New Frontiers in Assistive Technology

Final Program

June 10-14, 2015

June 10-11: Fundamentals Course
       June 11: Instructional Courses
June 11-13: AT Pavilion/Exhibits
June 12-14: General Conference

Sheraton Denver Downtown
Denver, Colorado

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Welcome to Denver and RESNA 2015! Whether it’s your first RESNA conference or your 30th, you will find a rich environment filled with new insights, new inspirations, and new relationships. The Meetings Committee has worked hard all year long to ratchet up the interaction level as much as possible and to seek out new technology trends, like microcontrollers, wearables, and 3D printing, in keeping with this year’s theme, “New Frontiers in Assistive Technology.” It’s going to be three very exciting – and busy – days.

For me, the annual conference has always been special, because it’s where I’ve felt those “AHA” moments – those sudden realizations that have contributed to my personal and professional growth. My first such moment was at the conference in New Orleans, I think in 1989. I was presenting a poster called “Wheelchair Simulator: Chair Sim.” I couldn’t believe how many experienced leaders of RESNA (like David Jaffe) came by to give me some great advice about the project. The most significant thing I learned was how misleading my poster title was – it should have been called “A Power Wheelchair Sip and Puff Command Trainer.” I realized then that titles were very important! Another great AHA moment, for a very different reason, was at the conference in San José, California. The networking reception included a wine tasting from several local wineries, and things became – well – really fun. It was a great night, and I’ll never forget it.

The RESNA annual conference is unique among all assistive technology conferences, because nowhere else will you find such a multi-disciplinary, diverse group of people who are so incredibly generous with their time, knowledge and ideas. So soak it all in – the 40+ workshops, the exciting plenary speakers, the innovative ideas at the Developer’s Forum, the cutting-edge research platform and poster sessions, the multiple networking opportunities – and start collecting your AHA moments. Have a wonderful conference!

Follow @RESNAorg on Twitter!
When shopping for a new or used adapted wheelchair vehicle, beware of cookie-cutter products sold over the Internet or through catalogs. NMEDA’s Quality Assurance Program (QAP) is a recognized accreditation program that was developed to promote quality, safety and reliability. A QAP designation ensures your vehicle modification or mobility equipment installation is consistent with the highest guidelines available in the industry. After an on-site, “in-person” evaluation from an accredited NMEDA/QAP dealer, you can be sure you are getting the right driving solution customized to your lifestyle needs.

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New Frontiers in Assistive Technology

Thanks to the people behind this conference

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Vibhor Agrawal, ATP, University of Miami; Miami VA Medical Center
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### Wednesday, June 10
- 8:00am – 5:00pm: Fundamentals Course
- 2:00pm – 6:00pm: Registration Open

### Thursday, June 11
- 7:30am – 7:00 pm: Registration Open
- 8:00am – 5:00pm: Fundamentals Course
- 8:30am – 5:30pm: Instructional Courses (see page 8)
- 12:00pm – 5:00pm: Exhibitor Move-In
- 5:30pm – 6:30pm: First Timers Orientation (see page 9)
- 6:30pm – 8:00pm: Opening Reception (see page 9)

### Friday, June 12
- 7:00am – 5:30pm: Registration Open
- 9:00am – 10:30am: Plenary Session (see page 11)
- 10:30am – 5:00pm: AT Pavilion Open
- 10:45am – 12:00pm: Workshops
- 12:00pm – 1:00pm: Walkabout Lunch in the AT Pavilion
- 1:15pm – 3:30pm: Workshops
- 2:30pm – 4:00pm: AT Pavilion Dedicated Time and Posters
- 4:00pm – 5:15pm: Workshops
- 5:30pm – 6:30pm: RESNA Business Meeting (see page 8)
- 6:30pm – 8:30pm: Developers Forum (see page 7)

### Saturday, June 13
- 7:00am – 5:30pm: Registration Open
- 9:00am – 10:30am: Plenary Session (see page 17)
- 10:30am– 12:00pm: AT Pavilion Open
- 10:45am – 12:00pm: Workshops
- 12:00pm – 2:00pm: Awards Luncheon (see page 18)
- 2:15pm – 3:30pm: Workshops
- 2:15pm – 5:00pm: AT Pavilion Open
- 3:30pm – 5:00pm: AT Pavilion Dedicated Time and Posters
- 5:00pm – 6:15pm: Workshops
- 7:30pm – 9:00pm: Networking Social (see page 16)

### Sunday, June 14
- 7:00am – 1:00pm: Registration Open
- 8:00am – 9:15am: Workshops
- 9:30am – 11:00am: Plenary Session (see page 22)
- 11:15am – 12:30pm: Workshops
- 12:45pm – 2:00pm: Workshops

### Board and Committee Meetings

#### Tuesday, June 9
- 8:30am – 5:30pm: Standards Committee on Wheelchairs and Transportation (WHAT)
  - Room: Beverly

#### Wednesday, June 10
- 8:30am - 5:30pm: Accreditation Committee
  - Room: Terrace
- 8:30am – 5:30pm: Standards Committee on Wheelchairs (WCS)
  - Room: Beverly

#### Thursday, June 11
- 8:30am – 5:00pm: RESNA Board Meeting
  - Room: Governor’s Square 15
- 8:30am – 5:30pm: Standards Committee on Wheelchairs (WCS)
  - Room: Beverly
- 4:00pm – 6:00pm: Standards Committee on Wheelchairs and Related Seating (WRS)
  - Room: Plaza Court 3

#### Friday, June 12
- 7:45am – 8:45am: Specialty Interest Group Meetings (SIGs)
  - Rooms: See insert
- 11:45am - 1:15pm: Standards Committee on Inclusive Fitness (IF)
  - Room: Plaza Court 3
- 12:00pm – 1:00pm: AT Journal Editorial Board
  - Room: Governor’s Square 9
- 12:00pm – 1:00pm: Student Network (SIG)
  - Room: Governor’s Square 17
- 6:00pm – 9:00pm: Professional Standards Board (PSB)
  - Room: Governor’s Square 9

#### Saturday, June 13
- 7:45am – 8:45am: Professional Specialty Group Meetings (PSGs)
  - Rooms: See insert
- 7:45am - 8:45am: Vocational Rehab PSG Meeting
  - Room: Governor’s Square 9
- 3:30pm – 5:00pm: Standards Committee on Cognitive Technology (CT)
  - Room: Plaza Court 3
- 3:30pm – 5:00pm: PSG & SIG Chairs/Vice Chairs Meeting
  - Room: Governor’s Square 9

Please see insert for detailed workshop schedule and room locations.
How the Conference Is Organized
RESNA 2015 is an interdisciplinary gathering of individuals and companies/organizations who share a common interest in assistive technology and disability. This year, the gathering begins with a two day pre-conference course, Fundamentals of Assistive Technology, and one day of instructional courses, followed by the general conference with over 40 sessions devoted to professional issues, educational topics, networking, practical solutions and research papers. Meetings of the various committees and boards as well as the Special Interest Groups (SIGs) and Professional Specialty Groups (PSGs) are held during the general conference schedule and attendees are welcome to participate.

Registration – Plaza Registration Office
The registration desk provides conference badges and receipts. Staff is also available to answer questions about the conference and RESNA.

Registration Desk Hours
Wednesday, June 10  2:00pm – 6:00pm
Thursday, June 11  7:30am – 7:00pm
Friday, June 12  7:00am – 5:30pm
Saturday, June 13  7:00am – 5:30pm
Sunday, June 14  7:00am – 1:00pm

Emergency Contact Info
If there is an emergency, call 911. If at any time you need to contact a RESNA person on-site, stop by the registration desk.

Volunteer Office
The Volunteer Office acts as a gathering point and command center for the volunteers coordinated by Linda Szczepanski, CMP. The Volunteer Office is open basically the same hours as the Registration Desk. We thank all of the volunteers who gave of their time and talent this year!

Computer Tech Lab
The Tech Lab is equipped with a number of computers with Internet access and loaded with demonstration software and alternative access technologies offering attendees opportunities for hands-on exploration and product comparisons. The Tech Lab is managed by Denis Anson, MS, OTR and is open from 7:30am to 6:00pm on Friday and Saturday, and 7:30am to 1:00pm on Sunday. Since some sessions are scheduled to be conducted in the Tech Lab, use may be limited during these times.

AT Pavilion Hours – Plaza Exhibit Foyer
Thursday, June 12  6:30pm - 8:00pm
Friday, June 13  10:00am - 5:00pm
Saturday, June 14  10:00am - 12:00pm; 2:00pm - 5:00pm

The AT Pavilion is open for free to the public on Friday and Saturday starting at 2pm.

Accessibility Services
Interpreting Services
RESNA makes arrangements for those requiring interpreting services based on requests received prior to the conference. There will be computer-assisted real-time translation (CART) services for the RESNA plenary sessions.

Alternative Formats
The final program, handouts received in advance from presenters, and conference proceedings are available for download from the RESNA website at www.resna.org. You may also obtain a USB drive with this information from the Registration desk.

Service Dog Walk Area
Individuals with guide or service dogs should inquire at the Hotel Registration Desk for the dog walking area.

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Continuing Education Units – CEUs
RESNA is pleased to offer Continuing Education Units (CEUs) for registered attendees to all scientific and educational programs. RESNA will provide CEUs for conference educational programs: 0.1 CEU earned at the RESNA Conference is equivalent to 1.0 contact hour.

RESNA 2015 PROGRAM

<table>
<thead>
<tr>
<th>Event Description</th>
<th>CEU's</th>
<th>Contact Hour Equivalent</th>
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<tr>
<td>Half-Day Instructional Course</td>
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<tr>
<td>Full-Day Instructional Course</td>
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<td>Fundamentals Course (2 days)</td>
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<td>Plenary Sessions</td>
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<tr>
<td>Workshop Session</td>
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<tr>
<td>Platform Session</td>
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<tr>
<td>Main Stage Session (15min)</td>
<td>0.025</td>
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</tbody>
</table>

Computing Total CEUs for Conference
The formula for computing CEUs includes summing all of the minutes for all educational sessions attended, dividing by 60 minutes and dividing again by 10 hours, with the fraction for the last few minutes rounded off to the nearest tenth. If the resulting computation ends in 0.5 or higher, then we will round up to the nearest whole number. Please see instructions provided on the CEU flyer in your conference bag for how to obtain your CEUs.

