



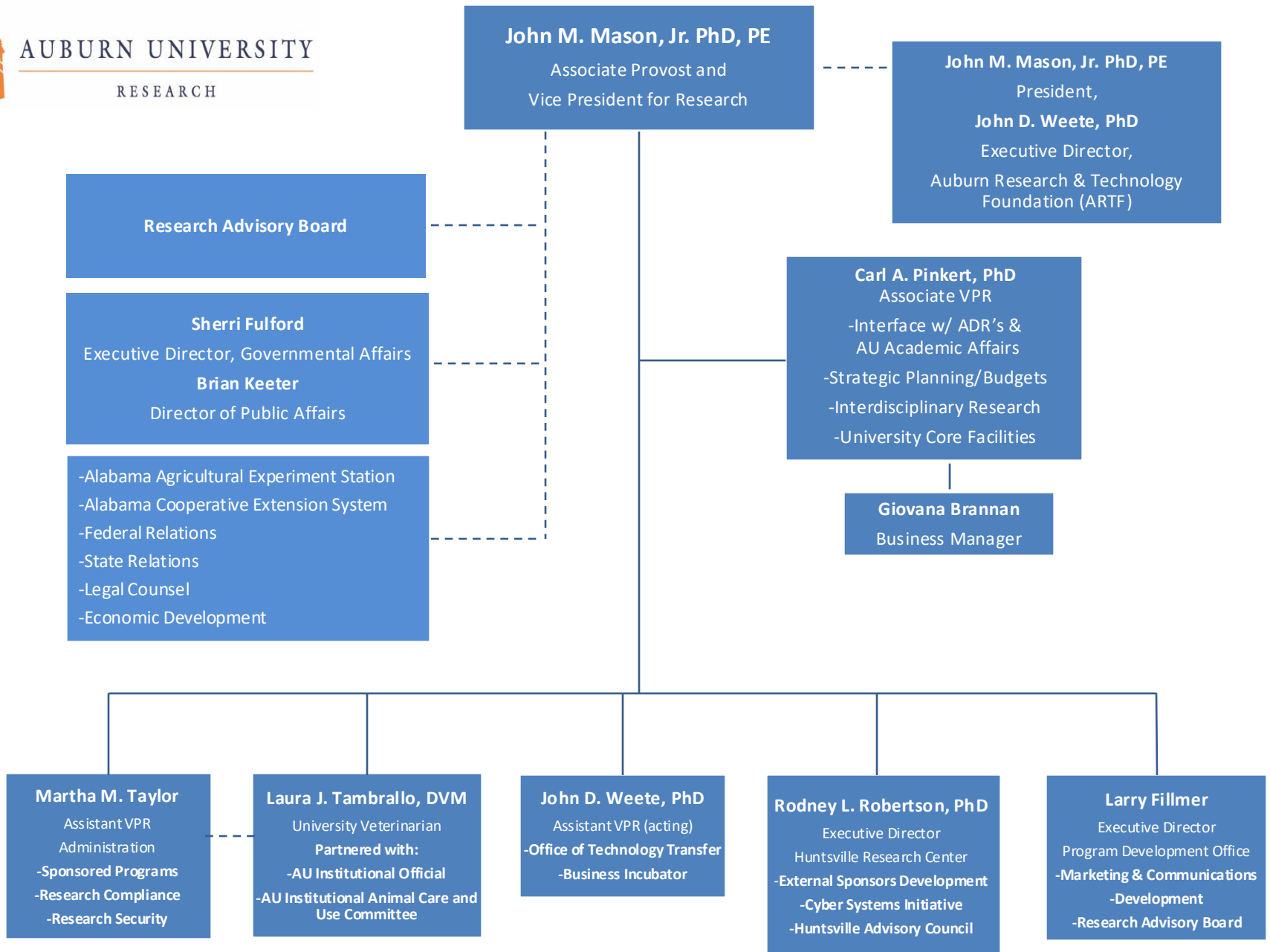
AUBURN UNIVERSITY

RESEARCH





AUBURN UNIVERSITY
RESEARCH

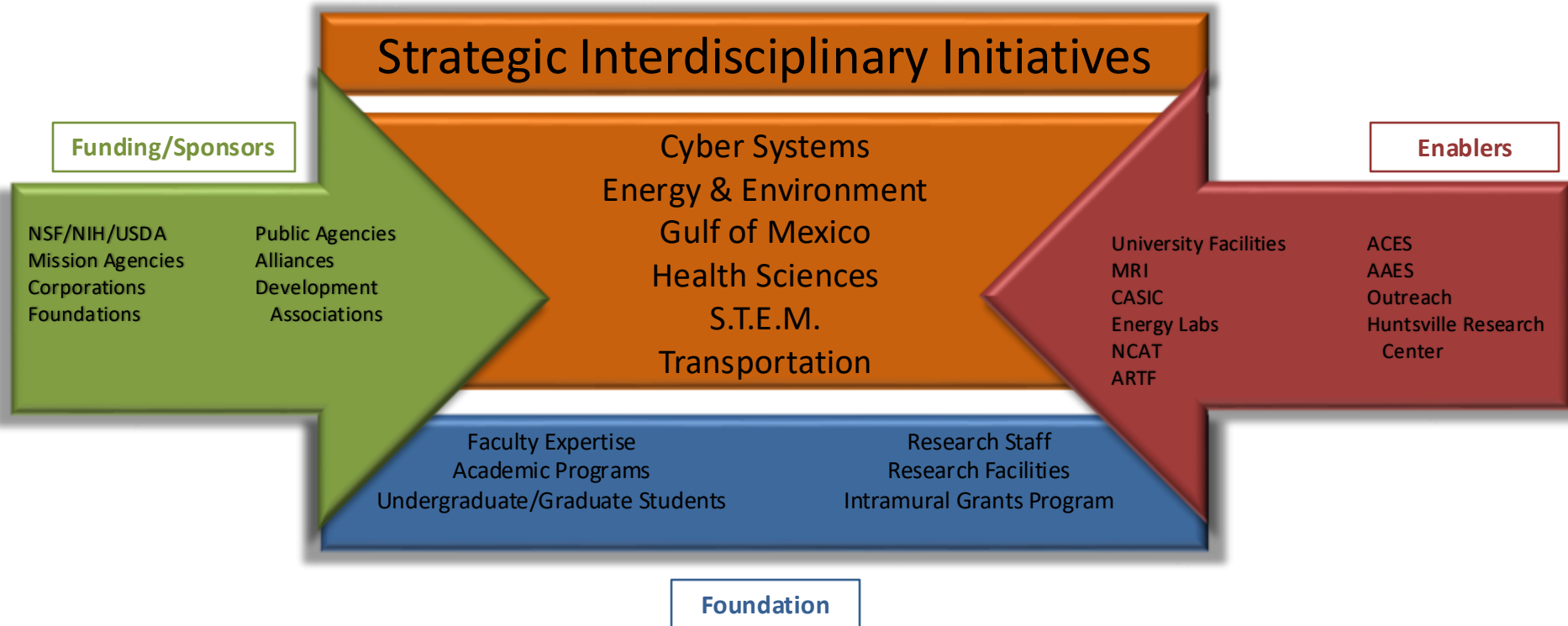


Vision/Direction for Research

- Enhance disciplinary scholarly efforts
- Interdisciplinary and collaborative
 - Linking disciplines across campus
 - Assist in transforming industries and creating economic opportunities for communities across the state, the region and the nation
- Align AU expertise with long-term national priorities
 - Cyber Systems
 - Energy & the Environment
 - Health Sciences
 - ◆ Food Systems Initiative
 - ◆ MRI Research Center
 - ◆ Military Health Sciences
 - Transportation
 - Science, Technology, Engineering and Mathematics (STEM)
 - Economic Development – Putting Research to Work



