

2022 ANNUAL REPORT



UT THE UNIVERSITY OF TENNESSEE
RESEARCH PARK
AT CHEROKEE FARM.

BY THE NUMBERS

RESEARCH PARK AT A GLANCE



Total Acreage:
150 acres



Investment:
\$102 million



Available For
Development:
70 acres



Tenants:
15



Square Footage:
292,000 SF



Employees:
675

UTK AT A GLANCE



Fall 2021 enrollment:
31,701

FY 2021 Research Expenditures:
\$319 million

MESSAGE FROM THE PRESIDENT/CEO

We are pleased to present the first ever Annual Report for the UT Research Park at Cherokee Farm. Like many others, we have been watching closely to see how society will react to the recent global pandemic, and are convinced that providing business partners with curated access to the talent that resides in major universities is a strategy that will stand the test of time.

The Research Park had several major accomplishments in Fiscal Year 2022, which are chronicled in this report. A new University of Tennessee Medical Center Orthopaedic Institute was developed at the Park, and has opened its doors to both new ambulatory surgery services and to cutting edge orthopedic and musculoskeletal research and development. The Spark Innovation Center, the Park's strategic initiative to support entrepreneurship and innovation, progressed from an idea to a nationally



recognized program that is now serving 15 technology-based startups. Approvals have been obtained to begin development of a fourth building at the Park called Innovation South, which will employ a new model for partnerships between the University of Tennessee-Knoxville and its partners.

But beyond the tangible evidence of success at the Research Park over the past year, there are less tangible but even more important accomplishments. The university faculty and students now view the Research Park as part of the UTK campus fabric, as evidenced by a number of student projects conducted at the Park recently. Additionally, the community as a whole has gained much more awareness of the Park, and the use of the Knox Blount Greenway and other park amenities has increased tremendously.

The most important ingredients to all this progress are our team and our commitment to partnering. The Research Park team has grown to six dedicated people who share a vision and passion for the work we do. Our commitment to partnering is a cornerstone of our organization. I encourage you to reach out to us to discuss ways that your organization can be a part of the special place we're developing here at the UT Research Park at Cherokee Farm.

A stylized, handwritten signature in blue ink, likely belonging to the President/CEO.

UT RESEARCH PARK STAFF



**Carols
Seamons**

Director of
Engagement
at the Spark
Innovation
Center

**Angelee
Day**

Vice President
of Marketing
and
Administration

**John
Bruck**

Director of
the Spark
Innovation
Center

**Yveline
Molin**

Administrative
Coordinator

**Tom
Rogers**

President
and CEO

**Rickey
McCallum**

Vice President
of Business
Development

CHEROKEE FARM DEVELOPMENT CORPORATION BOARD OF DIRECTORS



**Deborah
Crawford**

Chair

Vice Chancellor for Research, Innovation, and Economic Development at the University of Tennessee-Knoxville.



**Brandon
Bruce**

Serial entrepreneur, Chair of the Knoxville Entrepreneur Center and Junior Achievement of East Tennessee.



**Lori
Chamberlain**

Treasurer

Co-Founder, Aegis Health Group and member of the University of Tennessee- Knoxville Alumni Board



**Stacey
Patterson**

Vice President for Research, Outreach, and Economic Development for the University of Tennessee System, and President and CEO of the UT Research Foundation.



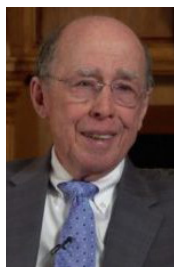
**Sharon
Pryse**

Founder and CEO of The Trust Company, community leader, and former member of the University of Tennessee Board of Trustees and the Board of Directors for the U.T. Foundation.



**Jeff
Smith**

Former Deputy Director for Operations at the Oak Ridge National Laboratory, community leader, and member of the Board of Directors, Tennessee Valley Authority.



**Don
Stansberry**

Former lawyer, community leader, and former member of the University of Tennessee Board of Trustees.



**Bill
Mason**

General Counsel and Corporate Secretary

Bill is a shareholder in the Knoxville law firm Kennerly Montgomery and has served as General Counsel for the UT Research Foundation and it's various subsidiaries for nearly 20 years.

INNOVATION NORTH

A public-private partnership that currently houses six tenants collaborating with UT, including the Volkswagen Innovation Hub.

