

Creating Cultures of Inclusion in ~~Chemical Sciences~~ Chemical Engineering

May 25, 2021

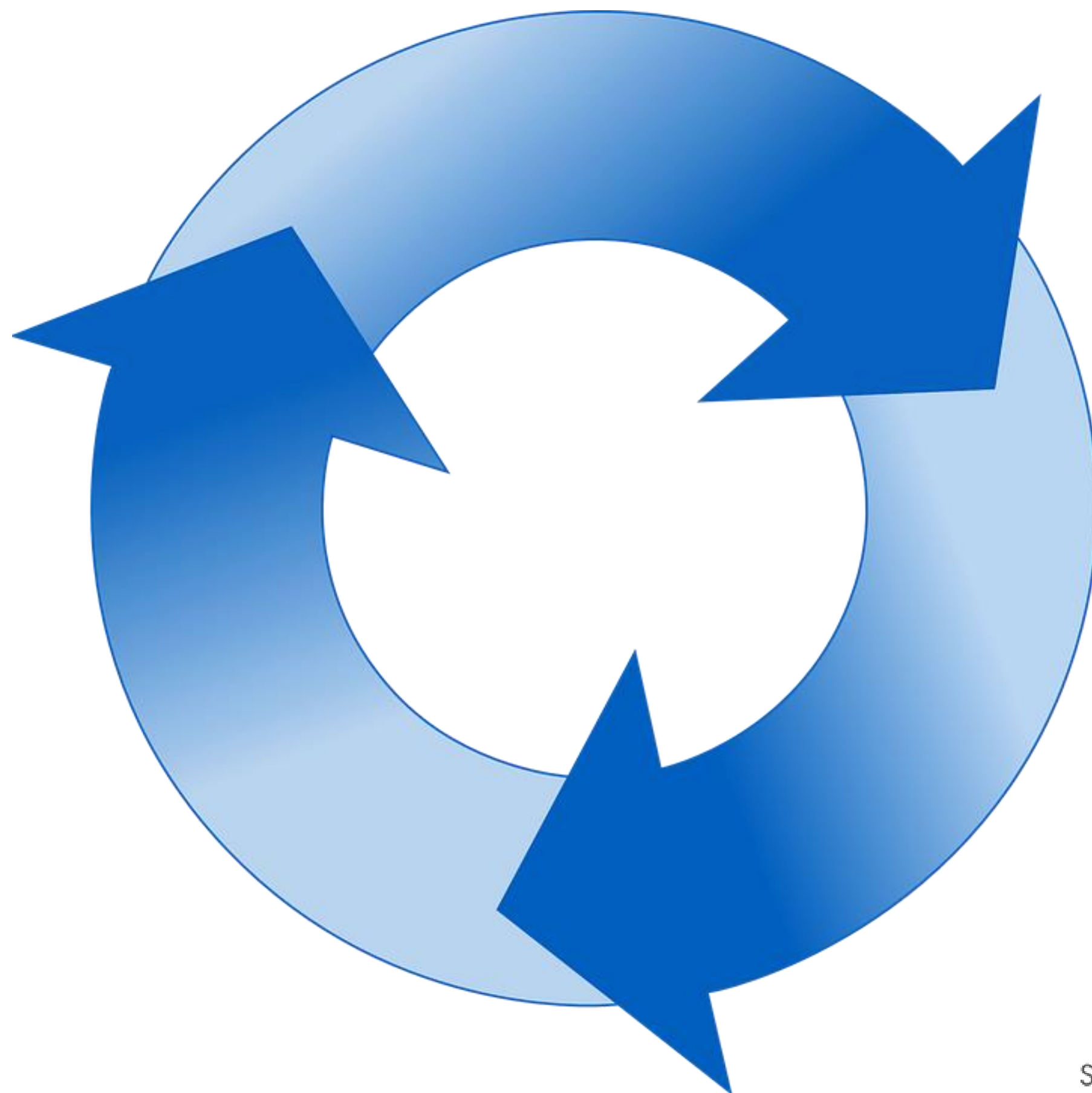
Christine S. Grant, Ph.D.

Diversity, Equity, and Inclusion in Chemistry and Chemical Engineering

A Virtual Workshop from the
Chemical Sciences
Roundtable

The National Academies of
SCIENCES • ENGINEERING • MEDICINE





The National Academies of
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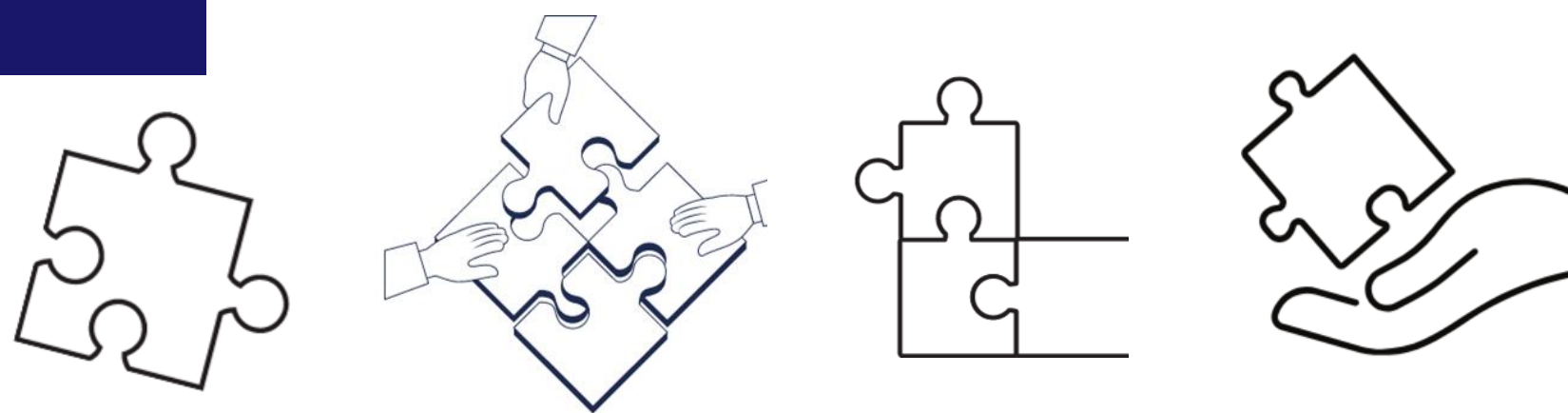
Board on Chemical Sciences and Technology: March 2021 Meeting



Session 1: Diversity, Equity, Inclusion, Justice, and Belonging in Chemistry and Chemical Engineering
Wednesday, March 3, 2021 12:10PM to 3:00PM Eastern

Women, persons with disabilities, and other minority groups are underrepresented in science and engineering fields, according to a [2019 report](#) from the National Science Foundation. In December 2020, the National Academies Board on Chemical Sciences and Technology (BCST) [made a commitment](#) to improving diversity, equity, and inclusion (DE&I) in its internal and external activities, joining many scientific institutions who have pledged to lower barriers to entry for these groups.

This session will explore how the BCST can use its resources to advance DE&I in the chemistry and chemical engineering fields. We will hear from two experts, [Dr. Christine Grant](#) and [Dr. Hoby Wedler](#), on their influential work in and best practices for expanding opportunities for underrepresented groups in the sciences.



Diversity, Equity, Inclusion, Justice, and Belonging in Chemistry and Chemical Engineering

Session Goals

Goal 1: Identify **the barriers to entry** for underrepresented groups to enter the chemistry and chemical engineering field.

- ❖ *Question: According to the data, what are the key barriers in the chemistry and chemical engineering education/field that make it difficult for underrepresented groups to gain entry?*

