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President's NC Trip Showcases the Role Scientific Research Plays in Driving the Economy CREE, Inc., the result of federally funded research at North Carolina State University

Today President Barack Obama and the members of his Jobs and Competitiveness Council will visit Durham, North Carolina-based Cree, Inc., a leading manufacturer of energy-efficient LED lighting with over 4,000 employees, 2,000 of which are in the United States. Cree is an example of the significant economic payback on federally funded scientific research as it is one of many American companies that can directly trace its founding to breakthrough research conducted at a university and sponsored by a federal agency.

In the case of <u>Cree</u>, this research was done in the 1980s at North Carolina State University to investigate the physical and electronic properties of silicon carbide (SiC). A team of NC State researchers believed silicon carbide held many potential benefits over traditional semiconductor materials, including the ability to significantly increase the energy performance of SiC-based devices. However, the problem with silicon carbide was that it was extremely difficult to work with. With federal funding to support their early work, the team was able to overcome these barriers and develop processes to efficiently grow and work with the material. In 1987, the core group of researchers left NC State to form Cree Research, Inc.

"We are proud that President Obama is visiting Cree. Cree's founders were North Carolina State University faculty and graduate students whose research was first sponsored by the Department of Defense Office of Naval Research and led to a new class of semi-conductors that produce white light," said Dr. Terri Lomax, Vice Chancellor for Research and Innovation at North Carolina State University.

"The success of Cree is an example of one of North Carolina State University's core strengths, our faculty's ability to carry out fundamental science research on essential problems and then turn those laboratory discoveries into successful products, companies, and contributions to our country's economic development," Dr. Lomax said.

"Cree is evidence of the strong link between innovation and job creation, and federal funding of scientific research," said Christopher Carter of the University of California and President of the Science Coalition. "But the story of Cree is not unique to North Carolina. Hundreds of companies are formed across the U.S. each year as a result of the federally-sponsored scientific research conducted at universities."

Cree was highlighted in a report published last year by the Science Coalition, which identified 100 "success stories" – examples of companies that are the result of federal funding of basic scientific research. Those 100 companies collectively employ well over 100,000 people and have annual revenues approaching \$100 billion. They are providing innovations to address critical issues including increasing our energy independence, enhancing our security and improving our health.

The success stories include global industry leaders like <u>Genentech</u> (now Roche), <u>Cisco Systems</u>, <u>iRobot</u> and <u>Google</u> as well as relative newcomers such as advanced battery manufacturer <u>A123 Systems</u>; network security company Arbor Networks; AIDS vaccine developer <u>GeoVax Labs</u>; and <u>Sharklet Technologies</u>, which has developed a novel surface technology based on the qualities of shark skin to combat hospital-acquired infections. Also among the 100 success stories are four other North Carolina-based companies – <u>BioMarck</u> Pharmaceuticals, <u>BioResource</u> International, <u>SAS</u>, and <u>Semprius</u>.

This month, the Science Coalition released a new series of fact sheets on "Building a Better America." They detail how innovation fueled by scientific research has been a cornerstone of America's economy for the last half-century, leading to the creation of countless companies, jobs, technologies and products with both life-saving and life-changing results. The fact sheets highlight how the U.S. stacks up internationally on science and technology; how America's unique system of research, based on a partnership between the U.S. government and research universities, has served society and the economy; how federal funding for scientific research has evolved since World War II; and various thought leaders' views on the value of federal funding of scientific research.

"We are pleased that the role scientific research plays in driving innovation will be on display at the Council meeting today," said Carter. "The partnership between North Carolina State University, Research Triangle and Cree as well as a strong investment in federal research illustrates what we gain from public funding of scientific research. It is also a reminder that, despite the economic challenges we face, the continued scientific and technological leadership of the United States – and our economic well-being – depend on continued, strong funding of research."

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The Science Coalition is a non-profit, nonpartisan organization of the nation's leading public and private research universities. It is dedicated to sustaining strong federal funding of basic scientific research as a means to stimulate the economy, drive innovation and secure America's global competitiveness. Learn more at www.sciencecoalition.org.