INNOVATION SOUTH

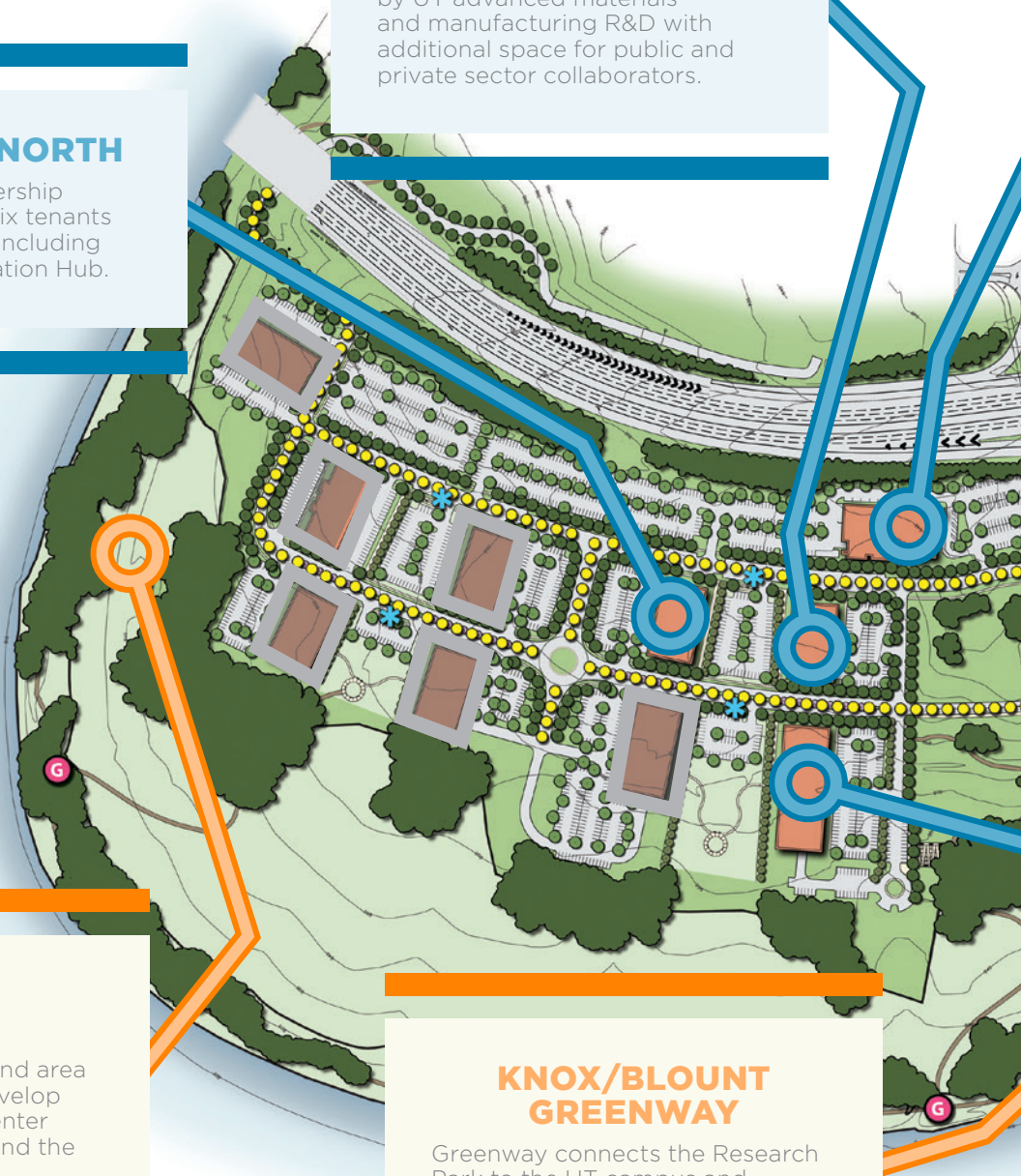
A proposed 85,000 square foot facility to be anchored by UT advanced materials and manufacturing R&D with additional space for public and private sector collaborators.

CHEROKEE LANDING

Working closely with UT and area partners to design and develop an Outdoor Recreation Center for use by the University and the community at large.

KNOX/BLOUNT GREENWAY

Greenway connects the Research Park to the UT campus and downtown Knoxville, and will eventually extend all the way to the Great Smoky Mountains National Park.





