

PENNSYLVANIA STATE UNIVERSITY



Innovation Park

JOURNEYS

You pick the path, we support your journey

Demand for Space Driving Development



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Park Director Dan Leri with daughters Grace and Faith.

WELCOME TO JOURNEYS

If you're looking for an ecosystem that merges business, education, and research and seeks to keep employees engaged and happy, then you've found it. This is just the beginning phase of your journey: *discovery*.

Sixty-three entities make their home at Innovation Park, including: Penn State's World Campus, recently ranked #1 in the country for online bachelor's degrees; HigherEdJobs.com, a leading career site; and Schoolwires, a one-time start-up that grew up in our incubator program and now employs over 175 people and was recently acquired by Blackboard.

With world-class university research and technology, resources to support startups, and premium conference facilities, Innovation Park provides ample support for businesses in any stage.

Innovation Park at Penn State is a community—we're here to inspire and help each other, to connect and engage, and to build relationships that benefit us both personally and professionally.

Dan Leri
Director of Innovation Park
danleri@psu.edu

INNOVATION PARK BREAKS GROUND FOR A NEW BUILDING OPENING MORE SPACE FOR A GROWING ENTREPRENEURIAL ECOSYSTEM

In October 2014, Innovation Park at Penn State, with Baltimore-based Innovation Capital Partners, broke ground on 331 Innovation Boulevard building, a four-story facility with 82,000 square feet of leasable space. Building 331 will be the first LEED-certified building in Innovation Park and expects a Silver level rating.

“What we really celebrate today is a commitment to a vision for economic development that is based on a partnership between our world-class research University and the business community. The sun is now rising on a new day of technology transfer at Penn State.”

“We're here today for the symbolic groundbreaking, but beyond the dirt, bricks, mortar, and steel is what this new building represents to Penn State University, this region, and the commonwealth of Pennsylvania,” said Penn State Vice President for Research Neil Sharkey at the groundbreaking.

“What we really celebrate today,” he continued, “is a commitment to a vision for economic development that is based on a partnership between our world-class research University and the business community. The sun is now rising on a new day of technology transfer at Penn State.”

“Space in the park has been in demand,” according to Dan Leri, Director of Innovation Park at Penn State. “We've had immediate-need requests and sufficient inquiries for space to initiate the next build program in the West end of the Park. It's one more step in the execution of the master plan build out.”

Innovation Capital Partners, led by managing partner GLP Development, currently owns Buildings 328, 329 and 330 at Innovation Park. The \$17.8 million investment in Building 331 brings the

company's total investment at Innovation Park to nearly \$56 million in the past three years, and they're anxious to do more.

Robert F. Barron, CEO of managing partner GLP Development Company, said Innovation Park is attractive to companies seeking the unique qualities of a college town and access to Penn State resources like research, technology, and talent. “Innovation Park is a unique business campus that's unlike traditional office parks,” he said. “It's as much about the people and the connections they make through the park as it is about the buildings in the park—that's been the key to attracting and retaining resident companies. Having the Penn Stater Hotel & Conference Center within walking distance is a major advantage to our clients in the park. And if you're a parent with kids, to have your child in the Daybridge Child Development Center right next to you is a big plus for our building occupants.”

Barron continued, “Dan's team does a remarkable job creating opportunities for networking and socializing and for dialing into the University's resources, plus they work hard to facilitate use of the park's meeting and conference space, the outdoor space and the Penn Stater fitness facility. Innovation Park is more like a community than an office park. Everything a business needs is right there.”

Sharkey added, “It's time to make the most of the vast resources of Penn State research and talent. In addition to our existing partnerships with the business incubator and the TechCelerator program, Penn State will begin actively promoting entrepreneurship among students and faculty and pursuing business partnerships that facilitate the transfer of research and technology into the marketplace and the full utilization of Penn State talent.”

“It is our time now to share the compelling stories of the risk takers and job creators, many of whom are here today, in order to attract the entrepreneurs and business leaders of tomorrow. The addition of this new building will reinvigorate our efforts to attract more startups while helping existing businesses to grow and prosper. Technologies that are developed and commercialized here will save and improve lives, and will provide the jobs that sustain our local economy and support local families. 331 Innovation Boulevard will add to Innovation Park's portfolio of available space, making it easier for companies to make a home here, and propelling our area into the future,” Sharkey said.

The building is scheduled for completion in late August 2015. Parties interested in leasing space in 331 Innovation Boulevard should contact either Dan Leri at 814-865-5925 or leasing agent Tom MacDonald at 412-434-1028.





FIVE REASONS TO LOVE INNOVATION PARK

1. Many companies that form the foundation of our local economy were started in Innovation Park—several still operate here, employing hundreds of people.
2. Companies in Innovation Park are in close proximity to the airport and have access to top resources, talent, and technology for half the cost of Silicon Valley.
3. Daybridge Child Development Center, a NAEYC-accredited childcare center for kids ages 6 weeks through school age, is located right in Innovation Park for employees in need of high-quality childcare.
4. CoolBlue Community programs at Innovation Park bring employees together for health and fitness, networking, and social events.
5. Innovation Park has a 1.39-mile walking trail loop, along with several other trails, and is connected directly to downtown and Penn State's campus by biking and walking paths.

PENN STATER FAST FACTS

8,000

public, corporate, and university conferences or events held at The Penn Stater in the past six years

1,400

conferences or events held at the Penn Stater each year on average since opening in 1994



RIGHT NEXT DOOR THE PENN STATER

Innovation Park offers the convenience of a world-class conference center right inside the park. Whether it's a small-scale meeting or a major conference, the Penn Stater is the perfect setting.

With various room sizes, technology options, and catering services, the Penn Stater can accommodate any meeting.

