

RESNA 2018

Annual Conference

#ingenuityATwork

Pre-conference: July 11-12

Conference: July 13-15

AT Exhibit Hall: July 12-14



RESNA

Rehabilitation Engineering and Assistive Technology Society of North America



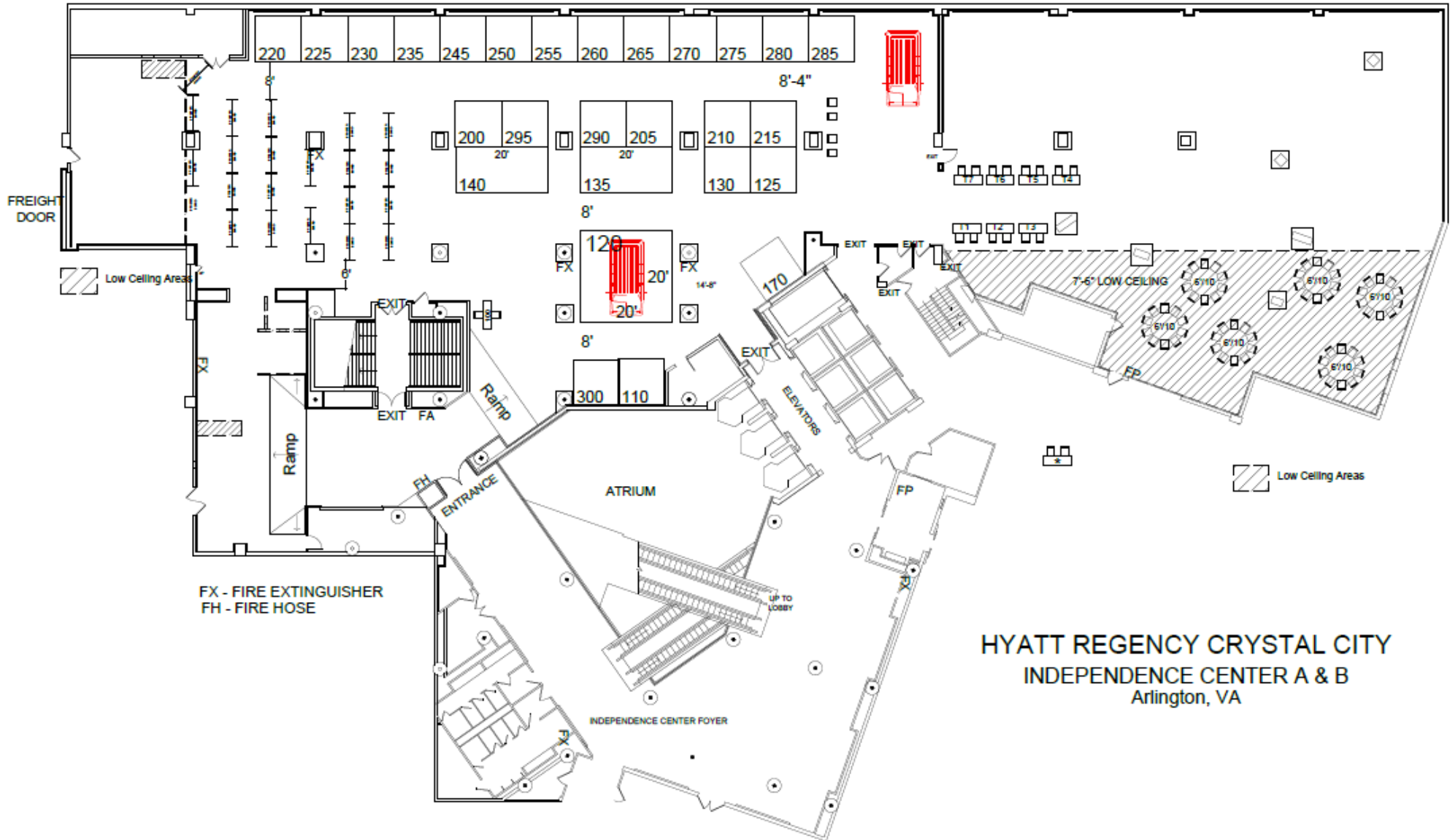
RESNA Annual Conference

July 12-14, 2018

Independence Hall A

Independence Hall B

** Subject to fire marshal approval



SPONSORS

National Mobility Equipment Dealers Association (NMEDA)

Platinum Sponsor

Booth # 120

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EXHIBITORS

Permobil

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Taylor and Francis

Booth # 220

VFO Group

Booth # 225

LC Technologies

Booth # 230

Slack Inc.

