A publication from Mississippi State University's Office of Technology Commercialization

Fall 2008

Mississippi State University

Turning Mississippi State Research & Technology...

inside out

IN THIS ISSUE

MSU Faculty emeritus continues *success in research, commercialization*

"Everybody has opportunities. The key is recognizing them."

Retired Mississippi State chemistry professor and researcher Bill Wilson's story of commercializing his research involves decades of steady investigation, patience, taking advantage of networking, and a stroke of luck.

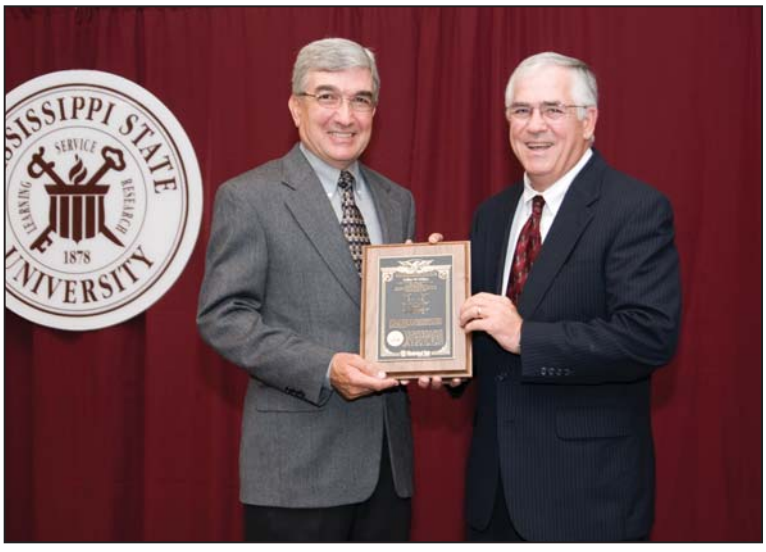
Wilson, now an MSU Giles Distinguished Professor Emeritus and associate director of research at the Center for Biophysical Sciences and Engineering at the University of Alabama at Birmingham, spends his "retirement" focusing on incorporating his impact on the scientific world into the medical world, working to commercialize pharmaceutical screening instrumentation patented by MSU.

Like other serious researchers, Wilson knows finding a key scientific breakthrough could take years, even decades, if at all. Research takes diligence and patience. He uses the same methodical focus as he and a research partner continue to introduce their work to pharmaceutical companies. That introduction already has resulted in the creation of a $400,000 prototype for Centocor, a research and development arm of worldwide health care products heavyweight Johnson & Johnson.

Back in the 1970s, Wilson had no way of knowing his doctoral research related to sickle cell anemia would—decades later—lead to a method for predicting the conditions in which protein crystals grow efficiently, as well as the best conditions for stabilizing protein therapeutics. This method is important for pharmaceutical companies as medicines are developed to fight diseases.

For Wilson—famous in parts of the chemistry world for his Wilson Crystallization Slot, the process for predicting optimal growth of protein crystals—commercializing his research to improve lives of many people suffering from life-threatening diseases, such as cystic fibrosis, osteoporosis and prostate cancer, will complement his distinguished career as a researcher. He has contributed in diverse research areas, such as converting bio-mass into useful chemicals and working with NASA to study protein crystal

continued on back cover



Chemistry professor emeritus Bill Wilson, left, was honored recently for his patent that has been issued by the U.S. Patent and Trademark Office. Chuck Rivenburgh, director of MSU's Office of Technology Commercialization, recognized MSU inventors and entrepreneurs during the Intellectual Property Recognition Luncheon.

The OTC honored at the recent Intellectual Property Recognition Luncheon MSU researchers who have launched a university start-up company. From left, Terry Amburgey and Kevin Ragon of TermiSys Technologies, Charles O'Hara of Spatial Information Solutions, Byron Williams of Camgian Microsystems, Anna Chromiak of Remote Animal Monitoring Solutions and Mike Mazzola of SemiSouth Laboratories.