The hotel also offers quality accommodations with everything you could ask for, including two unique restaurants to choose from.

At The Penn Stater, you truly experience the best of Penn State hospitality: luxury, comfort, and all the tools to stay in touch and be productive. The conference center is within walking distance of every building in the Park, making it a convenient meeting place.



INNOVATION PARK THEN AND NOW



Antique cars at the I-99 ribbon-cutting ceremony: 2002



Innovation Park: 2001



Innovation Park: 2009

THE HISTORY OF INNOVATION



1920s

Petroleum Research: Penn State researchers pioneer investigations that identified the components of crude oil, leading to significant improvements in the refining process and the development of today's widely used lubricants that can withstand extremes of heat and cold.

1930s

Progesterone: Russell Marker, pioneer steroid chemist, works to synthesize the hormone progesterone and lay the foundation for the birth control pill and medical applications such as cortisones and various hormone and steroid therapies.

1900

1910

1920

1930

1940

1906

Pure Food: Pioneer chemist William Frear analyzes food for government agencies and heads a committee whose recommendations shaped the landmark Pure Food and Drug Act of 1906.



1923

Diesel Engineering: Penn State launches one of the first diesel engineering research programs resulting in discoveries in areas such as supercharging and scavenging leading to better fuel efficiency and the powerful engines of today.



ENGAGING EMPLOYEES RETAINING & RECRUITING TOP TALENT

COOLBLUE COMMUNITY HOSTS NETWORKING EVENTS, FOOD TRUCKS AND RUN CLUBS

BY LEAH GRUBB

Imagine working in a place where you have access to resources, knowledge, and mentors with experience. This place is *Innovation Park at Penn State*.

Built on a theory of collaboration and engagement, Innovation Park designed the coolBLUE Community. This employee engagement program works to increase the quality of work-life for employees and to help companies in the park connect with each other and retain top talent.

CoolBLUE offers:

- Networking and social events
- Workshops and field trips
- Lunch programs (a food truck is in the park every Wednesday)
- Health and fitness opportunities, such as walking and running clubs

Employees also have other unique benefits, such as fitness memberships, restaurant discounts at the nearby Penn State Hotel, and proximity to the NAEYC-accredited Daybridge Child Development Center—all benefits that enhance the quality of work life. Innovation Park gives employees the tools and resources to balance work, life, and family.



TRANSFORMATIONAL DISCOVERIES AT PENN STATE UNIVERSITY

1955

Nuclear Reactor: Penn State became the first university to be issued a federal license to operate a nuclear reactor, which it continues to use for studies in the peaceful uses of atomic energy and the training of nuclear industry personnel.

1974

Pacemaker: A surgeon and two engineers at Penn State perfects the world's first long-life, rechargeable heart pacemaker.



1992

Discovering Planets: Alexander Wolszczan, professor of astronomy and astrophysics, discovers the existence of three planets orbiting outside of our solar system.

1950

1960

1970

1980

1990

2000

1970s

Transdermal Patch: Researchers at Penn State pioneered transdermal drug delivery by making research discoveries that later were developed into products that could deliver a dose of medication through the skin.

1976

Artificial Organs: A heart-assist pump developed by medical and engineering faculty to prolong the lives of cardiovascular patients is the first surgically implantable, seam-free, pulsatile blood pump to receive widespread clinical use.



1997

Astronomy: Penn State, with the University of Texas, operates the Hobby-Eberly spectroscopic survey telescope, the largest instrument of its kind in the world, which measures individual wavelengths of light to reveal information about stars, galaxies, and other deep-space phenomena.

WORDS OF WISDOM

FROM INNOVATION PARK'S COOLBLUE MENTORS



Allan Darr of ProAct, Ltd. on Commitment

"Owning your own business is a marathon, not a sprint. You have to grind it out. Get out there and keep pounding away every day. So many think the idea is the thing, but it's really the execution.

Thomas Edison had it right when he said, 'Genius is one percent inspiration and ninety-nine percent perspiration.'"



John Rodgers of Dale Carnegie on Obstacles to Success

"Emerging entrepreneurs have visions and dreams that can cloud their ability to see the current reality of the market. Leaders of mature companies have goals that they want to achieve, and

sometimes those goals decrease their ability to see the current reality. Confronting the current reality is always the main challenge to getting to the market and being successful."



Jeremy Frank of KCF Technologies on Success

"Starting, managing, and growing a successful business require work ethic, courage, and willingness to find mentors in those around you."



Greg Woodman of Affinity Connection on Attitude

"I think the entrepreneur must enjoy the adventure of 'cracking the code of business' to make a real impact. If so, the struggle and delayed gratification (and that delay is always 5 to 10 years longer

than you planned) is fun. If not, the struggle is hell, and you can become bitter and cynical."

STARTUP CREATES APPS FOR MOMS

FAIRTECH LABS CEO SAYS HER INSPIRATION COMES FROM HER OWN LIFE AS A MOTHER

BY HARRY ZIMBLER

Success requires more than just an idea. Passion also comes into the equation, and few passions are as emotionally charged as those that reduce toddler tantrums, time away from your family, and unnecessary expenses. That's why former Raytheon employee, Lindsay Fairman, has found success through her startup, FairTech Labs, after she took a shot at entrepreneurship.

"After our first child, it was so challenging to keep track of all the household and grocery products we needed in our home," said Fairman. "I didn't want to just make lists. I wanted a solution that did the work for me."

Shelf Scouter (www.shelfscouter.com), the new web and mobile app from FairTech Labs, helps families track the products they have, know what they need, and determine the most convenient way to purchase them. The app even connects with Amazon and Walmart to

"Shelf Scouter, the new web and mobile app from FairTech Labs, helps families track the products they have, know what they need, and determine the most convenient way to purchase them."

show you if your large and heavy products are available for ordering online. By using Shelf Scouter shoppers can plan better, cut out those emergency trips to the store, and stop wasting time in the aisle.

