Innovation funds are building an entrepreneurial culture

A familiar saying in the life sciences is “from bench to bedside” when describing translational research. However, biomedical science is not that straightforward. It’s really “from bench to business to bedside”. At UT Health San Antonio, many investigators are discovering new potential therapies, diagnostics, biomarkers and medical devices. Unfortunately, vital next steps in the path of product development and commercialization are not covered via the traditional grant route and funds are lacking for prototype development. Additionally, the intellectual property behind these inventions is complex, costly and cannot be developed by UT Health unilaterally. It requires multiple partnerships.

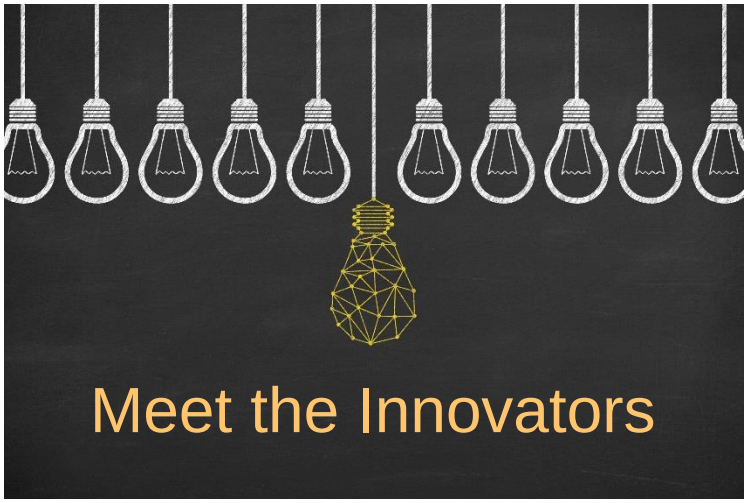
In 2015, the Office of Technology Commercialization (OTC), in collaboration with the Offices of the President, the Vice President for Research (VPR) and Institutional Advancement, started a new initiative-President’s Translational & Entrepreneurial Research Fund (PTEF)- to bridge the external innovation ecosystem partners with faculty members, and created an award mechanism to invest in these promising discoveries. These pooled funds derived from the Stella C. Herff Charitable Trust endowment earnings and other VPR resources, allowed OTC to ramp up its efforts to enhance our bioscience entrepreneurial culture.

In 2019, after evaluating the outcome of previous PTEF awards, OTC pivoted its strategy electing to invest more funds in projects with a high probability of being commercialized based on the input collected during the review process.

All PTEF applicants are identified from the invention disclosures submitted by UT Health investigators. Each disclosure receives a detailed technology evaluation and management report assessing the intellectual property potentials, patent strategy, market size, and prospective industry partners. Faculty are then invited to apply based on a series of criteria that include intellectual property strength, life science ‘need’, market analysis and investor appeal. All applicants receive consultation and practice sessions to develop a pitch deck presentation for an audience composed of external reviewers from the business community. Presenters are required to state the value proposition, clarity of the objective and level of innovation in a well-conceived, high quality package.

John Gebhard, Ph.D., Assistant Vice President of OTC, noted that there are several advantages to inviting members from the life sciences industry.

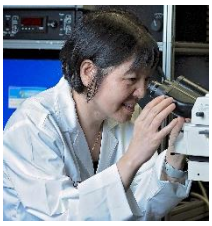
“We attempt to get as much feedback from the life science market as possible. We simply don’t know what we don’t know. It’s important that varying viewpoints are considered in life science commercialization; no one has the one correct strategy,” said Dr. Gebhard, “Therefore receiving feedback and guidance from seasoned biosciences executives such as Dana Ono, Ph.D. and Chris Garabedian is critical.”



Daniel T. DeArmond, M.D., division chief of thoracic surgery, has developed a new aeration monitor that can provide continuous, real-time data about changes in lung capacity improving safety, decreasing in-hospital patient days and reducing the need for daily chest x-rays.

Yogesh K. Gupta, Ph.D., Voelcker Fund Young Investigator Award scholar and assistant professor in biochemistry and structural biology, has developed a new method to treat Acute Myeloid Leukemia (AML) by using METTL3 inhibitors that target survival pathways in AML cells with fewer side effects than current treatments.

Grant D. Hogue, M.D., Dielmann Chair in pediatric orthopedics surgery is planning a new surgical and less invasive option for pediatric scoliosis patients with an Internal Elastic Brace that tethers to the ribs and corrects the curvature of the spine as the child grows.



Jean X. Jiang, Ph.D., Zachry Distinguished University Chair in cancer research, is developing an innovative therapy for breast cancer bone metastasis utilizing a new mechanism of action that works by blocking adenosine receptors in bone cells.

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Nameer Kirma, Ph.D., director of the bioanalytics and single cell core lab, has devised a less invasive method of diagnosing endometriosis using a high-resolution molecular profiling of menstrual endometrial single-cells called cxEndoDX that targets unique genes expressed in the gap junctions of these cells.

Alex Papanastassiou, M.D., associate professor in the department of neurosurgery, has created a prototype device called Subdural Hematoma Evacuation with Re-expansion that will reduce the high reoccurrence rate of subdural hematomas, monitor the surgical site, and be less invasive than existing devices in the market.

Manjeet Rao, Ph.D., associate professor in the department of cell systems & anatomy, wants to improve the standard treatment of medulloblastomas using MicroRNA molecules to inhibit tumor growth and reduce serious side effects, giving patients a better quality of life.

Steven G. Venticinque, M.D., professor of clinical anesthesiology and surgery, intends to disrupt the market with an innovative endotracheal tube, Tusk Tracheal Cannulator, that has an ergonomic design to make intubation easier for emergency first responders and surgeons.

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