

HAMPTON ROADS
Research Partnership



Southeastern Virginia Biomedical Technology Partnership Forum

Bioscience Trends in Hampton Roads: *Growing Infrastructure and Research Capabilities for Economic Development*

William J. Wasilenko, Ph.D.

Associate Dean for Research, EVMS




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Hampton Roads Bioscience

- A growing Bioscience Research and Development Base
- Over \$150 million/year R&D funding & 35 companies



National Research Centers

Bioelectrics 
 Marine 
 Proteomics 

Unique Research Resources

Free Electron Laser 
 Proton Beam Center 
 LifeNet 

Research Parks and Incubators

James City County
 Innovation Park 
 McDemmond RISE 
 Hampton

Workforce Training Programs

EVMS
 Hampton University 
 NSU 



HAMPTON ROADS
Research Partnership



LifeNet Allograft Dressing

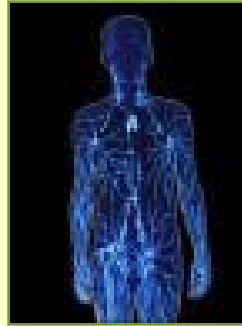


SonoVCAD



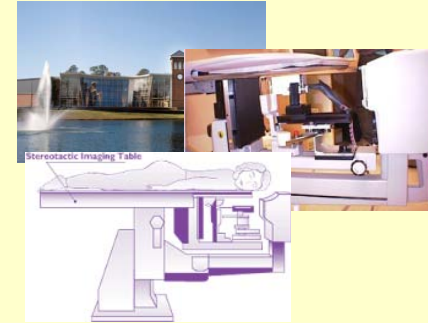
Representative Programs Highlighted

**EVMS Wright Center
for Biomedical
Proteomics**



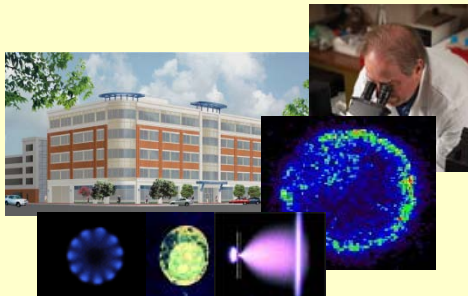
**Jefferson Lab
Radiation Detection
and Imaging Group**

**NASA Langley
Research Programs
• Core Technologies
for Bioscience**



**Hampton University
Proton Therapy
Institute**

**ODU Reidy Research
Center for Bioelectrics**



LifeNet Health[®]
FOUNDATION



LifeNet Allograft Dressing

**LifeNet Health
Research Institutes**

**ODU Virginia Modeling
Analysis and Simulation
Center**



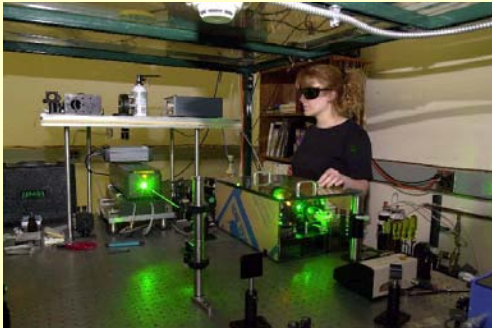
Additional Resources for Bioscience



Marie V. McDemmond Center for Applied Research

- An education and research center
- State of the art clean room for research on nanoparticle and materials for sensor and medical device development

Additional Resources for Bioscience



Thomas Jefferson National Accelerator Facility Free Electron Laser

- A Kw class, high average power, sub-picosecond laser covering the mid-IR spectral region
- Short pulses of electrons produce broadband Tera Hz light sources (tunable colors)
- Applications to nanoscience and biological research:
 - Fat destruction
 - Medical imaging
 - Cellular and molecular dynamics

Additional Resources for Bioscience

Hampton University Center for Advanced Medical Instrumentation (CAMI)

• *Technology transfer is the mission*

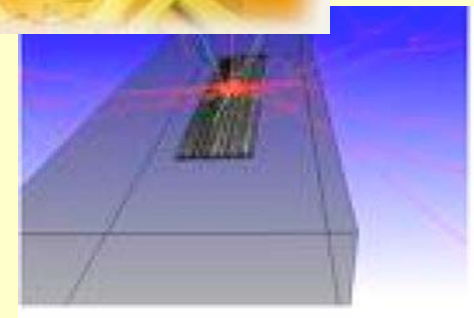
9 sensor patents, some pending

- Breast cancer imaging
- Brachytherapy monitoring
- Radiation treatment delivery
- Radiation treatment planning