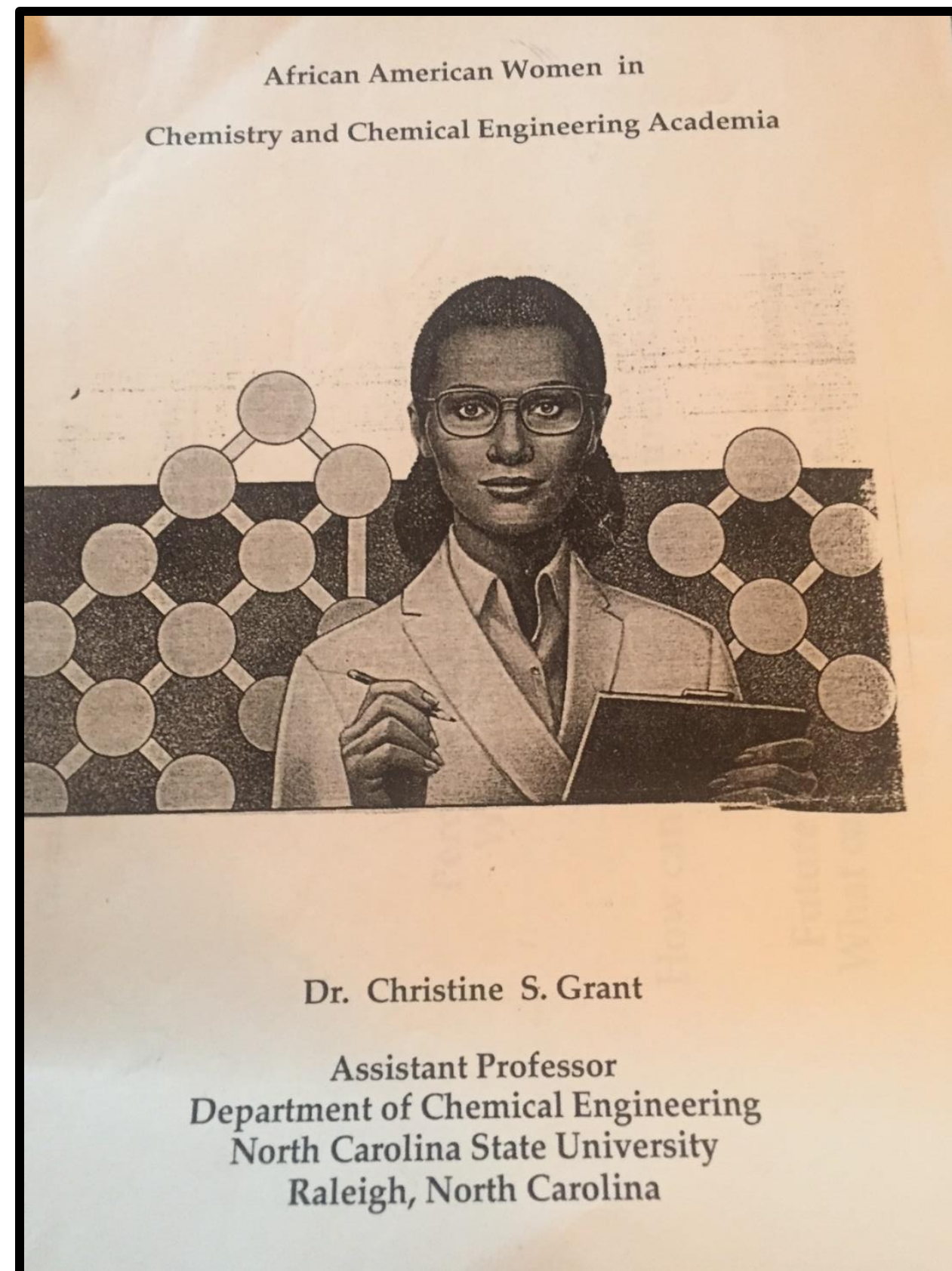
Goal 2: Discuss **data backed successful strategies** that could improve opportunities for underrepresented groups to enter and succeed in chemistry and chemical engineering.

- ❖ *Question: What are proven strategies that could improve opportunities for underrepresented groups to gain access to and succeed in chemistry and chemical engineering?*

Goal 3: Consider how BCST can help **deploy these strategies** in chemistry and chemical engineering education and industry.

- ❖ *Question: How can the BCST use its resources to help deployed in chemistry and chemical engineering education and industry?*

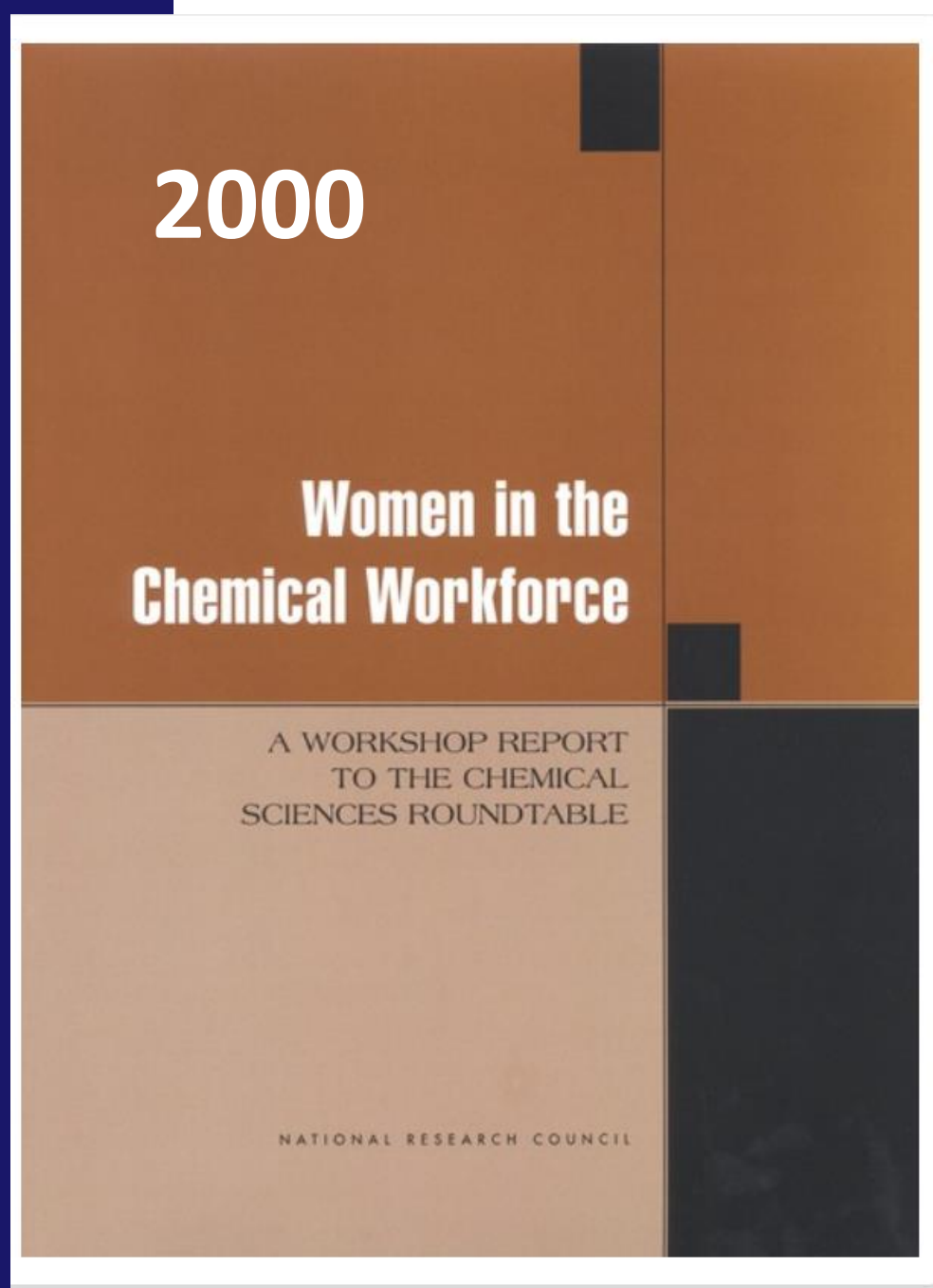
1990's



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CHEMICAL SCIENCES ROUNDTABLE



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2000

Women in the
Chemical Workforce

A WORKSHOP REPORT
TO THE CHEMICAL
SCIENCES ROUNDTABLE

NATIONAL RESEARCH COUNCIL

- “I said that I wasn’t going to say anything, but if you look around the room you will find that I am ***the only African-American person here***, and so I wanted to put another statistic in your basket.
- I think at present there are probably about ***2200 chemical engineering faculty in the country***, and I am not sure how many women..... maybe about 200 or 300?
- Two hundred and twenty-five women. There are 26 African-American chemical engineering faculty in the country, and five are women. So, I joke with people: I say, “Me and my four friends.” I have been doing this for 10 years.
- The other four women include an ***associate professor at Northeastern and an assistant professor at MIT and there is a woman at the University of Iowa and one at the University of Maryland. None of us is a full professor.*** These are statistics that I keep on the African-Americans and women in chemical engineering.”

Christine S. Grant, North Carolina State University



Tonya Peebles, Ph.D.

Associate Dean for Equity and Inclusion, Professor of Chemical Engineering (Penn State)



Gilda Barabino, Ph.D.

President, Professor of Biomedical and Chemical Engineering (NAE,NAM) (Olin College)



Paula Hammond, Ph.D.

David H. Koch Chair Professor of Engin. Head Dept. of Chemical Engineering (NAE,NAS,NAM) (MIT)



Janice Lumpkin, Ph.D.

Professor of Chemical, Biochemical and Environmental Engineering (UMBC)



Christine Grant, Ph.D.

Inaugural Associate Dean of Faculty Advancement Professor of Chemical, and Biomolecular Engineering (NCSU)

2003



CHEMICAL SCIENCES ROUNDTABLE

Minorities in the Chemical Workforce: Diversity Models that Work

A WORKSHOP REPORT
TO THE CHEMICAL
SCIENCES ROUNDTABLE

Joseph S. Fransico and Isiah M. Warner
Workshop Organizers

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

Undergrad
/ Grad.

Chemical
Workforce

?????

