



IJC on Education
Subcommittee on Postsecondary Education
September 9, 2013

A photograph of a large, multi-story brick building with a prominent central tower, set against a blue sky with light clouds. The building is surrounded by green grass and trees. A semi-transparent dark grey box with a grid pattern is overlaid on the right side of the image, containing the text.

University of Louisville
Office of Research & Innovation

Dr. William M. Pierce, Jr.
Executive Vice President for Research & Innovation

LOUISVILLE.EDU

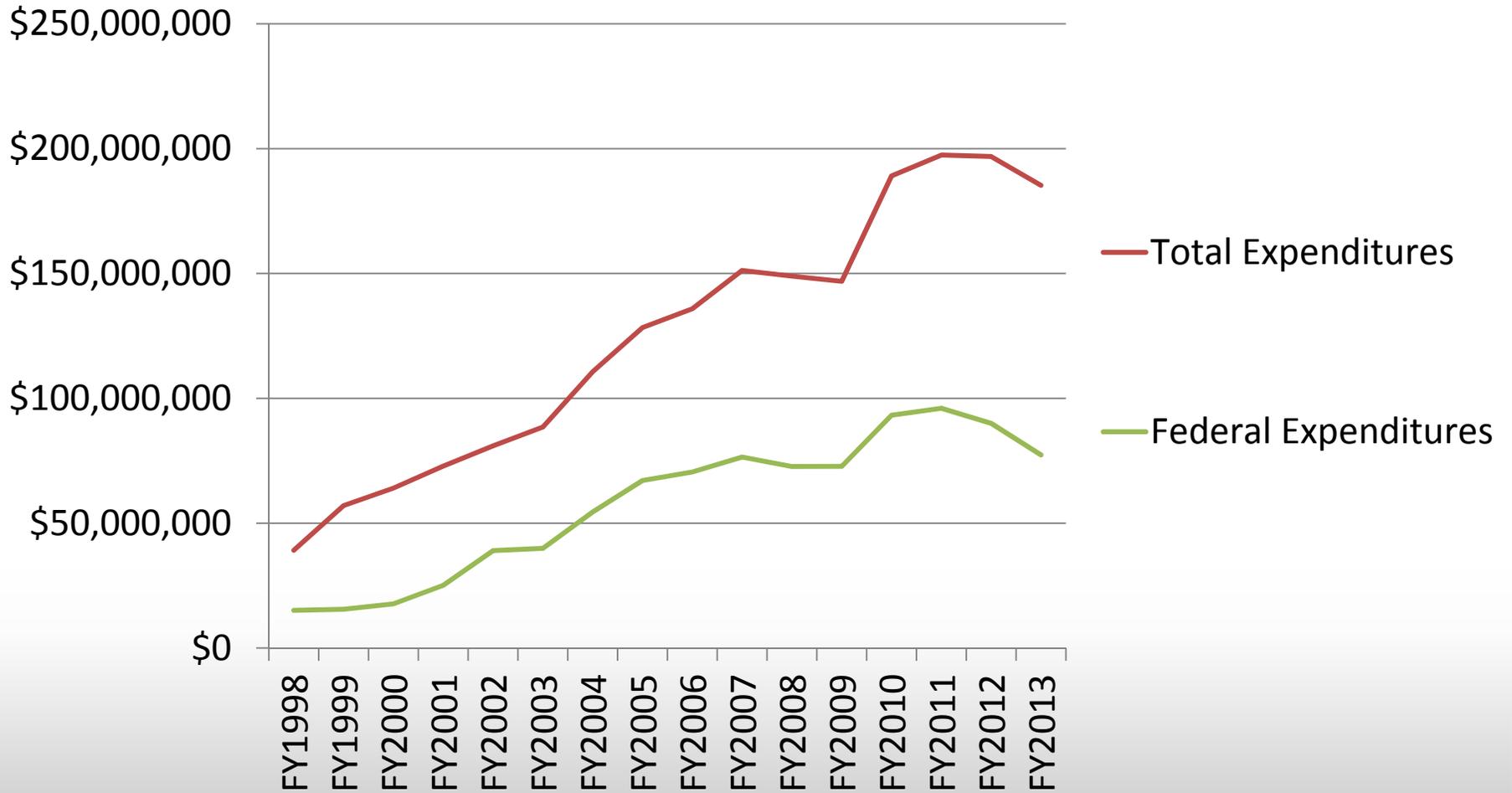


“A premier, nationally recognized metropolitan research university at the University of Louisville.”



