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 acswebinars@acs.org

GET MORE RESOURCES DURING THE WEBINAR!

Chat: Hyperlinks from our team!

Handouts:
Downloadable PDF of event slides!

Contact ACS Webinars® at acswebinars@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 cannot be taught in the lab.
  - [View the Collection](#)

- **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.
  - [View the Collection](#)

- **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 in different fields of study, and gain insight on how to possibly overcome your own medchem roadblocks.
  - [View the Collection](#)

- **Culinary Chemistry**
  - Why does food taste better when it's 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.
  - [View the Collection](#)

- **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.
  - [View the Collection](#)

- **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.
  - [View the Collection](#)

[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](http://acs.org/indnews)

- **ACS Innovation Hub**
  Connect, collaborate, and stay informed about the trends leading chemical innovation

---

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](http://www.acs.org/donate)
A Career Planning Tool For Chemical Scientists

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.

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.

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

www.acs.org/careerconsulting
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/tiny matters or scan this QR code

A science podcast by the American Chemical Society about things small in size but BIG in impact.
Get in touch with the Office of Diversity, Equity, Inclusion & Respect

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

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.*
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 blows 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
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.
Diagram 26.

Position of the body in filling the chest before breathing into the Spirometer.
Benjamin Apthorp Gould and US Sanitary Commission

Investigations
of
Military and Antelopeological Matters
of
American Soldiers.

By
Benjamin Apthorp Gould.

New York: Published for the U.S. Sanitary Commission, by Howe and Mohr, 1864.
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
Dr. Amy Moran Thomas, Ph.D
Associate Professor of Anthropology
Massachusetts Institute of Technology

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

Medicare
What to Do?

Solutions and Responses

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

Dr. Alondra Nelson, Deputy Director of OSTP

Legislation

Image of a finger with a pulse oximeter, which is used to measure blood oxygen levels.
Build instruments for the full range of bodies

Thank you!
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