

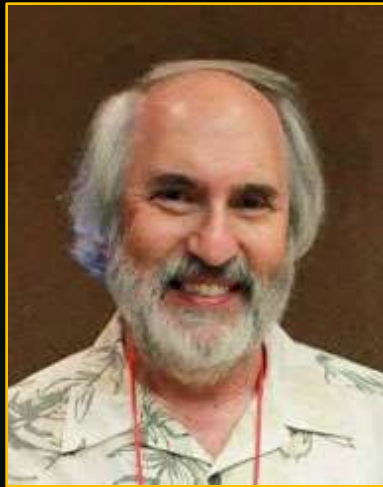
February 5, 2019

Bionic Ears: Cochlear Implants and the Future of Assistive Technology



# ENGR110/210

## Perspectives in Assistive Technology



David L. Jaffe, MS  
Instructor

**13**  
**Years**

# Questions?



# Attendance Sheet, Evaluation Form, and Meet with Dave Signup



For all students:

- Attendance Sheet
- Meet with Dave signup

For everyone:

- Class Session Evaluation Form



ENGR110210 Enrolled Student Attendance List  
January 10, 2017

Enroll Number	Name of Enrolled Student	Enroll Number	Name of Enrolled Student
10001	Adams, John Alexander	10001	Adams, John Alexander
10002	Adams, John Alexander	10002	Adams, John Alexander
10003	Adams, John Alexander	10003	Adams, John Alexander
10004	Adams, John Alexander	10004	Adams, John Alexander
10005	Adams, John Alexander	10005	Adams, John Alexander
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Sign Up to Meet with Dave

Before class outside Thornton 110  
After class in Thornton 110  
Other times in Peterson Building, Room 113

Date & Time	Enter Your Name & Specify 15 minute time block
Wednesday - January 18 <sup>th</sup> Morning - 8:30am - 11:30am	
Afternoon - 1:00pm - 4:30pm	
Thursday - January 19 <sup>th</sup> Morning - 8:30am - 11:30am	
Afternoon - 1pm - 3:30pm	
Before class - 5-45pm - outside classroom	
After class - 5pm	
Friday - January 20 <sup>th</sup> Morning - 8:30am - 11:00am	

Perspectives in Assistive Technology - 2017  
Class Session Evaluation Form

Lecture 01a: Course Overview & Introduction to Assistive Technology - David L. Jaffe, MS

Are you an enrolled student?  - Yes  - No

The purpose of the questionnaire is to help the teaching team assess today's class session. Please rate the following issues:

Speaker's overall presentation: speaking volume, understandability, ease of following concepts and arguments, clarity of explanations, quality of PowerPoint slides, use of supporting media (videos) and presentation aids (blackboard/whiteboard), stage presence, knowledge of topic, preparedness, presentation structure, organization, pace and management of allotted time, opportunity for questioning and class engagement, provided good examples, concepts, and demonstrations  
   Presentation content: topic relevant, relevance to the broad scope of assistive technology, presentation of new information, appropriate level of detail and technical content, overall value of presented material

Submit your comments, questions, and suggestions, especially if you found portions of the lecture to be particularly good or bad. Supply your name if you want a response and use the back of this form if you need more room.

What one item did you hear, see, or learn that was new, surprising, interesting, or provided a new perspective?

How much did you learn from today's lecture?  - A great deal  - a bit  - a moderate amount  - a little  - nothing

What is your stress level today?  - low  - medium  - high

How is your stress level trending?  - downward  - steady  - upward

# Yahoo is now part of Oath

Yahoo is now part of 'Oath', a digital and mobile media company with more than 50 brands globally (including Yahoo, HuffPost, Engadget, TechCrunch, Moviefone, and Makers), and a member of the Verizon family of companies working to shape the future of media. Oath strives to create a passionate and engaged community of users by building content and products that inspire and entertain the world.



