

[View our profile on LinkedIn - Clickable button](http://r20.rs6.net/tn.jsp?e=001BAYcM6XeLJHdRXRV2X7aDlNH5PKaF2SSpyupMxkLvrvLec3G20arTN3hl_C5tqpuCKtN1URu1IyEg0-XB2AR0Azck2WjLK8ksxFtVnwNToFbq21rNvPpkVAf6RL6wsuMoAifPNu8U94fj8auaeM_cCj87S2qXNSl)Technology and Disability Policy Highlights  

Fall 2018 Issue: September - October

October 2018 was celebrated as National Disability Employment Awareness (NDEAM), and the contributions and achievements of people with disabilities were recognized and honored at events and in publications. The Department of Labor’s Office of Disability Employment Policy (ODEP) 2018 theme for NDEAM was “America’s Workforce: Empowering All.” In keeping with the theme the Partnership for Employment and Accessible Technology (PEAT), focused on Empowering All through Accessible Technology and provided a number of resources for employer training, [accessible workplace technologies ecosystem](https://www.peatworks.org/staff-training/Ecosystem), apprenticeships, and more.

Apropos, the [National Institute on Disability, Independent Living and Rehabilitation Research’s (NIDILRR) 40th anniversary](https://acl.gov/news-and-events/acl-blog/celebrating-40-years-nidilrr) was celebrated in October, as well. NIDILRR funds the Wireless RERC and other research, training, and demonstration projects across the nation in a number of domains (health and function, employment, and community living) to enhance the quality of life of people with disabilities. NIDILRR Deputy Director, Kristi Hill, discussed NIDILRR's future and the need to ensure research is “practical and applicable to people's lives.” Some technologies she envisioned as integral to an inclusive future include automation and robotics. The [Wireless RERC](http://www.wirelessrerc.gatech.edu/newsroom) attended NIDILRR’s celebration and provided a poster which highlighted our development [projects](http://www.wirelessrerc.gatech.edu/projects) that advance access to a dynamic, inclusive wireless ecosystem. The Wireless RERC, plus approximately six other RERCS, will remain on display at The Great Hall at the Department of Health and Human Services.

This fall also saw the [*Federal Aviation Administration Reauthorization Act of 2018*](https://www.congress.gov/bill/115th-congress/house-bill/302/text?q=%7B%22search%22%3A%5B%22disaster+aid%22%5D%7D&r=7) [**H.R. 302**] be codified as **Public Law 115-254**, with an aim to improve air travel for consumers with disabilities. To ensure the continual advancement of accessible aircraft technologies, PL 115-254 instructs that these technologies be extended to every airport or facility of an air carrier, and be inclusive of every disability type. In September, legislators addressed accessible road travel and the need for an [autonomous vehicles law](https://thehill.com/blogs/congress-blog/technology/407362-disabled-americans-deserve-the-benefits-of-self-driving-cars) that contains provisions that prevent discriminatory policies and practices against people with disabilities, contending that they could stand to benefit the most from self-driving vehicles.

This fall issue is chock full of news, read on for Bias in AI, the ADA and web access, interoperable video calling, the nationwide WEA test, a variety of smart glasses, drones for wayfinding, a braille tablet, smart cities, smart prosthetics, a virtual reality life skills trainer, and more.

**Click the headings below to link directly to a particular section.**

[Legislative Activities](https://gtvault-my.sharepoint.com/personal/mz22_gatech_edu/Documents/wiRERC_2016%20-%202021/TDPH/August%202018/Technology%20and%20Disability%20Policy%20Highlight%20(TDPH)_%20August%202018.docx#legislativeactivities) [Regulatory Activities](https://gtvault-my.sharepoint.com/personal/mz22_gatech_edu/Documents/wiRERC_2016%20-%202021/TDPH/August%202018/Technology%20and%20Disability%20Policy%20Highlight%20(TDPH)_%20August%202018.docx#regulatoryactivities) [Wireless RERC Updates](https://gtvault-my.sharepoint.com/personal/mz22_gatech_edu/Documents/wiRERC_2016%20-%202021/TDPH/August%202018/Technology%20and%20Disability%20Policy%20Highlight%20(TDPH)_%20August%202018.docx#wirelessrercupdates) [Other Items of Interest](https://gtvault-my.sharepoint.com/personal/mz22_gatech_edu/Documents/wiRERC_2016%20-%202021/TDPH/August%202018/Technology%20and%20Disability%20Policy%20Highlight%20(TDPH)_%20August%202018.docx#otheritemsofinterest)

**legislative Activities**

**Improving Air Travel for Peoples with Disabilities**

October 5, 2018 - The *Federal Aviation Administration Reauthorization Act of 2018* [**H.R. 302**], now **Public Law 115-254**, aims to improve air travel for consumers with disabilities. PL 115-254 directs a study be conducted to evaluate how aircraft manufacturers can best accommodate people in power wheelchairs with in-cabin wheelchair restraint systems. It also requires the aviation industry to increase its accessibility for people with disabilities in other activities associated with air travel such as ticketing. To ensure the continual advancement of accessible aircraft technologies the law instructs that these technologies should be extended to every airport or facility of an air carrier, and be inclusive of every disability type. Sec. 439, establishes an Advisory Committee on the Air Travel Needs of Passengers with Disabilities, to determine if regulations need modification to be more inclusive, identify access barriers, and make recommendations for improving the air travel experience from an access and equity perspective. For example, PL 115-224 states that passengers with disabilities that need to stow away assistive devices should be allotted space at no additional cost. [Source 115th Congress]

#### Additional Information:

[FAA Reauthorization Act of 2018](https://www.congress.gov/bill/115th-congress/house-bill/302/text?q=%7B%22search%22%3A%5B%22disaster+aid%22%5D%7D&r=7)

[<https://www.congress.gov/bill/115th-congress/house-bill/302/text?q=%7B%22search%22%3A%5B%22disaster+aid%22%5D%7D&r=7>]

**Autonomous Vehicles Legislation AV START stalls in the Senate**

September 18, 2018 - The Senate recently received significant pressure from the American Network of Community Options and Resources (ANCOR), and the House of Representatives to pass the *AV START Act* [**S. 1885**]. This legislation was introduced to the Senate nearly two years ago. Despite its sister bill, *SELF DRIVE Act* [**H.R. 3388**], passing in the House last fall the AV START Act has failed to garner majority support and pass the full Senate.