"I wanted to try something new," Fairman said. "I decided to give it a try and I left Raytheon to set up my business. Not knowing how to get started, one day my hairdresser said, 'I have someone you need to talk to.' It was a mentor with coolBLUE at Innovation Park. He sent me to Ben Franklin Technology



Shelf Scouter founder Lindsay Fairman

Partners, and I was thrilled to be able to lean on their resources."

Fairman credits the staff and programs available at Innovation Park with helping her through the startup maze. "Without the Innovation Park team I would still be sitting in my office at home not knowing how to get started. I'm an engineer who has learned a lot about business."

Fairman is thankful for the flexibility that Innovation Park offers. "I had my second child in the middle of building Shelf Scouter. Life happens," she says. "Work and life don't always go together smoothly. There is no 12-week maternity leave in a startup," said Fairman.

With 60 years of combined engineering experience in her staff, Fairman and her team are focusing on the customers and end users. "We have a great dynamic in our office with four women working together to succeed."

"Without the Innovation Park team I would still be sitting in my office at home not knowing how to get started. I'm an engineer who has a lot to learn about business."

Innovationpark.psu.edu

GREAT STARTUPS REQUIRE MORE THAN GREAT SCIENCE

BEN FRANKLIN'S TECHCELERATOR BRINGS REAL WORLD EXPERIENCE TO LAUNCHING STARTUPS IN CENTRAL PENNSYLVANIA

BY HARRY ZIMBLER

It's a long road going from great research to a successful startup.

Getting a startup to bloom into a business with a long-term future is a difficult challenge – even for the most seasoned entrepreneurs.

For this reason, Ben Franklin Technology Partners created its TechCelerator to meet the needs of individuals with interesting research but little business acumen.

“Great intellectual property is not enough,” Don McCandless, head of the TechCelerator, said. “Many of those with great science don't understand how the real world of business works.”

That's where the TechCelerator comes in.

Through the TechCelerator program, Ben Franklin, and its partners offer numerous seminars, workshops and classes in business realities. The capstone experience is its 10-week boot camp beginning with a triage session, where experienced business men and women determine the viability of an entrepreneur's idea.

“We have them come in and tell us their idea. We discuss it for about an hour. The startup team leaves with homework. Most of the time, networking is an important part of what we do. I've lived here 20 years and did not know half of what is available to help entrepreneurs,” McCandless said.

The boot camp also includes classes on intellectual property, business models, and dealing with markets. Financing is also covered thoroughly.

“We make sure the startup teams understand how things really work. We want them to know it's hard work. It's hard work that may require 20 hour days at times,” McCandless said.



Six startups are invited to participate each session that includes one-on-one mentoring and market discovery. Currently, there are two boot camps held each year.

“We tell them they have to talk to the markets. In fact, we force them to do so. Fascinating science isn't going to get it done. The market picks the winners. Our foundational premise is this: ‘Don't build something that nobody wants,’” McCandless said.

Teams are also asked to work on a 2 minute pitch.

“You have to be able to tell us what your idea for a business is. Nobody cares about your technology,” said McCandless. “They want to know what problem you'll be solving. How are you going to make money? They are forced to craft and refine their message. In this regard, the interaction between class members is very helpful.”

At the end of the boot camp, the teams make presentations in front of a guest panel of judges. Based upon that presentation, one of the six participants is awarded a \$10,000 prize.

Thus far, 36 teams have gone through the 10-week program. The advice and mentoring continues as Ben Franklin Technology Partners staff help with financial information and market statements.

“We want to keep them engaged and continue helping them through the process,” McCandless said. “We offer free and confidential consulting. Everyone is happy with the results thus far, and we hope this success continues. Things are bubbling here. It seems to be working. The trajectory of our numbers is good.”

BEN FRANKLIN TECHCELERATOR AT INNOVATION PARK: **BY THE NUMBERS**

2.5 years

6 Classes
36 Teams Graduated

34

total companies formed

21

companies based on
Penn State technology

\$3.7

million raised in startup funding

\$2.9

million in revenue

85

full and part-time
employees hired

\$700,000

invested by Ben Franklin

\$100,000

awarded by Vodafone

WHAT INSPIRES YOU?

BRIAN BOOK

Senior Associate at Hazen and Sawyer

“I moved to State College in 1993 to take over a small office of a Regional Engineering Firm. I was probably too young at the time – 28. And, I would say that fear of failure inspired me. In 2010, I moved into Innovation Park and opened a new Regional



Office for Hazen & Sawyer, a National Engineering Firm. I once again drew on fear as my inspiration – fear that I couldn’t do it again, fear that I was too old, etc. There was also a sense that in pressing the reset button, I could remake my office and avoid missteps while focusing on what I loved: helping communities. Teddy Roosevelt said ‘Far and away the best prize that life has to offer is the chance to work hard at work worth doing.’ That would definitely define my career whether it was for Spring Benner Walker Joint Authority, University Area Joint Authority in the past or work we are now doing at the Borough of Northumberland, the Town of Bloomsburg or Penn State University.”

LOCATION CAN MAKE OR BREAK A STARTUP

IS STATE COLLEGE IN THE MIDDLE OF NOWHERE OR ACTUALLY AT THE CENTER OF EVERYTHING?

BY LEAH GRUBB

Location can make or break your business—we hear that all the time. You may think it all comes down to whether there are investors and a market for your product or service in the area. What may not cross your mind is:

- The cost of renting space in your chosen location
- Whether your area gives you easy access to resources

State College may seem like a small place to put down roots for your business, but being in the center of Pennsylvania has significant advantages. State College is within driving distance of 5 major cities: Harrisburg, Pittsburgh, Philadelphia, Washington D.C., and Baltimore—cities that are rich in resources, including technology, raw material, and business connections.