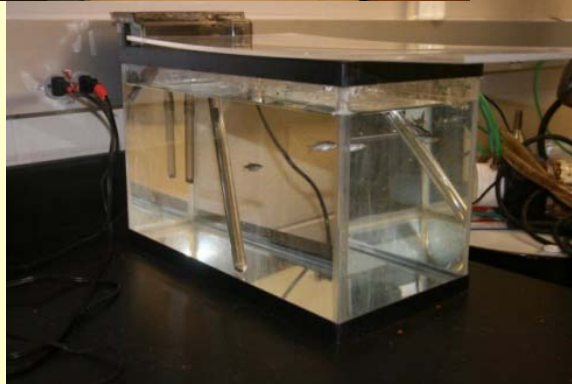
• Contractual agreements for technology co-development in place with

- Varian Medical Systems (treatment planning algorithm development)
- Ion Beam Applications (radiation treatment imaging)

• *Research funding from DoD (CDMRP), NHRC, Commonwealth of Virginia, Varian Medical Systems, NIH, NSF, DOE*



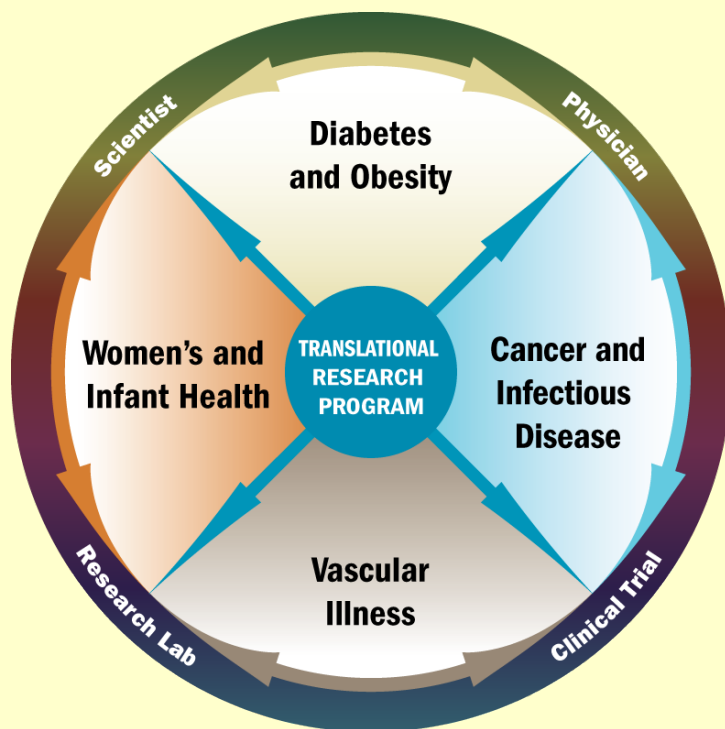
Additional Resources for Bioscience



VIMS Sea Water Lab (BSL3)

- Large enclosed wet labs with circulating seawater including toxics rooms and BSL3 facilities
- Designed for contractual use and industry collaborations

