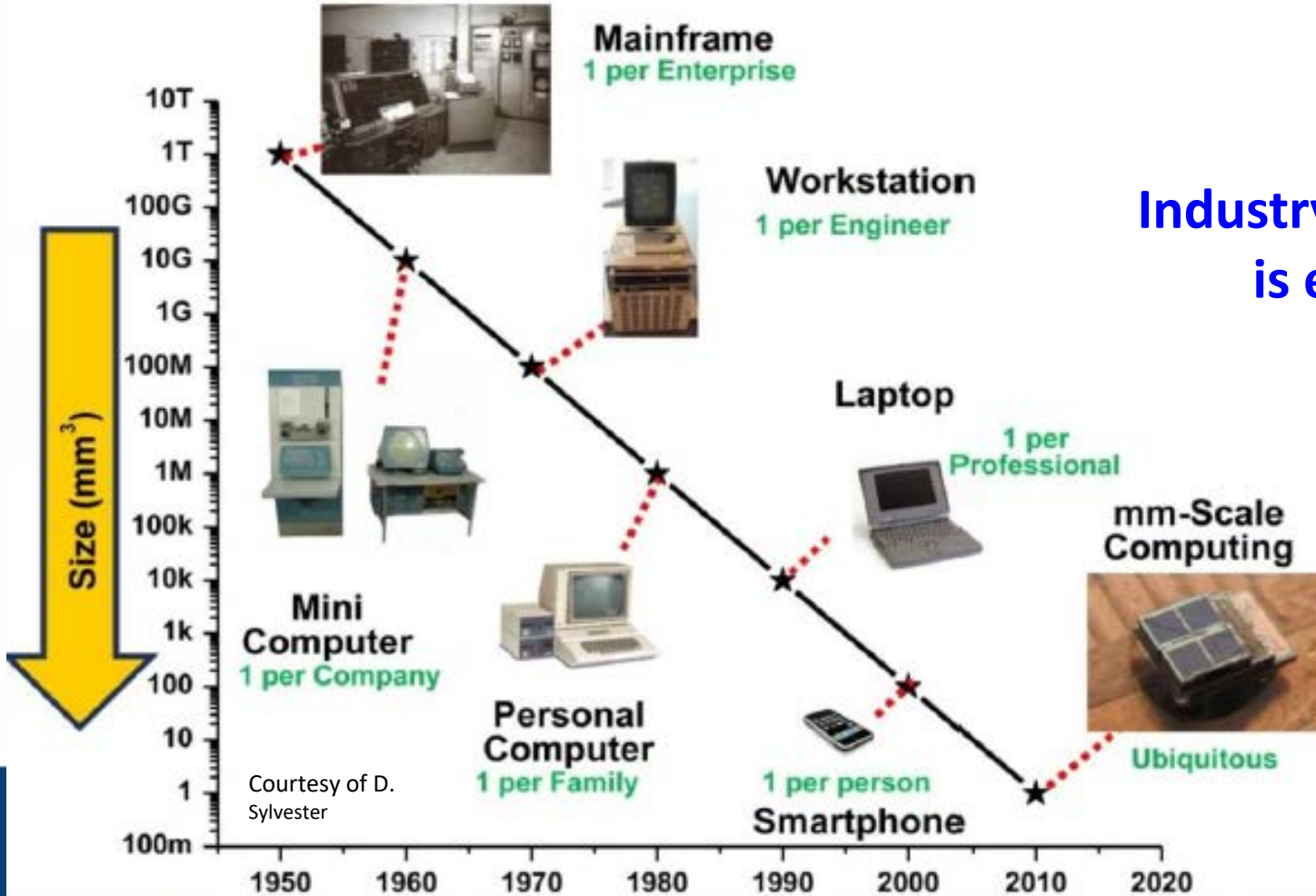
**“... could lead to treatments for pregnant mothers at risk for bearing children with the disease.”**

