National Entrepreneur Center Releases Economic Impact Report

Report Praises Center as a Best Practice for Economic Development

The National Entrepreneur Center (NEC) released the findings of its latest economic impact study, which indicated a return on investment of $14 for every dollar invested in the NEC since 2003. Austin-based AngelouEconomics (AE) — an A team that includes a researcher now at UCF has developed a new method for identifying materials' unique chemical "fingerprints" and mapping their chemical properties at a much higher spatial resolution than ever before.

It's a discovery that could have promising implications for fields as varied as biofuel production, solar energy, opto-electronic devices, pharmaceuticals and medical research.

Researchers at UCF received $133.4 million in research funds during the past fiscal year. The funding totals reflect a rise in federal funding over the previous year, from $72.2 million to $74.2 million, and continued national affirmation of UCF's strengths in research and innovation. Researchers received $47.5 million from industry sources and $11.7 from the state and local governments.

"Our biggest strength continues to be the diligence of our faculty," said MJ Soileau, Ph.D., vice president for the Office of Research & Commercialization. "The fact that our efforts are being recognized in national rankings is the result of years of persistence and vision by researchers across the university."

For example, in the past month, UCF was ranked as the nation's 13th most innovative university by U.S. News & World Report's Best Colleges 2016 Guide.

Researchers at the College of Engineering and Computer Science received $24.4 million in funding in FY 15, including $2 million for a project that is helping to protect drivers in foggy conditions.

UCF Reports $133.4 Million in Research Funding in Fiscal Year 2015

Researcher Uses Vibrations to Identify Materials’ Composition

A team that includes a researcher now at UCF has developed a new method for identifying materials' unique chemical "fingerprints" and mapping their chemical properties at a much higher spatial resolution than ever before.

It's a discovery that could have promising implications for fields as varied as biofuel production, solar energy, opto-electronic devices, pharmaceuticals and medical research.

"What we're interested in is the tools that allow us to understand the world at a very small scale," said UCF professor Laurene Tetard, Ph.D., formerly of the Oak Ridge National Laboratory. "Not just the shape of the object, but its mechanical properties, its composition and how it evolves in time."

For more than two
Florida Angel Nexus Expands Footprint to North Florida

NewSci is First Company in Tallahassee Nexus Chapter to Receive Seed Funding

Angel funding is becoming more visible and organized across our state. In recent months, Florida Angel Nexus expanded its footprint to include a chapter in Tallahassee. Led by investors Matt Johnson and Jason Stamm, the new NEXUS chapter provides a forum to organize investors in North Florida as well as expand the profile of NEXUS in the state’s capital.

What does this mean for Orlando and UCF? Local entrepreneurs now have improved access to capital, expertise and resources in North Florida. The NEXUS’s Virtual Chapter broadens that reach to the entire state and UCF alumni globally.

According to Blaire Martin, NEXUS director, "NEXUS is working with individual investors across the state and has received enough support and interest from the Tallahassee region to launch a dedicated chapter that will meet frequently — not only to evaluate opportunities from scalable ventures from across the state.” She adds, “By joining NEXUS, individuals have access to a statewide network of opportunities. There is value in collaborating in a growing angel community, including vetted deal flow, partnering with experts to conduct due diligence, and working together to support the portfolio.”

To add to the excitement, the new NEXUS chapter announced that NewSci — a leading provider of Insight as a Service to the education, health care and social sectors — is the first company to successfully close a seed round investment of $500,000 led by members of NEXUS.

NewSci, a Findability Sciences Group Company, provides an intelligent platform combining big data and cognitive computing technology. Since its founding in 2013, NewSci has worked with major universities, health care systems and nonprofits, including Lehigh University, Mercy Health and United Way agencies across the country. The company will use the funds to build its sales team and expand its work with IBM Watson cognitive applications.

“NewSci was clearly a great investment opportunity due to its seasoned management team and large market opportunity,” says Johnson. According to him, NewSci’s successful seed round is indicative of the changing investor culture in and around Tallahassee. "This is a milestone moment for startups and angel investors in the Tallahassee community,” Johnson explains. “Already we are seeing more local startups attracting local investment, which is critical to the long-term growth and vitality of the economy.”

Established in 2013 by Michael O’Donnell Sr., NEXUS creates a large network of investors with very diverse backgrounds and provides a larger centralized pipeline enabling individuals to meet specialized investment goals. It supports angel investors and groups statewide by facilitating collaboration to solve common challenges such as deal flow, due diligence, portfolio management, and broader context.

Visit the NEXUS’s website at FloridaAngelNexus.com or contact Blaire Martin at blaire@floridaangelnexus.com.

UCF Rolls Out Faculty Cluster Initiative

A new Faculty Cluster Initiative has been designed to leverage UCF’s existing strengths and foster the development of strong, interdisciplinary diverse teams focused on solving today’s most challenging scientific and societal problems.

The strength of this initiative comes from faculty depth, the ability to translate depth across disciplines and the collaboration among deans, directors, chairs and faculty members in every college across campus.

Six faculty clusters have been selected in this program’s inaugural year, including cyber security, renewable energy, coastal systems, genomics and bioinformatics, prosthetics, and energy conversion and propulsion. Read an overview of each cluster here.

Of the 100 new faculty lines that UCF has allocated to be hired this coming year, 33 will go toward advancing these clusters.

Faculty involved in this year’s process are encouraged to provide feedback and suggestions for future years to Dr. Christopher L. Parkinson or to facultycluster@ucf.edu.

For more information about this initiative visit the Office of the Provost website at provost.ucf.edu/faculty-cluster-initiative.
Two UCF Professors Awarded Jefferson Science Fellowship

UCF Physicist Works to Improve the World

UCF Professor Martin Richardson, Ph.D., is using his scientific skills to improve the world through a project that will boost economic development in Eastern Europe. Richardson serves as a science and engineering adviser through the Jefferson Science Fellowship program, which is run by the National Academies of Science, Engineering, and Medicine, and sponsored by the U.S. Department of State, the U.S. Agency for International Development, professional scientific societies and the academic community, including UCF.

The one-year fellowships are awarded to tenured professors from a broad range of science and engineering disciplines. The fellows’ home institutions pay their salaries as part of the sabbaticals they take from their careers.

A key project for Richardson entails creating international programs to support the development of small- and medium-size enterprises (SMEs).

Richardson, who has extensive experience in the laser field, adds that his work at the State Department has been rewarding. “I am learning at the State Department how science permeates nearly all aspects of foreign policy and how important it is to employ strategic scientific methodology to solving the world’s most intractable problems,” he says. “Too often we see Washington as an island unto itself — we must engage. I hope to bring this message home.”

The experience provides a communication platform for those in Washington, D.C. to learn what scientists are doing. In turn, the expectation is that fellows will be able to engage their campus colleagues and students in science policy issues through new courses, seminars and workshops when they return to their institutions.

