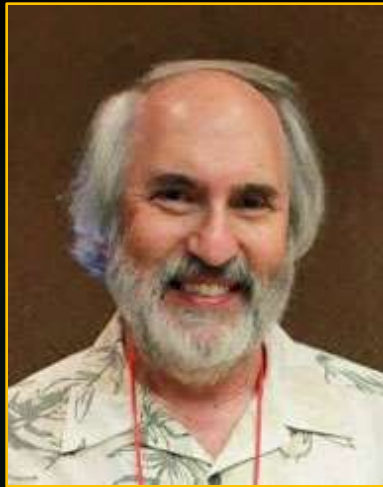


January 22, 2019
Perspectives of Stanford Students with a Disability



ENGR110/210

Perspectives in Assistive Technology



David L. Jaffe, MS
Instructor

13
Years

Today

Perspectives of Stanford Students with a Disability



Zina Jawadi, Evan Feinberg, Trisha Kulkarni, Rachael Wallach, David Stentiford

In this class session, five Stanford students with disabilities will discuss how their disabilities have impacted their lives, the challenges they have faced, their academic goals, and the assistive technology they employ to be successful students.

Zina Jawadi



Zina Jawadi graduated this past June with a degree in Biology and is now a co-term student in Bioengineering. She has been involved with disability advocacy on campus through Power2ACT and the ASSU Executive Cabinet and is currently involved with the Stanford Disability Initiative. Outside of Stanford, Zina is the president of the Hearing Loss Association of America, California State Association, an affiliate of the Hearing Loss Association of America, the largest nonprofit representing people with hearing loss in the US. Zina founded a disability awareness program at her high school, The Harker School, and previously researched and created a video about techniques for teaching mainstreamed students with hearing loss.

[Play Video](#)

Evan Feinberg



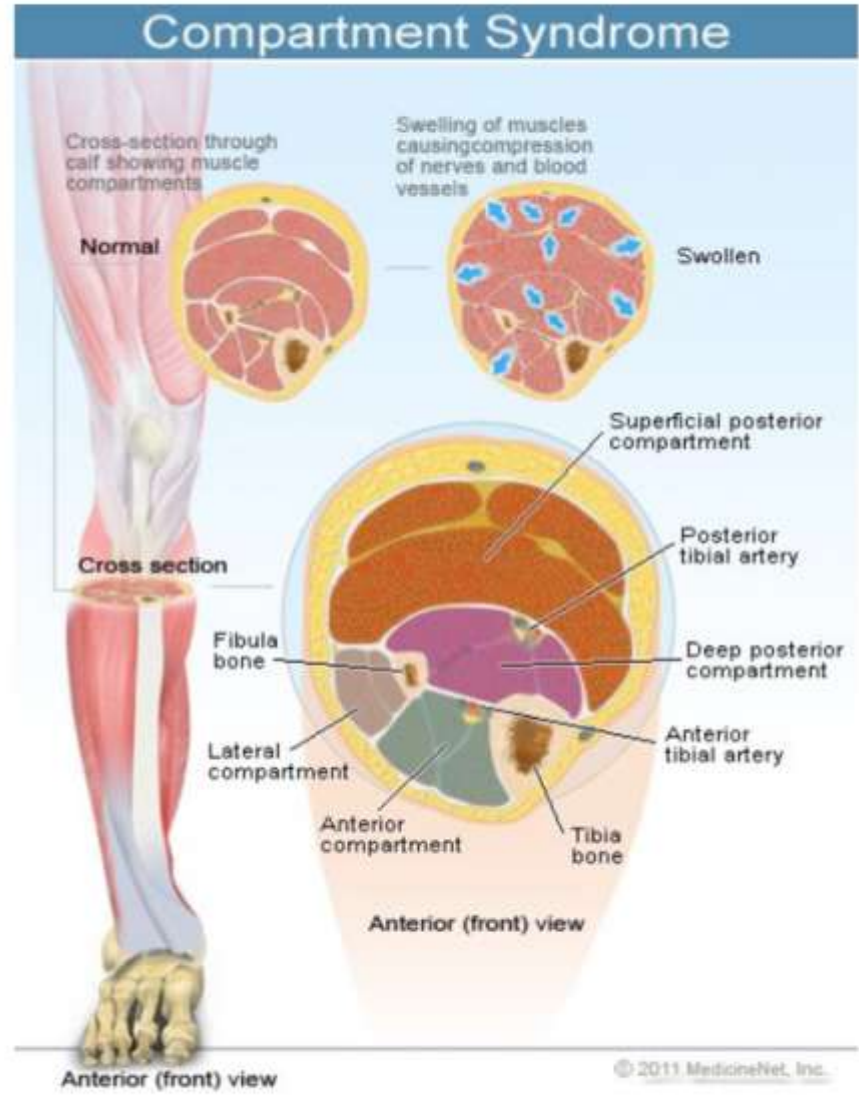
Evan Feinberg is a PhD Candidate at Stanford in Computational Biophysics. In his research, Evan works with Professor Vijay S. Pande on in silico approaches for drug discovery. While he has struggled with chronic pain and compartment syndrome since his college days at Yale, Evan has felt empowered to advance the field of chronic pain management through his research on the μ Opioid Receptor. Most recently, he has been developing deep neural network architectures to identify lead molecules for developing new medicines.

