

DUKE IN NORTH CAROLINA

# President Price Visits Kannapolis



THURSDAY, SEPTEMBER 8, 2022 | **DUKE KANNAPOLIS**, PART OF  
THE **DUKE CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE**

 **Duke** Clinical & Translational Science Institute

# INTRODUCTION

From humble beginnings in a former dress shop with one Duke employee, **Duke's research site in Kannapolis** has grown to include a team of 25 Duke employees and a state-of-the-art clinical office space. Founded in 2007 by Robert Califf, MD, Duke Kannapolis has enrolled nearly 14,000 community members in dozens of studies, using a successful **community-based engagement model**.

Now part of the **Duke Clinical and Translational Science Institute (CTSI)** under the direction of **Ebony Boulware, MD, MPH**, Duke Kannapolis functions as an engine to accelerate population



health research, featuring a diverse community of engaged research participants and supporting the **Duke research community**, as well as external collaborators and partners.

Duke Kannapolis manages a wide variety of **research projects** focusing on the exploration, discovery, and validation of biomarkers that will inform a deeper understanding of health and disease. Co-located on the **North Carolina Research Campus (NCRC)** with

seven University of North Carolina research institutes, a community college, and a public health department, Duke Kannapolis is led by **Svati Shah, MD, MHS**, and offers a wide range of **assets** and **capabilities** for investigators.

Throughout our nearly 15 years in the Kannapolis community, we have learned that it is important to do a wide variety of things consistently, with enthusiasm and great care. It is vital to be a credible and trusted partner, to be involved in the community with a spirit of service, and to meet people where they are.

## THIS IS KANNAPOLIS

Home for more than a century to a massive textile mill — shuttered in 2003 in the largest single layoff in North Carolina history — Kannapolis is **transforming itself** into a thriving city focused on health, research, and innovation. Where Cannon Mills once stood, the 350-acre NCRC now rises, home to Duke, UNC, the **NC Food Innovation Lab**, a **community college**, the **Cabarrus Health Alliance** public health entity, and corporate partners including **Standard Process** and **Eremid**.

In 2015, the **City of Kannapolis** purchased the downtown district and launched a revival strategy inspired by the revitalization of downtown Durham, complete with a \$52 million **minor league ballpark**. The City's \$133 million public investment has attracted \$240 million in private investment, and people are returning to the former mill town. Between 2010 and 2020, the population of Kannapolis increased from 42,625 to 53,114 people, according to the **U.S. Census Bureau**. Kannapolis straddles **Cabarrus** and **Rowan** counties.

## DUKE KANNAPOLIS & COLLABORATION

Duke Kannapolis is more than a physical location. This **unique research facility** leverages the diverse community of engaged research participants and supports the broader Duke research enterprise, as well as external collaborators and our partners at the NCRC. Duke Kannapolis has provided biological samples for analysis at the **UNC Nutrition Research Institute**, recruited participants for an exercise physiology study at **Appalachian State**, and utilized core lab resources for analysis, among many other NCRC collaborations. For **Colgate's oral health sub-study** of Project Baseline, Duke Kannapolis supported recruitment in collaboration with the UNC NRI.

In addition, the Duke Molecular Physiology Institute and School of Medicine are part of the **NCRC consortium** led by UNC that received a \$19.2 million NIH grant to apply cutting-edge analytical techniques to nutrition research. The award exemplifies the value of collaboration across public and private universities within North Carolina. Duke Kannapolis leaders also serve on advisory boards and steering committees for five community partner organizations including the **Cabarrus Health Alliance**, **El Puente Hispano**, **Healthy Cabarrus**, **Community Free Clinic**, and Equity Advisory Council.



## COMMUNITY-BASED RESEARCH

Duke Kannapolis has developed and implemented a **community-based approach** to clinical research, considered the gold standard. We believe that our participants are valued partners,

and we place them at the center of everything we do. Our community has responded to this approach with ongoing dedication to clinical research studies. We work to ensure that participant cohorts are representative of the community and take pride in the demographic and socioeconomic diversity in our studies. We offer research in both Spanish and English, and our bilingual staff translate study documents and consent and enroll participants in Spanish. The success of our two-way partnership with participants is demonstrated through study enrollment, visits, survey completion, communication open rates, and attendance at community events.