Air Force Awards $5.87 Million Laser-Research Contract to UCF

A $5.87 million contract has been awarded by the Air Force to optics researcher Martin Richardson, Ph.D. and his UCF team to develop new concepts for high-power fiber lasers. The contract is the one of the largest made by the Air Force Office of Scientific Research to a single university for development of fiber lasers.

The five-year contract was awarded to promote collaborative research on fiber lasers and optical fiber development at UCF’s Townes Laser Institute with similar programs at the University of Southampton in the United Kingdom and the Friedrich Schiller University in Jena, Germany.

“We need to redesign the fiber from a simple communications fiber to one that is able to withstand the high power we want to generate,” said Richardson, who was in Washington when the award was announced. The UCF Pegasus Professor and founding director of the Townes Laser Institute was in Washington serving as a senior science advisor to the State Department under a Jefferson Science Fellowship from the National Academy of Sciences.

Fiber lasers, which are generated and contained inside the small core of fiber, are different from typical lasers that bounce light between mirrors. Richardson said the applications for the next-generation fiber lasers are in the fields of industry, defense and medicine.

The co-primary investigators on the program are professors Lawrence Shah, Rodrigo Amezcua-Correa and Axel Schulzgen from the UCF College of Optics & Photonics who will be working on projects here and with researchers at Southampton and Jena.

The same Air Force agency awarded a Defense University Research Instrumentation Program grant of $870,400 to the UCF team last year for purchase of a new lathe for advanced fiber fabrication.

“These investments go a long way toward establishing UCF as a leading academic institution for the development of high-power fiber lasers,” Richardson said.

UCF Engineering Professor to Serve as Science Advisor on Foreign Policy Issues

Professor Pamela McCauley, Ph.D., from the Department of Industrial Engineering and Management Systems at UCF, has also been awarded a Jefferson Science Fellowship with the U.S. State Department for the 2015–16 term. The Jefferson Science Fellowship program serves as an innovative model for engaging the American academic science and engineering communities in U.S. foreign policy.

Jefferson Science Fellowships are prestigious appointments to senior academics based on their stature, recognition and experience in the national and international scientific or engineering communities, and their ability to rapidly and accurately understand scientific advancements outside their discipline area in order to effectively integrate this knowledge into U.S. Department of State/USAID policy discussions.

McCauley will be involved in technology assessment and policy at the national and international level researching the globally critical ergonomics of Ebola and other infectious diseases for health care workers. Fellows spend one year on assignment at the U.S. Department of State or USAID as science advisers on foreign policy issues.

Worcester Polytechnic Institute has invited McCauley to participate in its University Lecture series, where she will present “The Global Ergonomics of Ebola and Other Infectious Diseases: Combating Fear Through Innovation” The lecture is scheduled for early November 2015.
economic research and analysis firm that works with public and private sector clients both domestically and internationally — conducted the study to measure the economic impact of the NEC on local and state economies.

“We chose AngelouEconomics because of their experience in the field and their reputation for thoroughness,” says Jerry Ross, NEC executive director. “We can point to many success stories over our last 12 years, however, we needed help to statistically evaluate the overall economic impact to the Central Florida region and the state of Florida.”

The study evaluated five economic impact areas of the NEC: (1) perceived value to entrepreneurs; (2) value provided to the resident resource partners; (3) increased mall revenues; (4) ongoing operations and (5) capital infrastructure investment. The study also calculated impacts derived from indirect and induced economic effects of the NEC. The review consisted of on-site interviews, the NEC’s historical performance, public data from a variety of sources, and the application of economic modeling software.

“We have always known that the NEC does a great job, and now we have the statistics to prove it,” says Marianne Amato, Regions Bank executive and NEC board chair.

According to the Angelou Economics report, the NEC’s impact to Florida since 2003 includes:

- $187.6 million in total economic output
- $58.4 million generated in labor income
- 1,000 jobs created or sustained
- $77.3 million in revenues for Florida retailers
- $8.6 million in state and local tax revenues

“Supporting entrepreneurs through innovative training and providing access to resources is vital,” says Orange County Mayor Teresa Jacobs. “Particularly for a thriving region like Central Florida, where our economy has benefited by $14 for every single dollar invested in the NEC, the return on investment is clear.”

The NEC operates as a public/private partnership and is funded by local sponsors, which include Orange County government, the city of Orlando, UCF and Walt Disney World. According to the report, “The NEC has proven to be a successful model, transcending beyond Orlando and even the state of Florida. This is made evident from the fact that the NEC has hosted visitors from throughout the U.S. that have taken an interest in duplicating the NEC’s model.”

NEC board member Tom O’Neal, Ph.D. explains, “The National Entrepreneur Center has attracted national and international attention because it works!” O’Neal who is also the associate vice president for UCF’s Office of Research and Commercialization, which acts as the fiscal agent for the NEC, continues, “This report just confirms that the National Entrepreneur Center is where business happens in Central Florida.”

National Entrepreneur Center (NEC) Founded in 2003, operates as a public/private partnership catalyzing entrepreneurial growth in Orlando, the state of Florida and across the nation. The NEC is home to a variety of independent, nonprofit organizations offering free business coaching, low-cost training, and resources designed to accelerate the growth and development of small businesses. For more information, visit NationalEC.org.

Save the Date

SmallBiz360

February 11, 2016 | Orlando, FL

NationalEC.org f /NationalEC
Did you know?

Decades, scientists have used atomic force microscopy – a probe that acts like an ultra-sensitive needle on a record player – to determine the surface characteristics of samples at the microscopic scale. A “needle” that comes to an atoms-thin point traces a path over a sample, mapping the surface features at a sub-cellular level.

But that technology has its limits. It can determine the topographical characteristics of a sample, but it can’t identify its composition. And with the standard tools currently used for chemical mapping, anything smaller than roughly half a micron is going to look like a blurry blob, so researchers are out of luck if they want to study what’s happening at the molecular level.

A team at Oak Ridge National Laboratory that included Tetard has come up with a hybrid form of that technology that produces a much clearer chemical image. As described Monday in the journal Nature Nanotechnology, Hybrid Photonic-Nanomechanical Force Microscopy (HPFM) can discern a sample’s topographic characteristics together with the chemical properties at a much finer scale.

The HPFM method is able to identify materials based on differences in the vibration produced when they’re subjected to different wavelengths of light – essentially a material’s unique “fingerprint.”

“What we are developing is a completely new way of making that detection possible,” said Tetard, who has joint appointments to UCF’s Physics Department, Material Science and Engineering Department and the NanoScience Technology Center.

The researchers proved the effectiveness of HPFM while examining samples from an eastern cottonwood tree, a potential source of biofuel. By examining the plant samples at the nanoscale, the researchers for the first time were able to determine the molecular traits of both untreated and chemically processed cottonwood inside the plant cell walls.