Auburn University Research



AUBURN UNIVERSITY

RESEARCH

Ongoing Research Initiatives

- Energy & the Environment Task Force (E&E)
 - Chaired by Dr. Christopher Roberts
 - Meeting regularly to determine the optimal and appropriate administrative structure for organizing and supporting research in these areas
- AU Health Sciences Initiative
 - Chaired by Dr. Calvin Johnson
 - Charged with developing a strategic plan
 - Will collaborate with Food Systems Initiative on areas that include:
 - ◆ Detection and elimination of microbes in agricultural products
 - ◆ Environmental Health/Water Quality
 - ◆ Management and logistical support for distribution systems
- AU Food Systems Initiative (AUFSI)
 - Dr. Patricia Curtis named director
 - AUFSI working groups (17 to date) are responding to requests for proposals from a number of agencies
 - Proposal submissions related to:
 - ◆ Electronic traceability of seafood
 - ◆ Long term health effects of the oil spill
 - ◆ Safe transportation of foods



Ongoing Research Initiatives (continued)

- AU Gulf of Mexico Initiative
 - Coordination/facilitation by Dr. Ken Halanych
 - Researchers from a variety of disciplines have received funding from multiple sources including but not limited to:
 - ◆ NSF
 - ◆ BP (through the Marine Environmental Science Consortium)
 - ◆ Orange Beach, Alabama
 - Dr. Ash Bullard of the Department of Fisheries recently received \$132,000 from BP through the Gulf of Mexico Alliance's Gulf Research Initiative to enable him to conduct time-sensitive sampling and related studies
 - Five teams responded to the recent RFP from BP (through the Gulf of Mexico Alliance)
 - ◆ Focused on: deepwater issues, near-shore issues, and long-term health
 - ◆ Funding announcements were made August 30, 2011—no Alabama-led consortia were selected



Ongoing Research Initiatives (continued)

- Auburn University Huntsville Research Center (AUHRC)
 - Dr. Rodney Robertson, Executive Director
 - AUHRC Research Advisory Council Formed
 - ◆ 26 members from industry and government
 - ◆ Establishing contract vehicles for Auburn/government agencies
 - Conducting Symposia highlighting Auburn researchers and students
 - ◆ Cyber Information and Assurance
 - ◆ Advanced Materials, Polymers and Composites
 - Hosted visits to Auburn to review research capabilities for:
 - ◆ Missile Defense Agency
 - ◆ Lockheed Martin
 - ◆ Boeing
 - ◆ NASA



AUBURN UNIVERSITY

RESEARCH

Ongoing Research Initiatives (continued)

- Auburn University Internal Grants Program
 - Facilitated with active input from the Faculty Research Committee
 - Administered through the OVPR (Dr. Carl A. Pinkert)
 - Comprehensive, coordinated grants program initiated in 2010
 - 60 proposals received in the inaugural year; all 60 were funded
 - OVPR provided approximately \$1.6 M
 - Matching support from departments, schools and colleges resulted in approximately \$3M total internal funding
 - Program description can be found at:
<https://fp.auburn.edu/vpr/iga/igp/default.aspx>



