



(dis)ability
DESIGN STUDIO

innovative designs for individual users



HUMAN EXPERIENCE AT THE HEART OF DESIGN

The human experience is fluid, flexible, and diverse. However, many products, services, and environments are useful to only a subset of people.

The (dis)Ability Design Studio supports design research centered around the lived experiences of people with diverse abilities. Its philosophy is user-focused design, which considers the spectrum of individual experiences to create a world that is accessible and enjoyable for everyone.

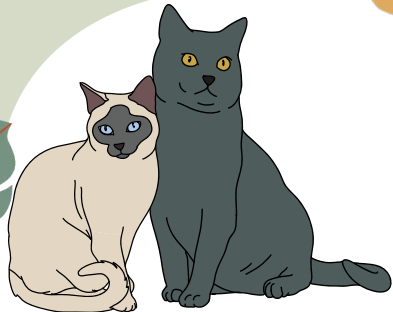
The studio is a center for collaboration, where expert researchers, healthcare professionals, end users, and others create innovations that are useful and usable to real people — from assistive technologies to strategies for championing inclusion in the workplace.

It's a launchpad for creative, out-of-the-box thinking.

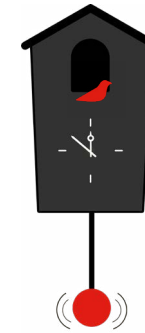
It's a space for conversation over coffee.

It's a resource that's open to all.

Welcome.



MEET THE TEAM



All are welcome in the (dis)Ability Design Studio. Diverse researchers visit the studio to brainstorm and solve problems — from medical students and product developers to healthcare workers and designers.

To transform cutting-edge concepts into working prototypes, designers travel to the Human Performance Mobility Maker Lab, the studio's sister space across campus. As campus' first maker lab dedicated to wheelchair users, the HPMML develops assistive tools and technologies for individuals with disabilities. The facility is located within the University of Illinois Disability Resources and Educational Services in the Rehabilitation Education Center.

"This space encourages a higher level of design thinking."



Dr. Deana McDonagh
DIRECTOR OF SERIOUS FUN

Beckman Institute for Advanced Science and Technology
Professor of Industrial Design
Health Innovation Professor - Carle Illinois College of Medicine



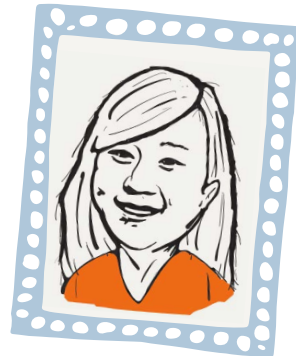
"Creating an intentionally immersive environment of disability is impactful for all involved."



Coach Adam Bleakney
DIRECTOR OF AWESOME

Director of the Human Performance Mobility Maker Lab
Head coach of the UIUC men and women's wheelchair track and road-racing team
Coach of the U.S. Paralympic Team
Lecturer in the School of Art and Design
Beckman Institute researcher

"Worthwhile endeavors broaden perspectives."



Dr. Susann Heft Sears
DIRECTOR OF ENRICHING LIFE EXPERIENCES

Director of Beckwith Residential Support Services
Assistant director of Disability Resources and Educational Services
Research assistant professor of kinesiology and community health

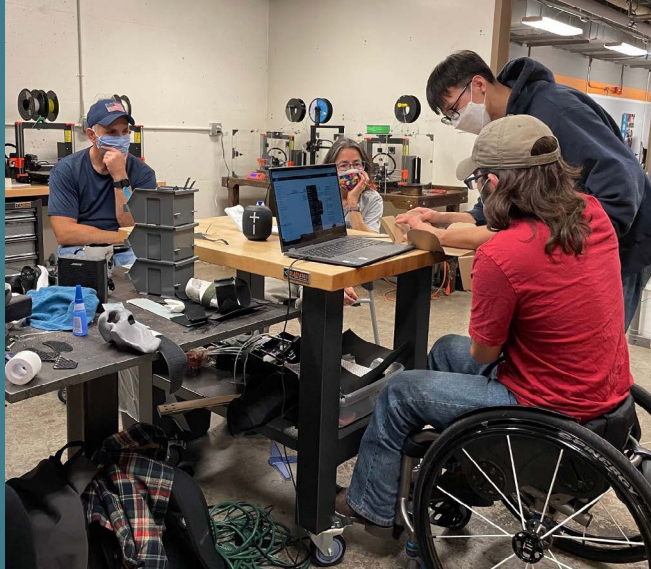
A COMMUNITY OF COLLABORATION

The (dis)Ability Design Studio is located in room 1534 on the first floor of the Beckman Institute for Advanced Science and Technology.

Founded in 1989 by philanthropist and inventor Arnold O. Beckman, the 313,000-square-foot building is a place where researchers work together to ask bold questions and make scientific advances that would not be possible anywhere else. Interdisciplinary teams made up of engineers, psychologists, biologists, and more develop imaging tools, study the origins of intelligence, and harness molecules to create better drugs and materials.

The University of Illinois is the first postsecondary institution to offer accommodation to students with disabilities. Its campus is one of the most accessible in the world.

As Beckman's first dedicated design studio, the (dis)Ability Design Studio will grow and advance the institute's world-class research community with innovative ideas, new knowledge, and diverse perspectives.



