

Cancer Research at NCCU: Building Capacity and Partnerships

**2018 Partnerships to Advance Cancer Health Equity
July 23, 2018**

Session: “Maximizing Institutional Research Capacity Through Building Relationships and Collaborating Within the Institution”.



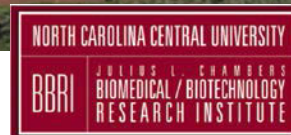
Discover what's Central to you.

**Dr. Kevin P. Williams, Dr. M. Ricardo Richardson
and Dr. Deepak Kumar**

North Carolina Central University



- Founded in 1910 as an HBCU; a component of the 17-member University of North Carolina system.
- Strong commitment to training students who pursue degrees in **STEM**, and **Health Disparities** research.
- Houses two signature biomedical research institutes: the Julius L. Chambers Biomedical Biotechnology Research Institute (JLC-**BBRI**, est. 1998) and the **Biomanufacturing Research Institute and Technology Enterprise (BRITE)**, est. 2008).



Strong Leadership Support



Dr. Johnson O. Akinleye



Dr. Eun Park

Chancellor
Dr. Johnson O. Akinleye

Provost
Dr. Felecia Nave

**Associate Provost/Dean for
Research & Sponsored Programs**
Dr. Eun Park

BBRI Director
Dr. Deepak Kumar



Dr. Deepak Kumar

BRITE Director
Dr. Hernán Navarro



Dr. Hernán Navarro



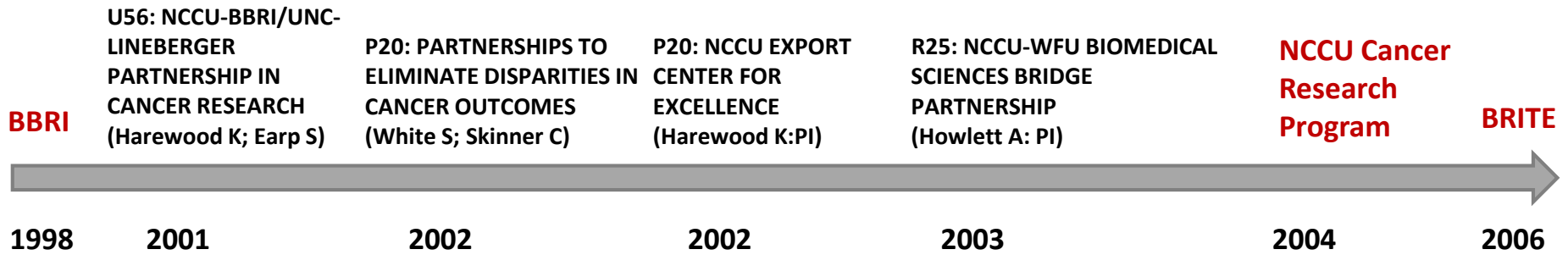
Dr. Felecia M. Nave

Cancer Research Program

North Carolina Central University

- **Basic and Translational Research**
- **Outreach and Community Engagement**
- **Education and Training**

NCCU Cancer Research Program: Milestones



Discover what's Central to you.



NCCU Cancer Research Program: Milestones

DOD: NCCU/BBRI-Duke/Urology Partnership in Prostate Cancer Research (Richardson R: PI)

U54 (Richardson R; Earp S: PIs)

INBS PhD

U54 Renewed

Komen GTDR (Williams KP: PI)

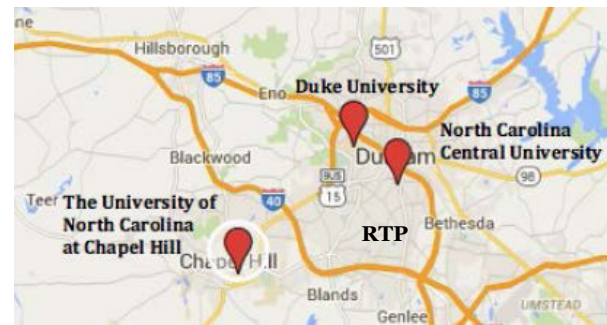
P20 (Williams KP; Patierno S: PIs)

RCMI U54 (Kumar D: PI)