Summary

- 1 Diversity: Why Is It Important and How Can It Be Achieved?
Clifton A. Poodry (National Institute of General Medical Sciences)
- 2 Preparing College Students for a Diverse Democracy
Sylvia Hurtado (University of Michigan)
- 3 An HBCU Perspective
Cornelia D. Gillyard and *Sylvia T. Bozeman* (Spelman College)
- 4 Reports from the Breakout Sessions
- 5 The Meyerhoff Undergraduate Scholars Program
Michael F. Summers (University of Maryland, Baltimore County)
- 6 The Imperative for Leaders and Organizations
Steven F. Watkins (Louisiana State University)
- 7 Beating the Odds: Preparing Minorities for Research Careers in the Chemical Sciences
Freeman A. Hrabowski, III (University of Maryland, Baltimore County)
- 8 Reports from the Breakout Sessions
- 9 Diversity in the Industrial R&D Workforce: Challenges and Strategies
D. Ronald Webb (Procter & Gamble)
- 10 Recruiting and Advancing Minority Scientists: Doing It Right
James D. Burke (Rohm and Haas—retired)
- 11 General Discussion

Closing Remarks

Appendixes

- A Workshop Participants
- B Biographical Sketches of Workshop Speakers
- C Origin of and Information on the Chemical Sciences Roundtable



15 August 2011



Thirty **46 years** after "The Double Bind**," Obstacles Remain for Minority Women in STEM

***Gender and RACE*

*"Numerous studies show women of color in STEM disciplines face a host of challenges, the authors say. Among them: **feelings of invisibility** and **isolation** in their home departments, **challenges** to their authority, teaching competency, and **scholarly expertise** in the classroom, and the **emotional toll of negotiating a landscape of obstacles for minority women.**"*

Source: http://www.aaas.org/news/releases/2011/0815double_bind.shtml



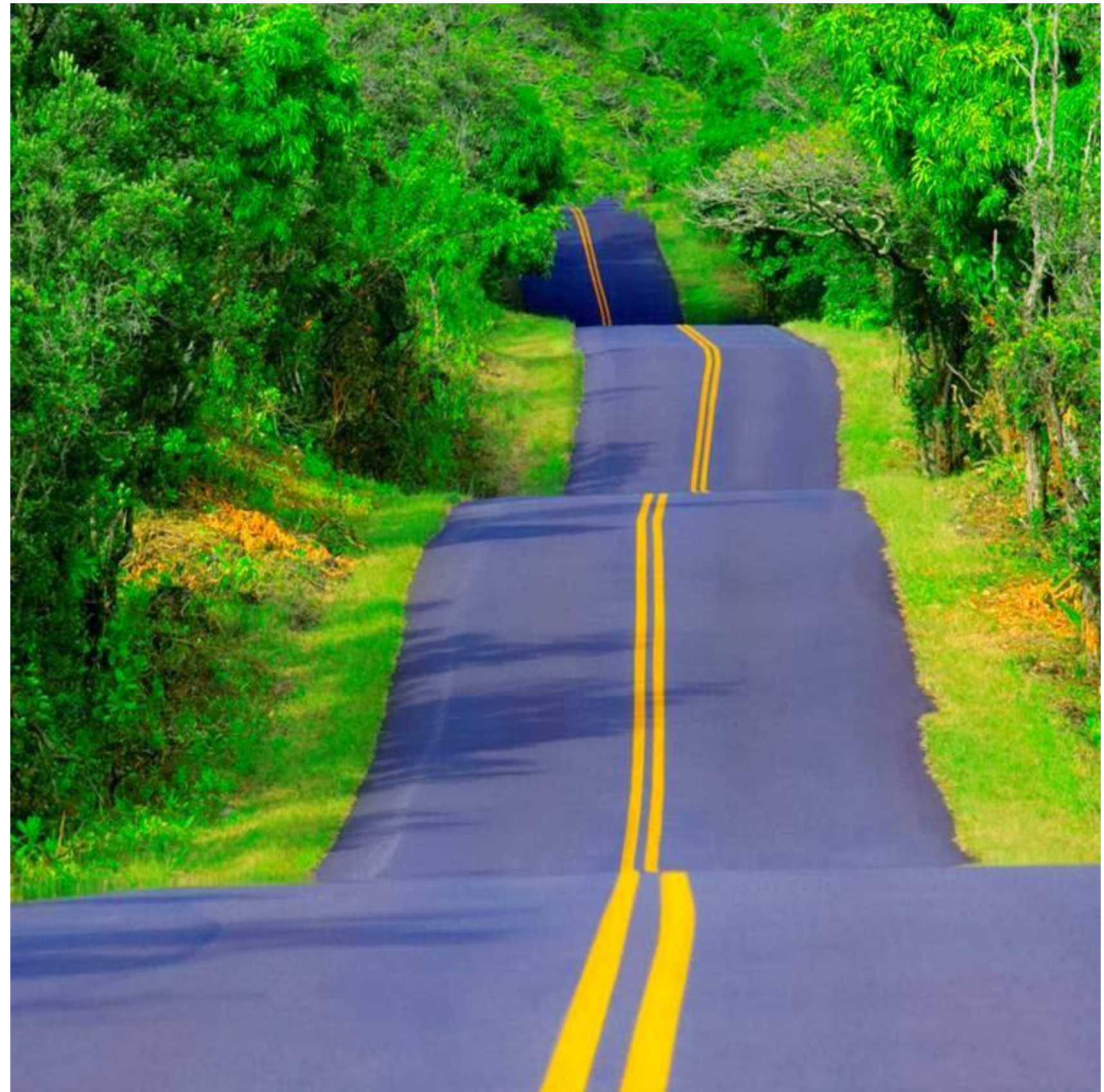
Shirley M. Malcom*, Paula Hall, and Janet Brown in a report titled *The Double Bind: The Price of Being a Minority Woman in Science*.

Malcom is Head of the Directorate for Education and Human Resources Programs of the American Association for the Advancement of Science (AAAS).





My journey here...



Formal and informal mentoring between chemistry professionals and the author;
reference made to organizations impacting career growth

**Pre-College/
Undergraduate**

Mr. Mann/Mr. Wallace
(Albany High School)
Tyrone Mitchell (GE)^N

Ronald Brooks (GE)
Frank Starkey (GE)^f

**GE Program to Increase Minority
Engineering Graduates**

**National Society of Black Engineers
(NSBE)**



Graduate

William Lester (Berkeley)^N
William Jackson(UC Davis)^N

James Harris (Lawrence Berkeley Lab)^N
Joseph Francisco (Wayne State/Purdue)
^N

Joseph Gordon (IBM)^N
Albert Thompson (Spelman)^f

Robert Pierotti (Georgia Tech)
Clarence Miller (Rice)
Willie May (NIST)^N

**GEM Fellowship program
National Organization of Black Chemists
and Chemical Engineers (NOBCChE)**

GE Forgivable Loan



Professional

Dan Atkins (CCNY)^N

Marye Anne Fox (NCSU)
Harold Freeman (NCSU)

David Tirrell (Caltech)^f
Ted Davis (Minnesota)^f

Joseph Reed (NSF)
Tyrone Mitchell(GE/NSF)^N

Lilia Abron (Peer Consulting)
Hratch Semerjian (NIST)
Sandra McGuire (LSU)^{N,A}

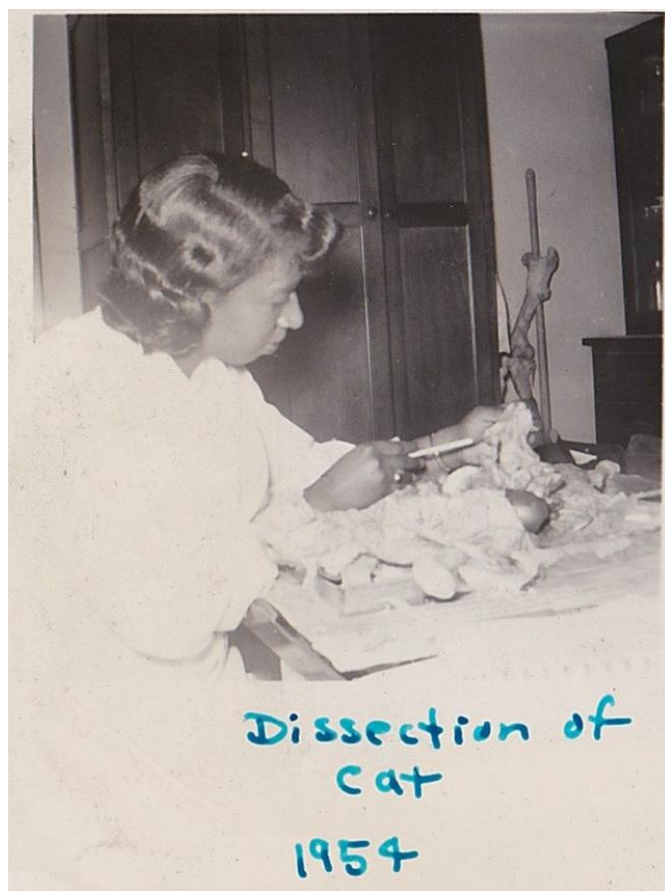
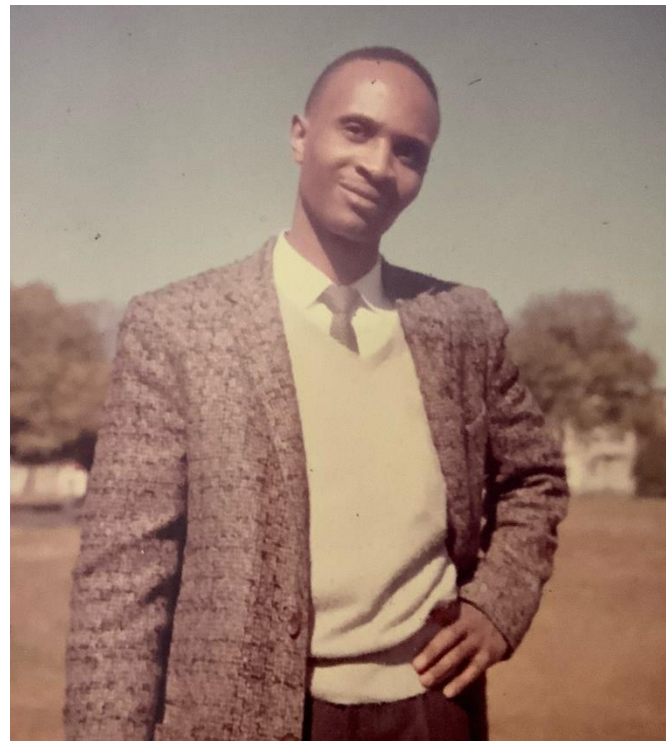
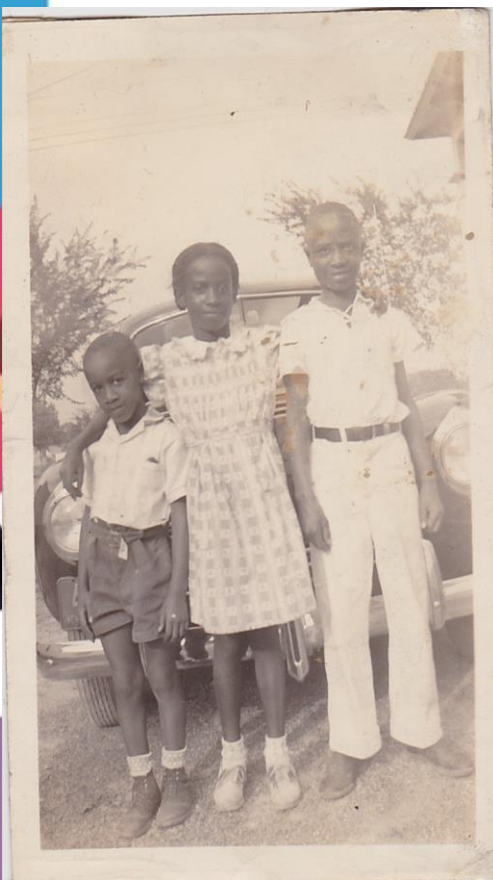
**ACS
American Institute of Chemical
Engineers**

