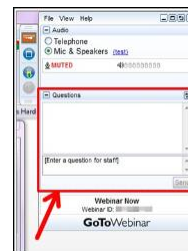




Have Questions?



Type them into questions box!

“Why am I muted?”

Don't worry. Everyone is muted except the presenter and host. Thank you and enjoy the show.

Contact ACS Webinars® at acswebinars@acs.org

1



@AmericanChemicalSociety



@AmerChemSociety



@AmerChemSociety



<https://www.linkedin.com/company/american-chemical-society>

Contact ACS Webinars® at acswebinars@acs.org

2

Check out the ACS Webinar Library!

An ACS member exclusive benefit



Hundreds of presentations from the best and brightest minds that chemistry has to offer are available to you on-demand. The Library is divided into 6 different sections to help you more easily find what you are searching.

Professional Development

▶ View the Collection

Learn how to write better abstracts, deliver more engaging presentations, and network to your next dream job. Brush up on your soft skills and set a new career path by mastering what can not be taught in the lab.

Technology & Innovation

▶ View the Collection

From renewable fuels to creating the materials for the technology of tomorrow, chemistry plays a pivotal role in advancing our world. Meet the chemists that are building a better world and see how their science is making it happen.

Drug Design and Delivery

▶ View the Collection

The Drug Design Delivery Series has built a collection of the top minds in the field to explain the mechanics of drug discovery. Discover the latest research, receive an overview on different fields of study, and gain insight on how to possibly overcome your own med chem roadblocks.

Culinary Chemistry

▶ View the Collection

Why does food taste better when it is grilled or what molecular compounds make a great wine? Discover the delectable science of your favorite food and drink and don't forget to come back for a second helping.

Popular Chemistry

▶ View the Collection

Feeling burdened by all that molecular weight? Listen to experts expound on the amazing side of current hot science topics. Discover the chemistry of rockets, how viruses have affected human history, or the molecular breakdown of a hangover.

Business & Entrepreneurship

▶ View the Collection

How do ideas make it from the lab to the real world? Discover the ins and outs of the chemical industry whether you are looking to start a business or desire a priceless industry-wide perspective.

<https://www.acs.org/content/acs/en/acs-webinars/videos.html>

3



ACS Webinars®

CLICK • WATCH • LEARN • DISCUSS



Learn from the best and brightest minds in chemistry! Hundreds of webinars on diverse topics presented by experts in the chemical sciences and enterprise.

Edited Recordings are an exclusive ACS member benefit and are made available once the recording has been edited and posted.

Live Broadcasts of ACS Webinars® continue to be available to the general public several times a week generally on Wednesdays and Thursdays from 2-3pm ET!

A **collection of the best recordings** from the ACS Webinars Library will occasionally be rebroadcast to highlight the value of the content.

www.acs.org/acswebinars

4

Advance YOUR CAREER

ChemIDP™



ChemIDP.org

Discover ACS PUBLICATIONS

Publishing Resources



publish.acs.org

Connect WITH CHEMISTS AND OTHER SCIENCE PROFESSIONALS

CAS SciFinder Future Leaders



171 alumni, 35 countries
and over 120 institutions

acsconcampus.acs.org/resources



From ACS Industry Member Programs

◆ Industry Matters Newsletter

ACS Member-only weekly newsletter with exclusive interviews with industry leaders and insights to advance your career.

Preview & Subscribe: acs.org/indnews



Connect, collaborate, and stay informed about the trends leading chemical innovation

Join: bit.ly/ACSinnovationhub

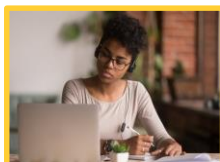


ACS Career Navigator: Your Home for Career Services



Whether you are just starting your journey, transitioning jobs, or looking to brush up or learn new skills, the **ACS Career Navigator** has the resources to point you in the right direction.

We have a collection of career resources to support you during this global pandemic:



Professional
Education



Virtual Career
Consultants



ACS Leadership
Development System



Career Navigator LIVE!



ChemIDP



College to Career



ACS Webinars



Virtual Classrooms

Visit www.ACS.org/COVID19-Network to learn more!

7

ACS Department of Diversity Programs



Advancing ACS's Core Value of Diversity, Inclusion & Respect

We believe in the strength of diversity in all its forms, because inclusion of and respect for diverse people, experiences, and ideas lead to superior solutions to world challenges and advances chemistry as a global, multidisciplinary science.