With Penn State and Innovation Park located here, it’s actually the perfect place for your startup. Here’s why:

- Innovation Park offers space in the business

“Spending your early stages in the incubator is a low-risk investment: you’re paying a lower cost for space and you have access to resources, as well as knowledgeable, experienced professionals.”



incubator at a lower cost than other office space you could lease

- The TechCelerator Incubator Program offers more than just reduced operating costs
- Spending your early stages in the incubator is a low-risk investment: you’re paying a lower cost for space *and* you have access to resources, as well as knowledgeable, experienced professionals.

The TechCelerator offers resources specifically tailored to startup companies. Professionals at the TechCelerator provide management guidance, business planning, strategic planning, funding assistance, and marketing counsel. Along with these services, the incubator provides shared conference rooms, equipment, and resources. At a low cost, you have all the tools to gain exposure in the marketplace, build out your professional network, and grow your business.

Where better to start than the TechCelerator Incubator? With easy access to resources, knowledge and experience, and an entrepreneurial culture that fuels innovation, there’s no better place for your company to be than Innovation Park.

STARTUP REVOLUTIONIZES COMMUNICATION IN SCHOOLS NATIONWIDE



FOR THE LAST SEVEN YEARS, SCHOOLWIRES HAS GROWN AT MORE THAN 20 PERCENT EACH YEAR

BY EILEEN WISE

When founder and chairman of Schoolwires, Ed Marflak, started the company in April of 2000, he knew he had a good idea, a strong team, and a clear vision. But he did not foresee just how rapidly the company would grow—at a rate of 20-30% annually. For the past seven years in a row, Schoolwires has been ranked by *Inc. Magazine* as one of the fastest growing privately held companies in the US.

Other industry leaders in education technology have taken notice. In fact, Schoolwires has just announced it will join Blackboard Inc., which provides website hosting and content management solutions for schools. “This news marks a great milestone for Schoolwires, and we couldn’t be more excited to join the Blackboard team,” said Christiane Crawford, president and CEO of Schoolwires. “We are eager to merge these two industry-leading teams and continue our pursuit of helping students be more successful, improving the educational experience in K-12, and investing in the future of this industry.”

“As more parents and students access their school district websites through mobile devices, Schoolwires has developed and refined its technologies to meet these changing needs.”

Schoolwires provides technology solutions to enhance communications at schools throughout the country. Schools need to connect with their many stakeholders both within the school (to teachers, students, and parents) and outside the school (to the community), and that requires some sophisticated technical solutions. As more parents and students access their school district websites through mobile devices, Schoolwires has developed and refined its technologies to meet these changing needs.

Headquartered in State College, today Schoolwires employs approximately 120 team members and has recently expanded internationally with a base in China. Marflak believes it was a great decision to set up shop in State College. As a 1997 Penn State graduate from the Smeal College of Business, he extolls the quality of life, the local talent, and the support of Innovation Park services, such as Ben Franklin Technology Partners. The Ben Franklin team provides early stage funding and business support services to emerging technology-based companies.

“I can’t overstate how important the Ben Franklin team was,” said Marflak. “At the start of a business you are trying to learn, trying to connect with helpful people, and you need funds. They were there with all of those things.”

Ed Marflak, Founder and Chairman of Schoolwires

Marflak also emphasized the importance of *people*, including the company’s CEO Chris Crawford. “Ultimately, every company’s success is the direct result of its people, and we are extremely blessed to have attracted a great, mission-oriented team and unbelievably talented and dedicated leaders such as Chris.”

“We currently serve more than 1 out of every 10 public schools in the country, and that includes more than 20 percent of the large districts such as Dallas, Houston, and Denver,” Marflak explains. “One of the hallmarks of our success is that we make the technology very “turn-key” and easy to use for the school districts, which often don’t have the personnel or the resources to create these technologies for themselves.”

“I can’t overstate how important the Ben Franklin team was. At the start of a business you are trying to learn, trying to connect with helpful people, and you need funds. They were there with all of those things.”

In addition to the merger with Blackboard Inc., what is really keeping Marflak hopping is the recent expansion of operations to China. He said, “China has some great programming and technical talent that is versed in the same technologies that Schoolwires uses in the US. So we made the decision to do some of the R&D and quality assurance work there with a deliberate eye toward using that office as a base to expand to see if some of our products and services might be marketable in China as well.”

Marflak grows reflective when analyzing the elements needed to create a successful business. He said, “Clearly defining values, mission, and vision are crucial. It’s not just an exercise. It creates the framework to which team members can hold themselves and each other accountable.”

Marflak grew up immersed in the world of education with both parents being teachers. While he always respected their profession, he knew from high school age that he wanted to go into business. “I don’t know if it was nature or nurture, but somehow I was attracted to the technology needs of schools.”



LOCATION LOCATION LOCATION

JUST A FEW HOURS FROM 20 PERCENT OF THE COUNTRY'S MANUFACTURING AND INDUSTRIAL INFRASTRUCTURE, A FEW BLOCKS FROM CAMPUS, AND A BIKE RIDE AWAY FROM HOME, THERE'S NO PLACE ELSE KCF TECHNOLOGIES WOULD RATHER BE

BY JODIE DELLO STRITTO

Born out of Penn State's Center for Acoustics and Vibration, KCF is a true story of technology transfer or, as CEO Jeremy Frank said, "taking ideas from the lab to the world." It's a process that's not for the weak in spirit.

