DGSOM Research Themes

Research that is based on thematic, interdisciplinary science is likely to provide greater impact for the patient.

Research methods require that departments join forces. Scientific investigation is moving away from the traditional departmental division structure.

DGSOM Dean’s Office Research Support:

- Departments, Centers, and Institutes (Faculty recruitment and infrastructure)
- Research Themes
- Precision Health Initiative
- Clinical and Translational Science Institute (Clinical Trials Infrastructure)
- Funding for Faculty Research
- Team Science Awards (through the Themes)
- UCLA Innovation Fund (commercialization of projects with valuable IP)
- Equipment Support Bridge Grants
- Shared Resources (Core Facilities)
- IT Infrastructure
- Communications and Media Relations
- Research Training and Professional Development
- Targeted Translational Research Initiatives
  - Therapeutic Antibody Laboratory (Peter Bowers and Bill Boyle)
  - Translational Oncology Research Laboratory (Dennis Slamon)
  - Good Manufacturing Practices (GMP) Facility
  - Large-Animal Good Laboratory Practices (GLP) Facility

Discovery-Based Research Themes

- IST - Immunity/Inflammation/Infection/Transplantation
  - Steve Bensinger
- Regenerative Medicine (BSCRC)
  - Owen Witte, Tom Carmichael
- Cardiovascular Medicine
  - Unfilled
- Neuroscience
  - Larry Zipursky
- Metabolism
  - Orian Shirihai
- Cancer (JCCC)
  - Mike Teitell

Thematic Approach for Collaborative Discovery

Our thematic focus to research brings a multidisciplinary approach centered on patient health by:

- Moving away from departmental division and towards a thematic structure of strength through collaboration
- Opening lines of communication from basic research to the clinic
- Setting up cross discipline partnerships for overlapping theme areas (such as the field of immuno-oncology)
- Enhancing education and career development opportunities

Anticipated Benefits to Our Thematic Approach

Approach will bring about several benefits in our mission to be a well-funded institution working towards breakthrough discoveries for patient health including:

- Securing larger federal grants and contracts requiring larger, thematic-based research
- Major fundraising efforts housed in well defined theme areas for clear presentation of need
- Providing an easier path for multidisciplinary collaboration in clinical and research programs
- Improved interaction between researchers and clinicians to speed the translation of fundamental discoveries to patient-care applications
Infrastructure Changes for Thematic Approach

Center for Health Sciences South Tower renovation created six research floors with facilities dedicated to each theme. The open laboratory spaces have been designed to be generically flexible environments that support current focus areas and allow for seamless transitions to new areas of study.

The Goal of Precision Medicine

Deliver the right treatment, every time, to the right person…

“Prediction is very difficult, especially if it’s about the future.”
Niels Bohr
(Nobel Prize in Physics, 1922)

A More Precise Snapshot

We are at the beginning of what will be an explosion of genetic discoveries across populations!...and a more accurate understanding of human disease.

Vision for the Institute for Precision Health

• Create home for precision health at UCLA and across the UCLA Health System
• Become an international leader in precision health and personalized medicine
• Build the infrastructure to support centralized biobanking, universal consent, and big data integration across UCHC health for cutting-edge research
• Create an integrated diagnostic service for the hospitals and clinics that includes genomics and other specialized testing
• Provide a hub for social policy and ethical discussion to ensure that diverse community and patient concerns are understood and addressed

UCLA ATLAS Project

Consent 150,000 patients across UC Health System to donate blood samples
Extract the DNA from blood and store in a central biobank
Genotype samples (and perform other -omic analyses)
Integrate the genotype data with lifestyle and other health information from the electronic health record
Use machine learning and other big data solutions to identify disease, predict risk for disease, determine optimal treatments based on thousands of other like patients
**Resources for Research: CTSI Highlights**

**UCLA CTSI:**
www.ctsi.ucla.edu

- **Homepage**
- **Funding Opportunities**
- **Boilerplates & Grant-Writing Tips**
- **Online Grant Library**
- **Newsletter**

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**Impact of the UCLA ATLAS Project**

- Establish UCLA as a force in this field
- Leverage the exceptional diversity of UCLA Health
- Now highly cost-effective
  - We are founding members of Illumina’s Global Screening Array Consortium
  - Chips are incredibly cheap if we do in large quantities ($35/individual)
- Jump start precision medicine
  - No faster way to engage entire health system in research
  - Will provide crucial information that enables clinical sequencing
  - Will spin-off numerous new research projects
  - From disease causation to pharmacogenomics

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**Consultation Services**

**CONSULTING SERVICES**

- Biostatistics
- Clinical cohort finding
- Data analysis
- Data management
- Electronic clinical data extraction
- Ethics
- Grant preparation
  (Grant Preparation Team)
- Online surveys and data collection (ie, REDCap)
- Participant recruitment and study management
- Study design

**SPECIALIZED SERVICES**

- Community-engaged research
- Entrepreneurship
- Health services research
- Implementation and dissemination
- Intellectual property and licensing
- Preclinical development

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**Mobilizing Universal Video Consent Process**

(Draft Animated Video)

- 30 sec video introduction
- 4.5 min video consent
- Consent Questions

Process Meets NIH, IRB, Compliance requirements

Enhancements include:
1. Using well known community leaders (ex: Magic Johnson)
2. Create micro-targeted videos that match user characteristics (age, gender, race, ethnicity)
3. Addition of multiple languages

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**Having Genetic Information Can Help Determine Best Response to Treatments**

Most drugs prescribed in the US are effective in less than 60% of treated patients