Contact Us:

https://app.suggestionox.com/r/DI_R

Diversity@acs.org

@ACSDiversity

ACS Diversity



acsvoices.podbean.com/



www.acs.org/diversity

8

Grateful for your chemistry career?

Pay it forward with a donation to the ACS Scholars Program today!

www.donate.acs.org/scholars



ACS Scholars Endowment Founder Joe Vacca, retired Vice President of Chemistry, Merck & Co., meets with his 2018 ACS Scholar Johanna Masterson, now a grad student at Princeton University.

“Chemistry has been good to me...so I wanted to make a significant gift to provide that opportunity to others.”

9



Date: Wednesday, February 3, 2021 @ 2-3pm ET
Speaker: Brian Gibney, Brooklyn College and CUNY
Moderator: Blake Aronson, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What are your graduate degree options in chemistry
- How to prepare for applying and attending graduate school in chemistry
- What to expect in graduate school in chemistry

Co-produced with: ACS on Campus



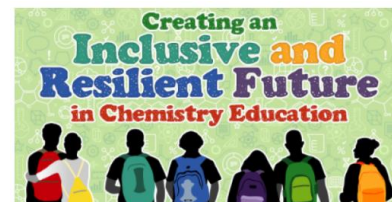
Date: Thursday, February 4, 2021 @ 2-3pm ET
Speaker: Jayshree Seth, 3M
Moderator: Glenn Ruskin, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What the world thinks of science during the global pandemic and if skepticism gone up or down
- What the global public cares about the most as it relates to science
- What specific actions can we all take to advocate for science

Co-produced with: ACS External Affairs & Communications



Date: Wednesday, February 10, 2021 @ 2-3pm ET
Speakers: Anthony DePass, Long Island University and Understanding Interventions / Michelle Claville, Hampton University and NSF Undergraduate Programs / Lourdes Echegoyen, The University of Texas at El Paso
Moderator: Zakliya Wilson-Kennedy, Louisiana State University
Organizer: Leyte Winfield, Spelman College

[Register for Free!](#)

What You Will Learn:




- The breadth of research that broaden the participation of individuals from groups underrepresented in STEM
- Commentaries and evidence-based practices that might be appropriate for the JCE special issue
- The editors for the Special Issue will host weekly office hours to answer specific questions related to the JCE special issue. Please submit questions to lw infield@spelman.edu

Co-produced with: ACS Publications and ACS Education

www.acs.org/acswebinars

10

DISCOVER QUALITY TEACHING RESOURCES

High School	Middle School	Elementary School
		
<p>Most Popular</p> <ul style="list-style-type: none"> LAB Chemistry Composition Challenge ACTIVITY Electromagnetic Spectrum Book SIMULATION States of Matter and Phase Changes <p>All High School Topics ></p>	<p>Most Popular</p> <ul style="list-style-type: none"> LAB Bath Bomb Chemistry! LESSON PLAN Elements Are Out of This World LESSON PLAN One Tube Reaction <p>All Middle School Topics ></p>	<p>Most Popular</p> <ul style="list-style-type: none"> LESSON PLAN Elements Are Out of This World DEMONSTRATION Introduction to Solutions LAB Soil Permeability <p>All Elementary School Topics ></p>

The American Association of Chemistry Teachers offers an online growing teaching resource library, including lesson plans, labs, demos, simulations, animations, student passes, videos, and more for grades K–12.

<https://teachchemistry.org>

11

Diversity, Inclusion, and Respect Advisory Board (DI&R AB)



ACS Executive Leadership Team, Board of Directors, and DI&R AB Members

- Supports the ACS Board of Directors and Committee on Professional and Member Relations (P&MR) in implementing the Society's core value of Diversity, Inclusion, and Respect
- Involved in both strategy recommendations and tactical execution, with the goal of seeing holistic engagement towards a more inclusive Society and scientific community
- Central hub for ACS members and governance units working together to build a culture of inclusion within ACS

12

Co-produced with: American Association of Chemistry Teachers, ACS Department of Diversity Programs, and the ACS Diversity, Inclusion & Respect Advisory Board



ACS
Chemistry for Life®

I CAN BE A
SCIENTIST
TOO!

HOW TO CREATE OPPORTUNITY IN THE STEM CLASSROOM

THIS ACS WEBINAR WILL BEGIN SHORTLY...