Listen to Frank tell KCF Technologies history and you'll learn it requires determination, flexibility, support and at times, even a little soul-searching. After some highs, lows, and a couple of key pivots, KCF is making it work by relying on its core expertise and continuing to keep close ties with the university and the resources it offers, Frank said.

"We went through the start-up incubator in Innovation Park, we're a two-time recipient of Ben Franklin funding, and the majority of our talent are Penn State alums—many of whom graduated, moved away, then came back to work with us," he said.

Frank and KCF's VP of Sales and Marketing Ben Lawrence, along with many of their employees, share a passion for another important factor that keeps KCF here: quality of life.

"The schools are good, the area is beautiful, and you get to enjoy small-town living with the perks of a university town," Lawrence said.

**"I bike to work every day, so does Jeremy. I spend my day with brilliant engineers whose ideas are changing the world, and at the end of the day we all get on our bikes and go home... how awesome is that?"
—Ben Lawrence**



Jeremy Frank, CEO of KCF



Ben Lawrence, VP of Sales and Marketing at KCF

Both men are avid bikers – along with at least four other staff members judging by the number of bikes hung in the entry way – and love the ease that State College offers for their preferred mode of transportation.

I bike to work every day, so does Jeremy," Lawrence said. "I spend my day with brilliant engineers whose ideas are changing the world, and at the end of the day we all get on our bikes and go home... how awesome is that?"

Pretty awesome, according to Frank who said, "2015 is the year." KCF is hitting its stride.

After tripling sales in 2014 to around \$750,000 from a modest \$250,000 the previous year, Frank has his sights set on \$2.25 million – a big but achievable leap for this tenacious former startup.

KCF's current product, SmartDiagnostics, "gives machines a voice" by combining low-power wireless sensors with software into a monitoring system that helps engineers and technicians predict when a machine requires maintenance.

"Every machine speaks, and up until now, humans couldn't listen or understand in a simple and affordable way," said Lawrence. "The implications are extraordinary for manufacturing, oil and gas, power generation, and energy efficiency."

As you might expect, SmartDiagnostics is a hit in the shale gas industry, which drove half of the company's 2014 sales, and provided support in the form of grant funding from the Shale Gas Innovation and Commercialization Center and through D2PA, the "Discovered in Pennsylvania, Developed in Pennsylvania program," which seeds innovations that promote technology transfer.

"We're at the epicenter—geographically and with our product offering—of the biggest thing that's happening in energy production," Lawrence said. "The opportunity is big, and a lot of it is right in our backyard."

Not to mention, he adds, KCF is just a 3-6 hour drive from key mid-Atlantic and East Coast manufacturing hubs. "From here, we have an incredibly wide reach: Pittsburgh, Philadelphia, DC, Wilkes-Barre-Scranton, Baltimore, Cleveland, Buffalo... they're all in a doable driving distance, which is critical for selling and implementing a system that monitors machines."



Bike racks hang outside the KCF office.

TECH STARTUP HOPES TO REPLACE TONGUE DEPRESSORS WITH LIGHT BEAMS

ATOPTIX DEVELOPING GROUND BREAKING TECHNOLOGY THAT ALLOWS DOCTORS TO SEE INSIDE YOUR BODY WITH A SMART PHONE

BY HARRY ZIMBLER

Imagine that your doctor will someday be able to diagnose health problems by shining a beam of light on your skin. According to one startup at Innovation Park, this is the future of diagnostic medicine.

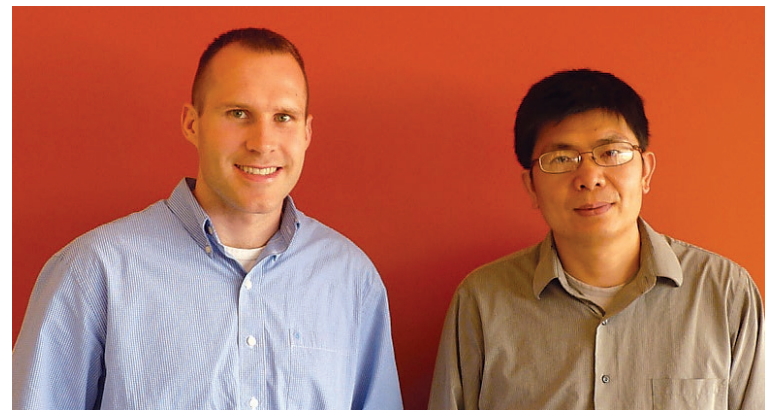
Atoptix, located in the Technology Center at Innovation Park at Penn State, is working with technology developed at Penn State that uses spectroscopy for a wide range of applications. Spectroscopy is the science of using light – its color and wavelength – to determine the makeup of matter.

Co-founded by Perry Edwards and Penn State Professor Zhiwen Liu, Atoptix currently is developing high-performance mobile optical spectroscopy solutions based on patent-pending technology.

“The name of the company is a combination of the word ‘top’ and the word ‘optics,’” explained Edwards. “We are developing a new type of optical sensor that will be used in a totally non-invasive approach.”

In fact, the sensor will focus a beam of light on the skin of a patient and allow a medical professional to be able to say what is happening beneath the surface. This will allow for information to be gathered in localized tissues. The company is developing and perfecting a mobile medical sensor that can be used conveniently in a doctor’s office.

“We are currently working with Centre Volunteers in Medicine in State College,” Edwards said. CVIM is a volunteer healthcare organization that provides service to individuals who are uninsured or underinsured, at low or no cost.



Atoptix cofounders Perry Edwards (left) and Zhiwen Liu (right).

Thus far, Atoptix has found its device is particularly good for identifying diabetic neuropathy.

Edwards said that the company will seek partners in the medical industry that will incorporate its technology in a variety of products.