ADVANCED ORTHOPAEDIC INSTITUTE

New 93,000 square foot ambulatory surgery center opened June 2022 with the top floor dedicated to translational medical research.

FUTURE DEVELOPMENT AREAS

Additional sites to be developed as new Alcoa Highway interchange serving the Research Park is completed.

INSTITUTE FOR ADVANCED MATERIALS AND MANUFACTURING

144,000 square foot UT facility hosting 69 laboratories, 44 faculty from five university departments, and several hundred graduate students. Also home to the UT Research Park corporate offices.



The Park's nationally recognized entrepreneurial initiative, focused on developing and retaining the region's top technology-oriented startups.

INSTITUTE FOR ADVANCED MATERIALS AND MANUFACTURING

Many consider the Institute for Advanced Materials and Manufacturing (IAMM) Headquarters as the flagship building to date on the UT Research Park. The first building constructed at the Park, IAMM is 144,000 square feet and hosts 69 state-of-the-art laboratories and faculty from five different UT-Knoxville departments.

IAMM is also the Research Park's staff headquarters, and the initial location for the Spark Innovation Center. Three laboratories and two offices at IAMM now host promising



technology-based startups that are collaborating in a number of ways with the university.

PARTNER PROFILE



"IAMM represents the future of fundamental and applied research at UT, with efforts spanning the disciplines of chemistry, computer science, engineering, physics, design, architecture, agriculture, and more," said Vice Chancellor for Research, Innovation, and Economic Development Deborah Crawford, who also serves as the Board Chair for the Research

Park. And our partnerships with industry, who can co-locate with our faculty and students in our mixed-use facilities, power the engine that drives economic opportunity in Tennessee and far beyond. Through the institute, UT is set on advancing its reputation as an academic leader in materials manufacturing at the global level."





UNIVERSITY OF TENNESSEE MEDICAL CENTER ORTHOPAEDIC INSTITUTE

The most visible symbol of progress at the UT Research Park this past year is the University of Tennessee Medical Center's new Orthopaedic Institute. The 93,000 square foot facility represents a \$40 million private investment from UT Medical Center (University Health Systems), OrthoTennessee's University Orthopaedic Surgeons division, and the Realty Trust Group.

University Orthopaedic Surgeons moved their clinical practice into the Orthopaedic Institute in June 2022 and began seeing patients in the new facility. The ribbon cutting ceremony for the Orthopaedic Institute was held in July 2022. The first floor of the facility is dedicated to orthopaedic ambulatory surgical outpatient services and

advanced imaging (MRI). The second floor has clinical examination rooms, radiologic services, physical therapy, and orthopaedic Urgent Care. But what will make the Orthopaedic Institute unique in the region will be the activity planned for the third floor of the facility, which will be dedicated to orthopaedic and musculoskeletal research. Space will be sub-leased to two organizations interested in collaborating with University Orthopaedic Surgeons: an established orthopedic design and technology company; and the University of Tennessee—Knoxville. Both organizations will seek opportunities to conduct orthopedic research and to bring new products and services to the commercial marketplace. Once this orthopaedic and musculoskeletal research is established, it is very likely that additional collaboration and research will evolve between researchers at the University of Tennessee-Knoxville and UT Medical Center.

When fully operational, the Institute will serve 225 patients daily in this new, state-of-the-art facility.

Developer: Realty Trust Group

Architect: Barber, McMurray & Associates

Contractor: Christman Companies



PARTNER PROFILE



George Baddour views the University of Tennessee Medical Center's new Orthopaedic Institute from several different perspectives. He worked with University Orthopaedic Surgeons for 35 years, so he appreciates how the facility will better enable physicians to better serve patients. As the current Vice President of the Orthopaedic Institute at UTMC, he appreciates how the new orthopedic facility will enhance UT Medical Center's academic mission to serve through healing, education, and discovery. The research component in the new facility will advance the orthopaedic practice at UT Medical Center from a Center to an Institute, a key goal for the region's only Academic Medical Center. Finally, as a leader both at the hospital and in the community, he knows how important it is to embrace research and to discover ways to improve patient care through innovation.