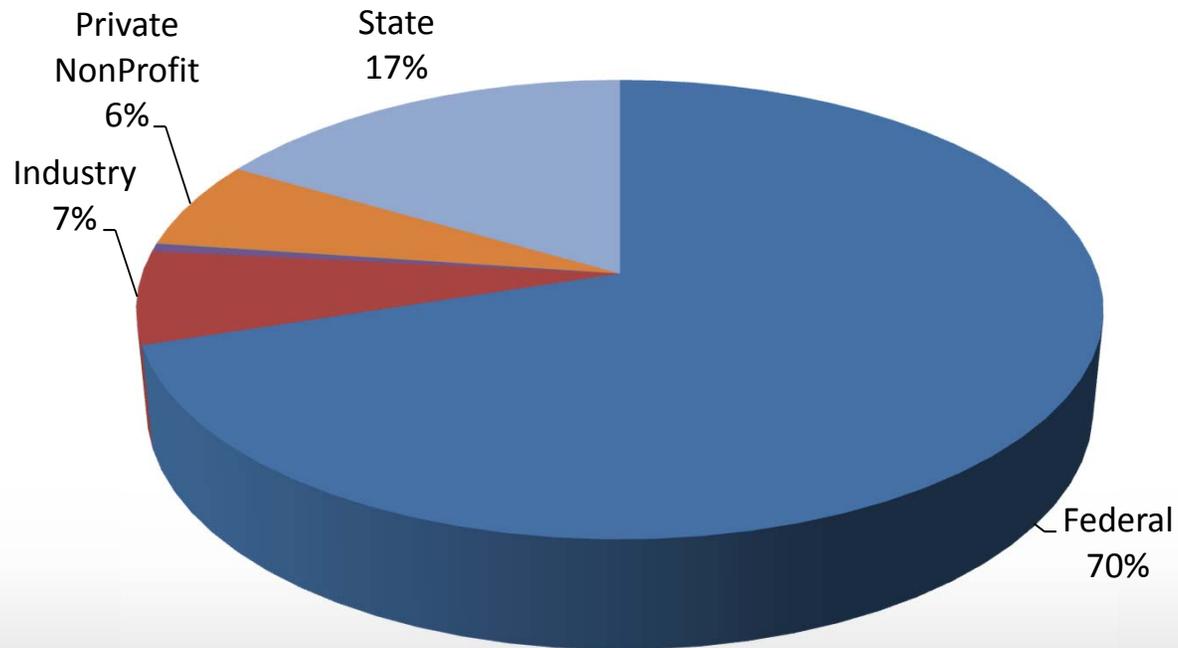


Research Funding Expenditures





Fund Award Sources FY 2013





Public / Private Consortia

Office of Industry Engagement

- U Illinois – U Michigan Consortium National Center for Digital Manufacturing and Design Innovation (DOD)
- NNMI Stanford – MicroNano Technical Center
- Raytheon
- GE Appliance Park
- Ford Motor Co.
- LTC Innovate
- Battelle consortium
- Developing vaccine creation network [CPM and Owensboro]
- Rapid Prototyping Center
- Argonne National Laboratory
- Oak Ridge Affiliated Universities
- National Academies – University – Industry Development Project



Coulter Translational Research Program

Partnerships in Biomedical Engineering

- Boston University, Boston, MA
- Case Western Reserve University, Cleveland, OH
- Drexel University, Philadelphia, PA
- Duke University, Durham, NC
- Georgia Tech / Emory University
- Stanford University, Stanford, CA
- University of Michigan, Ann Arbor, MI
- University of Virginia, Charlottesville, VA
- University of Washington, Seattle, WA
- University of Wisconsin, Madison, WI
- Columbia University, New York City, NY
- Johns Hopkins University, Baltimore, MD

- **University of Louisville, Louisville, KY**
- University of Missouri, Columbia, MO
- University of Pittsburgh, Pittsburgh, PA
- University of Southern California, Los Angeles, CA





Coulter Project Awards 2012-2013

Left Atrial Appendage Closure Device for Stroke Prevention - \$100,000

Guruprasad Giridharan, Ph.D. and W. Brent Keeling, M.D.

Device to prevent embolic stroke in patients with atrial fibrillation

A Novel Image Based Diagnostic System for Accurate Diagnosis of Autism -\$100,000

Ayman El-Baz, Ph.D. and Manuel Casanova, M.D.

Quantitative diagnostic system for diagnosis of autism

Development of a Novel, Open-jaw Polypectomy Snare Device - \$109,000

Gerald W. Dryden, M.D. and John Naber, Ph.D.

Device to improve the removal of pedunculated colon polyps

SIVIC for Establishing Secure Endoscopic Access to the Gastrointestinal Tract - \$81,000

Gerald W. Dryden, M.D. and William Hnat, Ph.D.

Device to improve GI access for foreign body removal

Engineering an End to Cataracts – \$ 50,000

Andrea Gobin, Ph.D. and Tongalp Tezel, M.D.



