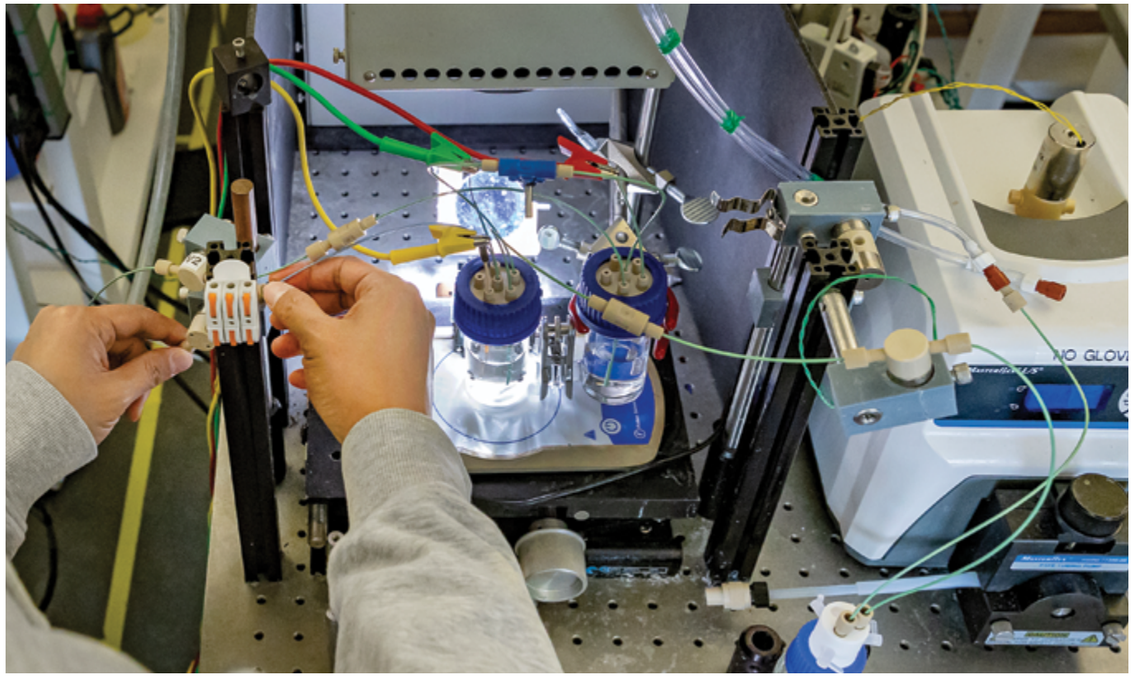


Carolina researchers are developing liquid fuels from light-absorbing semiconductor materials.

POWERING INNOVATION FOR NORTH CAROLINA'S SUSTAINABLE FUTURE

The University of North Carolina at Chapel Hill boasts a long and distinguished history of innovation and research excellence in service to our state. The power of Carolina's applied sciences and impressive research portfolio is a driving force for positive change and economic opportunity.

From developing advanced materials for renewable energy to designing sophisticated sensors for autonomous vehicles, to developing more effective therapies to a range of health issues, researchers at Carolina are translating scientific breakthroughs into tangible solutions. This commitment to "research for the public good" ensures that discoveries have a lasting impact on the lives of citizens across our state and the globe.

Carolina recognizes the crucial link between research and its practical applications. The university actively works to close the existing innovation gap by partnering with state officials and lawmakers to attract new industries and translate research discoveries into marketable products.

FOSTERING A CULTURE OF COLLABORATION AND INNOVATION

Carolina's collaborative approach is a key ingredient to its success. A vibrant team-based research environment combined with an entrepreneurial mindset fosters groundbreaking discoveries. This collaborative spirit extends beyond the university walls, with partnerships established across institutions, industries, and communities.

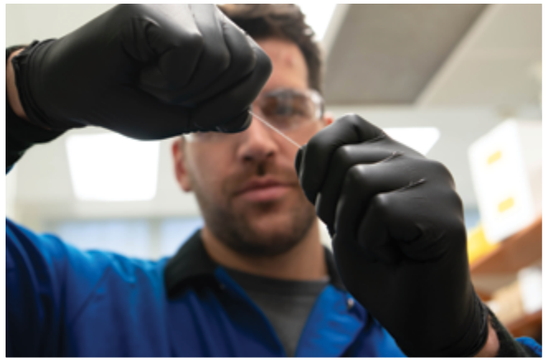
The U.S. Food and Drug Administration recently awarded $50 million over five years to Carolina and Duke University to establish the **Research Triangle Center of Excellence in Regulatory Science and Innovation**, known as Triangle CERSI. The center will also involve collaborations with **North Carolina State University** and **North Carolina Central University**, a leading historically black university.

Leveraging the strengths of each institution, Triangle CERSI will work towards shortening the time for drug and device development to advance public health and to inform regulatory decision making. The center has made great progress on its first set of funded research projects, including efforts to reduce opioid misuse and how to account for data complexities in clinical trials.

TRANSFORMING DISCOVERIES INTO SOLUTIONS

Carolina abounds with researchers who exemplify the university's commitment to solving real-world problems for North Carolina. The research of environmental engineer **Orlando Coronell** on membrane-based water purification holds the potential to provide cleaner drinking water for communities across the United States. Similarly, the discoveries of chemist **Frank Leibfarth** have led to a process for transforming plastic waste into valuable materials that offer a solution to the growing plastic pollution crisis.

Together, these researchers are pioneering a new technology to remove harmful PFAS chemicals from our state's water sources. Supported by the **North Carolina Collaboratory**, the **NC Pure Project** leverages the strengths of both researcher's disciplines. Leibfarth's team has developed a unique membrane specifically designed to capture PFAS, while Coronell's team rigorously tested the material for effectiveness. This collaborative effort has recently received a significant boost: a $10 million appropriation from the **North Carolina General Assembly**. This funding will allow for the deployment and evaluation of the technology at three sites across the state.



Carolina's Frank Leibfarth studies how to transform chemical building blocks into plastics to provide new and useful solutions for sustainability and human health.

LEADING THE CHARGE IN CLEAN ENERGY

Carolina is also working at the leading edge of clean energy innovation. The **Center for Hybrid Approaches in Solar Energy to Liquid Fuels** (CHASE Solar Hub) stands as a national leader in solar energy research. Funded by a significant grant from the **US Department of Energy**, CHASE has already made significant progress, developing mechanisms for converting sunlight, water, and carbon dioxide into clean-burning liquid fuels. This breakthrough not only paves the way for a sustainable future but promises new job opportunities within the clean energy sector, strengthening North Carolina's economy.

EMPOWERING THE NEXT GENERATION OF INNOVATORS

Understanding the importance of hands-on learning, Carolina actively integrates research experiences into its undergraduate curriculum. By requiring every undergraduate student to participate in research activity before they graduate, the university equips students with valuable practical skills and fosters a spirit of innovation.

This real-world experience prepares students for success in STEM careers, a sector known for high-paying jobs. A well-trained and highly skilled workforce further strengthens North Carolina's attractiveness to leading technology companies, bringing additional revenue to the state.

A BRIGHTER FUTURE

Carolina plays a pivotal role in shaping a more sustainable and prosperous future. By fostering collaboration, translating research into practical applications, and empowering the next generation of innovators, North Carolina's flagship public university is well-positioned to continue its legacy of leadership for many years to come.

UNC
RESEARCH

Office of the Vice Chancellor for Research
research.unc.edu

Office of Foundation Relations and Industry Engagement
frie.unc.edu