Society of Women Engineers

National Science Foundation (NSF)

**American Association for the
Advancement of Science (AAAS)**

"Family" Building blocks



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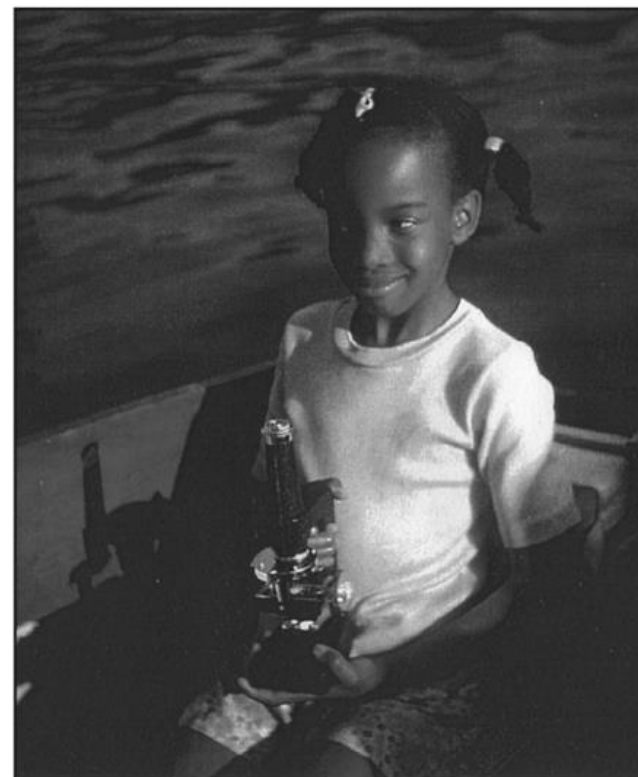
Christine Grant

... of North Carolina State University

TONYA PEEPLES
ChE Faculty University of Iowa
LISA BULLARD
ChE Faculty NC State
LAURA THORP
Staff writer NC State



Left, Christine with her mother, Frances Grant—the biology teacher. Right, a young Christine on the boat she helped to build with her father, looking at microbes under her solar-powered microscope. Below, her first engineering project!



way up from secretary to vice president of the NSBE chapter; she became president in her senior year. Christine also sang in the choir and worked with the senior African American group.

During her time at Brown, Christine played a role of serving as a mentor to others, acting as a minority peer counselor to freshmen in the dorm community during her sophomore and junior years. She also provided tutoring and outreach



Chemical Engineering Education
Vol. 50, No. 3, Summer 2016



CEE

chemical engineering education

VOLUME 50 • NUMBER 3 • SUMMER 2016

Christine Grant

... of North Carolina State University



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and ChE at ...

Purdue University

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The discipline.....

BACHELOR'S DEGREES BY DISCIPLINE 2009–2018

Bachelor's Degrees	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Aerospace Engineering	3,057	3,218	3,459	3,668	3,595	3,695	3,803	3,781	4,050	4,148
Architectural Engineering	723	753	743	763	660	607	568	618	614	642
Biological/Agricultural Eng.	631	719	796	871	924	1,031	1,100	1,160	1,349	1,388
Biomedical Engineering	3,644	3,670	4,066	4,374	4,709	5,119	5,683	6,177	6,725	7,130
Chemical Engineering	5,185	5,948	6,487	7,245	7,717	8,110	9,090	9,864	10,973	11,586

**The 2018 Status Report on
Engineering Education:**
A Snapshot of Diversity
in Degrees Conferred in
Engineering



Table 15. **Number of bachelor's degrees conferred in CHEMICAL, BIOCHEMICAL, BIOMOLECULAR ENGINEERING to Hispanic graduates, by institution: 2015-16**

Degrees Conferred	Institution
84	University of Puerto Rico, Mayaguez * ⊕
30	Arizona State University, Tempe
30	University of California, San Diego
29	University of California, Riverside * ⊕
28	Universidad Politecnica de Puerto Rico *
27	University of Florida ⊕
23	University of Arizona* ⊕
21	University of California, Davis ⊕
20	The University of Texas at Austin
19	Florida State University
19	Texas A & M University, Kingsville *
17	Texas A & M University, College Station ⊕

Note: ⊕ are Land-grant universities; * are Hispanic Serving Institutions; + are Historically Black Colleges and Universities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 and Fall 2016, Completions component. (This table was prepared May 2018.).

Table 23. **Number of bachelor's degrees conferred in CHEMICAL, BIOCHEMICAL, AND BIOMOLECULAR ENGINEERING to Black graduates, by institution: 2015-16**

Degrees Conferred	Institution
29	Prairie View A & M University + ⌘
14	North Carolina A & T State University + ⌘
13	Tuskegee University + ⌘
11	Howard University +
8	New Jersey Institute of Technology
8	Georgia Institute of Technology
8	The University of Alabama
7	Hampton University +
7	Carnegie Mellon University
6	Florida State University
6	University of Michigan, Ann Arbor
6	Florida Agricultural and Mechanical University + ⌘
6	CUNY City College *

Table 29. **Number of bachelor's degrees conferred in CHEMICAL, BIOCHEMICAL, AND BIOMOLECULAR ENGINEERING to American Indian/Alaska Native graduates, by institution: 2015-16**

Degrees Conferred	Institution
5	University of Oklahoma, Norman Campus
4	Oklahoma State University ⌘
2	Mississippi State University ⌘
Note: ⌘ are Land-grant universities; * are Hispanic Serving Institutions; + are Historically Black Colleges and Universities.	

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 and Fall 2016, Completions component. (This table was prepared May 2018).

Table 17. Number and percentage of bachelor's degrees conferred in engineering to Black graduates, by institution: 2015-16

Degrees Conferred Blacks	Degrees Conferred All	Pct of Degrees Conferred to Blacks	Institution
153	228	67.1%	North Carolina A & T State University + ⌘
124	2,141	5.8%	Georgia Institute of Technology
87	153	56.9%	Prairie View A & M University + ⌘
82	107	76.6%	Morgan State University +
75	83	90.4%	Tuskegee University + ⌘
69	971	7.1%	University of Central Florida *
64	1,504	4.3%	North Carolina State University at Raleigh ⌘
57	1,010	5.6%	University of Maryland, College Park ⌘
53	306	17.3%	Kennesaw State University
50	683	7.3%	The University of Alabama

Note: ⌘ are Land-grant universities; * are Hispanic Serving Institutions; + are Historically Black Colleges and Universities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 and Fall 2016, Completions component. (This table was prepared May 2018).

