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#### ACS Scholar Adunoluwa Obisesan

BS, Massachusetts Institute of Technology, June 2021 (Chemical-biological Engineering, Computer Science & Molecular Biology)

"The ACS Scholars Program provided me with monetary support as well as a valuable network of peers and mentors who have transformed my life and will help me in my future endeavors. The program enabled me to achieve more than I could have ever dreamed. Thank you so much!"

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Bioorthogonal, click chemistry clinch the Nobel Prize October 5, 2022



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https://www.acs.org/linkedInlearning

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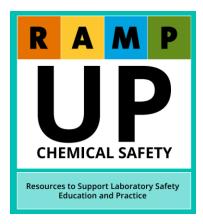
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### A complete listing of ACS Safety Programs and Resources



Download it for free in the "Projects & Announcements" Section! www.acs.org/ccs





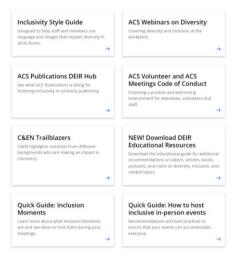


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#### **ACS OFFICE OF DEIR**

Advancing ACS' Core Value of Diversity, Equity, Inclusion and Respect

#### Resources







https://www.acs.org/diversity

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www.acs.org/membership



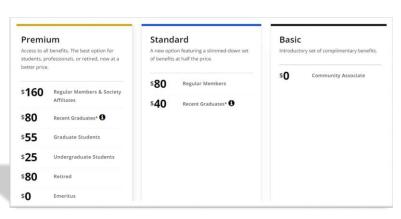


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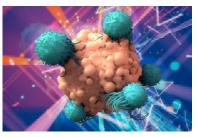
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### **Context**



- This is an introduction to the ACS Inclusivity Style Guide and the section on Accessibility
- This guide is written based on an English-speaking, U.S. based perspective
- The guide is written and edited by both internal and external writers, reviewed by internal and external consultants, subject matter experts, and users of accessible tools
- In some cases, there is much disagreement or/and insufficient dialogue on accessibility practices
- This presentation is being shared by an imperfect ally...

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# Today's focus



- The importance of accessibility as a form of equity
- Environments and accounting for types of disabilities
- How to plan and design a digital communication project with accessibility in mind
- Simple methods to make your digital and print content more accessible for all
- Additional resources you can use

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# **ACS Mission, Vision, and Core Values**





Improving all people's lives through the transforming power of chemistry



Advancing the broader chemistry enterprise and its practitioners for the benefit of Earth and all its people



# **Core Values**

- Passion for Chemistry and the Global Chemistry Enterprise
- · Focus on Members
- · Professionalism, Safety, and Ethics
- Diversity, Equity, Inclusion, and Respect (DEIR)

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#### Goal 5

# **Embrace and Advance Inclusion in Chemistry**

Promote diversity, equity, inclusion, and respect; identify and dismantle barriers to success; and create a welcoming and supportive environment so that all ACS members, employees, and volunteers can thrive.





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# **Equity and Accessibility: The Connection**



#### **Equity**

- Refers to fairness and justice
- Not the same as equality
- Takes account of differences, advantages, and disadvantages. Adjusts processes or steps to obtain a fair outcome.

#### **Accessibility**

- Design of physical and digital environments...
- that ensures everyone regardless of disabilities or abilities...
- can access information, products, services, and environments...
- in a way that is inclusive and equal

Hand Talk, "Accessibility: What does it Mean, What are the Purposes and Types," March 3, 2023

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# Who does this impact?



- 15% of the world's population has a disability. This increases when including temporary disabilities.
- About 1 in 4 adults in the United States have some type of disability
  - 4.8% of US adults have a vision disability (blind or difficulty seeing with corrective lenses)
  - 6.1% of US adults are Deaf or have serious difficulty hearing
  - 12.8% of US adults have a cognitive disability
- Consider the broad benefits of accessibility for everyone...
- 1. World Health Organization, "Disability," March 7, 2023.
- 2. Centers for Disease Control and Prevention, "Disability Impacts All of Us," last reviewed May 15, 2023.

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# Poll

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What percent of U.S. consumers view videos with the sound off on mobile devices?