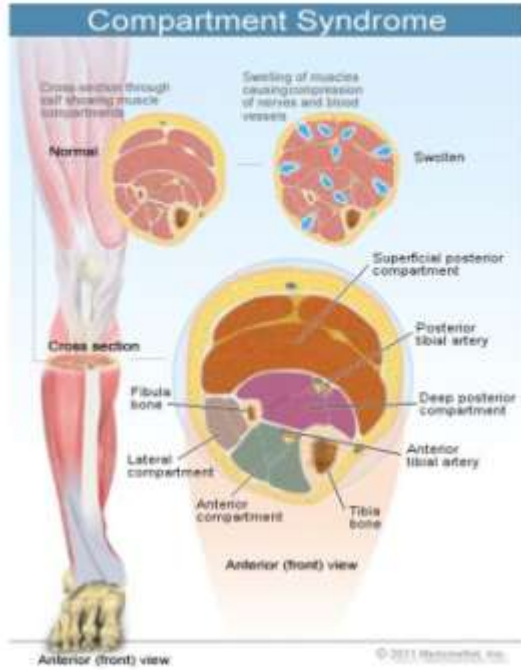


Treating chronic pain: from μ icro to macro

Evan N. Feinberg, Ph.D.







Diagnostic Tech

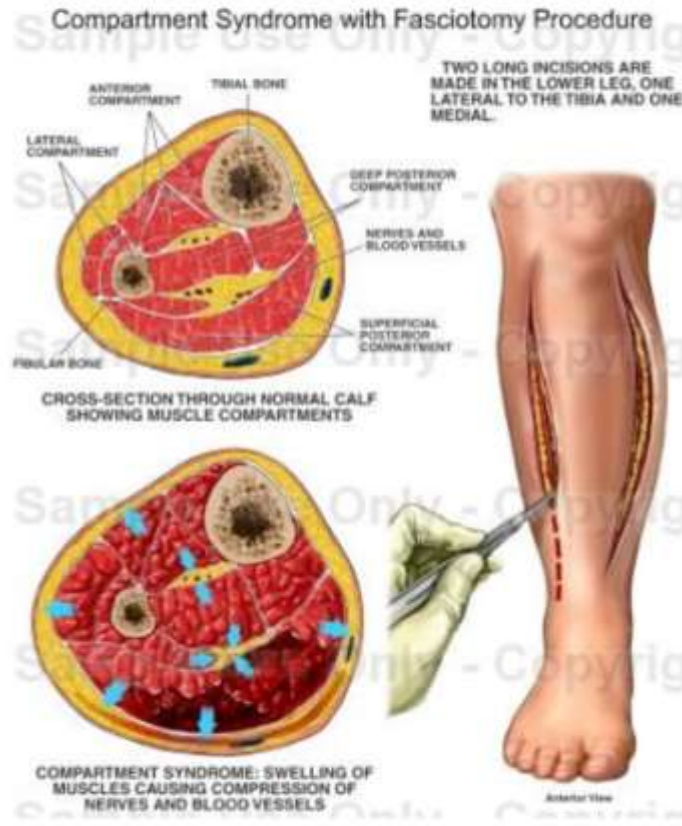


Tissue Pressure

- Normal tissue pressure
 - 0-4 mm Hg
 - 8-10 with exertion
- Absolute pressure theory
 - 30 mm Hg - Mubarak
 - 45 mm Hg - Matsen
- Pressure gradient theory
 - < 20 mm Hg of diastolic pressure – Whitesides
 - < 30 mm Hg of diastolic pressure McQueen, et al