The research team included Tetard; Ali Passian, R.H. Farahi and Brian Davison, all of Oak Ridge National Laboratory; and Thomas Thundat of the University of Alberta.

Long term, the results will help reveal better methods for producing the most biofuel from the cottonwood, a potential boon for industry. Likewise, the new method could be used to examine samples of myriad plants to determine whether they’re good candidates for biofuel production.

Potential uses of the technology go beyond the world of biofuel. Continued research may allow HPFM to be used as a probe so, for instance, it would be possible to study the effect of new treatments being developed to save plants such as citrus trees from bacterial diseases rapidly decimating the citrus industry, or study fundamental photonically-induced processes in complex systems such as in solar cell materials or opto-electronic devices.

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UCF Facts
Did you know?

UCF has been named one of the top 500 universities in the world - according to the 2015 Academic Ranking of World Universities and number 168 in the country according to U.S. News & World Report.

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Researcher Uses Vibrations to Identify Materials’ Composition

FROM PAGE 1

Building America Partnership for Improved Residential Construction (BA-PIRC)

Pl: Eric Martin
$1,250,000 over two years

The team proposes research leading to innovations that will further Building America’s goal of enabling 50% savings over IECC 2009. BA-PIRC will target production builders and focus on innovations to overcome market challenges related to that sector, which are also common to other sectors. The team will research 1) high efficiency, variable capacity, ducted and ductless space conditioning systems focusing on optimized comfort distribution and efficient integration of mechanical ventilation for optimized latent control, and 2) “smart” ventilation systems aimed at saving space conditioning energy use while providing improved comfort, reduced moisture and peak load impacts. Objectives of the first performance period are to coordinate with partners, initiate experiments, collect preliminary data, and evaluate progress towards goals. The objective of the second performance period is to finalize data collection and report results.

Creating an Alternative Fuel Training Network for Florida

Pl: Ms. Colleen Kettles
$600,000 over two years

The project will establish an alternative fuel vehicle (AFV) training network for the state of Florida that provides safety and technical training on electric drive, CNG and propane vehicles to current and future emergency first responders, public safety officials, critical service providers as well as faculty at state and community colleges and vocational technical institutions who teach the first responder workforce. The project will integrate first responder training into a standard curriculum.

TWO GRANTS AWARDED
Program Updates

Center for Entrepreneurial Leadership (CEL)

O’Dang Hummus Founder to Appear on Shark Tank

Congratulations to Jesse Wolfe, Founder and CEO of O’Dang Hummus. Wolfe appeared on the October 2nd episode of the popular ABC television series, Shark Tank.

O’Dang Hummus was basically born out of food boredom. Tired of drinking milkshakes and eating soup after having his wisdom teeth extracted, Wolfe decided to try hummus. However, he found there was only a limited availability of flavors at the grocery store, so he started making his own. Today, his company boasts a number of unique, low-calorie flavors, including, Bomb-A-Licious, Buffalo Hummus, Dillionaire Fresh Dill Hummus and Sweet & Spicy Black Bean Hummus.

Wolfe’s creations, which have been a hit at local farmers markets, have now been introduced to the world thanks to his appearance on the Shark Tank. In addition to hummus, the company just inked a deal to sell its oil-free, dairy-free salad dressing at Publix supermarkets throughout six states. For more information, visit odanghummus.com.

GrowFL, the Florida Economic Gardening Institute

Expanding Support for Stage 1 Businesses

Florida has one of the most diverse and expansive Economic Gardening programs in the nation, due in part to the tireless efforts of Tom O’Neal, Ph.D., associate vice president of the UCF Office of Research and Commercialization and Steve Quello, president of CEO Nexus. Both were key players in creating and propelling GrowFL. From peer learning and leadership development to strategic research, the invaluable resources and support available to Stage 2 businesses within the state are remarkable. (Second-stage companies have moved past the startup stage, employ 10 to 99 people, and earn at least $1 million in total revenue. These businesses have established markets and play a significant role in job creation.)

In fact, the Central Florida entrepreneurial ecosystem is designed to support businesses from incubation through Stage 2. While there are already excellent resources in place, O’Neal and Quello identified another area where CEOs of Stage 1 companies — those employing fewer than 10 people and generating less than $1 million – can grow. Thus, the Stage 1 CEO Roundtables were born.

Based on the successful format of the Edward Lowe Foundation* Stage 2 CEO Roundtables, Stage 1 CEO Roundtables have been modified to address the unique needs of first-stage businesses, especially high growth, high potential companies.

This confidential environment allows Stage 1 CEOs to share ideas, refine leadership skills, engage with speakers on a variety of topics, discuss core business principles and focus on specific issues pertaining to business. Both Quello and Ray Watson, a former U.S. Army Special Forces officer and CEO of several companies, facilitate the roundtables.

“Many CEOs are great at their craft but face challenges when it comes to how to run a business and plan for future growth,” says Watson. “The Stage 1 Roundtables help CEOs be held accountable. Accountability is crucial to the success of any leader.”

Although not a prerequisite, many participants are currently participating in or are graduates of the UCF Business Incubation Program (UCFBIP). One of the ultimate goals of the Stage 1 Roundtables is cultivating the leadership part of the entrepreneurial journey as a CEO’s company grows.

“We are serving businesses in the areas where they need it,” explains Quello. “Stage 1 companies still have a need for peer interaction but require a different format — content that meets them where they are right now.”

According to Watson, the opportunity to come together with 14 other CEOs in a confidential environment is the key component that makes the roundtables so valuable.

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“Our ultimate goal is to offer Stage 1 companies specific tools and resources to not only prepare them for Stage 2, but help fast-track them to Stage 2,” explains O’Neal.

The Stage 1 CEO Roundtables are preparing to conclude their first successful year and participants in the inaugural group have indicated plans to continue meeting.

Ed Logue, CEO of Vision Engineering Solutions and a client of the UCFBIP, participated in the first Stage 1 CEO Roundtable. He highly recommends the program, especially for incubator companies.

“The CEO Roundtables force you out of your day-to-day routine and connect you with other CEOs so you can get help with issues you’re facing,” explains Logue. “Most issues are not unique, and 99 percent of the time someone in the group has faced, will face or is facing the same challenges.”

Logue also values the accountability aspect of the program, which he feels helps keep CEOs in check and on track.

Glenn Williams, CEO of CW Products, was also part of the inaugural class. Williams admits he was a little apprehensive about the program at first and wondered if it might evolve into a networking group. He quickly discovered that wasn’t the case.

“I wholeheartedly recommend the CEO Roundtable,” says Williams. “It is highly focused on its members and propelling them toward the goals [each] owner ... is setting.”

Williams found much value in the curriculum, especially the stage specific articles, books and speakers offering “just in time” tools for learning and problem solving. He also appreciates the accountability.

Participants were able to prepare background information on particular issues they were having and present it to the group, which then went into issue discussion mode. According to Williams, this also proved to be very valuable.