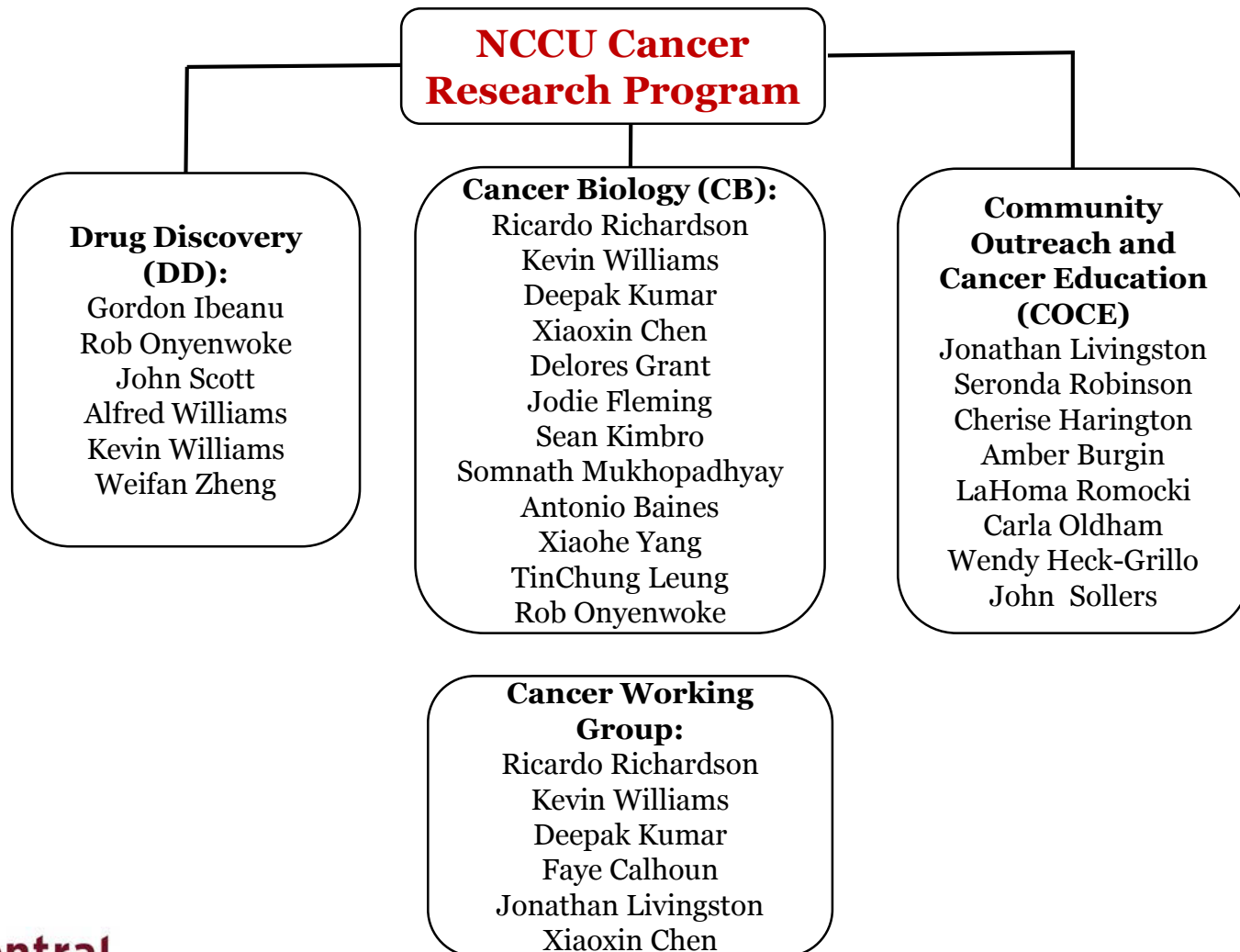
NCCU-Duke "CTSI" (Calhoun F: PI)



2007 2010 2012 2015 2015 2016 2017 2018



NCCU Cancer Research Program: 2018



NCCU-UNC LCCC U54 Partnership Objectives

To expand research collaborations that spans the two institutions

To train students and junior/ midlevel faculty in multidisciplinary cancer research aimed at reducing cancer disparities

