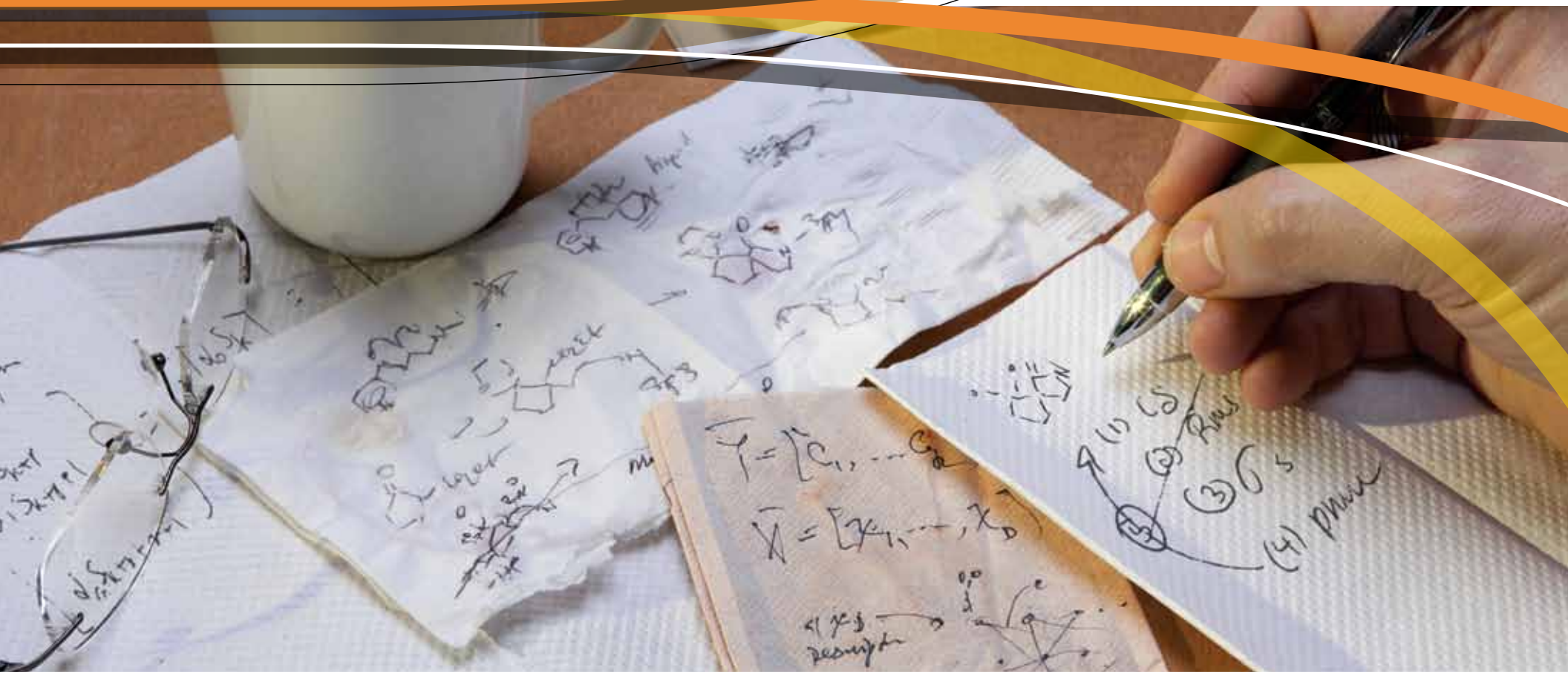
Wake Forest™
School of Medicine

Innovation & Entrepreneurship Initiative 2011

Leveraging your ideas for success



"The Innovation and Entrepreneurship program impacts our medical center and beyond.

The program provides for our faculty the opportunity to express an important aspect of their creativity and innovation—one that has the power to reshape the lives of patients."

Frank M. Torti, MD

Charles L. Spur Professor of Medicine \ Chairman, Department of Cancer Biology
Director, Comprehensive Cancer Center at WFBMC \ Vice President, Strategic Programs

"I've been particularly proud of the creative and business-like approach IEI has taken with our faculty and their partners. Jeff Schmitt and his associates are charting new and promising territory for the Medical Center and the result will be stronger, more successful startups, wealth creation and a world-class culture of innovation."

Doug Edgeton, MPH, MBA

Executive Vice President, Medical Center Administration, WFBMC
Executive Vice President and Chief Operating Officer, WFBH
President, Piedmont Triad Research Park

The Scope of Our Work

The Innovation and Entrepreneurship Initiative's mandate is to support the entire commercialization process from idea to marketplace, working with internal and external partners. The IEI team's wide-ranging contacts with investigators puts us in a position to recommend appropriate collaborators and results in frequent referrals to our colleagues in the Office of Research, the Translational Science Institute (TSI) and Office of Technology Asset Management (OTAM). IEI works to ensure that discoveries and innovations advance to the stage where they can benefit from OTAM's expertise with patents and licensing. Whereas TSI concentrates on deriving maximum benefits from sponsored research, IEI focuses more on entrepreneurial possibilities, wherever it finds them.