13



"I Can Be a Scientist, Too!" How to Create Opportunity in the STEM Classroom



Nelson Fuamenya
Biology Teacher, Wakefield High School



Ana Munoz
Immersion Biology and Chemistry Teacher,
Wakefield High School



Davis Tran
Biology Teacher, Wakefield High School



Hina Aftab
Computer Science Teacher, Wakefield High School



Jason Love
Math Teacher, Wakefield High School



Peter Dornhout
Past ACS President and Vice President for Research,
Professor of Chemistry, Iowa State University



Veriese Gaither
Chemistry Teacher, Wakefield High School



Aron Gregory
Chief Diversity, Equity and Inclusion Officer,
Arlington Public Schools

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

www.acs.org/acswebinars

This ACS Webinar is co-produced with American Association of Chemistry Teachers, ACS Department of Diversity Programs, and the ACS Diversity, Inclusion & Respect Advisory Board. 14



AUDIENCE SURVEY QUESTION 1: TEMPERATURE CHECK

How often do you engage in implementing equitable practices in your classroom?

- Daily
- Weekly
- Monthly
- Never, but Interested

17

DEFINING EQUITY IN
EDUCATION

18

EDUCATIONAL EQUITY

Educational equity means establishing systems to ensure that every child has an equal chance for success. This requires understanding the unique challenges and barriers individual students or student populations face and providing additional supports to help them overcome those barriers.

While it may not ensure equal *outcomes*, such effort provides the conditions for equal *opportunity* for success.*

Thinking Maps: Equity in Education
<https://www.thinkingmaps.com/equity-education-matters/>

19

EQUITY IN SCIENCE EDUCATION

“Equity in science education requires that all students are provided with equitable opportunities to learn science and become engaged in science and engineering practices..... In addition, the issue of connecting to students’ interests and experiences is particularly important for broadening participation in science.” – NRC Framework, p. 28

A Framework for K-12 Science Education
 Practices, Crosscutting Concepts, and Core Ideas (2012)

20

A blue background with a cluster of glowing, translucent spheres in shades of blue and purple. The spheres vary in size and are arranged in a dense, overlapping pattern. The text "Panel Discussion" is centered in a white, sans-serif font.

PANEL DISCUSSION

21

A blue background with a cluster of glowing, translucent spheres in shades of blue and purple. The spheres vary in size and are arranged in a dense, overlapping pattern. The text "GUIDING QUESTIONS" is centered in a white, sans-serif font, enclosed in a white rounded rectangle.

GUIDING QUESTIONS

1. What experiences in your past have led you to teach in STEM education?

22

GUIDING QUESTIONS

2. What purposeful actions do you take to provide an equitable, inclusive learning experience, so that all students can see themselves pursuing careers in STEM fields ?

23

ESTABLISH AN EQUITABLE CLASSROOM

- Develop Classroom Norms (with students)
- Have high academic and behavioral expectations of *all* students
- Reflect on personal beliefs /experiences to increase awareness to gender, racial, religious, and other forms of diversity.
- Be sensitive to and flexible about the ways diverse students think, behave, and communicate.
- Believe that *all* students can be successful



SCIENTIFIC COLLABORATION

Science is Universal

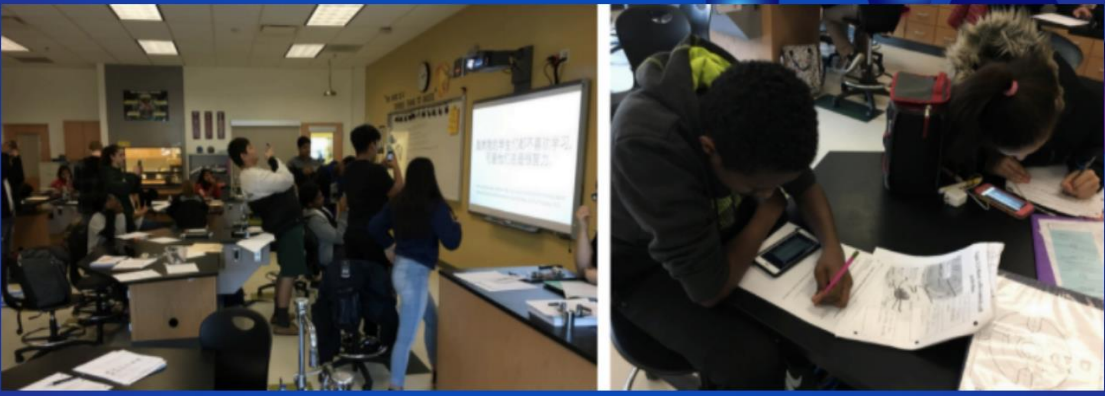
I read your paper. Let us collaborate.

My pleasure.