“The UCF entrepreneurial ecosystem does an extraordinary job of connecting CEOs with the right program at the right time along the way. Few communities have such a customized continuum of services,” concludes Quello.

Interested in applying for the next Stage 1 CEO Roundtable? UCFBIP companies can contact their site manager. All others may contact Steve Quello at info@ceonexus.com.
Growing Good Jobs Without Tax Incentives

By Dominic M. Calabro

Each year, lawmakers debate the merits of spending part of your hard-earned paycheck to pay companies to open or grow a business in the Sunshine State. While tax incentives are an important part of a sustainable, long-term economic development and job creation strategy, they are one tool in a toolbox filled with options. It is not easy to design programs that help attract and retain Florida job creators without the help of taxpayer funds. But Florida has a little-known secret weapon.

A unique program exists in Florida to attract high-wage, quickly growing companies without the use of tax incentives. GrowFL is a state-sponsored program based out of UCF that supports for-profit companies with the highest growth potential. However, GrowFL provides no cash incentives and no tax breaks to participating companies, but they do facilitate the creation of new Florida jobs.

GrowFL had more than 650 Florida companies participate in its program over a two year period, and it clearly works. Those companies created 1,867 new jobs between July 2011 and June 2013. The highly desirable, entrepreneurial job creating companies that participate in GrowFL are called second-stage companies, and are responsible for more than 30 percent of all Florida jobs, according to research from the nonpartisan Florida TaxWatch. The best news? The companies’ average salaries top $77,000.

Last year, policymakers kept busy in discussions about how to attract and expand Florida businesses and whether to use taxpayer money to create jobs, but they should have focused more time and attention on the benefits of GrowFL.

In a recent independent study from Florida TaxWatch, the watchdog group found that expanding the GrowFL program would generate $16.54 million per year over 10 years, and would produce more than 25,000 new jobs. This kind of high-wage job growth, accomplished without the help of tax incentives, will diversify the Florida economy and provide a positive return on investment for taxpayers.

If GrowFL doesn’t use tax incentives to grow jobs, how do they do it? What’s unique about GrowFL is that companies compete to be accepted into a specialized training and support group where they benefit from a process called economic gardening. GrowFL works to obtain the highest-quality market research available that they share with each of the participating companies to help them make strategic growth decisions.

Without the help of GrowFL, these companies wouldn’t be able to get this vital information. In addition to research, the companies benefit from peer-to-peer feedback and have the opportunity to be recognized statewide through the program.

GrowFL provides the strategies, resources and support for second-stage companies to grow and prosper, resulting in thousands of new Florida jobs and millions of dollars in economic growth for the state. If the Legislature wants to keep Florida on a streak of job creation and economic growth, they should invest in GrowFL so the program can engage more Florida companies with the potential to boom. By expanding GrowFL’s reach, Florida could add more than $165.4 million to the economy within the next 10 years.

Florida TaxWatch, is the independent, nonpartisan, nonprofit public policy research institute and government watchdog.

UCF Awarded Department of Energy Grant to Inspire Collegiate Clean Energy Innovation in the United States

UCF recently has been awarded a grant from the U.S. Department of Energy (DoE) to help inspire the next generation of clean energy entrepreneurs and cultivate an ecosystem of innovation and commercialization in the region.

Through the recently launched Cleantech University Prize (Cleantech UP), a new DoE-supported initiative to accelerate the rate of clean energy innovation in the nation, UCF will serve as one of eight regional Cleantech UP competition sites and will facilitate a yearly collegiate challenge and cultivate an ecosystem to support the clean energy entrepreneurs from Florida and the entire Southeast United States.

The UCF Office of Research and Commercialization has extensive experience coordinating cleantech-oriented programs and competitions and cultivating appropriate support networks and infrastructure. In addition, UCF features a history of implementing high impact, entrepreneurially focused curricula. Recently, UCF worked closely with the DoE on implementing two cleantech focused efforts – an annual cleantech accelerator designed to identify and support promising cleantech technologies throughout the Southeast, and the Florida Cleantech Acceleration Network (FL-CAN), which created a statewide support network and “proof of concept” center for cleantech entrepreneurs. These programs served more than 200 ventures that went on to raise more than $5 million in follow-on funding on their paths to commercialization.

As a result of this success, UCF will soon launch its Cleantech UP effort, explained Jack Henkel, assistant director of the UCF Venture Accelerator Lab.

Each year, the Megawatt Ventures competition will recruit ten collegiate teams from throughout the Southeast to compete for $50K in seed funding and an opportunity to advance to a national competition and earn additional funding. UCF will utilize its network of established relationships to promote the Challenge, gather industry and technology specific mentors and expand the network further to attract the most talented teams in the region.

Through the program, teams will be provided with educational and training materials to help commercialize their technology with a focus on startup and growth strategies for new energy ventures. Teams will also receive personalized strategic business coaching, introductions to potential customers and partners, investment pitch guidance and technology transfer support services.

UCF will work with the national Cleantech UP Hub, Spark
CT Technology Used in Medical Industry Is Now Finding Its Way to the Oil and Gas Industry

UCF spinoff company iTomography Corporation, a medical and industrial computed tomography (CT) imaging company, is now seeing its technologies utilized to peer into more than the human body. The company’s technology — used by doctors to make accurate diagnoses and plan medical treatment — is now being used to create a microimage of rock cores at pore-scale resolution to help petroleum engineers more accurately estimate oil and gas reserves, assess reservoirs and plan production.

With its offices located in the heart of Houston at the Texas Medical Center Innovation Institute, iTomography is strategically positioned to collaborate with both medical and energy industry partners. Houston has the largest medical center in the world and is also home to the headquarters or offices of virtually all of the major international oil companies.

Oil and gas companies are interested in using the company’s exact helical image reconstruction technologies, developed by UCF Professor Alexander Katsevich, Ph.D., for micro-CT digital rock core analysis. Recent industrial testing on real rock cores with major micro-CT equipment manufacturer Carl Zeiss X-ray Microscopy showed multifold improvement in scanning speed as well as high accuracy and resolution of 3-D images. The results were presented in a joint paper at the Society of Petroleum Engineers Conference in Houston in September.

For medical applications, iTomography has been working with original equipment manufacturers such as Toshiba and other research and development institutions, including UT Health and the National Institutes of Health (NIH). During the NIH project, iTomography developed and patented a hybrid local tomography (HLT) CT image reconstruction algorithm to improve diagnostic accuracy of imaging of coronary arteries with calcified plaque and stents. The results of the HLT clinical study with the NIH were presented in July at the 2015 Annual Scientific Meeting of the Society of Cardiovascular CT in Las Vegas.

iTomography was formed to commercialize and expand technology developed by Katsevich. Since its inception, the company has sponsored two research projects at UCF. UCF’s Office of Technology Transfer (OTT) has provided strong support for iTomography and the UCF Research Foundation along with Memorial Hermann Health System have provided funding.

