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A Career Planning Tool For Chemical Scientists

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https://chemidp.acs.org

Career Consultant Directory

• ACS Member-exclusive program that allows you to arrange a one-on-one appointment with a certified ACS Career Consultant.

• Consultants provide personalized career advice to ACS Members.

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**Virtual Office Hours:**
LinkedIn Profiles for Chemists

**Thursday, Feb. 3rd @12pm ET**

- Optimize your LinkedIn profile
- How to attract new career opportunities
- Best practices of virtual networking

Register @ [www.acs.org/careerconsulting](http://www.acs.org/careerconsulting)

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**Tiny Matters**

A science podcast by the American Chemical Society about things small in size but BIG in impact.

Sam Jones, PhD  
Science Writer & Exec Producer

Deboki Chakravarti, PhD  
Science Writer & Co-Host

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The Inclusivity Triangle: Approaching DEIR in Chemistry through Academia, Industry, and Community

Presentation slides are available now! The edited recording will be made available as soon as possible.

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This ACS Webinar is co-produced with the ACS Office of Diversity, Equity, Inclusion & Respect.
Diversity, Equity, Inclusion, and Respect in Chemistry (DEIR)

• ACS commitment

• Embracing and advancing DEIR

• Dismantling systemic and structural barriers that have formed from a history of exclusion and bias in chemistry

Support and retain women and individuals excluded from the chemistry enterprise

Promote inclusive environments

Increase access at all levels

Embracing and Advancing DEIR:

Creating Inclusive Learning Environments
Inclusive Teaching

- Includes all students in the learning process

• Inclusive Classroom Environment
  - Get to know students and build community

• Students should contribute to the knowledge base of the course and lead discussions on topics of interest to them

Culturally Relevant Pedagogy (CRP)

- Culturally relevant teaching is a framework used to raise engagement and academic achievement of students whose culture and experiences are not included in mainstream curriculums.

• Principles are:
  1) High academic achievement- Put chemistry in context
  2) Cultural competence- include cultural and social elements to develop positive ethnic and cultural identities
  3) Examination of social and political inequities- Examine and challenge inequities in society related to chemistry

Gloria Ladson-Billings
Introduced CRP in 1995
Developing culturally relevant activities

- **Food**: Let students pick family recipe or their favorite food and create assignments or questions related to compounds in the food
  - Properties, synthesis, analysis, biology (lecture and laboratory)

- **Medicine/Drugs**: Medicines targeted at diseases impacting minority communities, women/minorities in medicinal chemistry, discoveries by women

- **TV shows/documentaries/books**: Use books to frame a course, ask students to relate the class to the shows they watch, or use popular documentaries as source material
  - Opioid crisis- Euphoria, High Town, Dopesick, Painkiller, Ben is Back, Snowfall

Review Projects- Student Choice

**Organic I Course (Infographics)**
- Red Lipstick
- Alcohol Chemistry
- Baking
- Christmas Chemistry
- Acrylic Nails
- Sunscreen

**Organic II Course**
- Cigarettes and Vapes
- Chemistry and Social Impact of Plan B
- Organic Farming and Pesticides
- Cannabis and Prison Reform
- Maternal Death and Pregnancy Hormones
Summary

- **Principles 1&2:** Use culturally relevant teaching to encourage high academic achievement while developing positive ethnic and cultural identities for all students

- **Start small - individual questions, assignments, or discussion**

- **Principle 3:** Critique social and political inequities in society to solve problems related to chemistry

  - Can be accomplished through RESEARCH!

**Audience Survey Question**

What are you prepared to do to create an inclusive curriculum?

- A) Climate survey
- B) Curricular audit
- C) Incorporating current events/entertainment in the course
- D) Working with colleagues to create assignments/projects

* If your answer differs greatly from the choices above tell us in the chat!
Embracing and Advancing DEIR:

Creating an Inclusive Research Environment

• How can America keep its lead in fundamental research?

• How can American discoveries continue to empower U.S. businesses and entrepreneurs to succeed globally?

