



# Building the Next Generation of Underrepresented Cancer Researchers

*PACHE Program Meeting 2018*

| CENTER TO REDUCE  
| CANCER HEALTH DISPARITIES

# PACHE Program Meeting Objectives:

- Promote awareness of strategies to increase the number of underrepresented trainees and investigators in cancer research

## Aims of this Session:

- Increase awareness of PACHE PIs about CURE, GMaP, and Training Navigation
- Discuss challenges of guiding trainees to CURE programs
- Engage Partnership PIs to develop **Actionable Tasks** towards Increasing the number of PACHE trainees in CURE

### Welcome Letter

Dear Attendees:

On behalf of the National Cancer Institute (NCI) Center to Reduce Cancer Health Disparities (CRCHD), I am pleased to welcome you to the 2018 Partnerships to Advance Cancer Health Equity (PACHE) Program Meeting. This year's theme—“Leveraging PACHE Strengths to Advance Cancer and Cancer Health Disparities Research”—will provide a forum for PACHE investigators, program managers, administrators, and NCI program staff to discuss the continued growth and sustainability of the PACHE program.

The presentations and interactive breakout sessions will highlight strategies to enable you to enhance the strengths of your Partnership; provide you with the latest funding opportunities in cancer and cancer health disparities research; and identify best practices for enhancing research education, outreach, and planning and evaluation, as well as Partnership communications. We also hope you will enjoy the interactive poster session that will highlight novel PACHE scientific findings and provide you with an opportunity for networking and collaboration.

We are honored to have Dr. Norman E. “Ned” Sharpless, the 15th Director of the NCI, join us to provide NCI Director’s remarks during our opening session. Additionally, as part of this year’s meeting, we are delighted to feature the Spring 2018 NCI Continuing Umbrella of Research Experiences (CURE) Distinguished Scholars Seminar in which special guest speaker, Dr. Levi Garraway, will present his ground-breaking research on the “Molecular and Genomic Characterization of Human Solid Tumors.”

This year’s Program Meeting objectives are to:

- Increase awareness about the current status and future directions for the PACHE program
- Learn about relevant current and upcoming research and training/funding opportunities across NIH and other funding agencies, as well as the latest information about NIH grants management policies
- Broaden understanding of ways PACHE Partnerships can leverage complementary knowledge and resources in cancer and cancer health disparities research
- Increase knowledge about shared tools and resources to support strategic areas of PACHE research interest
- Promote awareness of strategies to increase the number of underrepresented trainees and investigators in cancer research
- Engage with other Partnership investigators, administrators, early-stage investigators, NCI program staff, and NIH officials.

We are pleased that this meeting continues to provide a forum to foster, support, and strengthen the PACHE Partnership Program. Working together, the PACHE Program will enhance understanding of cancer disparities and related impacts on our underserved populations. We feel confident that you will find this to be an exciting and engaging meeting, and we look forward to your active participation.

With warm regards for an outstanding meeting,

Sanya A. Springfield, Ph.D.

Director, Center to Reduce Cancer Health Disparities

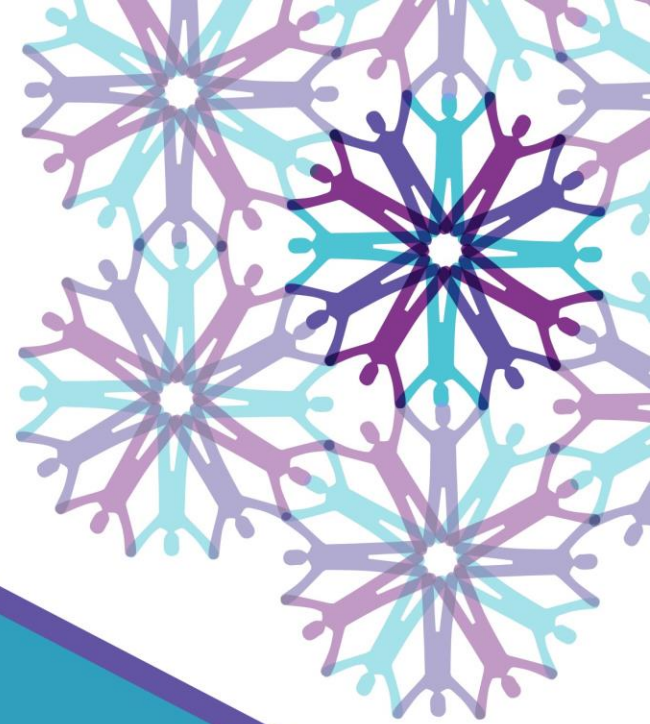
## Outline

- *Overview of CURE, Diversity Supplements, and F31 Diversity Predoctoral Fellowship*
- *Career Development Awards (K Awards)*
- *Exploratory Award to Promote Diversity (R21)*
- *Geographic Management of Cancer Health Disparities Program (GMaP)*
- *Training Navigation*
- *Duke K Club and Path to Independence Program*
- *Discussion*

# CURE programs, GMaP, and PACHE Navigation resources can enhance Partnerships

- Enables the Partnership to recruit and retain talented trainees and guide them towards an independent research career
- Improves the quality of the educational and training environment
- Promotes the Mentor-Mentee interactions which builds career success
- Enriches the sustainability of the Partnership by increasing the number of trainees and investigators in cancer research



