



LA EPSCoR



*Economic Development through Academe, Government & Industry Research*

# Louisiana EPSCoR R&D Strategies

Michael Khonsari

LA EPSCoR Project Director

Associate Commissioner for Sponsored  
Programs: Research and Development

# Louisiana EPSCoR R&D Strategies

---

- I. Identification of Research Strengths
- II. Leveraging State Government Investments
- III. Changing the Research Culture: Multi-institutional Collaborations

# I. Identification of Research Strengths

---

- **Capitalizing on Existing Infrastructure**
  - **Center for Advanced Microstructures and Devices (CAMD) at LSU**

# Center for Advanced Microstructure and Devices (CAMD)

---



LSU - CAMD (Baton Rouge)



CAMD Experimental Hall



# I. Identification of Research Strengths

---

## ■ **Capitalizing on Existing Infrastructure**

- Center for Advanced Microstructures and Devices (CAMD) at LSU
- **Institute for Micromanufacturing (IfM) at Louisiana Tech**

# Institute for Micromachining (IfM)

---



IfM - LA Tech (Ruston)



# I. Identification of Research Strengths

---

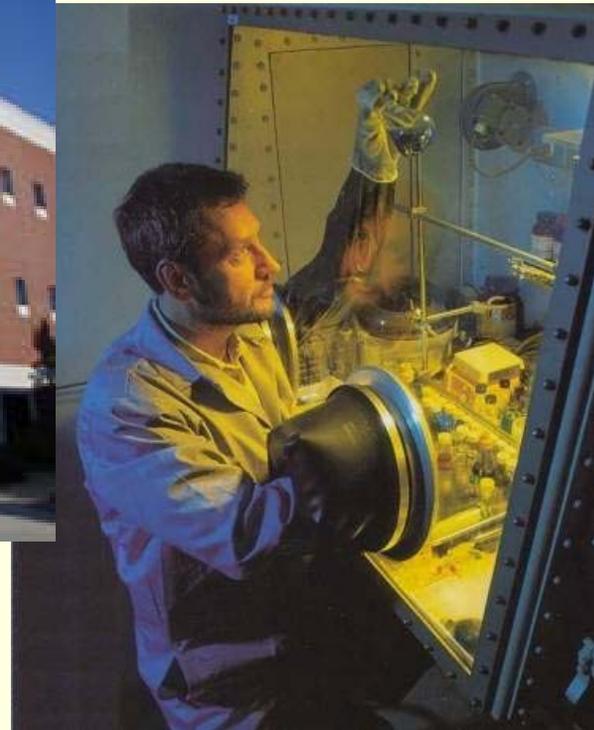
## ■ Capitalizing on Existing Infrastructure

- Center for Advanced Microstructures and Devices (CAMD) at LSU
- Institute for Micromanufacturing (IfM) at Louisiana Tech
- **Advanced Materials Research Institute (AMRI) at University of New Orleans**

# Advanced Materials Research Institute (AMRI)

---

AMRI - UNO (New Orleans)



# I. Identification of Research Strengths

---

## ■ Capitalizing on Existing Infrastructure

- Center for Advanced Microstructures and Devices (CAMD) at LSU
- Institute for Micromanufacturing (IfM) at Louisiana Tech
- Advanced Materials Research Institute (AMRI) at University of New Orleans
- **Louisiana Accelerator Center (LAC) at University of Louisiana at Lafayette**

# Louisiana Accelerator Center (LAC)



LAC – ULL (Lafayette)



# I. Identification of Research Strengths

---

## ■ Capitalizing on Existing Infrastructure

- Center for Advanced Microstructures and Devices (CAMD) at LSU
- Institute for Micromanufacturing (IfM) at Louisiana Tech
- Advanced Materials Research Institute (AMRI) at University of New Orleans
- Louisiana Accelerator Center (LAC) at University of Louisiana at Lafayette
- **LSU and Tulane Health Sciences Centers**

# LSU Health Sciences Center

---

LSUHSC (New Orleans)



# Tulane Health Sciences Center

---



TUHSC (New Orleans)