Note: CEUs are not offered for the following segments of the conference program: meetings, receptions, and time spent visiting exhibits.
How the Sessions are Structured

Workshops
Each 75-minute session offers practical and cutting-edge information on contemporary issues in AT service delivery, research and policy. Sessions are interactive with time for participant input and discussion. See daily schedule for details of each workshop being presented.

Platform Sessions
Platform sessions feature 4-5 scientific papers that are grouped by topic and related subject to make a 75-minute presentation. Presenters of the papers include both professionals and students.

Interactive Poster Sessions
The poster format is a key vehicle for presenting the scientific papers accepted for the conference. Papers cover research, practical applications, and policy across a wide spectrum of topics. The format is designed to promote informal dialogue between attendees and presenters.

Student Design Competition
Sponsored by the National Science Foundation and the Center for the Translation of Rehabilitation Engineering Advances and Technology (TREAT), the competition features entries from potential future AT professionals. Chosen from a pool of entries, the semi-finalists will present their work in a platform session during the conference. They will also showcase their designs at the Developers Forum. TREAT will present one finalist team with an award, Technology Most Likely to become Commercially Available, at the Awards Luncheon.

Student Scientific Paper Competition
Finalist student papers will be presented in a platform session during the conference. This competition is made possible by the generous support of Paralyzed Veterans of America (PVA). Other papers receiving honorable mentions will be presented via poster presentations.

Note: Papers presented in the Platform and Poster Sessions are included in the Conference Proceedings that are posted on the RESNA website.

Instructional Courses
Experienced and knowledgeable individuals in their fields teach half and full-day courses on topics of interest and importance in assistive technology and rehabilitation engineering. These courses provide in-depth, intensive treatment of the topic being addressed combined with some hands-on training and lots of interaction. On-site registrations are accepted as space permits. There is a separate cost to attend the instructional courses.

DEVELOPERS FORUM
Friday, June 12 • 6:30pm - 8:30pm • Governor’s Square 14
Sponsored by the Communications Technologies and Computer Access SIG
A unique, interactive opportunity to provide feedback on new and upcoming products and a chance to view the Student Design Competition projects.
IC1: Creating Assistive Technology Solutions in Minutes – A Make and Take Workshop

Theresa Wilkomm, University of New Hampshire
Primary Subject Area: Service Delivery and Outcomes
Content Level: General

“Tell me and I forget. Teach me and I remember. Involve me and I learn.” — Benjamin Franklin

This Make and Take workshop takes participants through fabrication of 10 assistive technology solutions using new fabrication tools and materials including: Instamorph, Loc-Line, Coroplast, Conductive foam and tape, Veltex, Coroclaw, Corner Guard, Remo, UGLu, DFL, CPVC, and more. Each participant will use 10 tools and 20 materials to fabricate 10 multi-use solutions for home, school, work and play.

IC3: Improving Outcomes with Custom Contoured Seating: Theory and Practice

Kelly Waugh, Assistive Technology Partners
Primary Subject Area: Seating and Mobility
Content Level: Advanced (>5 yrs.)

In this hands-on course, participants will learn and practice the seven critical determinants of a successful outcome with custom contoured seating. Didactic sessions include a review of the key components of a clinical seating assessment with an emphasis on how to translate mat exam findings into a Postural Alignment Plan prior to shape capture. During the afternoon practicum, participants will complete a mat exam, seating simulation and shape capture of an individual with complex seating needs, using objective measurements of seated posture to assess outcomes. The strategies and procedures discussed in this course are not product specific and can be applied when using any type of custom contour system.

IC4: Introduction to NaturallySpeaking Voice Automation

Alan Cantor, University of Toronto
Primary Subject Area: Computer Applications & Communication
Content Level: Intermediate (2-5 yrs.)

Prerequisite: Familiarity with NaturallySpeaking. No programming experience is assumed. During this lecture/demonstration, learn to automate tasks via NaturallySpeaking custom commands. NaturallySpeaking has thousands of built-in commands. But sometimes these commands are not enough to get the job done. Custom commands save time, energy, and frustration by automating tasks that are difficult, time-consuming, or impossible to perform with built-in commands. You will see how to script commands that type text, insert graphics, open applications, manipulate windows, and simulate built-in commands. You will also learn about “list” and “open-ended commands” — a single command performs dozens (or millions!) of related actions.

IC5: Introduction to Desktop 3D Printing

John Wardzala, Assistive Interface Designs
Primary Subject Area: Other
Content Level: Beginner (0-2 yrs)

A basic course on desktop 3D printing for those in assistive technology who may have thought of turning an idea/solution into a physical prototype, or for those who just want to learn the basics. Course topics include: choosing a 3D printer; buying options; software options (including modeling, slicing and 3D printer control software); 3D printer filament; 3D scanning options; examining pros and cons of 3D printing to set limitations and realistic expectations; 3D printer service provider options over doing it yourself; and examples of how 3D printing is being used in assistive technology and beyond.

IC6: Getting Hands-On with Microcontrollers

Joe Cummings, Secure Technologies, Inc.; Joseph W. Klaesner, Washington University School of Medicine in St. Louis
Primary Subject Area: Other
Content Level: General

You’ve heard about microcontrollers as possible AT devices, converting light, audio, timing or tactile input into other actions. This is your opportunity to explore what it’s all about. Attendees will examine and learn about the different offerings in the microcontroller market and their many potential uses. Participants will also go hands-on with the Arduino microcontroller, learning about its components and building and coding some projects that demonstrate its capacity. An additional fee will be charged so that each attendee leaves with their own Arduino kit and the confidence to work on projects back home. Resource lists will also be provided.

IC7: Switch Assessment

Michelle Lange, Access to Independence
Primary Subject Area: Seating and Mobility
Content Level: Intermediate (2-5 yrs.)

Assistive technology professionals are frequently called upon to determine the optimal access method for specific assistive technology devices including power wheelchairs, computers, speech generating devices and EADLs. If the best access method is switch(es), it can be quite challenging to choose among the myriad of available mechanical and electronic switches, figure out where to place the switch for optimal control and then secure it in that location. This course will present assessment strategies, a hierarchy of switch locations and systematically explore various switches by product features. Switch mounting will also be addressed. Case studies will be included. Bring your own case studies for our discussion groups.
Spend quality, one-on-one time with our wonderful exhibitors.

Brief welcome and remarks by:

John Anschutz, ATP, RET
Conference Chair

Ray Grott, MS, ATP, RET
RESNA President

Michael Brogioli
RESNA Executive Director

First Timers Orientation

Thursday, June 11 • 5:30pm – 6:30pm
Governor’s Square 12

Get the most out of your first RESNA conference experience!

Meet the SIGs and PSGs

Thursday, June 11 • 6:30pm – 8:30pm
Booth 6

Find out more about RESNA’s Special Interest Groups and Professional Specialty Groups, how they connect members with each other, and their projects. Stop by the RESNA booth during the opening reception and chat with group leaders.
Introducing GoWing Dynamic Arm Support

Whether you need a little assistance or a lot of help, the GoWing Dynamic Arm Support from Innovations Health Devices helps you get more out of life. GoWing quickly mounts on any power wheelchair and provides assistive support for your arm to let you easily reach objects that are currently beyond your grasp. With its unique hybrid technology that combines an adjustable dynamic mode that counteracts gravity and a power lift mode that allows you to raise and lower your arm without physical effort, the GoWing puts your world within your reach.

SEE US AT BOOTH #3

EXTEND YOUR REACH

Taste Freedom with JACO

The Kinova JACO gives you the power and freedom to do. JACO mounts on nearly any power wheelchair and uses almost any controller to allow individuals with Muscular Dystrophy, ALS, Cerebral Palsy, or paralysis to instantly be able to eat, drink, open doors, pick items up off the floor, and perform a wide variety of ADL tasks unassisted. JACOs reduce the need for caregiver assistance while allowing you to do more for yourself than you ever thought possible.

Watch videos of JACO online and learn more at www.InnovationsHealth.com and be sure to like us on Facebook at www.facebook.com/InnovationsHealth.

Laura uses her JACO to live a far more independent life.
**Opening Plenary Session**
Friday, June 12  •  9:00am – 10:30am  •  Plaza Ballroom A

**Assistive Technology in a Global Community**
The need for assistive technology knows no boundaries. There are unique challenges and opportunities around the world, but also universal needs and solutions. Learn more about what is happening in Asia, Europe and other parts of the world, and how this impacts North America.

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**Maria Luisa Toro, MS**
RESNA Board Member
Moderator

Maria Luisa Toro is a PhD candidate in rehabilitation science and technology at the University of Pittsburgh. She is a graduate student researcher at the Human Engineering Research Labs at the University of Pittsburgh and VA Pittsburgh Healthcare system. Her doctoral dissertation work includes research on the impact of a wheelchair maintenance program on quality of life and wheelchair maintenance condition in people with spinal cord injury. Her interests are outcome measures and access to affordable and appropriate assistive technology in less resourced settings. She has participated in trainings with the World Health Organization wheelchair service training package at the basic and intermediate level. She came from Colombia to the United States in 2009 to pursue her MS degree with a Fulbright scholarship and has been working with assistive technology since 2006. She is a RESNA Board member, and is also the co-chair of RESNA’s International Special Interest Group.

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**Inhyuk Moon, PhD**
Rehabilitation Engineering and Assistive Technology Society of Korea (RESKO)

Dr. Moon received his B.E. and M.E. degrees in electronics engineering from Gyeongsang National University, Jinju, Korea, and a Ph.D. in computer controlled mechanical systems from Osaka University, Osaka, Japan. From 2002 to 2005, he was a team leader of the electronic-control laboratory at the Korea Orthopedics and Rehabilitation Engineering Center (KOREC) in Incheon, Korea. In 2005, he joined the Department of Mechatronics Engineering at Dong-Eui University in Busan, Korea as a professor. He has been working as an expert in ISO TC173 (assistive products for persons with disability) and ISO TC168 (prosthesis and orthosis). His research interests include standardization, rehabilitation robotics and bio-mechatronic system design. He is also Vice President of RESKO, the Rehabilitation Engineering and Assistive Technology Society of Korea, a professional membership organization similar to RESNA.