This act seeks to increase the availability of self-driving vehicles. But more than that, advocacy groups for people with disabilities are urging its passage because of its inclusive provisions preventing states from discriminatory licensing practices for the operation of automated vehicles. Though the legislation, like the technology itself, holds great promise, it currently sits in the Senate with a 2% chance of being enacted. [Sources: Barbara Merrill, The Hill; GovTrack]

#### Additional Information:

[Disabled Americans deserve the benefits of self-driving cars](https://thehill.com/blogs/congress-blog/technology/407362-disabled-americans-deserve-the-benefits-of-self-driving-cars)

[<https://thehill.com/blogs/congress-blog/technology/407362-disabled-americans-deserve-the-benefits-of-self-driving-cars>]

[S. 1885: AV START Act](https://www.govtrack.us/congress/bills/115/s1885)

[<https://www.govtrack.us/congress/bills/115/s1885>]

**U.S. Senators Addressing Bias in Artificial Intelligence**

September 17, 2018 - Several U.S. Senators wrote to the Federal Trade Commission (FTC), the Federal Bureau of Investigation (FBI) and the U.S. Equal Employment Opportunity Commission (EEOC) regarding whether artificial intelligence (AI) could violate U.S. civil rights laws and perpetuate bias. Specifically, the senators questioned facial recognition software. This AI technology uses images or videos of a person’s face to identify them or to infer meaning about their behavior. Use of AI in society is increasing, from its presence in the hiring process, timekeeping in the workplace, security in schools, and use in criminal investigations. The senator’s letters to the FTC and EEOC provided several scenarios that could perpetuate unfair and deceptive practices in the workforce.

In a letter to the Commission of the FTC, senators also shared startling statistics. The leading facial recognition software algorithms do not work equally well across race, gender, age, and other characteristics. Facial recognition software is 30 times more likely to misidentify darker-skinned women than lighter-skinned men. During the Senate hearings following the release of the letters, Dr. Charles Isbell, the Executive Associate Dean at the Georgia Institute of Technology, testified to the validity of these reports. Earlier this year, he shared that while studying AI during his time at M.I.T. he often broke the software as it could not correctly identify him due to his darker complexion compared to his peers.

As a result, the senators requested the FTC and the EEOC to answer a series of questions that consider whether AI could violate several existing laws and bills; they also asked for these departments to provide guidelines to how discriminatory complaints would be handled. [Sources: Dave Gershgorn, Quartz; United States Senate]

#### Additional Information:

[Congress is worried about AI bias and diversity](https://qz.com/1208581/diversity-and-bias-in-ai-has-reached-us-congress/)

[[https://qz.com/1208581/diversity-and-bias-in-ai-has-reached-us-congress/]](https://qz.com/1208581/diversity-and-bias-in-ai-has-reached-us-congress/%5d%0b)

[Senators are asking whether artificial intelligence could violate US civil rights laws](https://qz.com/1398491/senators-are-asking-whether-artificial-intelligence-could-violate-us-civil-rights-laws/)

[<https://qz.com/1398491/senators-are-asking-whether-artificial-intelligence-could-violate-us-civil-rights-laws/>]

Letters:

[Federal Trade Commission](https://www.scribd.com/embeds/388920672/content#from_embed) (pdf)

[<https://www.scribd.com/embeds/388920671/content#from_embed>]

[Federal Bureau of Investigation](https://www.scribd.com/embeds/388920671/content#from_embed) (pdf)

[<https://www.scribd.com/embeds/388920672/content#from_embed>]

[Equal Employment Opportunity Commission](https://www.scribd.com/embeds/388920670/content#from_embed) (pdf)

[<https://www.scribd.com/embeds/388920670/content#from_embed>]

**Senators Call for Clarity on the ADA and Website Accessibility**

September 4, 2018 - Several senators joined together and wrote a letter to Attorney General Jeff Sessions urging his office to issue guidance and regulations for whether website accessibility obligations is an included protection under the ADA. The senators assert that the ADA’s provision to ensure physical access to “any place of public accommodation” should extend to digital platforms. However, without any official guidance from the Department of Justice, the senators argue that the number of plaintiff lawyers who have exploited the ambiguity of the law and filed lawsuits against small and medium-sized businesses has risen 521% from 2005 to 2017. The concerned senators requested that the Department of Justice provide a briefing to the Senate clarifying whether the ADA extends to website accessibility and file statements of interest in ongoing litigation involving this matter. [Source: U.S. Senate]

#### Additional Information:

[Read the Letter](https://www.judiciary.senate.gov/imo/media/doc/2018-10-04%20Grassley,%20Rounds,%20Tillis,%20Crapo,%20Cornyn,%20Ernst%20to%20Justice%20Dept.%20-%20ADA%20Website%20Accessibility.pdf)

[<https://www.judiciary.senate.gov/imo/media/doc/2018-10-04%20Grassley,%20Rounds,%20Tillis,%20Crapo,%20Cornyn,%20Ernst%20to%20Justice%20Dept.%20-%20ADA%20Website%20Accessibility.pdf>]

**Regulatory Activities**

**FCC Consumer Connections**

October 2018 - The Consumer Affairs and Outreach Division, Consumer & Governmental Affairs Bureau at the Federal Communications Commission (FCC) released their Consumer Connections newsletter. The issue covers the Pacific Northwest consumer outreach rural tour, where FCC staff shared information via presentations at senior centers and libraries and meetings with town mayors, police chiefs, and other local leaders. They sought to build partnerships with local consumer-oriented entities to help improve the effectiveness of future outreach efforts and establish ways to work together to reach consumers and community members. Topics covered at the meetings included:

* Telephone bill related items such as robocalls, spoofing, scam alerts, slamming and cramming.
* What consumers need to know about rescanning their television or converter box.
* Broadband and digital inclusion
* Protecting mobile devices from loss or theft.
* Communicating during an emergency.
* How to file complaints and comments with the FCC.