To expand and consolidate programs of community outreach and education

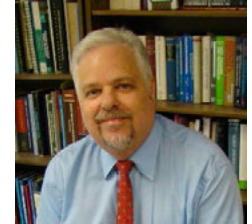
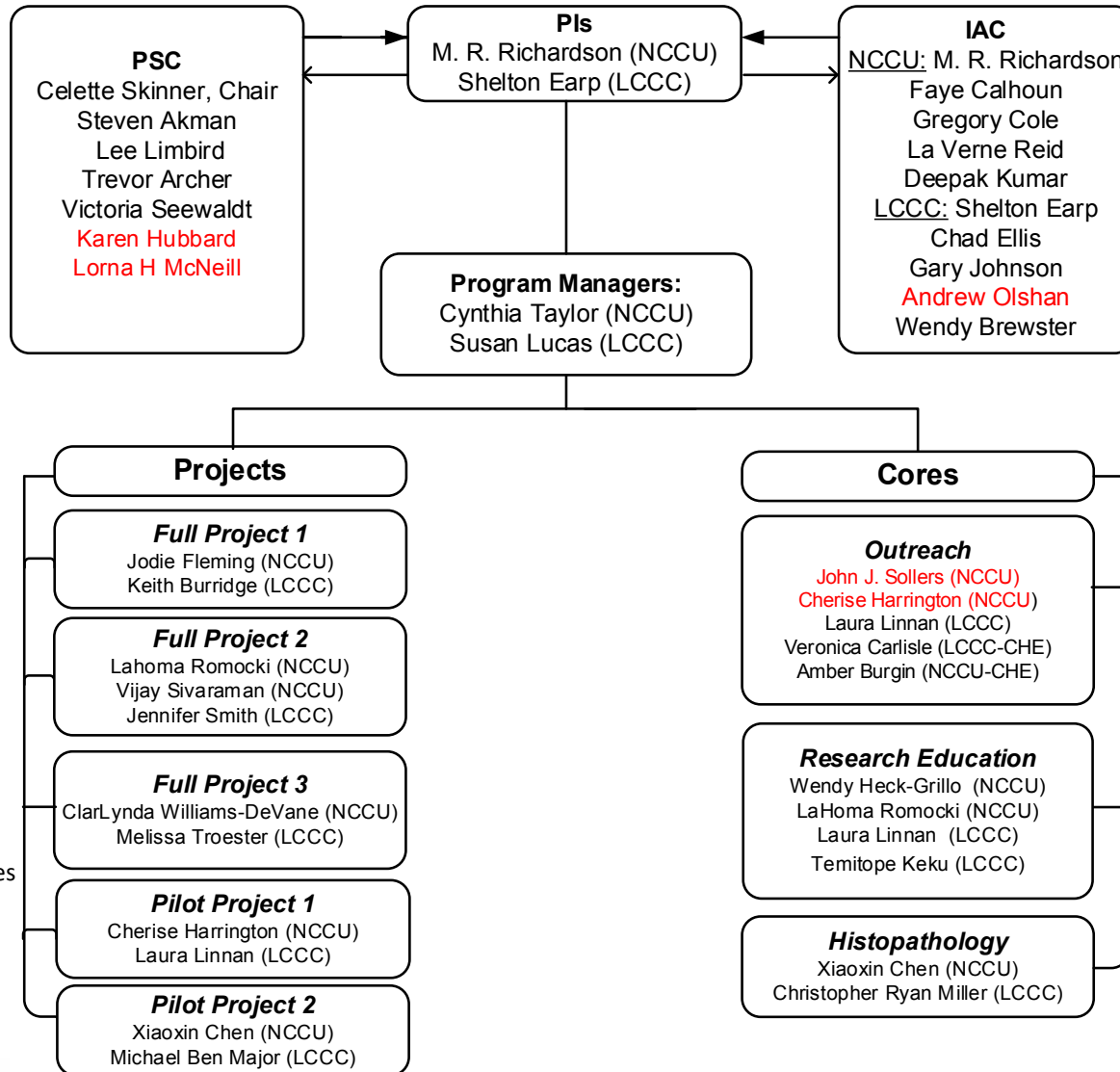
NCCU-LCCC PARTNERSHIP IN CANCER RESEARCH



Karen Hubbard, PhD
Professor of Biology
City College of New York



Lorna H. McNeill, PhD, MPH
Associate Professor & Chair
Department of Health Disparities
University of Texas
MD Anderson Cancer Center