“UCF’s Office of Technology Transfer has been a steady and flexible partner, supporting iTomography’s patent prosecution, licensing and the development of our IP strategy. The staff of OTT has been always there when we needed their help,” says Michael Frenkel, Ph.D., the company’s president and CEO. To learn more, visit iTomography.com.

UCF Professor Emeritus Richard Gilson Creates New Tool to Battle Effects of Parkinson’s

A little more than 10 years ago, UCF Professor Emeritus Richard Gilson, Ph.D. received the sobering news that he had Parkinson’s disease. With his active lifestyle, including logging more than 6,000 hours as a pilot, Gilson, could have easily focused all of his attention on the physical limitations brought on by Parkinson’s. But he didn’t.

As the news of the diagnosis of Parkinson’s sunk in, he turned his attention to the new opportunity before him. He embarked on a journey to improve the treatment of this neurological disorder. Today, Gilson, along with Orlando neurosurgeon Dr. Nizam Razak, is working to introduce a new device designed to better control the debilitating physical tremors and other symptoms caused by Parkinson’s.

Parkinson’s is an incurable disorder that destroys nerve cells in the brain. Effects can include rigid muscles, tremors, and difficulty walking or speaking. Those afflicted with the disease include actor Michael J. Fox, former heavyweight boxing champion Muhammad Ali and former Attorney General Janet Reno.

“Traditional methods for managing and controlling the effects of Parkinson’s have included drug treatments and brain stimulation,” explains Gilson. “Both have limitations. I was motivated to conduct research and develop an improved option.”

Drugs tend to lose their effectiveness over time and can have side effects. Knowing this, Gilson focused his attention on a brain stimulation device that is used to repress the symptoms of the disease.

Gilson has such a device implanted in his body. It is cumbersome and bulky, about the size of a deck of cards, and protrudes under his skin near his clavicle. Wires from the device run up inside his neck to his brain where they are attached to electrodes that deliver pulses of electricity to specific regions in his brain. The device also requires regular and potentially life-threatening surgeries every couple of years in order to replace the battery.

Working with Razak and a team of neurological experts, Gilson has developed a new less intrusive, more controllable brain-stimulation technology to deal with the symptoms of Parkinson’s. Through UCF, he and Razack have received patents for this system.

The device, which is in the premanufacturing stage of development, is approximately the size of a quarter and includes a rechargeable battery that can last up to nine years. Implanted in a patient’s skull, it eliminates the obtrusive lump and infection-prone wiring caused by the current technology. In addition, Gilson’s device delivers more precise electric pulses to the brain to help alleviate the effects of the disease.

“During the past few years, we’ve continued to refine the device, and now we’re receiving interest from the investor community to work with us to further develop and test it and bring it to market,” says Gilson.

In addition to Parkinson’s, the new device — which will need to be approved by the Food and Drug Administration — is intended to assist patients who have been diagnosed with Tourette’s syndrome, epilepsy, essential tremor and mood disorders. Gilson is also working on a version that would not require surgery.
International Trade Assistance a Focus for Florida SBDC at UCF

International trade opportunities for Florida-based companies are expanding, and the Florida SBDC at University of Central Florida has been seeking to prepare local businesses for globalization. And for good reason: 95% of the world’s population and more than 70% of the world’s purchasing power is outside the U.S. Research has shown that companies that export grow 15% faster and are 12% more profitable.

The FSBDC’s International Trade Services connect export-ready, new-to-market, new-to-export businesses with International Trade Specialists who can personally deliver the tools, strategies, and expertise needed to help grow and succeed abroad. They guide businesses through the complexities of developing and executing an aggressive international growth strategy—putting the company on the road to success.

International Trade Services at the FSBDC at UCF are comprised of three key components: International Trade Consulting Services, Export Marketing Plan Services and International Trade Training.

The FSBDC’s International Trade Specialists, who are professionally certified in international trade, provide no cost, one-on-one expert business consulting to help companies understand the complexities of international trade. The Specialist provides detailed market research to assist the company in identifying overseas sales opportunities. They also educate the company on country requirements for products, as well as licensing requirements. This work culminates in preparation of an Export Marketing Plan.

Export Marketing Plan Services assist qualified local manufacturers and professional service providers with overseas growth strategies through development of a customized Export Marketing Plan. Provided in partnership with Enterprise Florida and U.S. Commercial Services, the Export Marketing Plan includes:

• a thorough readiness assessment
• industry and market analysis with target market recommendations
• competitor analysis
• a review of overseas trade opportunities and
• an action plan.

The International Trade Training offered by the FSBDC includes the “Go Global: Exporting for Business Growth” seminar. This interactive workshop helps clients understand how the Florida SBDC at UCF can help them prepare their business for globalization.

And the clients who have received an Export Marketing Plan have been exceedingly pleased with how the plan helped them business. Doug Worswick, CEO of Certified Slings, Inc. is but one example. Certified Slings is a distributor and manufacturer of slings, rigging, overhead lifting, load securement and contractor supplies.

Certified Slings had some experience in exporting but sought to increase growth internationally. In 2012 Worswick turned to the FSBDC at UCF’s International Trade Services for assistance. A customized Export Marketing Plan was produced and implementation of the plan has produced remarkable results: Certified Slings has seen a 100% increase in its international business. Worswick has been recognized for his company’s success: he was named the 2015 Small Business Exporter of the Year for the North Florida District, State of Florida and the Southeastern United States.

Carol Craig, founder and owner of Craig Technologies, was recognized with the prestigious 2015 Small Business Administration (SBA) Small Business Person of the Year award for the state of Florida and was a finalist for the SBA’s highly-regarded national Small Business Person of the Year award.

Over the years, Craig has benefited from a variety of FSBDC at UCF services and training events which were the platform for her Small Business Person of the Year nomination.

Craig founded Craig Technologies in 1999 as a one person shop providing high-end engineering and technical services to the military and commercial customers. Over the past 15 years, as the company’s reputation for delivering high-quality products and exceptional customer service has grown, Craig has reinvested profits that enabled the company to add product lines and divisions – all based on Craig Technologies’ ability to support projects from concept to real world application with end-users in mind. Today the company she founded and built has grown to approximately 430 employees and $40 million in revenues.

To help her along over this period, Craig attended seminars, participated in events and received government contracting consulting from the FSBDC at UCF and it’s sub center at Eastern Florida State College. Most recently, Craig partnered with the Florida SBDC at UCF, supported by Enterprise Florida, to develop an international marketing strategy. Working with Jill McLaughlin, the FSBDC’s International Trade Specialist, the company took advantage of what Craig calls a “great opportunity” to develop an Export Marketing Plan. The Plan targeted foreign markets for Craig and recommended market entry strategies and opportunities for identifying trading partners.

“The plan gives a really good basis and foundation for our global push,” Craig says. “We can now go to the international markets with confidence and be far more competitive.”

