



**THE
UNIVERSITY OF
NORTH CAROLINA
SYSTEM**

**UNIVERSITY OF NORTH CAROLINA
RESEARCH AND SPONSORED PROGRAMS**

**REPORT TO THE PRESIDENT
Fiscal Year 2020**

October 13, 2021

University of North Carolina System
Chapel Hill, North Carolina

Executive Summary

The annual Report to the President provides a snapshot of sponsored program activity across the University of North Carolina System. For fiscal year 2020 (FY2020), the number of proposals submitted for funding and the amount funded from grants and contracts external to each institution was higher than in FY2019. There was also an increase in commercial activity, spread across more institutions than in years past.

Introduction

The University of North Carolina System is a public, multi-campus university dedicated to the service of North Carolina and its people. It encompasses the 17 diverse constituent institutions and other educational, research, and public service organizations. Each share in the overall mission of the University. That mission is to discover, create, transmit, and apply knowledge to address the needs of individuals and society. This mission is accomplished through instruction, which communicates the knowledge and values and imparts the skills necessary for individuals to lead responsible, productive, and personally satisfying lives; through research, scholarship, and creative activities, which advance knowledge and enhance the educational process; and through public service, which contributes to the solution of societal problems and enriches the quality of life in the state. In the fulfillment of this mission, the University shall seek an efficient use of available resources to ensure the highest quality in its service to the citizens of the state.

While instruction is the primary responsibility of each of the constituent institutions, research, coupled with economic development, is essential to the UNC System's work on behalf of North Carolina. Research and public service enhance teaching and learning, but their relative importance varies, depending on the constituent institutions' overall missions. In addition to developing new discoveries and innovations, UNC System engagement in research and its related activities supports student success by providing a platform for training graduate students; attracts external funding; contributes to North Carolina's business climate and reputation; and enhances recruitment and retention of talented faculty and students.

Fiscal Year 2020 Sponsored Program Funding for UNC

UNC System institutions generated a total of \$1,840,714,579 in sponsored programs funding in FY2020. When adjusted for inter-institutional awards distributed among UNC System institutions totaling \$26,963,344, the adjusted total for FY2020 was \$1,813,751,234. Table 1 contains more detailed sponsored program funding data for each UNC System institution FY2020.

Table 1. FY2020 Sponsored Program Activity¹⁻²

	Total Proposals Dollars	Total Awards Dollars (includes ARRA and inter-institutional awards)	Inter-institutional Award Dollars	Adjusted Total Award Dollars (minus inter-institutional awards)
Doctoral Granting Institutions				
ECU	293,186,866.39	57,691,017.59	2,604,398.09	55,086,619.50
NCA&T	320,879,020.38	60,852,262.84	1,729,225.40	59,123,037.44
NCSU	1,411,666,214.00	397,458,691.00	8,090,444.00	389,368,247.00
UNCCH	4,519,403,088.58	1,048,786,880.33	4,878,161.05	1,043,908,719.28
UNCC	317,449,848.00	51,833,811.00	3,160,056.00	48,673,755.00
UNCG	153,291,615.26	42,400,817.59	819,177.00	41,581,640.59
UNCW	88,205,346.94	19,320,717.29	766,983.20	18,553,734.09
Masters Institutions				
ASU	74,124,960.33	28,621,583.39	562,771.42	28,058,811.97
ECSU	24,668,011.49	15,118,886.00	88,050.00	15,030,836.00
FSU	38,601,017.06	26,167,421.73	1,841,354.45	24,326,067.28
NCCU	103,922,112.03	34,753,226.00	483,702.00	34,269,524.00
UNCP	36,069,679.66	10,994,589.00	136,325.00	10,858,264.00
WCU	20,170,279.72	6,233,159.79	542,432.00	5,690,727.79
WSSU	83,402,648.94	27,643,736.00	655,744.00	26,987,992.00
Baccalaureate Institutions				
UNCA	18,795,121.00	2,391,275.31	528,930.00	1,862,345.31
Special Focus Institutions				
UNCSA	85,905.00	60,180.00	0.00	60,180.00
NCSSM	6,217,811.00	64,559.00		64,559.00
System Office				
UNCGA	32,408,278.71	10,321,765.00	75,591.00	10,246,174.00
Totals	7,542,547,824.49	1,840,714,578.86	26,963,344.61	1,813,751,234.25

¹UNC fiscal year runs July 1 through June 30.

² Not all current fiscal year submissions are funded in the same fiscal year. Additionally, FY Total Proposed Dollars includes some non-competing renewal proposals (primarily associated with NIH funding).