IEI

Bring us your ideas.
We'll help you leverage them.

from the Director

Greetings! The Innovation and Entrepreneurship Initiative (IEI) was created to maximize the successful delivery of discoveries and innovations from the laboratory to the marketplace. In our first full year of operation, the IEI team, working with professionals across Wake Forest Baptist Medical Center and with key partners, has made great strides toward our goal of building a robust commercialization pipeline.

Commercialization is not an end in itself, but rather the means to ensure that new drugs, therapies and procedures become self-sustaining and therefore available to improve the health of patients. Commercial success helps the Medical Center sustain its mission to generate and translate knowledge that serves to prevent, diagnose and treat disease. Downward trends in federal research funding and fewer resources available for early-stage development in the private sector make this work both timely and important.

In the pages that follow, we highlight some of the projects and people we've had the privilege to work with this year. Although our scope is broad, our activities fall roughly into the following categories:

- Enabling discovery and innovation
- Collaborations and alliances
- Facilitating translation
- Monetizing assets

We strive to promote a culture of innovation and receptivity to business opportunities. Our efforts range from educating investigators about the marketplace to using internal funding to support early-stage projects and create enabling infrastructure. Our consultations with hundreds of faculty members since we began give us the knowledge base to connect people who need partners with those who have a potential to collaborate. We help internal clients map business strategies and find industry partners.

This year we sponsored three social and networking events, as well as seminars focused on entrepreneurship issues. Our inaugural Spark Grant program, which deploys internal funds as the needed "spark" to launch pilot studies, become competitive for external funding or help investigators advance their ideas to the proof-of-concept stage, attracted more applicants than expected. The first round of Spark Commercialization Pathway Grants attracted 16 Letters of Intent representing 14 departments, centers or institutes. Ten principal investigators submitted full applications, and six grants were awarded for a total of $145,093.

In partnership with the Translational Science Institute, we cosponsored a daylong "Summit on Drug Discovery, Chemical Biology and Drug Delivery." The first round of Spark Drug Discovery Grants attracted 13 Letters of Intent representing ten departments, centers or institutes. Seven principal investigators submitted full applications, and seven grants were awarded for a total of $173,597.

We will do everything we can to ensure your success.

To help establish an academic drug discovery pipeline, we have built a Chemical Biology Core Laboratory with advanced capabilities. This facility will also serve the needs of our Spark Drug Discovery grant recipients. The IEI has supported the Medical Center's ongoing collaboration with Targacept to discover new therapeutics. Finally, we have created business plans that leverage many of our outstanding research capabilities to generate revenue, and as a means to increase the reputation and visibility of our outstanding community.

We are here to serve the entire Medical Center community, and we want IEI to be the resource scientists turn to first when they have promising ideas. We will do everything we can to ensure your success. **Jeff Schmitt**

IEI Fills Resource And Infrastructure Gaps

Every drug, medical device or therapy on the market began as a discovery, a spark of inspiration or a search for a better method. More ideas and research yield more discoveries and innovations, but ideas sometimes stall because of gaps in the earliest stage of the commercialization pipeline. Examples include a lack of specialized equipment, access to basic research materials or the need for a laboratory technician. IEI works with investigators to identify these gaps and find ways to fill them.

Enabling Discovery & Innovation

David Carroll, Robert Coffin and Jeff Schmitt

The Wake Forest University Center for Nanotechnology and Molecular Materials, on Deacon Boulevard, opened in 2003. Its founding director, David Carroll, PhD, professor of Physics, relocated from another university, attracted largely by the Medical Center. Already a national leader in nanotechnology-engineered solar cells, Carroll has increasingly joined School of Medicine faculty in nanomedicine research. He has established affiliations with Suzy V. Torti, PhD, professor of bio-chemistry, in cancer therapies; Nicole H. Levi, PhD, assistant professor of Plastic & Reconstructive Surgery, in wound-healing applications; and Thomas L. Smith, PhD, professor of Orthopaedics, in designing a novel pressure sensor (see NanoTorr article for details).

IEI is working to strengthen the Nanotech Center's integration with the School of Medicine. For example, IEI helped secure funds for a postdoctoral fellow, who has worked on applications for National Institutes of Health small business innovation and technology transfer grants, and developed new collaborations with Aaron M. Mohs, PhD, assistant professor of Medical Engineering, and Michael S. Cartwright, MD, assistant professor of Neurology.