- a. About a quarter
- b. About half
- c. About two thirds
- d. Over three quarters

WebAim, "The WebAIM Million – 2022 Update," March 31, 2022

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### **Accessibility factors to consider**



# Digital & Physical Environments

# Auditory

Cognitive

Mobility

Visual

Partial or total hearing loss/Deafness

Difficulty with mental processes (memory, attention, problem solving)

Difficulty with physical movements (walking, use of arms, fine motor)

Includes low or no vision, various types of color blindness

Hand Talk, "Accessibility: What does it Mean, What are the Purposes and Types," March 3, 2023

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# Resources and Tools: ACS Inclusivity Style Guide



- ACS Inclusivity Style Guide (www.acs.org/inclusivityguide)
- An educational resource to help with decisionmaking around communication
  - Text
  - Formatting
  - Images
- Consider applying principles with emails, newsletters, social media posts, and more...
- Sections on a wide range of topics (and growing)

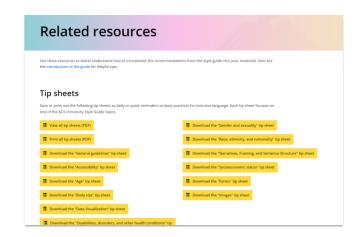


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# **Putting the Guide to Use**



- There is a LOT of information and content
- Take advantage of the Guide's resources
  - Training video
  - Tip sheets
  - Practice guide
  - Change log
- Familiarize yourself with the various sections and subsections for future reference
- Remember to come back! Updates are released several times a year



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# (Some) Subtopics of Accessibility



- Stages of project management
  - Project pre-work, Front-end and Back-end work, Post-project work
- Designing with accessibility in mind
- Assistive devices and technologies
- Writing for accessibility and plain language

- Alt text and image descriptions
- Use of color
- Transcriptions and captions
- Different communication types (emails, podcasts, infographics, posters)
- · Social media-related tips

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#### **Alt Text Basics**



- Alternative Text: A digital element that is embedded in visuals. It is read by screen readers and appears if an image fails to load
- Use for anything that is non text
  - Photos
  - Tables
  - Graphs
  - Graphics
- No "official" limit on characters or words. But be concise (remember that this takes time away from reading the rest of the content)
- Indicate which images are decorative (screen readers can then ignore)
- Use IUPAC naming conventions for compounds and elements

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Alt Text Testing...



### **Instructions:**

For those that can, view the next two images and select the alt text verbiage you would use to describe them.

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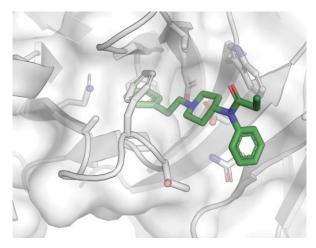
#### Poll:

# Which option do you think was used for alt text?

- A small molecule in green nestled into a gray protein structure's binding pocket
- A protein structure diagram, with a small molecule docked inside the binding pocket
- c. Image of structures
- d. Any of the above



Chemistry for Life®



C&EN, "Fentanyl antibody to begin clinical trials," Aug 7, 2023

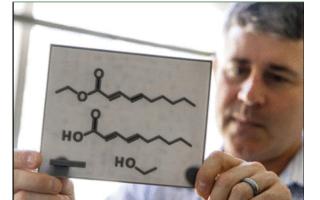
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#### Poll:

# Which option do you think was used for alt text?

- Man holding a card with chemical structure
- b. Bryan Shaw looks pensively upon a plastic 3D-printed card that he's holding in his outstretched arm. It shows the chemical line structure for (2E,4E)-deca-2,4-dienoic acid and its ethyl ester as well as ethanol. The line structures are printed as raised ridges on a translucent plastic card.
- c. Photo of a man
- d. Any of the above



A Conversation with Mona Minkara, Julie M. Nyman ACS Central Science 2023 9 (9), 1712-1714

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# Additional alt text tips and reminders



- There is no single "right" answer...
- No need to include the phrase "image of" or "a picture of"
- · Balance sufficient detail with length
- Alt text is intended to describe what the picture contains, captions can provide additional context or editorial information
- In instances where alt text is not feasible (due to platform constraints) use detailed image descriptions

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#### **Use of color: Color contrast**



- Use recommended minimum contrast ratio for text and non text content with adjacent colors.
- Contrast ratio is a measure of how two colors differ in brightness against each other
- Web Content Accessibility Guidelines (WCAG) defines those minimum ratios
- Take advantage of online tools
  - TPGi's <u>Colour Contrast Analyzer</u> (can download for Windows and Mac)
  - Web Accessibility in Mind's Contrast Checker (web-based tool)
- Helpful for people with low vision, low contrast vision and color vision deficiency (color blindness)

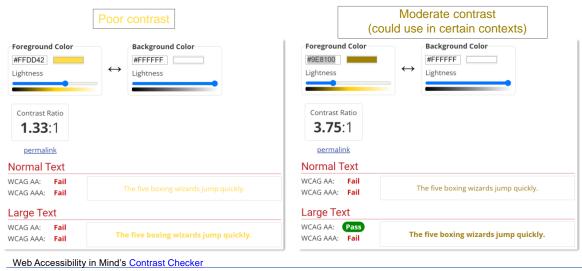
Bureau of Internet Accessibility, "The Basics and Importance of Color Contrast for Web Accessibility," Oct. 1, 2018.