# Top Employment Choices



7 – Google  
5 – Apple  
2 – Other  
1 – Facebook

## Write-ins:

IDEO  
No idea  
Own company / startup  
Medtronic  
Intuitive Surgical  
Ottobock  
Dyson  
KBR Wyle  
Stryker / Medtronic / Abbott



# Upcoming class sessions

- ▶ **Field trip to VA** this Thu, Feb 7th
  - ▶ Carpool passengers signup
  - ▶ Lists, directions, and maps
- ▶ **Mid-term Project Presentations** - Thu Feb 14th
- ▶ **Assistive Technology Faire** - Thu, Feb 28<sup>th</sup>



# Field Trip

# Field Trip!



- ▶ Thursday, February 7th - VA Palo Alto Health Care System
  - ▶ Students and community member car pool drivers only



# Thursday, February 7th

## VA Palo Alto Health Care System

- ▶ VA and VAPA
- ▶ Spinal Cord and Brain Injury Services
- ▶ Recreational Therapy Service
- ▶ Hear from a veteran
- ▶ Try out some equipment

Plan to arrive at 4:45pm





# Car Pool Instructions to VA



**Passenger Signup Sheet**  
*VA Palo Alto Health Care System*  
Thursday, February 7th  
Departure Point and Time: Littlefield Center @ 4:30pm

Driver's name, cell & email:	Dave Jaffe	650/892-4464	davejaffe@stanford.edu
Car make, model, color:	Black Honda Civic Si		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	

Driver's name, cell & email:	_____		
Car make, model, color:	_____		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
	4. Name: _____	Cell: _____	

Driver's name, cell & email:	_____		
Car make, model, color:	_____		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	

▶ **Passengers:** Please signup with a car pool driver. On the day of the field trip, please arrive promptly at the departure point: in front of the Littlefield Center at 4:30pm.

▶ **Drivers:** Please park along Lasuen St in front of the Littlefield Center and depart promptly at 4:30pm. Carpool list, maps, and directions will be provided.

▶ Let me know if you are a solo driver or bicyclist so I can send you a map.