AUBURN UNIVERSITY

RESEARCH

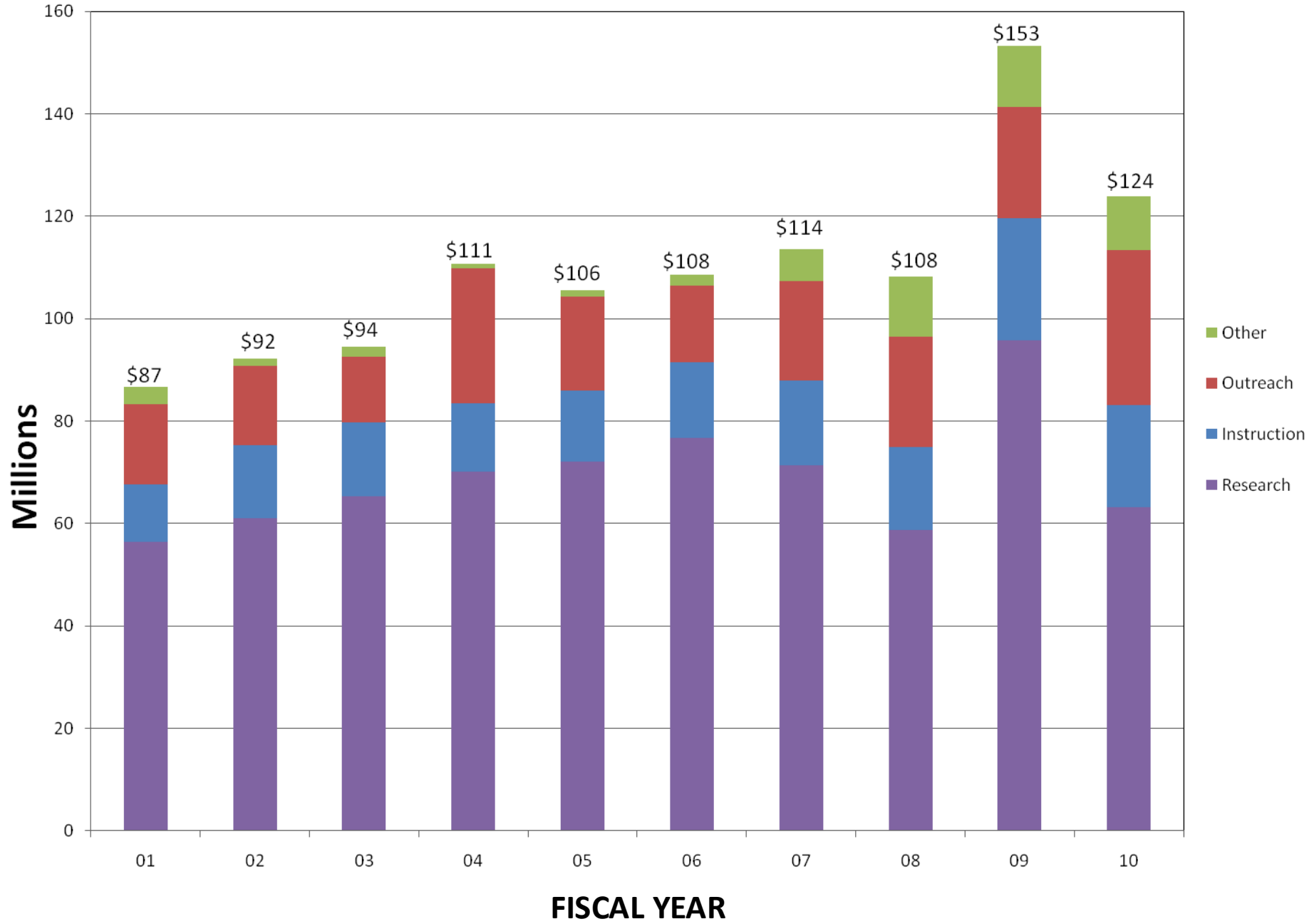
Auburn University

Intramural Grants Program

- Four levels of competition (OVPR contribution):
 - Level 1 – Seed Research/Scholarship Proposals (\$2000) Individual investigator driven projects working on a new research program or scholarly initiative.
 - Level 2 – Exploratory Interdisciplinary Research/Scholarship Proposals (\$3750) Faculty from at least two departments/schools/colleges working on a new research program or scholarly initiative.
 - Level 3 – Developmental Interdisciplinary Research/Scholarship Proposals (\$25,000-\$100,000) Faculty from at least two schools/colleges working on a new research program or scholarly initiative.
 - Level 4 – Interdisciplinary Equipment Proposals (\$25,000-\$100,000) Faculty from at least two schools/colleges must demonstrate need.



