Women of Color in Computing: A Researcher-Practitioner Collaborative

Frieda McAlear, Kapor Center

Frieda McAlear is a Senior Research Associate at the Kapor Center and one of the principal investigators of the Women of Color in Computing Researcher-Practitioner Collaborative. She has a decade of experience managing projects, developing evaluation and research methodology and building nonprofit technology capacity with socially progressive organizations in the Bay Area, Europe and Southern Africa. In 2013, she worked as an evaluator for an HIV/AIDS clinic serving villages in Lesotho and as a Program Coordinator for ZeroDivide in San Francisco in 2014. She holds a Masters of Research in Geography from Queen Mary, University of London, and a Bachelor of Science in Computer Science from Vesalius College, Vrije Universiteit Brussel (VUB) in Brussels.

Dr. Allison Scott, Kapor Center for Social Impact

Dr. Allison Scott is the Chief Research Officer for the Kapor Center for Social Impact (KCSI), leading a research agenda aiming to increase diversity across the technology ecosystem. Her research examines: structural and psychological biases and barriers affecting the participation of diverse groups in STEM; intersectionality and girls of color in computing; the effectiveness of interventions to alleviate bias and increase participation of underrepresented groups in computing; and scaling strategic initiatives. Dr. Scott’s research has been funded by the Ford Foundation and the National Science Foundation, and she is currently Principal Investigator for an NSF grant aiming to increase equity in access and participation in computer science education in California. Prior to her role at KCSI, Dr. Scott was Program Leader for the NIH’s Enhancing the Diversity of the NIH-funded Workforce Initiative and the Director of Research and Evaluation at the Level Playing Field Institute (LPFI). Dr. Scott holds a Ph.D. in Education from the University of California, Berkeley and a Bachelor’s degree in Psychology from Hampton University.
Women of Color in Computing: A Researcher-Practitioner Collaborative

ConecD Conference 2019
Washington, D.C
Welcome to the Women of Color in Computing Researcher-Practitioner Collaborative!

Dr. Allison Scott, Chief Research Officer, Kapor Center

Frieda McAlear, M.Res., Senior Research Associate, Kapor Center

Dr. Kimberly A. Scott, Professor and Founding Executive Director, Center for Gender and Equity in Science and Technology (CGEST), Arizona State University
The Double-Bind in Computing

- Women and people of color are underrepresented and marginalized in STEM and computing fields.

- The “double-bind” describes the unique and cumulative challenges of racism and sexism experienced by women of color in STEM fields.

Dr. Shirley Malcom
Data:
Women of Color across the Computing Pipeline
U.S. Population Demographics

**FIGURE 1**
US Female Population by Race, Ethnicity

- White: 61%
- Latinx: 14%
- Black: 17%
- Native American/Alaskan Native: 6%
- Asian: 6%
- Native Hawaiian/Pacific Islander: .5%

*Source: U.S. Bureau of Census (2014)*

**FIGURE 2**
US Female Population Growth by Race, Ethnicity (2015-2060)

- White: -9%
- Latinx: 108%
- Black: 41%
- Asian: 120%
- Native Amer/Alaskan Native: 40%
- Native Hawaiian/Pacific Islander: 62%

*Source: U.S. Bureau of Census (2014)*
K-12 EDUCATION:

Only 7% of all students taking AP Computer Science in high school were Black, Latinx, or Native American/Alaskan Native.

Source: College Board (2017); Includes AP CS A and AP CS Principles.
Women of color make up just 7% of all Bachelor’s degrees earned in computing;

Latinx women are most underrepresented in computing degree completion rates relative to their population.

Source: National Center for Education Statistics (2013). Percentages reflect the percentage of the total population.
In Silicon Valley:

- < 2% of the workforce are Black, Latinx, or Native American women
- < 1% of leadership positions are held by Black or Latinx women

Source: EEOC, 2016; Hongsdusit & Rangarajan (2018); Includes EEOC category of “professionals.”
ENTREPRENEURSHIP & VENTURE CAPITAL:

• Just 17% of startups are led by women, and only 4% of these are founded by Black women.

• Just 1% of tech investors are Black women; and 0% are Latinx women.
What Are the Consequences of Excluding Women of Color?