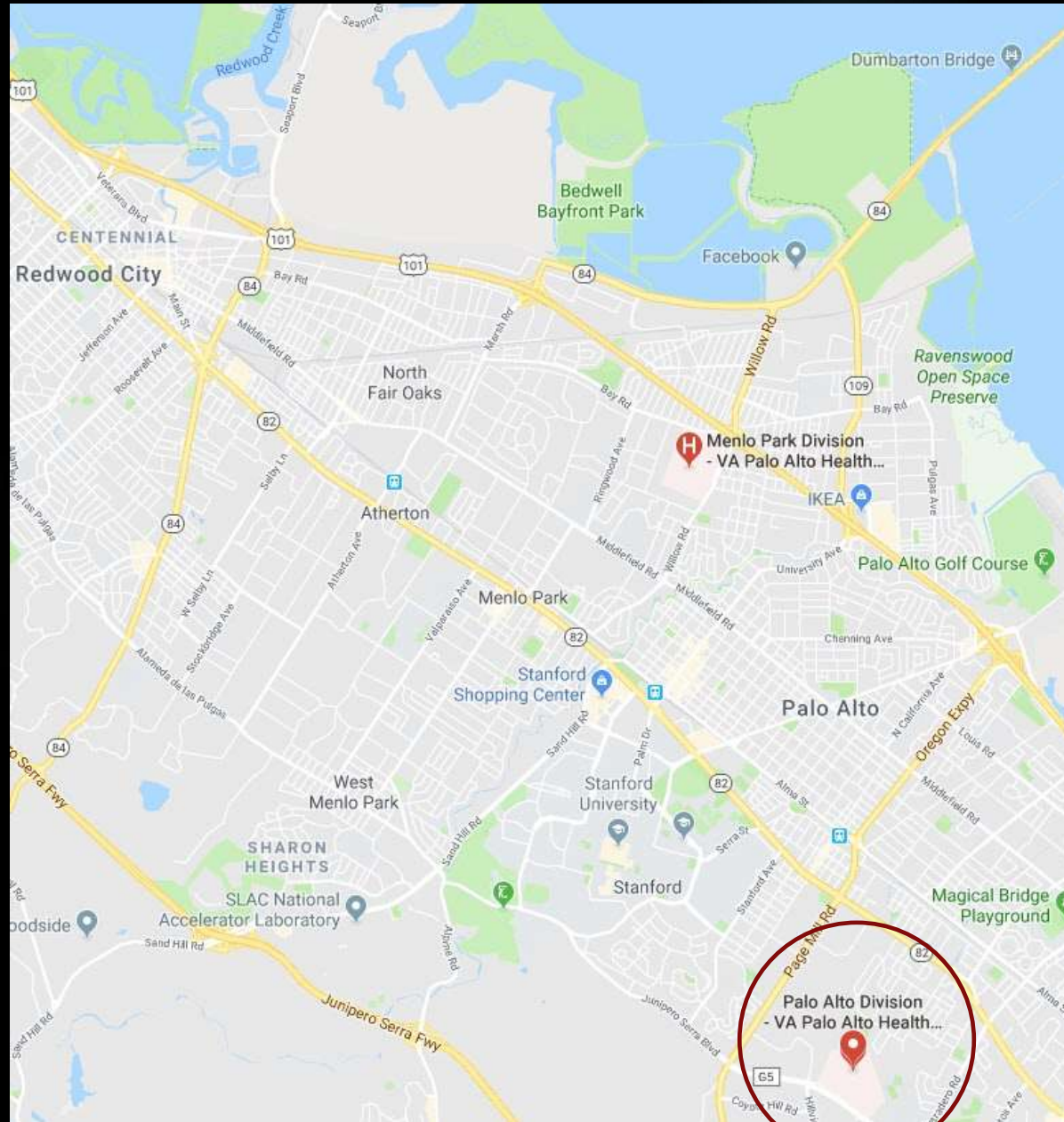
# Pickup at Littlefield Center



# VA Palo Alto

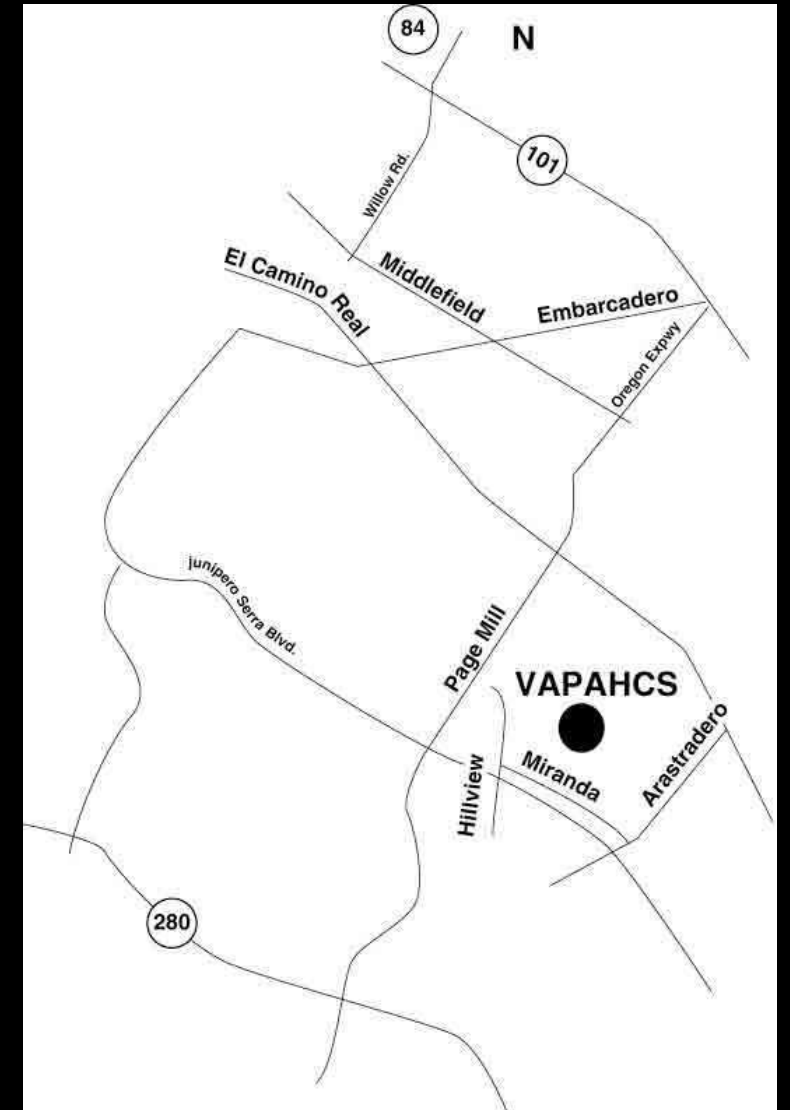
3801 Miranda Ave.  
Spinal Cord Injury Service  
Building 7 - Room E111