• How can the U.S. increase STEM skills and opportunities for all Americans?
Missing Millions: Faster Progress in Increasing Diversity Needed to Reduce Significant Talent Gap

Legend

- 🧳 x 100,000 people in 2021 S&E workforce
- 🧵 x 100,000 additional people needed in 2030 for the S&E workforce to be representative of the U.S. population

While the number of people from under-represented groups in the S&E workforce has grown over the past decade, much faster increases will be needed for the S&E workforce to be representative of the U.S. population in 2030. To achieve that goal, the NSB estimates that the number of women must nearly double, Hispanic or Latinos must triple, Black or African Americans must more than double, and the number of American Indian or Alaska Native S&E workers needs to quadruple (from 15,000 to 60,000). The NSB estimates that the number of Native Hawaiian or Other Pacific Islanders will be slightly overrepresented in the S&E workforce in 2030.

These estimates are based on projections from the U.S. Census and Bureau of Labor Statistics, together with data from the 2021 Women, Minorities, and Persons with Disabilities in Science and Engineering report published by the National Center for Science and Engineering Statistics and assume that participation of these groups in the S&E workforce increases at current rates.

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AMERICA’S OPPORTUNITY GAPS: BY THE NUMBERS

Systemic Barriers to Equality of Opportunity for Black Americans and People of Color

READ THE REPORT
Workforce and Talent Development

Creating opportunities for career progression toward chemistry, science and engineering careers

Supportive culture

Student Success

Mentoring

Identity

Creating Cultures that Embrace Inclusivity in Research Labs

Research leaders can create inclusive environments by:

• Demonstrating cultural competence
• Ensuring that all participants are fully engaged as active contributors in the research
• Welcoming all ideas and questions and demonstrating value and respect
• Being open about not having all the answers, but instead having a growth mindset
• Becoming comfortable with being uncomfortable
Intentional mentoring leads to success and career progression.
Equality

The assumption is that everyone benefits from the same supports. This is equal treatment.

Equity

Everyone gets the supports they need (this is the concept of “affirmative action”), thus producing equity.

Justice

All 3 can see the game without supports or accommodations because the cause(s) of the inequity was addressed. The systemic barrier has been removed.
What are the next steps you plan to take in workforce and talent development? (Select all that apply)

- **A)** Give a seminar at an HBCU (historically black college/university) or HIS (Hispanic Serving Institution)
- **B)** Attend NOBCChE or SACNAS conference and host a booth/attend poster session
- **C)** Aspire to develop professionally in areas of cultural competence and inclusive excellence in research and mentoring
- **D)** Reflect on the impact of unconscious bias in classrooms, research, and work environments

*If your answer differs greatly from the choices above tell us in the chat!*
How long have you been a member of ACS?

- A) Less than 5 years
- B) 6-15 years
- C) 16-25 years
- D) Greater than 25 years
- E) I am not an ACS Member

* If your answer differs greatly from the choices above tell us in the chat!

How to utilize local section activities to increase inclusion of diverse perspectives, professions, and racial/ethnic/gendered identities of members?

"Professional organizations are the best-kept secrets as they are a breeding ground for professional growth, leadership training, and scholarship." (Leggett-Robinson, 2021)
Use organizational awareness

Ensure all members have fair access and opportunities

Intentionally invest in DEIR at the committee level

Creating personal and professional opportunities for growth within the section

Creating new processes and systems to recruit and support members from diverse groups

Creating new opportunities for members to engage in ACS activities

Local Section Organizational Awareness (Demographics)

What it looks like:
- Demographics of Membership
- Demographics of Leadership
- Field of Research
- Degree Discipline
- Age
- Meeting attendees
- Meeting Location
- Meeting Topics/Speakers
Local Section Organizational Awareness (Operations)

Before we can utilize local section activities or create space, we have to know how the section operates.

**LS Member XYZ** would like to run for a councilor position. She has been a member of the local section for 2 years.

She has attempted to serve in a leadership role but has been met with opposition from the more senior local section members.

