

ADVANCED MATERIALS INNOVATION COMPLEX

An architectural rendering of a modern, multi-story building with a prominent glass facade and vertical structural elements. The building is set against a dark, starry night sky. In the foreground, there are silhouettes of trees and a few small figures of people walking on a path. The overall scene is dimly lit, emphasizing the building's form and the texture of the sky.

CLEMSON
forever

ADVANCED MATERIALS INNOVATION COMPLEX:
*A Convergent Center for Innovation,
Education & Research*



A PLACE TO CONVERGE

It's a place where students, educators and researchers from materials science and engineering, chemistry, and chemical and biomolecular engineering come together. Where they work collaboratively to help solidify the future competitiveness of South Carolina's advanced manufacturing, energy and health sectors.

It's a convergence center that brings together faculty and students across disciplines and projects. Where discoveries are made and the world's greatest challenges are solved.

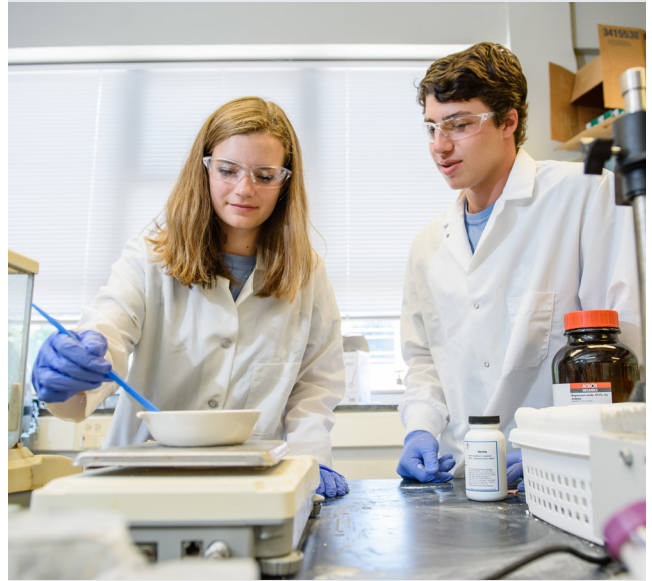
The ADVANCED MATERIALS INNOVATION COMPLEX (AMIC) will be the marquee facility on the Clemson campus.

A PLACE FOR SYNERGY

Clemson University is committed to becoming the nation's premier cross-disciplinary advanced materials innovation, education and research enterprise – thus propelling materials science and engineering, chemistry, and chemical and biomolecular engineering into the top 20.

This convergence center will synergize our faculty and students within and across the areas of advanced manufacturing, energy and health innovation. AMIC will not only positively impact those within the new building, it will provide those within Clemson's more mature buildings additional space and greater opportunities for expansion and growth, including renovations and hiring more faculty.

The area around Clemson is already attracting leading companies that see the great benefits of manufacturing within our state. This gives Clemson a substantial competitive advantage over our peer schools – and AMIC will significantly strengthen that lead. With these national and global companies only miles away from our campus, our faculty and students will have valuable opportunities to collaborate and partner with these corporations. All of this leads to the recruitment and retainment of top talent – both students and faculty – and opportunities for advanced research.



THE VISION

Create a modern land-grant research university hub on the Clemson campus for material science and engineering that will build upon cross disciplinary collaboration with chemistry and chemical and biomolecular engineering focused on advanced materials education. This magnet facility will provide agile spaces for integrated education and convergent research that supports faculty/student recruitment and retention — leading to industry collaboration, innovation and economic prosperity.

THE MISSION

Support research and learning in advanced materials, driving innovation to create the next generation of professional engineers and scientists in the broad areas of advanced manufacturing, energy and health innovation.



ADVANCED MATERIALS
INNOVATION COMPLEX

AN IMPACT ACROSS CLEMSON

When our University was established, it was founded with materials in mind for the prosperity of the state of South Carolina. For more than 133 years, that has not changed. Materials were – and continue to be – big business in South Carolina. The University’s relationship with the state is crucial – and mutually beneficial. Without this new facility, Clemson will miss a critical opportunity to attract the best and brightest faculty and students.

AMIC will not only make an impact on Clemson students, faculty and areas of research; it will make a historical impact on the state of South Carolina.

Impacting Students

Learning and research opportunities within AMIC will develop Clemson students into the most sought-after graduates for the companies in our state, throughout the nation and across the world.

The learning spaces within AMIC will include cutting-edge research labs, innovative teaching labs, synergistic classrooms and shared collaborative spaces. The innovative teaching laboratories within AMIC will allow students to investigate, analyze and reflect. These creative spaces will be designed to give students the opportunity to test and apply theories and make abstract concepts concrete.

Synergistic, student-centered classrooms will be designed to foster generative dialogue between learners and instructors.

New and modern labs will give our students experience with state-of-the-art equipment, and our students will learn important skills in team building that will prepare them for the workforce.

These labs will not only attract the best and brightest students, but they will prepare them to enter the workforce in South Carolina’s largest businesses and work in research facilities across the world. AMIC will support the research and learning that will help Clemson create the next generation of engineers and scientists.