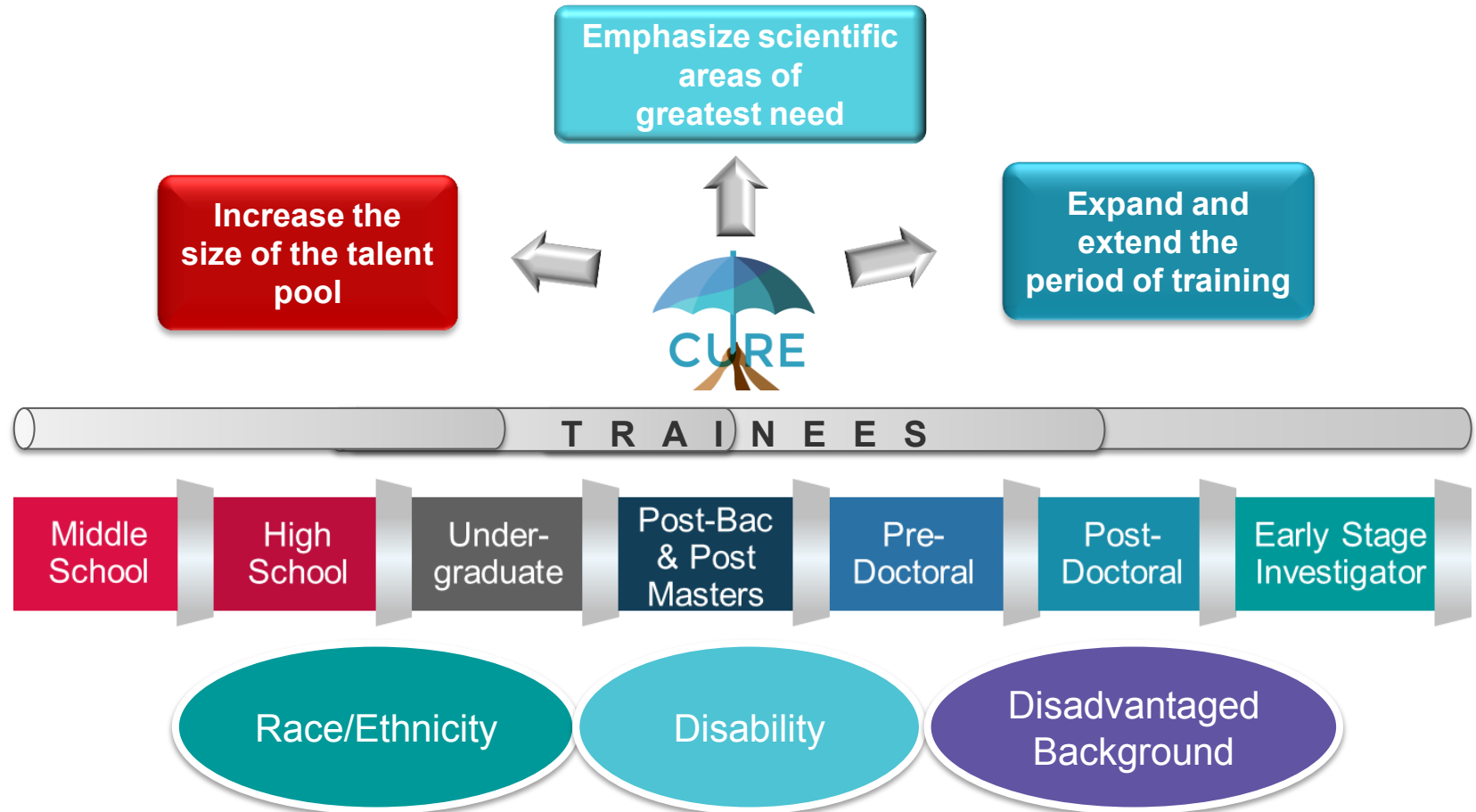


# Overview of CURE

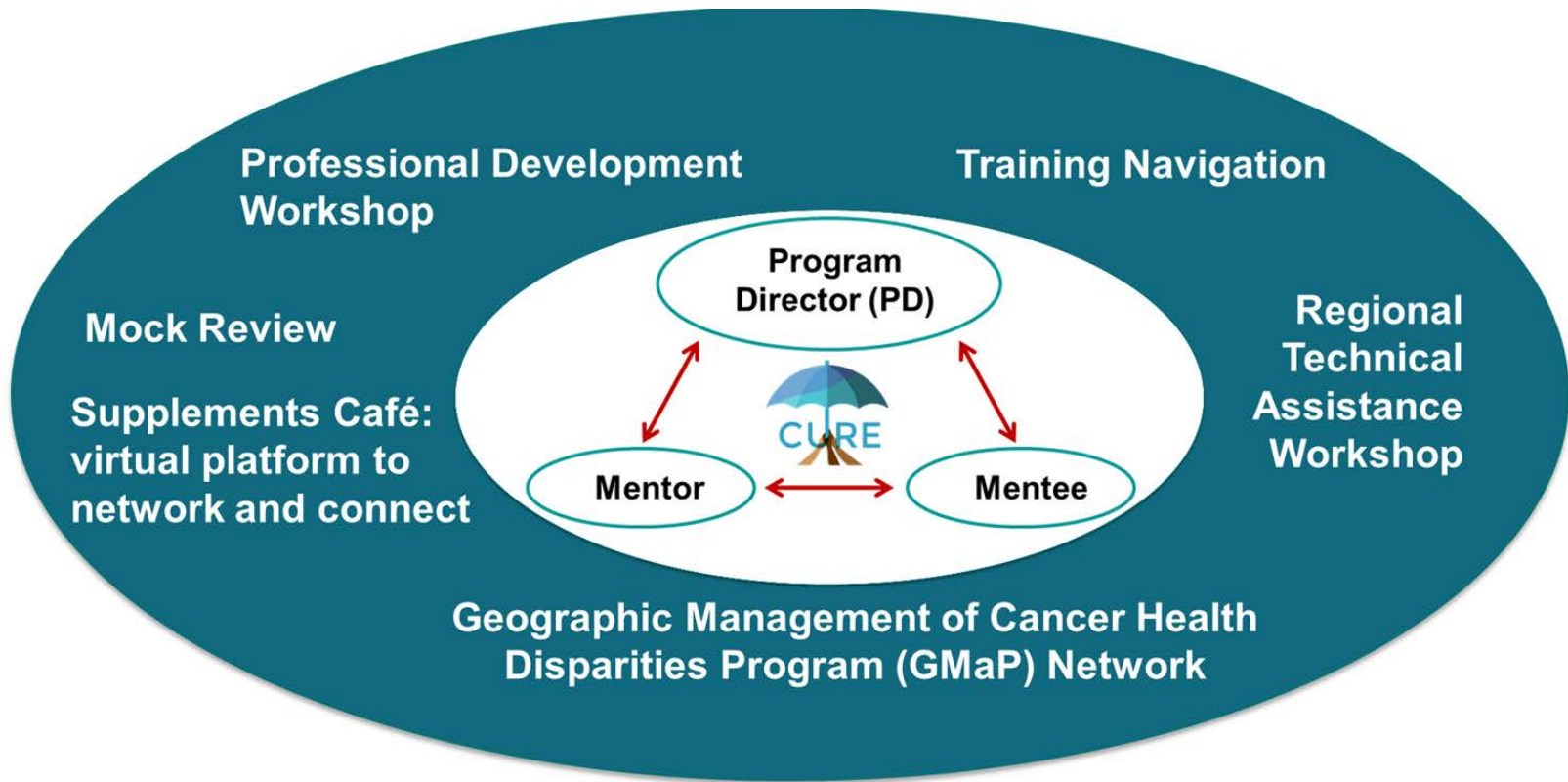
*Nicole McNeil Ford, PhD*

*NCI CRCHD*

# Continuing Umbrella of Research Experiences (CURE)



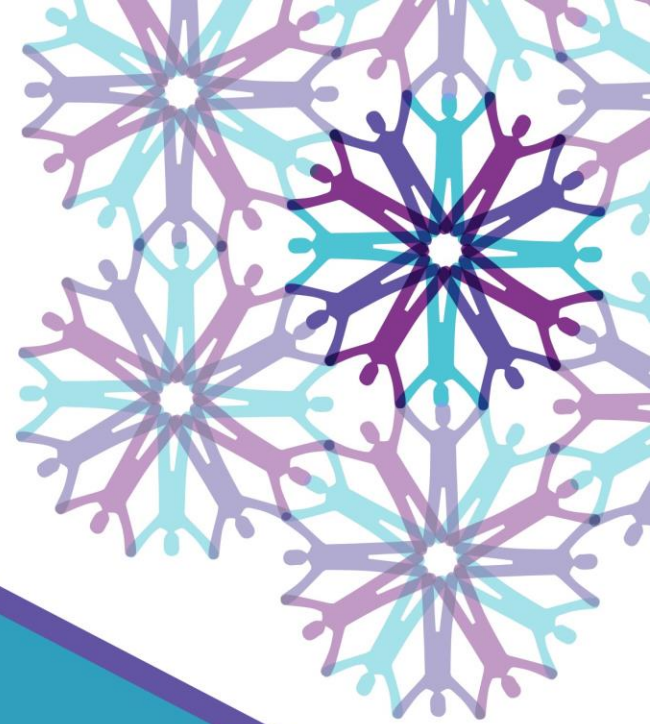
# CURE Builds an Ecosystem of Support



# Diversity Supplements, and F31 Diversity Predoctoral Fellowship

*Nicole McNeil Ford, PhD*

*NCI CRCHD*





# Research Supplements to Promote Diversity in Health Related Research (PA-18-586, Diversity Supplements)

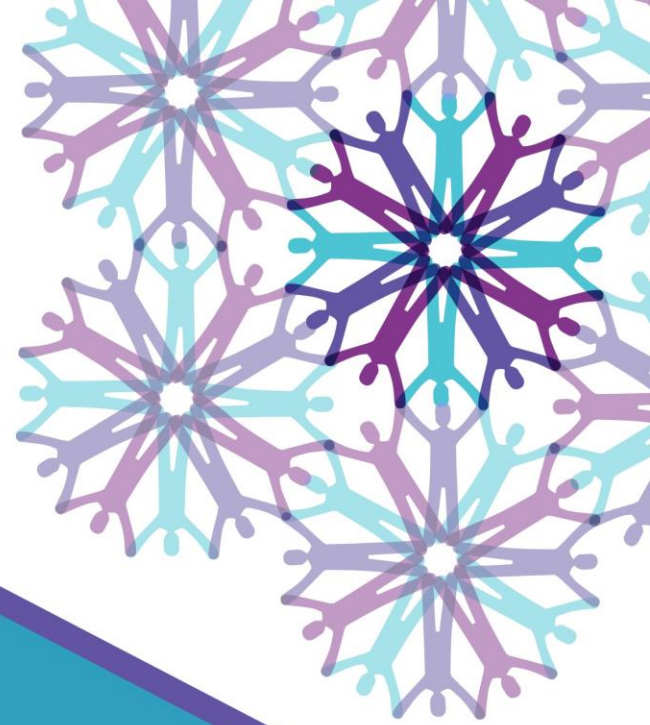
- Supplements serve as a Bridge between mechanisms
- Provide additional funding to currently active NIH grants (parent grants) to support research experiences of trainees
- Parent grant must have at least two years of active status at the time of supplement application
- Application receipt: Oct 1 – Dec 1 and Feb 1 – Mar 30



# F31 Diversity Predoctoral Fellowship (Diversity Fellowship PA-18-666)

- **Objective:** To increase biomedical workforce diversity by supporting mentored research training leading to a PhD or combined dual doctoral degrees.
- **Benefits:**
  - Individualized, mentored research training and career development of predoctoral students.
  - Experience conducting impactful research as well as presenting and publishing research findings as a first author.
  - Development of a stronger grants skillset which improves competitiveness for future NIH funding.
  - Student is the PI of the F31.