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# **Testing Contrast**





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### **Use of Color: Color in Data**



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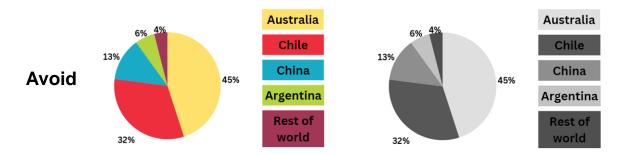
- Differentiating between colors or shades is not possible for everyone, particularly people with color vision deficiency (color blindness) and people with low vision.
- This is also an issue for people that use limited-color or monochrome displays and browsers
- It is fine to use color as one way to convey meaning, but don't rely solely on color
  - For pie charts, bar graphs, etc. use labels
  - For line graphs, use symbols
  - Utilize high contrasting colors

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#### **Data in Color: Pie Charts**



- Without sufficient context, two categories of data can appear quite similar.
- Consider using color blind vision simulators to see how your images might appear.



C&EN, "Challenging China's dominance in the lithium market," Oct 29, 2022 Pilestone Color Blind Experts, Color Blind Vision Simulator

. . . . . . . .

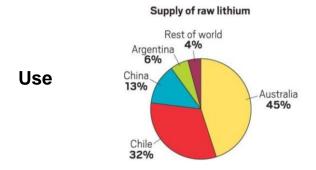
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### **Data in Color: Pie Charts**



By labeling each data category, you resolve the issue of having to distinguish between colors



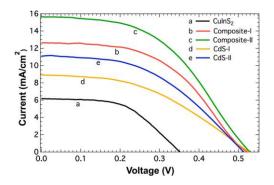
C&EN, "Challenging China's dominance in the lithium market," Oct 29, 2022 Source: Benchmark Mineral Intelligence.

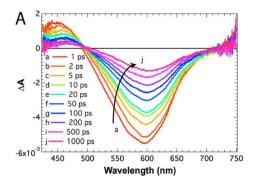
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#### **Data in Color: Continued**



- Avoid using color as the sole means of communicating information
- Use symbols, letters, or numbers to help distinguish data





J. Phys. Chem. Lett. 2013, 4, 5, 722-729.

ACS Guide to Scholarly Communications, Design Principles for Slide Presentations

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# Tips for Technical Poster Presentations



- Clearly organize your sections
- Minimize word count
  - Utilize lists
  - Use less than 25 lines for each section
  - Maintain sufficient space between sections
- Use simple or light colors for your backgrounds
- Use type sizes that are legible from 3 to 6 feet from the poster and balanced with poster dimensions
  - Title: 45 120 pt font
  - Headings and subheadings: 36 60 pt font
  - Main body text: 24 30 pt font
- Use sans serif font

ACS Guide to Scholarly Communications, Poster Design Principles

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#### **Social Media**



- Consider the experience of someone using a screen reader...
- Emojis and emoticons
  - Save emojis for the end and don't overuse
  - Don't use emojis as bullets
  - Don't use emojis in between words
  - Avoid emoticon use
- Hashtags
  - Capitalize each word in your hashtag
- Video captions
  - Ensure video captions are at least 18-point font size
  - Plan for captions and scripts in advance

Hootsuite. "Social Media Accessibility: Inclusive Design Tips for 2024," April 24, 2023

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#### So now what?



- Don't feel you have to be perfect to start making your content accessible
- Be open to feedback and learning
- Give space and grace for others that are learning
- Remember that capabilities and language evolves this is a journey
- Use your voice to share opportunities to make communication more inclusive

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#### Poll:



#### What accessibility tip do you think you'll use in your next project?

- a) Adding alt text to non text content
- b) Avoiding low-contrasting color combinations
- c) Using more than color to convey information
- d) Adjusting emoji or hashtag use

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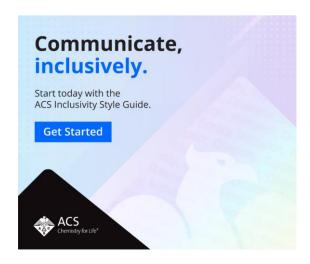
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# Resources and Tools: ACS Inclusivity Style Guide



- ACS Inclusivity Style Guide acs.org/inclusivityguide
- Send feedback to <u>isg@acs.org</u>
- Spread the word!



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- Email us: <u>diversity@acs.org</u>



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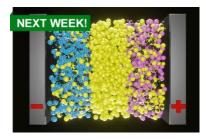
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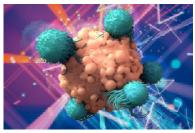
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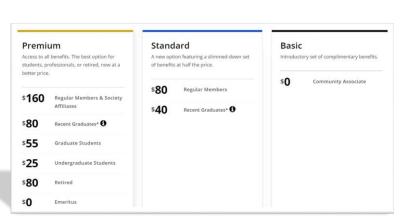
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