When asked about her experience with the FSBDC, Carol states, “I would tell other business owners to take advantage of the SBDC now, even if you think you don’t have the time. It’s important. They have great programs and will shorten the amount of time it takes to succeed.”
UCF Engineering Grad Turns Entrepreneur, Twice

UCF graduate Darren Engle began his career as an engineer but ultimately found his calling in entrepreneurship. After working as a mechanical systems engineer at Siemens, Engle decided he wanted to focus on advancing the state of the art for energy and automation systems. As a result, in 2005 he launched startup company Acudyn Incorporated, a research, design and development corporation specializing in the advancement of energy and automation technologies.

“I wanted to focus my time on the advancement of technology,” explains Engle. “Technology that would lead to the betterment of mankind. It’s what I feel I was designed and created to do.”

As a UCF Business Incubation Program client, Acudyn successfully developed a compressor-less micro gas turbine power generation system — a technology designed to replace batteries where high energy density was required for sustainable durations. In addition to developing technology, Acudyn also provided its intellectual capital in the form of external engineering support to Fortune 500 companies. Acudyn was successfully acquired in 2014 by FAZ Technology Inc.

Engle’s latest venture, Multicore Photonics, has him back at UCF, where he licensed an optical fiber technology from the university. The technology was initially developed at CREOL (UCF’s College of Optics and Photonics) and will be used to develop next-generation fiber optic sensors and instrumentation for industrial applications. This new optical fiber is expected to largely displace fiber Bragg gratings (FBGs), the current industry-standard fiber technology for optical sensing. Multicore’s sensors can measure temperature, pressure, chemical, flow and structural conditions in excess of 1000 C and will enable industrial assets and facilities to diagnose themselves in what is called condition-based maintenance (CBM) through smart sensing. This machine-to-machine/machine-to-facility communication is part of a global trend known as the Internet of Things, where objects can transfer data over a network without human interaction. It will be part of what is called Industry 4.0.

What advice does Engle have for those apprehensive about making a career choice that involves transitioning from doing something they know to something they would love to do? “The pursuit of one’s purpose will never result in failure, it will only lead to understanding,” says Engle. “All great men and women have failed at some point in their life while pursuing their dreams. Failure can only lead to humility, wisdom and understanding, which ultimately lead to purpose. I can confidently say that if you don’t jump, then you will never really know how the water feels.”

Engle earned both a B.S. in mechanical engineering and an M.B.A. from UCF.
UCF Reports $133.4 Million in Research Funding in Fiscal Year 2015

Multi-functional Integrated System Technology Center with the University of Florida to improve the development of “smart” systems that connect data and devices to the internet, analysis of real-time traffic data along interstates 4 and 75 to help protect drivers in foggy conditions, and a partnership with researchers in Ireland to monitor the condition and safety of bridges.

The Institute for Simulation and Training received $15.5 million, a large portion of which comes from the Department of Defense for development of methods to train and protect soldiers through simulation.

The College of Optics & Photonics received $14.7 million, including $1 million from the Defense University Research Instrumentation Program for state-of-the-art equipment to produce the world’s shortest laser pulses. UCF holds the world record, established in 2012, for generating a pulse of 67 quintillionths of a second.

UCF received 57 patents in FY 15 and was ranked in the top 30 worldwide in the latest survey by the National Academy of Inventors and the Intellectual Property Owners Association for innovation.

We are working with partners and industry to make Central Florida an epicenter for innovation, technology, and entrepreneurship.

- Thomas O’Neal, Ph.D.

UCF Professor Appointed to National DARPA Study Group

UCF computer science professor Gita Sukthankar, Ph.D., has been appointed to the Information Science and Technology study group for the Defense Advanced Research Projects Agency (DARPA).

Sukthankar, who specializes in robotics and giving computer-based agents human-like levels of decision making, joins a group of 30 of the brightest scientists and engineers in the nation on the advisory panel. The group meets three times a year to discuss new research developments in computer science and to advise DARPA on future information technology funding priorities. Sukthankar said that the group helps alert DARPA to new breakthroughs by promoting interdisciplinary conversations between researchers working in different areas of information science. She is the first UCF professor to serve in this role.

Sukthankar is a recipient of both the National Science Foundation CAREER award and the Air Force Office of Scientific Research Young Investigator award and in 2015 received UCF’s Reach for the Stars award, which included a $10,000 annual research grant for three years. She has published dozens of articles on cutting-edge topics such as crowdsourcing sensor data, agent-based social simulations, and models for human-robot interaction.

FRAC in 2016

Plans are underway for the second annual 2016 Florida Research Administration Conference (FRAC) hosted by UCF’s Office of Research and Commercialization (ORC). The inaugural conference held last year sold out, attracting more than 170 research administrators from more than thirty institutions and eleven states.

This full-day research administration conference will take place on Friday, January 15th, 2016 at the UCF Student Union followed by a networking outing. Pre-meeting activities and a reception take place on Thursday. Visit the website for the full agenda.

“FRAC not only brings outstanding professional development to UCF research administrators, but also provides much needed professional development for some of our partner institutions that otherwise could not afford to attend a training conference. This is just one more effort by UCF to cultivate and support world-class research that leads to commercialization and economic growth,” says Jennifer Shambrook, Ph.D., director of the Contracts and Grants department at UCF’s ORC.

In conjunction with the conference, the Research Administrators Certification Council will host a CRA Review Session on Saturday, January 16th at UCF. To register for the CRA session, please visit the FRAC Conference link.

The goal of the conference is to create a high quality, professional development event with a broad range of topics relevant to research administrators at a low cost. Registration is only $100. CEU’s will be offered for this conference. Details available at research.ucf.edu.
ICAMR’s Workshop Attracts World’s Leaders in Advanced Manufacturing Processes

Representing the industry’s leading companies, national laboratories and universities, more than 50 industry experts recently came together to provide their insights and guidance on high volume manufacturing of novel materials for advanced sensors. It was part of the technology roadmapping workshop coordinated by the International Consortium for Advanced Manufacturing Research (ICAMR).

The workshop—which took place during SEMICON West 2015, the premier global microelectronics event—is part of a series designed to provide direction to ICAMR’s overarching programs and facility/equipment plan and enable it to serve as a provider of advanced manufacturing processes on a global scale for emerging products.

“This was an outstanding knowledge-sharing event and provides us with excellent insight into the key issues and challenges that need to be addressed in the development of advanced sensors and other intelligent devices,” said Dan Holladay, executive director, ICAMR. “It’s a crucial part of our mission to identify these challenges, form the technology roadmap, and develop the innovative manufacturing processes to achieve these smart sensors, photonics, optics and other advanced technologies.”

The development of a technology roadmap is key for the high volume production of smart sensors and other advanced devices that meet the requirements for smart manufacturing, the future of the defense market, and the consumer Internet of Things (IoT), among others.