**-- NSF**

**Michal K. Stachowiak, et. al.,  
University at Buffalo**



Industry partnership  
is essential



# Changing Fundamentals

**Scale**      Larger Scale, Convergent

**Scope**      Multiple Researchers, Institutions and Stakeholders,  
More Data-Driven

**Speed**      Much Faster

**Society**      Expectation of Impact

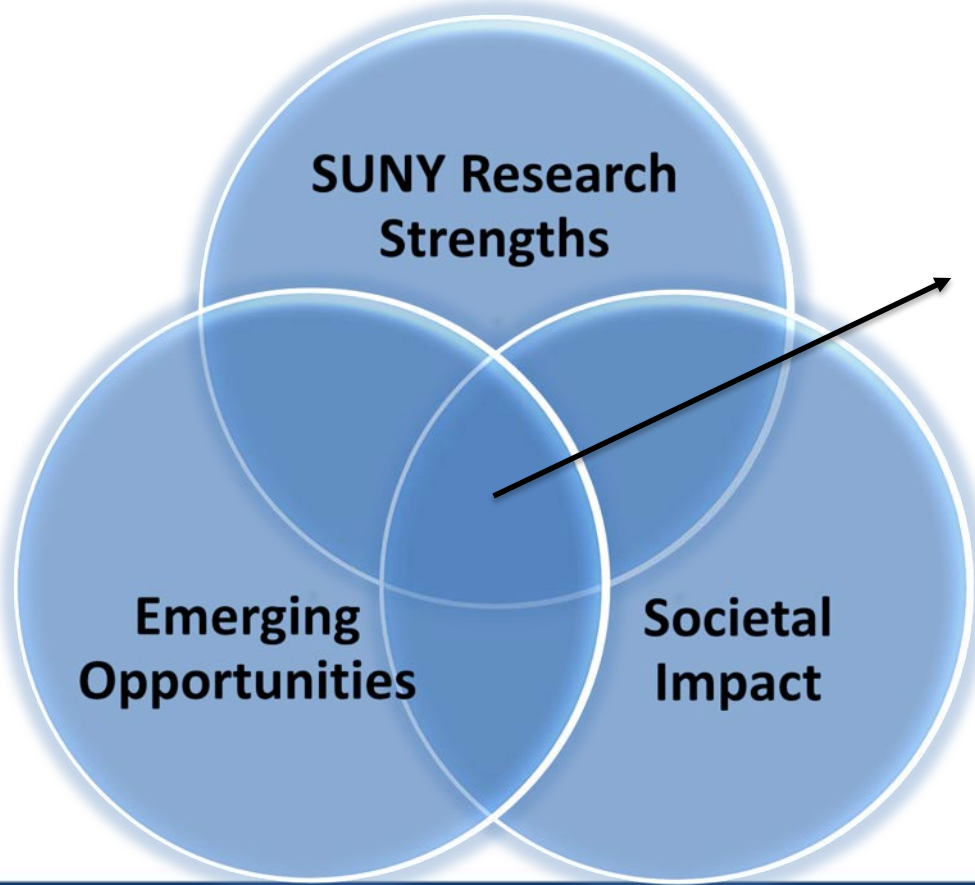




**People**

**Partnerships**





**Strategic Research  
Priorities**



# SUNY Strategic Research Priorities

- **Next-generation Computing and Communication**
- **Artificial Intelligence (AI)**
- **Medicine and Biomedical**

- **Clean Energy**
- **Resilience of Community and Critical Infrastructure**
- **Environmental Health and Water**
- **Aging**
- **Substance Addiction**