Ana

25

USE CLASS BUILDING and teambuilding activities

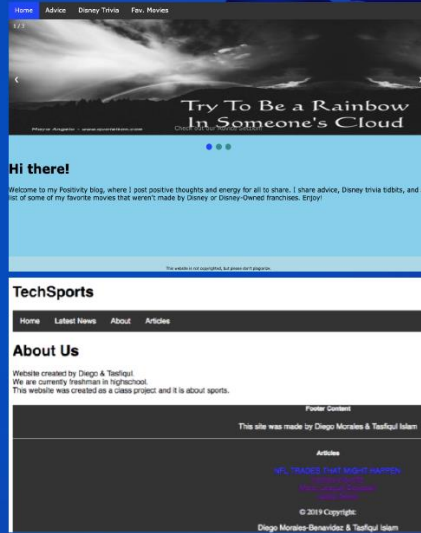


Davis

26

CONNECT LEARNING TO STUDENT INTERESTS

- Student-created web-sites



CONNECT LEARNING TO STUDENT INTERESTS

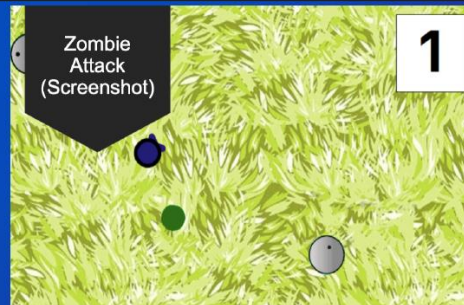
- Student created games/apps

Project Idea

To make a game about a student surviving school

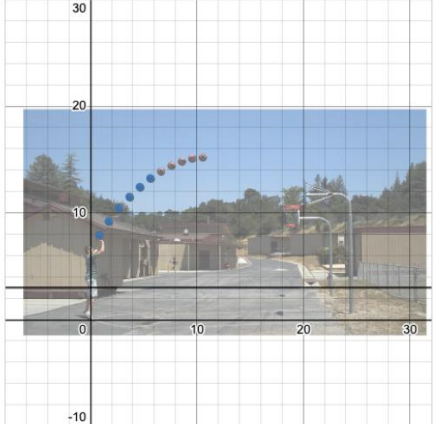


- Our project is game. It was coded using python and turtle graphics. The objective is to dodge the incoming spaceships by moving left and right.



USE REAL LIFE EXPERIENCES TO CONNECT SCHOOL LEARNING TO STUDENTS' LIVES

Create the Best-Fit Line



Lines used to be the only kind of mathematical relationship we needed. Lots of models are linear.

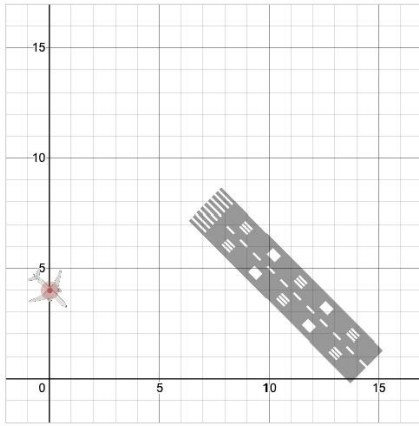
But lines are the wrong model here! What does your line say will happen to the basketball?

✓
Share with Class

<https://www.desmos.com/>

USE REAL LIFE EXPERIENCES TO CONNECT SCHOOL LEARNING TO STUDENTS' LIVES

A line can help.



Lines can help us be more precise.

The path for a safe landing of the airplane follows the line $y = 15 - x$.

Let's try this one more time. Move the plane so it lands safely. Then press "Submit" to check your answer.

Submit

<https://www.desmos.com/>

AUDIENCE SURVEY QUESTION 2:

What do you think is the biggest challenge to implementing equitable practices in the STEM classroom?

- Time
- Lack of Knowledge/Training
- Teacher Expectations
- Stereotypes/Implicit Bias
- Systemic Constraints

31

GUIDING QUESTIONS

3. In your work with students' what aspect(s) of equity and inclusivity do you see as the biggest challenge?

32

AUDIENCE SURVEY QUESTION 3:

Which of the following Equitable Classroom practices will you intentionally commit to focus on? Please select all that apply.