Read more in *Consumer Connections* about cybersecurity, FCC and AARP Tele-Town Halls, and FCC Emergency Assistance. [Source: FCC]

#### Additional Information:

[Consumer Connections](file:///C:\Users\mz22\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\AUNB8KJO\October%202018%20Newsletter_.pdf)

[<file:///C:/Users/mz22/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/AUNB8KJO/October%202018%20Newsletter_.pdf>]

Please contact the FCC if you have any questions about consumer issues and outreach or have any recommendations for the newsletter: outreach@fcc.gov

**Interoperable Video Calling on the Horizon**

September 27, 2018 - The FCC released a Public Notice [**CC Docket No. 92-237**] announcing the membership for the North American Numbering Council (NANC) Interoperable Video Calling (IVC) Working Group. The NANC advises and makes recommendations to the FCC on numbering issues. The IVC Working Group is tasked with considering voluntary policy and technology options that support the provision of interoperable telephone number-based video calling. An interoperable 10-digit North American Numbering Plan for video calls can significantly improve direct communication between American Sign Language (ASL) users. David Bahar, Communication Service for the Deaf; Richard Ray, City of Los Angeles; and Christian Vogler, Gallaudet University, are members of the IVC representing the interests of people that are Deaf and hard of hearing. [Source: FCC]

#### Additional Information:

Links to Public Notice:

URL: [https://www.fcc.gov/document/fcc-announces-membership-two-nanc-working-groups](http://r20.rs6.net/tn.jsp?f=001EtU8iu42X168J27Dn0cwiz51oWPRQL57DI7a0Pb3d6TSmGot70GQN7gxxlml-g1bN5T3WAKhjExkreoMizHxFPSQhut3wiUmoC_yKeTn72yQ_CCx-Qfq7t0FGf5AV6zr8T6T40GFQwMnbt7qnpBIvO3osxM3C_1XLJD7XkegxxbcxzamttC3abGvUQXuR5V1-wcxflzNhK99yhus2keZGOfKAwu7xZaPFxpnR_23b6jtppgUm5-j-Dqt88dW97o0Ovk6xQANUIEuQR-kj8GODiC6O6dxKJ8zeyizj-VzPunonL8mvRVAUOTS6-YuWQ1oeehejx0SsOLjICztpFhEKKU6ZR8IF61baO6pH8k14IkDY_-zgwUovhWvmfQ3ihQ2yno1ygO3D86mcJPKBPROdu8m7G9ApcSyIS7UuKZnXBeBoD8ZpCumpJ1GO4dUpWf1&c=-dp7DQuPtEtAp2zDGG7sZjtr5uej4r1B4YkvRYDQN62Pnpo3vNL0Tw==&ch=xoJO-l_yYbTJpE5PH8fUU6scWOKFU2-kraGNsDnVGTMALJH1UYRH2Q==)

Word: [https://docs.fcc.gov/public/attachments/DA-18-995A1.doc](http://r20.rs6.net/tn.jsp?f=001EtU8iu42X168J27Dn0cwiz51oWPRQL57DI7a0Pb3d6TSmGot70GQN7gxxlml-g1bGhuOcG9EAmFBHKiFIjcsth-TYo5MVFRE5Aw7IrlK-QBNXcNi9QAgq40fC3kkCeZYtke7WBkog0s1PkfL-URZrNxjbVpnUSAkJZG2bR8OPalAGClFrQTMHgZFEyKPEXNVx9QT38_gH5bWpA1Amtg6at2lBhLRQ7Ifp5SiNaaZ796ZwOhqNxOZaZ5oRjsR-IWkyUAbFHRJJPTRLF5C8aFF5bcTjjsqf1nhIi18vTTF_mj4Pz2H8vru6NeSZK7E1-XvS6MgF3AkNsP6ZQXY7rmeJTMjoyDMrLNS8woeF0fzPVmovEXOP9T4eSFm-V7_UX8NeGfTX6CpiRO7xhpX4qMFtcBEG5UN9hslrboQC9BW3wQ=&c=-dp7DQuPtEtAp2zDGG7sZjtr5uej4r1B4YkvRYDQN62Pnpo3vNL0Tw==&ch=xoJO-l_yYbTJpE5PH8fUU6scWOKFU2-kraGNsDnVGTMALJH1UYRH2Q==)

PDF: [https://docs.fcc.gov/public/attachments/DA-18-995A1.pdf](http://r20.rs6.net/tn.jsp?f=001EtU8iu42X168J27Dn0cwiz51oWPRQL57DI7a0Pb3d6TSmGot70GQN7gxxlml-g1btgeSsvAH3BB0oX9pZxH-VEmdFaw4H_60zAEHgj9cvVND-ZoxdTzyoQuwGP4C43omfltXOQ9WLnKRgO2dnZpAo8l2TLjRQ6TByHPZhxlH4K8ztBHBzrmsk7CysLn_IIvjJ-yxIoz9Ehx2niVme496Ff_SCaLIZqeI3pipMdYEvTKioc9xLaHfcvwLVf-3DINUPyg4BBMdFPJNvX7OK-1g3MVMOl6HTWJm5qQkrPKcwscAYNdcw6ETzpKofPsCzoXLg5NkfwC_e1m38QDDvT2uyaY4igq1judzpnoA1z6rG_tsLYEoxjXWE_ejkJCs9BoFGtPZ9fKSCp9fwzvO8-7obhA6lzvPCJ4tnXUv4cYeRJs=&c=-dp7DQuPtEtAp2zDGG7sZjtr5uej4r1B4YkvRYDQN62Pnpo3vNL0Tw==&ch=xoJO-l_yYbTJpE5PH8fUU6scWOKFU2-kraGNsDnVGTMALJH1UYRH2Q==)

