

USF I-Corps Site Teams

Fall 2016 Cohort



Team#1 Anticancer Peptide Hormones

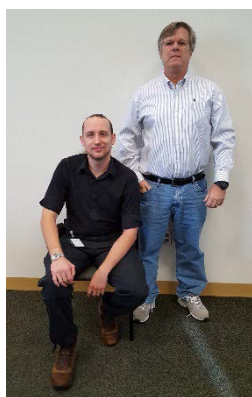
- Principal Investigator: David Vesely, MD, PhD, Morsani School of Medicine
- Entrepreneurial Lead: Angela Wilson Merkler
- Mentor: Maha Sallam

The technology consists of peptide hormones to treat all forms of cancer. These peptide hormones decrease up to 97% of all cancer cells in cell culture. These peptides eliminate up to 80% of human pancreatic cancers in animals. Once the human cancers are eliminated they never return in the lifespan of the animals.

Team #2 Age Related Macular Degeneration (AMD)

- Principal Investigator: Yashwant Pathak, Prof., College of Pharmacy
- Entrepreneurial Lead: Dr. Vijay Sutariya, Assistant Prof., College of Pharmacy
- Entrepreneurial Lead: Shannon Kelly, graduate student, College of Pharmacy

Age related macular degeneration is an ophthalmic disease (eye) where the patient loses the central vision due to bleeding in macula. This is an age related disease and growing significantly in aging population. The only solution presently is to inject the drug in inner eye at least twice a week. We have developed a sustained release drug delivery based on nanotechnology using thermoreversible polymers which will provide sustained release of the drug which will reduce frequency of drug administration by injection in the eye.



Team #3 Virtual Target Screening

- Principal Investigator: Wesley Brooks, PhD, MBA, Research Assistant Prof., Chemistry
- Entrepreneurial Lead: Rainer Metcalf, PhD candidate, Chemistry
- Mentor: Kaushik Dutta, PhD, Associate Prof., Muma College of Business

We are developing computational methods, such as the Virtual Target Screening (VTS) system. VTS can assist in drug repurposing (which could lead to 'new use' patents) and assist in identifying potential adverse interactions of drugs or drug candidates which could be of interest to Big Pharma companies and financially beneficial.

Team #4 Oils to Biodiesel

- Principal Investigator: George Philippidis, PhD, Associate Prof., College of Global Sustainability
- Principal Investigator: Aydin Sunol, PhD, Prof. Chemical and Biomedical Engineering
- Entrepreneurial Lead: Shriyash Deshpande, Graduate Student
- Mentor: Jim Donovan

We have designed and prototyped a portable reaction system that can convert no-value used vegetable oils to valuable biodiesel, a commercial fuel, through reaction with methanol under supercritical conditions in a novel high pressure/temperature reactor. The conversion process is completed in less than 30 minutes, as compared to commercial conventional conversion ("transesterification") that lasts more than 2 hours and requires significant product purification. As a result, our system increases productivity and reduces production costs, while providing decentralized production capability.

Team #5 Artificial Memories

- Principal Investigator: Dr. Kenneth Malmberg, Associate Professor, Psychology
- Entrepreneurial Lead: Sathyanarayanan Aakur, PhD candidate, Computer Science
Creation of a digital “Mini-Me” for people suffering from Alzheimer’s disease which takes in several types of input such as GPS, Video feed, etc. to create artificial memories which can be indexed and interacted with by patients to help with retention and recall of memory events.

Team #6 Biopesticides

- Principal Investigator: Steve Maranz, PhD, President of BetaBiotica, LLC
- Entrepreneurial Lead: Pranali Panjwani, MBA Entrepreneurship student
Mentor: Mo Kasti, CEO and Founder, CTI

The biopesticide industry relies on bacterial strains that are quickly inactivated by sunlight following application to crops. By introducing genes for carotenoid synthesis to these insecticidal strains, these bacteria acquire resistance to solar radiation. Thus, the duration of insecticidal activity is extended, requiring fewer applications and increasing the cost effectiveness of the treatment.

Team #7 Zika Panama

- Principal Investigator: Arlene Calvo, PhD, Assistant Prof., Dept. of Community and Family Health, Panama City
- Entrepreneurial Lead: Arturo Rebolon Guardado, PhD Student, Global Health
- Mentor: Rocio Vega, Director ESRI Panama

The platform consists in two applications. The first is a smart crowdsourcing web-based application for education and reporting of mosquito breeding sites. The second is a mobile-based app that collects house and community data on mosquito breeding sites. Both apps submit their info into a centralized data center for big data analysis and quick response.

Team #8 Shindeeg

- Entrepreneurial Lead: Kevin Ugboajah, student, Computer Science and Engineering, former Student Innovation Incubator
- Mentor: Matt Daniels
Event marketplace mobile app that assists event planners promote events and hire event services.



Team #9 Graphics Processing Units (GPUs)

- Principal Investigator: Yicheng Tu, PhD., Associate Prof., Computer Science and Engineering
- Entrepreneurial Lead: Ran Rui, PhD student

The technology is a big data management system with a novel software architecture and advanced data processing functionalities built on massively parallel hardware such as Graphics Processing Units (GPUs). The technology is designed with a system engineering approach in mind and achieves very high utilization of a multitude of computing resources on GPUs. The data processing throughput and latency are about one order of magnitude better than best known systems built for the same purposes.

Team #10 Diabetes Management

- Principal Investigator: Hongdao Meng, PhD, Associate Prof., Aging Studies
- Entrepreneurial Lead: Washma Abid, student in MS Entrepreneurship in Applied Technology

This technology is a process in which a process and an algorithm are developed from evidence-based diabetes management guidelines and applied to patient data to identify optimum individualized diabetes management goals to assist clinical and self-management of diabetes. The technology will be implemented as a cloud-based decision support tool for clinicians, patients, and insurers to provide personalized care recommendations by better balancing the need for optimum diabetes control while minimizing the risk for complications.



Team #11 Dynaerobridge

- Principal Investigator: Dr. Robin Roberts, Assistant Prof., Embry-Riddle Aeronautical University
 - Entrepreneurial Lead: Dynamite Obinna, student, Embry-Riddle Aeronautical University
 - Mentor: Ken Green, Airport Management, Denver
- Jetway that provides multiple access points to aircraft thus reducing boarding and deplaning time.