[Google Map](#)



# Directions to VA

- ▶ From Littlefield, take Palm Dr toward El Camino Real
- ▶ Turn right on El Camino Real (going south)
- ▶ Turn right onto Page Mill Road
- ▶ Turn left onto Foothill Expressway
- ▶ Turn left at light on Hillview
- ▶ Make an immediate right onto Miranda Ave.
- ▶ Road curves to the left and parallels Foothill Expressway
- ▶ Turn left into VA grounds at the American flag
- ▶ Park in the large lot on the right
- ▶ Enter north entrance of Building 7
- ▶ Make your way to Room E-111 - the first room on the right after entering the building
- ▶ Lost or late? - call Dave at 650/892-4464



# Flying in?



Helicopter landing pad



Destination  
- Building 7

Park in this lot

Main entrance



**BUILDING LEGEND**

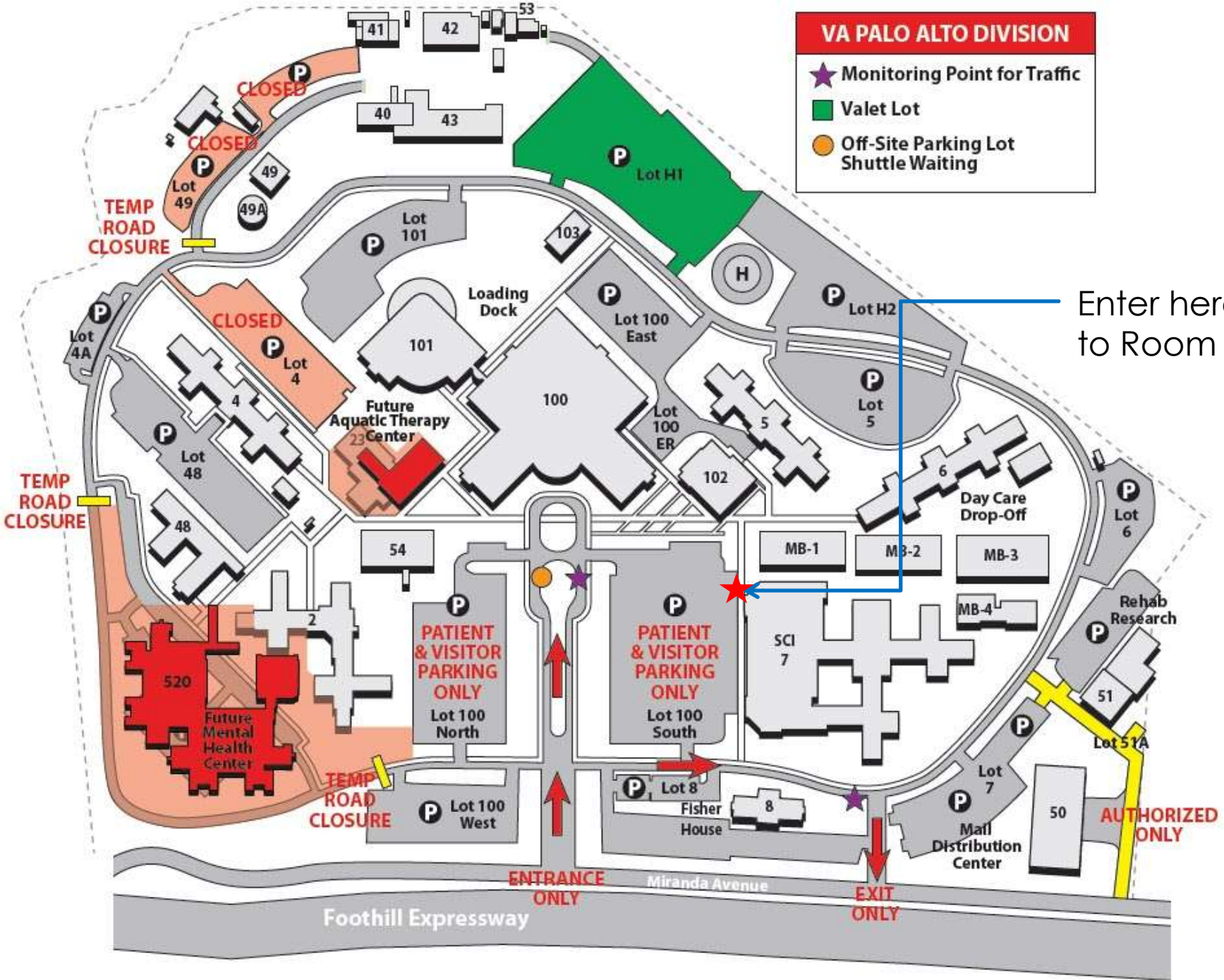
- |                                    |                              |
|------------------------------------|------------------------------|
| 4 Research                         | 105 Learning Center          |
| 5 Primary Care Clinics             | 500 Future Polytrauma Center |
| 6 Laboratory & Administration      | 520 Mental Health Center     |
| 7 Spinal Cord Injury Center        | 530 Wellness Center          |
| 8 Fisher House                     | MB1 Compensation and Pension |
| 9 Defenders Lodge                  | MB2 Polytrauma               |
| 50 Warehouse                       | MB3 Administration / AFGE    |
| 51 Specialized Research Center     | MB4 Research Annex           |
| 54 Research                        | PS1 Parking Structure 1      |
| 100 Hospital                       | PS2 Parking Structure 2      |
| 101 Administration                 | T6B Whistle Stop             |
| 102 Diagnostics & Radiology Center | T6 Research                  |





