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

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UMMC Research Retreat
May 20, 2016
Institute of Applied Life Sciences

- Models to Medicine
- Bioactive Delivery
- Center for Personalized Health Monitoring
Institute for Applied Life Sciences: Background

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
New Technology Evaluation and Applications

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

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

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