Every successful project has many leaders, and this project is no different with key contributions from senior leadership at the University of Tennessee Medical Center, OrthoTennessee, and the University of Tennessee. But most successful projects also have a real champion, often behind the scenes, who helps establish the vision and works tirelessly to get other stakeholders to embrace that vision. Dr. George Baddour has played the role of champion for this great project, and the UT Research Park staff would like to publicly acknowledge his contributions.



SPARK INNOVATION CENTER

The Spark Innovation Center has one of the UT Research Park's major strategic growth initiatives. It focuses on the region's most promising technology-based entrepreneurs and works to help them build investable companies that will stay and grow here in East Tennessee, preferably in the Park. Although less than 2 years old, the Spark Innovation Center is already garnering national attention. In late 2020, The Center was one of only 20 U.S. Department of Energy EPIC prize recipients as one of the nation's leading energy-based incubators or accelerators.

Spark Innovation Center, is a new Spark Scholars program in partnership with the UT Center for Materials Processing that will link talented engineering students with Spark companies to assist with prototyping.

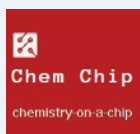
Finally, Spark continues its efforts to develop additional laboratory space at the Research Park to serve a growing number of promising tech-based startups, and has recently received a technical assistance award from Appalachian Community Capital to develop architectural and engineering analyses, pro forma financial projections, and an investment prospectus for potential investors.

- The **Spark Incubator** provides clients with access to top-quality wet and dry lab space, mentoring, and strategic connections with potential customers, partners, and investors. There are currently 9 companies participating in the Spark Incubator, with a waiting list of several additional companies seeking entrance into the program.



Notable fiscal year 2022 Spark Incubator Client accomplishments:

- Active Energy Systems was awarded a Phase II NSF award from the National Science Foundation and raised a seed round of about \$1 million from three private investment groups.
- Eonix signed an exclusive collaboration with Schrödinger Inc., a publicly traded company, to accelerate the discovery and design of material for safer, energy-dense lithium-ion batteries.
- Qubit Engineering has partnered with Microsoft's Azure Quantum and RES, the world's largest independent renewable energy company, to optimize a large wind farm.
- Quantum Lock raised a its first seed round from several Knoxville-based private investors.
- SkyNano received a total of more than \$6 million in new non-dilutive research grants, and was the first Spark client to "graduate" into commercial space in Knoxville.



- The **Spark Cleantech Accelerator** launched in June 2022 as a member of the Heartland Climate Tech Partnership that includes Evergreen Climate Innovations and mHUB from Chicago and Centrepolis from Detroit. With funding support from the U.S. Department of Energy, the City of Knoxville, Launch Tennessee, and the Tennessee Valley Authority, the **Spark Cleantech Accelerator** will allow six companies to participate in an intensive, 12-week resident accelerator at the Research Park each year for the next three years.



The first cohort of accelerators companies includes:

frakktal	Houston, TX
Green Llama Cleaning	Johnson City, TN
Groundstar	Cincinnati, OH
RAEV	Philadelphia, PA
Windfall	Knoxville, TN





INNOVATION NORTH

Innovation North was the first privately owned building at the UT Research Park, developed through a unique partnership between Partners Development and the Research Park's for-profit subsidiary. The 44,000 square foot building was completed in 2017, and was almost immediately fully leased to companies eager to collaborate with the University of Tennessee faculty and students. Today, Innovation North is home to four companies: RegScale, Civil and Environmental Consultants, University Health Pharmacy, and the Volkswagen Innovation Hub.

PARTNER PROFILE



Hendrik Mainka is the Senior Project lead and Head of the Volkswagen Innovation Hub at the UT Research Park. Initial work at the Volkswagen Innovation hub is focused on developing lighter vehicle components made from composite materials and the electrification of vehicles.

Volkswagen has been a valued partner of the University of Tennessee since opening its Chattanooga Assembly plant in 2011.



Civil & Environmental Consultants, Inc.



