

# Institute for IALS Applied Life Sciences

*Advancing Life Sciences Research to Improve Human Health*

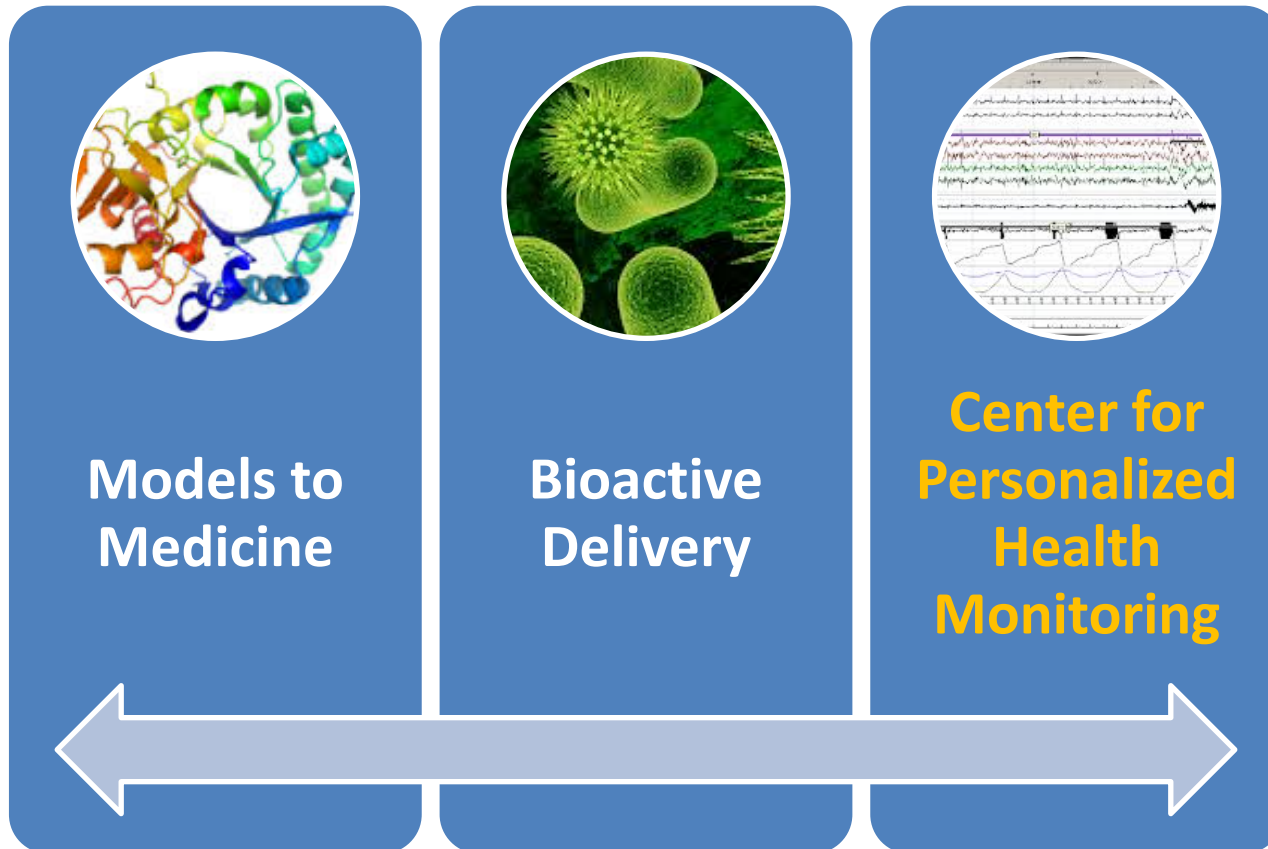
## Advancing Translational Research at the UMass, Amherst Center for Personalized Health Monitoring

Patty S. Freedson, PhD, Moderator  
Department of Kinesiology

UMMC Research Retreat  
May 20, 2016



# Institute of Applied Life Sciences



## **IALS was seeded with Capital Investments**

- New Building (LSL, >\$50M)
- Building fit-out (>\$30M)
- Core Facility Equipment (>\$50 M)
- Faculty hires and startups (~12 new positions)

## **Research programs from more than 100 UMass faculty within the three Centers**

## **Leverage existing organizational infrastructure**

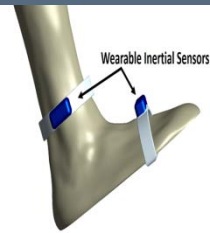
- Tech Transfer / IP – Bob McWright & team
- UMII – Jim Capistran & team
- Research Development – Loren Walker & team
- Development efforts – Jeff Aron, Will Melton, Chelsea Gwyther
- Med School and Center for Clinical & Translational Science – Katherine Luzuriaga
- Berthiaume Center for Entrepreneurship – Bill Wooldridge

**IALS is a new type of academic/industry institute**

**Its mission is to accelerate translational life science projects, with the goal of delivering products to benefit human health and well-being**

**This vision will be achieved by:**

- **Establish translational collaborations across UMass Amherst and the UMass Medical Center**
- **Prioritize a pipeline of translational projects**
- **Create relationships and collaborations with industry partners**
- **Develop new products and technologies by utilizing existing and combined strengths at UMass**
- **Train a workforce skilled in translational science**



## Engineering, Polymer Science, and Computer Science

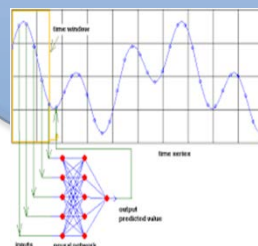
- Sensor Development
- Low Cost & Additive Manufacturing
- Medical Robotics
- Medical Device

## New Technology

## Computer Science and Mathematics and Statistics

- Software Engineering
- Big Data

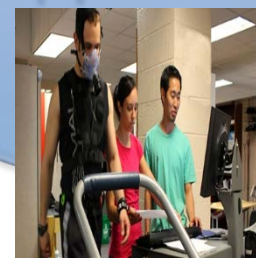
## Analytics



## Evaluation and Applications

## Kinesiology, Engineering, Psychological and Brain Sciences, Nursing & Public Health

- Sensor Performance
- Health Outcomes
- Healthcare Engineering



## ■ Evaluation and Applications

- Muscle function, aging and exercise – Mark Miller, PhD, **UMass Department of Kinesiology**
- Detecting and monitoring objective signs of cancer-related fatigue –Rachel Walker, PhD, **UMass Amherst School of Nursing**
- Community and environmental determinants of sleep in children –Carolina Campenella, PhD, **UMass Amherst Department of Psychological and Brain Sciences**
- Effects of fluid flow on vascular disease and development -Juan Jimenez, PhD, **UMass Amherst Department of Mechanical and Industrial Engineering**