# SUNY Center-scale Planning Program



**Stimulate Large-Scale, Convergent Research**



**Build Teams and Partnerships**

# SUNY DoD Day

June 28, 2018

June 13-14, 2019



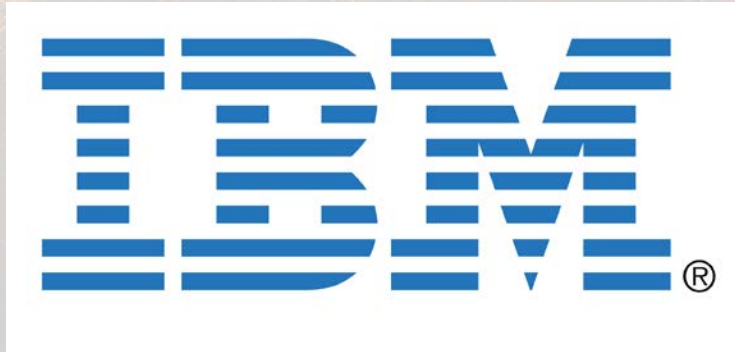


# 2019 SUNY NSF Proposal Writing Workshop CAREER Awards

March 21 - 22, 2019  
University at Albany



# SUNY IBM Collaborative Research Alliance

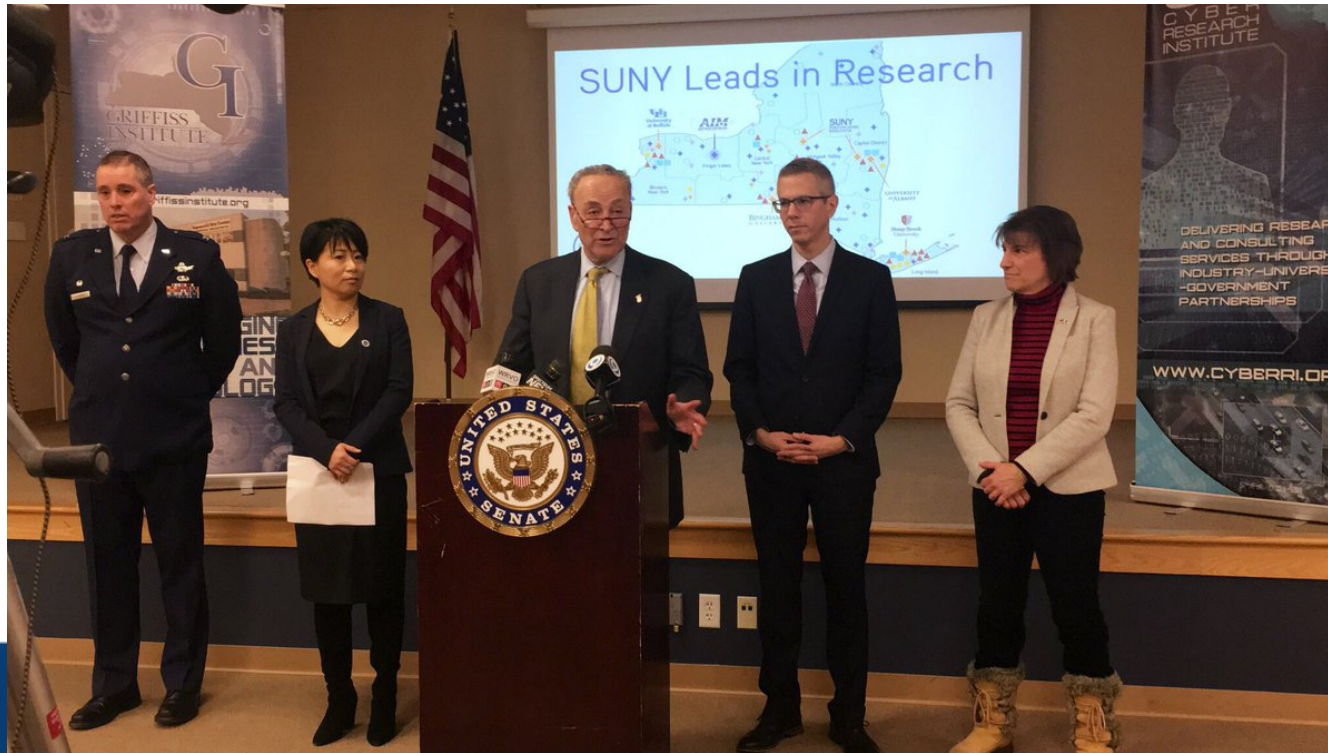


The State University  
of New York

# SUNY Applied Materials Research Institute (SAMRI)



# Quantum Information Science and Engineering Partnership with Air Force Research Lab (AFRL/RI)



## The Opportunity to Rise to New Heights



**42% of the time** spent by an average PI on a federally funded research project was reported to be on administrative tasks

Source: The FDP Faculty Burden Survey, 2009.



***Highly effective and efficient research  
advancement and administration is a  
core competency***