"I believe the biggest impact is less visible but more profound than the new postdoctoral fellowship that IEI secured, and that is to bring the Nanotech Center into alignment with the strategic plans of the Medical Center," Carroll says. "Nanotechnology promises to revolutionize the field of medicine. **IEI has already helped us collaborate on projects that show enormous commercial potential, and it is well-positioned to continue sending investigators our way."**

Developing an oral antibiotic drug to treat syphilis is the research goal Kimberly J. Nelson, PhD, instructor of Biochemistry, and Leslie B. Poole, PhD, professor of Biochemistry, are pursuing. Currently, doctors treat syphilis with a penicillin injection, but that is unsuitable for people allergic to penicillin and less effective when patients cannot persuade their partners to come in for the shot, leading to re-infection. If doctors could give such patients oral antibiotics to pass on to their partners, it would be especially helpful in developing countries.

Nelson and Poole have identified a drug target—the bacteria's lone antioxidant protein—which if suppressed would make the bacteria easier to kill. A $15,000 Spark Drug Discovery grant—one of seven awarded this year—has enabled them to purchase chemical libraries of small-molecule compounds, where they will begin their search for a compound that affects the protein.

"I have found Jeff Schmitt very helpful," Nelson says. "His expertise as a chemist and experience developing pharmaceuticals has helped us move this project forward. The Spark Grant gives us the starting point in our search for an effective compound, and once we find one that looks promising, we can try to synthesize stronger forms in the Chemical Biology Lab. If we get to the point we have something patentable and marketable, **IEI will be a great asset in connecting with a pharmaceutical company."**

Doug Lyles, PhD, Professor and Chair, Biochemistry

Schmitt views enabling discovery and innovation as fundamental to IEI's entire mission because all other stages of the commercialization pipeline flow from that source.

"The pharmaceutical industry is looking to academia to help solve what has become a growing crisis in research and development devoted to drug discovery," Schmitt says. "IEI is committed to forging new approaches in chemical biology, systems biology, nanomedicine and experimental therapeutics to drive discovery and innovation at our institution."

The Wake Forest School of Medicine Chemical Biology Laboratory is an IEI effort to build a drug discovery pipeline by developing key missing infrastructure. Through extensive research, IEI determined that building a chemical biology capability was the most enabling infrastructure it could pursue to this end. The lab allows investigators to identify rapidly and inexpensively small molecule leads from disease targets and for the School of Medicine to access National Institutes of Health drug discovery funding mechanisms and infrastructure.

IEI expects the lab to foster industrial and business partnerships and alliances with other universities and researchers, and to provide educational opportunities and programming for undergraduate and graduate students of Wake Forest University and the School of Medicine.

"The value proposition of this facility is to provide our academic community with access to world-class facilities and capabilities in the field of chemical biology and drug discovery and to aid in the translation of these facilities to internationally recognized education and research programs," IEI's Jeff Schmitt explains. **"We envision the facility bolstering the reputation of Wake Forest Baptist Medical Center as a key player in path-breaking technology and life science innovation."**

Collaborations & Alliances

Phil Shugart and Tom Clarkson

Partnerships Produce Synergy For Success

Just as a physical pipeline consists of linked segments, the commercialization pipeline IEI and its School of Medicine colleagues are building connects partners inside and outside the Medical Center. The IEI's wide-ranging contacts with investigators puts it in a position to recommend appropriate collaborators and results in frequent referrals to colleagues in the Office of Research, the Translational Science Institute (TSI) and Office of Technology Asset Management (OTAM).

IEI works to ensure that discoveries and innovations advance to the stage where they can benefit from OTAM's expertise with patents and licensing. Whereas TSI concentrates on deriving maximum benefits from sponsored research, IEI focuses more on entrepreneurial possibilities, wherever it finds them.

"Jeff has an enormous passion, and his talents are prodigious in terms of thinking outside of the box," says Charles E. McCall, MD, professor of Molecular Medicine and director of TSI. "That's one of the things this institution needs."

IEI seeks out appropriate partners wherever they may be, whether down the hallway, in Piedmont Triad Research Park or in Indonesia, as noted in the story on the Wake Forest Primate Center. The following are a few representative examples of collaborative relationships that IEI initiated in its first year.

Accelerate Brain Cancer Cure (ABC2) is a Washington, D.C.-based nonprofit started by Steve Case, founder of America Online, whose brother died of brain cancer. Since 2001, the foundation has awarded more than $15 million in research funding to scientists pursuing a cure for brain cancer. ABC2's CEO, Max Wallace, a Research Triangle-based serial entrepreneur and founder of several pharmaceutical companies, recently visited with the IEI team to learn more about its efforts to boost drug discovery.

"I am very excited about the Innovation and Entrepreneurship Initiative," Wallace says. "At a time when people so often talk about the need to move new ideas and technologies forward, IEI has actually built an engine that makes that important work happen. They have brought together a blend of systems, talent, leadership and commitment that is unique and very exciting. I look forward to working with Jeff Schmitt and his team going forward."