This workshop, which also served to introduce ICAMR to the international microelectronics industry, focused on high volume manufacturing of III-V and other novel materials on Silicon-based wafers for smart sensors, photonic, and semiconductor applications. It included presentations related to manufacturing concerns and innovation needs, and active discussions with participation from industry statesmen including technical leaders from organizations such as Raytheon, Sandia National Labs and Aixtron. Going forward, workshops in the series will thoroughly address deeper investigations into those challenges defined in the SEMICON West workshop, as well as addressing packaging, 3D integration concepts, and others.

“Leading analysts and market researchers are predicting that the next disruptive market explosion will be ‘semiconductor-based’ connected devices, led by advanced sensors and complementary photonic devices,” said Holladay. “ICAMR serves as a foundation for the manufacturing development of these devices, and as a catalyst for innovations in semiconductor-based multi-material CMOS platforms.”

Currently under construction in Osceola County, Florida, the ICAMR state-of-the-art research and manufacturing facility will provide more than 100,000 square-feet of lab and office space to research advanced manufacturing techniques for the above referenced devices. By leveraging unique materials, processes, and background intellectual property, ICAMR will establish a manufacturing development center pursuing universal technology platforms with the economy of scale needed for cost-effective manufacturing. The facility is made possible thanks to the efforts of Osceola County, University of Central Florida, Florida High Tech Corridor, State of Florida, and a number of other Florida-based partners.

Visit ICAMR.net for more information.

UCF Honors Research Administrators

In celebration of the first ever National Research Administrator Day, the UCF Office of Research and Commercialization (ORC) held a special appreciation reception for administrative staff on September 25.

The offices of Contracts and Grants, Research Compliance, Research Development, Research Foundation and members from the Exchanging Ideas and Tips for Research Administrators (EXCIT) meetings all participated. The theme of the reception was, “UCF Research Administrator Superheroes – I’m a Research Administrator! What’s Your Super Power?” According to Dr. Jennifer Shambrook, Ph.D., director of the Contracts and Grants department at UCF ORC, the topic was chosen because of the critical role research administration staff play in helping fuel research and innovation.

Read more about the Florida Research Administrators Conference (FRAC) on page 11.

Debra Reinhart named to the EPA’s Board of Scientific Counselors Subcommittee for Homeland Security

Debra Reinhart, Ph.D., Pegasus Professor of environmental engineering and assistant vice president for research and commercialization, has been named to the Environmental Protection Agency’s Board of Scientific Counselors subcommittee for Homeland Security. The committee provides program-specific advice to the EPA’s Homeland Security Research Program.
Leading Visionaries in Sensor Technologies to Gather in Orlando to Accelerate Development of Ultra-High Volume Sensors Supporting Abundance, mHealth and the IoT

Scheduled in December, TSensors Summit Comes to Central Florida

The world’s leading visionaries in sensor technologies will come together to Central Florida later this year in an effort to accelerate the development of ultra-high volume sensors that will support the vision of “Abundance”, mobile health (mHealth) and the Internet of Things (IoT). A division of the MEMS Industry Group®, the TSensors Summit is part of a worldwide initiative to create a roadmap for the production of trillions of sensors to meet critical life sustaining/transforming needs in areas such as healthcare, food, safe water and clean air.

Scheduled for December 9-10 at the Florida Hospital Nicholson Center in Celebration, the TSensors Summit’s Central Florida location this year is made possible thanks to the combined efforts of Enterprise Florida, UCF, ICAMR (International Consortium for Advanced Manufacturing Research - based in Oceola County, Florida), Orlando EDC and The Corridor, with additional support from ROHM, ams, QuickLogic, Tousimis, Qualcomm, PNI Sensor and New Generation M2M Consortium.

“Advanced manufacturing, networked sensors and the Internet of Things are extremely exciting areas for technology research, development, commercialization and growth,” said M.J. Soileau, Ph.D., vice president for UCF’s Office of Research and Commercialization. “These areas represent significant economic opportunities in terms of new technology advancements, manufacturing and production, goods and services and jobs.”

The TSensors Summit effort was launched in 2012 by Janusz Bryzek, Ph.D., to accelerate the development of sensors supporting “Abundance”—as defined by Peter H. Diamandis, chairman and CEO of the X PRIZE Foundation, and Steven Kotler in their bestselling book, Abundance: The Future is Better than You Think (2012). The Abundance vision is that by the mid-2030s, humankind will end hunger on earth, provide medical care and clean energy to all, and eliminate global pollution. Such utopian goals are made possible mainly by several exponential technologies producing goods and services faster than the growth of global demand for them. Networked sensors are among these exponential technologies. Forecasts for sensor demand are as high as 100 trillion by 2030.

“It was important to us to be part of the team of technology and economic leaders that worked to bring this summit to the area,” said Dan Holladay, executive director of operations and technology Programs at ICAMR. “Next-generation sensor technology and advanced manufacturing capabilities are only going to increase in demand and opportunities.

Supporting events such as the TSensors Summit can only help to support and build upon this region's efforts to become the leader in advanced sensors, photonics and optics, and other advanced device manufacturing.”

The TSensors Summits, hosted in locations around the world, provides crucial information into the emerging future applications—enabling the development of strategic marketing and technology plans for organizations to ride the IoT and mHealth tides, and bringing the vision of Abundance closer to reality. The summits attract a strong cross section of government, academic, research and commercial organizations interested in advancing sensor-based opportunities.

“We attended a recent TSensors Summit and it immediately occurred to us that if we could bring this kind of forward-thinking tech conference to Florida, we could expose the world’s leading sensor technologists to all our state has to offer,” said John Krug, senior director for business development at Enterprise Florida. “Florida, and this region in particular, is in a unique position to support innovative manufacturing processes, materials and equipment for advanced sensors. Hosting the TSensors Summit here—which will attract visionaries, technologists and investors—is yet another step we’re taking to promote Florida's technology advancements as means of creating new high-wage, high-value jobs.”

For more information and to register for the TSensors Summit, visit tsensorssummit.org.
INCREASING IMPACT
2015 FLORIDA COMPANIES TO WATCH
ECONOMIC IMPACT OF 50 SECOND-STAGE COMPANIES

• $457 million in total annual revenue
• 30 percent increase in total annual revenue compared to 2013
• 2,019 full-time equivalent employees
• 374 net new jobs projected for 2015

From 2011 through 2014, these companies generated more than $1.2 billion in revenue and added 996 employees, reflecting a 140 percent increase in revenue and 97 percent increase in jobs for the four-year period. That translates into a 24 percent annual revenue growth and 19 percent annual growth in employees.

These companies project continued growth in 2015, with a 23 percent revenue increase and 19 percent growth in employees compared to 2014. If their projections hold, these companies will have generated $1.8 billion in revenue and added 1,371 employees over the last five years – a 196 percent increase in revenue and 134 percent increase in jobs since 2011.