Booth # 235

Roll-X Vans

Booth # 240

Forbes AAC

Booth # 245

Invacare

Booth # 250

Sesame Enable

Booth # 295

Ergo Rx

Booth # 300

Smith-Kettlewell Eye Research

Booth #255

University of New Hampshire - Online Program

Booth # 260

National Coalition for Assistive and Rehab

Technology (NCART)

Booth # 265

KY AgrAbility

Booth # 270

George Mason University

Booth # 275

The Bureau of Engraving and Printing

Booth # 280

The Association for Driver Rehabilitation

Specialists (ADED)

Booth # 170

RESNA

Booth # 110

RERC ROW

Pennsylvania State University

Booth # 210 & 215

University of Pittsburgh

Booth # 205

University of Alabama

Booth # 290

TABLETOPS

National AgrAbility Project

Tabletop # 1 (T1)

BlueSky Designs

Tabletop # 2 (T2)

American Congress of Rehabilitation Medicine (ACRM)

Tabletop # 3 (T3)

Perceptive Devices

Tabletop # 4 (T4)

Scanning Pens

Tabletop # 5 (T5)

University of Michigan

Tabletop # 6 (T6)

Pants Up Easy

Tabletop # 7 (T7)

Friday, July 13th

| Room | Potomac Room I, Ballroom Level | Potomac Room II, Ballroom Level | Potomac Room III, Ballroom Level | Potomac Room IV, Ballroom Level | Potomac Room V, Ballroom Level | Potomac Room VI, Ballroom Level | Regency A, Ballroom Level | Regency B, Ballroom Level | Washington A, Ballroom Level | Washington B, Ballroom Level |
|---------------------|--|---|--|--|--|---|-----------------------------------|---|--|--|
| 8:00 am - 9:00 am | WS01 - Accreditation 101 | WS02 - How Can Disability Studies Inform Rehabilitation Engineering Practice and Education? Concepts, Outcomes, & Lessons Learned | WS03 - To Abduct or Not to Abduct | WS04 - AT-node, an Evidence Database on Access Interfaces: Present and Future Possibilities for AT Outcomes Research | WS05 - Universal Design for Living: Assessing Environments not the Individual | WS06 - Therapeutic Applications of Virtual Reality Music Making | RESERVED for State of the Science | WS07 - Assistive Technology Intervention for Circadian Disruption | WS08 - Power Seat Functions: Moving Forward | WS09 - Introduction to Accessibility to Phones, Tablets, and Computers |
| 9:00 am - 10:30 am | Opening PLENARY Session: Regency Ballroom CD CTR EF, Ballroom Level Lord Holmes of Richmond MBE Natasha Layton, PhD Evandro Guimarães, PhD, MS, AT | | | | | | | | | |
| 10:30 am - 11:00 am | Break in Exhibit Hall | | | | | | | | | |
| 11:00 am - 12:00 pm | WS10 - Power Adjustable Seat Height - How High and Why | WS11 - Language First, Technology Second | PPS #1 Access and Communication Technology - Moderator: Dennis Tomashek, University of Wisconsin-Milwaukee | WS12 - Amazon, Google, and Bears Oh My! A Hands-On Demonstration of Modern Home Automation Implementation | WS13 - Continuous Cloud-based Power Wheelchair Monitoring of Mobility and Seating | WS67 - NIDILRR Technology Products | RESERVED for State of the Science | WS14 - RERC on Technologies to Support Successful Aging with Disability | WS15 - Testing a Wheelchair with the RESNA standards and what the results can tell you | Student Design Competition in Tech Lab Rm |
| 12:15 pm - 1:15 pm | Walkabout Lunch in Exhibit Hall | | | | | | | | | |
| 1:15 pm - 2:15 pm | WS16 - DME Care Path of Very Young Children (age 0-3 years) | WS17 - Latest Development of Wireless Powerchair Controls | PPS #2 Emerging Technology - Moderator: Carmen DiGiovine, Ohio State University | WS18 - Emerging technology to help people with disruptive behaviors | WS19 - Lessons Learned: AT Reuse Response During Recent Disasters | WS20 - Environmental Control Redefined | RESERVED for State of the Science | WS21 - Strengthening Your Core Vocabulary Implementation in the Schools | WS22 - Community Mobility, Participation and Health | WS23 - Universal Design for Learning: Reading and Writing with Google Chrome |
| 2:15 pm - 4:00 pm | Poster time/ Break in Exhibit Hall | | | | | | | | | |
| 4:00 pm - 5:00 pm | WS24 - Seating and Wheeled Mobility – Introduction to a New Clinical Resource Guide | WS25 - Protecting Access to Complex Rehab Technology | PPS #3 Seating and Mobility - Moderator: Mary Ellen Buning, RESNA President-Elect | PPS #4 Service Delivery and Outcome - Moderator: Heidi Koester, Koester Performance Research | WS26 - Strategies for integrating non-traditional technologies in seating and mobility | WS27 - You Can't Take Your Case Manager With You | RESERVED for State of the Science | | WS28 - Disability, Aging and Health | WS29 - ACT Sharing Solutions, Igniting Ideas |
| 5:30 pm - 6:30 pm | RESNA Business Meeting (Washington A, Ballroom Level) | | | | | | | | | |