# Career Development Awards (K Awards)

*John Ojeifo, MD, PhD, MBA*

*NCI CRCHD*

# Career Development Awards (K Awards)

## ■ **K Awards:**

- Program provides support for early-career scientists and clinicians (senior postdoctoral fellows or faculty-level candidates) to develop independent careers in cancer research

## ■ **Objectives:**

- Provide protected time and salary support for 3-5 years of intensive training and research
- Promote career development activities to enhance candidate's research capabilities to conduct their research independently
- Expectation is that awardees will be prepared to lead independent research programs and become competitive for NIH research project grants



# NCI K Awards Supported by CRCHD

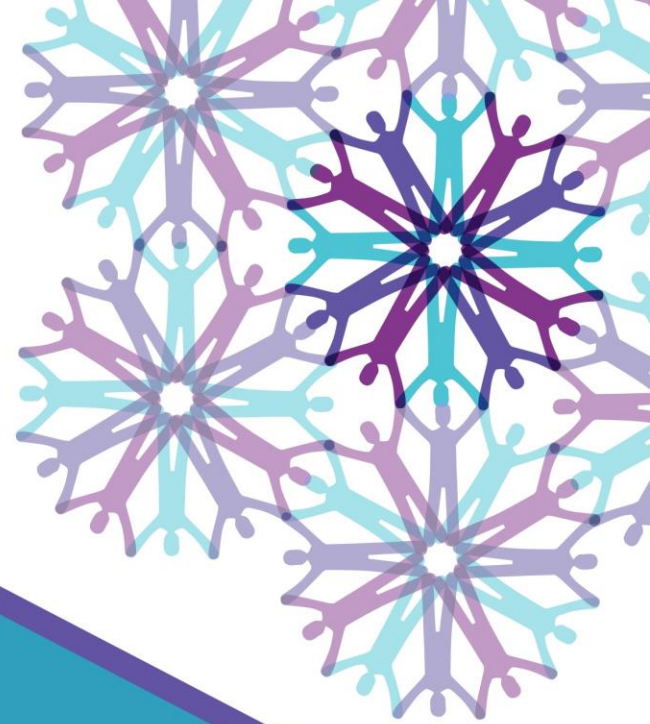
**Application Due dates:** [February 12](#), [June 12](#), [October 12](#)

<b>K Award</b>	<b>Mentored or Non-Mentored</b>	<b>Research Focus</b>	<b>Salary up to</b>	<b>Max R&amp;D Support</b>	<b>Duration</b>
<b>K01</b>	Mentored	All Cancer-Related Research	\$100k	\$30k	3-5 years
<b>K22</b>	Non-Mentored			\$50k	3 years
<b>K08</b>	Mentored	Clinical, Translational & Patient-Oriented Research	\$189k	\$50k	3-5 years

# Exploratory Grant Award to Promote Workforce Diversity (R21)

*Abigail Soyombo, PhD, MBA*

*NCI CRCHD*



# Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research (R21): PAR-18-731

- Recruit and support eligible early career investigators as they work toward R01-funded research programs in basic cancer biology
- Provide a bridge to underrepresented investigators who have completed their research training and need extra time to develop a larger research project grant application
- Enhance funding opportunities for investigators supported by the NCI Continuing Umbrella of Research Experiences (CURE) programs

# Exploratory/Developmental Research Award (R21): PAR-18-731

- Encourages new, exploratory and developmental research projects by providing support for the early stages of project development
- May be used for pilot and feasibility studies
- Preliminary data is not required but should be included if available
- Limited to two years of funding
- Combined budget for direct costs may not exceed \$275,000, for the two years
- Application receipt dates in June and November, each year



# Exploratory/Developmental Research Award (R21): PAR-18-731

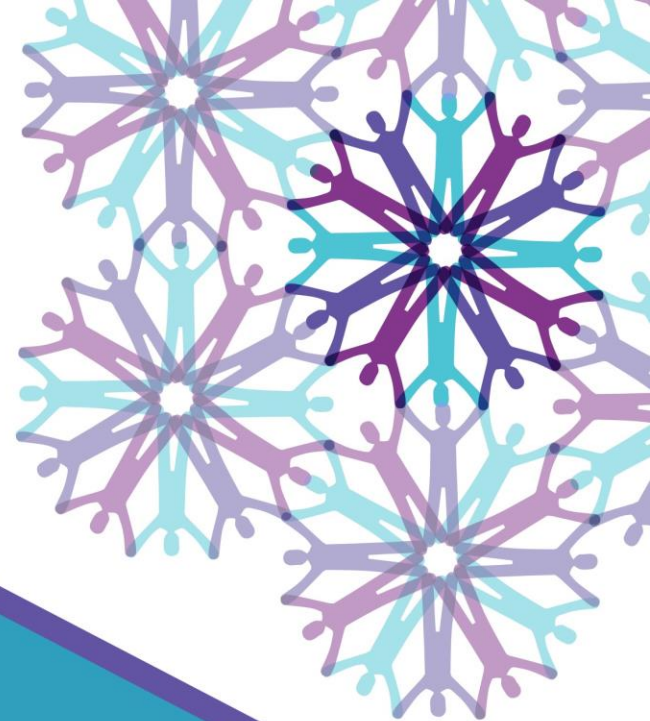
## Eligible Individuals:

- PIs with research interests in the basic biology of cancer
- No current or previous R01 or grants  $\geq$  \$175,000 direct costs/year
- No more than two awarded R21s from this funding program
- [Eligibility Certification Letter](#) must be submitted with application

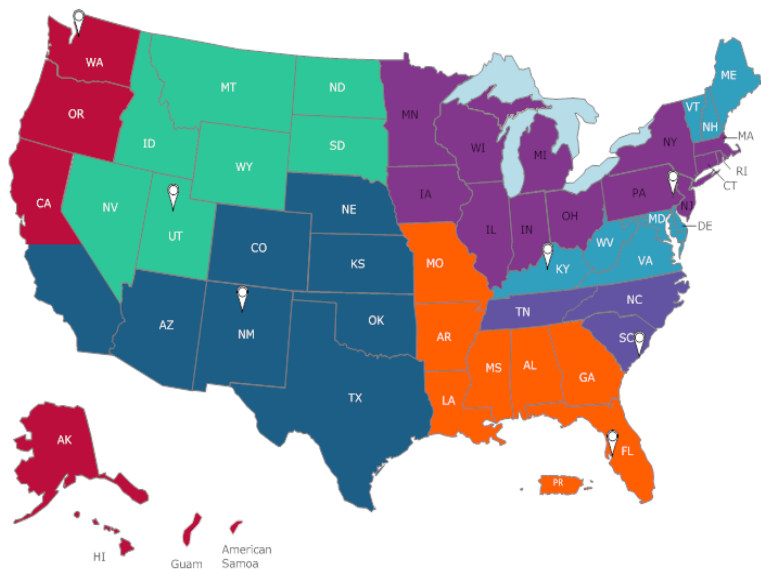
# Geographic Management of Cancer Health Disparities Program (GMaP)

*Anil Wali, PhD*

*NCI CRCHD*



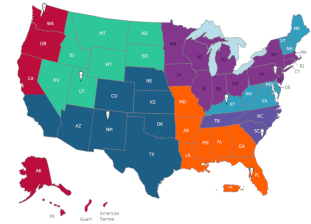
# Geographic Management of Cancer Health Disparities Program (GMaP) Uses a Regional Approach to Support Disparities Research, Diversity Training & Outreach