VOLKSWAGEN

GROUP OF AMERICA





INNOVATION SOUTH

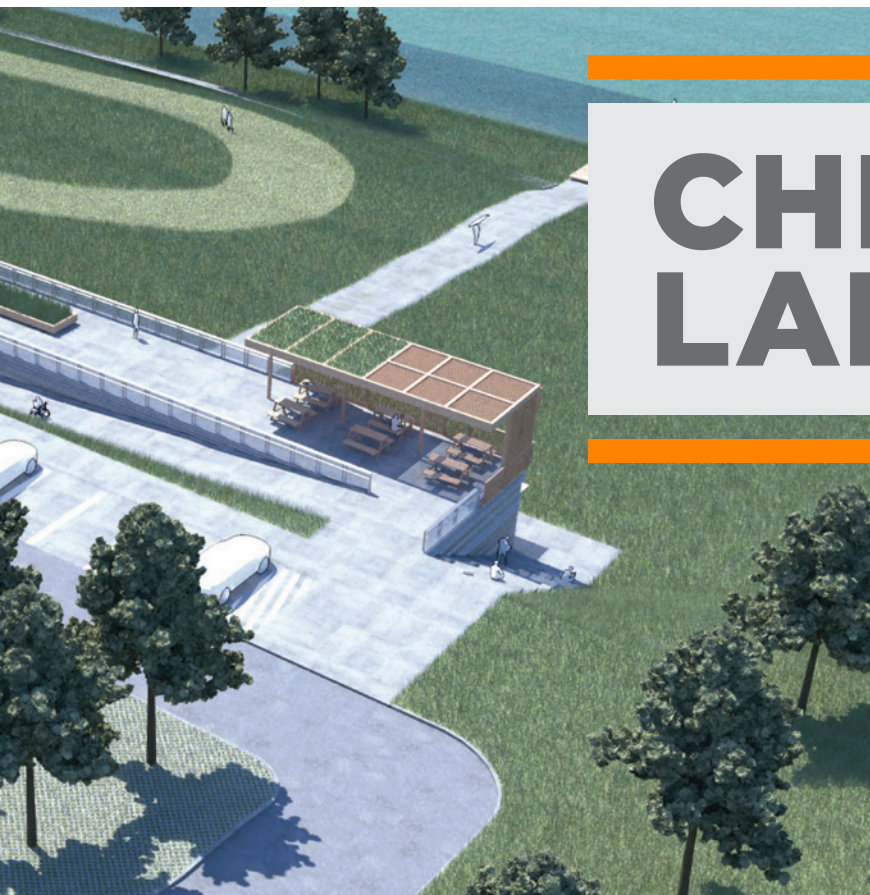
The UT Research Park is eagerly anticipating the groundbreaking for its fourth major building, thanks to a unique public-private partnership between a private developer, the University of Tennessee, and a number of other companies and organizations. Partners Development, which also developed the Innovation North building, will develop Innovation South, an 85,000 square foot research and development facility. The University of Tennessee will lease 39,000 square feet of Innovation South to conduct collaborative research and development in the areas of advanced composites, smart manufacturing, and mass timber. Private tenants will be sought for the commercial wing of the project, which will include space for restaurants and a gathering area to encourage interaction and collaboration amongst the occupants in the building and

the entire Research Park! Construction is currently scheduled to begin this fall with occupancy available in the fourth quarter of 2023.

PARTNER PROFILE



The University of Tennessee's Uday Vaidya is a researcher, mentor, and director who serves in many leadership roles such as the Governor's Chair in Advanced Composites Manufacturing, the Director of the Fibers and Composites Manufacturing Facility, and the Chief Technology Officer at the Institute for Advanced Composites and Manufacturing Innovation (IACMI).



CHEROKEE LANDING

PRESERVING THE PARK'S UNIQUE HERITAGE

As the earliest plans were being laid over a decade ago to transform the University's Dairy Farm into the UT Research Park at Cherokee Farm, a remarkable discovery was made. Many people knew that Native American Indian tribes had settled on the property along the Tennessee River, but when archaeological surveys were performed we learned the full extent of this unique heritage: tribes had located on the property dating back to 10,000 BC.

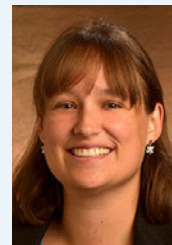
Initially, plans were made to ensure these lands – totaling more than half of the Park's 150 acres – would be preserved. But three years ago, our vision changed: instead of merely preserving this land, the Research Park would embark on plans to recognize and celebrate its truly unique heritage. And so, in partnership with the Legacy Parks Foundation, plans were made to create Cherokee Landing, a place where the Park's unique cultural heritage and outstanding

recreation potential would be developed, not just for the university but for the community at large. The site already has a 2-mile Knox-Blount Greenway along the riverfront, the university's cross country course, and it is an increasingly popular place for recreation enthusiasts. But plans are now actively