Tulane University

# I. Identification of Research Strengths

---

## ■ Capitalizing on Existing Infrastructure

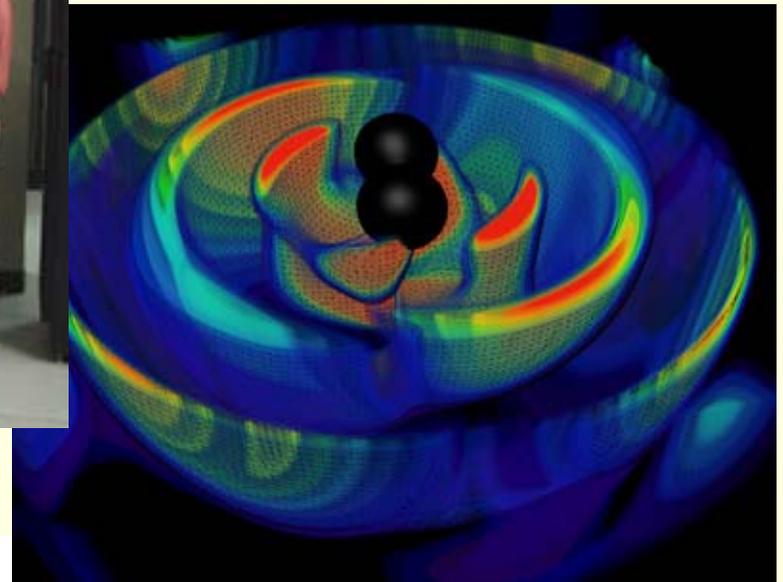
- Center for Advanced Microstructures and Devices (CAMD) at LSU
- Institute for Micromanufacturing (IfM) at Louisiana Tech
- Advanced Materials Research Institute (AMRI) at University of New Orleans
- Louisiana Accelerator Center (LAC) at University of Louisiana at Lafayette
- LSU and Tulane Health Sciences Centers
- **Center for Computation and Technology at Louisiana State University**

# Center for Computation and Technology (CCT)

---



LSU - CCT



CENTER FOR COMPUTATION & TECHNOLOGY

AT LOUISIANA STATE UNIVERSITY

## II. Leveraging State Government Investments

---

### ■ **Governor Foster (1996-2004)**

- Bio-technology Initiative
  - \$5.78M (one-time, capital outlay)
  - \$2.75M (annually recurring)
- Information Technology Initiative
  - \$25M annually for 5 years

### ■ **Governor Blanco (2004-Present)**

- Louisiana Optical Network Initiative (LONI)
  - \$40M (\$4M annually for 10 years)

# Louisiana Optical Network Initiative (LONI)



## Louisiana's Research Gateway to the World



# Louisiana Optical Network Initiative (LONI)



## LONI Forum (September 2004)

- LA EPSCoR, the Governor's Office, and LSU's Center for Computation and Technology (CCT) hosted a forum to showcase research opportunities
- About 300 participants, including nationally recognized experts, federal agency program managers, industry representatives, and Louisiana university researchers
- Governor Blanco announced a \$40 million commitment over the next 10 years for the LONI initiative

# Academia, Industry, and Government Partnerships

---



“Whenever universities, government and private industry work together, you see an economy that’s growing. Louisiana takes pride in its commitment to providing the incentives and climate in which universities, business and government can join together to achieve the common goal of a better, stronger state.”

– *Governor Kathleen Blanco*

# III. Changing the Research Culture: Multi-institutional Collaborations

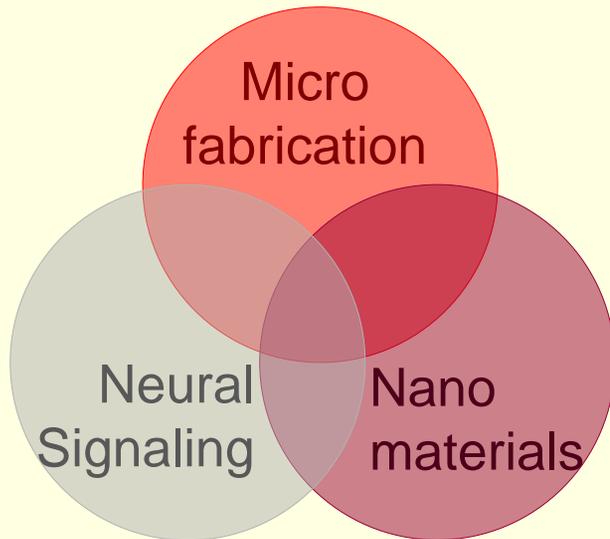
---

## Louisiana EPSCoR's Catalytic Role

- Historically, universities competed for research \$\$\$
- Existing infrastructure was not being utilized effectively
- Louisiana's external review panel for the state's 1<sup>st</sup> RII proposal recommended a state-wide, collaborative approach
- **Result:** Micro-Nano Technologies for Advanced Physical, Chemical, and Biological Sensors Consortium
  - Lead Institutions: LSU Health Sciences Center, University of New Orleans, Louisiana Tech (total of 9 institutions involved)