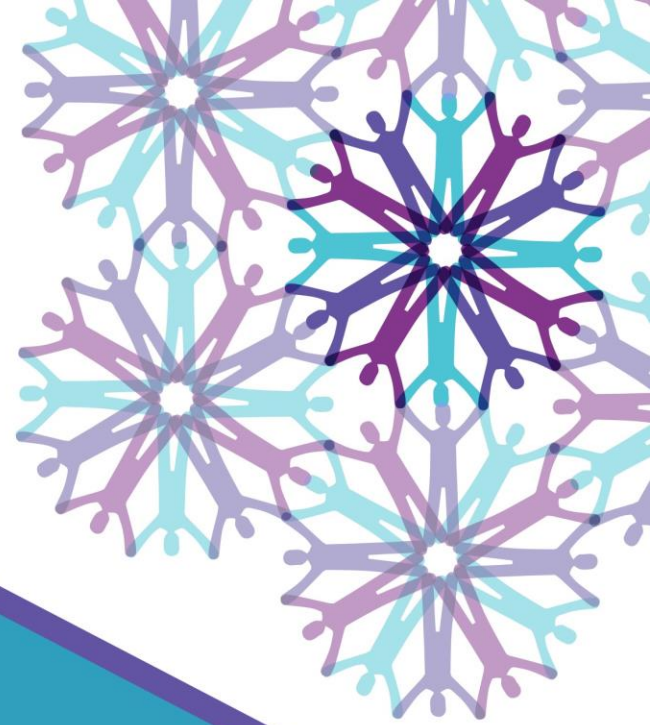


GMaP REGION	REGIONAL HUB	GMaP RCD	GMaP PD
<b>Region 1 North</b>	University of Kentucky Markey Cancer Center	Julia Houston, Marcela Blinka, Mark Cromo	Anil Wali
<b>Region 1 South</b>	Hollings Cancer Center at the Medical University of South Carolina	Anissa Vines	Anil Wali
<b>Region 2</b>	H. Lee Moffitt Cancer Center & Research Institute	Kimberly Williams	Liz Perruccio
<b>Region 3</b>	University of New Mexico Cancer Center	Miria Kano	Anil Wali
<b>Region 4</b>	Fox Chase Cancer Center	Linda Fleisher, Carrie Norbeck	Liz Perruccio
<b>Region 5</b>	Fred Hutchinson Cancer Center	Sara Cole	Anil Wali
<b>Region 6</b>	Huntsman Cancer Institute at the University of Utah	Anna Reineke	Liz Perruccio

# GMaP's Resources and Mentoring/Networking Benefits

- Increased cancer information dissemination and best practice sharing among UR trainees, CURE scholars, and researchers working in cancer research.
- Provides opportunities for career development, mentoring and networking among UR students, trainees, scholars and investigators in your region.
  - CURE Introductory Webinars
  - Conference Travel Scholarships and Pilot Funding
  - Conference Meet 'n Greet Opportunities
- Enhanced access to regional resources and tools





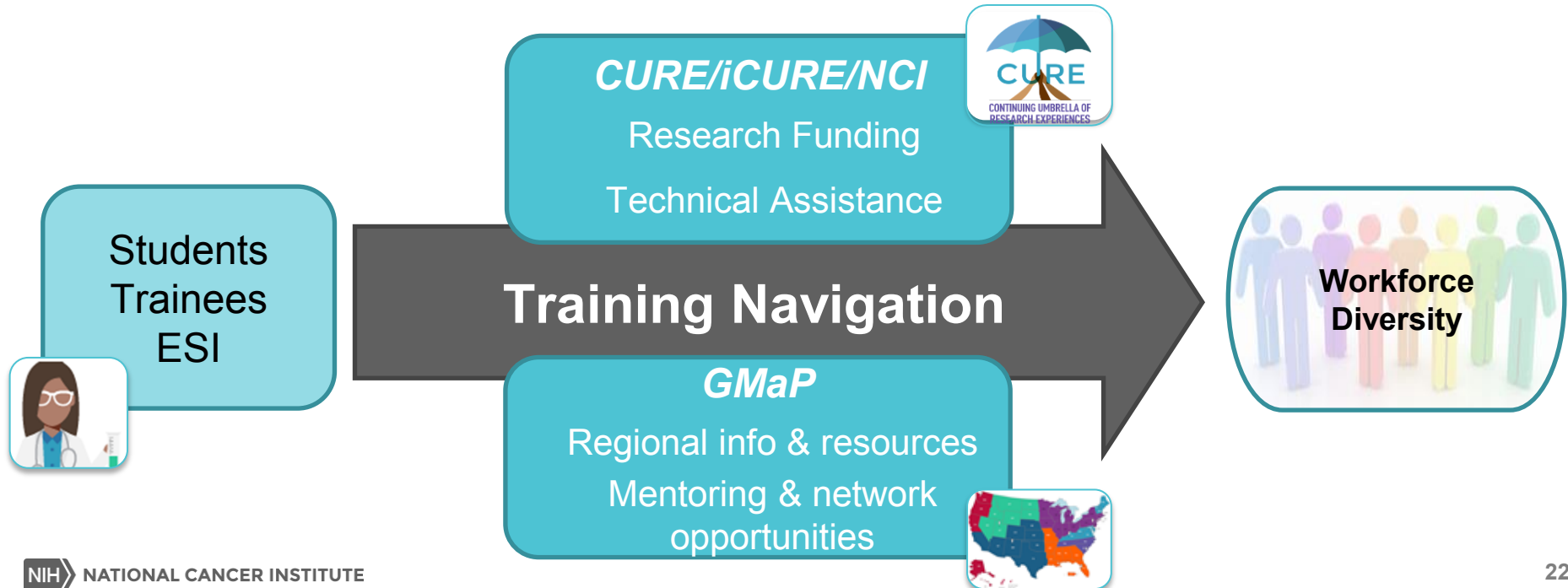
# Training Navigation

*Mary Ann S. Van Duyn, PhD, MPH*

*NCI CRCHD*

# Training Navigation

Training navigation connects potential and existing CURE scholars with program contacts in CURE and GMaP to enhance application number/competitiveness and support career/professional development.



# Training Navigation

Infusion

Helps new scholars enter into the cancer research pipeline

Transition

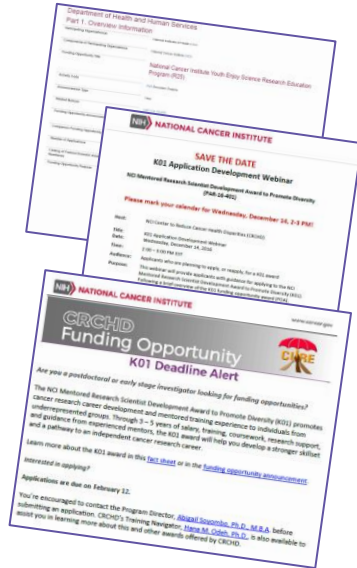
Assists existing scholars progress through the cancer research pipeline