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**Chapal Khasnabis**
World Health Organization (WHO)

Chapal Khasnabis is a social/technical innovator who has spent most of his career in the field of community health, assistive health technology, and community-based rehabilitation (CBR). He currently serves as a Technical Officer on the Public Health and Innovation Team in the Department of Essential Medicines & Health Products of the World Health Organization (WHO). In this capacity, he is currently leading WHO’s Global Cooperation on Assistive Technology (GATE) program to improve access to assistive health technology for people with disabilities, including seniors and others in need.

He received his degree in Prosthetics and Orthotics Engineering from All India Institute of Physical Medicine and Rehabilitation in Mumbai, India, and then obtained a Master’s of Rehabilitation Science from Strathclyde University, United Kingdom. He has 35 years of experience working in the field, with governments (Ministry of Health and Ministry of Social Welfare, India), non-governmental organizations (Mobility India, which he founded in 1994), and international organizations (WHO). His personal experience includes working in more than 10 different low-income countries, and his work has taken him to over 70 countries, mostly low- and middle-income nations.
AT&T teamed up with RESNA to explore new frontiers in assistive technology through the Connect Ability global design competition.

At AT&T, we believe in the ability of all people. Our dedication to accessibility is present in every product we make, in every service we offer, and in how we hire, develop and engage employees with disabilities. From billing in braille, to customized technologies, we create inclusive experiences for customers and employees so we can all progress, grow and achieve.

Deadline is June 24th for engineers and makers across the globe to submit their solutions for consideration.

Video demonstrations by competing teams available at connectability.challengepost.com
## Workshops are identified with these topic area codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>COG</td>
<td>Cognitive &amp; Sensory Impairments</td>
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<tr>
<td>CAC</td>
<td>Computer Applications &amp; Communication</td>
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<tr>
<td>INT</td>
<td>Internationally Appropriate Technology</td>
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<tr>
<td>JEA</td>
<td>Job &amp; Environmental Accommodation</td>
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<td>Seating &amp; Mobility</td>
</tr>
<tr>
<td>SDO</td>
<td>Service Delivery &amp; Outcomes</td>
</tr>
</tbody>
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### Friday, June 12 • 10:45am – 12:00pm

#### Platform Session #1: Computer Applications

Room: Governor’s Square 10

- **The Use of Kinect to Navigate a Virtual Exercise Environment by People Post-Stroke or with Cerebral Palsy**
  
  Sean Pool, Lakeshore Foundation

- **Smartpen Technology for Note-taking in Inclusive High School English Classes**
  
  Rachael Hidalgo, Temple University

- **Movement-Based Gameplay Therapy for a Child with Cerebral Palsy: A Single Subject Study**
  
  Sharon Stansfield, Ithaca College

- **A Prototype Website for Providing Powered Seat Functions Usage Collected from Smartphone Virtual Seating Coach**
  
  Yu-Kuang Wu, University of Pittsburgh

- **A Scoping Review of Data Logger Technologies Used with Manual Wheelchairs**
  
  François Routhier, U Laval

#### WS #1: Effectiveness of Universal Design Standards in Improving Usability in the Built Environment

_Elyse Skerker, Jonathan White, Sue Weidemann, Center for Inclusive Design and Environmental Access (IdEA Center)_

**Level:** General  **Topic:** JEA  **Room:** Governor’s Square 11

The designers of a university residence hall used a draft universal design standard based on data obtained through anthropometric research. After the building was built and occupied, the Rehabilitation Engineering Research Center on Universal Design and the Built Environment (RERC-UD) conducted a post-occupancy evaluation to determine the effectiveness of the draft standards and to develop a model for continuous standard improvement. Researchers used multiple methods of inquiry including guided tours and online surveys. Participants of the study included people with varying physical and cognitive abilities. The results indicate that that building designed to the standard was more usable and satisfactory for all people. The “Evidence Based Wheeled Mobility Design Challenges” workshop presented at RESNA 2010 presented research findings demonstrating that contemporary wheeled mobility device users are not always accommodated by contemporary architectural design standards. The universal design standards being evaluated will help address this issue, but improving access to the built environment also requires contributions many different stakeholders: policy makers, researchers, assistive technology professionals, occupational therapists and designers, rehabilitation technology researchers, rehabilitation therapists, and architects.

#### WS #2: Technology for Hearing Loss: The Old, The New and The Future

_Laura Plummer, Stout Vocational Rehabilitation Institute, University of Wisconsin_

**Level:** General  **Topic:** COG  **Room:** Governor’s Square 16

As assistive technology professionals we are often asked to problem solve and identify solutions for a wide array of disabilities and in settings which range from work to school to home life. When it comes to providing services to individuals who are deaf or hard of hearing many of us may not have as much experience as we’d like. This session will provide attendees with the nuts and bolts of assistive technology for hearing loss as well as the resources needed when these referrals come in. Examples, device demonstration and discussion time will be included for this interactive workshop.

#### WS #3: Growing Evidence in Support of Orthotic Based Seating Interventions

_Joan Padgett, Tom Hetzel, Daniella Giles, Ride Designs; Barbara Crane, University of Hartford, Evan Call, Weber State University_

**Level:** Intermediate  **Topic:** SM  **Room:** Governor’s Square 12

Wheelchair seating based on orthotic science has been successfully used to protect skin, improve stability, and manage heat and moisture. These successes have been reported through anecdotal experience and case studies. This workshop will summarize several recent studies comprising a body of evidence on how orthotic based seating addresses sitting stability, microclimate, skin integrity and deep tissue deformation. The data collected includes the Modified Functional Reach Test, Interface Pressure Mapping (IPM) and MRI studies on orthotic based seating compared to an immersive air floatation wheelchair cushion. Preliminary human tester microclimate data using specially adapted temperature sensors will also be presented.

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### Walkabout Lunch in the AT Pavilion

_Every workshop is listed in the order in which it is scheduled, by day and time. Each description includes the name and affiliation of the presenter(s) and a short description._

Friday, June 12 • 12:00pm – 1:00pm

#### Walkabout Lunch in the AT Pavilion

_Every workshop is listed in the order in which it is scheduled, by day and time. Each description includes the name and affiliation of the presenter(s) and a short description._

Friday, June 12 • 12:00pm – 1:00pm
WS #4: Going Mobile: Apps to Enhance Research and Clinical Productivity
Emma Smith, GF Strong Rehab Centre

Although mobile technologies are already in the hands of researchers and clinicians, we sometimes forget their incredible potential as clinical and research tools. Smartphone and tablet technologies are increasingly well suited to monitoring, recording, planning, and communication, among many other uses. This workshop will review the many categories of available mobile applications, focusing on those which promote productivity in clinical and research work. We will review capabilities, benefits, and challenges of a variety of devices, and engage in interactive discussion to share knowledge between participants. Participants are encouraged to bring their own iOS or Android mobile device.

WS #5: Accessibility of Distance Education: Evaluating the Impact of AT & Universal Design
Roger Smith, Carly Golden, R2D2 Center, University of Wisconsin-Milwaukee; Aura Hirschman, Accessibility Resource Center

Accessibility features in distance education programming are paramount for many students with disabilities. However, we have little evidence about its true impact. A recently funded Distance Education and Technology Advancement (DETA) Center at the University of Wisconsin-Milwaukee is examining the success of distance education, including students with disabilities. This workshop presents the taxonomy of tasks required by students enrolled in distance education, reviews AT and universal design accessibility approaches for online education, and will engage the workshop participants in generating and assessing a comprehensive intervention and outcomes thesaurus describing best practice in accessible distance education. This workshop will highlight new strategies in universal design particular to online media.

WS #6: The Policy and Practice of AT in the K-12 School Setting
Daniel Cochran, CUSD 200

Assistive technology (AT) is a mandated service in the K-12 schools setting in the United States. The general model of this service is the same as in non-school settings and would thus be familiar to AT practitioners from other settings. But AT in schools is different because of the educational policies and practices in which it is situated. If your work takes you into schools, your clinic serves school-aged children, or you are thinking about working in the school setting, this session will help you more effectively interact with (or potentially practice in) US schools.

WS #7: The Wizard of Oz Approach: A Method for Developing Assistive Technology Prototypes
Jen Boger, Genevieve Foley, Pooja Viswanathan, University of Toronto

Development of functional prototypes of computer-based assistive technologies is time consuming and costly. The “Wizard of Oz” approach uses a human operator who emulates computer control of the prototype device or system. This approach allows developers to conceptualize, implement, and evaluate a device or system functionality prior to full development. Using Wizard of Oz allows representative users to provide feedback and enables the team to examine usefulness and usability issues. This workshop will explore the application of Wizard of Oz to assistive technology development for users with disabilities. Three case studies will be presented by the organizers and then discussed by the attendees.

WS #8: Evaluation for Alternative Input Devices for Power Wheelchairs – Steps for Successful Assessment, Documentation, and Delivery
Ginger Walls, National Rehab Hospital; Russ Rolt, Active Controls

Not all wheelchair users are able to use a standard arm rest mounted joystick. Clinicians and AT Providers are often challenged to be able to effectively evaluate for and determine what alternative input device is optimal to meet each client’s individual needs for accessing drive and seat function controls. This presentation will utilize case studies and product demonstration to discuss considerations for evaluation for power wheelchair input devices and a proposed new assessment and documentation tool. Considerations in the application of various alternative input devices and location or mounting options for these devices will also be discussed.

WS #9: Can You Dig It? Making Gardening Activities More Accessible to People with Disabilities
Julia Beems, Assistive Technology Partner

This session will focus on different methods and modifications for gardening with a disability. Different types of gardens, tools and modifications will be explored, including what’s available commercially vs. homemade for individuals with physical, vision, hearing and cognitive impairments. Instructions will be provided for various homemade adaptations. Resources for commercially available equipment will also be provided.
Many practitioners support the idea of using data during their assessments to make more objective decisions, but struggle with how to integrate data collection into daily practice. This workshop presents real-world experiences using Compass software during computer access assessments at UW-Stout. Case examples illustrate how the tool has been used during assessments, as well as different ways data was used during the decision-making and reporting process. We will also discuss how the method can be adapted for different practice environments. You will leave with a clear understanding of how and why to perform more data-driven assessments in your own practice.

