Team Science in mHealth Research

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Why team science?

- The NIH research paradigm has shifted
  - Translational research (basic → clinical→ community)
  - Transdisciplinary movement
  - No more silos – you can no longer do research alone.
- Crossing the lines of disciplines to create novel ideas.
- Successful science now involves building a team, not just any team. A compelling team.

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National Cancer Institute

at the National Institutes of Health | www.cancer.gov

Team Science Toolkit

An interactive website to help you support, conduct and study team-based research.

Home | About Team Science | About the Toolkit | Discover | Contribute | Connect | News & Events | About Us

Fundamentals of Team Science and SciTS Workshop, June 2, 2015

PowerPoint Slides Available Online

"The Fundamentals of Team Science and SciTS: Enhancing Team-Based Scientific Research" was an exciting one-day immersion in team science and SciTS, supported by the National Science Foundation. Powerpoint slides from all presenters are now available online.

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Discover what resources are available.

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Contribute new resources to the Toolkit.

Share your knowledge by uploading tools and information about the practice or study of team science.

Connect to colleagues across disciplines.

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- Collective decision-making on complex landsca...
- A Study of Cloud Computing Based Model to Fac

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Why team science in mHealth?

Where are tech partners?

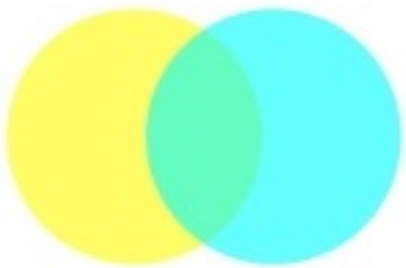
Academic departments (computer science, engineering, mathematics)

Industry (companies, consultants)

Types of research

Multidisciplinary

Working with multiple disciplines, maintaining boundaries.



Interdisciplinary

Working between more than one discipline, blurring boundaries. Interaction among disciplines to achieve new, integrated understanding.

Transdisciplinary

Working across and beyond disciplines, eliminating boundaries. Not grounded in disciplinary knowledge.

Potential to maximize innovation

Multidisciplinary Case Example

Dr. Backus wants to develop an app to help rheumatoid arthritis patients manage pain. He receives funding to hire a programmer to develop the app he has in mind. He hires the psychologist in the pain clinic to assist with recruiting patients.

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Interdisciplinary Case Example

Dr. Backus sees that his patients might benefit from mobile technology for pain management. He engages experts in computer science, engineering, and behavioral science to discuss the challenges his patients are having and to generate ideas on how mobile technology could address those challenges. They team up to write a grant to support the ideas that were produced in their series of discussions and work together.

Transdisciplinary Case Example

The team Dr. Backus assembled including computer scientists, engineers, and behavioral scientists produced a new conceptual model for self-management of chronic disease that integrates technology, behavioral science, and medicine. Through their studies, they developed novel methods for assessment and intervention development in this area which they now refer to as the “mobile-assisted chronic care model.” They developed training modules and a post-doctoral program to teach the model for implementation in clinical settings.

Building Your Team

Which disciplines are needed to tackle problem?