Advancement

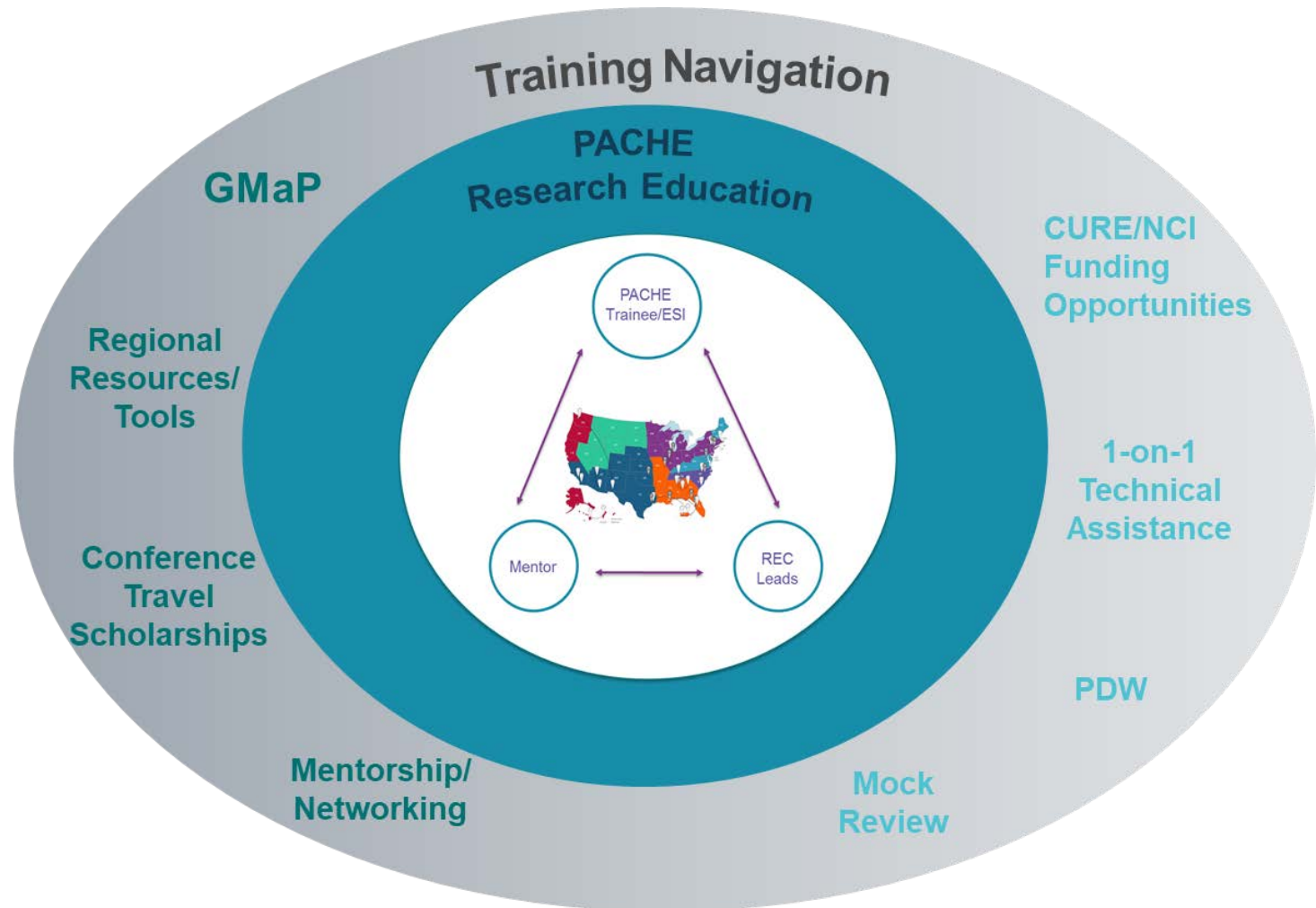
Fosters career advancement of mid-career & tenured UR investigators

# Getting Started: How Training Navigation Can Help

- Helps identify cancer research funding opportunities that your Trainees/ESIs may be qualified for
- Introduces your Trainees/ESIs to CURE Program Directors who can provide trusted technical advice as they develop their application
- Shares NIH and NCI resources that can help your Trainees/ESIs prepare a competitive application
- Sends periodic updates about upcoming application deadlines, new funding opportunities, and events
- Connects them to your GMaP regional coordinating director (RCD) who can provide local resources, events, mentoring connections, etc.



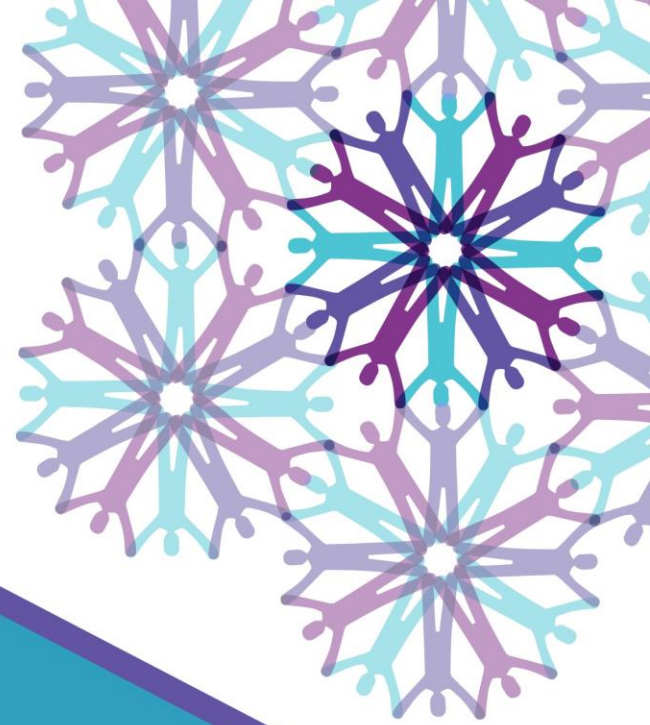




# Training Navigation (TN) and PACHE:

*Connecting PACHE Trainees/ESIs with CURE and GMaP*

- ✓ Introduce CURE, GMaP, TN via PSC meeting sessions/email f/up
- Reinforce CURE/GMaP with your Trainees/ESIs
- Identify potential CURE/iCURE Scholars and connect them with TN
- Share your Trainees/ESIs successes with us for CRCHD blogs/GMaP newsletters
- Connect your Trainees/ESIs with GMaP's travel scholarships, conference meet-ups, webinars, mentoring matches, networking opportunities and resources/tools
- Liaise and track your Trainees/ESIs accomplishments



# Duke K Club and Path to Independence Program

*Steve Patierno, PhD*

*Duke Cancer Institute*

# P20CA202924: NCCU-DUKE Cancer Disparities Translational Research Partnership

Dr. Kevin P. Williams,  
Principal Investigator BRITE, NCCU

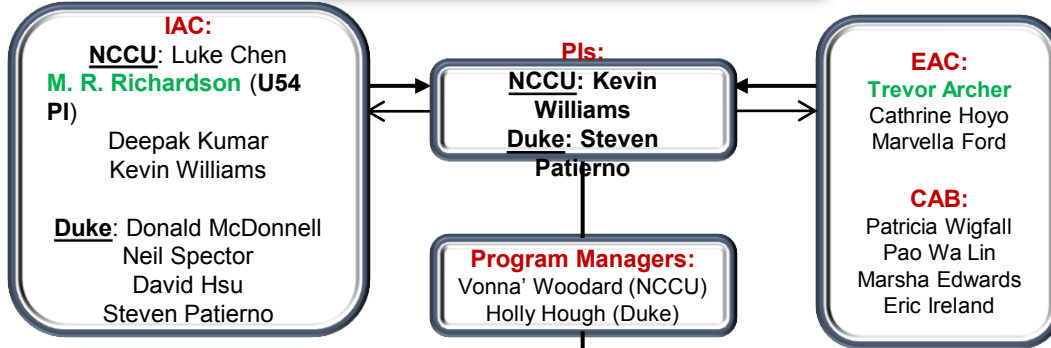
Dr. Steven R. Patierno,  
Principal Investigator DCI, Duke



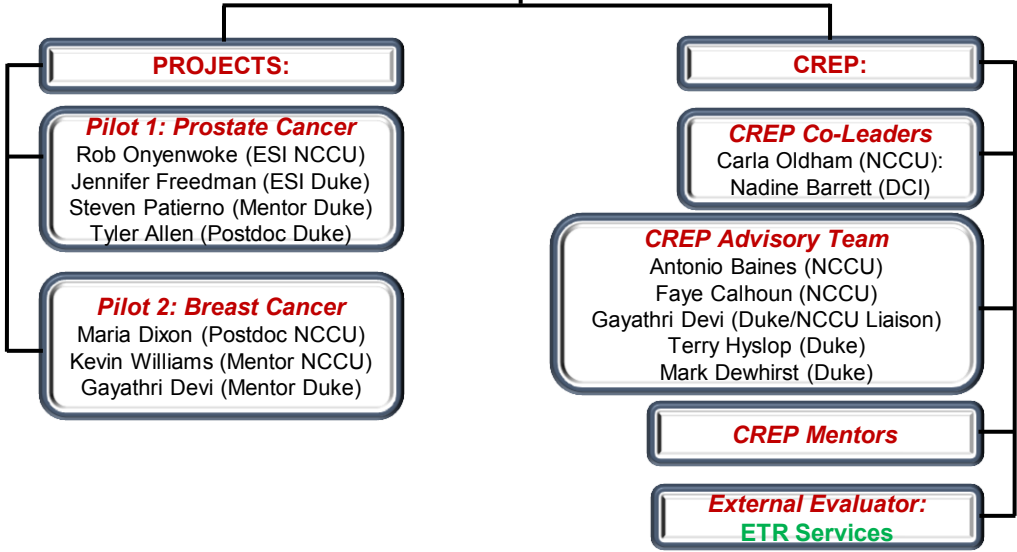
- Admin Core
- Cancer Research Pilot Projects
  - Prostate Cancer
  - Inflammatory Breast Cancer
- Cancer Research Education Project (C-REP)