- a) Use class building and teambuilding activities
- b) Use real-life experiences to connect learning to students' lives
- c) Use instructional materials that reflect students' backgrounds and interests
- d) Use heterogeneous and cooperative learning groups
- e) Ask for students' feedback on the effectiveness of instruction

33

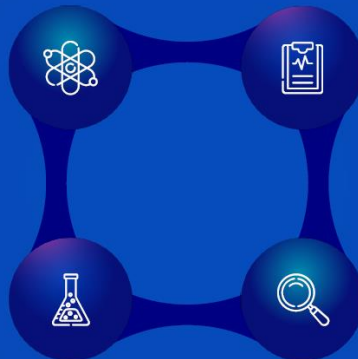
THE FOUR DIMENSIONS OF TEACHING AND LEARNING — RELEVANT TO ADDRESSING EQUITY IN THE CLASSROOM

STUDENTS

Know your students - understand the ways that students from various social and cultural backgrounds experience the classroom

COURSE CONTENT

Create a curriculum that incorporates diverse social and cultural perspectives



TEACHER

Know oneself with a prior history of academic socialization interacting with a social and cultural background and learned beliefs

TEACHING METHODS

Use a repertoire of teaching methods to address learning ... of students from different social backgrounds more effectively

Marchesani, L.S., & Adams, M. (1992). Dynamics of diversity in the teaching and learning process: A faculty development model for analysis and action. *New Directions for Teaching and Learning*, 52: 9-12

34

THANKYOU TO THE FOLLOWING CONSULTANTS/CONTRIBUTORS

- Mr. Adam Boyd - Program Manager | American Association of Chemistry Teachers (AACT)
- Benjamin Fiore - Walker Ph. D - Manager | Department of Diversity Programs - American Chemical Society (ACS)
- Arron Gregory J. D - Chief Diversity, Equity and Inclusion Officer | Arlington Public Schools (APS)
- Erik Holderman - Producer and Program Manager | ACS Webinars® / ACS “Program-in-a-Box”™
- Natalie LaFranzo, Ph. D - Chair - Diversity, Inclusion & Respect Advisory Board | ACS
- Ms. Michele Lombard - Science Specialist | APS
- Shantha Smith Ph. D - Equity and Excellence Coordinator | APS

35

RESOURCES

- <https://www.iamascientist.info/>
- <https://www.nationalequityproject.org/>
- https://greatlakesequity.org/sites/default/files/201001011005_equity_tool.pdf
- https://greatlakesequity.org/sites/default/files/201501011126_equity_tool.pdf
- <https://www.thinkingmaps.com/equity-education-matters/>
- <https://www.desmos.com/>
- <https://www.novakeducation.com/wp-content/uploads/2019/07/UDL-Student-Feedback-Survey-Questions.pdf>

36



37

Diversity, Inclusion, and Respect Advisory Board (DI&R AB)



ACS Executive Leadership Team, Board of
Directors, and DI&R AB Members

- Supports the ACS Board of Directors and Committee on Professional and Member Relations (P&MR) in implementing the Society's core value of Diversity, Inclusion, and Respect
- Involved in both strategy recommendations and tactical execution, with the goal of seeing holistic engagement towards a more inclusive Society and scientific community
- Central hub for ACS members and governance units working together to build a culture of inclusion within ACS

38

Co-produced with: American Association of Chemistry Teachers, ACS Department of Diversity Programs, and the ACS Diversity, Inclusion & Respect Advisory Board



ACS
Chemistry for Life®

I CAN BE A
SCIENTIST
TOO!

HOW TO CREATE OPPORTUNITY IN THE STEM CLASSROOM

ASK YOUR QUESTIONS AND MAKE YOUR COMMENTS IN THE QUESTIONS PANEL NOW! ³⁹



DISCOVER QUALITY TEACHING RESOURCES

High School	Middle School	Elementary School
 <p>Most Popular</p> <ul style="list-style-type: none"> LAB Chemistry Composition Challenge ACTIVITY Electromagnetic Spectrum Book SIMULATION States of Matter and Phase Changes <p>All High School Topics ></p>	 <p>Most Popular</p> <ul style="list-style-type: none"> LAB Bath Bomb Chemistry! LESSON PLAN Elements Are Out of This World LESSON PLAN One Tube Reaction <p>All Middle School Topics ></p>	 <p>Most Popular</p> <ul style="list-style-type: none"> LESSON PLAN Elements Are Out of This World DEMONSTRATION Introduction to Solutions LAB Soil Permeability <p>All Elementary School Topics ></p>

The American Association of Chemistry Teachers offers an online growing teaching resource library, including lesson plans, labs, demos, simulations, animations, student passes, videos, and more for grades K–12.

