Message from the Vice President

Ohio State's research community – faculty, staff and students – is one of the most comprehensive in the nation, and its breadth and excellence make it a leading force for change locally, nationally and globally. We draw on the breadth and depth of our capabilities and resources, and most importantly, our connections to transform lives across the globe. We continue to make connections that cross disciplines and colleges, institutions, regions, nations and the globe. We find novel sources to fuel our research endeavors, forge new links with industry and with our communities and find new ways to collaborate. Most importantly, we look to our bright and talented students to make connections that will lead us into the future. Here are just a few highlights from 2013-2014 that exemplify the power of our connections.

Caroline C. Whitacre
Vice President for Research

By the Numbers

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Number of Awards</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institutes of Health</td>
<td>939</td>
<td>$71,282,561</td>
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<tr>
<td>National Science Foundation</td>
<td>252</td>
<td>$56,718,633</td>
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<tr>
<td>Department of Education</td>
<td>65</td>
<td>$35,265,776</td>
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<td>Department of Defense</td>
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<td>$36,743,922</td>
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<tr>
<td>Department of Energy</td>
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<td>Department of Labor</td>
<td>15</td>
<td>$6,576,954</td>
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<td>Department of Agriculture</td>
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<td>$16,399,374</td>
</tr>
<tr>
<td>National Aeronautics and Space Administration</td>
<td>89</td>
<td>$5,764,957</td>
</tr>
<tr>
<td>Other-Federal</td>
<td>227</td>
<td>$57,358,241</td>
</tr>
<tr>
<td>Total Federal</td>
<td>2,086</td>
<td>$403,297,496</td>
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<td>Industry</td>
<td>2,230</td>
<td>$42,601,048</td>
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<td>State of Ohio</td>
<td>120</td>
<td>$24,391,053</td>
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<tr>
<td>Private Agencies</td>
<td>460</td>
<td>$23,912,119</td>
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<td>Colleges and Universities</td>
<td>40</td>
<td>$647,035</td>
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<tr>
<td>Other Non-Federal</td>
<td>38</td>
<td>$2,059,789</td>
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<tr>
<td>Total Non-Federal</td>
<td>2,888</td>
<td>$93,615,144</td>
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<tr>
<td>OHIO STATE TOTAL</td>
<td>4,974</td>
<td>$496,908,640</td>
</tr>
</tbody>
</table>

Creating New Connections, Strengthening Existing Connections

Safer Vehicle Technologies

Warrior Injury Assessment Manikin
$9 million award from the U.S. Department of Defense ($17 million to Ohio State) led by John Bolte, anatomy and mechanical and aerospace engineering, and Amanda Agnew, anatomy
Building an improved military crash test dummy (Warrior Injury Assessment Manikin) to measure how the body reacts to underbody blasts, leading to the design of vehicle features and safety gear to better protect soldiers in military vehicles
Partner: Wright-Patterson Air Force Base
Crash Imminent Safety

Medical Breakthroughs

Ohio State/Nationwide Children's Hospital Center for Clinical and Translational Science (CCTS)
$25.4 million competitive renewal grant from the National Institutes of Health led by Rebecca Jackson, internal medicine
Connecting hundreds of researchers across the state to accelerate basic science discoveries into new techniques and treatments for today's deadliest and costliest diseases
Center of Excellence in Regulatory Tobacco Science
$18.7 million grant from the National Cancer Institute led by Mary Ellen Wewers, health behavior and health promotion, and Peter Shields, epidemiology
Studying tobacco use patterns, industry marketing practices and public perceptions to reduce addiction and shed light on health problems among youths and adults in rural and urban settings

Driving the Economy

Ohio State is designated as an APLU Innovation and Economic Prosperity University

American Lightweight Materials Manufacturing Innovation Institute
$148 million advanced manufacturing research institute, with $70 million in funding from the U.S. Department of Defense
Public-private consortium of universities, companies and non-profits co-founded by EWI, the University of Michigan and Ohio State, to rebuild the nation's manufacturing sector and create more than 10,000 jobs in the Midwest region
Developing advanced lightweight and modern metal manufacturing technologies for transfer to the industrial sector

Neurotechnology Innovations Translator

$21 million award from the Ohio Third Frontier Technology Commercialization Center program led by Ali Rezai, neuroscience
Establishing a pipeline of innovative and compelling solutions to treat neurological disorders
Moving technologies rapidly from concept to clinic, supporting new company formation to bring new technologies to the marketplace and creating high-tech jobs in Ohio

Licensing Cutting-Edge Technologies

Exclusive world-wide agreement with Signet Accel LLC to license a portfolio of Ohio State-developed software technologies for health care data sharing and analysis, enabling rapid and efficient data analysis to make expeditious treatment decisions
Largest up-front licensing fee for Ohio State technology ($275,000)
Company to locate near the Ohio State campus to take advantage of the highly-skilled biomedical and computational workforce
Philip Payne and Peter Embi, biomathematicians, are the company co-founders

Global Connections

One Health Initiative
Engages all seven health sciences colleges
Addresses the linkage between animal health, human health and the environment in Ethiopia
Ohio State/Brazil Exchange of Researchers
$14 million partnership between Ohio State and the São Paulo Research Foundation (FAPESP) to build on existing collaborations and support future innovation
Funding Ohio State/Brazil joint research collaborations in a wide range of disciplines
Connecting through Innovation, Connecting to the future

Creating an environment that facilitates and rewards research creativity and entrepreneurship

The Innovator of the Year awards recognize Ohio State researchers—faculty, staff, and students—working actively to promote commercialization of university intellectual property through invention disclosures filed, patents applied for and/or received, technologies licensed or spin-off companies.

Innovator of the Year: Hesham El Gamal, electrical and computer engineering
- Co-founder and CEO of inmobly
- Using the predictability of human behavior to design novel mobile networks

Early Career Innovator of the Year: M. Monica Giusti, food science and technology
- Chief scientist for AnthoScientific LLC
- Adopting natural pigments as alternatives to synthetics

Student Innovator of the Year: Kinshuk Mitr, biomedical engineering
- Chief technology officer and lead inventor for OncoFilter Inc.
- Isolating circular tumor cells in human blood for earlier cancer diagnosis

EcoCAR 2
Reducing the environmental impacts of a 2013 Chevrolet Malibu and educating the next generation of automotive engineers
1st place finish for the team of 15 graduate and 30 undergraduate students, representing a wide range of majors
Awards in every individual event category
Sponsored by the U.S. Department of Energy, General Motors and 30 other government and industry leaders

Buckeye Current
Enhancing the development of clean, electric powered motorcycle technology
3rd place finish in the Isle of Man Tourist Trophy Zero race for the second year in a row
Only U.S. collegiate team to compete among a field of professional competitors
New collegiate record—average speed of 93.531 mph

Capital One Modeling Competition
Statistics students won 1st place in national data analytics competition
Teams developed an analytic tool to uncover insights about individuals’ spending patterns, predicted how those individuals would spend at certain merchants and developed a strategy for those merchants to assign discounts to customers who used Capital One cards at their places of business

KAir Battery
Winner of the $100,000 U.S. Department of Energy’s Clean Energy Prize from the Rice Business Plan Competition
Developing potassium air batteries, a patented revolutionary battery that could change how the world stores and uses energy
Batteries are cost effective, 98 percent energy efficient, simple to manufacture and produce non-toxic byproducts at the end of their lifetime

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