**P20 Structure**



**Trainees**  
**NCCU:** 3-6 PhD Postdoc, Pilot 2  
**Duke:** 3-6 PhD Postdoc, Pilot 1



**C-REP Mentors**  
**NCCU/BRITE:** Drs. Scott, Ibeanu, A. Williams, Zheng, Li, Onyenwoke, and K. Williams  
**Duke/DCI:** Drs. McDonnell, Spector, Hsu, Counter, Blobe, Dave, Devi, Freedman, and Patierno

# Cancer Research Education Program (C-REP): Navigating Pathways to Success

**OBJECTIVE:** To provide **translational cancer disparities research training** opportunities for **minority PhD and postdoctoral trainees** to strengthen their **career development** and increase participation in **minority accrual** into clinical trials.

- Aim 1:** Provide comprehensive **training in translational cancer disparities research with a Career Development Plan and Grant Writing Training**
- Aim 2:** Implement integrated **training in health disparities** to enhance minority trainee's knowledge and **professional skills**
- Aim 3:** Increase knowledge and understanding of **clinical trial operations and processes** with a focus on **minority accrual**, community engagement, and outreach

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

# 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 unique world of translational health disparities research.

#### To apply, contact:

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



Flyer distributed to every biology-related graduate program at Duke and NCCU, followed by face-to-face meetings with each Graduate Program Director.

## Facts to consider...\*

There are approximately 14 million cancer patients in the U.S.

Of these, 9% participate in clinical research and trials.

Of these, between 3-5% are from traditionally underrepresented groups.

\*Source: National Cancer Institute

Underrepresented populations have limited access to innovative research, are not adequately represented in research workforce or research findings, and therefore impact the capacity to generalize findings to the broader community.

## What is C-REP?

The Cancer Research Education Program (C-REP) combines education in addition to, comprehensive training in translational cancer disparities research and career development opportunities to enhance as well as complement a traditional Ph.D. program in the basic sciences.

The program was established in 2016 through the National Cancer Institute (NCI) Center to Reduce Cancer Health Disparities (CRCHD) exploratory or P20 grant.

Through the C-REP, scholars will have the opportunity to address key factors that negatively impact cancer disparities by receiving in-depth training and full immersion experiences including education in the following areas:

- Translational science cancer disparities research
- Roles and careers in clinical research operations
- Understanding and achieving diversity in clinical trials
- Community engagement and outreach

## Benefits of Being a C-REP Scholar

- \$2,000 allocation per year for two years toward research expenses (\$1,000 for your mentor and \$1,000 for you)
- Funded travel to scientific meetings annually
- Translational Immersion Experience (TIE) that provides opportunities to train in clinical research operations and high throughput screening
- Workshops on resiliency, career development, grant writing, and mentee/mentor relationships
- Access to unique courses in health disparities, cancer, translational science, global health, and drug discovery at both NCCU and Duke
- Community engagement and outreach

### Who is eligible?

- 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> year PhD candidates from underrepresented groups
- Students currently enrolled in graduate programs at Duke or North Carolina Central Universities

# C-REP TRI-FOLD BROCHURE





# C-REP Curriculum

Semester	Year 1	Year 2
Semester 1	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• <b>Orientation</b></li><li>• <b>Kick-off Meeting</b></li><li>• <b>Professional Networking</b></li></ul>	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• <b>Community Engagement</b></li><li>• <b>Professional Networking</b></li></ul>
Semester 2	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• <b>Professional Networking</b></li><li>• <b>Community Engagement</b></li></ul>	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• <b>Minority Accrual</b></li><li>• <b>Community Engagement</b></li><li>• <b>Professional Networking</b></li></ul>
Summer	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• <b>Translational Immersion Experience (TIE)</b></li></ul>	<ul style="list-style-type: none"><li>• Doctoral Supervised Research</li><li>• Attend a national conference</li><li>• <b>Translational Immersion Experience (TIE)</b></li></ul>

**Evaluation by ETR (Before, During, & After)**

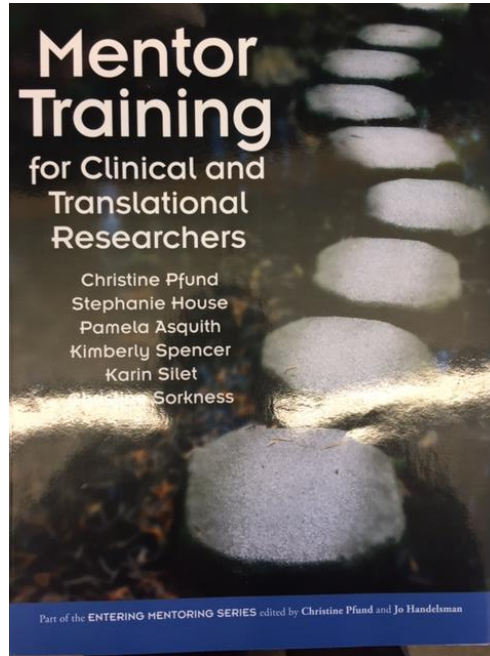
# C-REP Career Development Activities

1. C-REP Kick-off/Orientation – mentors, mentees, advisory council, and Pis
2. ***Enhance the Mentoring Experience – A Training Program***
  - a. Interactive training program for both for the Mentor and Mentee
3. **Duke Mentor App**
4. Bi-annual Meetings with C-REP mentor team
5. Community Engagement/Outreach (Men's Health Initiative & Women's Health Day)
6. ***Translational Immersion Experience (TIE):***
  1. (Clinical Immersion; Regulatory Immersion; High Throughput Screening; New Protocol Development; Clinical Operations; Tissue Collection; Research Tour; P20 Lab Meeting)
7. **Pathway to Independence and K-Club**