“Our technology brings a miniaturized approach to diagnostics,” said Edwards. “We see ourselves as a technology development business. There is a transition coming. The next phase of medical devices will involve sophisticated instruments used in the doctor’s office.”

“The ecosystem in this building is great. We can bounce ideas off of other companies in the Technology Center. We are fortunate to be here. There is a true entrepreneurial spirit here. We can walk down the hall and talk to business development people who can help speed things up for us.”

Funded by the Ben Franklin Technology Partners, Atoptix went through the Ben Franklin TechCelerator, an experience that helped them jump start their business.

“We have dedicated mentors and we’re part of the coolBLUE Community,” said Edwards. “The eco-system in this building is great. We can bounce ideas off of other companies in the Technology Center. We are fortunate to be here. There is a true entrepreneurial spirit here. We can walk down the hall and talk to business development people who can help speed things up for us.”

Additionally, Atoptix participated in the Annual Nokia Sensing X Challenge. “We were one of 11 teams invited to compete in this intense global competition,” said Edwards. Although Atoptix did not place in the top three, they were grateful for the opportunity to be considered a serious competitor in the sensing device market segment.

LOOKING FOR FUNDING? **TRY THE FED**

ACTUATED MEDICAL CEO SAYS GOVERNMENT GRANTS LAUNCHED HER COMPANY TOWARD SUCCESS

BY MAUREEN L. MULVIHILL

When we started Actuated Medical (AMI), we knew the right technologies integrated into the right medical devices would help patients. We had big ideas and devices we were pursuing but then Paul Frankhouser said, “You know what you need to do? You need to clear clogged feeding tubes.”

We knew that was a great idea but we had no money to develop the device on our own. Angel and VC investors were not willing to fund us because the idea was too early and unproven. Ben Franklin provided seed funding the year before but could not offer anything additional.

So where could we find money? The National Science Foundation and the Small Business Innovation Research (SBIR) program to the rescue! TubeClear was on its way!

TubeClear, a device to clear clogged feeding tubes, was developed using these grants and a little angel investment. We manufacture it in Bellefonte and sold it worldwide through Corpak MedSystems.

AMI was selected as a 2014 Tibbetts Award for SBIR Excellence in commercialization. We continue to leverage SBIR grants with other funding sources – including increasing product sales – to develop technology, grow the company, and make a difference in patient care.

The SBIR program is the federal government’s strategic investment in high technology innovation through small business. It is a competitive program with a win rate of about 12 percent.

The program is structured in three phases. Phase I – about \$150,000 – establishes technical merit, feasibility, and commercial potential of the idea. Phase II – about \$1 million – moves the technology to commercial readiness. And Phase III focuses on commercialization.

Commercialization, patents, family-sustaining job creation, and tax revenue are just a few of the economic benefits of the program. The trick to SBIR success is to have a commercialization strategy before you write the Phase I grant. Success is not an exciting prototype, it is a device on the market.

For more information on the SBIR program, visit www.sbir.gov. For more information on Actuated Medical, visit www.actuatedmedical.com and for TubeClear, visit www.tubeclear.com.



Maureen L. Mulvihill co-founded Actuated Medical in 2006. She has been a finalist for the Ernst & Young Entrepreneur Of The Year Award, recognized by Pennsylvania Business Central as one of the top 100 business people in Central Pennsylvania and as an Enterprising Women of the Year by Enterprising Women Magazine.

Penn State is offering a workshop to secure Small Business Innovation Research Grants on March 26 at the Nittany Lion Inn. For more information contact Don Mothersbaugh at 814-863-6335 or donm@psu.edu.

DRONE STARTUP SOLVES SAFETY CONCERNS

INNOVATION PARK STARTUP SAYS SOLUTION IS IN TECHNOLOGY, NOT PREMATURE LEGISLATION

BY BRAD GROZNIK

Ares, a new drone startup out of Techcelerator at Innovation Park, says it can solve many of the concerns politicians and government regulators have about out-of-control drones dive bombing pedestrians or interrupting the flight paths of commercial jets.

“Drones will one day be a part of society like cars and planes.”

With its groundbreaking iPhone and iPad app, users draw a flightpath and Ares safely flies on autopilot. Additionally, the drone has added safety features preventing it from flying near airports or above 400 feet, which is the prescribed altitude limit set by the Federal Aviation Commission (FAA).

“We believe drones will eventually impact virtually every industry from filmmaking to farming. But we agree they should be safe for everyone. That’s why we made a drone without the confusing controls and even added safety features to ensure they only fly where they’re allowed,” Ben Brautigam, co-founder of Ares, said.

On the early morning of Jan. 26, an inebriated government worker crashed

landed his personal drone on the lawn of the White House, resulting in widespread news coverage about the security threats posed by drones.

In December, the New York City Council introduced legislation that would banish drones from the city after a report from the FAA reported 12 incidents in New York or near Newark Airport where pilots saw drones close to planes or helicopters.

While the Ares founders agree flying drones near airports is a problem, they believe the solution is in technology, not premature legislation.

“We want to work with the government, not fight it. Drones will one day be a part of society like cars and planes, and we’re hoping the government realizes this so we can partner together in ushering in this next wave of innovation,” Justin Miller, co-founder of Ares, said.

Ares has pre-programmed geo-fences that forbid the drone from flying near airports or other areas off-limits.

“If you accidentally drew your flightpath through LaGuardia, the drone wouldn’t even take off. It knows it’s not allowed to go there and it won’t. You’ll get the most epic shots from Ares but only if it’s safe,” Sherwyn Saul, co-founder of Ares, said.