<https://teachchemistry.org>



Date: Wednesday, February 3, 2021 @ 2-3pm ET
 Speaker: Brian Glibney, Brooklyn College and CUNY
 Moderator: Blake Aronson, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What are your graduate degree options in chemistry
- How to prepare for applying and attending graduate school in chemistry
- What to expect in graduate school in chemistry

Co-produced with: ACS on Campus



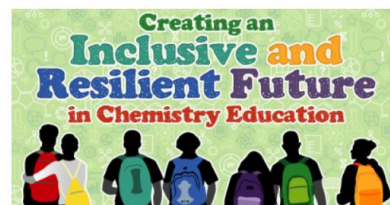
Date: Thursday, February 4, 2021 @ 2-3pm ET
 Speaker: Jayshree Seth, MEd
 Moderator: Glenn Ruskin, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What the world thinks of science during the global pandemic and if skepticism gone up or down
- What the global public cares about the most as it relates to science
- What specific actions can we all take to advocate for science

Co-produced with: ACS External Affairs & Communications



Date: Wednesday, February 10, 2021 @ 2-3pm ET
 Speakers: Anthony DePass, Long Island University and Understanding Interventions / Michelle Claville, Hampton University and NSF Undergraduate Programs / Lourdes Echegoyen, The University of Texas at El Paso
 Moderator: Zakiya Wilson-Kennedy, Louisiana State University
 Organizer: Leyte Winfield, Spelman College

[Register for Free!](#)

What You Will Learn:

- The breadth of research that broaden the participation of individuals from groups underrepresented in STEM
- Commentaries and evidence-based practices that might be appropriate for the JCE special issue
- The editors for the Special Issue will host weekly office hours to answer specific questions related to the JCE special issue. Please submit questions to lwwinfield@spelman.edu

Co-produced with: ACS Publications and ACS Education

www.acs.org/acswebinars

41



ACS Webinars®
 CLICK • WATCH • LEARN • DISCUSS



Learn from the best and brightest minds in chemistry! Hundreds of webinars on diverse topics presented by experts in the chemical sciences and enterprise.

Edited Recordings are an exclusive ACS member benefit and are made available once the recording has been edited and posted.

Live Broadcasts of ACS Webinars® continue to be available to the general public several times a week generally on Wednesdays and Thursdays from 2-3pm ET!

A **collection of the best recordings** from the ACS Webinars Library will occasionally be rebroadcast to highlight the value of the content.

www.acs.org/acswebinars

42



ACS Webinars® does not endorse any products or services. The views expressed in this presentation are those of the presenter and do not necessarily reflect the views or policies of the American Chemical Society.



Contact ACS Webinars® at acswebinars@acs.org

43



Date: Wednesday, February 3, 2021 @ 2-3pm ET
 Speaker: Brian Gibney, Brooklyn College and CUNY
 Moderator: Blake Aronson, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What are your graduate degree options in chemistry
- How to prepare for applying and attending graduate school in chemistry
- What to expect in graduate school in chemistry

Co-produced with: ACS on Campus



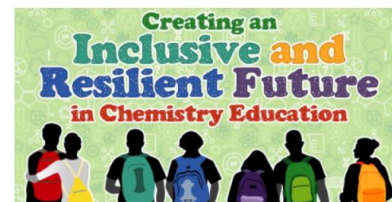
Date: Thursday, February 4, 2021 @ 2-3pm ET
 Speaker: Jayshree Seth, 3M
 Moderator: Glenn Ruskin, American Chemical Society

[Register for Free!](#)

What You Will Learn:

- What the world thinks of science during the global pandemic and if skepticism gone up or down
- What the global public cares about the most as it relates to science
- What specific actions can we all take to advocate for science

Co-produced with: ACS External Affairs & Communications



Date: Wednesday, February 10, 2021 @ 2-3pm ET
 Speakers: Anthony DePass, Long Island University and Understanding Interventions / Michelle Caville, Hampton University and NSF Undergraduate Programs / Lourdes Echegoyen, The University of Texas at El Paso
 Moderator: Zakiya Wilson-Kennedy, Louisiana State University
 Organizer: Leyte Winfield, Spelman College

[Register for Free!](#)

What You Will Learn:

- The breadth of research that broaden the participation of individuals from groups underrepresented in STEM
- Commentaries and evidence-based practices that might be appropriate for the JCE special issue
- The editors for the Special Issue will host weekly office hours to answer specific questions related to the JCE special issue. Please submit questions to winfield@spelman.edu

Co-produced with: ACS Publications and ACS Education

www.acs.org/acswebinars

44