# Micro-Nano Technologies Consortium

---



**Vision:** To establish a world-class research infrastructure that promotes both research competitiveness in Louisiana and the development of enabling technologies for the realization of commercially viable micro-nanoscale systems for chemical, biomedical, and other applications

# Changing the Research Culture: Multi-institutional Collaborations

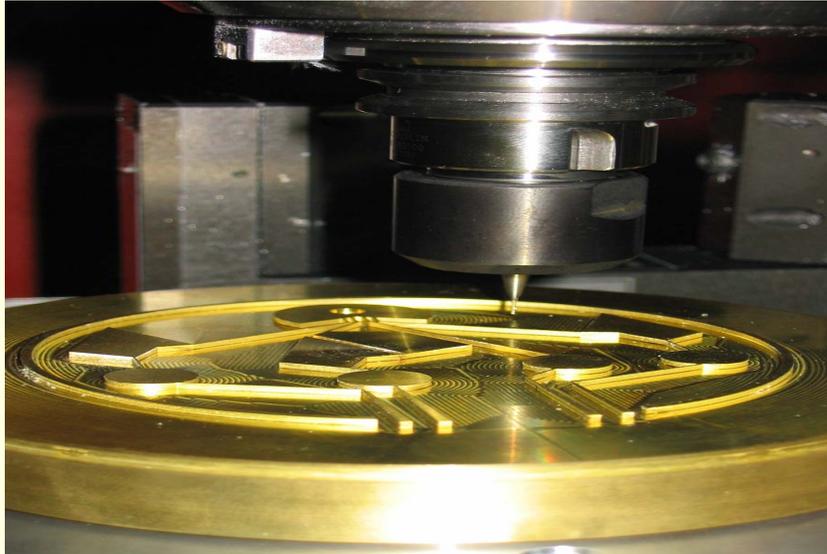
---

## Louisiana EPSCoR's Catalytic Role

- Louisiana's external review panel for the 2<sup>nd</sup> RII proposal recommended an initiative that took advantage of the momentum developed by the 1<sup>st</sup> RII
- **Result:** Center for Bio-Modular Multi-scale Microsystems (CBM<sup>2</sup>)
  - Participating Institutions: LSU, Tulane Health Sciences Center, LSU Health Sciences Center, Xavier University
  - External partners: Cornell Medical College, Sloan Kettering Memorial Cancer Research Center, Baylor College of Medicine

# Center for Bio-Modular Multi-Scale Microsystems (CBM<sup>2</sup>)

---



**Vision:** To establish a state-of-the-art research enterprise comprised of internationally recognized scientists and engineers utilizing an extensive array of micro- and nanofabricated resources for BioMEMS through the promotion of research competitiveness, educational outreach, and economic development