Text: [https://docs.fcc.gov/public/attachments/DA-18-995A1.txt](http://r20.rs6.net/tn.jsp?f=001EtU8iu42X168J27Dn0cwiz51oWPRQL57DI7a0Pb3d6TSmGot70GQN7gxxlml-g1bzj_IV0ZFoLqyZBHC9Q8uAu6EAaQmpsRR43w1QhD5em5tzt4Y33_fpMGXwWPJICXfAj-t-AnEDW0gBBB_hEZA4IZVdmp7H_RWcKTVEn0XYrzE9GHiffIi5kRFwvWzr0hHjemq0G63aqj3w5aCPqke7eUzUGm1ZqfwGdWb63DuHkxYgv33EmEh80KLr9oSOfJepeQP11x6t8eS_dFvUPwlWwWQz_suh97uOviQx4RUfFxvVIqqfxcW6wRyAkFe9jPZ-B8VNMcrfpFuvG020LAosi8r4b_yRTDbIBxGxjkJinUi5NQLn11Vk_bwY4U_fhPNoqzP-klorAkbx5zxHl0sEYvDsz1Fc62gGMWCiHhu6bk=&c=-dp7DQuPtEtAp2zDGG7sZjtr5uej4r1B4YkvRYDQN62Pnpo3vNL0Tw==&ch=xoJO-l_yYbTJpE5PH8fUU6scWOKFU2-kraGNsDnVGTMALJH1UYRH2Q==)

General information about the NANC is available at <https://www.fcc.gov/about-fcc/advisorycommittees/general/north-american-numbering-council>.

For further information, please contact Marilyn Jones, Designated Federal Officer (DFO) of the NANC, at [marilyn.jones@fcc.gov](mailto:marilyn.jones@fcc.gov), or 202-418-2357, Michelle Sclater, Alternate DFO, at <michelle.sclater@fcc.gov>, or 202-418-0388; or Carmell Weathers, Special Assistant to the DFO, at <carmell.weathers@fcc.gov>, or 202-418-2325.

Individuals who use videophones and are fluent in ASL may call the FCC's ASL Consumer Support Line at (844) 432-2275. TTY users may call the FCC's TTY number at (888) 835-5322.

**Wireless RERC Updates**

**NIDILRR celebrates 40th Anniversary**

October 18, 2018 - Helena Mitchell, Nathan Moon, and Salimah LaForce attended the 40th Anniversary Celebration of the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR). NIDILRR funds the Wireless RERC and other research, training, and demonstration projects across the nation in a number of domains (health and function, employment, and community living) to enhance the quality of life of people with disabilities. “The need for NIDILRR’s important work will only increase in the coming decades. Demographic trends indicate a substantial increase in the number of people with disabilities as a result of the effects of injuries, illnesses, chronic conditions, developmental disabilities, and an aging population. NIDILRR will continue to play a critical role in empowering this growing population of individuals with disabilities to live the American dream. The next 40 years of NIDILRR hold much promise for the future of addressing the emerging needs of people with disabilities and the need for disability, independent living, and rehabilitation research.”

At the request of NIDILRR, the Wireless RERC provided a poster which highlighted our development projects that advance access to a dynamic, inclusive wireless ecosystem. The Wireless RERC, plus approximately six other RERCS, will remain on display at The Great Hall at the Department of Health and Human Services Humbert H. Humphrey Building.

#### Additional Information:

[Celebrating 40 Years of NIDILRR](https://acl.gov/news-and-events/acl-blog/celebrating-40-years-nidilrr)

[<https://acl.gov/news-and-events/acl-blog/celebrating-40-years-nidilrr>][Congressional Record Volume 164, Number 169](https://www.congress.gov/crec/2018/10/11/modified/CREC-2018-10-11-pt1-PgS6809.htm)

[<https://www.congress.gov/crec/2018/10/11/modified/CREC-2018-10-11-pt1-PgS6809.htm>]

**Wireless RERC Observations of the First-ever Nationwide WEA Test**

October 2018 - On October 2, 2018, the Federal Emergency Management Agency (FEMA) conducted the first-ever nationwide test of the Wireless Emergency Alert (WEA) system concurrently with the Emergency Alert System’s fourth nationwide test. Wireless RERC and Georgia Tech personnel were asked to observe the test and share their experience. Though anecdotal, the observations were nonetheless insightful, in some cases confirming former empirical WEA research. Some colleagues mentioned a preference for receiving the WEA test without the title “Presidential Alert” and would like to have seen the notification titled along the lines of “National WEA Test.” Some noted that the alert did not remain on their phone so that they could find it. After unlocking their phone, the message disappeared. Others did not experience this. Wireless RERC personnel, colleagues, and partners commented on issues with accessibility and inconsistency across devices and networks.

Accessibility

Offsite colleagues received the WEA test on schedule on a mix of iOS and Android devices as well as a variety of carriers (Verizon, Sprint and AT&T); however, noted that it was not ASL accessible. Another shared that their phone’s language was set to Chinese; the alert was still rendered in English. However, they also listened to the EAS test on the Georgia Radio Reading Service (GaRRS), a broadcast radio service for people with vision and print disabilities, and noted that the tone and voice message were very clear. Another stated that they received the EAS test while watching WSBTV Channel 2. The text scroll appeared on the screen at 2:21 PM. However, they noted the text size of the scroll appeared a bit too small. It did, however, provide the usual alert sound followed by a male voice announcing the alert information.

Inconsistencies

One staff member was in a meeting of roughly fifty people and reported that there was some buzzing which indicated that the WEA message was received; however, he received the WEA message on his AT&T iPhone X but not on his T-Mobile iPhone 7 nor his Apple Watch, which has the capability to receive both calls and messages. Other partners of CACP were also in a meeting of about thirty and stated that only half of the class received the test message. Other observations included:

* Verizon Samsung Galaxy 7 received alert tone but no message was displayed.
* AT&T Samsung Galaxy 2 device did not receive anything, no tone or message.
* iPhone 7 on the Sprint network received the message while watching CNN live on the phone. The test message was displayed with no audio or vibration. The CNN live video was frozen and nothing else was received.