## EXPANDING OUR REACH

The cornerstone of the Duke Kannapolis infrastructure is the **MURDOCK Community Registry and Biorepository**, a groundbreaking longitudinal study that enrolled 12,526 community members and collected over 400,000 annotated biospecimens. For investigators, we have organized data into **storefronts** that summarize characteristics of a population of research interest, as well as available data and samples for that population.

Since 2009, more than 60 MURDOCK Study research projects have included:

- Aging and physical performance
- Memory health and cognition
- Multiple sclerosis and neurological disease
- Respiratory disease
- Heart disease
- Diabetes and fracture risk among people with diabetes
- Kidney disease
- Smoking cessation
- Participants as “healthy controls” for comparison with data and samples from participants with disease — a vital and often hard-to-fill need for researchers
- Others

The MURDOCK Study paved the way for other major research initiatives at Duke Kannapolis, including the **Project Baseline Health Study**, which in 2017 launched a new chapter of collaboration and innovation led by Principal Investigator Dr. Shah.

# RENEWED VISION

As Director of Duke Kannapolis, Dr. Shah brings a wealth of experience to her new role, including her internationally recognized expertise in omics, precision medicine, and population health. Her leadership moves Duke Kannapolis forward with a renewed vision in these areas



while creating additional opportunities in community-based research and population genetics. Dr. Shah leverages significant partnerships both internal and external to Duke and highly values the vital, ongoing partnership with our community in Kannapolis and Cabarrus County.

Under Dr. Shah's leadership, Duke Kannapolis launched an **initiative** to **transform the biorepository** into rich molecular datasets by distributing

samples to investigators. Through this science-forward initiative, we are making thousands of biospecimens and associated clinical and outcome data available to all Duke researchers. The initiative enables investigators to:

- Accelerate research timelines
- Support pilot work to acquire follow-up funding
- Complement prospective study design and data collection
- Enable case-control studies

This initiative will decrease the physical footprint of samples while increasing the digital footprint of omics data. Together with data from research studies, medical records, and public sources such as the U.S. Census, these data will be the foundation for transformative research in population health genetics.

# CONCLUSION

Duke Kannapolis is proud to represent Duke University in the City of Kannapolis, Cabarrus and Rowan counties, and the surrounding communities. Duke Kannapolis aligns with and bolsters Duke's research mission through its collaborative approach and commitment to diversity and inclusion. The future is bright, as research at Duke Kannapolis forges a path to incorporate genomics and data science into precision health, and ultimately its translation to patient care.

# DUKE KANNAPOLIS BY THE NUMBERS

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25

Duke Employees

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5

Studies Enrolling

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13,886

Unique Participants

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22,339

Total Enrollments

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110

Duke Faculty  
Project Collaborators

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60

Non-Duke Collaborators  
from 29 non-Duke  
Institutions or Organizations

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75

Publications

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58

Funded Research Projects

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# PROJECT HIGHLIGHTS

## Low Back Pain Research



In a new collaboration with Duke Orthopedics and the Department of Physical Therapy, Duke Kannapolis is currently **enrolling participants** for a pilot study led by PI **Adam Goode, PT, DPT, PhD**, who will join us on September 8th . The **Transitions study** looks at how acute back pain may transition to chronic back pain and searches for a deeper understanding of musculoskeletal pain, specifically whether biological factors such as physical function and inflammation, as well as psychosocial factors like quality of sleep, can help predict which individuals will transition to chronic low back pain.

## Project Baseline Health Study

A partnership with Duke, Stanford, and Verily Life Sciences, the **Project Baseline Health Study** is collecting, organizing, and analyzing broad health data from participants nationwide. Duke enrolled 1,000 participants in Kannapolis and Durham, now entering their fifth and final year of study visits. Participants are considered part of a team of experts from across academia, medicine, science, technology, engineering, and design to better understand how health can change over time. Dr. Shah is the Duke Project Baseline PI. Data analyses are ongoing, with numerous findings already published and more to come.