Mentors, Mentors

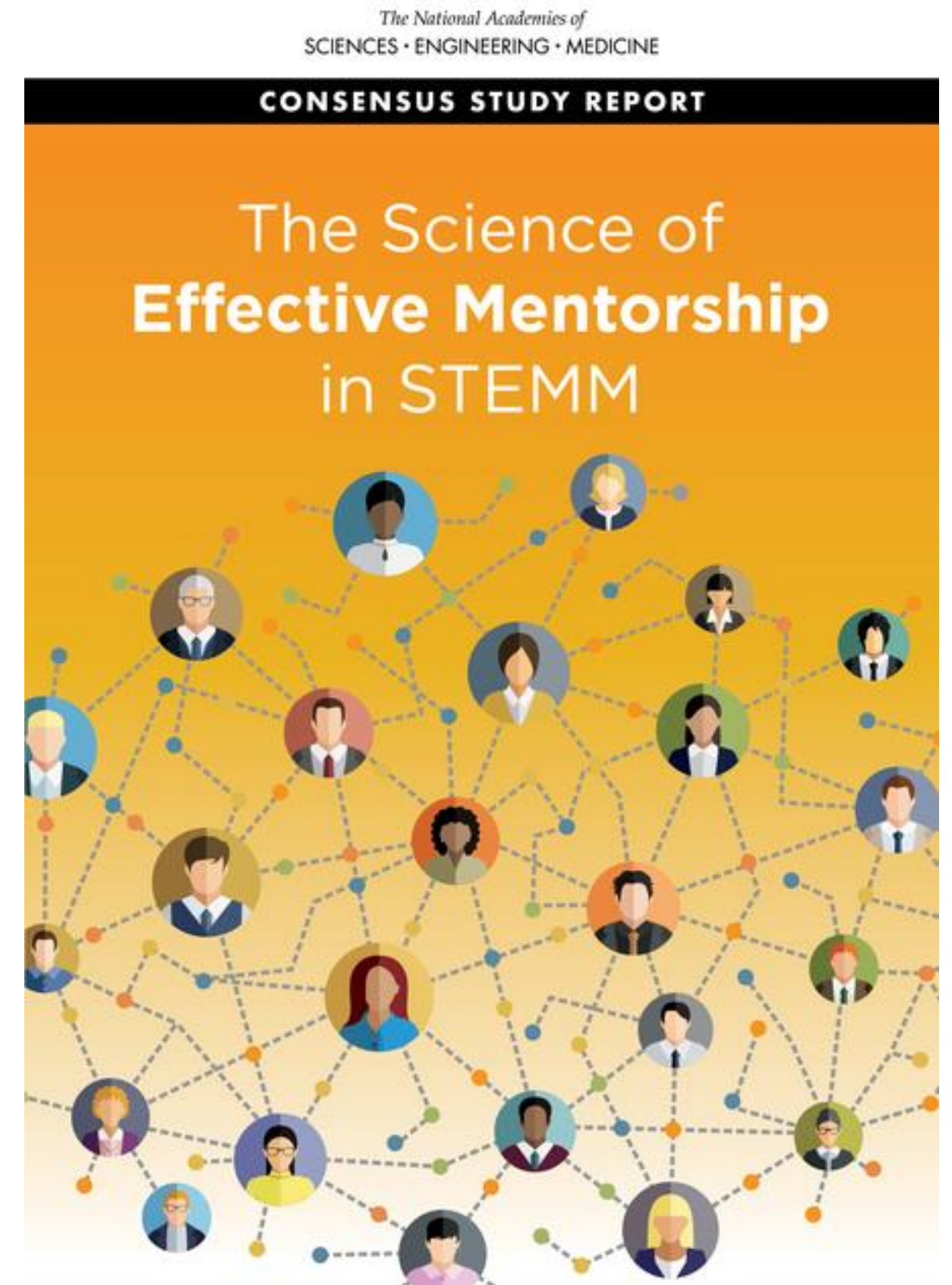
EVERYWHERE:

Weaving Informal and Formal Mentoring into a
Robust Chemical Sciences Mentoring Quilt



Neat is Great..... Messy is “Normal”

**You can not plan your mentoring
relationships in a
perfect ordered manner.....**

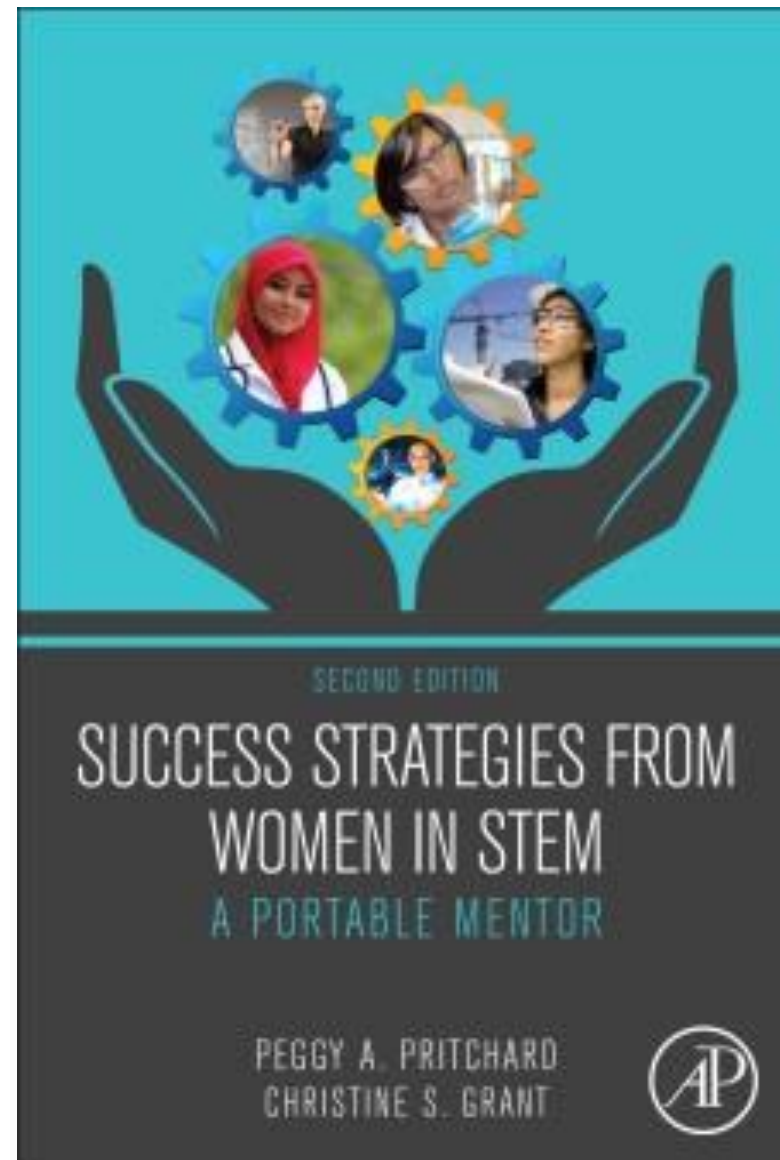


- See: <https://www.nationalacademies.org/our-work/the-science-of-effective-mentoring-in-stemm>

Success Strategies From Women in STEM, 2nd Edition

Co-edited by P. Pritchard and C. Grant

(From Mentoring Chapter in Elsevier/Academic Press Book (2015))



“It is important to understand that ***your mentor does not have to be just like you for the relationship to work well.*** The person may be female or male, young or old, of the same or a different race, culture, religion, temperament; s/he may be at the same company, institution, or agency as you, or work in a different field altogether.”

“The important point is to ***find someone compatible*** who is sensitive to your unique job or educational situation, has the appropriate knowledge and experience you seek, and is interested, willing, and able to participate in a mentoring relationship with you.”

Successful Women in STEM: Who We Are and How We Got Here

Join us for a panel session of what it means to be a woman in the Scientific field. Five of our very own great Chemical Engineering professors and leaders will speak a little bit about who they are, what they do, and how being a woman in STEM impacted their journey along the way.

Event Speakers

Dr. Carol Hall

Dr. Lisa Bullard

Dr. Christine Grant

Dr. San Miguel

Dr. Lillian Hsiao

Wednesday September 26th
6:30-8:00pm | Mann 301
There will be free pizza and refreshments!

PRESENTED BY AICHE

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my friends (and mentors).... are Chemists.... *CS Grant ... a Chemical*



Dr. Tyrone Mitchell (GE, Corning, NSF)



Prof. Harold Freeman
Textile Engin. Chemistry &
Science (NCSU)



Dr. Ronald Brooks (GE)



Pres. Ruth Simmons
(Brown PVAMU)
Pres. Marye Anne Fox
(UC San Diego)



Henry Brown
(Polaroid/AIChE/NOBCChE)



Prof. Ruben Carbonell
Chem. & Biomolecular
Engin. (NCSU)



Dr. Lilia Abron
(Founder/CEO Peer
Consultants)



Provost David A. Tirrell



Dean Tim Anderson
(UMASS)



Prof. Matthew Tirrell
(The University of
Chicago)

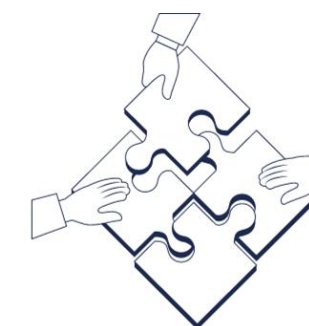
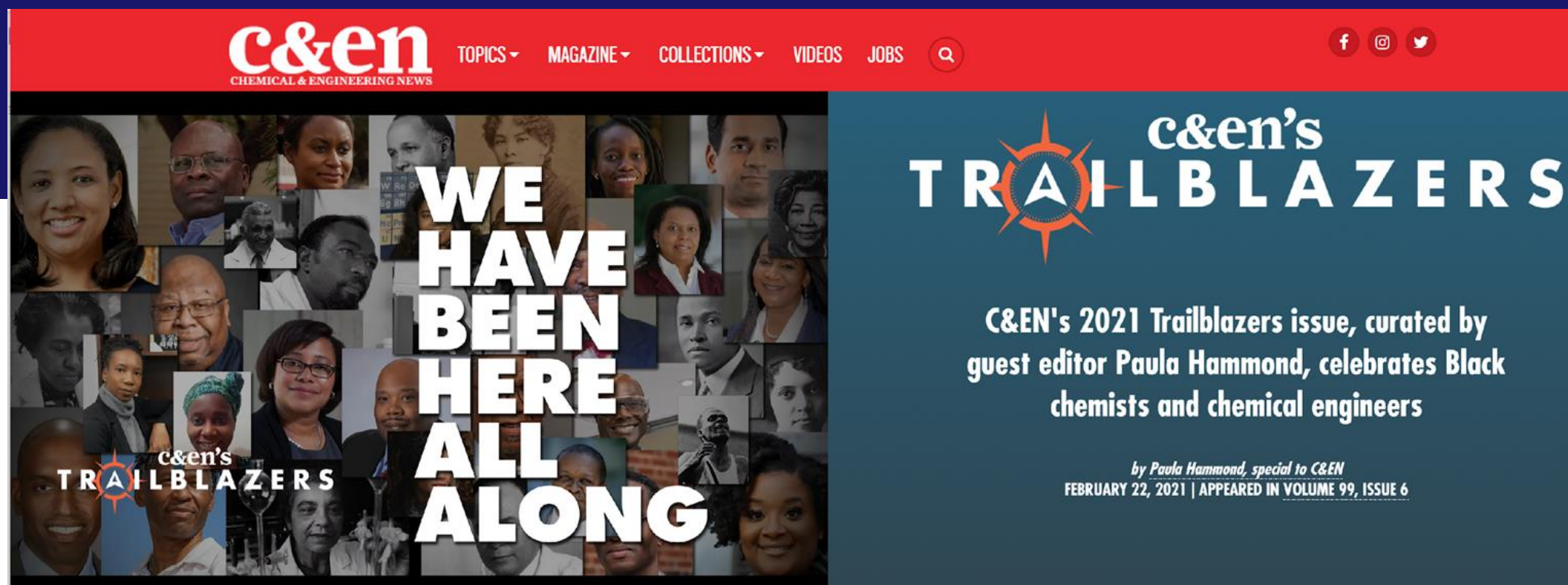