Friday, June 12 • 4:00pm – 5:15pm

WS #10: Data Driven AT Assessments: An Easy Approach for Computer Access
Meghan Donahue, M.S., ATP, University of Wisconsin - Stout; Heidi Koester, Koester Performance Research
Level: General Topic: CAC Room: Governor’s Square 15

WS #13: Pediatric Mobility and Functional Rehabilitative Assessment: An Interactive Workshop
Gerald Harris, Karl Cansaco, Jacob Rammer, Rebecca, Boerigter, Marquette University; Joseph Kizak, Shriners Hospital – Chicago
Level: General Topic: SM Room: Governor’s Square 12

WS #11: There’s No Place Like Home: Aging in Place Evaluation, Adaptations and Participation
Kay Koch, Independent Consultant; Anita Perr, NYU
Level: General Topic: SDO Room: Governor’s Square 11

WS #14: Impact of Proposed Changes to the ICC/ANSI A117.1 Accessibility Standard
Jonathan White, State University of New York at Buffalo; Glenn Hedman, University of Illinois at Chicago
Level: General Topic: JEA Room: Governor’s Square 14

WS #12: Introduction to the International Society of Wheelchair Professionals (ISWP)
Jon Pearlman, Rory Cooper, Richard Schein, University of Pittsburgh
Level: General Topic: SM Room: Governor’s Square 16

About 70 million people in the world need wheelchairs for mobility and function. Most of them do not have access to an appropriate one and support services. There is a shortage of affordable and durable wheelchairs and most users have no means to buy one. Wheelchair experts are scarce, insufficient wheelchair service training is available, and uniform outcome measures are lacking. To tackle the shortage of appropriate wheelchairs and service delivery, the University of Pittsburgh, with the support of USAID, developed the International Society of Wheelchair Professionals, a network of international partners dedicated to the professionalization of wheelchair services worldwide.
Student Scientific Paper Competition  
Friday, June 13 • 4:00pm – 5:15pm • Governor’s Square 10

An important way for students to participate in the conference is through the Student Scientific Paper Competition, sponsored by Paralyzed Veterans of America. The finalists present a platform session during the conference while other qualifying student papers are included in the interactive poster sessions.

The purpose of the Student Scientific Paper Competition is to promote high quality scientific and engineering research in the field of rehabilitation engineering and assistive technology. The competition encourages students from a variety of disciplines to address contemporary issues in these fields through research and submit their papers for presentation at the RESNA Annual Conference. It focuses on the rigorous use of research methods in the field of rehabilitation engineering and assistive technology and is based on the scientific and engineering merit of the research.

Congratulations to the Finalists

- Development of a Wheelchair Maintenance Training Program and Wheelchair Maintenance Questionnaire  
  Maria Toro, Michelle Oyster, Emily Krobot, Lynn Worobey, Michael Boninger, Jon Pearlman, University of Pittsburgh
- Measuring Energy Expenditure in Manual Wheelchair Users with ActiGraph Monitor  
  Kalai Tsang, Shivayogi Hiremath, Dan Ding, University of Pittsburgh
- Influence of Hand Rim Wheelchair Propulsion Training in Adolescent Wheelchair Users  
  Jennifer Dysterheft, Ian Rice, Laura Rice, University of Illinois, Champaign-Urbana
- Myoelectric Modeling of Joystick Control for Adaptive Smart Wheelchairs  
  Tim Yang, Laura Rice, Ann David, Seth Hutchinson, Yih-Kuen Jan, University of Illinois at Urbana-Champaign

Congratulations to the authors of the Honorable Mention Papers

- Accessibility Barriers Affecting Independent Wheelchair Transfers in the Community  
  Hailee Kulich, Sarah Bass, University of Pittsburgh; Alicia Koontz, Human Engineering Research Laboratories
- Development and Evaluation of a Programmable Alternating Pressure Seat Cushion  
  Tim Yang, Kevin Kibler, Chi-Wen Lung, Yih-Kuen Jan, University of Illinois at Urbana-Champaign
- A Prototype Website for Providing Powered Seat Functions Usage Collected from Smartphone Virtual Seating Coach  
  Yu-Kuang Wu, Hsin-yi Liu, Annmarie Kelleher, Rory Cooper, University of Pittsburgh

Sponsored by Paralyzed Veterans of America

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Networking Social

Saturday, June 13 • 7:30pm – 9:00pm
Plaza Ballroom D

Meet and mingle with colleagues after an informative day. This reception provides a relaxed social forum for networking.
The Future of Assistive Technology

In this forward-thinking presentation, William “Bill” T. Coleman, technology entrepreneur and founder of the Coleman Institute for Cognitive Disabilities, will present an overview of the technology trends which are now just beginning to transform our lives and will result in the largest improvement in productivity in human history. He will describe how we can use these trends to enhance the lives of individuals with cognitive disabilities. Dr. Bodine will present a strategy for using research and development to support the use of technology—both new and emerging—for working-age individuals with cognitive disabilities. She will discuss the role of the AT Specialist, the need for regulatory reforms, and how we must begin to prepare the next generation of AT industry members.

Cathy Bodine Ph.D, CCC-SLP
Associate Professor, Department of Bioengineering, College of Engineering and Applied Science, University of Colorado and Executive Director, Assistive Technology Partners

Dr. Bodine began her career in Assistive Technology in 1985; joining the University of Colorado, School of Medicine in 1996. With joint appointments in both the College of Engineering and Applied Science and the School of Medicine, she is leading the development and implementation of an interdisciplinary PhD, Masters and Undergraduate track in Bioengineering focused on Disability and Aging. She is internationally recognized for her leadership in the field of assistive technology and vigorously pursues her passions for new product design, research, service to families and persons with disabilities, and the professional assistive technology community at large through her leadership.

Dr. Bodine has served as the Principal Investigator (PI) for a number of pre-service professional preparation grants, as well as the Colorado Assistive Technology Act. In addition, she has served as the PI for several research and development projects leading to new designs in AT devices. She is the principal investigator for the Rehabilitation Engineering Research Center for Advancing Cognitive Technologies (RERC-ACT). Dr. Bodine is a RESNA Fellow and served as the Secretary for the Board of Directors of Rehabilitation Engineering Society of North America (RESNA) and is past president of the Rocky Mountain ALS Association Board.

William (Bill) T. Coleman III
Alsop-Louie Partners and Founder, Coleman Institute for Cognitive Disabilities

Bill Coleman is a partner with Alsop Louie Partners, an early stage Silicon Valley venture capital firm. Widely recognized as a successful founder and entrepreneur of technology companies, he has served as Chairman and CEO of Resilient Network Systems, a cyber security software company; Founder, Chairman & CEO of Cassatt, Inc., an enterprise cloud computing software company; and Founder, Chairman & CEO of BEA Systems, Inc. which became the fastest software company to reach $1B in annual revenue under his leadership.

At Sun Microsystems, where he spent many years, he co-founded Sun Federal; founded Sun Professional Services; and was Vice President of System Software, where he led the initial development of Solaris and related products. Earlier career milestones include co-founding and serving as Vice President of Engineering at Dest Systems, and Director of Product Development at VisiCorp during the development of the first spreadsheet, VisiCalc; the first office suite of pc applications, the VisiSeries; and the first personal computer window system, VisiOn. He began his career in the United States Air Force as chief of satellite operations, Office of the Secretary.

Inspired by a niece with a cognitive disability who benefited from the advent of technology and the computer, Bill and his wife, Claudia Coleman, provided the inspiration and a generous endowment to the University of Colorado to found the Coleman Institute for Cognitive Disabilities. The Institute’s mission is to catalyze and integrate advances in science, engineering, and technology to promote the quality of life and independent living of people with cognitive disabilities. The Institute is actively engaged in supporting research, development, dissemination, and education in cognitive disabilities on all campuses of the University of Colorado, and in providing scientific, technological, and public policy leadership to strengthen the voice of persons with cognitive disabilities and their families in society.

Bill holds a bachelor’s degree in computer science from the U. S. Air Force Academy, a master’s degree in computer science and computer engineering from Stanford, and an honorary doctorate from the University of Colorado. He is a member of the boards of directors of Seagate Corporation, DreamFactory Corporation and iControl Corporations, a commissioner of the Trilateral Commission and a trustee of Santa Clara University.
WS #16: 3D Printed Assistive Technology Creation in the Clinic: A Case Study

Ben Salatin, Brian Burkhardt, Veterans Administration

Level: Advanced  Topic: OTH  Room: Governor’s Square 11

This workshop provides an introduction to 3D printing technology with a case study of a VA Assistive Technology Center using 3D printing to provide new answers to veterans’ needs. Low cost options for design software, 3D scanning and 3D printing will be discussed. A hands-on period will allow trialing of 3D design software, 3D scanning and seeing a 3D printer in action. Participants will be able to describe the basic concept of how 3D printing works, list 3 examples of 3D printed AT, 2 justifications for using 3D printing, and several low cost examples of how to access 3D printing.

WS #17: Outsmarting Cognitive Challenges – from Soup to Nuts

Kathy Moeller, Kris Ann Price, Cognitive Harmonics, Inc.; Doreen Newman, Mercy Hospital Outpatient Rehabilitation; Ken Bennett, Nebraska Vocational Rehabilitation

Level: General  Topic: COG  Room: Governor’s Square 16

This session will present an up-to-date overview of the most effective assistive technologies, apps and other resources available for individuals with a wide range of cognitive challenges. Demonstrations will include low-cost, low-tech solutions, robust high-tech solutions, and everything in between. Screening and assessment factors will be discussed by a panel that includes a speech pathologist, an application developer, an expert in vocational rehabilitation and individuals with disabilities who are successfully using a variety of devices and strategies. Training and other key factors contributing to successful outcomes will be included.