Saturday, July 14th

| Room | Potomac Room I, Ballroom Level | Potomac Room II, Ballroom Level | Potomac Room III, Ballroom Level | Potomac Room IV, Ballroom Level | Potomac Room V, Ballroom Level | Potomac Room VI, Ballroom Level | Regency A, Ballroom Level | Regency B, Ballroom Level | Washington A, Ballroom Level | Washington B, Ballroom Level |
|---------------------|--|---|---|--|--|---|---|--|---|--|
| 8:00 am - 9:00 am | PSG 1 Suppliers and Manufacturers Meeting | PSG 2 Physical Therapists Meeting | PSG 3 Occupational Therapist Meeting | PSG 7 Educators Meeting | PSG 5 Vocational Rehabilitation Meeting | PSG 6 SLP's and Audiologists Meeting | HOLD for SoSci | OPEN SPACE | OPEN SPACE | PSG 4 Engineers and Technologists Meeting |
| 9:00 am - 10:30 am | PLENARY #2 Session: NIDILRR | | | | | | | | | |
| 10:30 am - 11:00 am | Robert Jaeger, PhD | | | | | | | | | |
| | Break in Exhibit Hall | | | | | | | | | |
| 11:00 am - 12:00 pm | WS30 - Smart Wheelchairs : How Close Are We? | WS31 - I Don't Have A Disability. I'm Just Getting Old | PPS #6 Student Sessions | WS32 - Motion-Based Technology for People Living with Dementia: Development Guidelines | WS69 - Navigating the Transition from Manual to Power Mobility | WS33 - At Solutions for Individuals with Motor Impairments | WS34 - Brain-Computer Interface: Considerations for Clinical Implementation | WS35 - RERC ICT State of The Science - Accessibility of Information and Communication Technology for People with Disabilities | WS36 - Smart and Robotic Homes | WS68 - NIDILRR Grant Programs and Opportunities |
| 12:00 pm - 12:30 pm | Unopposed Exhibit Hall Time | | | | | | | | | |
| 12:30 pm - 1:50 pm | AWARDS Luncheon (Regency CD CTR EF, Ballroom Level) | | | | | | | | | |
| 2:00 pm - 3:00 pm | | WS38 - Integration of Education Research into a Rehabilitation Science and Technology Program | WS39 - Advancing Technology and Design for Accessible Public Transportation | WS40 - Novel Clinical Application of Virtual Reality Technology through Community Partnerships | WS41 - AAC for the non-SLP | WS42 - Establishing Standard Classification Code parameters for AT Industry | WS43 - Access and AAC: Preliminary results of a multi-access strategy | WS44 - RERC ICT State of the Science – The Use of Information and Communication Technology for Empowering People with Disabilities | WS45 - Disability, Aging and Technology in the US and Canada: A Tale of Two Systems | WS46 - The Perfect Pitch: Striking a Chord with Investors and Partners |

