Office of Strategic Industry Initiatives

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UTHealth Technology: The Early Stages

- Drug Development and/or Therapies
- Devices
- Software/Apps
- Research Tools
- Consumer Products; Nutriceuticals
- Educational Tools

Diagram:
- Academic researcher
- Internal collaborations
- Federal funding consortia
- Industrial partnerships
- Foundational support
- Philanthropic groups
- Contract research organizations

Steps:
- Target validation and drug candidate discovery
- Preclinical development
- Clinical studies

Topics:
- Pharmacogenomics
- Assay development and HTS
- Analytical and purification
- Compound quality control
- Medicinal chemistry and lead discovery
- Clinical candidate synthesis, optimization, scale-up
- Drug formulation
- In vitro and in vivo toxicity, safety, ADME and efficacy testing
- PK/PD studies
- Biorelevant and analytical method development, validation and testing
- API and drug product stability
- Preclinical regulatory support
- Phase I clinical studies
- Clinical regulatory support
- Clinical operations support
- Biostatistics support
- Pharmacogenomics
- Clinical and cognitive pharmacology
- Clinical pharmacology
- Analytical PK/pharmacometrics
- GMP drug manufacturing
- Manufacturing regulatory support and GMP quality assurance
UTHealth: Research Collaboration & Sponsorship

"...advance the quality of human life by enhancing the diagnosis, treatment, and prevention of disease and injury..."

Change in Pharma/Industry R&D

Decreasing federal funding
UTHealth: Research Collaboration & Sponsorship

**Education, Research and Patient Care**

**Supporting Missions**

**Varies, generally ROI for stakeholders**

**Benefits through Transactions**
- Research and program funding
- Equipment/facility donation
- Commercial perspective in labs
- Expanding faculty knowledge through consulting
- Real world opportunity for students
- Curriculum development

**Benefits through Transactions**
- Industrial focused research that will positively impact market/patient care
- Objective testing ground for new technology
- Access to university resources
- New technology licensing for commercial purposes
- Support education of future workforce; employment of trained students
UTHealth: Research Assets

- >7,700 faculty and staff across six schools; >1,000 faculty clinicians
- $220M in research expenditures annually
- Clinical research from 1.6M patient encounters, a diverse data set
  - Clinical trials (Investigator-initiated or Industry-initiated)
  - Clinical research utilizing extensive patient data and biobanking sets
- Basic and translational research across all schools
- Major Clinical Partners:
  - Memorial Hermann Hospital System
  - Harris County Psychiatric Center
  - Harris Health
  - MD Anderson
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Long Term Goals

- Valuable point of contact for faculty and industry
- Significantly increase industry:UTHealth engagement by increasing the number and magnitude of:
  - Industry-faculty connections
  - Industry-faculty sponsored research agreements
  - Industry sponsored alliances for seed grants
  - Clinical trials
  - Consultative Agreements
  - Trainee sharing

Office of Strategic Industry Initiatives: Championing UTHealth:Industry Collaboration

Champion:
- **Intensely engages** with the objectives and goals of the project and plays a driving role in many of the research-engineering interactions, overcoming technical/organizational obstacles, and propelling the effort through to its final achievement.
- **Promotes** ideas to firms and generates interest to obtain commitment and financial support, acting as a firefighter as needed.
- **Facilitates** relationships and provide a basis for communication on other issues, hereby improving outcomes.
- **Persuades** collaboration partners to adapt and redefine their working goals and plans over the course of a project as needs and environments change.

Office of Strategic Industry Initiatives: Initial Activity (Year 1)

- Alliance focused on chronic and neuropathic pain, neurodegenerative diseases, and substance abuse (Purdue Pharma)
  - In-kind services to assess competitive advantage of our PI's new entities
  - Testing of their drug in a new indication
  - Development of new drug for sickle cell pain
  - Scholar training program and clinical consulting
- Discovery program on novel pathway for breast cancer (GlaxoSmithKline)
- New research paradigm in cancer research (HitGen, Champions)
- Target identification for obesity/diabetes using a novel patient cohort (Sanofi)
Under development:

• Smartphone App for g-tube care
• New tools for low vision patients, particularly in pediatrics
• New tool for prevention of hospital readmissions
• New biomarker for glioblastoma progression/diagnosis
• Early detection of sepsis
• Assessment tool for neurodevelopment in early childhood
• New device design for novel electroconvulsive therapy
• New consumables in dentistry to improve clinical care and diagnostics
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Get Engaged

- Technology Management
- Events:
  - Office Hours
  - Seminars
- Texas FreshAIR (texasfreshair.org)

Other Area Resources:
- Houston Technology Center
- JLABS
- TMCx
- UT’s i-Corps program
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Innovation, Collaboration, and Commercialization Seminars
www.uth.edu/innovate