PENN STATE SETS THE STAGE FOR ECONOMIC DEVELOPMENT & STUDENT SUCCESS

BY HARRY ZIMBLER

For decades, Penn State has produced influential, leading edge technology and research, and helped transform those ideas into booming businesses. Penn State University President Eric Barron recently announced the Invent Penn State Program, designed to put even more energy behind entrepreneurship, job creation and tech transfer.

Beginning with an initial \$30 million investment and an additional \$5 million per year commitment, the university hopes to create a boon in local and statewide economic development and student career success. Penn State is poised, according to Barron to take on ambitious goals through the initiative.

“Nearly every business magazine survey places Penn State at or near the top in starting salaries for graduates and in producing an exceptionally prepared workforce.”

“Our institution ranks in the top 20 U.S. universities in research productivity, and consistently tops \$800 million in research expenditures annually,” he said. “In addition, Penn State is the single largest contributor to the state’s economy, generating more than \$16 billion annually. This success has translated into job creation and a reputation that helps students land competitive jobs. Nearly every business magazine survey places Penn State at or near the top in starting salaries for graduates and in producing an exceptionally prepared workforce.”

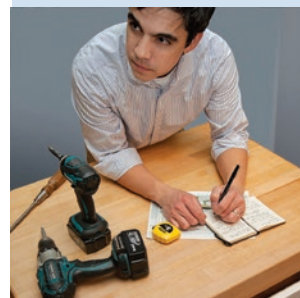
Through Invent Penn State, a culture of entrepreneurship will extend beyond the core STEM area into the arts, health and human development, and education, and from University Park to all of Penn State’s campuses across the Commonwealth.

Vice President for Research Neil Sharkey said Innovation Park at Penn State will continue to serve as a hub for entrepreneurship as well as for mature companies seeking to partner with Penn State to recruit top talent and take new technology to the marketplace. “As we’ve seen with the new building at 331 Innovation Boulevard, we can continue to attract investment to the park. It provides a proven environment for growth and for companies seeking the support and resources to get innovative ideas off the ground.”

ENGINEERS BY DAY, ROCKSTARS BY NIGHT

HOW THE ENGINEERS OF RTD EMBEDDED TECHNOLOGIES SPEND THEIR EVENINGS

From marketing and photography to hardware design and delivery, RTD employees have a busy day job. But it’s a different story out of the office. These three men put their talent and passion towards the arts. From playing at local venues and performing around the state to drawing, sculpting, and woodworking, these guys do it all.



**Stephen St. Amant: Director of Marketing
RTD Embedded Technologies, Inc.**

“My creative work doesn’t stop when I leave the office. I spend most evenings and weekends creating drawings and sculptures and building furniture. There’s something satisfying, obsessive, cathartic, and exciting about art.

I’m also an occasional piano player and vocalist at St. John the Evangelist Catholic Church in Bellefonte.”



**Ryan Alford: Senior Engineer, Computer Architecture
RTD Embedded Technologies, Inc.**

“I currently play electric guitar and slide for Chris Rattie & The Brush Valley Ramblers. Unlike a lot of local bands, we spend a lot of our time traveling to play shows across the state. The small town of Millheim

has really welcomed us with open arms. We kicked off the year with successful performance and food drive at the Bremen Town Ballroom, and rumor has it that the Ramblers will be playing out at Elk Creek Café this April.”



**John Hazel: Senior Vice President and Chief Operating Officer
RTD Embedded Technologies, Inc.**

“I play guitar for the bands Hitchcock Railway and Nitro. Hitchcock Railway is a local band playing most weekends at local venues like The Arena Bar and Grill. Nitro is a band that I have been a part of since 1979. We don’t play

very often but we’re actively writing and recording in my home studio. Nitro has several albums that have been released by various record labels around the world.”



EVENTS & ATTRACTIONS

The Bryce Jordan Center

Home to Nittany Lion and Lady Lion basketball, the BJC also serves as central Pennsylvania's major concert venue, hosting superstar shows each year, like Billy Joel, Cher, and Bruce Springsteen.



Central PA 4th Fest

This daylong celebration features a parade, family-friendly entertainment, a giant American flag cake, and one of the top 5 fireworks displays in the country.

State College Spikes

Minor league affiliates of the St. Louis Cardinals, the Spikes light up State College summers with unique promotions, community events, and family fun.



Central PA Festival of the Arts

Consistently ranked among the top outdoor fine art and fine craft shows in the nation, Arts Fest draws more than 300 exhibitors and 100,000+ visitors every July.

Centre County Grange Fair

The nation's only encampment fair offers family fun, unique and delicious food, national entertainment acts, and farm and animal exhibits every August.



Penn State Athletics

From Beaver Stadium to Rec Hall to the brand new Pegula Ice Arena, Penn State sports are an entertainment highlight all year long. Cheering the Nittany Lions and Lady Lions on to victory is a favorite local pastime.

Penn State's Center for the Performing Arts

Bringing world-class national and international performances in theatre, dance, music, and more to the central Pennsylvania stage.

NATIONAL RECRUITERS TARGET PENN STATE GRADUATES AS NEW HIRES

PENN STATE RANKS NO. 1 CHOICE AMONG 100 UNIVERSITIES BY RECRUITERS

BY EILEEN WISE

The combination of gently rolling hills, excellent quality of life, and plenty of great talent are three compelling reasons aspiring entrepreneurs are attracted to the State College area. The talent, of course, is the large pool of Penn State graduates.

A 2010 *Wall Street Journal* survey of 479 recruiters from national companies representing over 30 industries ranked Penn State as their No. 1 choice among 100 universities. The second and third ratings went to Texas A&M and the University of Illinois at Urbana-Champaign, showing that Penn State and other large state universities have become even more appealing to recruiters than the traditional Ivy League schools.

branch offices to position themselves near large state universities with diverse talent. The proximity gives them year-round access to interns and a higher probability that new graduates already reside locally, eliminating relocation costs.