**VA PALO ALTO DIVISION**

- ★ Monitoring Point for Traffic
- Valet Lot
- Off-Site Parking Lot Shuttle Waiting



Enter here & proceed to Room E111

Foothill Expressway

Miranda Avenue

# Work with Diligence

- ▶ Time is your team's most precious resource
- ▶ 4.5 weeks of class left to work on your projects
- ▶ Mid-term team presentations in 1.5 weeks
- ▶ Outline and **practice** presentation



Mid-term presentations -  
Thursday, February 14th





# Pre-Lecture Discussion Topics



22 - Ethical / Moral Dilemmas Related to Disability

22 - **In the News - New Assistive Technology products and research**

20 - Assistive Robotics - Robotic technology benefitting people with disabilities and older adults

15 - Overview of Accessibility - How this design feature relates to products, with many examples

15 - Ten Commandments of Making - Adam Savage's Maker Faire video

15 - Video Theatre - Watch and discuss videos of new products and prototypes

12 - Vintage Assistive Technology - Products and devices from the past

12 - The Upside of Failure - Learning from prototypes that didn't work

12 - Who is Disabled? - Making a determination with limited information

12 - Innovative Marketing Metrics - How we use words to measure and advertise

9 - Famous people with disabilities - Focus on TV characters

# In the News

## Inclusive keyboard for low-vision and blind users

**Gestype** is an inclusive keyboard app, which allows anyone to type on smart phones, regardless of their visual ability.

Website:

<http://www.gestype.com>

Video:

Gestype: Inclusive keyboard app for low-vision and blind users (3:12)

<https://youtu.be/LW-auK5HA8g?t=42>



# In the News

## Custom Canine Wheelchair

"A friend needed a wheelchair for their French Bulldog at short notice. They were unable to afford the costly commercial wheelchairs available online. I rose to the occasion to design something for an adorable dog, and the results were fantastic. Murray loved her chair!"