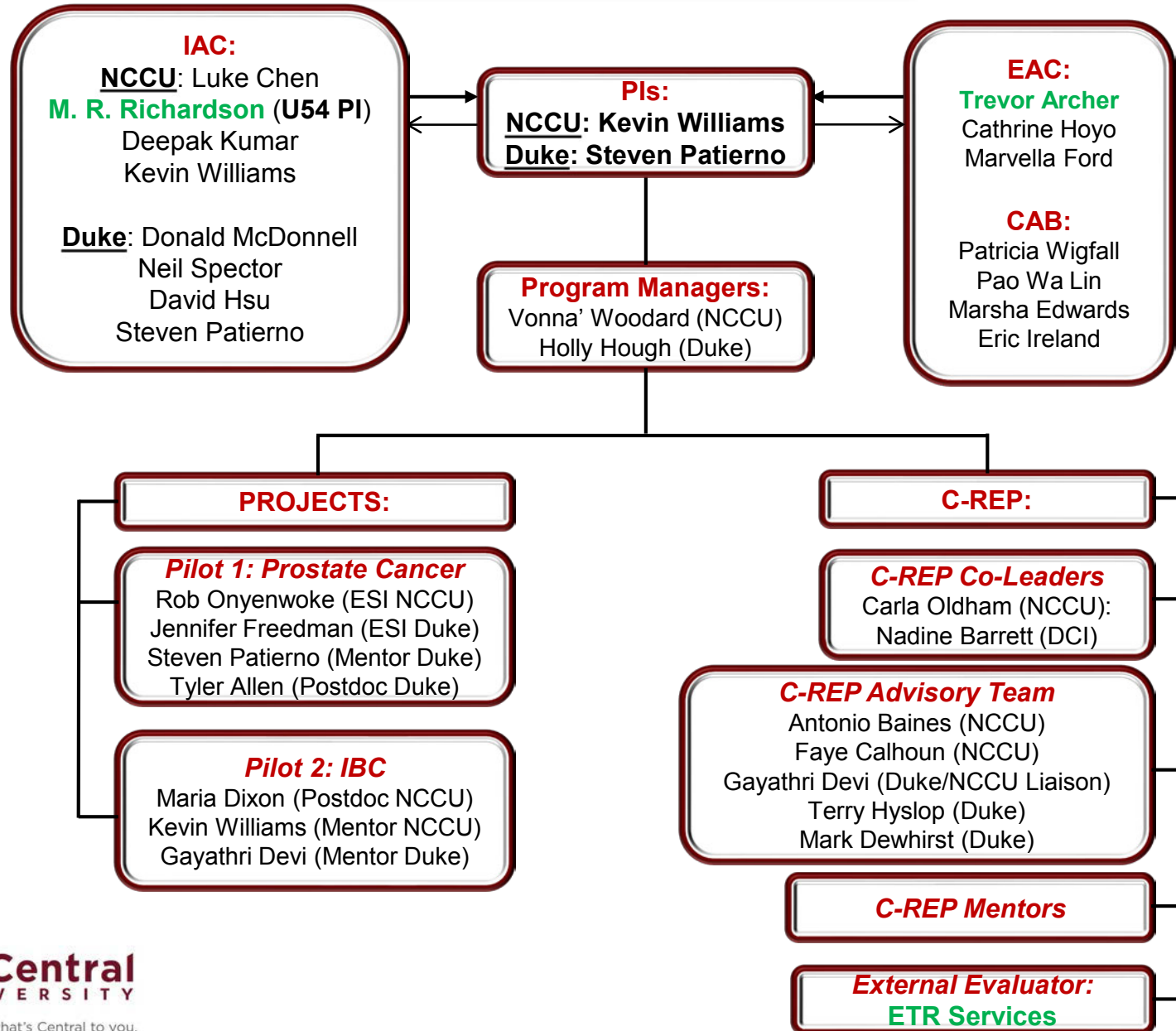
Andrew Olshan, PhD
Professor
Department of Epidemiology
LCCC/UNC-CH

P20CA202924: NCCU-DUKE Cancer Disparities Translational Research Partnership



- Admin Core
- Cancer Research Pilot Projects
 - Prostate Cancer
 - Inflammatory Breast Cancer
- Cancer Research Education Program (**C-REP**)

P20 Structure



P20: NCCU-Duke C-REP Translational Immersion Experience Program

Duke and North Carolina Central Universities
**Cancer Research
 Education Program
 (C-REP)**



A postdoctoral fellow in Dr. Steven Patierno's laboratory in the Department of Medicine at Duke University.

Fostering careers in cancer disparities research by increasing participation of underrepresented groups in translational science



A program funded by the National Cancer Institute

- PhD students & Postdocs from NCCU and Duke
- Clinical Trial Accrual
- Biospecimen Banking
- Drug Discovery

**TRAINING
 OPPORTUNITY
 FOR
 GRADUATE
 STUDENTS**

Cancer Research Education Program (C-REP)

WOULD YOU BENEFIT FROM?

- ✓ Hands-on experience in industry, clinical trials operations, and translational cancer disparities research and community engagement?
- ✓ Enhancing your graduate experience with exposure to translational research, high-throughput screening, and biobanking?
- ✓ Travel funding for two scientific conferences (Health Disparities Conference and another conference of your choice)
- ✓ Additional \$2,000 (\$1,000 for your mentor and \$1,000 for you) per year for two years toward research expenses?
- ✓ Learning skills for career development, networking, and successfully navigating the mentor/mentee relationship?

The C-REP program is a two-year program and partnership between Duke University and North Carolina Central University (NCCU).

Eligibility Requirements

- Be a 3rd, or 4th year doctoral student at Duke OR a 2nd, 3rd, or 4th year doctoral student at NCCU
- Be from a traditionally underrepresented group
- Commit approximately 10 hours or less per month as a C-REP Scholar
- Permission of your dissertation mentor/advisor

Broaden your graduate education by exploring the world of translational health disparities research.