Treatment: Surgery



Treatment: Tech



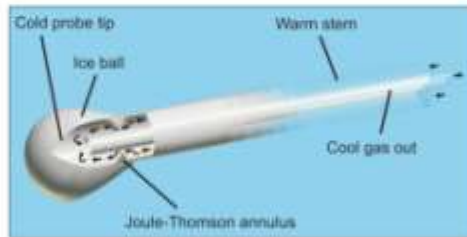
Ankle foot orthosis



Foot orthotic



Forearm brace



cryoneurolysis

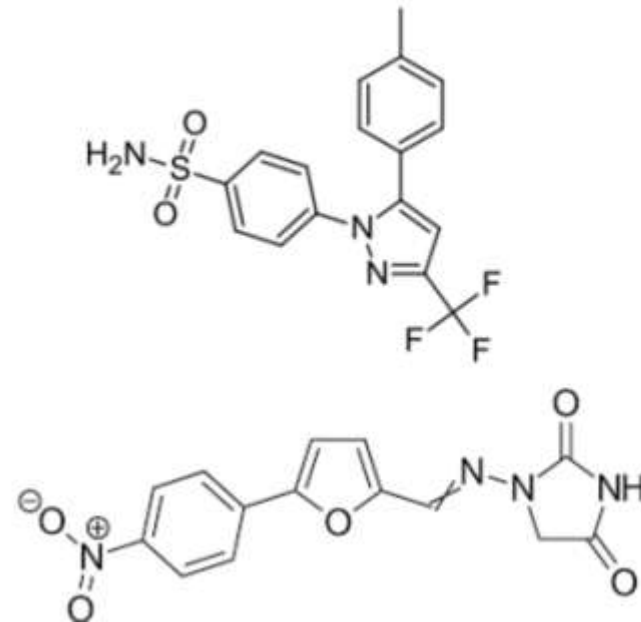
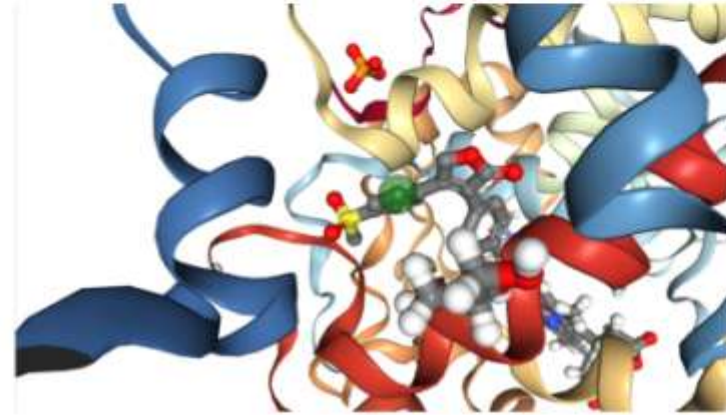
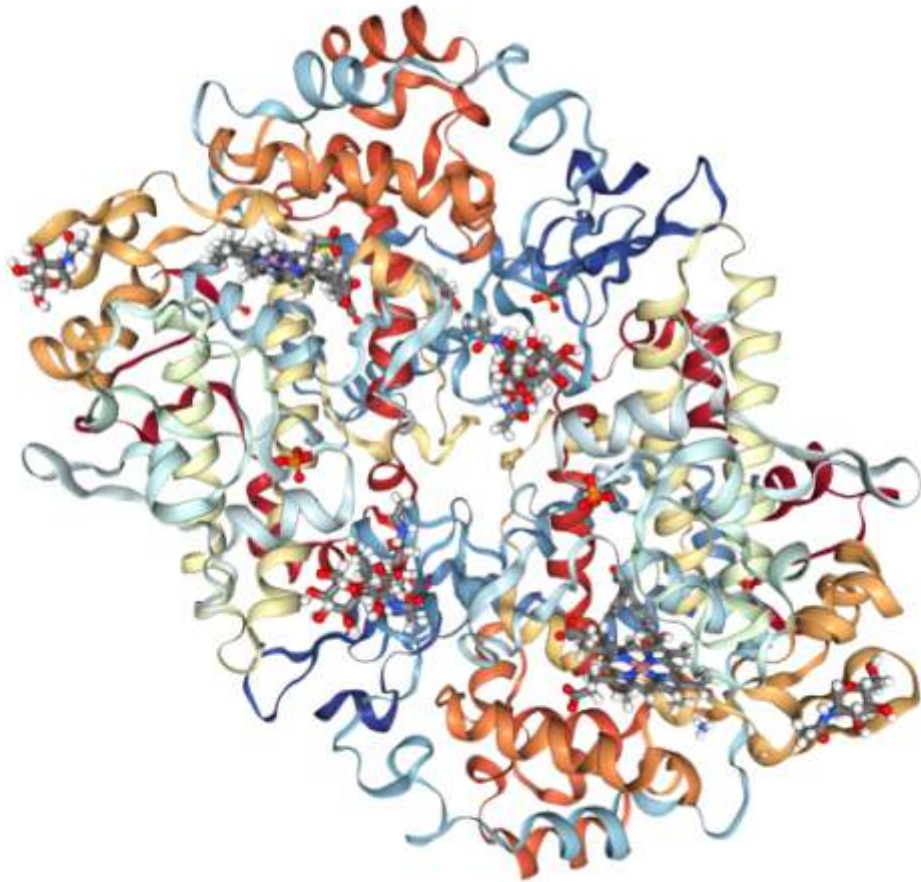