Carolina Liquid Chemistries Corp., headquartered at Piedmont Triad Research Park, manufactures and sells reagents and chemical analyzing instruments for blood and urine tests to hospitals, physician practices and laboratories throughout the world. CLC's founder, Phil Shugart, and IEI's Tom Clarkson have been working on various joint ventures the company and Medical Center might undertake, including studies to gain FDA approval of an automated test for syphilis and development of a new large system analyzer.

"Tom Clarkson helped us realize that we could work with the Medical Center to obtain hard-to-get patient serum samples, project management expertise and help packaging the data for submission to the FDA," Shugart explains. "The work IEI is doing with Carolina Liquid Chemistries is critical to the future development of the Piedmont Triad Research Park, where my company soon plans to expand from its current 3,000-square-foot home to 10,000 square feet in the new BioTech Place building."

IEI co-sponsored with TSI a daylong "Summit on Drug Discovery, Chemical Biology and Drug Delivery," which brought together leaders from academia, government and industry. The gathering itself produced subsequent collaborations. One invited speaker, Wayne Meredith, MD, professor and chair of General Surgery and director of Surgical Services, talked about the need for earlier diagnosis of infections, particularly pneumonia, in trauma patients. Currently, it takes several days to grow and identify samples from the patient's lungs in a culture dish. During a break, IEI's Tom Clarkson approached Meredith and suggested he meet with Jan Rohozinski, PhD, an assistant professor with the Wake Forest Institute for Regenerative Medicine. Now, the two are collaborating on a method to identify infectious microbes quickly by amplifying the organism's DNA through polymerase chain reaction.

"Our institution is one where the likelihood of collaborating is very high whenever two people who share a common interest meet, but it's a matter of who you have the opportunity to network with or bump into," Meredith noted. "This meeting was a very good opportunity to do that. It was also educational, as a clinician, to learn the process of drug discovery."

As new and existing collaborations and alliances bear fruit, they will spawn additional opportunities and partnerships, which IEI is poised to leverage for the long-term benefit of the Medical Center.

"The science required to advance medical research today is multidisciplinary, so it is imperative that we find ways to bring together the many experts we have in diverse specialties," Clarkson notes. "At IEI, we've structured our Spark Grants, our educational programs and our consulting process to maximize collaborations and alliances internally, and to extend those relationships beyond the institution, so that at each stage, from research funding to prototype development to commercial launch, our inventors will find natural partners when the time is right."

Dr. Wayne Meredith

Seed Money Moves Proof-of-Concept Studies Forward

Promising discoveries and innovative designs often lie dormant because investigators lack seed funds to generate the hard data required to be competitive for external grants. IEI awarded inaugural Spark Commercialization Grants totaling $145,093 for these types of projects. Below are two examples of how investing a modest amount of internal funds to support exciting new medical devices may lead to products that could revolutionize medical procedures and generate significant licensing revenue.

Facilitating Translation

The Kincaid Epicardial Stimulator is the brainchild of Edward H. Kincaid, MD, associate professor of Cardiothoracic Surgery, who conceived the device and first worked with a biomedical engineer on its circuitry about five years ago. Kincaid designed it to treat ventricular dyssynchrony, a condition in which one side of the heart beats slower than the other side—a common complication after open-heart surgery. Unlike a pacemaker, which overrides the natural rhythm and may cause dependency, the Kincaid device senses the natural beat and stimulates the slow side to keep up. About the size of a quarter, it would be implanted near the heart in a procedure far less invasive and far less expensive than a pacemaker.

"To do the kind of studies that would show proof of concept were considerably more expensive than what we had in my laboratory budget," explains James E. Jordan, PhD, an assistant professor of Cardiothoracic Surgery and Physiology & Pharmacology, who assists clinicians such as Kincaid with research programs. "The studies require using large animal models and very specialized equipment, so the idea sort of fizzled."

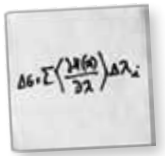
When IEI announced its Spark Commercialization Pathway grant program, Jordan and Kincaid teamed with Jeffrey Sites, associate director of Preclinical Surgical Services, to design the needed animal studies. Then, they applied for and won a $25,000 grant.