# Key Resources



**Mentor Duke App**



**Establishing Expectations**

**Maintaining Effective Communication**

**Assessing Understanding**

**Fostering Independence**

**Addressing Diversity**

**Dealing with Ethics**

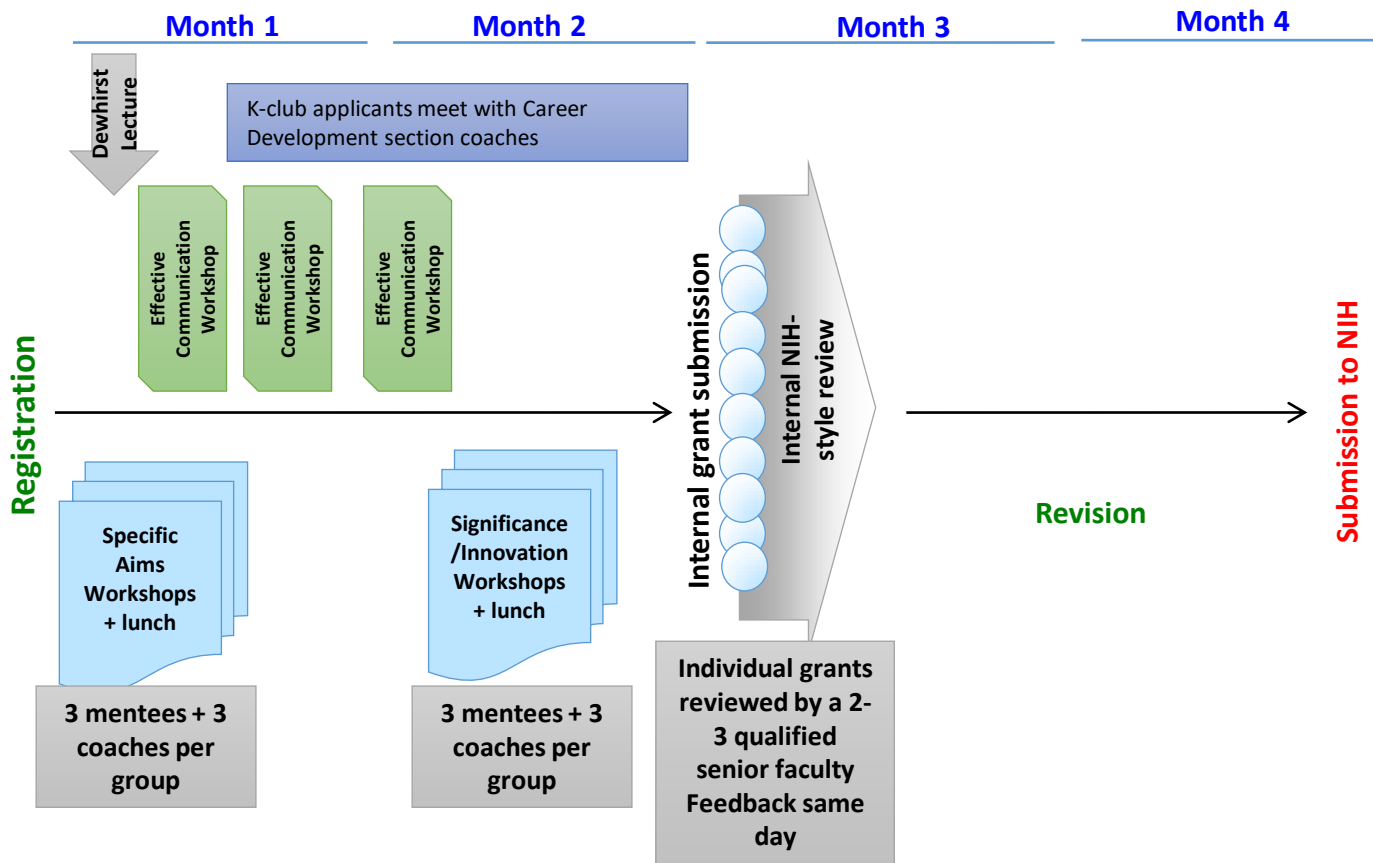
**U. Wisconsin Mentor Training Program**

## **Duke K-Club and Pathway to Independence**

**Critical Thinking – Hypothesis generation - Grant Writing**

- 1. K-Club (postdocs and ESIs)**
- 2. Pathway to Independence (ESIs)**

# Overview of the Duke Path to Independence Program and K-Club



# Expectations for K-Club and Pathway to Independence Scholars

## Mentees

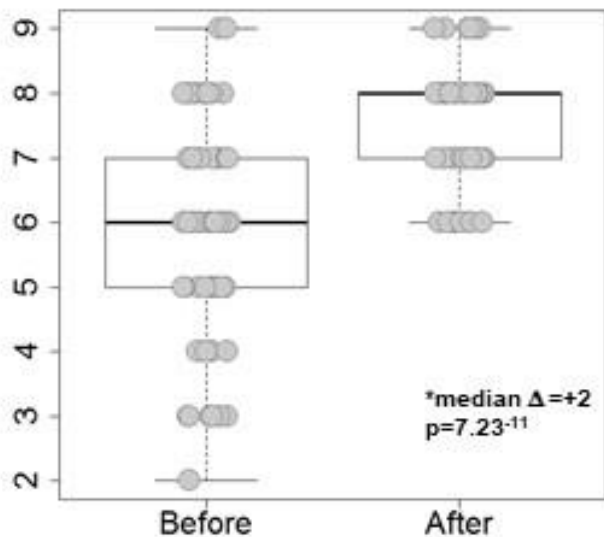
- Attendance at all meetings
- Bring most up-to-date documents to workshops
- Target grant submission deadline for internal review is set at the initiation of the program.
  - This is not negotiable
- Expect constructive criticism

## Program

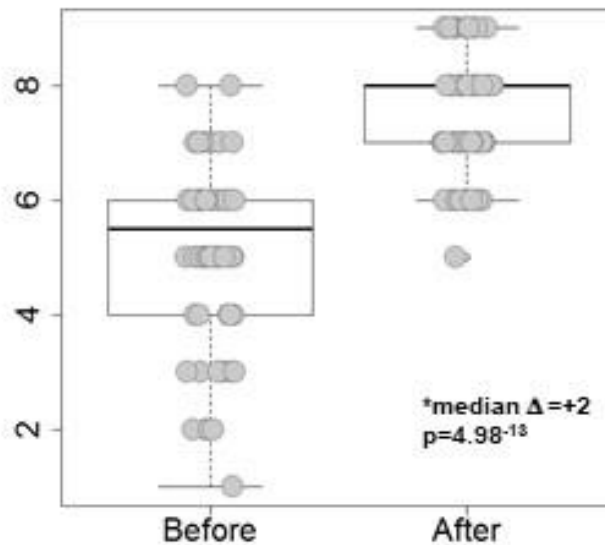
- Keep communications active and open
- Remind participants and coaches to attend at their appointed times
- Provide multidisciplinary feedback on clarity and scientific value of proposed study

# Perceived Competence Survey Results from Participants

## Designing a research plan



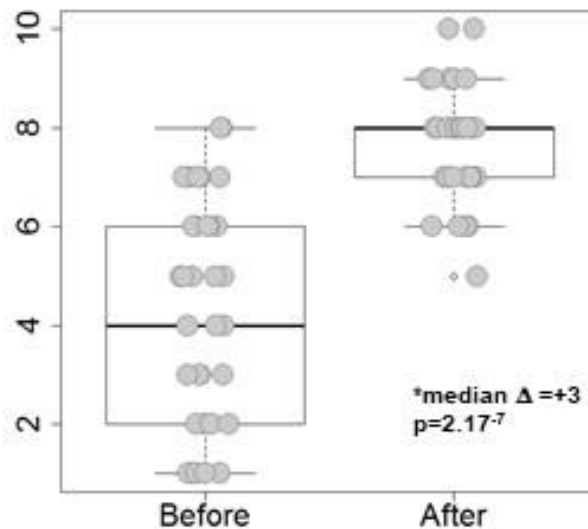
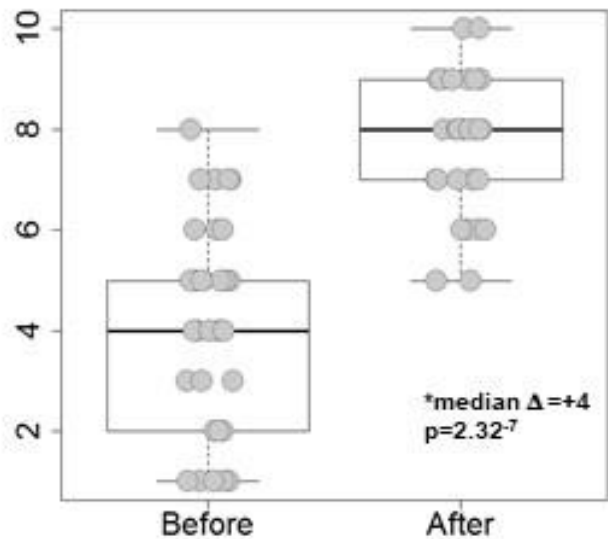
## Communicating your research plan