Looking *Out*

This fall, the Office of Technology Commercialization hosted its annual Intellectual Property Recognition Luncheon, where Mississippi State innovators were recognized for their contribution to the university's commercialization efforts.

Twenty-four inventors were recognized for the issuance of 21 U.S. patents, and four creators were acknowledged for their development of copyrighted material that has been licensed to a third party.

In addition, five of the university's active startup companies were recognized for their contributions to the economic development of Mississippi: Camgian Microsystems, Remote Animal Monitoring Solutions (RAMS), SemiSouth Laboratories, Spatial Information Solutions, and TermiSys Technologies.

A full list of the award recipients may be viewed at the Office of Technology Commercialization's home page, www.otc.msstate.edu.

Congratulations to everyone!

Letter from the Director

The pathway to commercialization has many twists and turns as one moves from discovery, to product development, to prototyping, and finally to commercialization. Our lead story on Bill Wilson's protein crystallization program points to the "methodical focus" needed to align research efforts with the needs of the marketplace in order to get the $400,000 funding for the Centocor prototype.

This September, we celebrated the success of 24 inventors who successfully moved their discoveries through the patent process–a significant achievement in its own right. But, the pathway for many of these inventions is additional development and prototyping before they can achieve their commercial promise in today's risk adverse environment.

Who does the development? Who makes the prototype? And, who funds these efforts, you ask? For our Bermudagrass and cotton varieties, it's quite common to have "prototypes" actually growing in the "fields." Sometimes, a faculty-led startup company provides the answer. In other cases, gap funding has been provided to the inventors by the Thad Cochran Endowment for Entrepreneurship. More recently, academic assessment software was fully developed and tested at MSU, and is now in final form for licensing. We expect that licenses in these nontraditional fields will grow significantly.

So, no matter what your field or technology, we would like to work with you to help move your product along the pathway to commercialization. Bring your ideas to life by working with us to commercialize your technology.

Charles "Chuck" Rivenburgh
Director, Office of Technology Commercialization

Marketing Research 101

Market research is the first step in determining the potential value of a product or service. While doing your homework, here are some key elements to consider:

Area to Consider	Sample question	In other words...
CUSTOMERS	Who will buy my product?	Who is willing to pay me money to solve their problem?
COMPETITION	What companies will compete with my product?	How does my product/ service stack up against the competition?
ECONOMICS	What is the total size of the market?	How many total units are sold every year? Is this number increasing or decreasing?
PRODUCT/SERVICE	What are the features and benefits of my product/service?	Features tell what's special. Benefits sell what's special.

Data Sources

SECONDARY SOURCES

- Trade journals
- Government
- Web sites
- Industry profiles
- Industry associations
- Census and demographic profiles

PRIMARY SOURCES

- Gathering one's own data (e.g., surveys, focus group interviews)

Appraising a product concept *with Southern Growth Studio*

by Michael Graber

In efforts to commercialize Mississippi State's intellectual property, the Office of Technology Commercialization (OTC) performs market research using several resources, including MBA student teams, industry market reports, student interns, and consultants.

Recently, the OTC retained Southern Growth Studio, a brand-marketing and product-innovation firm, to perform a 360-degree Market Validation Study on a high-tech golf training concept invented by Mississippi State's director of golf, Tony Luczak.

During the six-week project, the studio examined various aspects of the $15.2 billion global golf market to determine how this device could fit in and possibly transcend existing golf swing trainers available in the marketplace. To understand the potential of the product concept, the studio conducted telephone interviews with golf industry experts, surveyed avid golfers, studied the regional, national and global statistics of the golf industry, and modeled the price of the product by benchmarking against indirect competition. The studio team even tried the swing trainer during the project kickoff meeting.

This rigorous and thorough process yielded some key actionable insights. Golf, for example, is a mature market surfeited with an embarrassing glut of training aid devices. Yet, the fastest growing segment in the mature market is in apparel.

