Working Toward Food Security

UTIA researchers work to boost productivity and sustain the soil
6 Outreach to African Nation of Lesotho Takes No-till to a New Level
8 Expanded Large Animal Hospital on the Way
9 UT Center Provides National Training in Food Security
10 New Faces, Changes at the Institute
11 Dr. Larry Arrington Arrives as Chancellor
12 Mike Keel Seals the Deal on 30-year Career
13 Native American Interpretive Garden Debuts
14 UT Extension Acting in Storms, East to West
15 Tribute to Beloved Professor Dr. Frank Bell
16 Jump-starting UT Research Spin-offs
18 Bromma Pemberton Leaves Legacy; NIFA Seminar
19 Undergraduates Intern Nationally and Internationally
20 Social Media: We’re on it
21 In Profile: Dr. Don Hodges
22 Good Things are Coming
23 Young 4-H’ers Stitch Robes of Hope
24 Freshman Seminars Show Versatility of Faculty Members
25 Protecting Nursery Crops With Precision
26 The Gathering Invests Wisdom in Start-up Ventures
27 Alumni Share Memories of the College and Institute
28 Alumni Dream Jobs—Read About Theirs, Tell Us About Yours
30 New Facilities for Animal Science and Food Science and Technology
**Better Medical Implants**

Dr. John Biggerstaff is a world-class specialist in inflammation response and blood flow. Manufacturers of medical devices need better data on how their products interact with the body. “Sometimes you want the body to interact positively with the system, but with other things such as oxygenators, you don’t want the body to react to at all because blood flow can be altered and have deleterious effects on organs or even cause death,” he says. Doctoral student Ben Curry fell in love with the research and is refining what they believe is the most comprehensive set of tests in the country that assess biocompatibility of medical implant devices. Biggerstaff says, “Application of this technology to new medical devices will save lives.”

**Sensors for Disease Control**

As they work toward a technology that farmers can use in their fields for disease prediction and control, biosystems engineer Dr. John Wilkerson, plant pathologist Dr. Mark Windham and master’s student Crystal Kelly have devised a wireless network of small environmental sensors that provide an early warning when conditions are right for disease growth in greenhouses. “With greenhouses, one area may receive more light, another more heat,” Kelly says. “This network of data would make greenhouses more efficient and environmentally friendly. It would also allow more precise watering and use of chemicals.” The result would be healthier, more uniform plants and less dead loss.

**UT Distinguished Professor Fred Tompkins is on a mission. Through a new special topics course, he is striving to open students and professors’ eyes to the idea of launching innovative and potentially lucrative business spin-offs. His vision is to enable students to create careers for themselves—ones that potentially enrich East Tennessee’s technology business base, grow jobs and boost the state’s economy.**

The course is offered through the College of Agricultural Sciences and Natural Resources, but its reach extends to students across the university who are engaged in the sciences, engineering and technology development.

As former CEO of the university’s Research Foundation, Tompkins knows the value of faculty members’ discoveries. But professors are generally fully focused on gaining and sharing knowledge, not creating commercial ventures. And that’s where opportunity for their students comes into play.

“Many of our science and technology-focused students have never considered launching venture spin-offs,” Tompkins says. “I want some of them to get ‘bitten by the bug’ or at least open their minds to that potential.”

Twenty guest lecturers join Tompkins to share their first-hand knowledge of various aspects of launching a business venture and making it succeed.

“The course is all about encouraging, educating and enabling,” he says. “I’m also always on the lookout for folks who are willing to invest funding in these students—money that can be used to mature their ideas and their technologies and to determine if a viable business that can meet a societal need is a real possibility.” —Margot Emery