All Sponsored Awards



Office of Technology Transfer

Managing the intellectual property portfolio for Auburn University

	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>
Invention Disclosures	93	110	84	87	105
U.S. Patent Applications Filed:					
Standard	16	5	26	15	17
Provisional	80	121	120	65	91
Other (Div., CIP, Cont.)	6	10	7	1	2
U.S. Patents Granted	10	19	12	14	23
U.S. Patents Active	106	125	137	126	149
Licenses/Options Executed	20	13	16	15	25
Active Licenses/Options	64	42	54	66	63
Start-up Companies Formed	0	3	1	0	1
Total Active Startup Companies	11	12	14	14	14
Option and License Income	\$699,810	\$553,614	\$675,132	\$693,452	\$770,135



AUBURN UNIVERSITY

RESEARCH

Research Marketing Update

- AU Research Annual Update—produced in Summer 2011
- AU Research Website www.auburn.edu/research/
- Auburn Speaks
 - Annual book publication highlighting Auburn Research for a lay audience
 - First issue to be released April 2012 focused oil spill related activity
 - Second issue to be released in 2013 will focus on water quality/quantity issues
 - ◆ Peer Reviewed
 - ◆ Edited by Dr. Graeme Lockaby
- AU Research “30 Second” Promotion
 - Will be featured on the Jordan-Hare “Jumbotron” for all of the 2011 home games
 - Focus on AU MRI Research Center
- AU Research in Social Media
 - AU ranked #3 among national universities for effective use of social media behind Harvard and Stanford
 - Auburn Presence on Facebook
 - ◆ Auburn University Research
 - ◆ Office of Undergraduate Research
 - ◆ Auburn University Food Safety Initiative



AUBURN UNIVERSITY

RESEARCH

Auburn University Research Week 2012

April 2nd – 5th, 2012



Research and Creative Scholarship

- Dr. Paula Bobrowski, Associate Dean for Research, College of Liberal Arts serving as Chair of the Research Week 2012 Organizing Committee
- Activities include:
 - ◆ Undergraduate Research Forum
 - ◆ Graduate Research Symposium
 - ◆ Faculty Research Forum
 - ◆ Grantsmanship Workshops
 - ◆ Awards Gala



AUBURN UNIVERSITY

RESEARCH

Summary

- Near-term objective – Grow Auburn University’s research portfolio and increase funding through contracts, grants, investments and contributions
- Long-term objective – Measurably increase Auburn University’s reputation as a premier land-grant, research institution



AUBURN UNIVERSITY

RESEARCH



AUBURN UNIVERSITY

RESEARCH



Auburn University Research

Interdisciplinary Achievement

- The Center for Forest Sustainability (CFS), directed by Dr. Graeme Lockaby supports teaching research and outreach related to urbanization and natural resources. The CFS has:
 - Received the Presidents Outstanding Collaborative Unit Award – July 2011
 - Supported 75 graduate students
 - Collaborated with faculty and graduate students from 14 academic departments within 8 of the Universities Schools and Colleges
 - Generated over \$18M in extramural funding for a variety of academic units on campus
- AU Detection and Food Safety Center, directed by Dr. Bryan Chin
 - Recurring (annual) USDA NIFA - \$1.6 M
 - Includes researchers from 5 of the Universities Colleges (Agriculture, Engineering, Human Sciences, Sciences and Mathematics, and Veterinary Medicine)
 - USDA NIFA - \$1.4M - Magnetoelastic biosensors for detection of pathogens on globe fruits diagnostics
 - Receives additional funding from federal agencies (including, FDA and NSF), and food-related industries in the form of sponsored projects and industrial participation



AUBURN UNIVERSITY

RESEARCH

Auburn University Research

Interdisciplinary Achievement

- Cogongrass and ecologically-based weed management strategies: insect diversity and pine decline in the Southeastern United States
 - USDA NIFA - \$493K
 - Dr. Stephen Enloe, Agronomy and Soils; Dr. David Held, Entomology and Plant Pathology; Dr. Lori Eckhardt and Dr. Nancy Loewenstein; School of Forestry and Wildlife Sciences
- Eco-morphological stream design
 - US EPA \$300K
 - Dr. Eve Brantley, ACES; Dr. Chris Anderson, School of Forestry and Wildlife Sciences; Dr. Brian Helms, Biological Sciences; Dr. Joey Shaw, Agronomy and Soils; Dr. James Stoeckel, Fisheries and Allied Aquacultures
- Il-new: a compute and storage cluster for multidisciplinary research computer systems and scientific simulations
 - NSF - \$400K
 - Dr. Weikuan Yu, Computer Science and Software Engineering; Dr. Michael Pindzola, Physics; Dr. Cheryl Seals, Computer Science and Software Engineering; Dr. Hanqin Tian, School of Forestry and Wildlife Sciences



