

THE TRIBUNE



September 2016

ACCELERATING DISCOVERIES TOWARD BETTER HEALTH

Entrepreneurial Spark

Boot Camp Stirs Students' Commercial Aspirations



The Health Sciences Entrepreneurship Boot Camp students and some of its presenters included: front row (l-r) Catheryn Wilson, Erin Bush, Amanda Stolarz, Samantha McClenahan, Xingui Liu, Dolapo Adejumbi, Carol Reeves, Ph.D., Walter Harrington, Nancy Gray, Ph.D., and Michael Owens, Ph.D. Back row: Brittney Garner, Clark Sims, Chuck Hay, Ithay Biton, Stephen Shrum, Jeffery Moran, Ph.D., Kai Carey, Lauren Russell, and Nancy Rusch, Ph.D.

Sometimes the stars align and an experiment yields a “Eureka!” moment. That’s on par with what happened recently at UAMS’ Biomedical Research Center.



Nancy Rusch, Ph.D.

Led by Nancy Rusch, Ph.D., and Nancy Gray, Ph.D., the “experiment” was UAMS’ first Health Sciences Entrepreneurship Boot Camp for 16 graduate students.



Nancy Gray, Ph.D.

Rusch leads the UAMS Translational Research Institute’s workforce development efforts and chairs the Department of Pharmacology and Toxicology in the

College of Medicine. Gray is director of UAMS BioVentures and a professor in the Department of

Pharmacology and Toxicology.

Even before the laudatory written evaluations came in, Rusch and Gray were excited by what they witnessed and what participants were telling them. Both were impressed with how quickly the students learned the language of entrepreneurship. That was evident on the final day of boot camp, when teams of students presented their commercialization ideas.

“From Monday to Friday there was an amazing transformation,” Rusch said. “It was like a different group of students.”

Several of the participating students said the boot camp inspired them and either applied directly to their goals or opened their minds more fully to commercializing their ideas, even if they plan to continue in academia as “intrapreneurs.”

Message from Dr. James



Dear Colleagues,
The Translational Research Institute (TRI) is proud to co-sponsor, along with the Department of Biomedical Informatics, an education initiative

that is especially appealing to clinical faculty. The weekly Research & Application Seminar Series offers the opportunity for physicians to better understand the latest applications in biomedical informatics and earn CME credit, as well. Some of the upcoming topics include “Third Generation Sequencing,” “Big Data in the Micro World,” “Precision Medicine” and “Cancer Genomics.”

The sessions are each Thursday, from noon to 1 p.m., at the Reynolds Institute on Aging, Jo Ellen Ford Auditorium, or online, and will run through Dec. 15. The lineup of speakers includes our own renowned biomedical informatics faculty, some of whom are new to the fast-growing department, as well as speakers from other institutions. If you missed any of the lectures, they are available in TRI’s Video Library at TRI.uams.edu, under “Training.” The seminar sessions date to Aug. 18.

We are excited about this latest partnership with Fred Prior, Ph.D., chair of the Department of Biomedical Informatics and director of TRI’s Comprehensive Informatics Resource Center. More information is available at TRI.uams.edu.

Sincerely,

Laura James, M.D.
TRI Director
Associate Vice Chancellor for Clinical and Translational Research

Entrepreneurial Spark (Continued from page 1)



Erin Bush, R.N.C., M.N.N.

“The presenters that were brought in were absolute rock stars,” said Erin Bush, R.N.C., M.N.N., a graduate student in the UAMS College of Nursing. “One of the things that I most want to do with my nursing Ph.D. is be an entrepreneur and translate the nursing science that’s coming out of research into something that can be commercialized. So the boot camp has incredible applications for my career goals.”

Heavy Hitters

The boot camp’s success was aided by the participation of UAMS’ entrepreneurial faculty as well as other heavy hitters in Arkansas’ entrepreneurial community. The roster included the University of Arkansas’ Carol Reeves, Ph.D., whose MBA students have led the world in business plan competitions the last six years, and Paul Mlakar, MBA, a serial entrepreneur.

Other outside presenters included Jeff Stinson, MBA, director of entrepreneurship at Arkansas Regional Innovation Hub; Rebecca Norman, M.S., an innovation consultant at the Arkansas Small Business & Technology Development Center; and Lee Watson, president of The Venture Center.

“We’ve developed a wonderful spirit of collegiality with all of our presenters and there’s great cooperation between UAMS and UA Fayetteville,” Rusch said. “Their participation really made this possible.”

A Rising Tide

The boot camp was supported by \$50,000 in supplemental funding tied to a National Institute of General and Medical Sciences T32 Systems Pharmacology and Toxicology Training Program grant led by Phil Mayeux, Ph.D., who alerted Rusch about the supplemental funding opportunity. Rusch and Gray applied for the funding and developed the boot camp agenda.

There are now 58 faculty at UAMS with entrepreneurial experience. Their success is good for them as well as UAMS, which receives intellectual property revenues for the licensed

technologies. UAMS’ intellectual property revenue is about \$1.6 million per year. BioVentures has been involved in over 50 spinoff companies, and of those, 23 are still in operation with a total payroll of \$7.2 million at the end of 2014.

Rusch said she hopes UAMS can increase these numbers through entrepreneurship training. She is leading the educational effort for the Translational Research Institute, and she credits institute Director/Associate Vice Chancellor for Clinical and Translational Research Laura James, M.D., with the idea of making it a key component of TRI’s mission and Clinical and Translational Science Award application. The goal is to offer a certificate program.