To apply, contact:

Duke Graduate Students
 Holly Hough, PhD: holly.hough@duke.edu
 or
 NCCU Graduate Students
 Vonna Woodard: woodar2@nccu.edu

Application Deadline: May 11, 2018



**NCCentral
 UNIVERSITY**

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P20: Development Activities

- Mentor-mentee training Workshops- All
- Pathway to Independence Grant Workshop at Duke – P20 ESIs: R21 submission in June 2018
- Presentations at AACR and GMaP conferences
- Attend CRCHD Professional Development Workshop
- Joint Publications



Original Article

Pharmacological targeting of GLI1 inhibits proliferation, tumor emboli formation and *in vivo* tumor growth of inflammatory breast cancer cells

Helen O. Oladapo^a, Michael Tarpley^a, Scott J. Sauer^b, Kezia A. Addo^a, Shalonda M. Ingram^a, Dillon Strepay^a, Ben K. Ehe^a, Lhoucine Chdid^a, Michael Trinkler^a, Jose R. Roques^a, David B. Darr^{a,c}, Jodie M. Fleming^{a,d}, Gayathri R. Devi^{b,e,f,g}, Kevin P. Williams^{a,h,i,j,k}

^a Department of Pharmaceutical Sciences, Biomaterials Research Institute and Technology Enterprise, North Carolina Central University, Durham, NC, 27707, USA

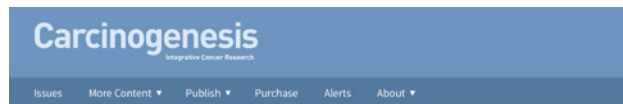
^b Department of Surgery, Division of Surgical Sciences, Duke University School of Medicine, Durham, NC, 27710, USA

^c Department of Biological and Biomedical Sciences, North Carolina Central University, Durham, NC, 27707, USA

^d Lineberger Comprehensive Cancer Center, University of North Carolina School of Medicine, Chapel Hill, NC, USA

^e Department of Genetics, University of North Carolina School of Medicine, Chapel Hill, NC, USA

^f Duke Cancer Institute, Duke University, Durham, NC 27710, USA



Article Contents

Abstract

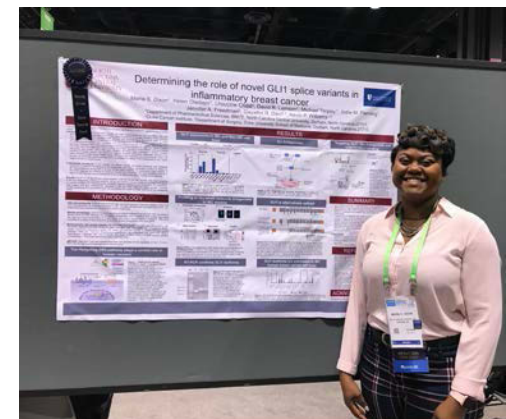
Author notes

Bisphenol A Activates EGFR and ERK Promoting Proliferation, Tumor Spheroid Formation, and Resistance to EGFR Pathway Inhibition in Estrogen Receptor-Negative Inflammatory Breast Cancer Cells

Scott J. Sauer; Michael Tarpley; Imran Shah; Akshay V. Save; H. Kim Lyerly; Steven R. Patierno; Kevin P. Williams; Gayathri R. Devi

Carcinogenesis b9x003. DOI: <https://doi-org.libproxy.lib.unc.edu/10.1093/carcin/b9x003>

Published: 25 January 2017 Article history ▾



Dr. Maria Dixon, Postdoc
P20 Pilot Project 2

P20: NCCU - Duke Inter-Institutional Resources

NCCU/BRITE: Benefits to Duke

- Adjunct Faculty – NCCU
Pharm Science: Dr. Gayathri Devi
- Access for DCI Investigators to
BRITE Screening Core
- BRITE Drug Discovery
Collaborations with Duke Labs:
 - G. Devi
 - D. Hsu
 - D. McDonnell
 - S. Patierno/J. Freedman
- Access to NCCU Graduate
Students
 - co-mentoring/research

Duke/DCI: Benefits to NCCU

- Duke Cancer Institute: Drs. Kevin
Williams & Deepak Kumar,
(Associate members)
- Duke IBC Colloquium: K.
Williams & J. Fleming (members)
- Duke PATH 786: Translational
Aspects of Pathobiology (K.
Williams, Lecture)
- Access to Duke Cores
- PhD/Postdocs – access to Duke
Investigators/mentors
- DCI support for 50% of postdoc in
each pilot