Many of the issues identified above are being addressed by FCC regulations -- adopted and proposed. Nevertheless, all were encouraged to share their experiences with FEMA. The agency released a call requesting information from those that did not receive the alert to let the agency know by sending an email to [FEMA-National-Test@fema.dhs.gov](mailto:FEMA-National-Test@fema.dhs.gov). Include your cell phone provider, model, and whether you were indoors or outdoors, stationary or moving, and in a rural or urban setting. “Not getting the test message may seem relatively inconsequential now—but you might think differently in the event of a genuine emergency,” warned the agency.

#### Additional Information:

#### [The US government doesn’t seem to know why some people didn’t get its presidential alert](https://qz.com/1412525/why-you-didnt-get-the-fema-presidential-phone-alert/?fbclid=IwAR2Hjyjfj1c2ZHDQ7NjFXCSELuLinWO5L-3dCoaUOe9jGvHTN-1xe2ugWRw)

[<https://qz.com/1412525/why-you-didnt-get-the-fema-presidential-phone-alert/?fbclid=IwAR2Hjyjfj1c2ZHDQ7NjFXCSELuLinWO5L-3dCoaUOe9jGvHTN-1xe2ugWRw>]

**Wireless RERC @ DiversAbility Day**

October 1, 2018 – Wireless RERC principal investigator, Dr. Helena Mitchell, was a panelist for Georgia Tech’s DiversAbility Day, sponsored by Institute Diversity. She was joined on the panel by Carolyn Phillips (Alternative Media Access Center (AMAC), Liz Persaud, Tools for Life, and representatives from Georgia Tech’s Office of Disability Services, and Excel, a four-year program for students with mild intellectual and developmental disabilities (I/DD) leading to two separate certificates at Georgia Tech. The Wireless RERC also had a booth at the event, where personnel shared the latest development projects that address wireless devices’ power consumption in the aftermath of an emergency, ASL-interpreted WEA messages, accessible notification signals, socio-culturally acceptable wearable solutions for people with disabilities, and an interactive respite care robot for older caregivers with adult children who have developmental disabilities.

# **Tell Us About Your Wireless Devices!**

To inform the inclusive development of wireless technologies and services, the [Rehabilitation Engineering Research Center for Wireless Inclusive Technologies (Wireless RERC)](http://www.wirelessrerc.gatech.edu/tags/newsroom/wireless-rerc-news) is collecting data on people with disabilities’ user experiences and expectations.

Your responses will:

§ Help designers and engineers make more accessible wireless devices and services for people with disabilities.

§ Inform recommendations to better ensure inclusive policies and practices.

Take the survey online at<http://bit.ly/2018UserNeedsSurvey>

Or

To take the survey by telephone contact: Salimah LaForce at 404-894-8297

**Other Items of Interest**

**America’s Workforce: Empowering All**

October 2018 was celebrated as National Disability Employment Awareness (NDEAM), and the contributions and achievements of people with disabilities were recognized and honored at events and in publications. The Department of Labor’s Office of Disability Employment Policy (ODEP) 2018 theme for NDEAM was “America’s Workforce: Empowering All.” In keeping with the theme the Partnership for Employment and Accessible Technology (PEAT), focused on “Empowering All through Accessible Technology” and provided a number of resources for employer training, [accessible workplace technologies ecosystem](https://www.peatworks.org/staff-training/Ecosystem), apprenticeships, and more. CVS was honored by GoodWill Industries as their 2018 Employer of the Year for implementing a customized job training initiative. "At CVS Health, we understand the importance of helping individuals with disabilities access the security and prosperity that stable jobs can provide. We are honored to be recognized for our commitment to creating a more inclusive workforce, and look forward to helping more colleagues like Sharon Cooper find a meaningful career with CVS Health."

Not to be outdone, states across the nation also participated in the opportunity to spotlight services and supports for improved employment outcomes for people with disabilities. For example, South Carolina’s Vocational Rehabilitation program hosted disability mentoring days across their state. The National Conference of State Legislatures stated in a blog, “While unemployment among people with disabilities has been on the decline, it remains more than double the rate of people without a disability.” Acknowledging both recent progress and the need for states to set an example with inclusive hiring practices. Addressing an area that The Might’s disability editor contends could do the most to empower people with disabilities to work, she published [What's Really Keeping People With Disabilities Unemployed](https://themighty.com/2018/10/social-security-disability-work-problems/)**.** All in all, as with other years NDEAM 2018 saw many calls to action, recommendations for reform, and celebrations of champions of inclusion.

#### Additional Information:

[U.S. Department of Labor](https://www.dol.gov/newsroom/releases/odep/odep20180523)

[<https://www.dol.gov/newsroom/releases/odep/odep20180523> ]

[PEAT Celebrates NDEAM 2018](https://www.peatworks.org/ndeam/2018)

[<https://www.peatworks.org/ndeam/2018>]

[National Conference of State Legislatures](http://www.ncsl.org/blog/2018/10/08/its-october-lets-recognize-the-importance-of-disability-employment.aspx)

[<http://www.ncsl.org/blog/2018/10/08/its-october-lets-recognize-the-importance-of-disability-employment.aspx>]

[Goodwill NYNJ & CVS Health Join Together to Break Employment Barriers for People with Disabilities](https://www.prnewswire.com/news-releases/goodwill-nynj--cvs-health-join-together-to-break-employment-barriers-for-people-with-disabilities-300734508.html)

[<https://www.prnewswire.com/news-releases/goodwill-nynj--cvs-health-join-together-to-break-employment-barriers-for-people-with-disabilities-300734508.html>]

[What's Really Keeping People With Disabilities Unemployed](https://themighty.com/2018/10/social-security-disability-work-problems/)

[<https://themighty.com/2018/10/social-security-disability-work-problems/>]

**Holographic Smart Glasses Display**

October 9, 2018 - Researchers developed a theoretical method for how smart glasses can project images into the eye as opposed to using the lens as a display screen. In a recently published journal article, the authors present a “complete theoretical overview of an unconventional imaging concept that could allow the development of a near-eye integrated transparent display.” The goal behind these smart glasses is to make them indistinguishable from daily vision glasses. To do this, these researchers removed the traditional optical components of smart glasses and utilized photons to translate information into images. This holographic element of the new smart glasses is innovative in its leveraging of the organic vision system with technology to resolve the need for bulky image processors in the hardware design. Further, the authors contend that their concept has potential as an assistive technology for those with low vision, specifically with regard to projecting print and icons into the user's field of vision. [Source: Martinez, Krotov, Meynard, and Fowler (2018); James Holoway, New Atlas]