Orndorff explained, "Collaborative project work is a win-win for the companies and the students. Students get a great experience, and the company representatives get to know students personally and identify talent on a deeper level."

Orndorff continued, "Some of the qualities and skills that recruiters are seeking are very hard to assess in a one or two-hour interview. Recruiters tell us that, in addition to academ-

“Penn State continues to make the cut as a Tier 1 recruiting school year after year.”

According to Bob Orndorff, Penn State Senior Director of Career Services, "Much of the appeal for the companies is attributed to the wide diversity of majors, the ability to give students a well-rounded education, and the fact that these graduates tend to fit well into their corporate cultures."

In recent years, large corporations have begun concentrating on 20, 30 or 40 institutions where they have had the best track record and are interested in building deeper relationships. Penn State continues to make the cut as a Tier 1 recruiting school year after year.

These companies are investing in meaningful internship opportunities, partnering with on-campus clubs and organizations, and collaborating with faculty to offer projects in which students work to solve real world problems.

Some companies, such as Google, Campbell Soup, Aernnova Aerospace S.A., and Barracuda Networks, have even relocated or opened

ic and technical preparation, they are looking for three additional qualities: people skills, character, and critical thinking. For example, the College of Engineering's Learning Factory offers collaborative industry-related projects. In these group projects companies can observe first-hand the skills they are looking for – cooperation, teamwork, communication, a solid work ethic, integrity, motivation, and initiative, as well as the abilities to handle adversity and adapt to changing conditions.

Orndorff credits Penn State alumni with helping to keep the university at the forefront for recruiters.

"We're very fortunate to have Penn State alumni doing great things all over the world that keep these large companies coming back," he said. "Their attitude is, 'Boy, we really like Penn State graduates. They're doing great things for us, and we'd like to hire more.'"

LIVE, WORK, PLAY IN THE HAPPIEST PLACE ON EARTH

BY LEAH GRUBB

State College, or Happy Valley as it's more affectionately called, truly offers the top-notch quality of life you're looking for. We've received numerous national awards for our small town atmosphere, sense of community, and connection to world-class research facilities at Penn State. Happy Valley is the place where work and personal life are priorities, and both are richly rewarding.



Penn State's Center for Performing Arts

What's in Happy Valley for you?

Access to Resources

Innovation Park at Penn State offers many programs to help guide and fund startup companies. The Ben Franklin TechCelerator and the Small Business Development Center provide help in recruiting top talent, accessing technology and other resources, and forming a solid business plan. If you're a new entrepreneur, you've got a wealth of knowledge at your fingertips.

State College Area School District earned a silver medal in U.S. News and World Report's premiere ranking of the nation's best high schools in 2008.

Flexibility for your Family

State College offers over 35 daycare facilities and a variety of schools for your children. State College Area School District is one of the best in the state; the school earned a silver medal in *U.S. News and World Report's* premiere ranking of the nation's best high schools in 2008 and was rated one of the "Top High Schools in the Country" by *Newsweek* magazine in 2007. For those interested in Catholic education, State College offers some viable options including Our Lady of Victory Catholic Elementary School and Saint Joseph's Catholic Academy.

A Short Commute

Living and working in State College gives you an added sense of flexibility. When home, work, and your child's daycare or school are all within a short distance, you're available if need be. With less travel, you can quickly make it home from work for family time.



Central Pennsylvania Festival of the Arts, held every year in downtown State College

Recreation & Entertainment

Centre County offers both youth and adult recreation programs, all kinds of community events and festivals, musical performances, and multiple wineries, breweries, and distilleries. There's something here for you, no matter what your interests are.

Outdoor Recreation:

Centre County offers over 44 parks (including 5 state parks) and other nearby outdoor recreation opportunities. Lake Raystown in Huntingdon County offers fishing, boating, hiking, kayaking, and more. Spruce Creek is also a popular spot for fishing—even former presidents Dwight D. Eisenhower and Jimmy Carter have made visits here to fish.

If your interests lie in the arts, there's certainly something here for you.

Performing Arts: The Center for the Performing Arts | The Playhouse | The Pavilion | The State Theatre

Art Galleries: Green Drake Gallery & Arts Center | Palmer Museum of Art | Gallery Shop

There's also several crafts and arts festivals, including the Central Pennsylvania Festival of the Arts, one of the top shows in the nation.

State College is a town fueled by and filled with innovation, but it's also a family town. Don't have a family yet? There are plenty of social organizations and networking events for young professionals. The area also features public transportation such as CATA buses, fine dining, a vibrant nightlife, and networking opportunities—making this a great home for young professionals just beginning their careers.

Happy Valley has something for everyone, making it the best place for your business, you, and your family.





Innovation Park at Penn State

www.innovationpark.psu.edu/331

NOW UNDER CONSTRUCTION

331 Innovation Boulevard
State College

We Are... Growing!

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- The center of Penn State's entrepreneurial ecosystem
- A network of business resources for start-ups and growing businesses
- Among the top places in America to live, work and play



Listed Among "Twelve Building Projects That are Reshaping Pennsylvania" by KeystoneEdge



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Praise for State College:

- Best Places to Live & Launch, CNN Money
- Twenty Best College Towns in America, Business Insider
- #1, Happiest Small Place in America, Movoto



Praise for Penn State:

- Recruiter Ranking, Wall Street Journal
- Top 100 Universities in the World, World University Rankings
- Top 50 Best National Universities, U.S. News & World Report

Innovation Park Attributes



- Northbound and Southbound Accessibility to I-99
- CATA Bus Service
- Penn Stater Hotel and Conference Center
- NAEYC-Accredited Daybridge Child Development Center
- Five Miles to University Park Airport