"I am so excited that you would like to be a councilor but you should know…only people that have served in a leadership role can be considered for a councilor position"

“Only people that have been in the section for at least 5 years can run for a leadership role”.

Belonging

The human need to belong is the most powerful motivator of social behavior (Baumeister & Leary 1995). When people perceive threats to their belonging in organizations (e.g., rejection, isolation, invisibility), their interactions, functioning and productivity can be and is often negatively impacted (Leggett-Robinson, 2020).

**Belonging and Fair Access & Collaborations**

**Fair Access and Collaborations**

Systematic access to high-quality advice and guidance through work experiences, skill development, and collaborations is crucial in helping diverse members pursue professional careers.
Leadership
Members can serve on committees, fill a local chapter officer position, spearhead scholarship awards, develop community outreach programs or the like. With each, the skill set obtained members lay the foundation for their leadership progression.

Networking
Being able to share experiences and information with others within the discipline is a huge benefit, as operating in isolation can lead to feelings of unmet needs for professional support (Obare, 2020; Leggett-Robinson, 2021)

Sponsorship
Sponsorship from the local level can place diverse members at the door of leadership on the national level of the professional organization.

DEIR as a Committee Commitment

Intentional Investments in DEIR

Listening & Relationships
Respect for Diverse Perspectives, Values, & Ways of Doing
Intentional Recruitment & Leadership Advancement
What next step do you plan to take in creating a space for all members of the local section to thrive? (Select all that apply)

• A) Use organizational awareness for advocacy, empowerment, and accountability

• B) Seek ways to ensure all members have access and opportunities for professional growth and leadership

• C) Develop and/or foster collaborations and partnerships with NOBCChE, SACNAS, AACT, and Chemical Industries

• D) Ensure DEIR is a part of all committees (strategic planning)

* If your answer differs greatly from the choices above tell us in the chat!

References and Resources- CRP

• Compound Interest- compoundchem.com

• https://www.facinghistory.org/books-borrowing/fostering-civil-discourse-how-do-we-talk-about-issues-matter

• Johnson, S. S. Embracing Culturally Relevant Pedagogy to Engage Students in Chemistry: Celebrating Black Women in the Whiskey and Spirits Industry, JCE 2022 99 (1), 428-434, DOI: 10.1021/acs.jchemed.1c00504


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References and Resources: Workforce & Talent Development


References and Resources: Membership & Community


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Yes And!
Improving Science Collaboration
with Lessons from Improv

Date: Wednesday, February 2 @ 2-3pm ET
Speaker: Matt Grandia, Du Pont Electronics & Industrial
Moderator: Annabelle Ludden, Iowa State University

What You Will Learn:
• How to leverage the concepts of accepting and building to foster collaboration
• Why improving professional empathy can build win-win scenarios
• How collaboration can improve productivity and ingenuity

Co-produced with: ACS Division of Professional Relations

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Zebras or Horses?
How a False Sense of Security
Can Lead to Lab Accidents

Date: Wednesday, February 9 @ 2-3pm ET
Speaker: Mary Beth Makuchy, ACS Chemical Health & Safety
Moderator: Ralph Stuart, Iowa State College

What You Will Learn:
• How to recognize the multiple contributing factors that lead to a laboratory accident
• How a laboratory accident can impact a chemist's career
• What are ACS Chemical Health & Safety Journal's expectations for incident reports

Co-produced with: ACS Division of Chemical Health and Safety and ACS Committee on Chemical Safety

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10 Tips for Creating Abstracts with Substance and Style

Date: Thursday, February 17 @ 2-3pm ET
Speaker: Osvaldo Oliveira Jr., ACS Applied Materials & Interfaces and University of São Paulo, Brazil
Moderator: Reganera Bracchi, ACS Publications

What You Will Learn:
• How to create a strong title
• How to craft a substantive abstract
• How to construct an impactful TDS graphic

Co-produced with: ACS on Campus

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