R. Lee Kirby, Cher Smith, Dalhousie University and Queen Elizabeth II Health Sciences Centre

Level: General  Topic: SM  Room: Governor’s Square 12

The Wheelchair Skills Training Program (WSTP) is a set of training protocols to help practitioners optimize the safety and maneuverability challenges that face wheelchair users and their caregivers. In this workshop, we will focus on manual wheelchair users. The workshop will consist of an overview of the theoretical background, knowledge and practical skills needed by trainers. In addition to didactic content, videotaped and in-person demonstrations will be used. On completion of the workshop, attendees will be better able to implement such training in their own settings.

WS #19: Consumer Transfer Technology for Use in Home Environments

Lori Peculis, Kathy Wakeira, University of Illinois at Chicago Assistive Technology Unit

Level: Beginner  Topic: JEA  Room: Governor’s Square 14

Transfer aid systems are important technologies for the home to increase participation in activities of daily living and ensure safety for individuals and caregivers. Transfer systems range from low tech to high tech and may be used on their own or in conjunction with other medical equipment or home modifications to increase independence. This workshop will outline features of various transfer systems, reasons to use them, and present case studies. Participants will also have the opportunity to trial several types of transfer systems in a hands-on activity.

Saturday, June 13  •  2:15pm – 3:30pm

Platform #5: Public Policy and Outcomes

Room: Governor’s Square 10

- Assessing Wheelchair Breakdowns in Kenya to Inform Wheelchair Test Standards for Low-Resource Settings
  Norman Reese, LeTourneau University

- Wheelchair Boot Camp: Enabling Occupational Therapy Students to be Skilled and Confident Trainers
  Ed Giesbrecht, University of Manitoba

- Conceptualisations of Wheelchair Using Children About Their Health and Quality of Life Compared with Generic Measures of Utility: A Qualitative Health Economics Study
  Nathan Bray*, Bangor University; Jane Noyes, Bangor University; Rhianonn Edwards, Bangor University; Nigel Harris, Designability

- Understanding Voting Experiences of People with Disabilities
  Frances Harris, Georgia Institute of Technology

- Task Analytic Study Of Variability In Wheeled Mobility Ingress On Low-Floor Buses
  Clive D’Souza, University of Michigan

And the RESNA Award goes to...

Join friends and colleagues at this annual luncheon recognizing stellar contributions to the field and to RESNA. We will also announce the winners of the Student Design Competition!

Saturday, June 13 12:00pm - 2:00pm

Plaza Ballroom A

Note: ticketed event
The Student Design Competition (SDC) promotes innovation and creativity in developing solutions which will assist an individual, or group of persons with a disability to achieve more independence and an improvement in their quality of life. Entries are judged on originality, quality of design, and usefulness to persons with disabilities. The RESNA SDC has a long history of providing a forum for the body of work of energetic students representing a variety of faculties and disciplines including mechanical, electrical, and biomedical engineering, computer information science and technology, design, architecture, and clinical therapeutic programs. RESNA wishes to thank the National Science Foundation and the Center for Translation of Rehabilitation Engineering Advances and Technology (TREAT) for their continued support.

Sponsored by the National Science Foundation and the Center for the Translation of Rehabilitation Engineering Advances and Technology

The Teams Selected as Semi-Finalists

- **Design of a Hitch Mounted Car Rack for a Handcycle**  
  Garrett Kryt, British Columbia Institute of Technology

- **Designing an In-Home Scalable Robotic Exoskeleton and Tablet Gaming Suite for Hand Function Rehabilitation for Neurological Disorders**  
  Britney English, Jennifer Hunter, Jonathan Tuck, George Tzitzarov, Georgia Institute of Technology

- **Rhombus Rumbles: An Educational Game for Children with Hearing Disabilities**  
  So Yeon Park, Kanhika Nikam, Stanford University

- **SmartHub: A Personal Fitness Tracking Device for Manual Wheelchair Users**  
  Sarah Shaffer, Lee Nishio, Jad Mubaslat, The Ohio State University

- **Therapeutic Device for Children with Hearing/Auditory Disabilities**  
  Matthew Wong, Esra Barut, Sanjuana Martinez Ciniceros, Wichita State University

- **Touch Ability Game and Puzzles**  
  Jane Hankins, California Lutheran University

The Student Design Competition Semi-Finalists will be presenting their work at Platform Session 4 on Saturday, June 13 from 10:45am to 12pm in Governor’s Square 10, as well as at the Developer’s Forum on Friday, June 12 at 6:30pm.

Thank you to TREAT for sponsorship of the “Technology Most Likely to Become Commercially Available” award. The winner will be announced at the Awards Luncheon.
WS #21: Tracking Assistive Technology Needs, Solutions, and Intervention Outcomes for Students with Disabilities in Higher Education
Marla Roll, Matt Malcolm, Colorado State University
Level: General Topic: SDO Room: Governor's Square 11
Higher education institutions are required to provide appropriate accommodations, including assistive technology (AT), for students with disabilities. Ideally, the provision of AT ensures that students are better-able to successfully perform and participate in key academic activities. Limited methods and outcomes of higher education AT services have been reported, raising questions about the AT-related needs, solutions, and impacts. Our Assistive Technology Resource Center has implemented a data collection system to track client needs and AT solutions and academic-related outcomes. This session will detail important client needs, methods, and outcomes regarding the provision of AT services in a higher education setting.

WS #22: Complex Rehab Technology: Protecting Coverage and Access
Donald Claytack, NCART; Gerry Dickerson, Landauer/Medstar
Level: General Topic: PP Room: Governor's Square 16
Access to Complex Rehab Technology (specialized wheelchairs, seating systems, and other adaptive equipment) is being undermined due to negative funding trends and activities at the national and state levels. This session will review these issues and the advocacy actions needed to protect and improve access. Topics will include the federal Medicare CRT Separate Benefit Category legislation, specific state Medicaid issues, and other related matters. Effective advocacy strategies and tools to promote access to CRT with policy makers and payers will be presented.

Gleen Hedman, University of Illinois at Chicago; Peter Axelson, Beneficial Designs; David Brienza, University of Pittsburgh; William Ammer, Ammer Consulting
Level: General Topic: SM Room: Governor's Square 12
RESNA's Assistive Technology Standards Board and individual RESNA Standards Committees produce performance standards across a wide range of Assistive Technology devices. These standards are used by many stakeholders, including consumers, policymakers, and third-party payers. Each year, new standards are introduced, as well as significant revisions to existing standards. This year, the ATSB will highlight the new standard in the area of Support Surfaces, and revisions to the existing standards on Adaptive Sports Equipment and Wheelchairs.

WS #24: Improving Home Modifications through Practice-Based Research
Karen Kim, Center for Inclusive Design; James Lenker, Department of Rehabilitation Science, University at Buffalo, Buffalo, NY
Level: General Topic: JEA Room: Governor's Square 14
This will be a highly interactive workshop addressing the need for research that supports home modification service delivery practices. Topics will include: common service delivery models and key barriers faced by practitioners; the need for research evidence that supports service delivery; gaps in the outcomes research literature on home modifications; practical challenges facing those conducting home modifications outcomes studies; strengths and limitations of existing home modifications outcomes measurement tools; key priorities and strategies needed in the future to advance home modifications research and practice.

WS #25: Understanding Wearables: Harnessing the Power of Google Glass and other Wearable Technologies for Individuals with Disabilities
Andy Lin, Center for Applied Rehabilitation Technology at Rancho Los Amigos National Rehabilitation Center (CART – RLANC); James Gardner, University of Utah Hospital
Level: General Topic: CAC Room: Governor's Square 15
Google Glass and other wearable technologies hold real potential for helping people with disabilities access technology in new, improved ways. This workshop will provide hands-on and interactive demonstrations of the latest in wearable technologies (Google Glass, Moto 360, Oculus Rift VR, etc.). Going literally from head to toe, each device will be discussed in the context of patient usability. The course will discuss physical and cognitive abilities required for the functional use of each device, as well as device specific strengths and limitations. Accessibility issues related to such technologies will also be described as well as methods used to overcome them.

Saturday, June 13 • 5:00pm – 6:15pm
Platform #6: Environmental Accommodations
Room: Governor’s Square 10
• A Model of Participation in Community-Based, Discretionary Activities by People Who Use Wheelchairs
  Anita Ferr, NYU
• Improving Worker Productivity Through University-Industry Collaborations
  Allen Hoffman, Worcester Polytechnic Institute
• A Multidisciplinary Survey of Home Modification Professionals: A Snapshot on the State of Practice
  James Lenker, Department of Rehabilitation Science, University at Buffalo
• The Virtual Home Modifications Educational Assistant
  Karen Milchus, Georgia Tech
• Effects of a Mobile-Based Vocational Skill Building Coaching Technology Intervention for People with Cognitive Disabilities: A Pilot Feasibility Study
  Patricia Heyn, University of Colorado

WS #26: Basic Electronic Aids to Daily Living: Bringing Playtime to 2015
Michelle Lange, Access to Independence
Level: Beginner Topic: JEA Room: Governor’s Square 11
Electronic Aids to Daily Living provide alternative control of devices within the environment. Basic EADLs can be used in the home or classroom to develop cognitive skills, provide independent play, socialization and participation, provide object manipulation, meet therapy goals and prepare clients for future, more sophisticated assistive technology use. As tablets are becoming such a key tool in the classroom and therapy, is there still a role for this technology? This workshop will present product options, modes of control and application ideas of both Basic EADLs and tablets to meet these goals.
WS #27: Moving Forward with Technologies for Successful Aging with Disability  
Tracy Mitro, Wendy Rogers, Jon Sanford, Georgia Institute of Technology  
Level: General  Topic: COG  Room: Governor’s Square 16  
The Rehabilitation Engineering Research Center, Technologies to Support Successful Aging with Disability (RERC TechSAge), will serve as a catalyst for a major shift in the understanding and development of home and community technologies for people who are aging with impairments or disabilities, who are experiencing additional age-related conditions. RERC TechSAge will increase knowledge about, availability of, and access to effective, universally-designed technologies that enable people to sustain independence, maintain health, safely engage in basic activities of daily living, and participate in society as they age with disability. This session will provide updates about the RERC’s projects and discuss future directions.