pool buoy



swim earbuds

Treatment: μ icro





**Treating one's own
condition...**



The new standard in AI for drug discovery

We make the industry's most accurate small molecule property predictions, supercharging chemists during lead generation, optimization, and animal testing.

[Learn More](#)

Technology

Current AI has made progress in potency prediction by using cut-and-paste techniques from image and speech recognition.

Our AI platform is based in part on PotentialNet, which uses a more expressive molecular representation specifically designed for chemical insights. The field-leading performance is boosted by a spate of additional proprietary technologies. The methods behind Genesis were invented in one of the top molecular AI labs in the world at Stanford.



Trisha Kulkarni



"I am a freshman at Stanford this year. At this point in time, I have not declared a major, but I am exploring my interest in Symbolic Systems, Management Science and Engineering, and Computer Science. When I was in middle school, I unexpectedly lost my vision to a retinal detachment and other complications with my eyes, but with the unwavering support of my family, friends, and educators, I have still been able to reach my personal and academic goals. Last summer I received a scholarship from the National Federation of the Blind which has sparked my involvement in the organization. I am currently co-chair of the California Association of Blind Students fundraising committee as well as a proud member of the National Association of Blind Students. On the weekend of January 25th, I will be traveling to Washington DC for the NABS Leadership Summit and Washington Seminar where I will have the opportunity to learn about legislation surrounding people with disabilities and advocate for national educational reform to our US senators."

Rachael Wallach



Rachael Wallach is a student in Stanford's Graduate School of Business and is the founder of Disrupt Disability, a social enterprise that has created the first modular wheelchair that a user can continually customize for function or fashion to their body, environment, and individual style. She started using a wheelchair when she was 18 years old, before she went to Cambridge University to study Philosophy. After graduating she pursued a fast track management training scheme in public administration. Rachael went on to commission health and social care services on behalf of UK Local Government and the National Health Service and lead central government program that built the capacity of health and social care not-for-profits and helped them win government service contracts. She has been an advisor to the UK Government's Office for Disability Issues, was Vice Chair of Scope (the UK's largest Disability Charity) and has served on the boards of the Social Care Institute for Excellence, Community Integrated Care (the UK's largest not-for-profit social care provider) and was a founding trustee of the Global Disability Innovation Hub.



Wheelwear

disrupt disability.

Mission

Wheelwear not wheelchair.

Affordable, customized,
fashionable wheelchairs.





Problem

Most people are disabled by their wheelchair not their legs. Wheelchair design and ergonomics haven't changed much in 100 years.

Problem

A wheelchair is like a pair of shoes. Fit, function and form are critical.



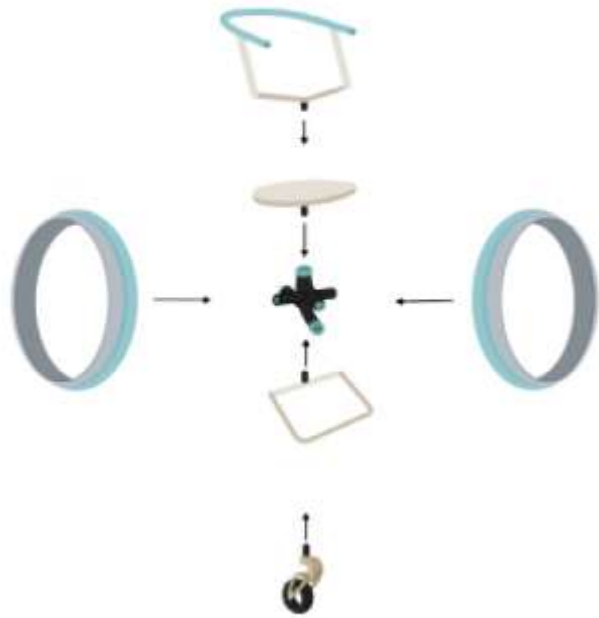
Solution

Evolving out of
hackathons with over
**150 wheelchair users,
designers & makers...**





Wheelwear



The only **modular** wheelchair you can **continuously customise** by interchanging parts.