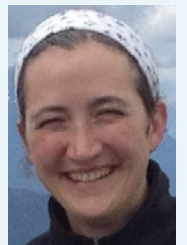
PARTNER PROFILES



**James
Rose**



**Jennifer
Retherford**

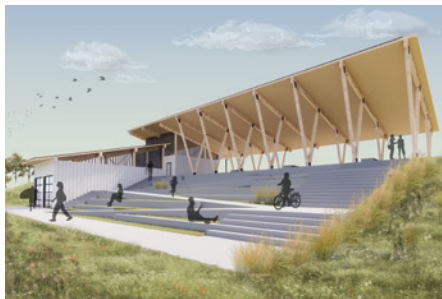
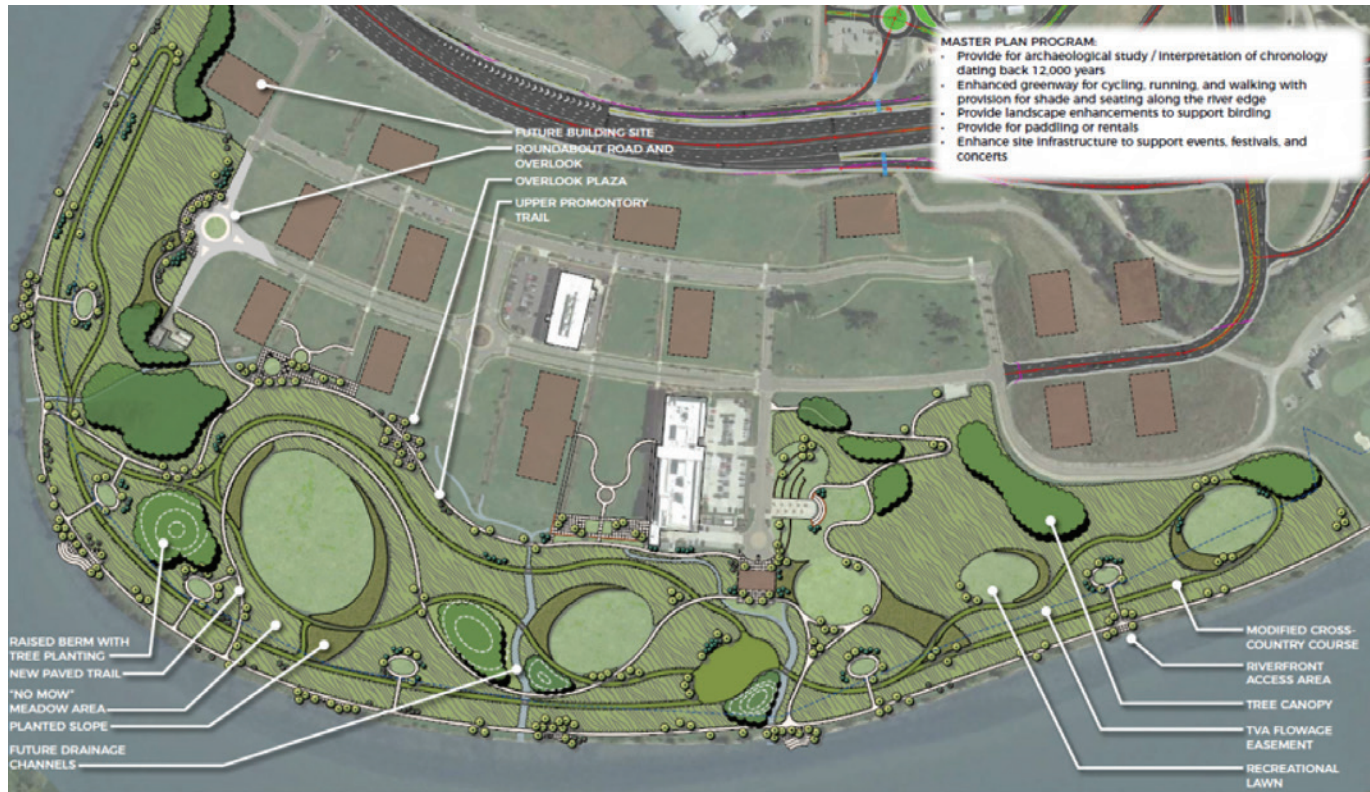