"I've since built two other chairs for dogs, and I've worked on iterating on what I call the "**FiGO**" design and documentation to encourage dog owners to tackle this project for their pet in need."

This device uses parametrically designed 3D printed joint pieces that fit into acrylic or aluminum tubing. The tubing can be easily customized to the dog for both fit and style, and the 3D printed pieces can also be personalized via the Customizer application on Thingiverse.

[Article](#)



# In the News

## George Mason Students Have New Dining Option: Food Delivered by Robots

George Mason University students will soon have a fleet of 25 autonomous wheeled robots delivering meals to them across campus. The robots, known as SnackBots, can each carry up to 20 pounds and travel four miles an hour, for an average delivery time of 15 minutes or less; an app from the robots' creator, Estonia-based Starship Technology lets students order food from local chains like Starbucks, in addition to a grocery store. Once an order is placed, users "drop a pin" on the location where they want their order to be delivered, and they can follow the SnackBot's progress via an interactive map. The robots navigate using artificial intelligence, ultrasonic sensors, and multiple cameras; customers are alerted upon arrival, and they can use the Starship app to unlock the robot and collect their purchases. A two-way audio connection allows customers to engage with human tele-operators who can take control of the robot when necessary.

[Article](#)



# In the News



## Stanford Center on Longevity Announces 2018-2019 Longevity Design Challenge Finalists

The Stanford Center on Longevity today announced 8 Finalist teams for its 2018-19 Design Challenge "Contributing at Every Age: Designing for Intergenerational Impact." Now in its sixth year, the Challenge's primary goal is to encourage a new generation of designers to become engaged in finding creative solutions that support well-being across the life span. The Challenge is open to student submissions from any accredited university worldwide. This year's competition attracted 97 submissions from teams representing 24 countries across the globe.

This year's competition included a new rule: **students were required to include members from multiple generations**, making the challenge itself an intergenerational activity.

[Article](#)

[Video \(2:22\)](#)

# In the News

## Toyota Wants to Put a Robot Friend in Every Home

Toyota envisions robots becoming commonplace in homes as companions to senior citizens, as part of its new artificial intelligence (AI) research center headed by renowned inventor Gill Pratt. Toyota believes the pressing need for elder care will make household robots more attractive, and its Human Support Robot (HSR) could be one of the first products to gain mainstream acceptance. The HSR is essentially a retractable arm on wheels, with a video screen on top and camera eyes to give it the semblance of a face. Among its demonstrated capabilities is learning where books and other items should go on a shelf, and cleaning untidy rooms using sensor-eyes and a pincer. Toyota's Masanori Sugiyama said the HSR could be ready for deployment in hospitals and rest homes to perform simple tasks within three years.

[Article](#)



# Thursday, February 7th



Field Trip to VA Palo Alto Health Care System

Graham H. Creasey, MD, FRCSEd  
Spinal Cord Injury Service



# Today



*Bionic Ears: Cochlear Implants and the Future of Assistive Technology*

Lindsey Dolch Felt, PhD

Stanford University, Program in Writing and Rhetoric



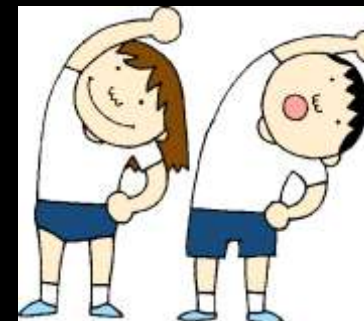
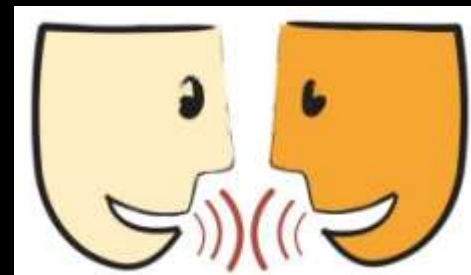
# Short Break