By fusing the training with industrial design, this product could straddle the fence between apparel and utility and become the iPod of the golf set. This merging of technology, training and tech-cool is a tall order. To succeed, the product must be easy to use, deliver a rewarding experience with each use, capture data and provide feedback on this data in real time and in aggregate, and must be supported by excellent customer service. While such a product would be a game changer within the golf industry, there are real costs to consider.

In the end, the studio estimated that this product could be worth millions during its lifetime. Given this information, the OTC filed a provisional patent on the invention, which will provide Luczak approximately one year to complete proof of concept demonstrations at the university. If successful, the OTC and Luczak will work collaboratively to market the invention to potential commercialization partners.

The OTC's Aug 20 **Power Lunch** featured Dr. Gary Butler, founder, president and chief executive officer of Camgian Microsystems, a Starkville based Mississippi State spin-out company. To receive announcements regarding future dates for this quarterly networking event, register with Sheree at shereeb@otc.msstate.edu.

About the Author

Michael Graber is the managing director of the Southern Growth Studio, a brand-marketing and product-innovation firm. He has worked with Fortune 500 companies and startups in various roles: information architecture, brand strategist and innovation consultant. At the studio, Graber leads clients through innovation implementations and brand transformations, and validates product concepts from both user-experience and business-model-perspectives. www.southern-growthstudio.com

continued from front cover

growing in microgravity aboard a space shuttle and international space station.

Wilson's story shows today's early and mid-career researchers that their investments in quality research and dedication can pay off. He's just not ready to tell you how his story ends.

"It's not over yet," he said recently, sitting in his office at MSU's Hand Chemical Lab. "I'm still working to make a difference."

While Wilson credits scientific curiosity and temperament for his success, he also acknowledges networking and a little luck. He first teamed up with his research and business partner Lawrence DeLucas, director of the Center for Biophysical Sciences and Engineering at UAB, after one of Wilson's undergraduate research students, who was interested in attending optometry school, interviewed at UAB for an internship. DeLucas, also an optometry professor, wanted to know more about Wilson's research after the student mentioned it during the interview.

"We met and established a research partnership that has continued ever since," Wilson said.

This chance meeting with DeLucas, who adds marketing savvy and additional research to their partnership, along with networking opportunities, convinced Wilson of the importance of developing relationships. He points to the $400,000 prototype of a device made based on their research as an example.

The two researchers delivered their prototype to Centocor in March for testing. After successful initial tests, the company intends to proceed with further development of the device.

"We have continued to evaluate the prototype over the past six months with results indicating that HT-SIC [Wilson's and DeLucas' research] is a viable method for rapidly assessing protein solubility in multiple solution conditions," said Michael Brigham-Burke, principal research scientist in the company's department of antibody drug discovery.

With success at Centocor, Wilson and DeLucas plan to continue their business efforts to encourage other companies to use their design, resulting in companies licensing their device and contributing to fighting diseases. Wilson said his research helped position him to commercialize his efforts, but more than quality science was needed to advance it into the marketplace.

Wilson said by serving on committees, such as NASA's Biotechnology Discipline Working Group and NASA's Space Station Utilization Advisory Subcommittee, he was able to gain access to key decision-makers.

"A lot of my success at Mississippi State came from seeking out opportunities on and off campus, especially off campus," Wilson said.

He and DeLucas plan to seek National Science Foundation funding for their small business, along with support from other pharmaceutical companies to license their research.

Although he spent many years of research and dedication on his project, Wilson has to smile when he talks about his success, knowing that an undergraduate's interest in optometry played a pivotal role in his business and research efforts.

"Most everybody has opportunities," Wilson said. "The key is recognizing and taking advantage of them."

Meet the Staff

Charles Rivenburgh
Director

Joe Fanguy
Assistant Director

Chase Kasper
Licensing Associate

Donna Collier
Licensing Coordinator

Sheree Bouchillon
Office Associate

ORED OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT
MISSISSIPPI STATE UNIVERSITY
Office of Technology Commercialization
P.O. Box 5282
Mississippi State, MS 39762
Phone: 662-325-9263