**Kandance
Hollenbach**

James Rose, Kandance Hollenbach, and Jenny Rutherford are all "hands on" instructors and lecturers. They each lead teams of students from Architecture, Archeology, and Civil Engineering to get hands-on experience by participating in design studios, archaeological digs, and senior engineering design projects. Thanks to these special partners, Cherokee Landing has become a living laboratory for UT students in many disciplines.

underway to imagine what else Cherokee Landing can become. Below are three imaginative renderings from Architecture students envisioning an initial Cherokee Landing project, one which we hope will lead to several more efforts to acknowledge

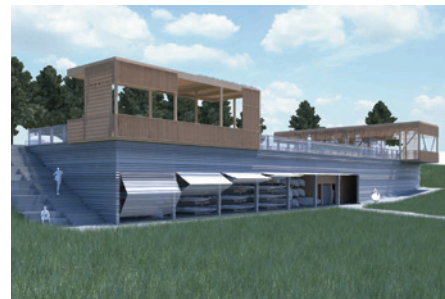
and celebrate the Park's unique heritage! In addition to a student-designed boathouse structure, we hope to include an interpretive walk along the existing Greenway to help visitors understand what a special place the UT Research Park is!



Design by UT Embedded Group



Design by UT Wavelength Team



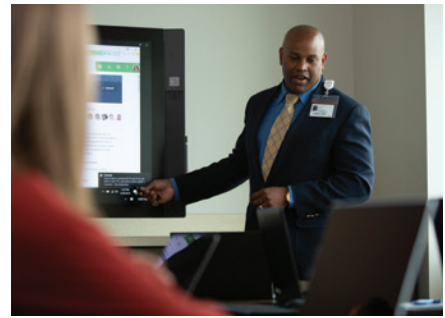
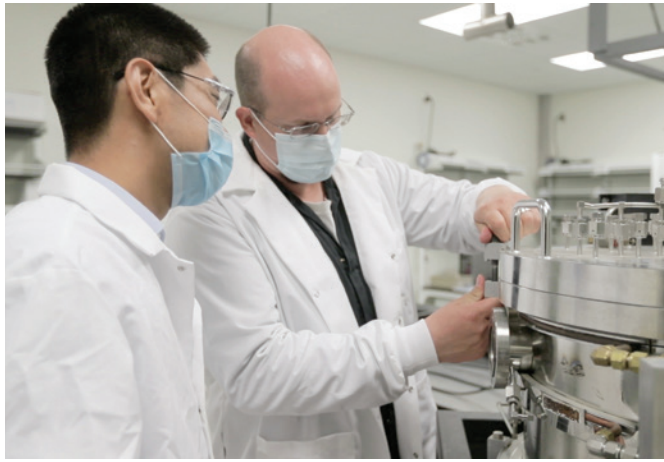
Design by UT Strata Group



SPECIAL THANKS

Appalachian Community Capital
Centrepolis Accelerator
Argonne National Laboratory
Chain Reaction Innovations
City of Knoxville
City of Knoxville Parks & Recreation
Clean Energy Venture Group
Evergreen Climate Innovations
Goodwin Procter
Howard H. Baker Jr. Center for Public Policy
Innov865 Alliance
Oak Ridge National Laboratory Innovation
Crossroads
Knoxville Chamber of Commerce
Knoxville Entrepreneurship Center
Knoxville Technology Council
Launch Tennessee
Legacy Parks Foundation
MBI Companies Inc
mHub
Partners Development
Piper Communications
PYA

Queen City Angels
Realty Trust Group
Red Stag
Ross Fowler Landscape Architecture
Schneider Electric
Tennessee Advanced Energy Business Council
Tennessee Valley Authority
Three Roots Capital
University of Tennessee Center for Materials
Processing
University of Tennessee College of
Architecture & Design
University of Tennessee Department of
Anthropology & Archeology
University of Tennessee Department of
Civil & Environmental Engineering
University of Tennessee Institute of
Advanced Materials & Manufacturing
University of Tennessee Institute of Agriculture
University of Tennessee Medical Center
University of Tennessee Office of
Communications & Marketing
University of Tennessee Office of Research,
Innovation & Economic Development
University of Tennessee Research Foundation
University of Tennessee System
University of Tennessee Tickle College of
Engineering
US Department of Energy





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