WS #28: Do You Know How People Move in Their Wheelchairs? Measuring and Describing Real-World Wheelchair Use  
Sharon Sonenblum, Stephen Spigle, Georgia Tech  
Level: Beginner  Topic: SM  Room: Governor’s Square 12  
Ever wonder how people move in their wheelchairs? Think you already know? Test your knowledge as we present methods for measuring how people move and an overview of wheelchair activity in more than 100 full-time wheelchair users. We will start by covering wheelchair mobility. But wheelchair mobility only accounts for approximately 10% of the time individuals spend in their wheelchair. What are they doing the rest of the time? The workshop will also cover in-seat activity in adults with SCI. We will describe how often they transfer, perform weight shifts, or simply fidget in their seats.

WS #29: Accommodations Show & Tell  
John Wardzala, Assistive Interface Designs  
Level: General  Topic: JEA  Room: Governor’s Square 14  
This session provides RESNA participants with a chance to share worksite accommodations or home modifications that they have fabricated, modified, or obtained. This session will feature six to eight presenters who use photos, video, and/or working models to show examples of recent projects. Worksite accommodations may range from agricultural to industrial to home office settings. The presenters will be encouraged to share information about relevant tools, materials, or informational resources that the audience might find useful. The presenters will also share key factors associated with successful job accommodations.

WS #30: Brain-Computer Interfaces: Demonstrations and Discussions of Applications  
Charles Anderson, Patricia Davies, Maria Rolf, William Gavin, Colorado State University  
Level: General  Topic: CAC  Room: Governor’s Square 15  
Brain-computer interfaces (BCIs) are often mentioned in the popular press without discussing their current capabilities and limitations. In this workshop, results will be presented from recent experiments performed by researchers at Colorado State University who conducted BCI trials in the homes of clients with motor impairments. This will lead to a discussion of the practicalities of current BCI technology, including costs, reliability, and usefulness. Roadblocks to widespread BCI use that remain will be discussed and the technical advancements that will be required to surmount them will be proposed. The workshop will include a demonstration of a portable BCI system.
Plenary Session
Sunday, June 14 • 9:30am - 11:00am • Plaza Ballroom A

Assistive Technology and the Promise of the Maker Movement

The assistive technology industry has never suffered from a lack of innovation and creativity. The ability to create solutions for people with disabilities has always been a proud badge of honor among professionals in the community. But bringing products to market successfully remains a challenge, due to the costs involved and the relatively small market potential.

Enter the Maker Movement, with its emphasis on DIY (Do-It-Yourself), and a host of new tools, such as 3D printing and Arduino micro-controllers. Couple that with the proliferation of “hacker spaces” across the country, such as Tech Shop, and inventors and developers now have access to tools at a much lower cost of entry than previously possible. This democratization of manufacturing carries profound implications for assistive technology products, with no market potentially too small to justify a return on investment, and the ability to customize to an individual’s needs at a push of a button.

Pete Stephens
Mechanical Engineer and Product Manager

Pete Stephens has always had a passion for making vehicles go. Growing up in a ranching and farming environment in a small town, he decided to become a mechanical engineer after being inspired by a mentor who urged him to “make something.” He graduated with a degree in Mechanical Engineering Technology from Northern Arizona University, and landed his first job – developing processes for F-16 (yes, the fighter jet) canopies. From there he became an engineer during the development of airbags in the automotive industry, serving as the engineering project leader for Ford’s first implementation of airbags, and establishing an individual airbag patent that has been used in over ten million vehicles worldwide. This experience in crash safety led him to work in the defense industry where he was part of the first implementation of airbags in the Blackhawk and Kiowa helicopters. Along the way, he picked up his Project Management Professional (PMP) Certification from the Project Management Institute.

Most recently, Pete was Director of Product Management and Business Development at Local Motors, an innovative technology company that designs, builds and sells vehicles. At Local Motors, Pete worked on the cutting edge of today’s hottest manufacturing trend – harnessing crowd sourcing and new production tools like 3D printers in small factory environments to create products faster and cheaper than ever before. As a result, Pete and his team were able to design and build the world’s first functional 3D-printed car. This democratization of manufacturing and the manufacturing process carries profound implications for assistive technology products, with no market potentially too small to justify a return on investment, and the ability to customize to an individual’s needs with the push of a button.

Pete will share with the RESNA audience his experience using these new tools and processes, and how the “Maker Movement” has such exciting potential to create assistive technology products that can change the lives of people with disabilities.

Looking for the perfect candidate?

Post on the RESNA Job Board

Target a focused audience of qualified assistive technology professionals. Post your jobs, search résumés and promote your company online.

All job postings are also promoted on RESNA’s social media channels: Twitter, Google Plus, LinkedIn, and Facebook.

http://careers.resna.org
WS #33: The Use of Interface Pressure Mapping as a Tool in the Wheelchair Seating Evaluation Process  
Steven Dahling, ATP, Rusk Institute of Rehab Medicine  
Level: Intermediate  Topic: SM  Room: Governor’s Square 12
Wheelchair seating is an intricate process that attempts to balance maximum pressure management with maximum client function. There are times when the prescribing therapist must choose from several seating options to accomplish the desired goals. This raises several questions. Is the seating intervention sufficient to manage the pressure that results from long term seating? How can the seating intervention be presented to funding sources as the best, medically necessary, intervention? This workshop will demonstrate how the use of interface pressure mapping can assist in meeting the seating goals of the therapist and the needs of the client.

WS #34: Accommodations: Works in Progress  
Cindi Pickler, IndependenceFirst; Linda Vogelman, Society’s Assets, Inc  
Level: General  Topic: JEA  Room: Governor’s Square 14
This workshop provides an unique brainstorming opportunity for AT practitioners who have challenging cases to solve back home by tapping into the pool of talent and experience of RESNA members gathered at the conference by seeking their expertise in coming up with creative rehab engineering solutions for cases presented. Participants present the scenarios and the audience participates by offering job accommodation suggestions and solutions.

WS #35: Shooting for a Higher Target: Taking Computer Access Beyond Device Selection  
Douglas Rakoski, OTD, OTR/L, ATP, University of Michigan; Meghan Donahue, M.S., ATP, University of Wisconsin – Stout  
Level: General  Topic: CAC  Room: Governor’s Square 15
After choosing the optimal computer access tool for text entry and cursor control, there are many options, tools, and strategies that can be used to further increase the user’s efficiency. A very brief overview of the variety of access methods will start the discussion. This will quickly be followed by the use of case studies to illustrate an in-depth discussion and demonstration of ways to take the access method beyond plugging in the chosen mouse and keyboard. Each method’s advantages, disadvantages and special considerations will also be discussed.

Sunday, June 14  •  11:15am – 12:30pm

Platform #8: Rehabilitation Engineering Practice  
Room: Governor’s Square 10
- Rehabilitation Engineers, Technologists, And Technicians: Vital Members Of The Assistive Technology Team  
  Carmen DiGiovine, The Ohio State University; Meghan Donahue, University of Wisconsin - Stout; Patricia Bahr, The University of Iowa; Mark Breier, Woods Services; Joseph Klaesner, Washington University; Rajesh Pagadala, State of Georgia

WS #36: Integrated Clinical Supports: What Are They and How Do They Impact the Life of a Person with Intellectual/Developmental Disabilities?  
Faith Savage, Nancy Waglow, NTW Consultants; Jill Cuff, Cuff and Associates, LLC  
Level: General  Topic: SDO  Room: Governor’s Square 11
Community living for people with developmental disabilities is extremely challenging when appropriate supports aren’t in place. As people with developmental disabilities continue to be moved from institutions and nursing homes to small homes in the community, an integrated support network is integral to ensure individuals receive optimal care, training and encouragement to reach their full potential and participate fully in society. This course will discuss integrated clinical supports and the training developed to ensure optimal transitioning of individuals with developmental disabilities back to the community. Discussions will promote sharing of ideas from attendees in methods that have been successful in their communities.

WS #37: Can’t find the right product? Make it yourself! – Microcontrollers  
Joe Cummings, Secure Technologies, Inc; Joseph Klaesner, Washington University School of Medicine  
Level: Beginner  Topic: CAC  Room: Governor’s Square 16
This session will introduce credit card sized computers on a single integrated chip as the basis of electronics projects for peoples with disabilities. With a keyboard and TV/display, you can begin to explore computing. Make your own “music box,” portable computer, or custom AT device. I will focus on open source projects that target audiences of all ages, from pre-teen to adult. The cost of the average microcontroller I use is $50. By using open-source software, cost should not be a barrier to solutions.

WS #38: Access to iOS Mobile Devices Through the Power Wheelchair Drive Control System  
Becky Braux, Assistive Technology Partners; Magdalena Love, Permobil  
Level: Intermediate  Topic: SM  Room: Governor’s Square 12
Navigating the emerging and frequently changing world of access to mobile smart phones and tablets is complex and confusing. Unfortunately, there is a significant knowledge gap between the available solutions and therapists/consumers when it comes to accessibility. This session will describe the methods of access available through a wheelchair’s drive control system, compare features and capabilities of many different access methods for iOS on the market, and explain the equipment components that make it all work together.

WS #39: Introduction to Robotic Supported Employment  
Janet Peasant, Air Force Research Laboratory; J. Erin Riehle, Cincinnati Children’s Hospital Medical Center  
Level: Intermediate  Topic: ROB  Room: Governor’s Square 14
Robotic Supported Employment (RSE) integrates the human, the job, and robotics into a team more successful than either the human or robot working alone. RSE can combine collaborative robotic technologies with Project Search concepts for training and employment of young adults with significant intellectual and developmental disabilities. PS annually serves over 3500 young people across 400 international locations. Workshop participants will gain insight into PS and emerging collaborative robotics. Participants will interactively identify challenges and solutions to implement RSE, and will interactively define a multi-disciplinary “RSE Pilot” to be fostered by rehabilitation and habilitation professionals, academics and industry collaborators.