Prof. Dianne Dorland
Former Engin. Dean
(ROWAN)



Dr. Morris Morgan (GE, Hampton)
Dr. Carolyn Morgan (GE, Hampton)





HISTORIC TRAILBLAZERS



ALICE BALL
Drug-developing chemical detective



ST. ELMO BRADY
Pathfinding first PhD



WINIFRED BURKS-HOUCK
Champion for chemists of color



MARIE MAYNARD DALY
Heart health revelator



CHARLES DREW
Blood transfusion groundbreaker



LLOYD NOEL FERGUSON
NOBCChE founding father



BETTYE WASHINGTON GREENE
Polymer pioneer



JAMES ANDREW HARRIS
Periodic table expander



WALTER LINCOLN HAWKINS
Innovator of telecom materials



ALMA LEVANT HAYDEN
FDA drug detective



MARY ELLIOTT HILL
Plastics pioneer



PERCY LAVON JULIAN
Glaucoma treatment victor

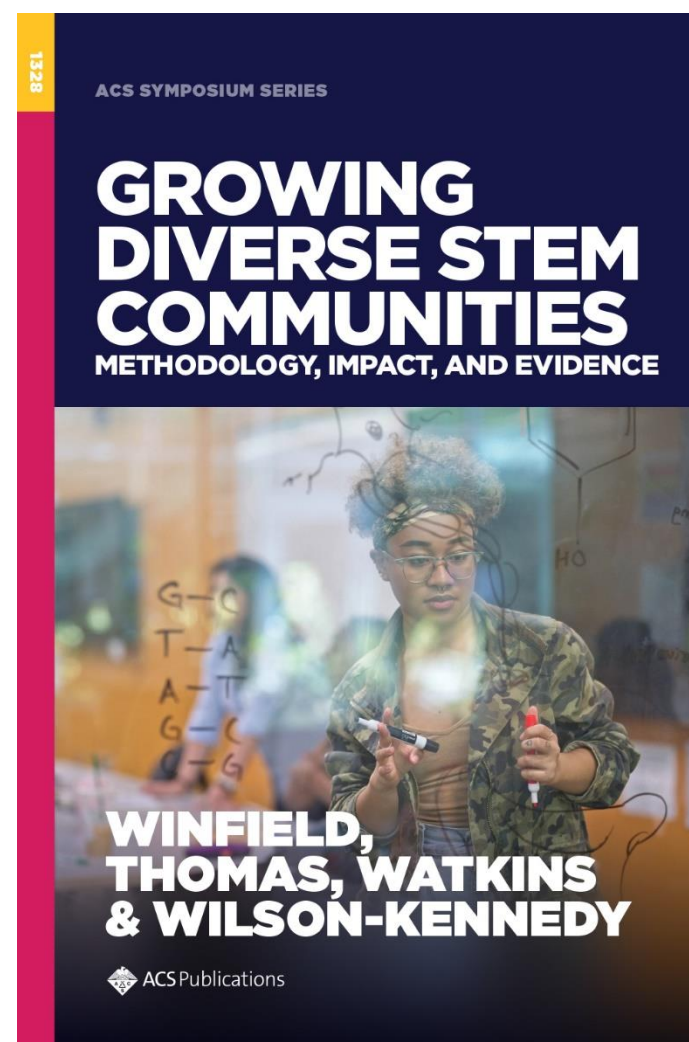
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<https://cen.acs.org/careers/diversity/Trailblazers-2021-We-have-been-here-all-along/99/i6>



ACS Women Chemists of Color Symposium

Empirical Studies on Women of Color in STEM



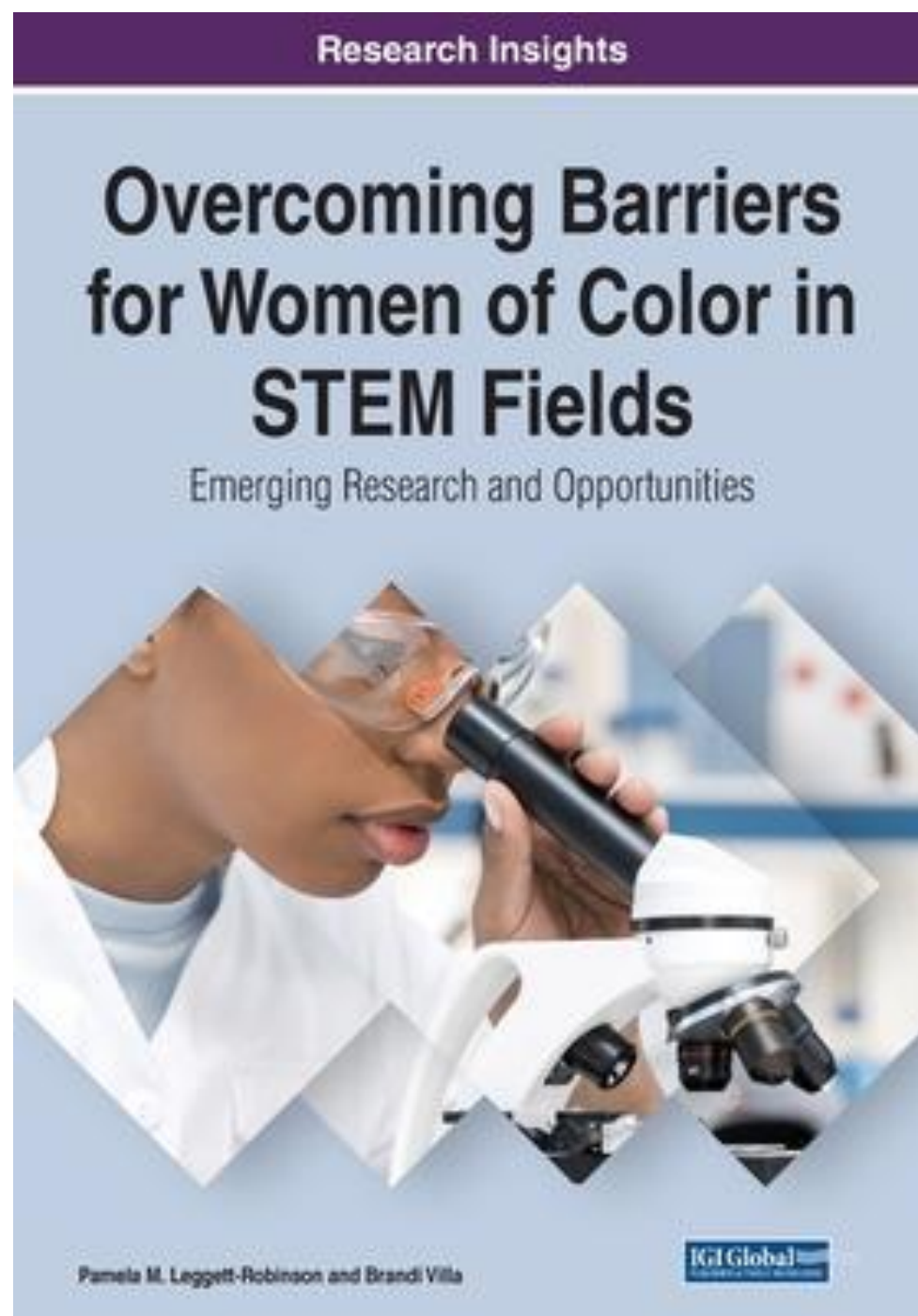
Mentors, Mentors Everywhere: Weaving Informal and Formal Mentoring into a Robust Chemical Sciences Mentoring Quilt

*C. S. Grant**

1. Informal and Formal Mentoring
2. The “Chemical Sciences Mentoring Quilt”
 - In the Beginning... The Chemistry Teacher.. The Chemistry Professor
 - Community Leaders and Family Friends
 - Inclusive Mentoring Towards Independence: Transitions, Self-Advocacy and Career Stages
 - Professional Societies: “Non-Reactions” and Catalyzing Change
3. An Informal Mentoring Journey
4. Formal Mentoring.... Informed by Informal Mentoring Experiences
5. At the Intersection of Race and Gender: An ACS Response
6. And so it Continues.. in Chemistry and Chemical Engineering:
 - Is Mentoring Always a Positive Experience?
 - We Only Value What We Measure: Celebrating a Career of Mentoring
7. The Mentoring Legacy: Will You Pass It On?