Customizable for function



Customizable for fashion





Our modular system



Team



Rachael Wallach
CEO

MBA
Stanford University

10 years in Health &
Social Care Service
Management

Full time start date:
March 2019



Lisa von Rabenau
CTO

MS Mech Eng & Design
Stanford University

Mechanical Engineer
Start-up Founder
Forbes 30 Under 30

Full time start date:
June 2019



Oseas Ayerdi
COO

MS in MS&E
Stanford University

Chemical Engineer.
5 years in Operations
and Project Financing

Full time start date: June
2019



Kelsey Mason
CMO

MBA Stanford University

Clinical Health Software
Development. Marketing &
GTM Expertise

Full time start date: Jan
2019



**TECH
FOR
GOOD**

**COMIC
RELIEF** phf Paul Hamlyn
Foundation



Start 

RSA

21st century enlightenment



 **BRITISH
COUNCIL**





LEGO IDEAS



LEGO IDEAS



LEGO IDEAS





Make a contribution

The Guardian



News Opinion Sport Culture Lifestyle



New radicals 2018

Disrupt Disability: designing wheelchairs with a difference





Wheelwear

Disruptdisability.org
rach1@stanford.edu

David Stentiford



David Stentiford is a PhD Candidate in the Program in Modern Thought and Literature. His research is based in the interdisciplinary field of Environmental Humanities, and his dissertation examines contemporary discourses and practices related to ecological intervention, that is, the deliberate reorganization of Nature. David is an avid text-to-speech user.

Dave Stentiford

ds1@stanford.edu



Judith Butler

Precarious Life



"Judith Butler is quite simply one of the most probing,
challenging, and influential thinkers of our time."
—J.M. Bernstein

Precarious Life

The Powers of Mourning and Violence

Judith Butler





Medical Model

Impairment = Disability

Social Model

“Impairment and Disability

Under the Social Model, impairment and disability are not the same:

“Impairment is when part of a person’s body, mind and/or emotions works differently to what is considered ‘normal’ by society.

“Disability is the barriers, discrimination and prejudice disabled people face. It is not our bodies or minds which ‘disable’ us, it is society.”

-The Greater Manchester Coalition of Disabled People (GMCDP)