"The Spark grant enabled us to resurrect this project," Jordan notes. "We were able to pull the device out of the drawer and assemble a team to revamp it. **There are many ideas at this institution sitting in drawers, on the back of napkins and in people's heads, that if given the correct support structure could be developed and be successful. I think IEI has broadened people's perspective of what it is to do business-type development within the university setting."**

The NanoTorr is a miniaturized pressure sensor designed to detect compartment syndrome, a serious condition in which swelling blocks blood flow in bundles of muscle tissue. Untreated, the pressure can lead to nerve damage or loss of muscle function. The NanoTorr (Torr being a unit of pressure named for Evangelista Torricelli, who invented the barometer) utilizes a fiber optic filament tipped with nanoscopic particles—each a few millionths of a millimeter in size—that reflect light differently and change color as pressure increases. Current practice requires repeatedly inserting a large needle into the muscle to measure pressure. The NanoTorr filament would be inserted through a fine needle and left in place, connected to a monitoring device. It would be inexpensive to produce, disposable and has potential industrial uses beyond health care.

Thomas L. Smith, PhD, professor of Orthopaedics, is developing the device with David Carroll, director of the Wake Forest University Center for Nanotechnology and Molecular Materials, and Richard Czerw, PhD, CEO of NanoTecLabs, a Yadkinville company. A $24,951 Spark grant helped them build and test a prototype device, and they are now refining the nanoparticles and preparing for animal tests.

"We had the basic idea and had gathered some preliminary data, but we were kind of stalled, because we just didn't have the resources to move forward," Smith says. "I had zero experience in entrepreneurship, so I have learned a huge amount about the challenges of moving a research idea into the marketplace. I have been very impressed with Jeff Schmitt and the IEI. Everyone there is very helpful and supportive. **The creation of IEI is forward-thinking on the part of the Medical Center and will support the Piedmont Triad Research Park and Winston-Salem's technology initiative."**



IEI's Tom Clarkson, a technology development strategist with 30 years of experience, says the overall quality of applications in the first round of Spark Commercialization grants impressed him. When the first Request for Applications was announced in March 2011, 16 Letters of Intent were submitted, representing 14 different departments, centers or institutes.

"I expected to see more basic science and things that would probably not make it in the marketplace, but that was not the case," he says. "The proposals that were brought to us in fact did have good commercial potential. They absolutely exceeded my expectations."

Top
James Jordan and Connie Sharpe

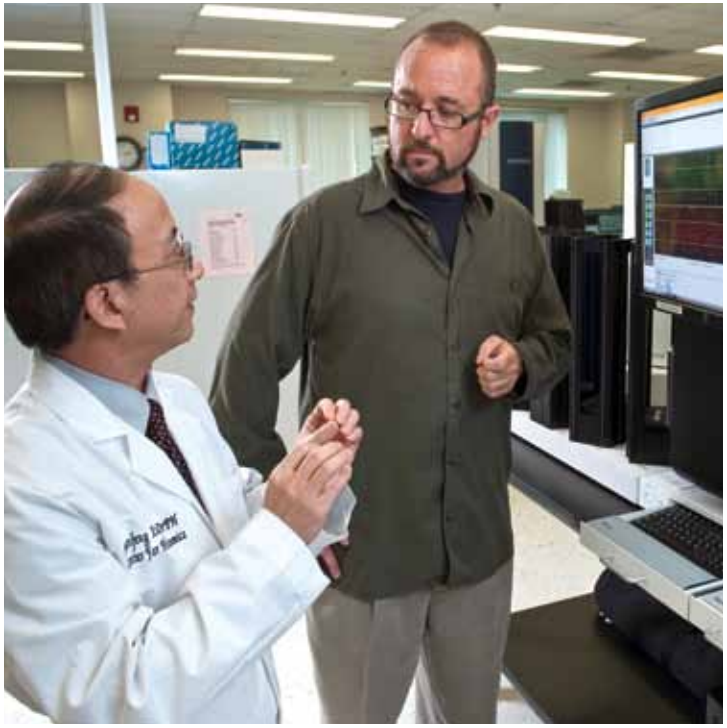
Bottom left
Thomas L. Smith and Connie Sharpe

Bottom Right
Stephen Kritchevsky, PhD, Deputy Director, Translational Science Institute (TSI) and Christopher O'Byrne, Executive Director, Administration, TSI; and Tom Clarkson, IEI

Entrepeneurial Know-How Unlocks Potential

Commercial success depends on many factors, including: knowledge of the marketplace, experienced leadership, a competitive business model and adequate financial resources. The Medical Center has numerous assets with untapped potential because they lack one or more of these elements. The IEI team identifies and helps secure any missing entrepreneurial ingredients.

Monetizing Assets



Dr. Xu and Jeff Schmitt

Jianfeng Xu, MD, DrPH, professor of Cancer Biology and Epidemiology, and director of the Center for Cancer Genomics, tells a familiar story. His team created a genetic test for men who are likely to develop prostate cancer, but needed help launching a spinoff company to produce and market it.