AUBURN UNIVERSITY

RESEARCH

Auburn University Research

Interdisciplinary Achievement

- Molecular diagnostics & biological control of disease in channel catfish
 - NSF/Lucigen Corporation - \$250K
 - Dr. Mark Liles, Biological Sciences; Dr. Paul Cobine, Biological Sciences; Dr. Joe Kloepper, Entomology and Plant Pathology; Dr. Joe Newton, Pathobiology; Dr. Jeff Terhune, Fisheries and Allied Aquacultures
- Precision Agriculture: Management approaches toward environmental stewardship for Alabama
 - USDA NIFA - \$390K (annually)
 - Dr. Brenda Ortiz, Agronomy and Soils; Dr. Joey Shaw, Agronomy and Soils; Dr. John Fulton, Biosystems Engineering; Dr. Tim McDonald, Biosystems Engineering; Dr. Paul Mask, ACES
- East Alabama Partnership for the Improvement of Mathematics Education
 - NSF - \$1.68M (annually)
 - Dr. Gary Martin, Curriculum and Teaching; Dr. Marilyn Strutchen, Curriculum and Teaching; Dr. Stephen Stuckwisch, Math and Statistics; Dr. Phillip Zenor, Math and Statistics
- Alternative Fuel for Cement Processing
 - DOE - \$1.43M
 - Dr. Tomas Burch, Mechanical Engineering; Dr. David Bransby, Agronomy and Soils; Dr. Steve Duke, Chemical Engineering; Dr. Anton Schindler, Highway Research Center; Dr. Ralph Zee, Associate Dean for Research, College of Engineering



Interdisciplinary Achievement

Energy

(\$18M+ in extramural funding)

- **Congressionally Directed Funding to Center for Bioenergy and Bioproducts**
 - US Department of Energy – 3 awards totaling \$3M—led by CBB with involvement of faculty in Biosystems Engineering, Chemical Engineering, Forestry and Wildlife Sciences, and Horticulture
 - USDA – 1 award totaling \$250K—led by CBB with involvement of faculty in Biosystems Engineering, Chemical Engineering, and Forestry and Wildlife Sciences
- **Industry Funding**
 - Electric Power Research Institute - \$375K led by CBB with involvement of faculty in Biosystems Engineering and Chemical Engineering
- **Competitive Funding**
 - Alabama Department of Economic and Community Affairs – 2 awards for \$150K—led by CBB with involvement of faculty in Alabama Cooperative Extension System, Biosystems Engineering, and School of Forestry
 - Sungrant – 2 recent awards for \$500K—one led by Chemical Engineering with involvement from Biosystems Engineering and Forestry and Wildlife Sciences; another led by Biosystems Engineering with involvement from Chemical Engineering
 - U.S. Department of Energy - \$4.9 M award with additional \$5 M industry cost share led by CBB with involvement of faculty in Biosystems Engineering and Forestry and Wildlife Sciences along with USDA Forest Service and Corley Land Services (a central Alabama company)
 - USDA – Agriculture and Food Research Initiative - \$1 M— led by Chemical Engineering and Biosystems Engineering with heavy involvement of CBB
 - NSF IGERT for graduate fellowships in the area of biorefining - \$3.0 M— led by Chemical Engineering with involvement from Biological Sciences, Biosystems Engineering, Forestry and Wildlife Sciences, and Mechanical Engineering
- **Related Award**
 - NSF grant for renovation of Biological Engineering Research Laboratory – \$4.6 M—led by Biosystems Engineering, but involves a significant bioenergy component that relates to CBB activities



AUBURN UNIVERSITY

RESEARCH