



**THE UNIVERSITY OF NORTH CAROLINA SYSTEM
RESEARCH OPPORTUNITIES INITIATIVE
REQUEST FOR PROPOSALS**

September 11, 2023

UNC SYSTEM FY25 ROI REQUEST FOR PROPOSALS

Introduction

The University of North Carolina System Research Opportunities Initiative (ROI) provides targeted funding for innovative and potentially game-changing research initiatives. The Fiscal Year 2025 (so noted due to first year of funding) round of awards will focus on institutional block grants to fund initiatives designed to increase research capacity in one of the eligible research areas. Funded by a recurring annual appropriation from the North Carolina General Assembly, the ROI represents a significant financial investment in the UNC System's strategic goals.

Priority research areas eligible for ROI funding include advanced manufacturing; marine and coastal science; defense, military, and security; pharmacoengineering; energy; and data science. ROI awards demonstrate North Carolina's growing appreciation of the role that university research can play in supporting economic development across our state.

The UNC System ROI accepts proposals from any institution in the UNC System. We invite submissions that propose a large-scale initiative involving multiple strategies designed to deliberately support and increase the research footprint in one of the eligible areas. The initiative should have broad impact and involve multiple researchers and collaborators. Strategies might include start-up packages for new faculty; graduate and undergraduate student support (tuition excluded); equipment acquisition and up-fit; space up-fit (no capital improvements); travel (no international travel); and conference organization (keeping in mind possible continued interruptions due to the COVID-19 pandemic).

Priority Areas for Funding

The UNC System is home to world-class researchers across many fields. The University benefits the state of North Carolina by working in partnership with each other and with businesses, foundations, nonprofits, and others. The research areas identified by the General Assembly as strategically important for North Carolina are the following:

Advanced manufacturing

Advanced manufacturing integrates information technology, design methodology, rapid prototyping, automation, computation, software, sensing, networking, and new materials in the production of products, as well as the systems that support and enable them. Examples include robotics and other automation; additive and traditional machining; computation; and visualization equipment.

Advanced Manufacturing approaches and techniques can apply to cutting-edge technical fields, such as aerospace, nanotechnology, and biopharmaceuticals, as well as to traditional industries, such as furniture, textiles, and motor vehicles, all of which are part of the North Carolina manufacturing economy.

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Coastal and marine science

North Carolina has hundreds of miles of ocean beaches, thousands of miles of estuarine coastline, and millions of acres of sounds, creeks, and marshes. As such, coastal and marine-related activities are important to the state's economy, both in traditional sectors (e.g., tourism, fisheries, hazard resilience, and marine heritage), and in emerging areas (e.g., ocean energy and marine biotechnology).

UNC System researchers are leaders in areas such as coastal hazards modeling and protection, marine biotechnology, seafood technology, ocean energy, and others. It is incumbent on UNC institutions to be at the forefront of coastal and marine science research.

Data science

The volume of data available for making decisions has increased dramatically in the recent past, creating a corresponding need to make sense of and take advantage of that vast data to inform decision-making in fields including scientific research, homeland security, defense, energy management, and many more. Nearly every sector of the U.S. economy struggles with growing data volumes, resulting in "big data" becoming an increasingly important research field. The multi-billion-dollar data management and data analytics sectors continue to grow rapidly. Other big data markets include health care genomics, the financial sector, emergency management, climate, and agribusiness. The UNC System has strengths in big data that, if collectively harnessed, can provide national leadership in this important sector.

Defense, military, and security

North Carolina has a robust and growing military community, with the third-largest military population in the United States distributed among six military installations. North Carolina also is home to more than half of all U.S. Special Operations Forces, including three of the five subordinate commands of the U.S. Special Operations Command.

The UNC System has distinct talents and cutting-edge technology that can be coupled with our strong relationships with these operational end users. These relationships, along with having the U.S. Army Research Office located in Research Triangle Park, offer a distinct advantage: face-to-face interactions with military customers, combat developers, and program managers to help us better understand DOD and Homeland Security research & development needs, programs, and processes.

Energy

Energy touches the lives of every North Carolinian every day. Critical activities ranging from transportation to operation of factories and offices to heating and cooling our homes hinge on our ability to produce and consume energy. Recognizing that most sources of easily accessible energy are limited, and many are non-renewable, the UNC System must be at the forefront in making discoveries that will fuel our state and the world in the future.

ROI investments will take advantage of the wide array of energy research, development,

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outreach, and training provided by these and other programs, in collaboration with both private and nonprofit organizations and will yield scientific advances in the field and economic advances for the state.

Pharmacoengineering

Pharmacoengineering is the science behind the development of materials and technologies to improve the delivery of therapeutic and diagnostic agents. Advances in this field can lead to new generations of drugs, drug delivery systems, and novel means to assess drug safety and efficacy through imaging and biosensing.