ACCESSIBILITY SERVICES, INC.
ATLANTIC LOGISTICS
AUTO CUSTOMS, LLC
BIOLOGICAL TREE SERVICES
BRUNO AIR CONDITIONING
COASTAL CLOUD
CTI PHYSICIAN LEADERSHIP INSTITUTE
DESIGN INTERACTIVE, INC.
EDGECOMPANY
FIT2GO MEAL
GENICON
GPS INDUSTRIES, LLC
HIGHWAY SYSTEMS INCORPORATED
IDEAL ALUMINUM PRODUCTS
IMAGE SKINCARE
INTELLIGENT RETINAL IMAGING SYSTEMS, LLC (IRIS)
IQ FORMULATIONS
ISGF
ITS FIBER
KRS GLOBAL BIOTECHNOLOGY
LEAPFACTOR
LOCUS TRAXX WORLDWIDE
LOGUP.COM
MODUS OPERANDI, INC.
MOGULDOM MEDIA GROUP LLC
MOMENTUM CONSULTING CORP.
NANOPHOTONICA
NOBLE
NOVEL ENGINEERING, INC.
ORION TECHNOLOGIES, LLC
PAN AMERICAN FOOD BROKERS INC.
QUALITY ENCLOSURES, INC.
QUALITYHUB, INC.
QUANTACHROME CORPORATION
RED LAMBDA, INC.
RIP-IT SPORTS
ROCHESTER ELECTRO-MEDICAL, INC.
RUSH CONSTRUCTION, INC.
SAVAGE RACE
SOURCE1 PURCHASING
SYMPHONIC DISTRIBUTION
SYNERGY BILLING, LLC
TECHNICAL SOFTWARE SERVICES, INC.
THE BALMORAL GROUP
THE VILLAGES INSURANCE
UPROAR PR
VICTORY MARKETING AGENCY
WOMENCERTIFIED, INC.
YELLOWPEPPER
ZOBILO
UCF I-Corps Announces Third Cohort
Nine Entrepreneurial Teams Selected Representing Cross-Section of University Programs

Nine teams were chosen by the UCF I-Corps selection panel, as part of its activities that support the Florida Innovation Network, to move research discoveries out of university labs and into the marketplace.

Created by the National Science Foundation (NSF), the Innovation program (I-Corps) is an important economic development initiative that identifies university researchers and provides them mentoring and startup funding to connect research into emerging products and services that benefit societal needs.

The third class (cohort) represents a cross section of students from various UCF programs, ranging from entertainment media, nanoscience, virtual simulation, communications and political science to modeling and simulation.

The UCF I-Corps program provides aspiring entrepreneurs with an immersive, hands-on program designed to teach them how to test their ideas, gauge feasibility, understand consumer demand, examine competition and develop mutually beneficial partnerships to help transition their ideas into profitable enterprises. Experienced advisers and mentors oversee the teams and coach them toward success.

“We thought we were brilliant and knew everything we needed to know to succeed, but the I-Corps program made us realize that we didn’t know enough. Throughout the weeks we learned a lot of valuable lessons, as our instructors provided us with the keys to discover our potential and go on to start and grow a successful company,” says David Nash of Smartphone Spectrometer, part of I-Corps first cohort.

Ivan Garibay, Ph.D., serves as program director for UCF I-Corps. He explains, “UCF’s I-Corps program is a collaborative effort to advance innovative projects with the potential to create new products, companies and jobs within the state. It serves as a key economic engine in the entrepreneurial ecosystem.”

For more information about UCF I-Corps, please visit icorps.cie.ucf.edu or contact Ivan Garibay at ivan.garibay@ucf.edu or 407-882-1163.

The UCF I-Corps program is administered by the university’s Center for Innovation and Entrepreneurship (CIE), a department that consolidates and coordinates UCF’s major innovation and entrepreneurship support activities. For details about the UCF CIE, Visit the website: cie.ucf.edu

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Selected teams include:

- **UTA SiM** — Developing a simulation-based tool that allows for fast, easy and automated construction of simulation models from a spreadsheet
- **Wear Lab** — Developing a vibrotactile belt that facilitates safe, efficient, urban navigation for the visually impaired and complements existing technologies
- **Bygshift** — Developing an app to bridge the information gap faced by transfer students
- **Safety Simulations** — Developing a 3-D virtual simulation for safety that can be used by any industry for safety training
- **Diversity and Intercultural Communication Training** — Developing a simulation-based intercultural and diversity training program
- **AR Enhanced Playing Cards** — Developing a procedural- and process-based training tool available on demand
- **Capacitech** — Utilizing nanoscale materials to design and develop coaxial cable incorporated with supercapacitors
- **Wind Swarm** — Developing a reliable, low-to no-maintenance, durable anemometer system with no moving parts
- **iMyth** — Developing an interactive program, theme-world engine to provide an enhanced entertainment and immersive experience to customers

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UCF I-Corps Program Dates for Spring 2016

- September 1: Application Period Opens
- October 20: Application Period closes
- September 15: Initial Interviews
- December 3: Final Selection Team
- December 7: Finalists announced
Building Momentum from I-Corps to the Commercial Market: Talon Simulations Sells Its Full Motion Simulators

Distinguished as one of the first cohorts in UCF’s inaugural I-Corps program, Talon Simulations has successfully transitioned from the Lean LaunchPad program to commercialization. Led by graduate student Brandon Naids, Talon has been recognized for its Atomic A3 Full Motion Simulator, which is for sale to customers worldwide.

Talon recently entered into an agreement with U.K.-based Atomic Motion Systems, which is handling product development and manufacturing. Talon’s Atomic A3 Full Motion Simulator is available as a racing/flight system, hands-on throttle and stick jet system and passenger/ride system. All simulators are packaged with Simphynity motion extraction software with over 100 supported games and Oculus Rift virtual reality headset support.

“Partnering with Atomic Motion Systems was the right fit and the right time for us,” says Naids. “They have great manufacturing capabilities and proven reliability. The relationship allowed us to immediately enter the market.”

Through their I-Corps participation, Naids and his Talon team worked to develop an in-flight training simulator that bridged the gap between expensive, bulky modules and those that are cheaper, static and of lower quality. Their focus was to develop an immersive, affordable and effective flight training simulator. The simulator has received accolades from flight instructors as well as commercial and military pilots during initial demonstrations.

Thanks to its use of flight simulation software, precision motion control and a 360-degree head-tracking virtual reality display, Talon’s simulator provides a reduction in the motion sickness that can occur from this type of simulation training.

“Talon Simulations began with a vision and a passion to revolutionize how pilots learn to fly,” explains Naids, who credits the UCF I-Corps program with providing his team with crucial business knowledge and market intelligence. “The UCF I-Corps program helped launch us down the path of commercialization that we’re following today.”

To learn more, visit TalonSimulations.com.