Trends in Sponsored Program Activity (Funding, Proposal Submission, Awards)

From FY1998 to FY2020, UNC System-sponsored programs activity has increased significantly. This sustained growth in acquiring federal funding allows UNC System institutions to make targeted use of facilities and administrative (F&A) receipts to help cover the costs of supporting the research enterprise. UNC System institutions utilize F&A receipts to maintain and upgrade research infrastructure; to invest in new research through matching funds to provide seed grants and “start-up” packages for new faculty; to support library holdings; to provide cost share funding needed to attract new research projects and jobs to the state; and to ensure compliance with federal and other regulations.

Proposal Submissions and Quality

UNC System investigators submitted 12,856 proposals in FY2020, an increase from 12,075 proposals submitted in FY2019 and the 11,973 submitted in FY2018. In FY2020, UNC System investigators requested \$7.5B in submitted proposals, a substantial increase from the \$6.6B requested in FY2019 and \$6.1B requested in FY2018.

Fiscal Year 2020 Sponsors

Over two-thirds (71%) of the UNC System's research portfolio is federally funded, as outlined in Table 2.

Table 2. FY2020 Federal Government Sponsored Awards⁴

United States Federal Government	Dollar Award Amount '000	Percent of Total Federal Awards
National Aeronautics and Space Administration (NASA)	\$4,839,927	0.39%
National Foundation for the Arts and Humanities (NFAH)	\$897,779	0.07%
National Science Foundation (NSF)	\$157,513,356	12.73%
US Small Business Administration (SBA)	\$13,344,302	1.08%
US Department of Agriculture (USDA)	\$81,410,063	6.58%
Department of Commerce (DOC)	\$7,480,094	0.60%
Department of Defense (DOD)	\$41,543,227	3.36%
US Department of Education (DOED)	\$157,997,179	12.77%
Department of Energy (DOE)	\$21,756,823	1.76%
Department of Health and Human Services (DHHS)	\$63,891,475	5.16%
National Institutes of Health (NIH)	\$599,866,162	48.49%
Department of Homeland Security (DHS)	\$6,135,000	0.50%
Department of Housing and Urban Development (HUD)	\$999,295	0.08%
US Department of the Interior (DOI)	\$6,870,486	0.56%
US Department of Justice (DOJ)	\$2,998,367	0.24%
US Department of Labor (DOL)	\$1,266,900	0.10%
US Department of State (DOS)	\$568,066	0.05%
US Department of Transportation (DOT)	\$12,187,955	0.99%
Department of Veterans Affairs (VA)	\$1,340,938	0.11%
United States Environmental Protection Agency (EPA)	\$6,396,405	0.52%
Agency for International Development (USAID)	\$36,546,488	2.95%
Corporation for National and Community Service (CNCS)	\$0	0.00%
All Other Federal Agencies	\$2,513,023	0.20%
Executive Office of the President (EOP)	\$297,532	0.02%
Confidential	\$8,410,586.00	0.68%
Total Awards from Federal Government	\$1,237,071,433.52	100.00%

⁴Unadjusted for institutional awards to capture full scope of inter-institutional collaboration.

The distribution of other significant sources of sponsored programs funding is outlined in Table 3. Educational and research organizations, the North Carolina State Government and business and industry, provide the greatest amount of award dollars.

Table 3. FY2020 Non-Federal Government Sponsored Awards⁵

Non-Federal Government Awards		
Nonprofit Organization	\$82,835,651	13.74%
Association	\$13,987,393	2.32%
Foundation	\$89,490,303	14.85%
Local Government	\$8,754,545	1.45%
Educational and Research Institutions	\$160,809,975	26.68%
State Government (NC)	\$118,978,319	19.74%
State Government (non-NC)	\$4,197,328	0.70%
Business and Industry	\$118,534,959	19.66%
Other Sponsors	\$4,035,445	0.67%
Federal (non-US)	\$1,167,055	0.19%
Total Awards	\$602,790,973	100%

⁵Unadjusted for institutional awards to capture full scope of inter-institutional collaboration.

Fiscal Year 2020 Commercial Activity

UNC System institutions possess a wide array of existing and emerging strengths in research and related commercial activities. Institutional investments supporting these activities include strategic faculty hiring, sponsored awards, and entrepreneurship programs. In addition, institutions seek to maximize research and commercial activity with existing resources. UNC System institutions with the largest research programs estimate that approximately 10% of their faculty are engaged in research with commercial potential.

The Association of University Technology Managers (AUTM) Annual Licensing Survey is a leading source of information on university commercial activity. A subset of UNC System doctoral granting institutions participates in the annual AUTM survey. The six metrics reported by members to AUTM were requested from all UNC System institutions to create a more robust and timely data set for FY2020.

Table 4 summarizes FY2020 UNC System commercial activity (invention disclosures, U.S. patents issued, licenses or options executed, new start-up companies, and license income). In FY2020, there were a total of 529 invention disclosures, 149 patents issued, 217 licenses or options executed, 35 start-ups created, and \$10,299,750 in license income generated.