## Kidney Health Research



The **Duke APOL1 Research Biorepository (DARB)** supports new discoveries in kidney disease to better understand why people of African descent are at higher risk. In collaboration with PI **Opeyemi Olabisi, MD** of the Duke Molecular Physiology Institute, who will join us on September 8th, Duke Kannapolis **enrolled 181 healthy participants** as a control cohort for the Durham participant cohort with APOL1-related kidney disease. This research will help Duke learn how APOL1 accelerates progression of kidney disease and how healthcare providers can better treat and screen people.

## COVID-19 Research

Duke Kannapolis stood up and launched the **MURDOCK Cabarrus County COVID-19 Prevalence and Immunity (C3PI) Study** within the first few months of the pandemic hitting North Carolina. In partnership with NCDHHS and the CDC, Duke Kannapolis enrolled 1,426 participants in less than a month and followed them for 18 months to understand COVID prevalence and immunity in our community, as well as how the pandemic affected them and their households. Led by PI **L. Kristin**



**Newby, MD, MHS**, and Co-PI **Chris W. Woods, MD, MPH**, the study also tested a sub-group of 300 volunteers for COVID infection and potential immunity. Collaborators UNC and ECU conducted similar studies in Chatham and Pitt counties. Data analyses are ongoing, with two publications complete and additional papers underway. As part of the project, Duke Kannapolis also launched a **collaboration with UNC** to contribute data to a statewide research network monitoring sewer systems to help inform the public health response to the pandemic.



# TIMELINE

2006

## **North Carolina Research Campus (NCRC) breaks ground**

Kannapolis, a former mill town, begins a new era of research and collaboration

2007

## **Duke receives gift from the David H. MURDOCK Institute for Business and Culture**

Duke uses the gift to establish research infrastructure at the NCRC, enabling longitudinal, population health research and creates Duke Kannapolis.

2009

## **Duke Kannapolis enrolls first research participant**

The first participant enrolls in the MURDOCK Study (Measurement to Understand Reclassification of Disease of Cabarrus and Kannapolis), named by founding Principal Investigator Robert Califf, MD.

2012

## **The American Journal of Translational Research publishes the MURDOCK Study**

The journal article details the MURDOCK Study goal to enable omics-based research across diseases affecting community-based populations.

2015

## **Duke Kannapolis opens new research facility**

The new clinical research space is designed for purpose, enabling research visits and a wide variety of study procedures.

2017

### **Duke Kannapolis launches the Project Baseline Health Study**

Duke Kannapolis's expertise in community-based clinical research paves the way for this landmark study, also designed by Robert Califf, MD, seeking to map human health in partnership with Verily Life Sciences and Stanford.

2018

### **Duke Kannapolis launches Volunteer Registry**

The new registry engages new groups of people in the community and increases the diversity of recruitment populations.

2019

### **Duke Kannapolis celebrates MURDOCK Study 10th anniversary and doubles footprint to 10,100 sq. ft.**

Celebrations are held in Durham and in Kannapolis. Duke Kannapolis hosts a ribbon cutting and open house at the newly expanded clinical research facility.

2020

### **Duke Kannapolis awarded NCDHHS COVID-19 surveillance study in Cabarrus County**

More than 1,400 MURDOCK Study participants are enrolled in less than a month and followed for 18 months. This incredibly engaged cohort had a 96% survey completion rate and 85% email open rate.

2022

### **Dr. Svati H. Shah named Director of Duke Kannapolis Research and Principal Investigator for the MURDOCK Study, in addition to her ongoing role as Principal Investigator for the Duke Project Baseline Health Study.**

Dr. Shah brings her expertise in genomics and experience in population health to guide and strengthen community-based research at Duke Kannapolis, where she directs all activities and projects. Her leadership moves Duke Kannapolis forward with a renewed vision, while leveraging partnerships both internal and external to Duke, as well as the vital partnership with our community.