WS #40: Five Counterintuitive “Rules” for Squeezing the Best Performance from NaturallySpeaking  
Alan Cantor, University of Toronto  
Level: General  Topic: CAC  Room: Governor’s Square 15
Develop your skills as an assessor, trainer, or user by exploiting the tremendous potential — and avoiding the exasperating limitations — of NaturallySpeaking. During this discussion and demonstration, I dispel common misunderstandings about NaturallySpeaking, and demonstrate techniques that multiply the efficiency of voice access. The overall aim is help users double throughput. This session is organized around five controversial “rules.” 1. User profiles are expendable. 2. Accuracy does not continually improve. 3. Profile training is overrated. 4. Knowing how to gracefully recover from errors has greater impact than improving accuracy. 5. Use mouse commands only as a last resort.
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- Join RESNA as a member – a professional home for everyone that works in assistive technology
- Get certified – validate your skills and receive industry recognition through RESNA’s ATP certification and the advanced SMS certification
- Volunteer on RESNA committees and boards – gain valuable leadership and organizational skills while giving back to the AT community
- Post your job openings on the RESNA Job Board – openings are promoted through RESNA’s social media channels
- Sign up for RESNA Newsbriefs – free weekly e-newsletter featuring AT information and news from around the world

We’re here to help AT professionals grow and flourish in their careers.

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Visit us at the RESNA booth to learn more! www.resna.org
WS #41: Emergency Preparedness for Persons with Disability: Considerations and Advance Planning
Jamie Prioli, Pennsylvania’s Initiative on Assistive Technology; Julia Beems, Assistive Technology Partners

Level: General Topic: OTH Room: Governor’s Square 11

Each year, thousands of people are affected by emergencies and disasters. Studies indicate people with disabilities are disproportionately affected. Natural disasters, such as Hurricanes Irene and Sandy (2011 and 2012) demonstrate the importance of personal preparedness, including an opportunity for AT professionals to start a conversation in all settings ensuring proper preparedness issues are addressed. Many individuals understand they need to make a plan and build a kit, but what does that mean to persons with disabilities? Inclusion of community resources and the proper equipment in a plan are key for individuals to successfully shelter in place or evacuate.

WS #42: Brain-Computer Interfaces for Assessment, Rehabilitation and Control
Christoph Guger, G.tec Guger Technologies OG; Melanie Fried-Oken, Oregon Health and Science University

Level: General Topic: CAC Room: Governor’s Square 16

Brain-computer interfaces are analyzing brain signals in real-time and can be used for many different applications. Within the workshop it will be shown how to use BCIs for the assessment of patients with disorders of consciousness, for motor rehabilitation of stroke patients and for communication of locked-in patients. The workshop will explain the necessary steps to successfully run these applications including patient selection, EEG electrodes montage, system configuration and measurement procedures.

WS #43: Writing a Letter of Medical Necessity for a Wheelchair (USA)
Susan Christie, Bryn Mawr Rehab Hospital

Level: General Topic: SM Room: Governor’s Square 12

The process of obtaining complex rehab mobility equipment is in itself complex. Once a wheelchair assessment has been completed and recommendations have been generated, documentation justifying the medical necessity is needed. The Letter of Medical Necessity (LMN) is a stand-alone document which explains the consumer’s needs to the third party payer and which must be clear and detailed for each wheelchair component. This presentation gives the necessary components of the LMN, justification for complex rehab equipment, summary of the Medicare algorithm for mobility-assistive equipment, and suggestions for a format that has proven successful at a major rehab hospital.

WS #44: It’s Your Move - Universal Design for Games for People with Disabilities
John Wardzala, Assistive Interface Designs; Jane Hankins, California Lutheran University

Level: General Topic: JEA Room: Governor’s Square 14

While universal design has been incorporated into life’s utilitarian areas such as automatic doors, electric toothbrushes and sidewalk ramps, it has not arrived on the side of life that includes board games and toys. Multinational board game and toy companies have yet to incorporate universal design, and the spare games and toys that exist for people with sensory impairments are often difficult for people without impairments to interact with. Workshop participants will simulate a disability, participate in games, be exposed to solutions ranging from crafts to desktop 3D Printers, then brainstorm ways to blend universal design into games and toys.

WS #45: Get Smart About Phones: Identifying Cell Phone Features that Fit Your Client
Erin Muston-Firsch, Nicole Contos, Craig Rehabilitation Hospital

Level: General Topic: CAC Room: Governor’s Square 15

According to Pew Research Center, 90% of American adults own cell phones. For individuals with spinal cord or brain injuries, physical and cognitive changes may initially prevent cell phone use. However with guidance from an assistive technology professional, these individuals can be shown not only how access their cell phone but also how it can be an integral tool in promoting independence, safety, and community access. This workshop will outline the clinical decision-making process necessary to match users to appropriate cell phone features including built-in accessibility options, peripheral accessories, and third party applications. Hands on demonstration will be provided.
Interactive Scientific Poster Presentations
Friday, June 13 and Saturday, June 14 • AT Pavilion

Posters will be available Friday and Saturday during AT Pavilion hours. Scientific Paper authors will be available in the AT Pavilion to share additional information and answer questions on Friday 2:30pm – 4:00pm and Saturday 3:30pm – 5:00pm.

**Friday, June 12**

**PFRI 1** The Dispersion Index As A Metric For Measuring Pressure Distribution On Seat Surfaces: A Pilot Study
Carmen Digiovine, The Ohio State University

**PFRI 2** Understanding Choice In At Service Provision: Considerations For Research Methodology
Emily Steel, The University Of Queensland

**PFRI 3** Motivations And Incentives: Exploring Assistive Technology Service Delivery From The Perspectives Of Multiple Stakeholders
Desleigh De Jonge, Lifetec Queensland

**PFRI 4** User Expectations And Preferences For A Smartphone Application To Support Paratransit Riders
Aditya Joshi, University Of Buffalo

**PFRI 5** Effects Of Educational Intervention On Use Of Tilt-In-Space
Penny Powers, Vanderbilt Medical Center

**PFRI 6** Differences In The Upper Limb Mechanical Demands Between Wheelchair To Bench And Bench To Wheelchair Sitting-Pivot Transfers
Lin Wei, University Of Pittsburgh

**PFRI 7** A Drive System To Add Standing Mobility To A Manual Standing Wheelchair
Eric Nickel, Minneapolis Va Health Care System

**PFRI 8** The Jacontrol: Development Of A Smartphone Interface For The Assistive Robotic Manipulator
Cheng-Shiu Chung, University Of Pittsburgh

**PFRI 9** Integration Of Common Core Math Standards Into Gaming Apps For Children With Motor Limitations
J. Maccalla, Zyrobotics

**PFRI 10** User Needs And Requirements For The Development Of A Moisture Permeable Prosthetic Interface
Esteban Ruiz, University Of Pittsburgh

**PFRI 11** Patterns In Wheeled Mobility Skills Training, Equipment Evaluation, And Utilization: Findings From The Scirehab Project
Julie Gassaway, Shepherd Center

**PFRI 12** High Capacity Weighing Instrumentation For Wheelchair Users: A Proposed New Device
Julie Gassaway, Shepherd Center

**PFRI 13** A Portable, Low-Cost Wheelchair Ergometer Design Based On A Mathematical Model Of Pediatric Wheelchair Dynamics
Jacob Rammer, Marquette University

**PFRI 14** The Gpii Shopping Aid - Users And Use Cases
Denis Anson, Misericordia University

**PFRI 15** Why Johnny Can’t Rehab: Opening The Book On Literacy And Rehab
Laurie Anson, Misericordia University

**PFRI 16** The Effect Of Developed Non-Power Fire Evacuation Assistive Device On Evacuation Time Of Wheelchair Users
Hyosun Kweon, NRC Of Korea

**PFRI 17** Using Augmentative And Alternative Communication To Support Written Composition Output
Nerissa Hall, Communicare LLC

**PFRI 18** Qualitative Study On Customer Experience In Wheelchair Provision Process: Preliminary Findings For Developing An Mobile App For Consumers To Navigate The Wheelchair Provision Process
Hsin-Yi Liu, University Of Pittsburgh

**PFRI 19** Developed Outdoor Recreation Assessment Process Precision Study
Irene Hsu, Washington University

**PFRI 20** Accessible User Interface Development: Process And Considerations
Dianne Goodwin, Bluesky Designs

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Saturday, June 13

**PSAT 1** The Gpii Shopping Aid – Ordering Choices  
Denis Anson, Misericordia University

**PSAT 2** Participatory Action Design of a Robotic Mobility Device Graphical User Interface  
Katy Rojas, University of Tulsa

**PSAT 3** A Scoping Review of Mobility Scooter-Related Research Studies  
W. Ben Mortenson, University of British Columbia

**PSAT 4** Optimal Classroom Views For Deaf Students  
Raja Kushalnagar, RIT

**PSAT 5** The Effects Of Grab Bar Presence On Independent Wheelchair Transfer Height And Technique  
Hailee Kulich, University Of Pittsburgh

**PSAT 6** Shape Optimization Of Electrical Control-Type Speaking Valve Controlled By Neck Myoelectric Signal  
Katusutoshi Oe, Daiichi Institute Of Tech.