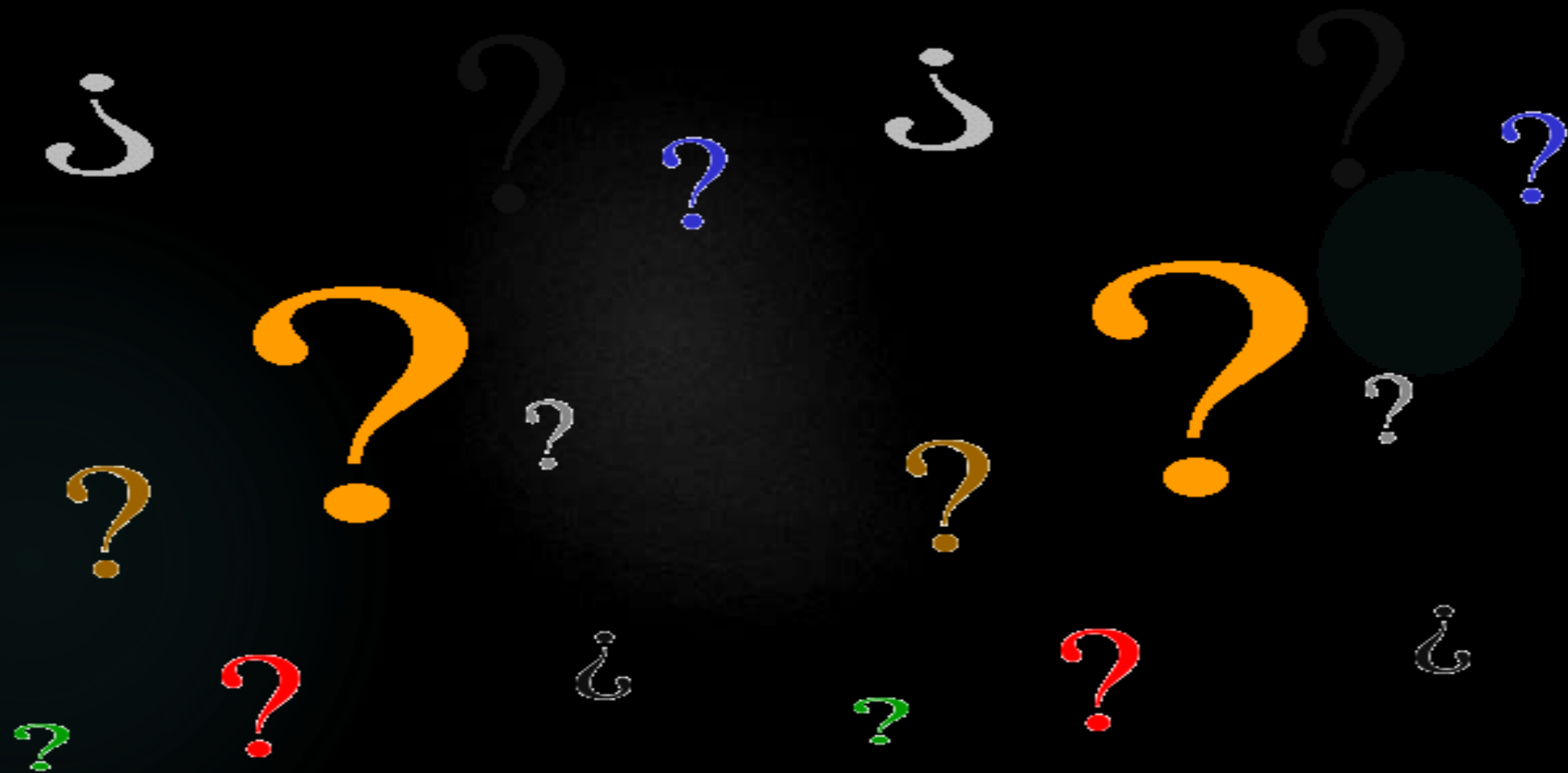
# Break Activities



- ▶ Sign attendance sheet
- ▶ Grab a cookie
- ▶ Stand up and stretch
- ▶ Take a bio-break
- ▶ Text message, web-surf, email
- ▶ Talk with classmates
- ▶ Reflect on what was presented in class



# Questions?



Adjourn



class dismissed



# Laptops Galore



# Time for Questions?



End the class

