HAVE QUESTIONS OR COMMENTS

“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 acswininars@acs.org

GET MORE RESOURCES DURING THE WEBINAR!

Chat: Hyperlinks from our team!

Handouts: Downloadable PDF of event slides!

Contact ACS Webinars® at acswininars@acs.org
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**
  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**
  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**
  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 of different fields of study, and gain insight on how to possibly overcome your own medical roadblocks.

- **Culinary Chemistry**
  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**
  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**
  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](https://www.acs.org/content/acs/en/acs-webinars/videos.html)
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

- ** ACS Innovation Hub**
  Connect, collaborate, and stay informed about the trends leading chemical innovation
  Join: bit.ly/ACSinnovationhub

Join us in our efforts to increase the diversity of chemistry.

Valued donors like you have sustained ACS educational programs that are welcoming students from diverse backgrounds into our profession.

www.acs.org/donate

ACS Office of Philanthropy
Chemistry for Life®
ChemIDP is an Individual Development Plan designed specifically for graduate students and postdoctoral scholars in the chemical sciences. Through immersive, self-paced activities, users explore potential careers, determine specific skills needed for success, and develop plans to achieve professional goals. ChemIDP tracks user progress and input, providing tips and strategies to complete goals and guide career exploration.

 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.

 Browse our Career Consultant roster and request your one-on-one appointment today!
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

Sam Jones, PhD
Science Writer & Exec Producer

Deboki Chakravarti, PhD
Science Writer & Co-Host

TO SUBSCRIBE
visit http://www.acs.org/tinymatters or scan this QR code

A science podcast by the American Chemical Society about things small in size but BIG in impact.
The Office of Diversity, Equity, Inclusion & Respect (DEIR) is the central hub at the American Chemical Society that coordinates, supports, and guides all efforts by staff, members, and governance toward Strategic Goal 5, “Embrace and Advance Inclusion in Chemistry.” The Office of DEIR at ACS is committed to empowering everyone, irrespective of lived experience and intersectionality of identities, to fully participate in the chemistry enterprise. The Office of DEIR welcomes comments, suggestions, and questions around issues of diversity, equity, inclusion, and respect from members at any time. Please do not hesitate to reach out to the Office through this form.

Please do not hesitate to reach out to the Office of DEIR at diversity@acs.org


www.acs.org/acswebinars
Can Medical Instruments be Racist?

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

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)

This ACS Webinar is co-produced with Science History Institute and Chemical & Engineering News.
Can Medical Instruments be Racist?

Roger Turner
Research Curator
Science History Institute

Pulse Oximeter and Spirometer: Instruments that matter today, with biases rooted in history
Spirometry

Patient takes a deep breath and blow as hard as possible into tube

Clip on nose

Technician monitors and encourages patient during test

Machine records the results of the spirometry test

Dr. Lundy Braun, Ph.D.
Professor of Medical Science and Professor of Africana Studies, Brown University

Breathing Race Into the Machine
The Surprising Career of the Spirometer from Plantation to Genetics
Lundy Braun
8. (Optional) For non-Caucasian subjects, press ADJUST PRED.
Ethnic factors for children: The lung size of children of other ethnic groups is in most instances less than that of European descent. The difference is of the order of 20% for Afro/Caribbean children and 10% for most other groups.
NOTES ON THE
STATE OF VIRGINIA.
WITH AN
APPENDIX.
BY THOMAS JEFFERSON.
FOURTH AMERICAN EDITION.

BOSTON:
PRINTED BY DAVID GRAY.
THOMAS J. WOOLSEY, J. WOOLSEY, J. NEWELL, J. J. FRITZ.

Diagram 25.

Diagram 26.

Position of the body in filling the chest before breathing into the Spirometer.
Samuel A Cartwright
Enslaver and Physician

Benjamin Apthorp Gould and US Sanitary Commission

INVESTIGATIONS
OF
MIILITARY AND ANTHROPOLOGICAL STATISTICS
OF
AMERICAN SOLDIERS.

BY
BENJAMIN APHTHROP GOULD.

NEW YORK:
PUBLISHED FOR THE U.S. SANITARY COMMISSION, BY DICK AND KELLOGG.
1863.
Frederick Hoffman, chief statistician for Prudential Life Insurance Co

Dissenting Voices: W.E.B. Du Bois
Kelly Miller
Mathematician and Sociologist at Howard University

Portrait courtesy of Schomburg Center for Research in Black Culture, NY Public Library.

Review of Race Traits image via Library of Congress.

Pulse Oximetry
Oximetry: Roots in Extreme Environments and Aerospace Medicine

Hypoxia Warning System Brochure
Beckman Instruments (c. 1963).
Science History Institute Digital Collections
Ear Oximeters, 1930s-1940s

Karl Matthes

Glenn Millikan

Glenn Millikan (left), Robert Millikan (center) on Mount Whitney, 1925.
Image courtesy Caltech Archives.
Oximetry: Roots in Anesthesiology and Clinical Medicine

Beckman Model 160 Physiological Gas Analyzer and Modular Cuvette (c. 1960s)
Science History Institute Digital Collections

Takuo Aoyagi and the Contemporary Pulse Oximeter

Nihon Kohdon Oximeter OLV-5100 (1975)
Can Medical Instruments be Racist?

- Racism = prejudice + power

How Oximetry is Coupled to Power
What to Do?
Solutions and Responses

Increase Awareness of Built-in Bias
Acknowledge Racism in Sci & Tech Policy

Legislation
Build instruments for the full range of bodies

Thank you!

Science History Institute
Chemistry • Engineering • Life Sciences
315 Chestnut Street
Philadelphia, PA 19106
Can Medical Instruments be Racist?

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 Science History Institute and Chemical & Engineering News.
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 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
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

ACS Webinars®

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

Date: Tuesday, February 1 @ 1-2pm ET
Moderator: Paula Christopher, American Chemical Society

What You Will Learn:
- How to design curricular activities that engage students and build upon their diverse backgrounds in an inclusive manner
- How to build a research environment where any student can successfully develop the skills, talent, competence, and confidence needed for the workforce
- How to utilize local sector activities to increase inclusion of diverse perspectives, professions, and racial/ethnic/gendered identities of members

Co-produced with: ACS Office of Diversity, Equity, Inclusion & Respect

www.acs.org/acswebinars

ACS Webinars®

Yes And!
Improving Science Collaboration with Lessons from Improv

Date: Wednesday, February 2 @ 2-3pm ET
Speaker: Matt Grandbois, DuPont Electronics & Industrial
Moderator: Annabelle Zlobin, 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 relevant scenarios
- How collaboration can improve productivity and ingenuity

Co-produced with: ACS Division of Professional Relations

ACS Webinars®

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

Date: Wednesday, February 9 @ 2-3pm ET
Speaker: Mary Beth McAlary, ACS Chemical Health & Safety
Moderator: Ralph Stuehr, Xavier 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

www.acs.org/acswebinars