ROI investment in pharmacoengineering within the UNC System will build on the success of institutions with established joint programs, as well as UNC Institutions that have collaborations between colleges, other UNC institutions, private companies, and non-profits.

Award Focus and Scope

The UNC System ROI awards are designed to build institutional capacity in research areas that are strategically important to North Carolina (see priority areas above). The intent of this funding is not necessarily to establish a research program *de novo*; rather it is to provide the needed boost to propel research in a priority area to national or international prominence. Successful proposals will fully describe how the initiative aligns with the ROI priority areas described above and will outline how the initiative will have positive short-term and long-term impact on the State. Proposals that demonstrate commitment to commercialization potential, that may enhance the potential for future collaborations with the private and not-for-profit sectors, and/or enhance collaboration between faculty and students will be viewed favorably.

Institutions should describe how this ROI funding would make them more competitive for follow-on funding from various funding sources. Facilities and Administrative (F&A) costs are not allowed. Institutions may request from one to three years of funding, and all funds must be spent within the fiscal year they are allocated to the institutions--“carry forward” is not allowed for ROI funds. Due to expected available funding, the maximum total funding cannot exceed \$1,500,000 for a three-year funding period with the following maximum amounts per year:

FY2025: \$500,000

FY2026: \$500,000

FY2027: \$500,000

We encourage institutions to carefully consider an appropriate scope for their project given the amount of available yearly funds and goals for the project. Successful proposals will demonstrate:

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- 1) The short-term and long-term impact on the state of the ROI funds (e.g., recruiting top faculty, building specialized instrumentation or research expertise, setting up North Carolina as a hub within a given field),
- 2) Successful strategies to obtain follow-on funding from other agencies,
- 3) Plans to advance the successful commercialization of technologies, and
- 4) Inter-institutional collaboration.

The period of performance for Research Grants may range from one to three years. Funding will begin as early as possible in fiscal year 2025 (may commence as early as July 1, 2024, dependent upon budget certification dates by the State of North Carolina). Annual reports on the activities and progress will be due at the end of each fiscal year, and additional interim reports may be requested on an as-needed basis. Awardees will be expected to respond to occasional ad hoc requests for information as needed.

Proposed activities may include, but are not limited to, the following:

- Shared equipment, core facilities, and lease/up-fit of research space (labs, shops, studios) -- funds are not to be used for capital improvement expenditures
- Student (graduate and undergraduate) and postdoctoral support (tuition is unallowable)
- Non-recurring support for faculty (e.g., startup packages or release time; ROI funds cannot be used to support faculty beyond the defined funding period)
- Workshops/conferences on emerging multidisciplinary research areas or seminar series to promote networking for innovative project formation (food for meetings and conferences is unallowable)
- Pilot or feasibility studies; proof-of concept funding for early data collection
- Domestic travel
- Identification and recruitment of partners (industrial, academic, not-for-profit, or government)
- Creation and support of resources such as websites, research collaboration sites, or other social networking tools to facilitate large scale research projects

Guidelines for Proposal Submission

The UNC System ROI accepts proposals from any institution in the UNC system. **Institutions may only submit ONE proposal each. Proposals will be accepted only from the Chief Research Officer and Chief Academic Officer jointly.**

The CAO or CRO must submit their institution's proposal **by March 11, 2024**, via the form at the following link: <https://app.smartsheet.com/b/form/009e93ea1ac143efbde285b8b64f944d>.

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Proposals must contain the following (minimum 11-point font):

- Front matter (1 page) including:
 - 1) The title of the initiative
 - 2) Lead administrator's contact information (PI)
 - 3) List of other key personnel associated with the project; note if any key personnel are Co PIs
 - 4) List of 5 keywords
 - 5) A synopsis of the proposed initiative appropriate for general readership (maximum of 200 words)
 - 6) Total amount requested
 - 7) Anticipated duration of initiative
 - Initiative description (12 page maximum): The description should address specifically how the proposed activities align with the goals of this RFP (see Proposal Review and Evaluation section). The description should include sufficient detail that reviewers can evaluate the appropriateness and feasibility of the proposed plans. This section must outline a clear set of goals that are aspirational yet attainable, an outline of the plan of work with milestones and a timeline, and a clear set of metrics.
 - An assessment and sustainability plan (2 page maximum) that describes how the success of initiative will be measured and subsequently sustained following the ROI funding period.
 - A management plan (1 page maximum) is required. This section should describe the roles of the various institutional team members and the plans for how the team will function as a unit.
 - A single budget and justification, including projected expenditures by quarter (no page limit). Cost-matching is not required, but if it is part of the proposed budget, it must be included in this section. **Facilities and administrative costs (F&A; also known as indirect costs or overhead are not allowed).** Budget must adhere to the ROI budget template provided. Institutions selected for funding will be required to submit an Excel version of the final budget.
- *Please note that awarded **funds are state appropriations and, as such, cannot be used for food and/or beverage purchases.** Food and/or beverage costs should not be included in the budget submission; institutions may support these costs, if so desired, via their non-state discretionary funds.
- Biosketches (up to 2 pages) of the principal administrator and all key personnel. There is no limit on the number of biosketches.
 - Letters of support from the Chief Academic Officer, the Chief Research Officer, and three other key administrators that can demonstrate the potential for success/significance of

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the proposal. Limit support letters to a maximum of five, each no more than two pages in length.