<https://www.gmcdp.com/beliefs-values-aims/social-model>



db qp



db
qp



David





11

12



13



A



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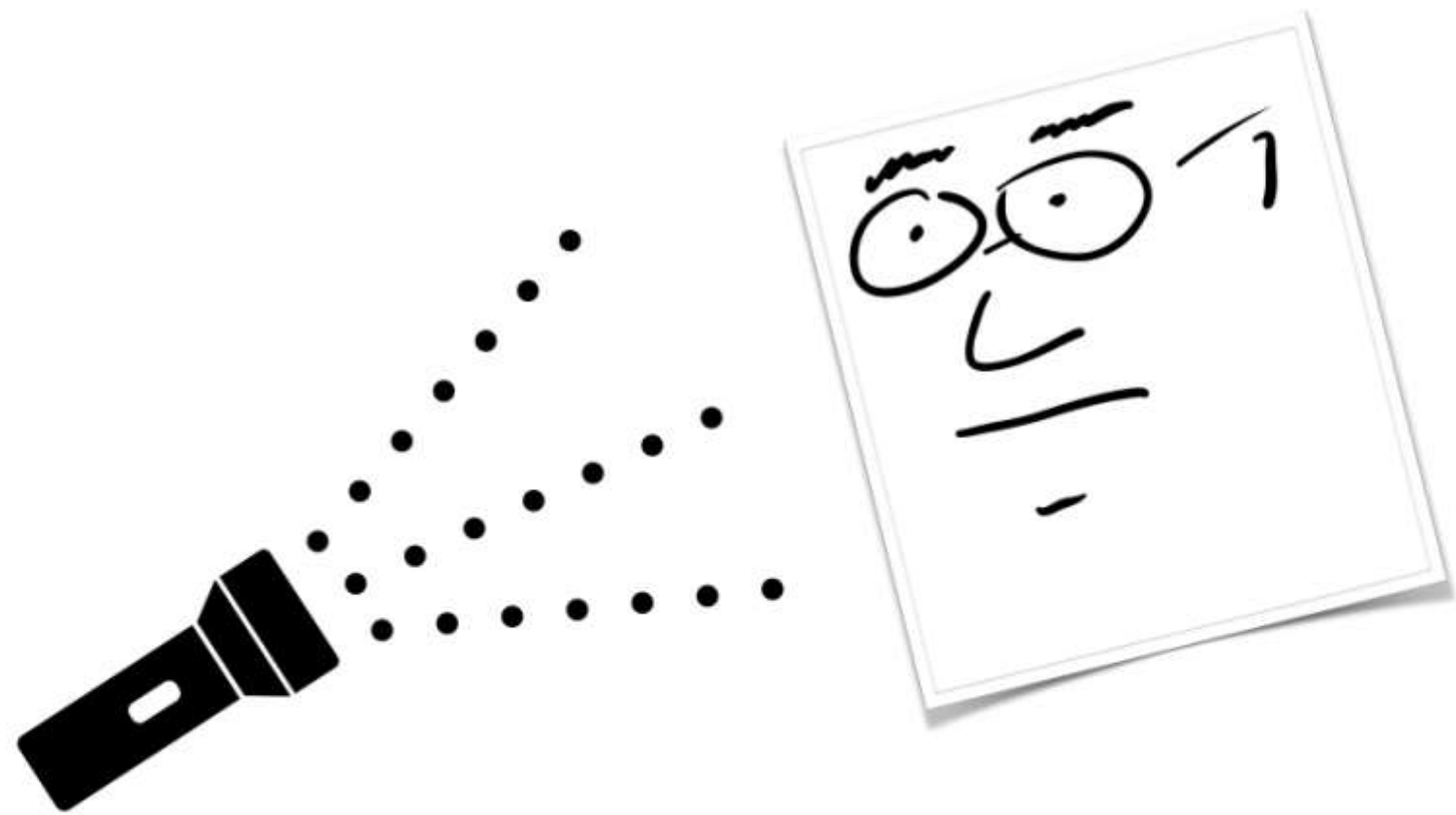