“I see the need for entrepreneurship training with my students all the time,” Rusch said. “They come into my office and say ‘I have this idea and it could really improve clinical care, but I don’t know how to proceed.’”

UAMS faculty entrepreneurs who shared their stories at the boot camp:

- **Jay Gandy, Ph.D.**, professor and chair, Fay W. Boozman College of Public Health; Founding Partner, Center for Toxicology & Environmental Health, LLC
- **Bill Gurley, Ph.D.**, professor, College of Pharmacy; chief science officer, Balm Innovations LLC
- **Amy Hester, Ph.D., R.N.**, assistant professor, College of Nursing; chief scientific officer, HD Nursing, LLC
- **Laura James, M.D.**, professor, College of Medicine; director, UAMS Translational Research Institute; associate vice chancellor for Clinical and Translational Research; chief medical officer, Acetaminophen Toxicity Diagnostics, LLC
- **Jeffery Moran, Ph.D.**, assistant professor, College of Medicine; CEO and founding partner, Pinpoint Testing, LLC
- **Michael Owens, Ph.D.**, professor, College of Medicine, chief scientific officer, InterveXion Therapeutics



“The whole boot camp experience was incredible. It not only gave me a glimpse of how to become an entrepreneur, but I was able to hear from actual entrepreneurs and business people who are at various stages with their companies. It really gave me further insight into what’s possible. It gave me the tools and definitely the confidence.”

—Catheryn Wilson, Graduate Student, Pharmacology and Toxicology



“I think it was great and I recommend this 110 percent to keep happening every year and for students to continue being involved. I feel like I got a month’s worth of experience out of just one week. I’m somewhat familiar with the basics of business now, and before I had absolutely no idea about any of it. I’m pretty inspired with what I can do with my ideas.”

—Stephen Shrum, Graduate Student, Pharmacology and Toxicology



“Our MBA students are interested in partnering with health sciences students to form new companies. I was very impressed by the quality of ideas the boot camp students presented and fully expect that the boot camp will lead to meaningful collaborations between our institutions.”

—Carol Reeves, Ph.D., Associate Vice Provost for Entrepreneurship, University of Arkansas, Fayetteville

TRIBUTARY

NIH Grant for ‘Synthetic Marijuana’ Study Stems from TRI Pilot



Principal Investigator Paul Prather, Ph.D., with Co-Investigators Anna Radomska-Pandya, Ph.D.; Jeffery Moran, Ph.D.; William Fantegrossi, Ph.D.; and Laura James, M.D. Not pictured are Co-Investigators Keith McCain, Pharm.D., and Susan Abdel-Rahman, Pharm.D.

A \$2.7 million NIH grant for the first comprehensive study of synthetic cannabinoids at UAMS can trace its origins to a 2011 Translational Research Institute (TRI) pilot award.

The NIH National Institute of Drug Abuse (NIDA) grant builds on the findings of the one-year, \$100,000 pilot conducted by a large multidisciplinary team. The team's work informed that of the Arkansas Legislature, which in 2013 added new synthetic cannabinoid groups to the state's list of controlled substances (Act 329). The pilot also resulted in development of a clinical test to determine the presence and amount of the toxic synthetic compounds in a person's body.

Over the next five years, largely the same team, led by Paul Prather, Ph.D., professor in the Department of Pharmacology and Toxicology, will use the NIDA grant to explore why the

synthetic compounds are more toxic than marijuana, even though both activate the same cannabinoid receptors in the brain. Researchers will study the effects of the man-made compounds on human cells in the lab, in mice, and in those who take synthetic cannabinoids and are admitted to the ER at UAMS and ERs in New York.

Co-Investigators

- **William Fantegrossi, Ph.D.**, associate professor, Department of Pharmacology and Toxicology
- **Laura James, M.D.**, professor, Department of Pediatrics, director, TRI, associate vice chancellor for clinical and translational research
- **Keith McCain, Pharm.D.**, associate professor, College of Pharmacy, and clinical toxicologist, Arkansas Poison & Drug Information Center
- **Jeffery H. Moran, Ph.D.**, assistant professor, Department of Pharmacology and Toxicology, section director environmental chemistry, Arkansas Department of Health
- **Anna Radomska-Pandya, Ph.D.**, professor, Departments of Biochemistry and Molecular Biology and Medicine
- **Susan Abdel-Rahman, Pharm.D.**, professor, pediatrics, University of Missouri, Kansas City

TRI & me

"TRI reached out to me as it was developing entrepreneurial education initiatives even before I arrived at UAMS BioVentures in February 2015. Like TRI, our mission at BioVentures includes assisting researchers trying to move their discoveries from bench to bedside. This alignment of missions has led us to forge productive collaborations, such as the Health Science Entrepreneurship Boot Camp



Nancy Gray, Ph.D., Director, UAMS BioVentures; Professor, Department of Pharmacology and Toxicology, UAMS College of Medicine

for graduate students, which was proposed by Nancy Rusch, Ph.D., TRI's workforce development director. We also previously co-sponsored the Health Science Innovation and Entrepreneurship Seminar Series for faculty and students. These have been popular events, and our goal is to expand their scope in partnership with other Clinical and Translational Science Award institutions!"

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The following UAMS researchers cited the Translational Research Institute (TRI) in publications after utilizing TRI resources or funding:

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