"We were looking for a chief executive to lead the company, and we had no clue how to find one," Xu says. **"When Jeff Schmitt of IEI came into the picture, he showed us how to analyze the market to identify potential players who might help us. We now have a much better idea how to move forward."**

Optimizing Weight for Life in Seniors (OWLS) is a clinical program at the J. Paul Sticht Center on Aging and Rehabilitation. Its developer, Barbara Nicklas, PhD, a professor of Geriatrics and Gerontology and expert on exercise and weight loss in seniors, thought OWLS looked promising as the basis for medically supervised fitness centers aimed at older adults. IEI helped her create a business plan with an eye toward franchising the program to other academic medical centers.

"We're all scientists and physicians," Nicklas says. "None of us is trained in how to be entrepreneurial or start a company. It's nice to have somebody internally whose job is to help us with that. **Until we met with Jeff Schmitt and Tom Clarkson of IEI, we didn't know how to proceed."**

Steven R. Feldman, MD, PhD, professor of Dermatology, Pathology, and Social Science and Health Policy, developed a computer survey that tripled the likelihood patients will take their medicines as prescribed. IEI helped him form a company to market the survey to doctors and hospitals.

"Having people internally, like the IEI team, focused on helping us commercialize our new patented or hopefully patentable technology is a huge benefit," Feldman says.

The Wake Forest Primate Center maintains colonies of monkeys for studying a variety of diseases. Thomas B. Clarkson, DVM, professor of Pathology in Comparative Medicine, helped start the Center five decades ago. Now, his son, the IEI's Tom Clarkson, has worked extensively on a plan to create a unique market niche—a colony of monkeys ready for trials by pharmaceutical companies. Industry researchers have asked for such models in the past, but the cost to speculatively create and house such a colony in the United States has been an obstacle. Under the new agreement, the Center will work with its 25-year partner, Bogor Agricultural University in Indonesia, to maintain the colony there at a cost drastically lower than would be possible here. This "Bogor Strategy" directly increases the Center's competitiveness for pharmaceutical contracts by providing the ability to test therapeutics rapidly in a well-defined animal model and by ensuring these models will be available as needed.

"Tom and IEI have really been the intellectual parents of this plan," says Jay Kaplan, PhD, professor of Pathology and Translational science and director of the Primate Center. "For several years we had been trying to figure out how to leverage our existing resources to compete commercially with contract research organizations."

The Office of Research created Preclinical Surgical Services (PSS) three years ago at Piedmont Triad Research Park as a fee-for-service contract research organization. PSS assists industry and academic investigators during the proof-of-concept stage with such services as study design and surgical protocols for new implanted devices. By engaging with faculty at the earliest stages of discovery, IEI has begun directing more internal clients to PSS.

"I speak with Tom and Jeff on almost a daily basis about different projects," says Jeffrey Sites, associate director of PSS. "The IEI is very good at spotting 'diamonds in the rough,' so anyone with discoveries or devices they haven't had the time, staff or expertise to develop commercially should contact them for help."

IEI is developing a plan to coordinate and market Medical Center assets such as Preclinical Surgical Services and the Primate Center collectively, thereby enhancing their competitiveness as contract research organizations. This evolving strategy will be a team effort that synergizes each partner's expertise to enable new models of business outreach.

"One of the things differentiating top research universities is their ability to engage industry in a facile, friendly and efficient manner," Schmitt notes. "Our goal is to help this institution become really good at that."

Tom Clarkson and Jeff Sites

SPARK Awards

Commercialization

Grant: Generation of Pre-IND Data for FDA Submission in Support of a Keratin-Based Resuscitation Fluid Product

Dr. Michael Callahan (PI)
Associate Professor, Department of Orthopaedic Surgery

Dr. Tom Smith
Professor, Department of Orthopaedic Surgery

Dr. Mark Van Dyke
Assistant Professor, Wake Forest Institute for Regenerative Medicine

Dr. Fiesky Nunez
Fellow, Department of Orthopaedic Surgery and Graduate Student, Department of Physiology & Pharmacology

Grant: Commercial Validation of a Microalgal-derived Omega-3 Nutrition Ingredient Platform

Dr. Ski Chilton (PI)
Professor, Physiology & Pharmacology

Dr. Susan Sergeant
Instructor, Biochemistry

Dr. David Bayless
Professor of Mechanical Engineering and Director, Algal Research Center, Ohio University

Dr. John Archibald
Associate Professor and Associate Director, Canadian Institute for Advanced Research, Program in Integrated Microbial Biodiversity, Dalhousie University, Halifax, Nova Scotia, Canada

Industry Collaborators
Gene Smart Wellness, Ross Consaul–SVP Innovation, Algae Producers of America, Inc.

Rick Johnson
EVP Sales & Marketing, Algae Producers of America, Inc.