Timeline

- September 11, 2023: Solicitation release
- March 11, 2024: Proposals due
- June 1, 2024: Awards announced (anticipated)
- July 1, 2024: Earliest funding start

Proposal Review and Evaluation

Each proposal will be assigned to reviewers from outside the state of North Carolina, selected based on their expertise in the particular technical area(s) of the proposal. A full list of review criteria is provided in the Proposal Review and Evaluation section.

- Excellent (very impressive proposal; deserves high priority)
- Very Good (high quality proposal; no serious concerns)
- Good (average proposal; some doubts or concerns)
- Fair (some deficiencies; needs improvement to meet the objectives of the UNC ROI)
- Poor (serious concerns or some conceptual flaws)

ROI Research Grants are awards to support significant advances in research at the institutional level. Centers and consortia will be considered as candidates for ROI grants, if advanced by the Chief Academic Officer for that institution, but any research projects subject to ROI funding must be specifically described in the proposal (i.e., proposals that request funds to be distributed to unnamed investigators/projects will not be considered). Proposals may request from one to three years of funding at a maximum of the following amounts per year:

FY2025: \$500,000

FY2026: \$500,000

FY2027: \$500,000

Proposal Criteria

Proposals must contain the following (minimum 11-point font):

- Intellectual Merit
 - Importance of the initiative to advancing knowledge or understanding in its own discipline or in other disciplines.

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- Importance of the initiative in building research capacity in a well-defined area.
 - Originality of the proposed project. Does the initiative have the potential to change a paradigm in the discipline or across disciplines, or open up new opportunities for university research advancement and unexpected channels of collaboration?
 - Qualifications of the principal administrator and faculty and staff involved to carry out the project, including strength of the Management Plan.
 - Provides sound design and approach to the scientific initiative.
- Project Fit and Feasibility
 - Clear targeting of one or more of the six priority areas
 - Clear description and feasibility of the milestones, anticipated project deliverables, metrics and assessment plan
 - Reasonableness of the budget
 - Realistic nature of the long-term sustainability plan
 - Broader Impact
 - The potential that the initiative will result in major research funding from federal agencies, industry, or non-profits by individual researchers and teams. Special consideration will be given to proposals that position NC to be competitive for large-scale federal funding such as STC or MRSEC grants.
 - The extent to which the initiative builds on existing expertise and strengths
 - Potential for commercialization via patents, licensing, spin-offs, and/or investment from the private sector
 - Short-term (~1 year) and long-term impact on North Carolina

Inquiries

Questions regarding this solicitation may be directed to:

Jennifer Gerz-Escandón, Ph.D.

Associate Vice President for Academic Programs and Research

University of North Carolina System

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Total Budget for Initiative

Project Year Fiscal Year	1 2025	2 2026	3 2027	Total Costs
INITIATIVE BUDGET				
Personnel				- - -
PERSONNEL TOTAL	-	-	-	-
Fringes				- - - -
FRINGES TOTAL	-	-	-	-
Equipment				- - -
EQUIPMENT TOTAL	-	-	-	-
Materials & Supplies				- - -
MATERIALS AND SUPPLIES TOTAL	-	-	-	-
Travel				- - -
TRAVEL TOTAL	-	-	-	-
Other				- - -
OTHER TOTAL	-	-	-	-
TOTAL PROJECT BUDGET	-	-	-	-

	1	2	3
	2025	2026	2027
INSTITUTION TOTAL			

Detailed Budget

Initiative Year Fiscal Year	1 2025	2 2026	3 2027	Total Costs
Personnel effort				
Person 1				-
Person 2				-
Person 3				-
Person 4				-
Fringe for Faculty				-
Fringe for Post-Docs				-
Fringe for Technicians/other				-
Fringe for Graduate Students				-
PERSONNEL TOTAL	-	-	-	-
Materials & Supplies				
Provide description				-
Provide description				-
MATERIALS AND SUPPLIES TOTAL	-	-	-	-
Equipment				
Provide description				-
Provide description				-
EQUIPMENT TOTAL	-	-	-	-
Travel				
Provide description				-
Provide description				-
TRAVEL TOTAL	-	-	-	-
Other				
Define other miscellaneous expenses				-
Add additional lines or sections as needed				-
OTHER TOTAL	-	-	-	-
INSTITUTION TOTAL	-	-	-	-