**PSAT 7** A Retrospective Study On The Demographics Of Clients Within An Assistive Technology Center  
Taylor Duncan, Osu Assistive Technology Center

**PSAT 8** Design And Evaluation Of A Temperature Controlled Air Cell Based Wheelchair Cushion  
David Smeresky, University Of Pittsburgh

**PSAT 9** A Case Study On Classification Of Foot Gestures Via Surface Electromyography  
Kenneth Lyons, UC Davis

**PSAT 10** Relationship Between The Total Percentage Scores On The Questionnaire (WST-Q) And Objective (WST) Versions Of The Wheelchair Skills Test (Version 4.2) For Manual Wheelchair Users With Spinal Cord Injury  
R. Lee Kirby, Dalhousie University And Queen Elizabeth II Health Sciences Centre

**PSAT 11** User Assessment Of Performing Dart Throwers Motion Tasks With Prosthetic Arms And Desired Improvements  
Matthew Davidson, University Of Colorado

**PSAT 12** Configurable And Customizable Multi-Layout Virtual Keyboard For Disabled People  
Alexandre Henzen, Korp Informatica Ltda

**PSAT 13** The Effect Of Whole Body Vibration On Power Wheelchair Mobility: A Focus Group  
Carmen Digiovine, The Ohio State University

**PSAT 14** Smartphone-Based Lightand Sound Intensity Calculation Application For Accessibility Measurement  
Nadiyah Johnson, Marquette University

**PSAT 15** Development Of The Feedback Controlled Indentation System For Assessing Risk Of Pressure Ulcers  
Chuanhao Zhuge, Uilc

**PSAT 16** Simple Activity Recognition Using Smartphone Technologies For In-Home Rehabilitation  
Md Osman Gani, Marquette University

**PSAT 17** Restricting Vocabulary Size In Pediatric Augmentative And Alternative Communication  
Alexander Moreno, Georgia Institute Of Technology

**PSAT 18** Development And Evaluation Of A Programmable Alternating Pressure Seat Cushion  
Tim Yang, University Of Illinois

**PSAT 19** Haptic Telerobotics: Application To Assistive Technology For Children With Disabilities  
Noooshin Jafari, University of Alberta

**PSAT 20** Preliminary Construct Validation of the Lower Limb Function Questionnaire  
Luke Funk, LeTourneau University
Accessibility Services, Inc................ Booth 35
800-933-8400; www.asi-autonome.com
Accessibility Services, Inc. (ASI) is a leading provider of environmental control units designed for individuals with severe disabilities and spinal cord injuries. ASI’s autonoME ECU has become one of the most popular hospital and residential devices on the market. ASI is also a US distributor for Sensory Software.

ACRM: American Congress of Rehabilitation Medicine ............... Booth 30
703-435-533; www.ACRM.org
With the mission of IMPROVING LIVES of those with disabling conditions through interdisciplinary rehabilitation research, ACRM curates and disseminates world-class rehabilitation research in person (www.ACRMconference.org), in print (Archives of Physical Medicine and Rehabilitation) and online (www.ACRM.org). ACRM is truly interdisciplinary – uniting all members of rehabilitation teams from around the world.

AT&T Connect Ability Challenge .......... Booth 28
http://connectability.challengepost.com
AT&T and New York University’s ABILITY Lab present the Connect Ability Challenge: a three-month global competition for developers, engineers and makers, connecting competitors with volunteers to find solutions across four functional categories. $100,000 in prizes will be awarded on July 26th, celebrating the 25th Anniversary of the Americans with Disabilities Act.

BlueSky Designs............................. Booth 37
612-724-7002; www.mountnmover.com
The Mount’n Mover mounting system by BlueSky Designs is the only mounting system available that can be independently moved by the user. This mount offers secure positioning of iPads, phones, tablets, speech devices, laptops, cameras, eating/reading trays - on wheelchairs, tables or floor stands. Customize your own multiple lock positions.

Christopher & Dana Reeve Foundation ....... Table 2
800-539-7309; www.paralysis.org
The Paralysis Resource Center (PRC) promotes the health and well-being of people living with all types of paralysis (spinal cord injury, MS, CP, stroke, etc.) as well as their caregivers and families by offering a host of FREE services. This includes several forms of peer support, comprehensive information resources and referral services as well as grants to nonprofits.

Comfy-Lift Bed............................. Table 5
361-767-1888; www.comfyliftbed.com
The Comfy-Lift™ Bed serves to alleviate various sleep breathing disorders, assist with tube feeding programs, & post surgeries. Our patented design features; elevated headrest, with counter wedges, to properly uplift & hold the sleeper. This positional therapy will help keep stomach acid out of the esophagus, as well as assist in breathing.

Federal Laboratory Consortium for Technology Transfer ................. Booth 9
856-667-7727; www.federallab.org
The Federal Laboratory Consortium (FLC) is the nationwide network of federal laboratories tasked with bringing information about newly developed technologies to the private sector. The FLC offers a forum for linking lab technologies and expertise with the marketplace. The FLC acts as a portal bringing lab scientists and engineers together to create commercial uses for government-developed technologies.

g.tec Guger Technologies OG .......... Booth 10
++43-7251-22240-11; www.gtec.at
g.tec is designing and producing non-invasive and invasive brain-computer interfaces (BCIs) for research, assessment of DOC patients, motor rehabilitation and functional mapping of the cortex. The company is active in several international research projects such as VERE and Backhome and is located in Austria, Spain and the USA.

Geraes Assistive Technology .......... Booth 33
++55-31-3495-1497; www.geraestec.com.br
Geraes is a Brazilian company focused on developing innovative electronic products and solutions for people with disabilities. The company has been nationally awarded for creating a radiofrequency system that helps blind people get the right buses by themselves and have just released a unique product that replaces the keyboard and the mouse for people with motor coordination difficulties.

AT Pavilion Reception
Thursday, June 11 •  6:30pm - 8:00pm
AT Pavilion Walkabout Lunch
Friday, June 12 • 12:00pm - 1:00pm
professionals dedicated to improving the lives of people with disabilities.

NMEDA is a non-profit trade association of automotive mobility equipment manufacturers, dealers, driver rehabilitation specialists, and other professionals dedicated to improving the lives of people with disabilities.

NCART, the National Coalition for Assistive and Rehab Technology, is a national association of suppliers and manufacturers of complex rehab technology (CRT) products and services that are used by individuals with significant disabilities and medical conditions. Our mission is to ensure that federal, state, and private coverage and reimbursement policies allow for these individuals to have appropriate access to these specialized and individually configured products and services.

NMEDA: National Mobility Equipment Dealers Association
800-833-0427; www.nmeda.com
NMEDA is a non-profit trade association of automotive mobility equipment manufacturers, dealers, driver rehabilitation specialists, and other professionals dedicated to improving the lives of people with disabilities and assisting with driving independence using wheelchair accessible vehicles. For more information about how you can live a more active and independent life, visit us at www.NMEDA.org.

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Invacare Corporation (NYSE:IVC) is the global leader in the manufacture and distribution of innovative home and long-term care medical products that promote recovery and active lifestyles. The company has over 5,000 associates and markets its products in 80 countries around the world. For more information, visit Invacare’s website at www.invacare.com.

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765-563-3158; www.lifeessentialsllifts.com
Life Essentials began in 1987. Founded by Hubert VonHolten to assist Agricultural workers who have suffered an injury or life limiting illness. Life Essentials has also built Equestrian Lifts to assist children with disabilities to be put on a horse for therapeutic riding. We also have lifts to assist persons to be lifted into their vehicles and RVs.

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800-800-8586; www.quantumrehab.com
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InvoTek, Inc.
479-632-4166; www.invotek.org
InvoTek is an R&D company that creates computer access and augmentative communication technologies for people with severe speech and physical impairments (SSPI). We have recently begun work in the adaptive sports area. We also provide long-term, goal oriented support services to people with SSPI in Arkansas and the surrounding states.

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RESNA: Rehabilitation Engineering and Assistive Technology Society of North America  .................. Booth 6 703-524-6686; www.resna.org
Stop by and pick up the latest information on certification, upcoming continuing education opportunities, AT Act and Financial Loan Program listings, and membership. RESNA staff will be available to help you.

RESNA: Special Interest Groups and Professional Specialty Groups  .................. Booth 6 703-524-6686; www.resna.org
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Ride Designs  .................. Booth 2 866-781-1633; www.ridgedesigns.com
Ride Designs ® is unique in being both a practicing seating clinic and manufacturer. Ride’s seating solutions originate from our clinic’s direct care of thousands of people with complex seating needs. A highly experienced team of therapists, orthotists, and engineers have translated clinical solutions into patented processes and innovative products.

Smart Steps  .................. Booth 20 903-522-6660; www.smartsteps4me.com
Created by a special educator, the Smart Steps Mobile app provides cognitive support for everyday decisions such as “My Ride is Late” or “A Question at Work”. Screens present the app user with step-by-step choices along with safety tips, scripts, and prompts to call for help. Customizable content; patent-pending.

SophiasGift.org  .................. Table 3 619-964-1435; www.sophiasgift.org
SophiasGift.Org was created in honor of six-year-old Sophia Heyd, who suffered an unexpected life ending injury caused by her Class I Pediatric Wheelchair. Until wheelchairs are reclassified to a Class II Medical Device, SophiasGift.Org desires to bring awareness to caregivers the potential risk of injury to the children who use them.

TAPTOOL  .................. Table 6 www.taptool.net
TAPTOOL, the wearable touch screen accessory for people with disabilities. For people with fine motor issues, TAPTOOL provides a strong visual cue to help the finger stay on target. TAPTOOL’s tine technology improves visibility by moving the finger’s contact area forward decreasing the visual obstruction of the fingertip. TAPTOOL was designed by a physical therapist and Kickstarter funded.

Taylor & Francis  .................. Booth 8 215-625-8900; www.tandfonline.com
For two centuries, Taylor & Francis has been fully committed to the publication of scholarly research. We are the publisher of Assistive Technology, RESNA’s official journal, and similar titles. Visit the Taylor & Francis booth to learn about our products and services, and for free sample copies.

Utah State University Mechanical and Aerospace Engineering  .................. Booth 32 435-797-1000; www.usu.edu
Utah State University’s Mechanical Engineering and Assistive Technologies Department provide customized solutions for persons with disabilities, giving them additional freedom to interact with their environment. With funding from the NSF and industry grants we design, build, and test assistive devices for individual and industry use.

Wheel:Life  .................. Table 4 678-232-1330; www.wheel-life.org
Wheel:Life helps people find quality health and medical resources; explore educational and employment avenues; research the proper adaptive equipment, assistive technology, home modification and home medical equipment; network within local and virtual peer support groups; discover accessible travel destinations; and enjoy a full and active life as a wheelchair user.

WHILL  .................. Booth 31 844-699-4455; www.whill.us
WHILL is a next-generation personal mobility device company. We provide confidence in mobility through smart design and advanced technology. The omni-directional wheels combined with 4WD allows for comfortable maneuverability and great terrain coverage. The WHILL App allows you to remotely manage your device through your smartphone.
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