Complementary Strengths of U54 and P20 Partnerships

U54

- Partner – LCCC/UNC
- Research – Basic Science and Social Determinants
- NCCU – Basic Science Focus
- Education – Undergrads
- Resources – LCCC & BBRI Cores



P20

- Partner – DCI/Duke
- Research – Translational
- NCCU – Drug Discovery Focus
- Education – PhD/Postdocs
- Resources – Duke & BRITE Cores



Mutual Benefits of U54 and P20 Partnerships

U54

Benefit to NCCU

- Access to LCCC Cores/Public Health Expertise
- Adjunct appointments at LCCC
- NCCU undergraduates access to research programs

Benefit to LCCC/UNC-CH

- Access to NCCU UG students
- Access to BBRI/BRITE Cores
- UNC undergraduates access to summer internships in NCCU labs

P20

Benefit to NCCU

- Access to Duke Cores/Biobank/Clinical Expertise
- Mentoring PhD, Postdocs & Faculty
- Adjunct appointments at DCI
- Access to Translational/Clinical Education Courses/Workshops

Benefit to DCI/Duke

- Access to NCCU graduate students
- Access to BRITE Cores/Drug Discovery Expertise
- Access to Drug Discovery courses



Seminars supported jointly by P20 and U54

“Development of Precision Medicine Pipeline in Colorectal Cancer to Guide Therapy”
by

Shiaowen David Hsu, MD, PhD

William Dalton Family Assistant Professor of Cancer Genomics
Division of Medical Oncology
Center for Genomic and Computational Biology
Duke Cancer Institute
Duke University Medical Center

Wednesday, November 1, 2017

BBRI Auditorium
North Carolina Central University
4:00 p.m.

Refreshments will be served prior to the seminar

Co-Sponsored by NIH NCI P20 & U54 Cooperative Agreement Grants

Contact: Dr. Kevin Williams 530-7766 kpwilliams@NCCU.EDU
Dr. M. Ricardo Richardson 530-6421 mrrichardson@NCCU.EDU

***“A Role for Gene-Environment
Interaction in Health Disparities”***
by

Bernard Kwabi-Addo, Ph.D.

Associate Professor
Department of Biochemistry and Molecular Biology
Howard University

Wednesday, April 4, 2018

1:00 - 2:00 pm
BBRI Auditorium 202

**Pizza and Refreshments will be served prior to the
seminar**

Jointly sponsored by NCCU-LCCC U54 and NCCU-Duke P20 Partnerships.

For information please contact: Kevin Williams or M. Ricardo Richardson at 919-530-6421 /

NCCU Komen Graduate Training in Disparities Research (GTDR)

NCCU Breast Cancer

Focus Group:

Kevin Williams
Jodie Fleming
Sean Kimbro
Xiaohe Yang
John Scott

Providing training to PhD students at NCCU with a focus on Community-Based Participatory Research.

- Trainees meet with patient advocates
- Learn human subjects research and IRB protocols
- Survey design and focus groups
- **Planned, facilitated and hosted IBC “listening” forum at Women’s Health Awareness Day - April 7th at NCCU**



Maria Dixon, PhD (NCCU)



Nadine Barrett, PhD
(Director, Office of Health Equity, DCI, Duke)



GTDR16377604



NCCentral
UNIVERSITY

Discover what's Central to you.

RCMI Center for Health Disparities Research (RCHDR)

MISSION

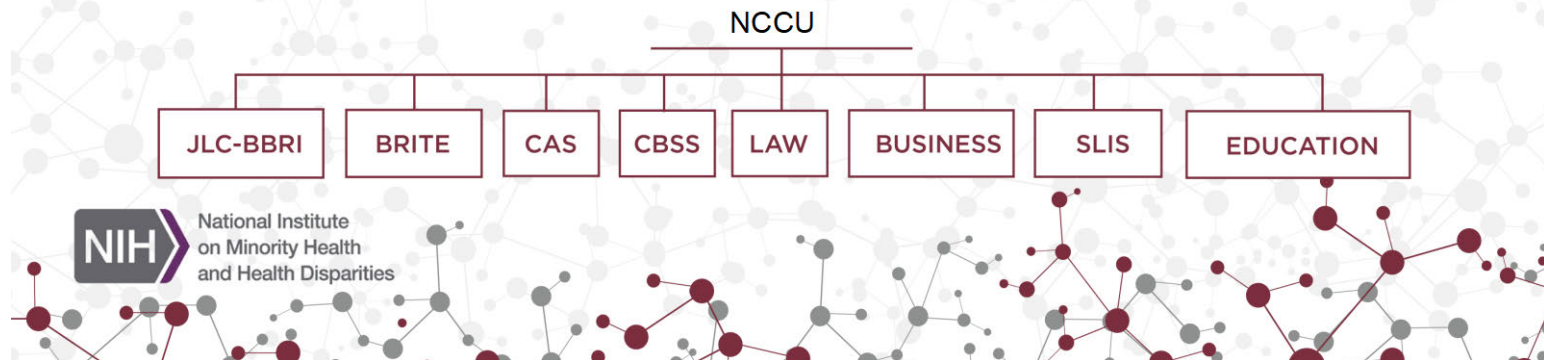
Develop and strengthen the research infrastructure at NCCU to conduct cutting edge health disparities research and foster the next generation of minority biomedical researchers.

