Creating Incentives for Research Collaboration, Research Commercialization and Technology Transfer

Establish a matching grant program for university and business research partnerships by building upon the federal SBIR/STTR (Small Business Innovation Research/Small Business Technology Transfer) model.

Dr. MJ Soileau
Vice President for Research & Commercialization
University of Central Florida
Outline

• SBIR-STTR Overview
• Florida High Tech Corridor Council
• UCF Business Incubator
• Top STTR Institutions
• Enterprise Florida Phase 0
• Other State Programs
  ▪ Ben Franklin – Pennsylvania
• NIH SBIR STTR Funding
• Ideas for Florida
  ▪ Florida SUS Match System
  ▪ Central Florida Health Care
What is SBIR & STTR?

The **Small Business Innovation Research (SBIR)** and the **Small Business Technology Transfer Research (STTR)** are federal programs that enable small businesses to compete for research dollars to **test, prototype and commercialize** new solutions for needs identified by participating federal agencies.
SBIR/STTR Three-Phase Program

**Phase I**
- **Feasibility** Study; Proof of Concept
- Up to **$150K** for 6 Months (SBIR) or 12 Months (STTR)

**Phase II**
- Full R&D Effort
- May involve **prototype** creation & testing; clinical trials
- Up to **$1 Million** for 24 Months

**Phase III**
- **Commercialization** Stage
- Seek external funding (Private or federal non-SBIR allocated funding)
Participating Agencies

SBIR

STTR
SBIR/STTR Goals

• Meet Federal R&D needs.
• Stimulate technological innovation
• Increase private-sector commercialization of innovations derived from Federal research and development funding.
• Foster and encourage participation in innovation and entrepreneurship by socially and economically disadvantaged persons.
Florida High Tech Corridor

Mission Statement:

To grow high tech industry and innovation through partnerships that support research, marketing, workforce and entrepreneurship.

- 23 counties
- 360 company/institutional partners
- $2 million annual cash match for each university for work with industry partner
- Grants range from $10K to $100K
- More than $64M in corridor funds – matched by $180M in company funds and federal grants
- $1B impact
MGRP Success

- Matching Grant Research Program - a great resource for small businesses
- SBIR and STTR grants often follow after success of MGRP funding
  - STTR eligibility includes teaming up with a federal lab or a university/college – MGRP takes care of that requirement
UCF Business Incubation Program
Connects Companies with SBIR-STTR

Incubator offers:
• SBIR workshops
• Preparation assistance

UCF benefits by:
• Royalty payments from licensed technology
• Jobs for students/postdocs
• Subcontracts from company
• Incubator companies have secured 180+ awards for more than $52M in SBIR/STTR funding
Early Support Increases Third Party Funding

OptiGrate
- Founded by UCF Researchers
- Graduate of UCF Incubator
- University received $1.3M in Matching Grant Funds
- *Company received $7.5M in SBIR/STTR
- Downstream Impact: $11.8M
  *Subcontracted to university

Universities partnering with companies make collaboration stronger and more third party funding!
Rini Technologies

- Graduate of UCF Incubator
- University received $820k in Matching Funds
- Company received 42 SBIR-STTR awards, the fifth most in the state.
- Downstream impact of $2.4M
# Top Active STTR Research Institutions

<table>
<thead>
<tr>
<th>Institution</th>
<th>Awards</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Florida</td>
<td>111</td>
<td>$30.1MM</td>
</tr>
<tr>
<td>Gainsville, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Central Florida</td>
<td>106</td>
<td>$25.9MM</td>
</tr>
<tr>
<td>Orlando, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida State University</td>
<td>33</td>
<td>$7.36MM</td>
</tr>
<tr>
<td>Tallahassee, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of South Florida</td>
<td>22</td>
<td>$5.54MM</td>
</tr>
<tr>
<td>Tampa, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida Institute of Technology</td>
<td>18</td>
<td>$3.01MM</td>
</tr>
<tr>
<td>Melbourne, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Miami</td>
<td>17</td>
<td>$3.16MM</td>
</tr>
<tr>
<td>Miami, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida Atlantic University</td>
<td>12</td>
<td>$3.06MM</td>
</tr>
<tr>
<td>Boca Raton, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida International University</td>
<td>12</td>
<td>$2.34MM</td>
</tr>
<tr>
<td>Miami, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embry-Riddle Aeronautical University</td>
<td>8</td>
<td>$1.51MM</td>
</tr>
<tr>
<td>Daytona Beach, FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Florida-REEF</td>
<td>2</td>
<td>$570K</td>
</tr>
<tr>
<td>Shalimar, FL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From sbirsource.com as of Feb. 5, 2016 – Does not include DOD
Other State Programs - Pennsylvania