# ATTENDEES

## Duke

**Vincent Price, PhD, MA, BA**, 10th and current President of Duke University

**Maggie Epps, M.Ed**, Chief of Staff to the President at Duke University

**Lawrence Kluttz, MA**, Director of Communications for the Office of the President

**Svati H. Shah, MD, MHS**, Director of Duke Kannapolis Research

**Ebony Boulware, MD, MPH**, Director, Duke Clinical and Translational Science Institute

**Susanna Naggie, MD, MHS**, Vice Dean for Clinical Research

**Opeyemi Olabisi, MD, PhD**, Principal Investigator for the Duke APOL1 Research Biorepository (collaboration with CTSI and Duke Molecular Physiology Institute)

**Adam Goode, PT, DPT, PhD**, Principal Investigator for Transitions Low Back Pain study (collaboration with CTSI and Duke Orthopedics)

**Deborah Chavis-Keeling, MS**, Chief Administrative Officer of Duke CTSI

**Julie Eckstrand, RPh**, Director of Operations for Duke Kannapolis

**Julie McKeel**, Director of Strategic Communications for Duke CTSI

**Doug Heron, JD**, Associate Vice President for Duke State Relations

**Katie Lipe**, Assistant Director for Duke State Relations

**Cecilia Plez**, Research Program Leader for Duke Kannapolis

**Douglas Wixted, MMCI**, Research Program Leader for Duke Kannapolis

**Emily Ford**, Clinical Research Communicator for Duke CTSI based at Kannapolis

## Non-Duke

**N.C. Rep. Kristin Baker**, representing District 82, Cabarrus County

**Cory Brouwer, PhD**, Executive Director of Research at NCRC, represents UNC System

**Paul T. Campbell, MD**, local physician partner with Atrium Health and Kannapolis investigator for Duke Project Baseline Health Study - Duke grad

**Deepak Kumar, PhD**, Director of NCCU Julius L. Chambers Biomedical/Biotechnology Research Institute - NCRC partner and key part of Duke-NCCU partnership

# ATTENDEES

## Non-Duke (Continued)

**Andy Langford**, Duke Kannapolis Community Advisory Board member, Concord City Council member, study participant: MURDOCK Study, Volunteer Registry, Project Baseline Health Study

**Mike Legg**, City Manager for City of Kannapolis - NCRC partner

**N.C. Sen. Paul Newton**, representing District 36, Cabarrus and Union counties

**Alicia Primus, DHA, MPH, CHES**, Community Impact Director for Cabarrus Health Alliance, the public health department for Cabarrus County - NCRC partner

**Irene Sacks**, Director of Economic and Community Development for City of Kannapolis

**Chiquita Shepard-Knight**, study participant: MURDOCK Study, MURDOCK MS cohort, EHR Data Quality Study, C3PI, Transitions Low Back Pain Study

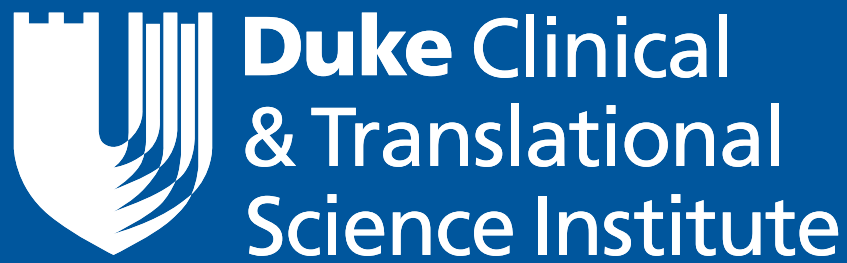
**Dianne Snyder**, Duke Kannapolis Community Advisory Board member, retired dean of Cabarrus Health Science College, study participant: MURDOCK Study and Project Baseline Health Study

**Mark Spitzer, MBA**, MBA Mission Support Executive at NCRC

**Sandra Torres, MPA**, President of El Puente Hispano, Project Baseline Steering Committee Representative, study participant: Volunteer Registry

**Margaret Young**, Communications Specialist for City of Kannapolis

[Find photos and more information about attendees on our website.](#)



Equity in Science,  
Medicine, and Health