**Book Chapter : ACS Symposium Series Vol. 1328,
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Rediscovering Our Original Selves: What Did We Leave Behind (and Pick Up) on the Journey to “Success”?

Book Chapter: by CS Grant

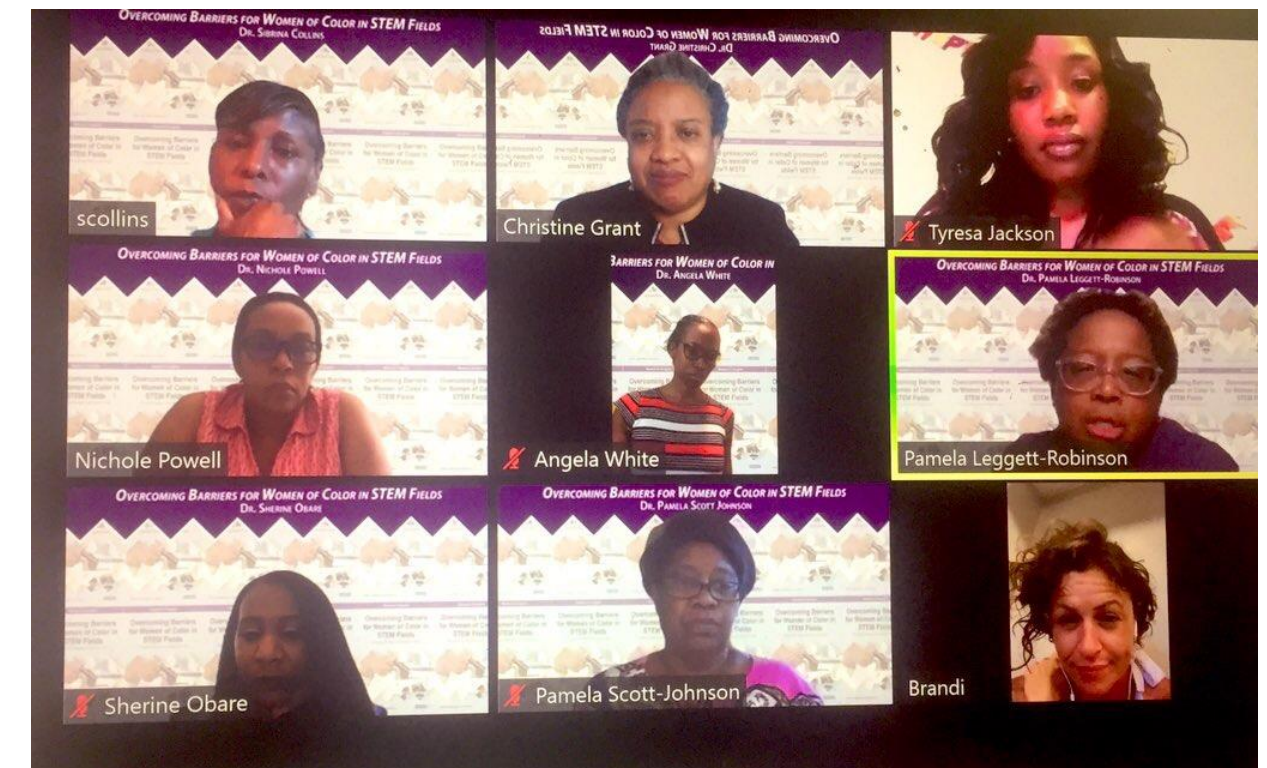
Editors: Pamela M. Leggett-Robinson (PLR Consulting) & Brandi Campbell Villa (Belay Consulting)

LIVE BOOK REVEAL & TABLE TALK

FEATURING DR. PAMELA LEGGETT-ROBINSON,
DR. BRANDI VILLA, DR. SIBRINA COLLINS,
DR. ANGELA WHITE, TYRESA JACKSON,
DR. SHERINE OBARE, DR. NICHOLE POWELL,
DR. PAMELA SCOTT JOHNSON,
AND DR. CHRISTINE GRANT

REGISTER IN ADVANCE: [HTTPS://BIT.LY/2Nu9FxT](https://bit.ly/2Nu9FxT)

SUBMIT QUESTIONS: [HTTPS://BIT.LY/2B9JkY9](https://bit.ly/2B9JkY9)



“After years of exposure to the concepts *of unconscious bias, micro-aggressions, inclusivity, and stereotype threat* (to name a few), the author reviewed the words penned over 20 years ago in her journals.

As she reviewed the harsh reality of a set of exchanges with leadership and colleagues, she realized that there were several elements of her journey that she had *suppressed*.

She recalled some of the feelings, but she had blotted out the details of the exchanges. *After this review, her reality was “redefined”.* “





ADVANCE-ENG Success at the Intersection of Formal and Informal Networks for Women of Color (WOC) Engineering Faculty



**C.S. Grant, J. DeCuir-Gunby, J. Yen, E. Riskin, C. Horner-Devine,
J. Ivy, C. Carrigan, C. Margherio**

This material is based upon work supported by the National Science Foundation under Grant No. #1500310. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.



Peer Mentoring Summits for Women of Color Engineering Faculty (NSF
ADVANCE 0545269)



Launching Academics on the Tenure-Track an Intentional Community in
Engineering: *an Intentional Community in Engineering* (NSF ADVANCE 1500310)

Celebrations of Mentoring



Celebrating PAESMEM/AAAS Mentor Awards!



NSF Presidential Award!



Faculty2Faculty Mentor Awards!



•Hi Dr. Grant, I have some great news to share with you. ***I am officially a PhD candidate within my program!!!! (note in chemistry)***

•Again, this wonderful achievement is attributed to ***the inspiration that you provided early on when I was a little girl in 5-6th grade.***

•This is such an amazing feeling. I can't wait to reach the end and become Dr. Jimenez!

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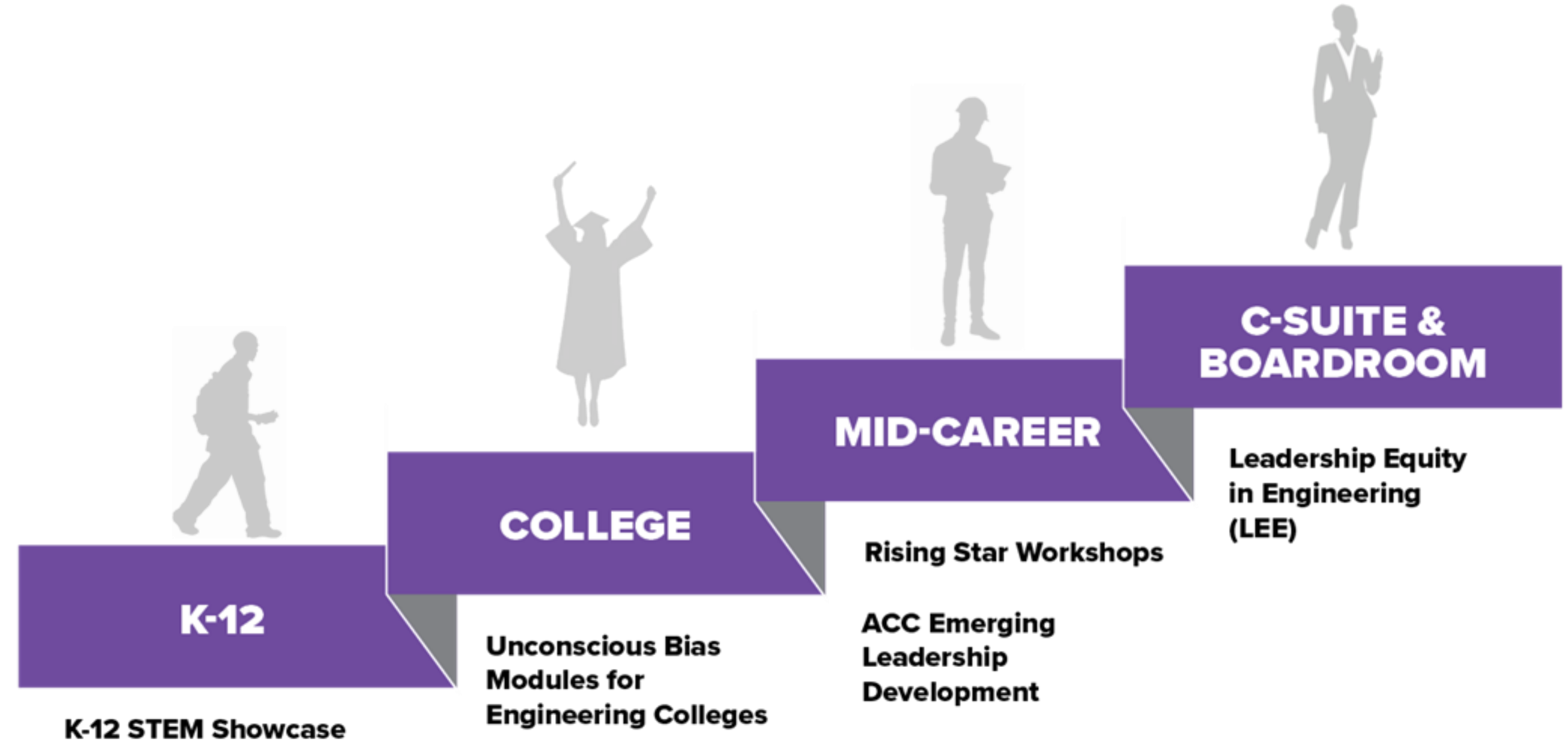
ALL FOR GOOD

Engineering for Inclusion

A core priority of the
Doing a World of Good Campaign

FROM THE CLASSROOM TO THE BOARDROOM

INCREASING INCLUSION AT EVERY STAGE OF THE CAREER CONTINUUM



F SSI
The Future of STEM
Scholars Initiative

AICHE
INSTITUTE FOR
LEARNING &
INNOVATION

Together, we are Doing a World of Good



Safety and Ethical Practice

182,615 Safety Certificates awarded to students worldwide



Changing Perceptions

YPs panel and reception engaged LGBTQ+ & Allies engineers from the classroom to the boardroom



Education, Training & Career Development

\$247,000 in academic scholarships & leadership training



María Eugenia Inda
2020 Langer Fellow



Attracting & Retaining the Best & the Brightest

6,124 middle & high school students educated on STEM careers

AICHE Rising Star Forum Panel with over 70 participants (6/23/2020)



Women's Leadership Forum

AIChE Rising Star

Finding Your Authentic Communication Style For Professional Women

Facilitator: Susan Dunlap

June 23, 2020

Christine Grant

Cathy Diana

WLF Moderator

mlbic

Cynthia Murphy-Ort...