Grant: Halofuginone-coated Barrier for the Prevention of Surgical Adhesions

Dr. Steve Hodges (PI)
Assistant Professor, Pediatric Urology

Jon Wilson
CEO Applied Catheter Technologies

Scott Washburn, MD
Lyndhurst Gynecologic Associates, Winston-Salem

Grant: Development of a Novel Percutaneous Sutureless Anastomotic Technique

Dr. Jay Requarth (PI)
Assistant Professor, Section of Interventional Radiology

Dr. Preston Miller, Associate Professor, Section of Emergency Surgery

Dr. James Johnson,
Director, Center for Applied Learning

6 grants totaling

$145,093

- 14 departments
- 6 partner organizations

Grant: Validation of an Epicardial Stimulator to Treat Ventricular Dysrhythmia: The Kincaid Epicardial Stimulator (KECS)

Dr. James Jordan (PI)
Assistant Professor, Department of Cardiothoracic Surgery

Dr. Edward Kincaid
Associate Professor, Department of Cardiothoracic Surgery

Jeffrey Sites
Associate Director, Preclinical Surgical Services (PSS)

Dr. Byron Rubery
Assistant Professor, Cardiology

Dr. James Campbell,
Electrical Engineer and Emergency Room Physician

Dr. Timothy Houle
Associate Professor, Departments of Anesthesiology and Neurology

Grant: NanoTorr: A Miniaturized Pressure Measurement System for Monitoring Compartment Pressures

Dr. Thomas L. Smith (PI)
Professor, Department of Orthopaedic Surgery

Dr. David Carroll
Director, Wake Forest University Center for Nanotechnology and Molecular Materials

Dr. Richard Czerw
President/CEO of NanoTechLabs, Inc. Yadkinville, NC


2011 Spark Award recipients

Drug Discovery

Grant: Development of Novel SNRI Analogs for Treatment of Neuropathic Pain and Depression

Dr. Steven Childers (PI)
Professor, Department of Physiology & Pharmacology, and Director, Center for the Neurobiology of Addiction Treatment

Dr. Thomas Martin
Department of Anesthesiology

Dr. Huw Davies
Department of Chemistry, Emory University

Grant: Alfalfa-derived Hsp70 Administered Intranasally Ameliorates Type 2 Diabetes

Dr. Michael Tytell (PI)
Professor, Department of Neurobiology & Anatomy

Kylie Kavanagh, DVM
Comparative Medicine, Pathology

Dr. Tennille Presley
Biophysics, Winston-Salem State University

Dr. Philip Hooper
Assistant Professor of Medicine, University of Colorado

Grant: Development of Novel Fatty Acid Synthase Inhibitors through Targeted Click Chemistry

Dr. Steven Kridel (PI)
Associate Professor, Department of Cancer Biology

Dr. Todd Lowther
Associate Professor, Department of Biochemistry

Herman Odens
Instructor of Biochemistry

Dr. Jeff Schmitt
Professor, Biochemistry and Physiology & Pharmacology and Director, Innovation and Entrepreneurship Initiative

Frances Wheeler
Technician

Jill Clodfelter
Technician

Grant: Protecting Against ACAT2-Associated Atherosclerosis

Dr. Larry Rudel (PI)
Professor, Department of Pathology

Dr. Tariq Andrea
Founder, ScieIntl, LLC

Grant: Generation of DMD Patient-specific iPS Cells for Cardiomyocyte Differentiation and Drug Screening

Dr. Martin K. Childers (PI)
Professor, Department of Neurology and Wake Forest Institute for Regenerative Medicine

Dr. David Mack
Wake Forest Institute for Regenerative Medicine

Dr. Peter Antinozzi
Department of Biochemistry

Dr. Mark Furth
Comprehensive Cancer Center

Xuan Guan
Postdoctoral Fellow, Wake Forest Institute for Regenerative Medicine

Tara Jones
Research Technician, Wake Forest Institute for Regenerative Medicine

7 grants totalling

$173,597

- 10 departments
- 4 partner organizations

Grant: Drug Repurposing To Inhibit Lymphocyte Proliferation

Dr. Jason Grayson (PI)
Associate Professor, Department of Microbiology & Immunology

Grant: Discovery of Inhibitors of the Treponema Pallidum Peroxiredoxin

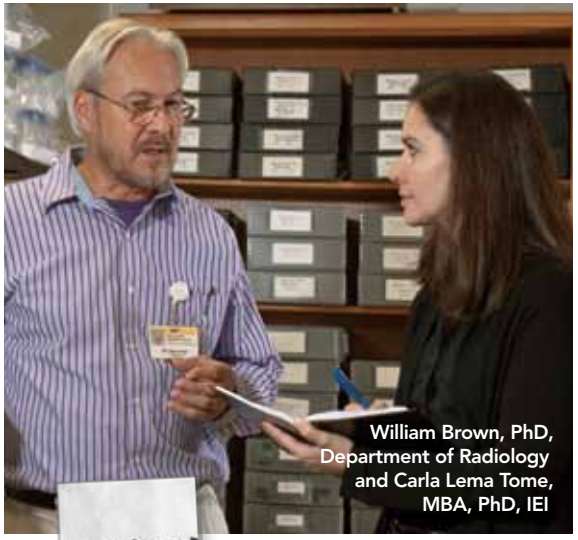
Dr. Kimberly Nelson (PI)
Instructor, Department of Biochemistry