Saturday, July 14th (continued)

| Room | Potomac Room I, Ballroom Level | Potomac Room II, Ballroom Level | Potomac Room III, Ballroom Level | Potomac Room IV, Ballroom Level | Potomac Room V, Ballroom Level | Potomac Room VI, Ballroom Level | Regency A, Ballroom Level | Regency B, Ballroom Level | Washington A, Ballroom Level | Washington B, Ballroom Level |
|-------------------|--|--|---|--|--|---|--|--|---|--|
| 3:00 pm - 3:15 pm | Break | | | | | | | | | |
| 3:15 pm - 4:15 pm | WS47 - An Inter-professional Education Course for Person-centered Technology Design | WS48 - ATP Ethics Survey – Preliminary Results | WS39 cont. - Advancing Technology and Design for Accessible Public Transportation | WS40 cont. - Novel Clinical Application of Virtual Reality Technology through Community Partnerships | WS49 - DATCares: Developing AT with informal care partners | WS42 cont. - Establishing Standard Classification Code parameters for AT Industry | WS50 - The Use of Videos with Visual Scene Displays to Support Communication and Participation | WS51 - RERC ICT State of the Science – Digital Intervention for Reaching Out Underserved Population and People with Disabilities | WS45 cont. - Disability, Aging and Technology in the US and Canada: A Tale of Two Systems | WS46 cont. - The Perfect Pitch: Striking a Chord with Investors and Partners |
| 5:30 pm - 5:45 pm | Exhibit Hall Open/Posters in Exhibit Hall | | | | | | | | | |
| 5:45 pm - 6:30 pm | Accommodations SIG Meeting | Cognition and Sensory Loss SIG Meeting | | K-12 Practice SIG Meeting | Emerging Technologies SIG Meeting | International SIG Meeting | HOLD for RERC Meeting | | Wheeled Mobility and Seating SIG Meeting | Access and Communications Technology SIG Meeting |
| 6:30 pm - 9:00 pm | Developers' Showcase and Networking Reception (Regency Ballroom CD EF CTR, Ballroom Level) | | | | | | | | | |