VISION AND SPIRIT



The (dis)Ability Design Studio's funding comes from the annual Beckman Institute Vision and Spirit Award, which Deana McDonagh received in spring 2022 for her commitments to creative thinking and exploratory research.

The annual award, which includes research funding, was created to honor Beckman Institute Founder Arnold O. Beckman by recognizing a faculty member who has fostered collaboration in their research and exemplifies his vision.

Construction on the studio began shortly thereafter, its colorful centerpiece a sweeping mural designed by Lindy Carlisle, a graphic designer at the Beckman Institute.

Finishing touches were added throughout fall, and a grand opening was held in November 2022.





WHAT'S ON THE MENU?

Everyone's engagement with the (dis)Ability Design Studio looks different. Select an offering (or several) or contact the studio team at design-studio@illinois.edu to build a unique experience.



Conceptual thinking
Create imaginative concept sketches, mood boards, and prototypes.



Conversation
Host a meaningful discussion.



Disability experts
Call on design and disability experts to enrich events, grant applications, research projects, and outreach activities.



Emotional sustainability strategy
Design an emotionally meaningful product, service, or environment to accommodate changing needs across lifespans.



Empathic design research strategy
Receive actionable feedback to ensure that products and services resonate with individuals.



Empathic modeling
Experience life differently with modeling tools that simulate experiences including tinnitus, mobility and vision impairment, and restricted body movement.



Industrial design
Develop spaces, products, and services in consultation with expert researchers.



Invention to innovation
Consider a product's total lifespan, from its initial invention to its interaction with an end user.



Research collaborations
Enhance your research project with empathic design expertise.



Workshops
Organize workshops to raise awareness of accessibility and inclusivity.



AN ENVIRONMENT OF EMPATHY

The (dis)Ability Design Studio is a place to learn about and experience new perspectives. In theory, this is called phenomenology: the unbiased study of the first-person experience. In practice, the studio offers empathic modeling: experiential learning opportunities to foster an understanding of others' daily lives.

Tools in the studio to support empathic modeling include:



Wheelchairs for visitors



Ear plugs to simulate impaired hearing



Goggles to simulate impaired balance and vision



The Empathic Aging Suit

The studio is designed for universal accessibility and usability, and includes elements such as:



A cuckoo clock that tells time visually and with sound



Lightweight submarine chairs



Natural lighting



Coffee and tea stations

MAKING AN IMPACT

Projects generated through the (dis)Ability Design Studio address existing, emerging, and unforeseeable needs.

The studio is north campus' design base for the interdisciplinary Personalized Unique Rolling Experience, or PURE, project, which is funded by the National Science Foundation and aims to design the hands-free wheelchair of the future.

Faculty, postdoctoral, and graduate researchers use the space for a variety of projects aimed at improving and expanding empathy in the sciences.

Featured projects are listed on the right.

Track the studio's latest projects at design-studio.illinois.edu

Aging in Place System™
Fully ADA compliant residence



A hands-free wheelchair to help individuals travel through airplane aisles



The bathroom of the future



Wheelchairs that are usable for dogs



Adaptive footwear

EXPERIENCE EMPATHY WORKSHOPS

See, hear, and move through the world from the perspective of another person.

Experiential empathy workshops include a short presentation, an opportunity for participants to engage with interactive empathy tools, and a period of reflection.

The Empathic Aging Suit empowers participants to experience sensory impairments, neck and joint stiffness, restricted movement, and more. Each sensation alters the familiar experience of existing in one's own body — especially when completing everyday tasks or interacting with the environment.

Hearing impairment
(Tinnitus)

Vision impairment
(Glaucoma)

Neck **stiffness**

Bending of **spine**

Impaired **posture**

Joint **stiffness**

Arthritic **joints**

Reduced **grip** and
hand dexterity

Loss of sensitivity
to **touch**

Impaired **coordination**

Shuffling **gait**

Back **pain** simulator

COPD simulator



Intentional empathic modeling does not replace real-world experience. Instead, it makes us aware of what we do not yet know.

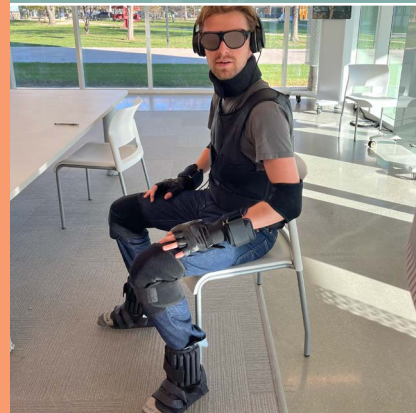


LEARN TRY APPLY



“This is so valuable. I hope more and more people get to experience this.”

- Alaina Schneider



“I was skeptical when I understood there was an experiential portion of the workshop. The idea of being able to ‘try on’ a disability ... didn’t sit right with me. ... In practice it shifted my perspective. While I am disabled, I only hold my own experience... I feel moved towards greater empathy and towards the urgency of inclusivity and accessibility in design.”

- Lyanne Santana



LET'S WORK TOGETHER.

Connect with the (dis)Ability Design Studio via email or by visiting our website.



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Beckman Institute

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