David

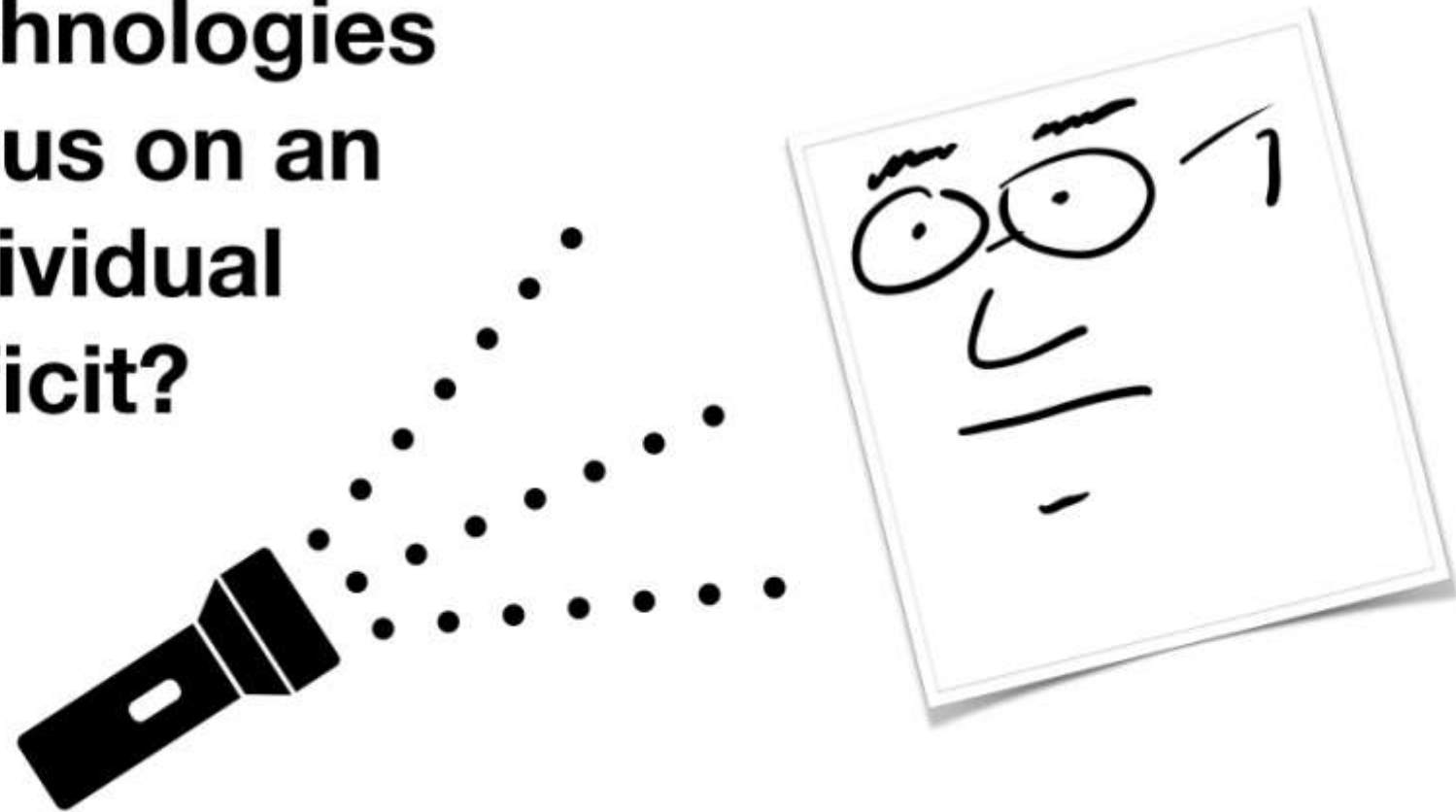


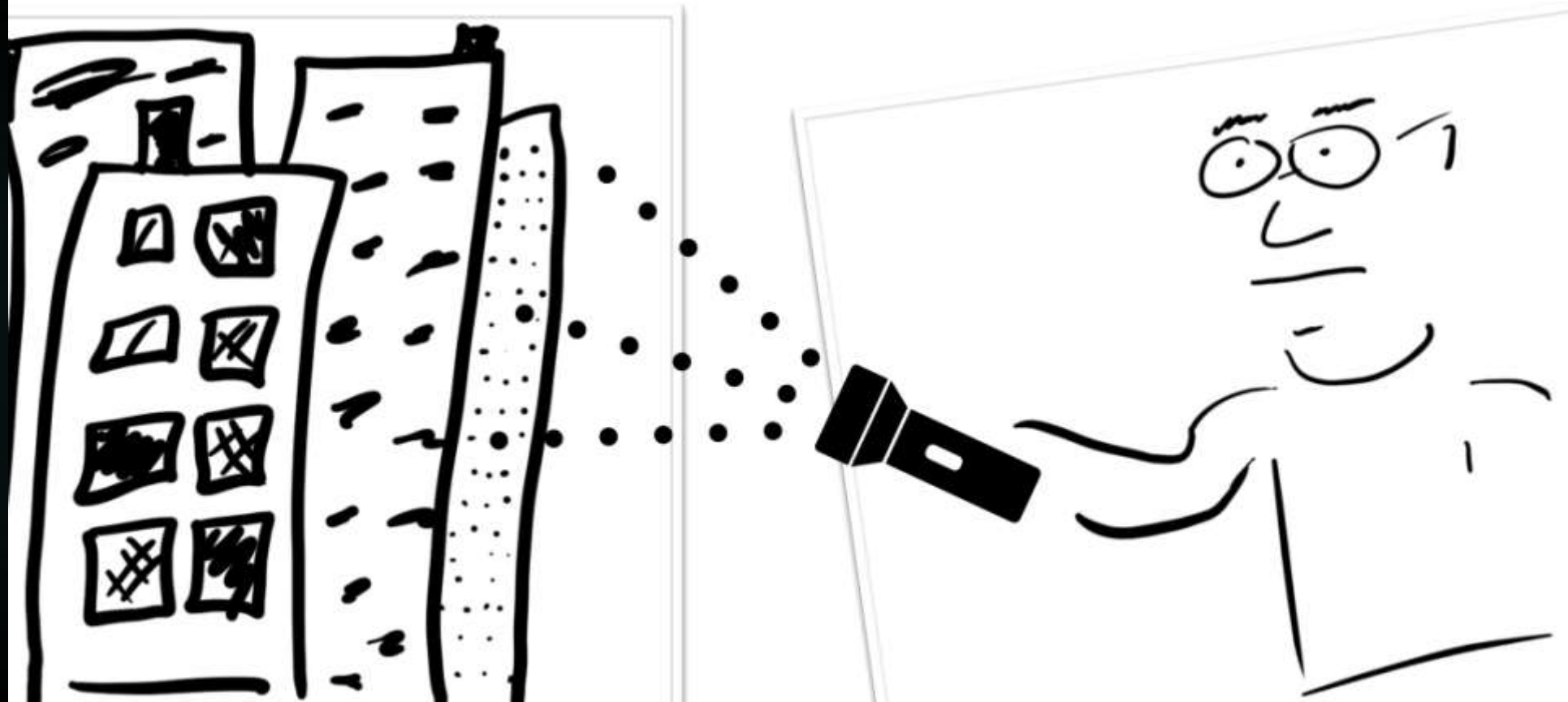
**SO
WHAT?**



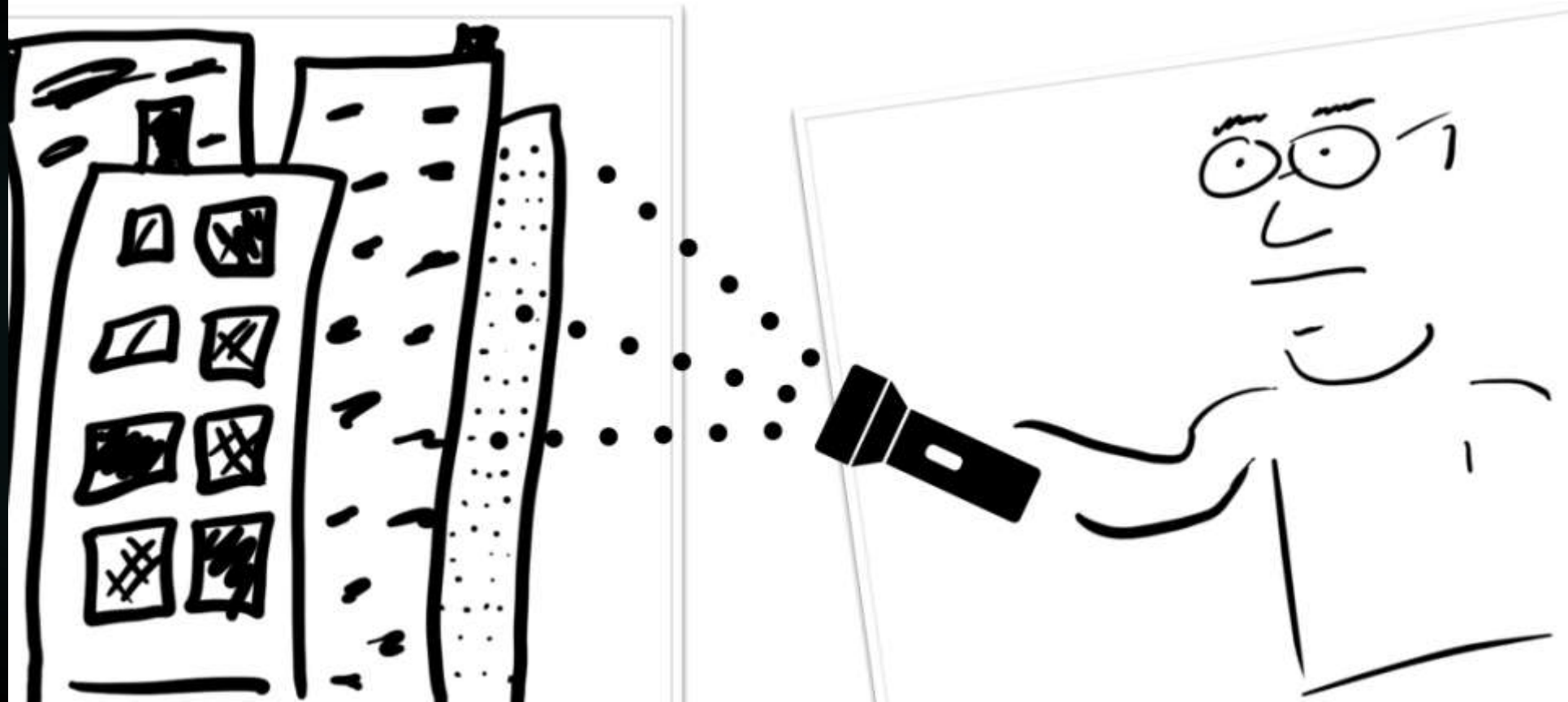


Do our assistive technologies focus on an individual deficit?





**Can they help individuals
navigate a disabling
environment?**



Questions?



Adjourn



class dismissed



Laptops Galore