Coulter Project Awards 2013-2014

Shape Adaptive Therapy to Treat Tumors

Warren Boling, M.D., Neurosurgery

Chin Ng, Ph.D., Radiology

Robert Cohn, Ph.D., Electrical & Computer Engineering

Treatment of Cervical Pathologies by Curcumin Delivered Locally by a Polymeric Device

Lynn Parker Petty, M.D., Obstetrics & Gynecology

Ramesh Gupta, Ph.D., Pharmacology

Martin O'Toole, Ph.D., Bioengineering

Preclinical Validation of a Novel Multiple Sample Biopsy Device

Gerald W. Dryden, M.D., Medicine

William Hnat, Ph.D., Mechanical Engineering

Novel Suture-Less Trocar Site Closure & Herniation Prevention Device

Daniel Metzinger, M.D., Obstetrics & Gynecology

Scott Cambron, M.S., Bioengineering



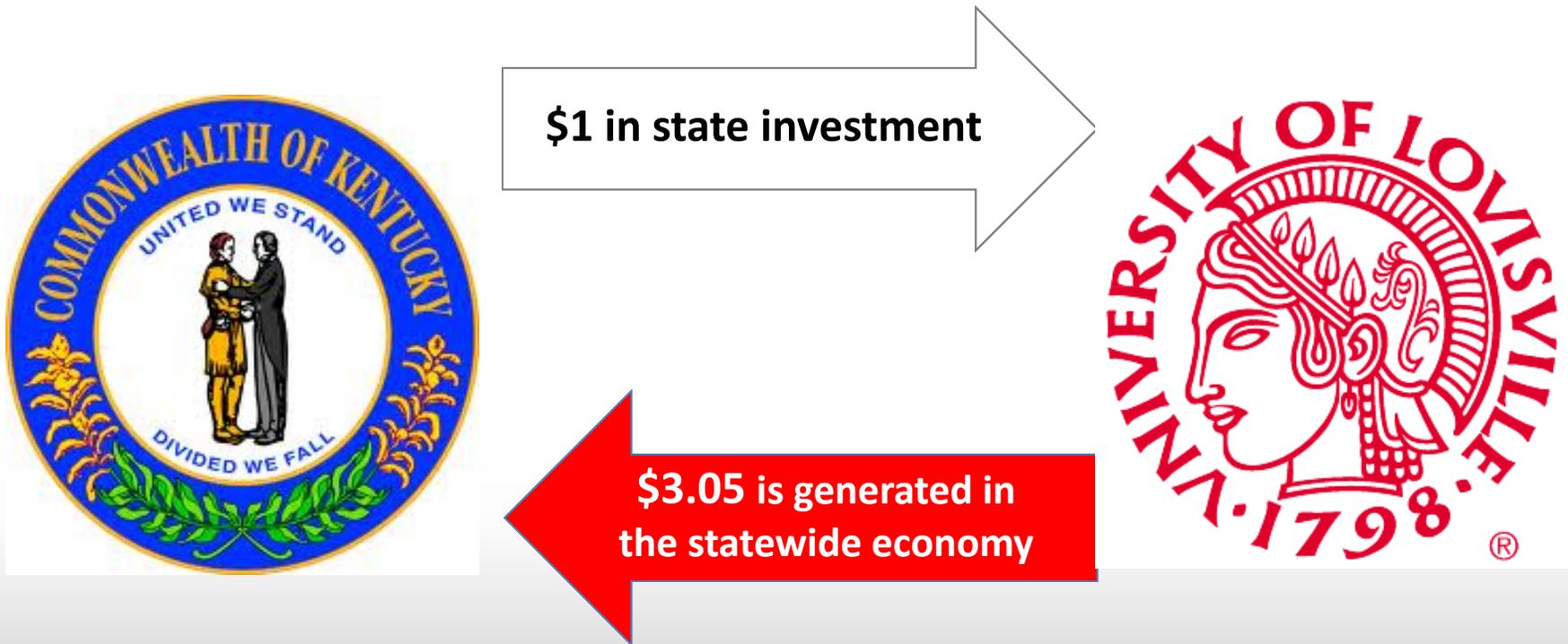
Discoveries \longrightarrow People

Technology Transfer Measures 2007 – 2013

	2007	2008	2009	2010	2011	2012	2013
Invention Disclosures	75	84	86	105	109	97	105
Patent Applications	78	127	159	181	164	143	149
Patents Awarded	10	23	8	27	23	38	24
License/Option Agreements	7	11	12	6	13	38	48



What is the University of Louisville's return on investment to the Commonwealth of Kentucky?





Life-changing Research

Heart research & Dr. Bolli



- With colleagues in Boston, Dr. Roberto Bolli developed a cellular treatment that appears to reverse damage from heart attacks and shows promise in treatment of many cardiovascular diseases.
- Treatment uses a patient's own cardiac cells to rejuvenate the heart



Life-changing Research



James Graham Brown Cancer Center

- Physicians and caregivers continue to seek new and better ways to provide treatment to patients
- Researchers use tobacco plants to deliver a vaccine to prevent cervical cancer
- Researchers utilize unused computer time at schools throughout Kentucky to search for potential drug designs to fight cancer



Life-changing Research

NUCLEUS: Kentucky's Life Sciences Innovation Center



- Houses, incubates, and accelerates life sciences companies
- Provides office and lab space
- Serves companies associated with UofL and those outside the university
- Assist the region in attracting and retaining homegrown biotechnology companies
- Works with KSTC as well as attracting newly developing companies to Kentucky



Life-changing Research

Spinal cord research & Dr. Harkema.



- Researchers at UofL leading team helping people regain the use of limbs
- Epidural stimulation of the spinal cord is a promising research therapy with the goal of helping people regain their ability to walk



Thank you!

Questions?