The University of Iowa is Iowa's largest comprehensive research university, with a balanced commitment to the arts, sciences, and humanities. It's home to one of the nation's largest academic medical centers and the pioneering Iowa Writers' Workshop.

Through the University of Iowa Research Foundation and UI Ventures programs, the University of Iowa helps faculty, student, and staff researchers translate their work into commercial products, services, and businesses; secure patents; and license intellectual property.

**FY16 TOTAL FEDERAL AND NON-FEDERAL RESEARCHING FUNDING (MILLIONS OF DOLLARS)**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY14</td>
<td>$431.4</td>
</tr>
<tr>
<td>FY15</td>
<td>$443.0</td>
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<tr>
<td>FY16</td>
<td>$437.9</td>
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</tbody>
</table>

**FY16 SPONSORED RESEARCH**

**FY16 STARTUPS AND BUSINESS SUPPORT**
- **60 Startups** in the pipeline, **14 added this year**
- **17 Companies** located at UI Research Park's BioVentures Center, **100% occupancy**
- **46 Companies** at UI Research Park occupying more than 1,800 people
- With UI John Pappajohn Entrepreneurial Center, faculty/student teams completed **49 business consulting projects in 16 IOWA COUNTIES plus 3 IN ILLINOIS**

**FY16 PATENTS AND LICENSING**
- **151** patent applications filed in FY16
- **67** patents issued
- **39** licensing options

**FY16 PRODUCT CATEGORIES**

- **TOP EIGHT**
  - Medical Device: 19%
  - Medical Other: 13%
  - Therapeutic Composition (Bio): 11%
  - Therapeutic Composition (Chem): 9%
  - Medical Imaging: 6%
  - Engineering: 6%
  - Therapeutic: 5%
  - Diagnostics: 4%

**FY16 RESEARCH HIGHLIGHTS**

- 5% increase in total number of awards granted
- 9% increase in NIH funding over FY15
- 23% increase in NSF funding over FY15
- $8.5 million increase in federal research funding over FY15

**TECHNOLOGY TRANSFER**

$1.6 million in royalties and licensing income
$1.2 million revenue to Iowa companies as a result of licensed technologies
The University of Iowa is a leader in research in the areas of medicine and bioengineering, but new discoveries are also being made in the areas of computer modeling, autonomous vehicles, space and weather, and humanities scholarship.

Safeguarding Soldiers

On the battlefield, every second and every ounce of energy counts. It can mean the difference between success and failure, life and death. So it’s essential that the equipment members of the armed forces depend on—from the packs they wear, to the vehicles they ride—is as well as it and the team with which they work. To help make sure that happens, Karim Abdal-Maiak and his team at the UI Center for Computer-Aided Design created SANTOS. This biomechanically accurate “virtual soldier” can be used to test computer renderings of equipment and gear as a preliminary step toward—and at a fraction of the cost of—direct field testing, checking things like freedom of movement and load levels. Abdal-Maiak presented his simulations to the North Atlantic Treaty Organization as a U.S. Delegate, where he shared the results of his GruntSim research funded by a five-year, $8.6 million project awarded to the Virtual Soldier Research program by the U.S. Navy.

Preserving Texts

Timothy Barrett’s research on paper quality, stability, and aesthetics has helped determine how some of the longest-lasting historical papers were made. He and his student co-workers make papers for use in the preservation and conservation of rare student co-workers make papers for use in the preservation and conservation of rare texts. "Preserving texts can determine the potential gene therapy for cystic fibrosis (CF)". Philadelphia, PA, U.S. News & World Report, 2016-03-10. University of Iowa researchers have identified a potential gene therapy for cystic fibrosis (CF) that can be used to test computer renderings of equipment and gear as a preliminary step toward—and at a fraction of the cost of—direct field testing, checking things like freedom of movement and load levels. Abdal-Maiak presented his simulations to the North Atlantic Treaty Organization as a U.S. Delegate, where he shared the results of his GruntSim research funded by a five-year, $8.6 million project awarded to the Virtual Soldier Research program by the U.S. Navy.

Fighting Cyberbullying

Cyberbullying is the fastest-growing form of youth violence, which is why Mariluz Ramirez and her team have developed a smartphone app to track cyber communications of schoolchildren in order to gain a better understanding of the language that constitutes cyberbullying and where it occurs online, so they can help schools do a better job preventing bullying and its adverse impacts on youth. A study conducted by Ramirez showed that while policies alone cannot completely eradicate bullying, legislation does represent an important part of a comprehensive strategy to prevent bullying.

Regenerating Bones

Asaker Salem, Highley Professor and Division Head, Pharmacines and Translational Therapeutics, in the College of Pharmacy and his research team have developed a bio patch to help generate and grow damaged bone by delivering the DNA blueprints to surrounding cells. In experiments with pigs, regrow 44 times more bone tissue in damaged animal skulls than similar implants with no genetic information. It has also stimulated growth in human bone marrow stromal cells. Next, Salem hopes to create a bio platform that promotes new blood vessel growth.

Advancing Aviation

Tom Schnell (on cover), an Associate Professor in Industrial Engineering and director of the UI Operator Performance Laboratory, researches sensor fusion systems, pilot spatial orientation capability, assessment of operator performance in flight, air warfare systems, and surface transportation. His most recent work involves a partnership with Rockwell Collins to study how unmanned aerial systems—more commonly known as drones—might behave autonomously should they lose radio contact with their operators.

Supporting Veterans

One in eight new mothers may suffer from postpartum depression, which if left untreated can devastate the lives of their follow-up studies by University of Iowa laboratories. Pfizer, the world’s leading research-based pharmaceutical company, is funding the research. The research will be led by University of Iowa otolaryngologist Marlan Dean, who is also the director of the UI Human Performance Laboratory. The research will focus on understanding how the human auditory system is affected by noise and how to improve hearing in individuals with hearing loss. The research will be conducted in collaboration with the University of Iowa College of Engineering and the University of Iowa College of Medicine. The research will begin in the fall of 2016 and is expected to last three years.

Diagnosing Faster

Emergency room staff need as much information as they can get as quickly as possible to prevent incoming traffic accidents. One novel approach gives first responders digital tools to capture and send photographs of the vehicles back to the E.R., images that can provide vital clues that may help doctors diagnose patients faster. This faster relay of information allows ER physicians to make decisions about medical care, even before the ambulance arrives. This faster relay of information allows ER physicians to make decisions about medical care, even before the ambulance arrives. The University of Iowa Office of the Vice President for Research and Economic Development has expanded investment for researchers across all disciplines. These resources are intended to help researchers be more competitive and successful in securing funding, to think beyond their disciplines and institutional boundaries to address emerging challenges more creatively, and to shepherd investors toward a successful launch of their ideas into the marketplace.