All investigators intellectually engaged

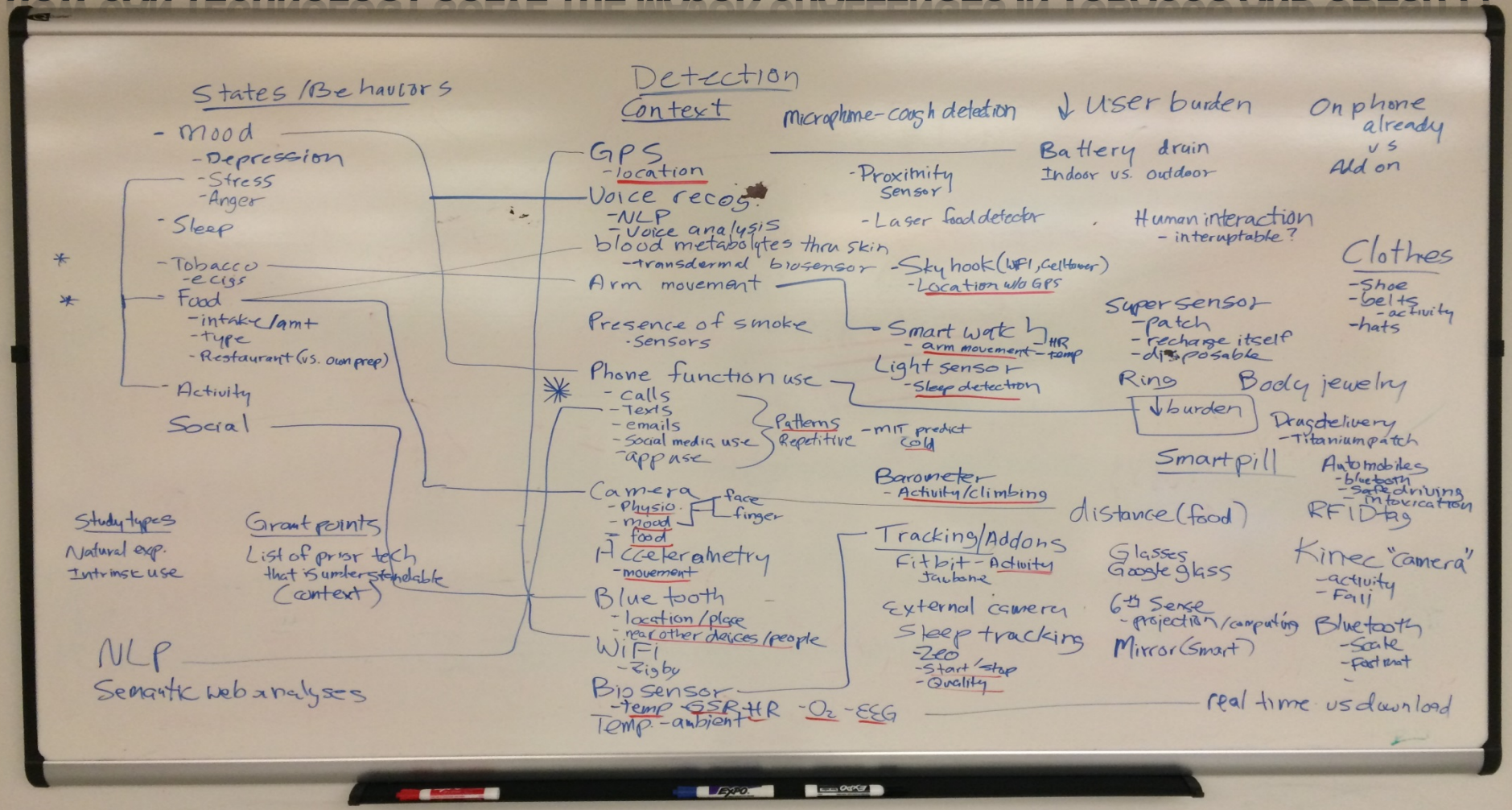
Network: mHealth conferences, Digital Health group on LinkedIn, #digitalhealth on Twitter

Who are your colleagues collaborating with? Get referrals.

Host an academic "hack-a-thon"

UMass mHealth Hackathon

HOW CAN TECHNOLOGY SOLVE THE MAJOR CHALLENGES IN TOBACCO AND OBESITY?



Building Your Team

Meet with potential collaborators frequently to determine if there are shared research interests

Lead with shared interests, rather than specific project that has a deadline

Do personalities match?

Are priorities matched?

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Conferences

- mHealth Summit
- Center for Connected Health Symposium (Boston)
- HIMSS
- Health 2.0
- Medicine 2.0
- See StoryofDigitalHealth.com Events page

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UMASS MEDICAL SCHOOL

mHEALTH UMASS Center for mHealth and Social Media

Find collaborators!