Provides:
• Funding
• Business and technical expertise
• Access to a network of innovative, expert resources

Produces:
• 3.6-to-1 return on state dollar invested
**IMPACT 2014**

**BEN FRANKLIN RIGOROUSLY MEASURES AND QUANTIFIES ITS IMPACT ANNUALLY.**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs created by client companies</td>
<td>1,103</td>
</tr>
<tr>
<td>Jobs retained by client companies</td>
<td>1,224</td>
</tr>
<tr>
<td>Post-Ben Franklin financing</td>
<td>$883,749,020</td>
</tr>
<tr>
<td>Companies assisted by Ben Franklin</td>
<td>1,125</td>
</tr>
<tr>
<td>New products and processes launched by client companies</td>
<td>311</td>
</tr>
<tr>
<td>New companies formed</td>
<td>59</td>
</tr>
<tr>
<td>Patents and software copyrights awarded to client companies</td>
<td>130</td>
</tr>
<tr>
<td>Sales revenues generated by client companies</td>
<td>$557,094,071</td>
</tr>
</tbody>
</table>
NIH 2015 Allocation to SBIR/STTR $719M Total

- **Florida**: $17.4M (2.4%)
- **Pennsylvania**: $38.1M (5.3%)
- **New York**: $39.1M (5.4%)
• It is intended to help Florida companies increase their chances of submitting a successful SBIR or STTR proposal.

• Up to $3K for eligible expenses
  – Consulting Fees: proposal review, commercialization strategies, market research
  – Professional Fees: Legal, Accounting
  – Writing services, travel, etc.
Ideas for Florida

- FHTC process and how we may do this statewide
- Level of funding perhaps with a minimum, to optimum amount. $15M may be the right range.
- 1:1 match for Phase I awards and 3:1 for Phase IIs
- Recommendation for the review panel composition
- Points for projects that promote collaboration among universities
Additional Ideas

- Training and support for faculty interested in SBIR/STTRs
- Technology fairs for faculty to share technologies with industry
- Gap Funding for promising technologies
- An investment fund to match other investment dollars for startups
- Talk about proposed increase in NIH and other funding overall
- Keep FHTC admin simple
- Partnerships with hospital great example
Florida SUS Match System
Florida Research Site

Record(s) (1 - 50) of 94 returned for "cancer"  Next 50

Schools Searched: UCF - University of Central Florida

** UCF: Bio Mechanical Modeling of Airway Protection in Head and Neck CANCER
A project, the purpose of which is to compare results of the group that receives the EMST (Expiratory muscle strength training) intervention to the SOC (Standard of Care) group.
Award Date: 01/07/2016
PI: Dheeraj Hennapola
Funding Agency: UCF Foundation, Inc

** UCF: HIV Vaccine Trials Laboratory Services Project - Year 6
A project, the purpose of which is to provide plasma, serum and semen analysis under an HIV vaccine trial.
Award Date: 11/12/2015
PI: Alexander Cole
Funding Agency: Fred Hutchinson CANCER Research Center

** UCF: RF: Development of a Cytoskeletal-Disrupting Approach for the Treatment of Metastatic Breast CANCER
Surviving breast CANCER is linked to whether the CANCER cells have spread or metastasized to vital organs like the lungs or brain. CANCER cells move by rearranging their internal framework, which is called...
Award Date: 11/25/2015
PI: Annette Khaled
Funding Agency: Breast CANCER Research Foundation

** UCF: RF: Development of a Cytoskeletal-Disrupting Approach for the Treatment of Metastatic Breast CANCER
Match Found
Central Florida Health Care

• Website created to stimulate collaboration and synergistic proposal development between researchers from Florida Hospital (FH) and UCF.

• Researchers from different organizations can locate others with similar interests and work together to develop necessary preliminary data, funded by the partnered organizations, that will lead to submission of extramural grant funding.
Awards Intended To:

- Promote collaboration between FH and UCF researchers
- Provide seed funding for proof-of-concept studies
- Provide seed funding to generate preliminary data for submission of future extramural grant applications
Awards

• First award made in January 2016 for “Biomechanical modeling of airway protection in head and neck cancer.”

• Team: Dr. Olusegun Ilegbusi, CECS; Dr. Bari Ruddy-Hoffman, COHPA, and Dr. Nikhil Rao, radiation oncologist at Florida Hospital
HHS SBIR/STTR Conference in Orlando Nov. 15-17

- Organized by UCF, this is the first time the conference will cover the full range of HHS agencies.