»» **“Clemson University was established in 1889 to develop ‘the material resources of the State’ for the people of South Carolina and the nation. More than 130 years later, advanced materials is one of the primary emphasis areas of the University. The vision for AMIC is to be the nation’s premier cross-disciplinary advanced materials building to spur innovation, education and research enterprises. The facilities, personnel attracted and retained, and resulting collaborations will propel the three core advanced materials departments — Materials Science and Engineering, Chemistry, and Chemical and Biomolecular Engineering — into the top 20 in the nation.”**

— *Kyle Brinkman*, Chair of the Department of Materials Science and Engineering





“The award-winning research programs at Clemson University are creating life-saving drugs, revolutionary transportation technologies, pollution lowering renewable materials, and advanced processes for producing and storing energy. These technologies of the future are being developed through cutting-edge faculty and student collaboratives that are working at the boundaries of traditional science and engineering disciplines. To expand these efforts, we need to create new research and educational spaces that promote the combined efforts of students and faculty from multiple fields of study. The creation of AMIC will enable us to recruit and retain the exceptional faculty and students that make these innovations possible and allow us to involve more of our undergraduates in groundbreaking research programs that will impact the future.”

— *David Bruce,*

Chair of the Department of Chemical and Biomolecular Engineering





Impacting Faculty and Research

Additional research spaces and labs within AMIC will support the hiring of more faculty – top talent attracted by a state-of-the-art facility with spaces to collaborate across disciplines with students and businesses.

With shared collaborative spaces, faculty and their students will have greater exploration and conversation among and across their disciplines.

Every student within AMIC will be conducting research, focusing on areas of advanced manufacturing, energy and health innovation. Advanced manufacturing research will include smart and sustainable manufacturing, control and assembly operations, robotics, sensors, IOT, human-machine interface, AI, and digital manufacturing.

Research focused on energy will include transportation technology, energy generation and distribution, electrical grid control and renewable energy, green chemistry, and bio-inspired design.

Health innovation research will focus on biomedical devices, biomaterials, regenerative medicine, health care delivery and access, green chemistry, personalized medicine, mobile health care access, health disparities, and health care systems.

AMIC will house cutting-edge research laboratories – spaces for reimagining what is possible. The labs will be designed to foster innovation and the pursuit of the new knowledge needed to address 21st century issues. This will support Clemson's new strategic plan by elevating our University with additional research space – which generates more revenue.

Exposing our students to these new areas of research within AMIC will make them the most sought-after graduate students and industry professionals across the nation.

»» **“AMIC will be home to leading edge technology, coupled with an integrated lab concept which will provide a fertile environment for innovation and discovery at the interfaces of traditional science and engineering disciplines. This facility will attract top candidates for chaired and endowed professorships as it will provide the tools and personnel needed to tackle today’s toughest and most important challenges in the fields of energy, manufacturing and advanced materials. Coupling the expertise and problem-solving approaches of scientists and engineers from multiple disciplines will foster novel approaches to today’s issues and build proactive solutions to tomorrow’s needs.”**

— *William (Bill) Pennington, Jr.*, Chair and Alumni Distinguished Professor, Department of Chemistry



AN OPPORTUNITY TO BUILD A CONVERGENCE CENTER FOR INNOVATION, EDUCATION & RESEARCH

The impacts of AMIC will be far-reaching – from research to innovation; from economic to educational and workforce development. Through convergent research, AMIC will catalyze discovery and creation of new knowledge and prepare the next generation of thought leaders for the advanced materials revolution of tomorrow.

AMIC will be the new home for the materials science and engineering, chemistry, and chemical and biomolecular engineering. It will foster collaboration, providing research facilities, educational laboratories and classrooms for multi-disciplinary research and education.

But we need you – our greatest supporters – as we embark on this journey to improve lives and transform economic development.

Your support will help Clemson develop a first-class research and teaching facility, propelling Clemson into the top universities for advanced manufacturing, energy and health innovation.

Many of our peer schools have had clear advantages in these areas – including University of Georgia, Georgia Tech and North Carolina State – but they do not have the special essence that is found on the Clemson campus.

AMIC will elevate Clemson’s recruitment of the best and brightest faculty and students who are looking to escape the big cities where these other top facilities are located. With AMIC, Clemson can offer a facility of the same caliber – or even greater – as these other schools. We can offer them a place to call “home.”

Your support is crucial as Clemson challenges itself to tackle fundamental science; attract the best and brightest students and provide them with the best student experience; recruit and retain top faculty; enhance research; and find new ways to appeal to industry partners and build a facility that is unique to the Southeast.

The Core Values

Cross-disciplinary

Provide diverse agile opportunities for internal and external collaboration.

Create Hub + Home

A new welcoming front door for the department of Material Science and Engineering.

Elevate Clemson’s Campus

Elevating the college aspirations and mission, inspiring its people and grounded to its place.

Enhance Integrated Learning

Promote cross-disciplinary learning environments in educational and research spaces.

Attract Top Talent

Provide a facility that is welcoming and celebrates the advanced materials research and learning, attracting the best and the brightest students and faculty.

Build Agile Spaces

Create flexible and adaptable education spaces that respond to changing pedagogies and cater to research infrastructure needs.