#### Additional Information:

[Read the Journal Article: See-through holographic retinal projection display concept](https://www.osapublishing.org/optica/abstract.cfm?URI=optica-5-10-1200)

[<https://www.osapublishing.org/optica/abstract.cfm?URI=optica-5-10-1200>]

[Read the News Article: Smart glasses design projects images right into the eye](https://newatlas.com/leti-eye-smart-glasses/56698/)

[<https://newatlas.com/leti-eye-smart-glasses/56698/>]

**Reimagining the use of drones – Accessibility in Public Spaces**

October 8, 2018 - University of Cincinnati’s, Abdou Fall, reimagines the use of drones as an effective way to increase the accessibility of public spaces. Fall’s thesis paper addressed use cases and policy considerations for drones to operate as an assistive technology for people with mobility disabilities. The paper explores the capabilities of drones, such as replacements for lifts and indoor mapping. Application of drone technology, as suggested in the paper, could assist in residential buildings as well as in public spaces. In the latter instance, it could save people with a physical disability time by informing them in advance if the building is accessible and to what extent. [Source: Abdou Fall, University of Cincinnati; Stefan Steveski, dronebelow]

#### Additional Information:

[Thesis Paper - Assistive Drone Technology](https://etd.ohiolink.edu/!etd.send_file?accession=ucin1522399761180306&disposition=inline)

[<https://etd.ohiolink.edu/!etd.send_file?accession=ucin1522399761180306&disposition=inline>]

[Using Drones to Enhance Building Access for the Physically Disabled](https://dronebelow.com/2018/10/08/using-drones-to-enhance-building-access-for-the-physically-disabled/)

[<https://dronebelow.com/2018/10/08/using-drones-to-enhance-building-access-for-the-physically-disabled/>]

**Captioning Smartglasses for Live Theater**

October 5, 2018 - The National Theatre recently developed smart captioning software to be used in the Epson smart-glasses. These smart-glasses provide people who are hard of hearing with a projected, private, and personalized transcript of the on-stage dialogue. The technology behind these glasses is two-fold; the first element is the Open Access Smart Capture technology software and the second element is the Epson’s Moverio BT-350 smart-glasses hardware. The software keeps track of the pacing of the script, and the smart glasses display the dialogue. Most notable about the glasses is that it allows the user to set certain features before the show such as size, color, and position of the dialogue. Since the National Theatre launched them at all of their London venues, the hope is that this progressive technology will spread broadly to the entertainment industry. The captioning smart glasses are just the latest in accessibility accommodations provided to ensure the theatre experience is inclusive. Other National Theatre accommodations include an audio loop system, audio described performances, sign language interpreters, and pre-show tours. [Source: Paul Ridden, New Atlas]

#### Additional Information:

[National Theatre launches captioning smartglasses for hard of hearing show-goers](https://newatlas.com/national-theatre-smart-caption-glasses/56660/)

[<https://newatlas.com/national-theatre-smart-caption-glasses/56660/>]

**Smart Cities for All Pilots in Chicago**

October 4, 2018 - Chicago was recently selected to be the pilot city for *Smart Cities for All,* a project that will measure the city’s digital and smart services’ accessibility for people with disabilities. The tracking of this data will assist city planners in assessing areas for improvement. Within this study, the following will be examined: communications, training, and technology standards. With the objective to improve the design of smart cities, the evaluation system is defined as city-specific performance indicators for accessibility. By developing inclusive, smart cities, it is anticipated that people with disabilities will have improved employment outcomes, and greater access to city transportation, and leisure activities. Through this project, *Smart Cities for All* and the City of Chicago expect to see a growth of technology, apps, and tools to improve accessibility as well as an awareness of thoughtful technological development. [Source: Jason Plautz, SmartCitiesDive]

#### Additional Information:

[Chicago to pilot tool to boost disability access for smart cities](https://www.smartcitiesdive.com/news/chicago-to-pilot-tool-to-boost-disability-access-for-smart-cities/538834/)

[<https://www.smartcitiesdive.com/news/chicago-to-pilot-tool-to-boost-disability-access-for-smart-cities/538834/>]

**Smart Prosthetic has Potential to Improve Care**

September 11, 2018 - Hanger Clinic partnered with AT&T to produce the world’s first standalone network connected device for prosthetic limbs. The network-connected device is attached to a below the knee prosthesis. It can gauge a patient’s needs beyond clinical settings as they move about their daily activities, and sends information directly to the clinician about gait speed, step force, direction, and rotation. Changes in usage trends can indicate that adjustments are needed. Whereas with traditional prosthetics, challenges with comfort or fit have to be communicated in the clinical setting by the user, this device assists people who may have difficulty identifying issues with their prosthesis. Of this, Hanger Clinic Vice President said, “Transitioning from living with a fully functioning leg to a prosthesis requires re-learning how to walk entirely. Unfortunately, not everyone knows when or how to talk to us about potential challenges. This device will give us a window into patient's daily experiences and equip us with a level of connectivity we’ve never had before, and in turn, provide even better patient care.”

The device uploads data to the cloud and has an accompanying iOS app to track progress. The network-connected device is still in its prototype stage and only being tested on five of Hanger Clinic’s current patients. The partners hope to conduct further testing to ensure its full functionality. [Sources: Danielle Kirsch, Medical Design & Outsourcing; Mariella Moon, engadget]

#### Additional Information:

[AT&T's LTE-M device can help doctors perfect prosthetic limbs](https://www.engadget.com/2018/09/11/att-hanger-prosthetic-limb-lte-m/)

[<https://www.engadget.com/2018/09/11/att-hanger-prosthetic-limb-lte-m/>]

[Hanger, AT&T develop network-connected device for prosthetic limbs](https://www.medicaldesignandoutsourcing.com/hanger-att-develop-network-connected-device-for-prosthetic-limbs/)

[<https://www.medicaldesignandoutsourcing.com/hanger-att-develop-network-connected-device-for-prosthetic-limbs/>]

**Virtual Reality as a Life Skills Trainer**

September 27, 2018 - The Endeavour Foundation recently launched training programs via virtual reality (VR) devices using the Oculus Rift Headset. These VR training devices have the potential to alter the employment landscape for individuals with intellectual disabilities, as well as assist with learning foundational life skills. The program teaches a variety of skills and daily functions from learning how to operate an ATM, to driving, to job training for a barista position. The VR program simulates the real-life experience. The article describes how one user utilized the program to train for a position at a coffee shop. He was given a virtual machine that allowed him to count money and deliver change.