Dr. Leslie Poole
Professor of Biochemistry

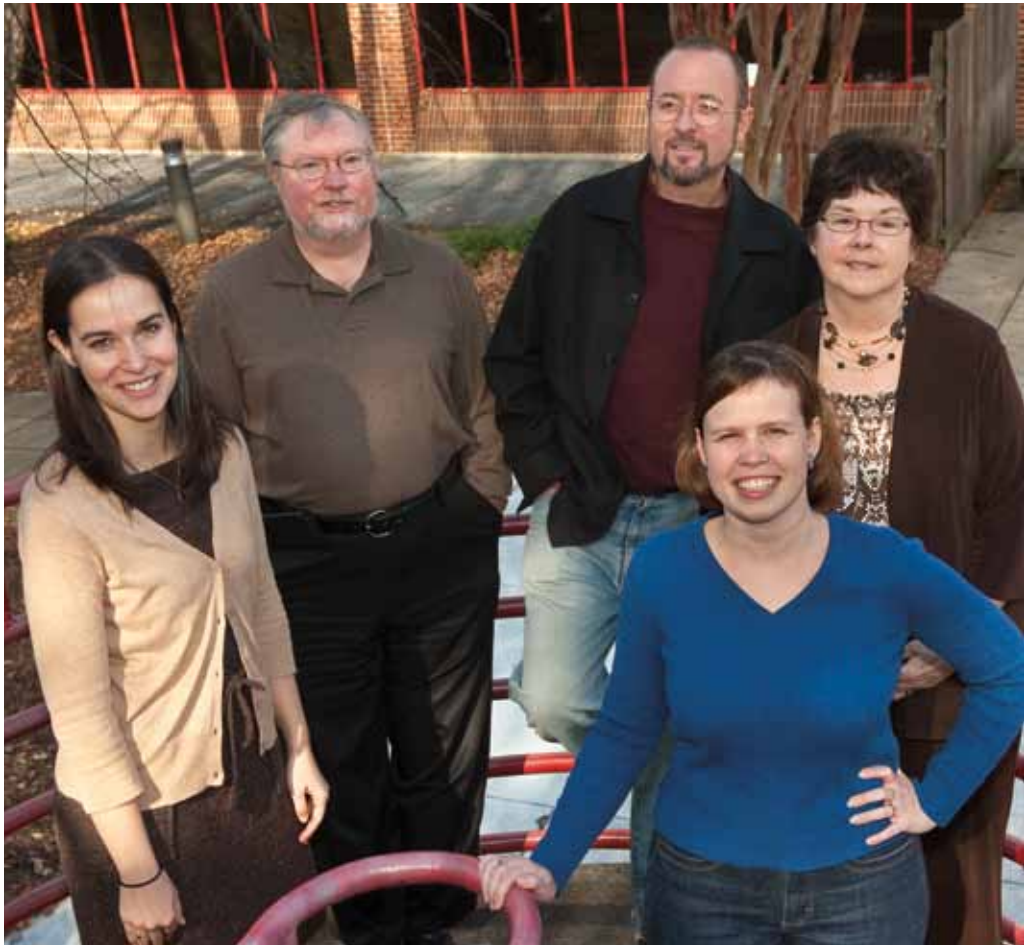
Dr. Todd Lowther
Associate Professor, Biochemistry

Total Spark Grants

$318,690



William Brown, PhD, Department of Radiology and Carla Lema Tome, MBA, PhD, IEI



IEI continues to work with many Spark applicants who did not receive awards in 2011, helping them to advance their projects toward possible resubmission or alternative development.

Stay tuned for more Spark Grant offerings.

IEI

Jeff Schmitt

Tom Clarkson

Connie Sharpe

Carla Lema Tome

Tina Payne

Scientists and Strategists Helping Scientists

IEI is a multidisciplinary team with extensive experience in science, deep experience in commercialization, marketing and high tech, and expertise in business planning, operations and project management, all blended together to help innovators and entrepreneurs be successful at Wake Forest Baptist Medical Center.

On the cover

The napkins pictured contain the first concepts sketched by Jeff Schmitt for drug discovery innovations during a lunch meeting a few years ago. One idea was later developed into a widely used molecular design algorithm and published; and the other was patented as a drug candidate to treat depression.

Bring us *your* napkins

innovation@wakehealth.edu
336-713-0347

Design and photography by Creative Communications; writing by Eric Frazier.

Wake Forest™
School of Medicine

Innovation & Entrepreneurship Initiative
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