Table 4. Commercialization in FY2020

	Invention Disclosures	US Patents Issued	Licenses or Options Executed	Start-ups	License Income
Doctoral Granting Institutions					
ECU	15	5	9	2	\$165,713
FSU	1	1	0	0	--
NCA&T	11	6	0	0	\$18,000
NCCU	2	2	0	0	--
NCSU	277	63	131	17	\$4,500,000
UNCCH	170	49	58	3	\$5,400,000
UNCC	34	16	5	4	\$101,110
UNCG	12	6	6	9	\$21,427
UNCW	7	1	8	0	\$93,500

Table 5 provides comparison data for FY2012 through FY2020. Over the FY2012 – FY2020 timeframe, translation of invention disclosures into patents increased significantly. This trend bodes well for increased numbers of patents, licenses/options, start-ups, and license income in future years as researchers become more proficient in translating intellectual property from the laboratory into the economy. It is encouraging that more institutions have established commercial activities on their campus.

Table 5. Trends in Commercialization, FY2012-2020

	Invention Disclosures	US Patents Issued	Licenses or Options Executed	Start-ups	License Income
FY20 Totals	529	149	217	35	\$10,299,750
FY19 Totals	605	131*	257	49	\$13,377,120
FY18 Totals	563	148	275	29	\$12,838,941
FY17 Totals	525	133	275	31	\$9,644,526
FY16 Totals	549	131	232	28	\$8,071,704
FY15 Totals	547	125	228	25	\$8,006,835
FY14 Totals	467	97	212	31	\$15,927,897
FY13 Totals	449	85	197	30	\$10,735,867
FY12 Totals	532	91	149	17	\$8,977,264

*Includes 1 provisional

The University of North Carolina System Office

The UNC System Office supports research through the administration of three strategic research development initiatives. The UNC System Research Opportunities Initiative (ROI), funded by the North Carolina General Assembly, promotes innovative and potentially game-changing research projects within the UNC System. Awards are designed to build capacity in the following strategic research areas:

pharmacoengineering, advanced manufacturing, energy, data science, marine sciences as well as the military and other security-related issues. ROI awards are two to three years in duration and funds available for new awards depend on continuing commitments. The Inter-institutional Planning Grant (IPG) initiative promotes collaboration between larger and smaller UNC System institutions across disciplinary boundaries. The Undergraduate Research Program Award (URPA) provides funding to universities or consortia of universities within the UNC System to support undergraduate research. Undergraduate research provides students with intensive, high impact learning opportunities and supports the University’s teaching mission to pursue multiple approaches to student learning while allowing students and faculty to undertake scholarly activities of the highest intellectual caliber. Awardees for each of the initiatives are chosen through a highly competitive proposal solicitation and review process. Below are summary data for each initiative competition held in FY2019.

Table 6. Summary of UNC System Office Research Initiatives

Initiative	Full Proposals (Amount Requested)	Number Funded	Total Awards
ROI	N/A*	5	\$3,000,000
IPG	24 (\$1,362,681)	5	\$370,086
URPA	44 (\$1,169,227)	3	\$75,833

*In every third year there is no new call for ROI proposals or amount requested due to continuing commitments.

North Carolina Research Campus

Seven UNC System institution-led research centers at the North Carolina Research Campus (NCRC) share the goal of “empowering human health through nutrition.” The UNC System NCRC centers are significant contributors to the sponsored programs activity. The centers are part of a collaborative community that focuses on the science of safer, more nutritious crops, healthier foods, and precision nutrition. The centers collaborate with other academic and industry partners on and off the NCRC campus. Thus, their impact extends far beyond the laboratory to reach families, farmers, people with chronic diseases, soldiers, athletes, food companies, undergraduate and graduate students, scientists, doctors, and nutritionists around the globe.

The seven UNC System research centers at NCRC include:

- Human Performance Laboratory: Appalachian State University
- Nutrition Research Program: North Carolina Central University
- Plants for Human Health Institute: North Carolina State University
- Center for Excellence in Post-Harvest Technologies: North Carolina A&T State University
- Nutrition Research Institute: University of North Carolina at Chapel Hill
- Bioinformatics Research Services: University of North Carolina Charlotte
- Center for Translational Biomedical Research: University of North Carolina at Greensboro

These research centers generated more than \$24M in sponsored programs funding in FY2020 (see Table 7).

Table 7. UNC System NCRC FY2020 Sponsored Program Funding by Institution

Institution	FY 2020 Total Award Dollars
ASU	\$811,819
NCA&T	\$743,106
NCCU	\$1,657,659
NCSU	\$9,615,658
UNCC	\$3,450,343
UNCCH	\$6,227,130
UNCG	\$2,301,725
Grand Total	\$24,807,440

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