Without the participation of women and people of color in the creation of new technology enterprises and solutions and the investment in wealth-creating ventures, tech will replicate and exacerbate trends of wealth inequality and neglect to solve critical challenges facing diverse communities.
Economic Inequality

**Income Inequality**
Median Wages by Occupation, Santa Clara County

**Wage Inequality**
For every dollar white men earn, women earn:


Source: Statista (2015) from NWLC data
Economic Inequality

The Racial Wealth Gap
Median Net Worth of Households by Race

The Gender Gap in Equity
6,000 companies with a combined total of nearly $45 billion in equity value

Source: TheGAPTABLE (2018)
Innovation and Diversity in Technology Creation
The Women of Color in Computing Collaborative.
Women and Girls of Color in Computing Research Collaborative

This project aims to increase the number of girls of color pursuing and completing CS degrees, and participating in the tech workforce, entrepreneurship and venture capital. We aim to do this by conducting and disseminating research on:

- Data trends among women of color in computing education and career pathways
- Barriers to participation in computing among women of color
- Innovative and effective interventions and strategies to increase participation in computing among women of color
The Women of Color in Computing Collaborative

**AIM:** To build a robust body of research on data trends, barriers, and interventions to increase the participation of women of color in computing, this collaborative will support three types of research projects, each of which will have a specific dissemination strategy:

- Senior Fellows Program
- Landscape Data and Trends
- Exploratory/Experimental Intervention Research Projects
Support Research Projects

**PROJECT TYPES:**

- Senior Fellows
- Landscape Data & Trends
- Exploratory/Experimental Intervention Research

**PRIORITY TOPICS:**

- Entry, Persistence, and Degree Completion in Computing in Higher Education
- Participation and Retention of Women of Color in the Technology Workforce
- Participation of Women of Color Across the Entrepreneurship and Venture Capital Ecosystem
Women of Color in Computing Research Collaborative

Funded projects

**Landscape Studies**

**Catherine Riegel-Crumb, University of Texas-Austin**
Stage: HS/Higher Ed
The Developing Aspirations of Girls of Color Towards CS: An Examination of Teachers, Peers, and STEM Stereotypes

**Joan C. Williams, U.C. Hastings School of Law**
Stage: Workforce
Workplace Experiences of WOC in Tech

**Nuria Jamout-Pascual, TERC**
Stage: Higher Ed
Experiences of Native American Women in Computing

**Linda Sax and Sara Rodriguez, UCLA-BRAID**
Stage: Higher Ed
Persistence of WOC across BRAID Institutions

**Shani Daily, Duke U. / Jakita Thomas, Auburn U.**
Stage: Higher Ed
Trends in Participation of WOC in Computing
# Women of Color in Computing Research Collaborative

## Funded projects

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<th>Experimental/Exploratory Studies</th>
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<td>Kate Brodock, Women2.0</td>
<td>Entrepreneurship</td>
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<td>Access to Capital, Funding Vehicles, and Growth of Startups for Founders who are Women of Color</td>
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<th>Greg Walton, Stanford University</th>
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<td>A Social-Psychological Intervention to Increase Retention of WOC in a Tech Company</td>
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<th>Heather Metcalf / E. Kelley, Assoc. of Women in Science</th>
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<td>Addressing Investor Bias to Broaden Access to Capital for WoC STEM Entrepreneurs</td>
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<th>Laura Gonzalez, University of Texas-El Paso</th>
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<td>Building a Collaborative Network to Support WOC in UX/UI</td>
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Women of Color in Computing Research Collaborative

Funded projects

Experimental/Exploratory Studies (cont.)

Yulkendy Valdez and Sonia Manjon, Forefront & LeaderSpring
A Roadmap to Culture Change in the Technology Workforce that Advances and Promotes Women of Color

Rati Thanawala, Harvard
Leadership Academy for Women of Color in Tech
Disseminate & Scale Effective Strategies

2019 and beyond
Early Findings

[To be completed before April 2019]
Discussion

- What are some ways in which your organization can build upon the work of the Women of Color in Computing Collaborative?
- What are the challenges and opportunities for you in your current role to create a more inclusive tech ecosystem for women of color?
THANKS!

Stay connected with us:

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