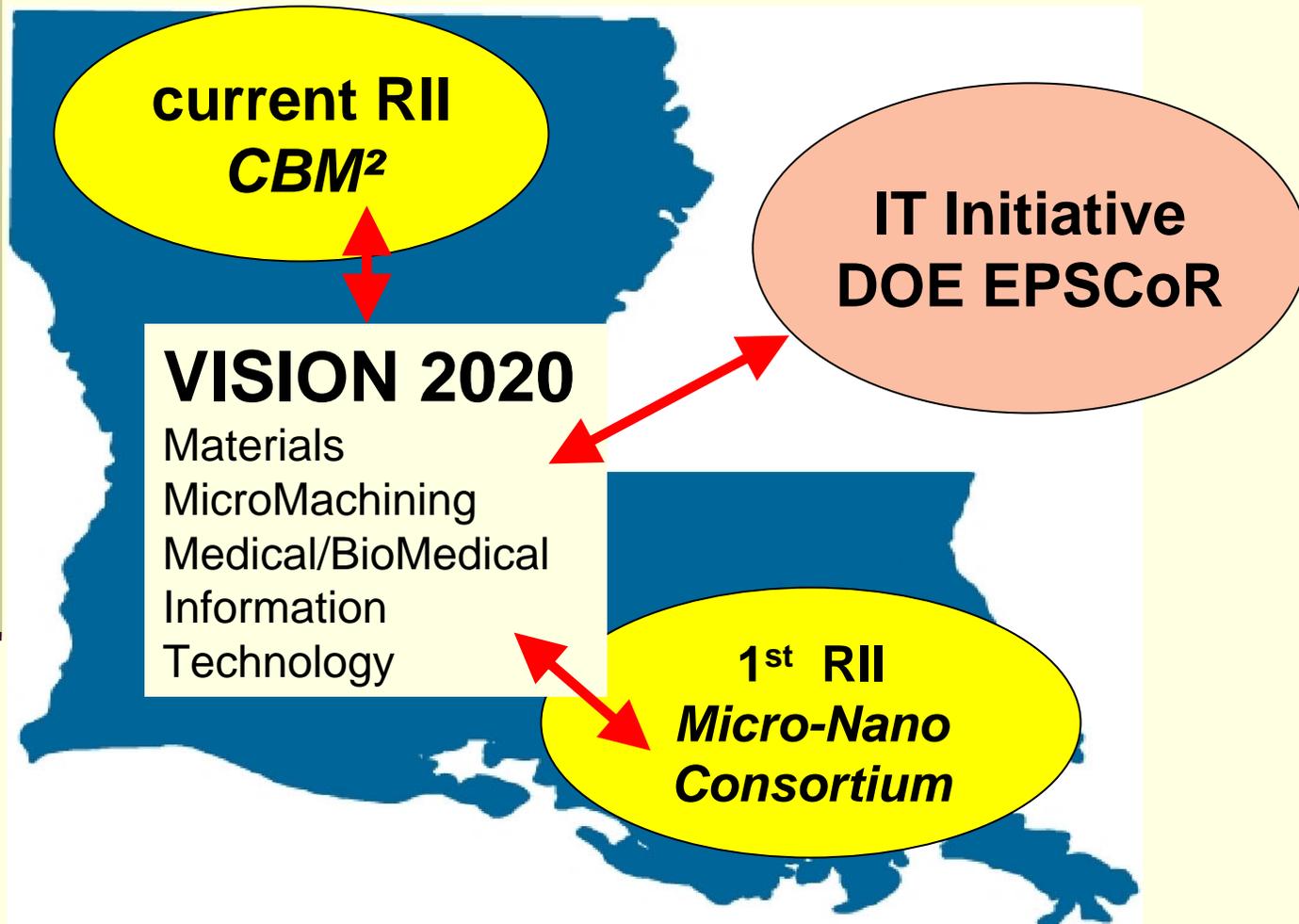
# Louisiana: Vision 2020

---

The state's master plan to create a new and better Louisiana and a guide to economic renewal and diversification

**Goals and Objectives:** To position the State to have a vibrant, balanced economy; a fully-engaged, well-educated workforce; and a quality of life that places it among the top ten states in the nation in which to live, work, visit, and do business

# Convergence of EPSCoR & LA 2020 plan



# Ubiquitous Computing and Monitoring System (UCoMS) – DOE EPSCoR



## Objectives:

- To address appropriate technical solutions in the areas of wireless networked systems, grid computing, and application software for coastal oil/gas exploitation and management.
- To facilitate drilling and operational data logging and processing, on-platform information distribution and displaying, infrastructure monitoring/intrusion detection, seismic processing and inversion, and management of complex surface facilities and pipeline

# Industry/University Partnerships

---



LA EPSCoR supports interdisciplinary and multi-institutional research programs that build on existing strengths within Louisiana's higher education community



Collaboration with industry and the private sector increases the potential of these programs to foster enhanced economic development throughout the State of Louisiana

# A Louisiana EPSCoR Goal:

---

Identification of  
Research Strengths

Leveraging State  
Government Investments

Multi-Institutional  
Collaborations

**National Center  
of Excellence**



Empowered by NSF and DoE support, Louisiana EPSCoR has become a primary agent for:

- generating systemic improvement in higher education's research infrastructure
- enhancing economic development