OBJECTIVES

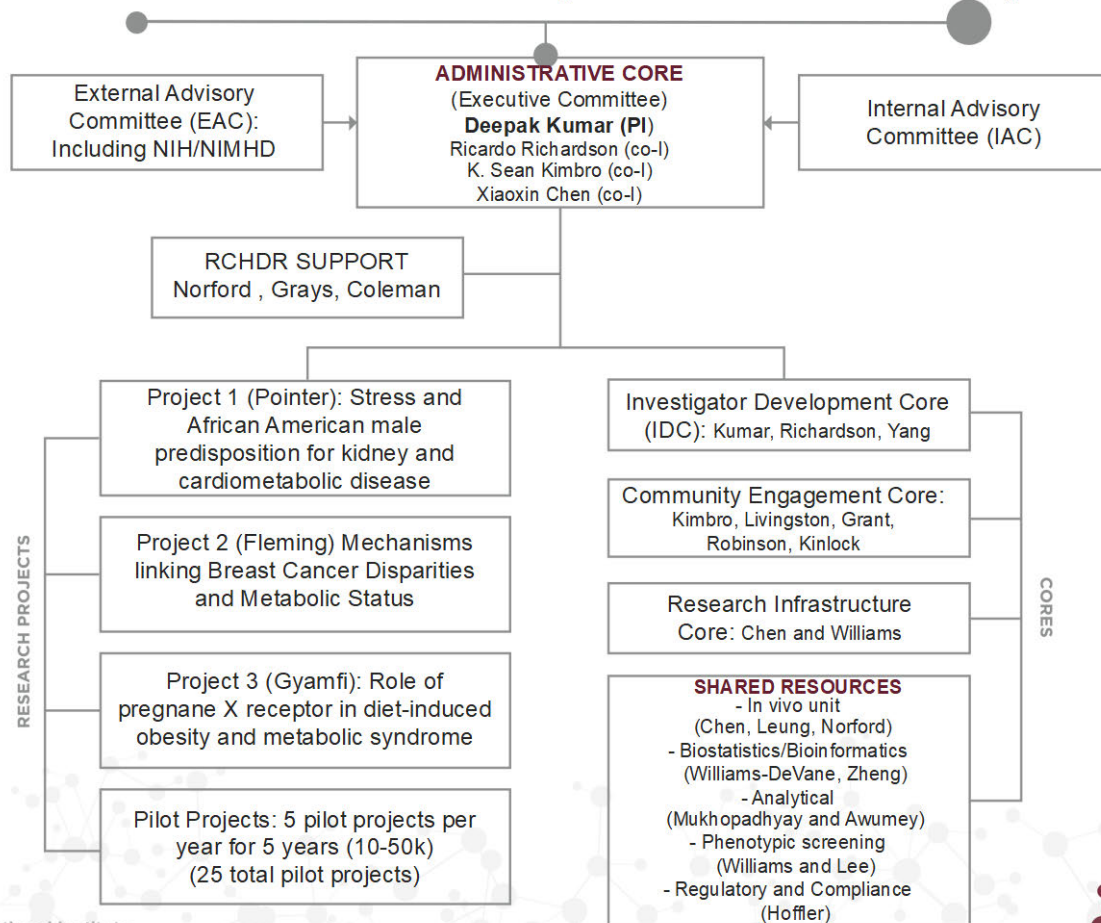
Enhance the research capacity at NCCU within the areas of basic, behavioral and translational biomedical research:

Diversify the biomedical research workforce and to prepare successful extramurally funded health disparities researchers at NCCU:

Promote a collaborative environment for interdisciplinary research and establish sustainable relationships with neighboring research and community-based organizations to advance cutting edge health disparities research at NCCU:

