Example of State/Local Specific Impacts on Research Supported by the National Science Foundation

(Prepared by Roger Lewis and John Mayer, University of Alabama at Birmingham for the Coalition for National Science Funding (CNSF) Hill Visits Day, Fall 2007)

NSF Supported Research in Alabama

- ✓ **2000-2006: The NSF budget increased 35%.**
  NSF funding to Alabama scientists increased 55%.

Selected NSF Supported Research in Alabama

- **Antarctica Chemical Ecology Program (Polar Programs)**
  This study of chemicals produced by Antarctic marine plant and animal communities seeks to identify drug candidates to treat cancer, infectious diseases, and cystic fibrosis. One set of compounds is in the stage of animal trials for an anti-cancer drug. This program has received the attention of CNN News, BBC radio, NPR, Washington Post, Chicago Tribune, etc.

- **Mentoring through Critical Transitions Points (UAB Mathematics)**
  This grant supports an innovative "fast-track program" providing 2.3 million dollars towards scholarships and fellowships for US citizens. One graduate from this program, a native of Pell City, won one of the coveted NSF post-doctoral fellowships to study at Princeton and another graduate, a native of Leeds, was awarded a post-doctoral fellowship at Cornell.

- **Dauphin Island Sea Lab**
  DISL is a marine laboratory fostering marine science research and education serving 21 four-year colleges and universities as well as K-12 throughout Alabama. The NSF EPSCoR[1] program, which began in 1986, provided critical, early support for this thriving facility.

- **Designer Diamond Technology**
  The NSF EPSCoR program fostered the growth of materials research in Alabama institutions. One of the success stories of that endeavor is current research in the production of synthetic diamonds. This research in Alabama is now in cooperation with the Lawrence Livermore National Laboratories. It receives the support of the Department of Energy (DOE) as well as the National Nuclear Security Administration (NNSA).

[1] Experimental Program to Stimulate Competitive Research

NSF Supported Research & Economic Growth

- ✓ **Google, a $50-billion company:**

  In the mid-1990's two NSF-supported graduate students discovered a better way to mine data.

- ✓ **Magnetic Resonance Imaging (MRI), a $110-billion industry:**

  MRI technology is an outgrowth of fundamental research supported by NSF.

- ✓ **Biotechnology, a $40-billion industry:**

  In the late 1960's an NSF supported researcher studying the microbiology of extreme environments made discoveries that made genome sequencing practical fueling a revolution in biotechnology.

- **NSF peer review system**
  - **Measures Alabama scientists against national competition**
  - **Enhances the credibility of departments and individuals who measure well**
  - **Provides critical reviews by experts**
  - **Has received the acclaim of the Office of Management & Budget (OMB)**