

Scientific discovery should be obtainable for everyone, yet many research labs do not support individuals with disabilities and neurological differences. By taking a broader view to define accessibility in research environments, labs can foster inclusivity and drive innovation with diverse perspectives. Organizations can break down barriers, provide wellness and safety for all, and still maintain efficiencies by following some simple strategies. This initiative goes beyond compliance-it's about empowering scientists, researchers, and students with equitable access to tools, spaces, and opportunities to ensure that science truly serves everyone.

PHYSICAL CHALLENGES

VISUAL IMPAIRMENT

- Leverage high visual contrast in finishes to distinguish planes (counter edges, floors, walls, doors, etc.) and to highlight important items.
- Utilize color palettes that help differentiate colors for color blind individuals.
- Avoid full height clear glass at lab entries, which can be hard to see.
- Place a hierarchy on devices and accessories at lab entries, such as visibility of card readers and automatic door openers in consistent locations at all doors
- Incorporate task lighting to allow users to select lighting levels.

HEARING IMPAIRMENT

- Control ambient noise from mechanical systems and reduce noise through sound-absorbing material selection.
- Integrate communication tools such as writable surfaces and in-lab collaboration spaces.
- Provide warning lights inside fume hoods.

CHOREOGRAPHY is required to get through doors: "Maneuver, pull, swing around, push."

- Lyssa Buissereth, PhD Student, School of Biomedical Engineering, Drexel University

MOBILITY LIMITATIONS & ERGONOMICS

- Provide adjustable height work surfaces. Crank arm or electronic adjustment provide accommodations for stations that will host multiple users.
- Consider specifying fume hoods with angled sashes, which are much more ergonomic than a straight vertical face.
- Provide storage location for mobility devices.
- Cameras mounted inside a fume hood can provide experience for those who don't have the ability to safely access a fume hood.
- Install automatic door openers for people in wheelchairs or using canes. Opening doors while carrying things can be challenging.



Prioritize mobile casework and thoughtful storage, such as pull-out drawers and pull down cabinets, which are more conducive for reach



TEN SECONDS TO SAFETY | TRUE ACCESSIBLE TRAVEL DISTANCES.

SAFE LABORATORIES

As research environment planners and designers, safety is always of utmost importance and must be top of mind for ALL users. For instance, the 10-second rule defined by ANSI Z358.1 suggests that an average person covers 55' in 10 seconds, but a 10-second travel distance must be interpreted to accommodate different speeds and means of mobility.

NEUROLOGICAL CHALLENGES

Neurodiversity is a term that refers to the different ways that a person processes information and the way they interact wit the world. This manifests in both strengths and weaknesses.

- Providing variety, flexibility and choice allows users to find and customize a comfortable environment.
- Provide accommodations for service animals where possi
- Limit uncontrolled noise in labs. Provide sound-masking noise (white noise) for on-demand use.
- Acoustically separate noisy equipment in dedicated equipment rooms away from the open lab work space.
- Use rubber flooring and wood casework to mitigate sound
- Provide adjustable lighting to allow selection of comfortable light levels. This also helps those with limited vision.
- Avoid abrupt transitions which can be jarring for some. Cluttered space and flashing lights (including warning lights) can be problematic.
- Utilize neurological-friendly color palettes that avoid loud patterns and bright colors. As this is in contrast to what is supportive for visually impaired individuals, avoid 'either-or' mindsets and instead, consider 'where and when' strategies.

PLANNING & IMPLEMENTATION

	There are many approaches that can be used to address
h	accessibility in the lab. Employ modular planning
	principals to create constant predictable systems,
d	implemented over time.
ble	Think of ADA as a starting point. Engage users to understand their specific needs, and how they navigate the lab. Maximize flexibility, adaptability, and tunability in all aspects of the lab.
ole	These approaches can affect the budget, so be strategic with where these upgrades are implemented. Not every space can accommodate everyone, but everyone should be accommodated.

HINK BIG! Make use of modular planning principles, consider first costs and future costs as part of implementation plans, and embrace the possibility of change for current and future users.