# Perceived Competence Survey Results from Participants

Developing a career development plan

Communicating a career development plan



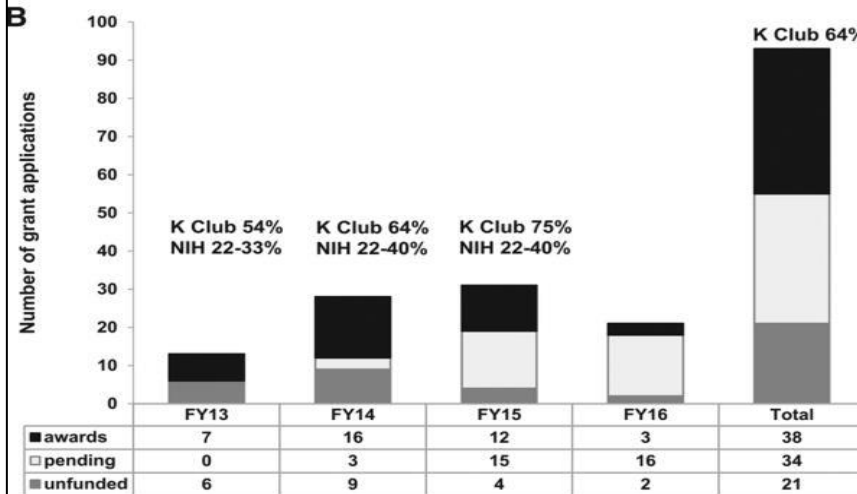
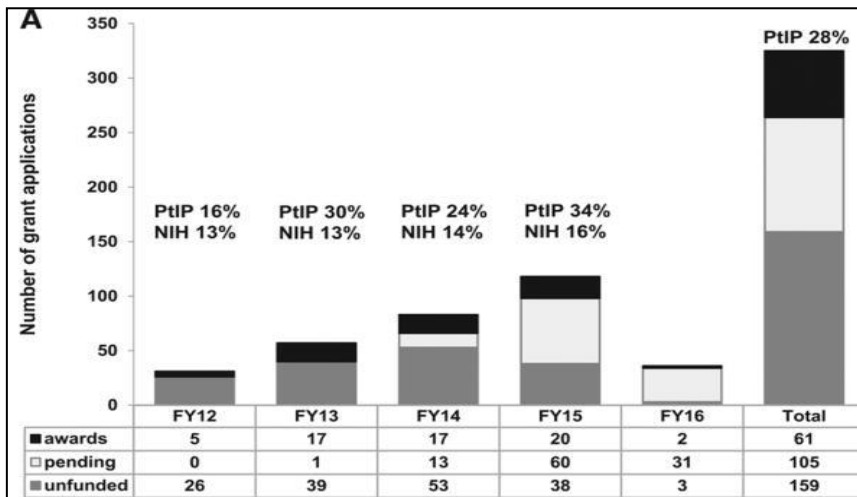


# Grant Success Rates

## Path to Independence (PtIP) K Club

Duke University, October 2011 (FY 2012)-  
March 2016 (FY 2016).

Numbers of awarded grants, unfunded grants, and applications still pending are shown for the Path to Independence Program participants (panel A) and the K Club participants (panel B).



# Return on Investment

Supplemental Table 3: Return on Investment

FTE	2.9
Annual budget (personnel and operations)	\$285,000
4 year total	\$1,140,000

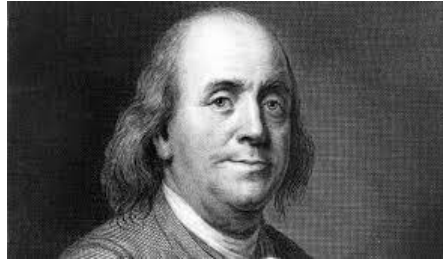
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	Directs	Indirects	Total
<i>Path to Independence Program NIH</i>	\$49,455,435	\$21,603,453	\$71,058,888
<i>Path to Independence Program non-NIH</i>	\$17,142,208	\$4,279,916	\$21,422,124
<i>K club NIH</i>	\$17,019,996	\$3,264,721	\$20,284,717
<i>K club non-NIH</i>	\$8,200,262	\$1,022,359	\$9,222,621
<i>Total</i>	\$91,817,901	\$30,170,449	\$121,988,350

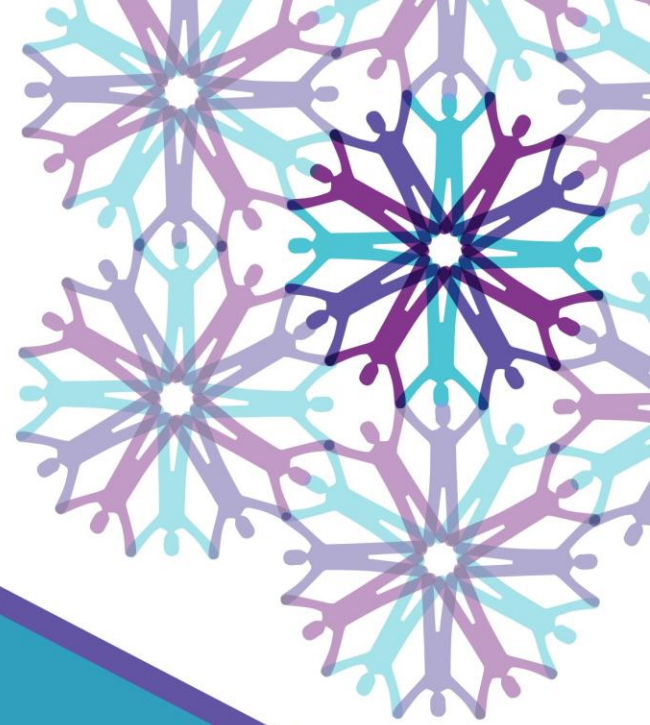
*Tell me and I forget.*

*Teach me and I remember.*

*Involve me and I learn.*



Benjamin Franklin



# Round Table Discussion

*All Attendees*

# Round Table Discussion-[30 min]

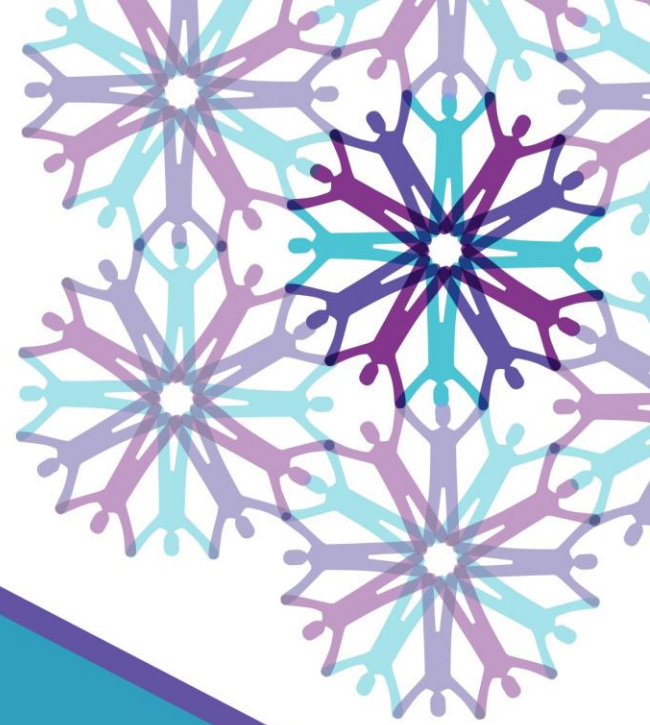
## Meeting Attendees

### Action Items:

- Groups at the tables discuss the following questions, then report back to the group. \*Select someone from the table to report back during the open discussion\*

### Questions for Discussion:

- Describe your Partnership's existing infrastructure to encourage trainees to apply for CURE Training programs?
- What are some of the challenges to guiding PACHE trainees to the CURE training programs and how can these be addressed?
- How can CRCHD assist in attracting PACHE trainees to CURE training programs ?



# Open Discussion

*All Attendees and Presenters*



# NCI CRCHD Training Program Staff Contacts

<b>Mechanism</b>	<b>PD Contact</b>
Diversity and Re-entry Supplements	Alison Lin and Elena Schwartz
F31 Diversity	Nicole E. McNeil Ford
K01, K08, K22	John Ojeifo and Abigail Soyombo
R21 Diversity	Abigail Soyombo
Chief, Diversity Training Branch	Peter Ogunbiyi
GMaP	Anil Wali and Liz Perruccio
Chief, Integrated Networks Branch	LeeAnn Bailey
Training Navigation Officers	Hana Odeh (CURE), Emmanuel Taylor (AI/AN), Jennifer Wiles (iCURE)
Associate Deputy Director for Integration	Mary Ann Van Duyn