IMPACT OF FEDERAL BUDGET SEQUESTRATION

As a means to reduce the federal deficit, the Budget Control Act of 2011 established sequestration as a mechanism to levy automatic, across-the-board cuts to federal spending beginning in FY2013 and lasting through FY2021. This process could cut 5.1 percent from key federal programs that support students, faculty, and patients at Ohio State, including federally supported scientific research, student aid, and health care. The information below illustrates the potential impact of sequestration on Ohio State students and researchers.

WHAT WILL BE AFFECTED?

**Student Aid:** While Pell Grants are protected under sequestration, other need-based student financial aid programs will be affected. According to estimates compiled by the National Association of Student Financial Aid Administrators, Ohio State students would lose $113,222 in Federal Work Study. A similar reduction to the Supplemental Opportunity Education Grant (SEOG) would see a loss of $62,433 to Ohio State students. SEOG awards equal $500 per student per year to students with an Expected Family Contribution of zero. Combined, this would affect more than 200 of our neediest students.

**Research:** The proposed reduction to federally funded research will significantly curtail existing and new grants that support Ohio State researchers. Internal estimates predict losses ranging from $27 million to $133 million to the Ohio State research enterprise in fiscal year 2013 alone. We have already seen a 20% decrease in National Science Foundation grants this year in anticipation of the sequester. Such an abrupt reduction in funding will not only hurt the advancement of critical research that could lead to new breakthroughs in medicine, national security, agricultural or environmental science, but will harm the career development of young researchers who will be the next generation of scientists to keep our nation globally competitive. This decrease could result in a permanent loss of 140 graduate student and 50 postdoctoral positions. Equally disturbing, it will decrease opportunities for scientific advancement, job creation, technology commercialization and the solution of global problems.

**Health care:** The 2 percent reduction to Medicare will impact Ohio State by a loss of approximately $4 million in FY13 and $8 million each year going forward. While difficult to predict where the cuts will occur exactly, we do know that it will impact patients, doctors, and medical students.

(continued)
INNOVATION AND JOBS WILL BE AT RISK

As illustrated in the following examples, federal investment in research is critical to innovation and job creation in Ohio. If sequestration goes into effect, it will seriously curtail the discoveries, treatments, and workforce of the future. These are just a few of the hundreds of federal research grants which are funded every year at Ohio State, and the return on that investment:

- NanoFiber Solutions LLC, a company that originated from a federal research award to Ohio State, is producing products in the field of regenerative medicine using patented technology to help the body grow replacement tissues in response to a wide range of disease and injury. This company is creating scaffolds which can support the growth of cells resulting in a new trachea or bowel segment. Imagine what that could mean for patients with head and neck or intestinal cancer.

- Coal-fired power plants produce nearly 50% of the electricity used in the US today. The abundance and low cost of coal make it an attractive source of power, but its continued use results in large amounts of CO₂ in the atmosphere. A team of Ohio State researchers, led by Professor Liang-Shi Fan, has discovered a process to effectively convert carbon-based fuels to electricity, hydrogen and/or liquid fuels with near-zero carbon emissions. This research, supported by the Department of Energy, demonstrates that CO₂ can be captured and coal can then be turned into additional electricity and liquid fuel. The success of this research has led to addition federal funding to be scaled up for more widespread use.

- Dr. Yebo Li’s patent-pending technology which produces a renewable, biodegradable foam with waste from biodiesel production is being commercialized by Poly-Green Technologies LLC in Mansfield, Ohio.

- Research in the area of plant pathology at Ohio State, led by Dr. Brian McSpadden-Gardner and supported by the USDA, has discovered certain strains of bacteria that produce antibiotics and naturally inhibit soil-borne plant diseases. This approach is currently being commercialized and will be of tremendous value to farmers.

- A ground-breaking new treatment for neurologic diseases like Parkinson’s disease, Alzheimer’s disease, depression and tremor is being pioneered at Ohio State by Dr. Ali Rezai. Called deep-brain stimulation, this treatment activates parts of the brain that have been affected by disease processes and has had miraculous results. Patients with severe tremors due to Parkinson’s disease have a cessation of tremor when the deep brain stimulation is applied. Initiated with federal funding, this line of therapy is in use currently and in clinical trials for many more diseases. Critical work such as this will be slowed or stopped under the proposed sequestration policies.

- The Ohio State Comprehensive Cancer Center-James Cancer Hospital & Solove Research Institute conducts groundbreaking Phase I and Phase II clinical trials for cancer research. Due to current year reductions, NCI has reduced by half the number of participants in clinical trials at Ohio State. Under sequestration, these trials will likely be completely eliminated, affecting patients under treatment for leukemia, lymphoma, breast cancer, and a variety of other forms of cancer.