Have your profile posted so future collaborators can find you

Send brief blurb about your expertise and interest in mHealth to:

sherry.pagoto@umassmed.edu

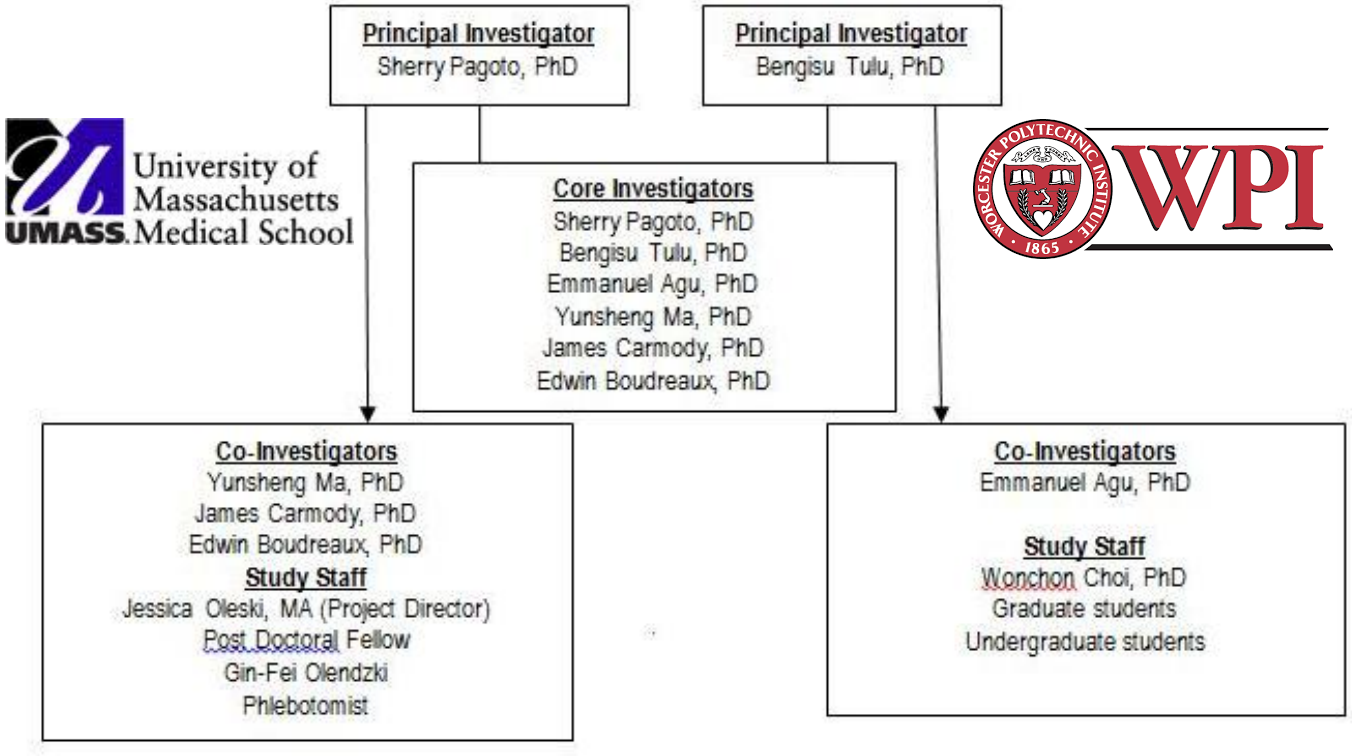
http://www.umassmed.edu/mhealth/people/faculty/

Leadership

Shared leadership across disciplines

Multi-PI grant mechanism

Figure 1. Study team organizational relationships.



Challenges

- Different locations
- Different languages (e.g., jargon)
- Different methodologies
- Different norms

NSF vs NIH

NSF Smart and Connected Health – the development of novel technology. Purpose is to push the technology in an area forward.

Can we develop a new way to reliably detect eating behavior?

NIH – test a new technology-based intervention for effect on clinical endpoint

Does this device help people lose weight?

How to educate myself?

- Use the technologies you are interested in leveraging. Basic understanding of the ecosystem, features in different devices/ apps, platforms, etc.
- Don’t need to learn the skill set of your collaborators, that’s what they are there for.
- Attend conferences and read technology journals.

Other resources

UMass Med Office of Innovation and Business Development

licensing?

UMass Med Office of Technology Management

entrepreneurship?

Intellectual property?

patent?

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