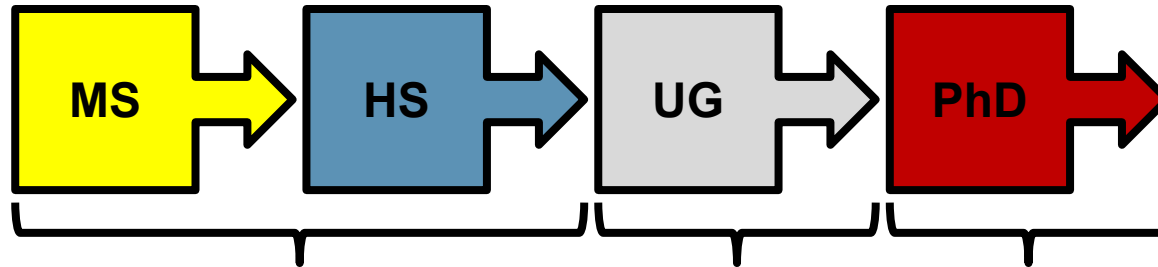


RCMI Center for Health Disparities Research (RCHDR)



NIH National Institute on Minority Health and Health Disparities

Cancer Education: Achieving Program Integration at NCCU



**CURRENT CANCER
EDUCATION PROGRAMS
AT NCCU**

**BRITE FUTURES
Carla Oldham**

**U54 PARTNERS
(NCCU & UNC-CH)
Wendy Heck-Grillo**

**P20 C-REP
&
KOMEN GTDR
(NCCU & DUKE)
Carla Oldham**



Middle School visit



U54 Partners Fellows

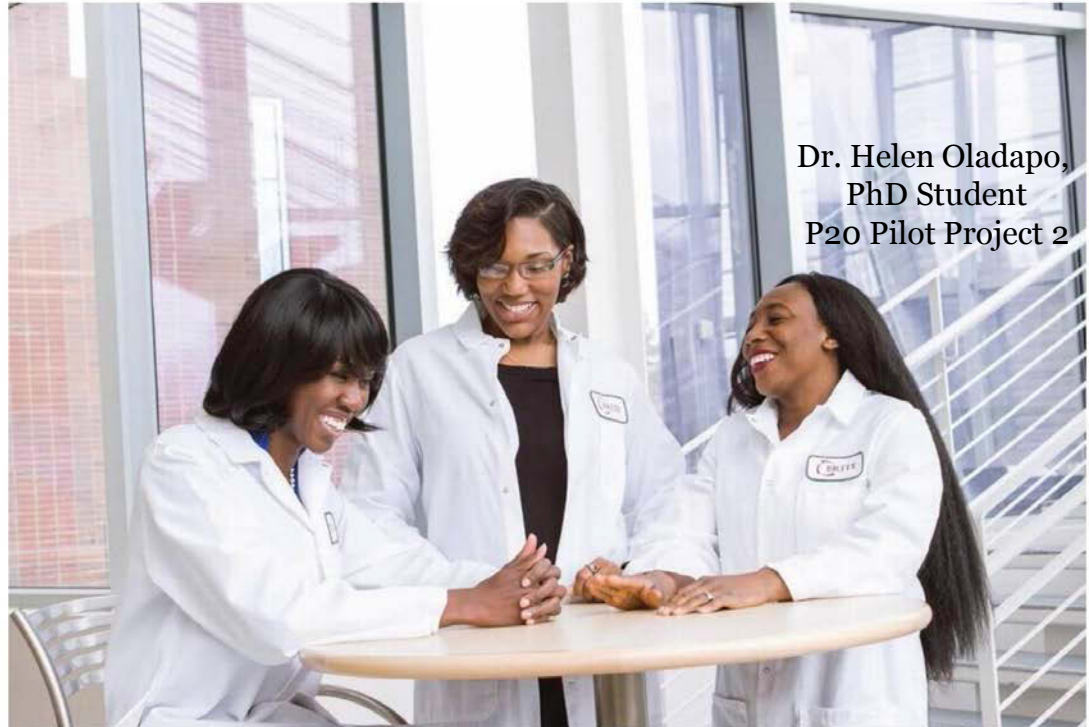


P20 C-REP Scholars

Support for NCCU INBS PhD Program

PhD Program started in 2012

First at NCCU since 1964



Dr. Helen Oladapo,
PhD Student
P2O Pilot Project 2

Elena Arthur, Rasheena Edmondson and Helen Oladapo (from left) are set to become N.C. Central University's first Ph.D. graduates in 53 years. They're getting doctorates in integrated biosciences during commencement for graduate and professional students on Friday. - N.C. Central University

EDUCATION

May 2017 ceremony putting NCCU back in the Ph.D.-creation business



BY RAY GRONBERG
rgronberg@heraldsun.com



MAY 09, 2017 5:53 PM



DURHAM — It's taken 53 years, but come Friday, N.C. Central University will be back in the business of minting new Ph.Ds.

Thank You

Questions?

mrrichardson@nccu.edu

kpwilliams@nccu.edu

dkumar@nccu.edu