Fiscal year 2015 marked a change in leadership for NC State University’s Office of Research, Innovation and Economic Development. Alan Rebar, former senior associate vice president for research at Purdue University, took over as NC State’s new vice chancellor in fall 2015. His multiple titles at Purdue also included executive director of Discovery Park and professor of clinical pathology.

Another highlight was recognition of Centennial Campus as one of the nation’s most innovative and productive economic engines. In November 2014 the Association of Public and Land-Grant Universities selected NC State as one of four winners of the second annual Innovation and Economic Prosperity University awards. NC State won in the “Place” category, given in recognition of “its reinvention of the very notion of what a research park should be.” Judges lauded the university for “creating a self-sustained city” on Centennial Campus, where residential and retail establishments are located near NC State research labs and industry facilities to spur collaboration.

Sponsored research represents more than 20 percent of NC State’s annual income. Awards for all sponsored programs totaled $308 million for the year. More than 2,500 proposals seeking nearly $1 billion in research funding were submitted.

The latest National Science Foundation Higher Education Research and Development Survey, released in November 2015, indicates that NC State continues to increase research expenditures, consistently ranking in the 90th percentile nationwide. In the last decade NC State’s research expenditures have increased more than 23 percent, placing the university seventh among land-grant institutions without a medical school.

Industry actively seeks out our expertise. We rank No. 2 among land-grant universities without a medical school in business-sponsored research. In FY15, industry sponsored more than 1,000 research projects for almost $40 million, making up 13 percent of the university’s research awards.

Joseph DeSimone, William R. Kenan Jr. Distinguished Professor of chemical and biomolecular engineering at NC State and Chancellor’s Eminent Professor of Chemistry at the University of North Carolina at Chapel Hill, was elected to the Institute of Medicine, one of the highest honors in the fields of health and medicine a U.S. scientist can receive. It was the third time he has been named a member of a National Academy. He was elected to the National Academy of Engineering in 2005 and the National Academy of Sciences in 2012. Fewer than 20 people in history have achieved election to all three National Academies.

B. Jayant Baliga, Distinguished University Professor of electrical and computer engineering and director of NC State’s Power Semiconductor Research Center, received a 2015 Global Energy Prize.

Five NC State faculty members were elected as fellows of the American Association for the Advancement of Science: Nancy L. Allbritton, chair of biomedical engineering; David C. Dorman, toxicology, Justin Schwartz, head of materials science and engineering; Bruce A. Sherwood, physics; and Mohammed A. Zikry, mechanical and aerospace engineering.

Faculty members selected for the National Science Foundation Faculty Early Career Development Program in FY15 were: Xipeng Shen, computer science; James LeBeau, materials science and engineering; Daryoosh Vashaee, electrical and computer engineering; Chase Beisel, chemical and biomolecular engineering; Kristy Boyer, computer science; Rosangela Sozanni, plant and microbial biology; and Ana-Maria Staicu, statistics. In addition, Joshua Pierce, chemistry, received the award starting in FY16.

Jay Narayan, John C.C. Fan Family Distinguished Chair Professor of materials science and engineering, received the 2014 North Carolina Award for science.

Behnam Pourdeyhimi won the 2015 O. Max Gardner Award from the University of North Carolina Board of Governors for his contributions to health and human safety. He is director of the Nonwovens Institute and associate dean for industry research and extension in the College of Textiles.

Learn more about NC State’s faculty honors at: go.ncsu.edu/facultyawards.

In FY15, NC State’s Office of Technology Transfer launched a record-breaking 12 startup companies and brought in $7.6M in revenue. (See list of companies on next page.)

The new PackStart Program is now open to all newly created NC State startup companies. The program provides services including business-plan development support, strategic guidance, logo and website development, connections to strategic partners and funding opportunities, grant-writing support and coaching for pitch presentations.

To improve the process of bringing products to market, NC State’s new Venture Innovation Partner Program matches entrepreneurial and investment communities, entrepreneurial talent and investors with the university’s startup companies. Launched as a pilot in FY15 to a select group of leaders from the region, the portal is yet another step toward NC State’s goals to become completely transparent about startup opportunities while also generating excitement and recruiting talent and investors early.
NC State had a record-breaking 12 startups — with five led by female entrepreneurs.

- Highly Tuned LLC
- Intelligent Campus Solutions Inc.
- International Technology Systems Transfer LLC
- Lumeova Inc.
- MAA Laboratories Inc.
- Nine Oak Media LLC
- People-First Tourism Inc.
- Permafuels Inc.
- Precision Diagnostics Inc.
- Sentinel Biomedical Inc.
- TextileScents Inc.
- Thermo-flex Technologies Inc.

### TECHNOLOGY TRANSFER AND INNOVATION IMPACTS

<table>
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<th>Invention Disclosures</th>
<th>FY2015</th>
<th>FY2011-15 TOTAL</th>
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<tbody>
<tr>
<td>Patents Issued</td>
<td>291</td>
<td>1,226</td>
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<tr>
<td>New Patents Filed</td>
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<td>Commercialization Agreements</td>
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<tr>
<td>Startups</td>
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<td>Licensing Revenue</td>
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<td>$33.5M</td>
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### CENTENNIAL COLLABORATIONS AND CELEBRATIONS

Amid the celebration of its 30th anniversary, NC State’s Centennial Campus Partnership Office was a key partner in making PowerAmerica operational. A public-private partnership, PowerAmerica is the centerpiece of a $146 million grant from the U.S. Department of Energy, the largest grant NC State has received to date.

Fifteen new partners opened offices on Centennial Campus, including Undercover Colors and Audacity Factory. Also, nine partners graduated, moving elsewhere to create jobs in the region. This brings the current number of partners to 70.

The Richard L. and Marlene V. Daugherty Centennial Campus Endowment for Entrepreneurship awarded $3.500 each to promising new university spinoffs to assist with startup costs. The companies’ technologies include “smart” bandages, Web-based tourism marketing, educational mobile apps for husbandry, extraction of impurities from combustion products, aromatherapy garments, improving wireless charging times, new imaging approaches for targeting cancer tumors, an app to improve collegiate student outcomes, Web-based office ergonomics data management and a nontoxic insect repellent.