Elizabeth Osadare

Cristina Fandino

H288809

Jamie MacDonald

GEWQG

barronme

Elvan Sari

Elizabeth Joyner

Leigh Martin

Lisa Lanzkowsky

Delia Contreras

DeBlock, Sarah E

Michele Forman-Ker...

Deirdre Simmons

Julia Reilly

Shannon Servoss

Mrunmayi (M)

elsa lopez

Ayesha Mahmooda

Jules.Hinske

72

Participants

4

Chat

Share Screen

Record

Reactions

WELCOME TO THE FUTURE.



- Launched in Nov. 2020, in partnership with ACC, Chemours & the HBCU Week Foundation
- \$10K/year (for 4 Yrs.) in scholarship funding for students pursuing STEM degrees at HBCUs and connects students to internships, leadership development, and mentoring opportunities at participating companies
- Creating opportunities & pathways for under-represented groups to enter and succeed in the chemical and related industries

An Industry-Wide Collaboration



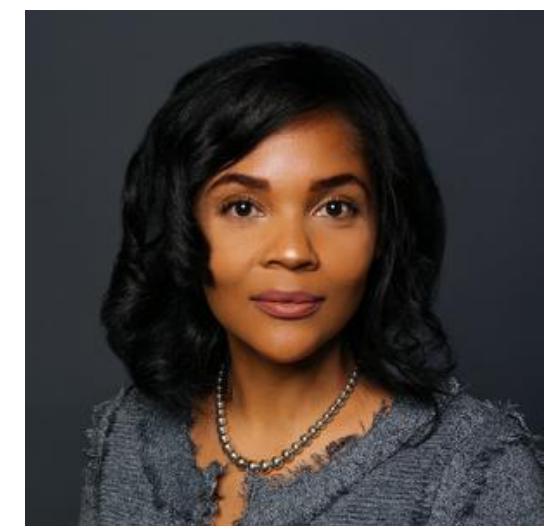
Chris Jahn
President & CEO
Founding Partner, FOSSI



June Wispelwey
Executive Director & CEO



Mark Vergnano
President & CEO
Founding Chair, FOSSI



Ashley Christopher, Esq.
Founder & CEO



FOSSI Milestones & Progress

1700

scholarship
applications

\$7.2M

raised in 2021, funding

151

scholars in first class

More than

\$11M

raised in multi-year
funding, sponsoring

230

scholars

43

Companies committed
and several individual
gifts

INCLUSION
DIVERSITY
EQUITY
ANTI-RACISM
LEARNING

AIChE 
The Global Home of Chemical Engineers

EQUITY = DIVERSITY = INCLUSION



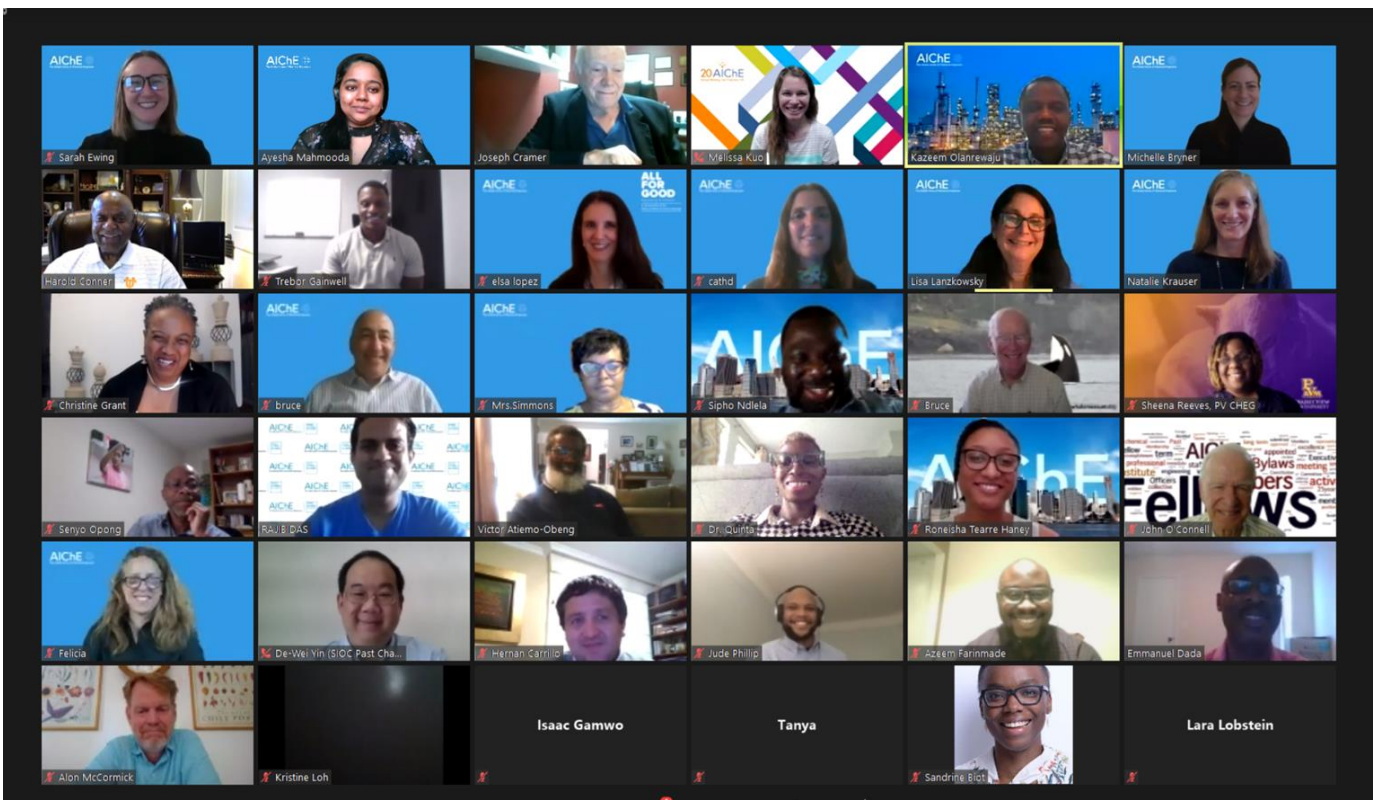
Societal Impact Operating Council (SIOC)

The Societal Impact Operating Council is leading efforts to define how chemical engineers can most effectively address societal needs. Accountabilities include outreach and public policy, diversity of the profession, and the global business environment.

Entities reporting to the Societal Impact Operating Council

- [Global Society Initiative Committee \(GSIC\)](#)
- [K-12 Initiative](#)
- [LGBTQ+ & Allies Initiative](#)
- [Minority Affairs Committee](#) (MAC)
- [Women in Chemical Engineering](#) (WIC)
- [Disabilities OutReach & Inclusion Community](#) (DORIC)

AIChE believes that all who wish to be a part of the chemical engineering community should have equal opportunity to pursue and achieve success. It also proposes an IDEAL Path for progress in an environment characterized by inclusion, diversity, equity, anti-racism, and learning. Read our new statement at [AIChE.org/EDI/Statement](https://www.aiche.org/EDI/Statement). #DiversityInSTEM



Chemical Engineering in a “COVID-World”

- Communication paradigm shift
- Coordination of education
- Collaboration mechanisms
- Connections in mentoring

COVID-19 is challenging the way we think of chemical industry trends. This is how



ChEs Tackle COVID-19

APR 17, 2020 . BY [JUNE WISPELWEY](#)

Learn about the many encouraging ways chemical engineers are stepping up to battle COVID-19.

CHEMICAL ENGINEERING CHALLENGES AND OPPORTUNITIES IN THE 21ST CENTURY

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

The COVID-19 pandemic and the Future of Pharmaceutical Manufacturing

Originally delivered Jul 8, 2020

Creating Cultures of Inclusion in Chemical Engineering

...and Chemistry...Together!!

May 25, 2021

Christine S. Grant, Ph.D.

Diversity, Equity, and Inclusion in Chemistry and Chemical Engineering

A Virtual Workshop from the Chemical Sciences Roundtable

The National Academies of
SCIENCES • ENGINEERING • MEDICINE



END of TALK/ Extra slides follow