Additional Resources for Bioscience



EVMS Biomedical Research: Clinical Translational Focus

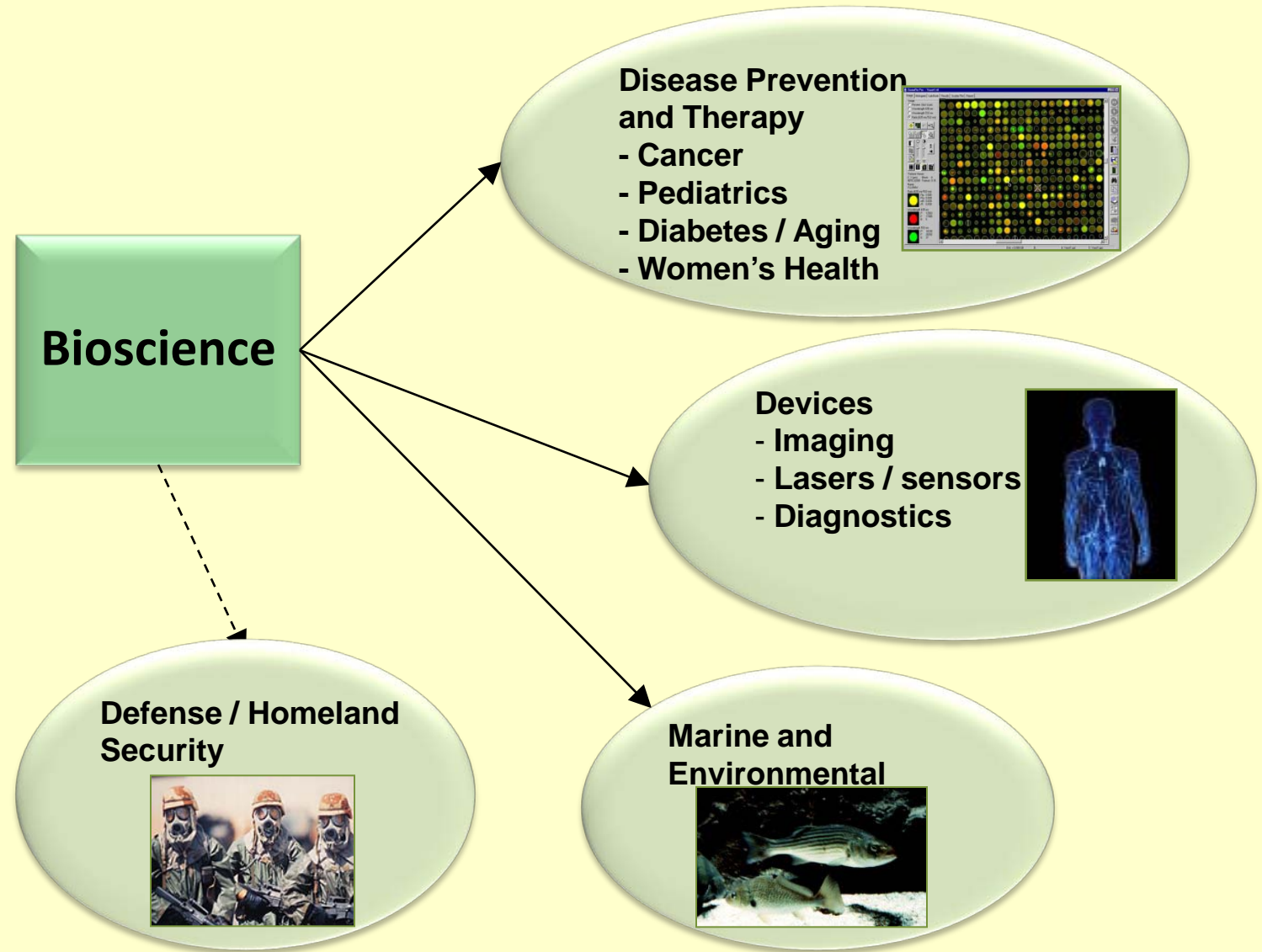
Translational Research Resources and core Laboratories

- Cancer and Infectious Disease
- Women's and Infant Health
- Diabetes and Obesity
- Cardiovascular

- Proteomics and BioRepository
- Microscopy and Imaging Resources
- Translational Animal Models
- Epidemiology and Biostatistics
- Technology Transfer and Commercialization

Unique Opportunity

- Convergence of Core Technologies in Sensors, Modeling Simulation and BioScience



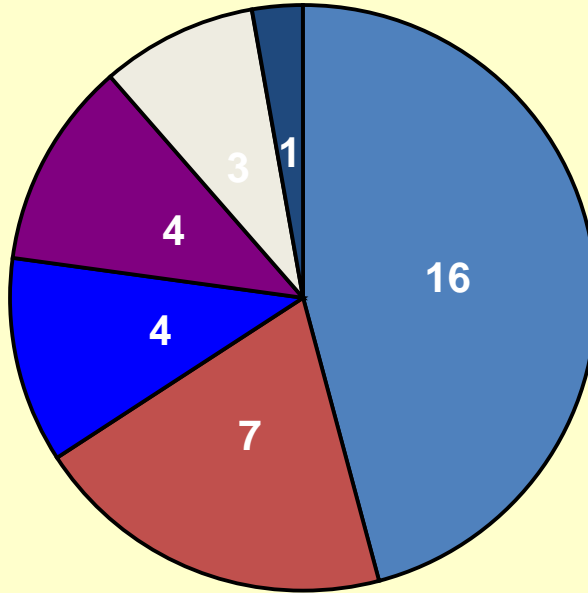
Project Overview

- ✓ Two 100,000 sq. ft. five story buildings
- ✓ Class A office and wet/dry lab
- ✓ Flexible wet lab suites & offices
- ✓ Conferencing Center
- ✓ Full Range of Laboratory Facilities
- ✓ Adjacent covered parking
- ✓ Located on the ODU campus, within the 75-acre University Village development
- ✓ Broad range of amenities and support



HRRP Bioscience Cluster

Over 35 regional Bioscience companies and a growing list of products in the market place.



■ Bioscience Devices

■ Food

■ Consultation

■ Pharma/Nutraceuticals

□ CROs

■ Software



LifeNet Allograft Dressing



SonoVCAD



Regional Facilitators of Bioscience Innovation

Opportunities and Resources

Technology Commercialization

Technology Incubators



- Eastern Virginia Medical School
- ODU Business Gateway
- College of William & Mary
- Thomas Jefferson Lab
- NASA Langley Technology Gateway
- Innovate Hampton Roads

