



AREA II: RESEARCH, SCHOLARSHIP AND CREATIVE ACTIVITIES

Goal 1. Achieve national recognition for research excellence.

- The University of Toledo has achieved the strategic plan goal of identifying three areas of research that will achieve national prominence. These areas include solar energy, water quality and sustainable technologies; astronomy and astrophysics; and cell architecture and dynamics. The spotlight areas of unique distinction were also identified and include human trafficking, disability and society, and hypertension and precision medicine. Areas of emerging research excellence were also identified and include legacy cities; and cancer, immune therapy and precision molecular therapy.
- Due to budgetary challenges, investments in these areas have been modest. However despite these challenges, the Office of Research has focused on these areas in building collaborations with the Department of Energy's national laboratories and in prioritizing requests for Congressional assistance in these areas.

Goal 2. Increase the national prominence of faculty derived from their research, scholarship, and creative and performing arts activities.

- Total sponsored awards for FY20 were \$55 million, which is an 18.5% increase over the previous year and an increase of 43.8% over the last five years (FY19 sponsored awards totaled \$46.4 million and FY16 sponsored awards totaled \$38.3 million). This is a great tribute to our faculty, who continue successfully to pursue funded research, in spite of the pandemic. Total sponsored awards information for FY21 will be available in September 2021, and current FY21 award counts show that the University will exceed awards for FY20, with awards counted by the first week of June 2021 totaling \$61.4 million—an increase of 11.5% from last year (FY20).
- The University of Toledo is ranked 196th nationally among institutions of higher education in total research expenditures for the most recent reporting year (2019).
- The University moved from 6th to 5th ranking position among Ohio universities according to the National Science Foundation's FY19 data (most recent data available). Ranking order for research expenditures in Ohio includes (from 1st to 6th): The Ohio State University, the University of Cincinnati, Cleveland State University, Wright State University, The University of Toledo and Ohio University.
- The three areas of research excellence identified in the strategic plan (astrophysics; cell architecture; and solar energy, water quality and sustainable technologies) recorded great success in research awards. Over the past three calendar years (2019-21), faculty members in the solar energy, water quality and sustainable technologies area have secured \$30.7 million in external grant funding. In addition, faculty in the cell architecture area secured \$7.1 million in funding, and faculty in astrophysics (a smaller number of faculty members) secured \$2.4 million in external funding. A major accomplishment of the astrophysics area was success in winning five of the research projects on the NASA James Webb Space Telescope. It is ranked 6th among all institutions worldwide in the number of successful proposals for the first cycle of awards.
- Faculty at UToledo have been able to secure significantly more competitive national funding from agencies such as the National Institutes of Health (NIH), the National Science Foundation (NSF), the U.S. Department of Energy, the National Aeronautics and Space Administration (NASA) and the U.S. Department of Agriculture (USDA). Research grants from the NIH alone have increased 53% over the last five years, increasing from approximately \$9 million in 2016 to more than \$14 million in 2020.

- According to the results of the data set that was released from Incites Journal Citation Reports in March 2021, for the three-year period from 2018-20, the University of Toledo continues to rank 3rd in total number of publications for Ohio public universities, behind The Ohio State University and the University of Cincinnati. In addition, for the 2018-20 data set, UToledo continues to rank 3rd in the number of citations of published research, with a 26.6% increase compared to the last data set results and a 48.2% increase since we began tracking citations four years ago in 2018. The University of Toledo also maintained its 3rd place in relation to the h-index (impact factor) for Ohio public universities, with our h-index increasing from 42 in last year's data set to 49 in this year's data set. (Note that the h-index is an author-level metric that measures both the productivity and citation impact of the publications of a scholar.)
 - According to the University's faculty activity reporting system (Faculty 180), 75 faculty voluntarily reported their selection as Fellows of national societies. In addition, 143 faculty reported that they held leadership positions in national organizations, and 83 faculty reported that they serve on national grant-review panels or study groups.
 - According to the University's faculty activity reporting system (Faculty 180), 399 community engagement activities were reported by faculty from summer 2020 to spring 2021.
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Goal 3. Reinvent and reinvest in research processes to improve productivity.

- The Office of Research and Sponsored Programs provided internal funding opportunities to support faculty research, with 17 internal grant awards provided to faculty across the University in support of research projects that were endorsed by the University Research Council or recommended by external reviewers. The internal grants program includes funding for interdisciplinary research, research innovation and research fellowships.
- The University purchased the "InfoEd" grants administration system to provide electronic grant support, and work began in summer 2020 to operationalize the system on campus. This is a joint initiative of the Office of Research and Sponsored Programs and the Office of Information Technology. The first modules to be developed are the conflict of interest and the grants administration modules.
- Research policies in a number of areas were revised to provide better support for research compliance and research operations.
- The Office of Research and Sponsored programs has fully implemented the new Institutional Review Board (IRB) Manager software system for human subjects' research for submission and renewals of all Institutional Review Board (IRB) protocols. In addition, the Office of Research deployed protocols for Animal Care and Use and Biosafety protocols for submission and review.
- The University Research Council completed operation reviews of several UToledo research centers and institutes during the 2019-20 and 2020-21 academic years and recommended the following research centers and institutes for continuation: the Jack Ford Urban Affairs Center, the Polymer Institute, the Asian Studies Institute, the Plant Science Research Center, the Geographic Information Sciences and Applied Geographics Center, the Center for Diabetes and Endocrine Research, the Human Trafficking and Social Justice Institute, the Lake Erie Center, the Legal Institute of the Great Lakes, the Center for Hypertension and Precision Medicine, the Center for Drug Design and Development and the Center for Geographic Information Sciences and Applied Geographics.