Warning: There appears to be an outbreak of the entrepreneurial bug among University of Pittsburgh scientists. Those who are infected may find themselves in unfamiliar territory.

For example, researchers who have spent the past decade or three happily preoccupied with, say, the human immune system or neurotransmitters may find themselves unexpectedly curious about patent law and the elements of a business plan. Anyone wondering what the difference is between getting $1 million from venture capitalists and getting $1 million from the National Institutes of Health may suddenly bump them up from a poster to a platform presentation. That’s when someone ventured, “Maybe we ought to patent this.”

Not all scientists are interested in seeing their discoveries all the way to commercial application, Modzelewski acknowledges, but she’d been thinking about it from the beginning.

“Before we even had our results, we saw the pathway to application,” she says. “That’s the entrepreneurial thing. It was our baby before we even had the peptide in hand. It was our dream to have this application and see it through the whole way.”

Pitt’s Office of Technology Management and Limbach Entrepreneurial Center (now the Office of Enterprise Development) helped Modzelewski navigate the business side of things, like writing a business plan for a new company, finding a potential CEO, and the basics of licensing a University patent. Then, in 2002, the Greenhouse was created, and that meant dramatically improved prospects for Modzelewski’s efforts and the entire biotech enterprise of Southwestern Pennsylvania.

The Pittsburgh Life Sciences Greenhouse (PLSG) was launched in the spring of 2002 with $33 million from Pennsylvania’s share of settlement money from lawsuits against tobacco companies. Pitt and Carnegie Mellon University were already working on bioscience planning collaboratively, but PLSG expanded this effort to a partnership that included both universities, the commonwealth, UPMC, and the regional foundation community.

PLSG was conceived as an economic development program designed to build on the region’s existing strengths in biotech. The Greenhouse aims to draw established biotech companies to the region, spur the emergence and growth of new companies, direct resources to the research enterprise at the universities, attract venture capital investment, and generate contributions from local foundations.

What does that mean for the School of Medicine? In its two years of existence, PLSG has contributed $6 million to increasing laboratory space at the University, including $4.5 million toward the $188 million Biomedical Science Tower III, now under construction. The Greenhouse has even helped to recruit stellar faculty and their research teams. The University does the recruiting, but the Greenhouse can provide laboratory space, equipment, and even graduate student support.

Stephen Badylak was one of those faculty members attracted in part by the Greenhouse. Before being recruited to Pitt’s McGowan Institute for Regenerative Medicine, Badylak was at Purdue, where he had been working since the late 1980s to develop “bioscaffolds” for soft-tissue and organ repair. The scaffolds are made of an extracellular matrix derived from pig tissues, and they are used to treat a wide range of defects, ranging from torn rotator cuffs to postmenopausal urinary incontinence. The body recognizes the scaffold as a template for rebuilding whatever type of tissue is required—whether tendons or urinary sphincters. Within a few months, the tissue rebuilds itself, and the bioscaffold is totally absorbed by the body, leaving little sign that it was ever there.
there. Marketed by DePuy, a Johnson & Johnson company, the material has been used in more than a quarter million patients in the past three years.

At McGowan, Badylak is continuing to investigate new uses for these tissues, including repair of heart muscle. In Pittsburgh’s new Greenhouse, he sees a proactive organization that knows how to put industry and academia together, and experience tells him that is the way to get novel products and procedures to people who need them.

“There are an awful lot of universities that say they have start-ups and incubators, but very few of them work well,” says Badylak. “This one works.”

“There is no shortage of regional initiatives in biotechnology,” notes Don Smith, university director of economic development for both Pitt and Carnegie Mellon and the former interim CEO of PLSG. “At last count, there were somewhere in the neighborhood of 26 regions that we know of that were pursuing life science strategies.” What makes PLSG unique, in addition to the combined strengths of two top-tier universities, says Smith, is that “most of the other regions are pursuing academic strategies or commercial strategies. The power of our initiative is that it brings the university community, the business community, the foundation community, and government together.”

Doros Platika, the Romanian-born CEO of PLSG, looks outside the United States to put PLSG in perspective: “The only ones that have this kind of scope, and actually much greater scope, are outside the country. Singapore has committed $3 billion, and they have a superb university there which collaborates with the British universities, Cambridge and Oxford. There’s another in Glasgow. Also, Kobe [Japan] has committed over $1 billion.” But in the United States, Platika says, the scope of an organization like PLSG is fairly unusual. More than $100 million has been committed to PLSG by the commonwealth and private foundations.

Ruth Modzelewski received a lot of support from PLSG as she formulated her business plan. Last November, PLSG awarded her funding through its Technology Development Fund, which supports research into early stage inventions to increase the likelihood that the technology will be successfully commercialized through a regional start-up.

Now Modzelewski has her hopes set on the PLSG Incubator, a fully furnished and wired laboratory/office space on the Monongahela River. The incubator is designed to support life science companies in their early stages and to provide temporary space for companies relocating to the Pittsburgh area.

Modzelewski admits that the entrepreneurial bug can lead to fatigue—it’s like asking for a second job—but it also seems to confer optimism. She sees multiple benefits to the creation of Trism. (Her company name was inspired by the three amino acids in her peptide as well as the city where it was discovered.) “I’m a native Pittsburgher,” she says, “so it would be really cool if we could contribute something to the economy of the area through establishing a company, along with doing what we ultimately hoped to do, which is to improve cancer therapy.”

The Pittsburgh Life Sciences Greenhouse seeds biomedical technology in the region with offerings like its new business incubator space in the Cellomics building on the Monongahela River.

BOOSTER SHOTS

At the recent Heinz Hall gala to benefit the University of Pittsburgh Cancer Institute, 46 major donors were presented with medallions. Together, they make up the Circle of Hope, a group of supporters who each contributed $10,000 or more to cancer research. Far from strangers, more than a few of them might regularly pass each other in the halls of the Hillman Cancer Center. In addition to former patients and community supporters, the Circle of Hope includes eight UPCI physicians and scientists. Among them, Professor of Medicine Ronald Herberman, the director of UPCI and UPMC Cancer Centers and Pitt associate vice chancellor for cancer research.

Ever wonder where your donation to the Medical Alumni Association went? Rest assured, one outstanding Pitt medical student will be glad you gave. The MAA will award a full merit-based scholarship to a student entering in 2004. (The most recent MAA scholarship winners, Soyoung Im McFarland and Matthew Porembka, are now in their third year.) If you have any doubts about the importance of such scholarships, just ask the MAA’s emeritus executive director, Ross Musgrave (MD ’43), who says, “I went to medical school on a scholarship. Without it, I would have been a steelworker.” —SKP & CS

FOR MORE INFORMATION: 1-877-MED-ALUM
Or mhfs@ia.pitt.edu