The programs were designed in collaboration with people with disabilities to better ensure usability and utility. One design outcome was to incorporate interactive elements such as pedals and steering wheels to better emulate the real-life experience. This technology could enable individuals with intellectual disabilities to increase their independence. The software for the VR training program still needs some work, and developers estimate that the VR program will likely be available by the end of this year. [Source: Maggie Coggan, PRObono Australia]

#### Additional Information:

[VR Helping People with Intellectual Disability Get Behind the Wheel](https://probonoaustralia.com.au/news/2018/09/vr-helping-people-intellectual-disability-get-behind-wheel/)

[<https://probonoaustralia.com.au/news/2018/09/vr-helping-people-intellectual-disability-get-behind-wheel/>]

**AI Supports Artist with Disabilities**

September 20, 2018 - Artificial Intelligence (AI) has the potential to revolutionize another social domain, the arts. Recent developments in assistive technology help artists with disabilities to “create their own ecology” within the art world. Similar to other activities, the world of art often lacks accessibility and reinforces discrimination. However, projects like Dr. Nazarpour’s, Intelligent Sensing, improve artists with upper extremity limitations ability to engage with the arts by fitting a bionic hand to the user. This prosthetic hand holds a camera that can determine the shape and size of an object. The team working on Intelligent Sensing, approach AI with the view that AI tools should work *with* humans rather than attempt to replace them.

Similarly, a team of developers at Boston College created EagleEye. EagleEye, assists artists who are non-verbal or have limited mobility. It will help these artists to utilize a computer with eye movements. The mechanics behind the device are fairly simple: the device attaches small electrodes to the person’s head which replaces the mouse and keyboard interface. One conceivable use of this AI technology is its use for artists with disabilities to create in photoshop, video editing, or other creative software. [Source: Chris Hayes, Dazed Digital]

#### Additional Information:

[How AI could increase art world accessibility for disabled artists](http://www.dazeddigital.com/art-photography/article/41334/1/how-ai-could-increase-art-world-accessibility-for-disabled-artists)

[<http://www.dazeddigital.com/art-photography/article/41334/1/how-ai-could-increase-art-world-accessibility-for-disabled-artists>]

**The BrightSign Glove: From ASL to Speech**

September 13, 2018 - Inventor, Hadeel Ayoub, created a glove that will take signed language and convert it into speech that is output via a small speaker. The speaker is accessed by pushing a button located at the base of the glove. Though it is only in its prototype phase, testers of this glove describe their amazement. The glove takes into account the movement variation and the differences in motor skills of each user while obtaining 97% accuracy. BrightSign also adapts to the body language of its user. This assistive technology will help to facilitate communication for individuals who are non-verbal. Hadeel’s vision is for children and adults to be able to engage with others quicker than they would with a translator. However, the inventor’s greatest focus is affordability, so she has taken efforts to ensure it is financially accessible. Already 1.4 million dollars has been raised for the launch of BrightSign to distribute to educational institutions and support services for non-verbal persons for free. BrightSign has great potential to have a substantial impact. [Source: Newz Hook]

#### Additional Information:

[Sign-to-speech smart glove, BrightSign, a potential game changer for people with speech disabilities](https://newzhook.com/story/17759)

[https://newzhook.com/story/1775]

**User Customizable 3D Printed Switch Access Controllers**

September 12, 2018 - For decades, the notion of a futuristic society included the development of machines that could produce any object on demand. The pinnacle of an advanced and highly technological society is premised on the idea of easily accessible or produce-able items with a simple switch of a button. At least, that’s what the Jetsons would have us believe. With advances in 3D printing, one could argue that perhaps we have arrived.

3D printing creates a physical object from a three-dimensional digital model. 3-D printing is an inexpensive method of making assistive devices. Now a company, Pole-Ergo, is customizing 3D printed contactors. These contactors, or adaptable switches, are buttons that are commonly used by people with upper extremity and fine motor skills limitations to access electronics such as smartphones and computers. Pole-Ergo developed a 3D printed contactor to be modifiable based on the user’s characteristics. It has a set of options adjoined to the contactor that allow use to be highly personalized. Pole-Ergo’s contactors are available now for downloading on Thingiverse. [Source: Clare Scott, 3dprint.com]

#### Additional Information:

[Customizable 3D Printed Contactors Give Disabled People Access to Technology](https://3dprint.com/224755/3d-printed-contactor/)

[<https://3dprint.com/224755/3d-printed-contactor/>]

**Microsoft’s Soundscape App for Outdoor Navigation**

September 12, 2018 - Microsoft released a new app entitled “Soundscape.” The app is designed to assist people that are blind or that have low vision navigate in outdoor environments. Soundscape is unlike its predecessors and other current navigation apps because instead of providing directions it gives the user information about their surroundings and allows the user to decide which paths to take. In addition to spatial information, the app also provides details about the user’s environment such as landmarks and allows users to add personal markers such as frequent places visited. This feature helps the user to form a mental map about their environment. Ultimately, Soundscape’s goal is to increase the user’s autonomy. However, the app developers noted in the article, Soundscape was not created to replace traditional mobility aids such as canes. Rather, as an adjunct to other mobility aids, it will enhance the independent mobility of its user. [Source: Krishan Sharma, The Sydney Morning Herald]

#### Additional Information:

[Microsoft's Soundscape app lets blind 'see' by reading from 3D map](https://www.smh.com.au/technology/microsoft-s-soundscape-app-lets-blind-see-by-reading-from-3d-map-20180912-p50396.html)

