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

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IALS

Institute for Applied Life Sciences

Advancing Life Sciences Research to Improve Human Health

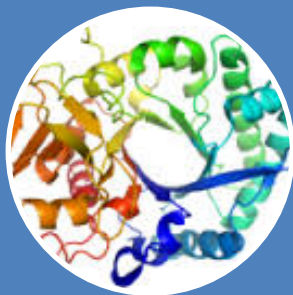
Advancing Translational Research at the UMass, Amherst Center for Personalized Health Monitoring

Patty S. Freedson, PhD, Moderator
Department of Kinesiology

UMMC Research Retreat
May 20, 2016



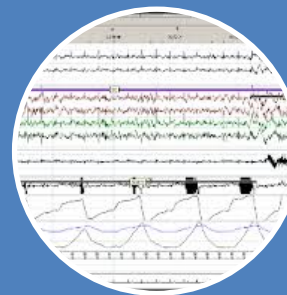
Institute of Applied Life Sciences



**Models to
Medicine**



**Bioactive
Delivery**



**Center for
Personalized
Health
Monitoring**



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

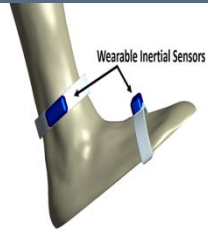
- **Tech Transfer / IP – Bob McWright & team**
- **UMII – Jim Capistran & team**
- **Research Development – Loren Walker & team**
- **Development efforts – Jeff Aron, Will Melton, Chelsea Gwyther**
- **Med School and Center for Clinical & Translational Science – Katherine Luzuriaga**
- **Berthiaume Center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



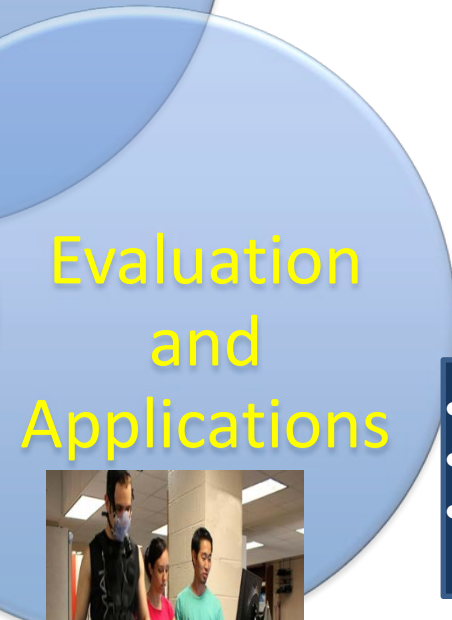
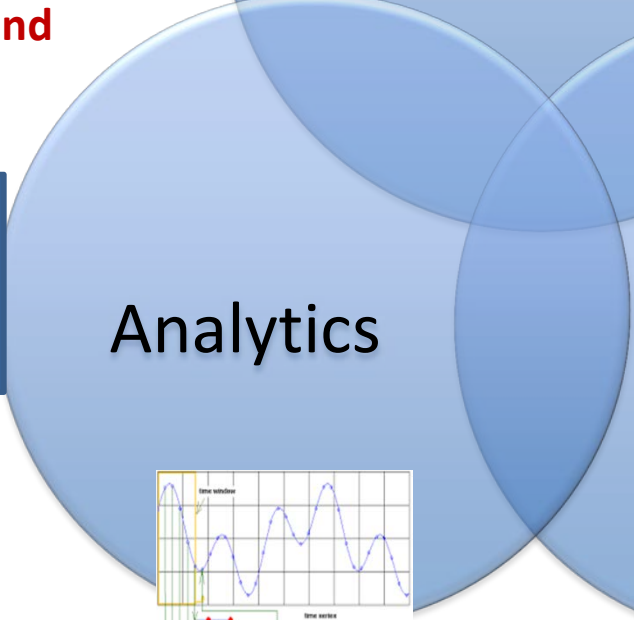
**Engineering, Polymer Science,
and Computer Science**

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



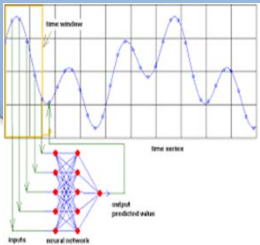
**Computer Science and
Mathematics and
Statistics**

- Software Engineering
- Big Data



**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**