[<https://www.smh.com.au/technology/microsoft-s-soundscape-app-lets-blind-see-by-reading-from-3d-map-20180912-p50396.html>]

**Hands-Free Online Shopping via a Head Motion Interface**

September 11, 2018 - A group of eBay interns created an iPhone X software tool, HeadGaze, that allows users to access their phones with head motions. The software is birthed from the same technology that brought Apple’s face ID unlock. It also utilizes the augmented reality ARKit framework and the phone’s front-facing camera. Initially designed to make online shopping quicker, developers found that it could also serve as an assistive technology for people who require hands-free access. Subtle head motions allow the user to scroll up and down a page as well as open apps with head movements. Though it has already been released on GitHub for other developers to incorporate in their software development, potential HeadGaze users will have to wait until eBay’s fourth quarter for its release. eBay plans to continue its development and expand its usability to additional versions of the iPhone. [Source: Nick Statt, The Verge]

#### Additional Information:

[eBay’s HeadGaze brings hands-free input to the iPhone X using ARKit](https://www.theverge.com/2018/9/11/17847006/ebay-headgaze-hands-free-shopping-apple-iphone-x-arkit-open-source)

[<https://www.theverge.com/2018/9/11/17847006/ebay-headgaze-hands-free-shopping-apple-iphone-x-arkit-open-source>]

**Braille Tablet Like No Other**

September 11, 2018 - In the fall, Blitab Technology will release its tablet computer for people that are blind.  It is the first of its kind tablet that can translate any type of content into braille and displays one page of content at a time. Typical braille compatible tablets allow users to read one line at a time. To accomplish full-page braille presentation, the Blitab tablet is divided into two screens. The top screen is glass that is perforated into a fourteen-line grid with holes. Each line is then made up of 23 cells with six dots per cell. Every cell represents one letter of the braille alphabet. The touch screen is comprised of a responsive liquid that alters the surface at the user’s touch and converts the content to the braille alphabet. The Blitab will also come with a braille keyboard app if users have a preference.

This device is anticipated to increase accessibility across four different dimensions: digital inclusion and literacy, employment outcomes, affordability, and braille literacy. Regarding affordability, the Blitab tablet is competitively priced. Regarding braille literacy, a 2009 National Federation of the Blind study found that less than 10% of people that are blind read braille. For people with visual impairment who are interested in learning braille, Blitab can serve as a learning platform. [Source: Nazanin Lankarani, The New York Times]

#### Additional Information:

[Braille for a New Digital Age](https://www.nytimes.com/2018/09/03/arts/tablet-devices-blind-braille.html?rref=collection%2Ftimestopic%2FDisabilities&action=click&contentCollection=health&region=stream&module=stream_unit&version=latest&contentPlacement=2&pgtype=collection)

<https://www.nytimes.com/2018/09/03/arts/tablet-devices-blind-braille.html?rref=collection%2Ftimestopic%2FDisabilities&action=click&contentCollection=health&region=stream&module=stream_unit&version=latest&contentPlacement=2&pgtype=collection>

**Global Disability Data Portal**

September 6, 2018 - The Department for International Development (DFID), located in the United Kingdom (UK) and Leonard Cheshire collaboratively developed a global data portal called The Disability Data Portal. This portal will include comprehensive global data on all recognized disabilities. The database consists of information from forty countries and incorporates sixteen development indicators. Some of the key development themes cover stigma/discrimination, technology/innovation, economic empowerment, and inclusive education. This project will allow countries to conduct cross-country comparisons and track the presence of various disabilities throughout the world longitudinally. The creation of such a comprehensive database will help scholars identify where additional research is needed and assists the UN Convention on the Rights of Persons with Disabilities (CRPD) evaluate and create Sustainable Development Goals (SDGs).

The UN Council discussed the portal's challenges. Namely, the unavailability of data. Sometimes all of the desired data is not available in the chosen countries to match the indicators. For instance, several countries did not have disaggregated disability data for inclusive education. The absence of data prevents the Council from drawing significant conclusions. Similarly, the UN encounters other interrelated challenges concerning methodological issues and verification. In some countries, the data collection methodologies were not clear, and thus the data was not included in the portal. Because of the launch date, the UN CRPD did not have all of the data calculations verified by the National Statistics Offices. The development of this portal is ongoing, and data is constantly being updated, added, verified and analyzed. The link to the portal is included in this newsletter, below, please check it out. The Leonard Cheshire project is looking for partners to collaborate with the expansion and collection of data. Admittedly, there is work to be done; however, this portal is a consequential tool to assist in closing the gap of knowledge on disabilities and understanding where more work needs to be done.

#### Additional Information:

[Disability Data Portal](http://www.disabilitydataportal.com)

[[www.disabilitydataportal.com](http://www.disabilitydataportal.com)]

[Leonard Cheshire Launches Disability Data Portal With DFID](http://globalaccessibilitynews.com/2018/09/06/leonard-cheshire-launches-disability-data-portal-with-dfid/)

<http://globalaccessibilitynews.com/2018/09/06/leonard-cheshire-launches-disability-data-portal-with-dfid/>

**Upcoming Events**

**Open Mobile Summit**

The 2018 Open Mobile Summit will convene November 27 through 28, 2018 in San Francisco, California. Themes for the 10th annual event include the age of the connected consumer, delivering seamless and personalized experiences, digital strategy, and engaging consumers. Companies such as Telsa, Uber, Bumble, and LinkedIn are sending executive representatives to share how their companies address the Summit’s themes.

#### Additional Information:

[2018 Open Mobile Summit](2018%20Open%20Mobile%20Summit)

[<https://events.incite-group.com/oms/>]

**AAAED 45th National Conference and Annual Meeting**

Save the datefor our 45th National Conference and Annual Meeting to be held June 11 through 13, 2019 in Indianapolis, IN. The theme will be “Moving Beyond Diversity Towards Equity and Inclusion.”

#### Additional Information:

If you would like to join the Committee, please email us at <Conference2019@aaaed.org>.

**Technology and Disability Policy Highlights,** Fall 2018 Issue: September – October

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