Sunday, July 15th

| Room | Potomac Room I, Ballroom Level | Potomac Room II, Ballroom Level | Potomac Room III, Ballroom Level | Potomac Room IV, Ballroom Level | Potomac Room V, Ballroom Level | Potomac Room VI, Ballroom Level | Regency A, Ballroom Level | Regency B, Ballroom Level | Washington A, Ballroom Level | Washington B, Ballroom Level |
|---------------------|--|--|---|---|--|---|---|--|--|---|
| 8:00 am - 9:00 am | WS52 - Use of a Team Building Activity to Facilitate Learning of Wheeled Mobility Clinical Reasoning | WS53 - Examining the Language Organization and Supporting the Utilization of Speech Generating Devices | WS54 - Development of a Wheelchair Training Toolkit | WS55 - Assistive Technology Intervention: A Tool Use Learning Process for Powered Mobility and Augmentative and Alternative Communication | WS56 - How Technology is Helping People with Intellectual Disabilities to Excel at Work and Home | WS57 - Use of AT to Address Cognitive Deficits in Military Service Members with Anxiety, Depression, and PTSD | WS58 - AAC Supports for the Transition to Adult Life for Persons with Complex Communication Needs | WS59 - Emerging and Innovative Technologies Show and Tell | Certification Town Hall Meeting | WS60 - Driving Excel via Dragon Professional: Tips, Tricks, and Workarounds |
| 9:00 am - 9:30 am | Break | | | | | | | | | |
| 9:30 am - 10:30 am | WS52 cont. - Use of a Team Building Activity to Facilitate Learning of Wheeled Mobility Clinical Reasoning | WS61 - Technologies to Support the Struggling Reader and Writer in K-12 Education | WS62 - The GREAT Summit: Global Research, Innovation, and Education in Assistive Technology | WS55 cont. - Assistive Technology Intervention: A Tool Use Learning Process for Powered Mobility and Augmentative and Alternative Communication | WS63 - Buy IT!—Your Guide for Purchasing Accessible Technology | WS57 cont. - Use of AT to Address Cognitive Deficits in Military Service Members with Anxiety, Depression, and PTSD | WS58 cont. - AAC Supports for the Transition to Adult Life for Persons with Complex Communication Needs | WS64 - Analysis of the Sport Participation Outcomes Research Tool and Comprehensive Survey | WS65 - Innovative Strategies in AT Education: Addressing Challenges to Teaching AT | WS66 - Tools for Knowledge Translation: Effectively Communicating R&D Project Outputs to Key Stakeholders |
| 10:30 am - 12:00 am | Closing PLENARY: McLaurin Lecture and RESNA President Remarks Gregg Vanderheiden, PhD, RESNA Fellow Roger Smith, PhD, OT, FAOTA, RESNA Fellow | | | | | | | | | |
| 12:15 pm - 12:30 pm | See you in Toronto for 2019! | | | | | | | | | |

CEUS

| Event | Time | CEU Amount | CEU Code Tracking |
|--|---------------------|-------------------------------|-------------------|
| Wednesday, July 11th | | | |
| ATP Fundamentals Course Day 1 | 8:30 am - 5:30 pm | 1.4 CEUs for the 2-day course | |
| Thursday, July 12th | | | |
| ATP Fundamentals Course Day 2 | 8:30 am - 5:30 pm | 1.4 CEUs for the 2-day course | |
| Full day IC(s) | 8:30 am - 5:30 pm | .75 CEUs | |
| Half day IC(s) Morning | 8:30 am - 12:30 pm | .375 CEUs | |
| Half day IC(s) Evening | 1:30 pm - 5:30 pm | .375 CEU | |
| Friday, July 13th | | | |
| Workshop Session 1 | 8:00 am - 9:00 am | .1 CEUs | |
| Plenary 1 | 9:00 am - 10:30 am | .45 CEUs | |
| Workshop Session 2 | 11:00 am - 12:00 pm | .1 CEUs | |
| Workshop Session 3 | 1:15 pm - 2:15 pm | .1 CEUs | |
| Poster Session 1 | 2:15 pm - 4:00 pm | .15 CEUs | |
| Workshop Session 4 | 4:00 pm - 5:00 pm | .1 CEUs | |
| Saturday, July 14th | | | |
| Plenary 2 | 9:00 am - 10:30 am | .45 CEUs | |
| Workshop Session 5 | 11:00 am - 12:00 pm | .1 CEUs | |
| Workshop Session 6 | 2:00 pm - 3:00 pm | .1 CEUs | |
| Workshop Session 7 | 3:15 pm - 4:15 pm | .1 CEUs | |
| Poster Session 2 | 4:15 pm - 5:45 pm | .15 CEUs | |
| Sunday July 15th | | | |
| Workshop Session 8 | 8:00 am - 9:00 am | .1 CEUs | |
| Workshop Session 9 | 9:30 am - 10:30 am | .1 CEUs | |
| Plenary 3 | 10:30 am - 12:00 pm | .45 CEUs | |

Report CEUs at www.resna.org/ceus. If you experience difficulty accessing the Express Evaluation site or evaluation your sessions, then please contact Charlie Raphael at [703-524-6686](tel:703-524-6686), ext. 316, or craphael@resna.org

Plenary Sessions

OPENING PLENARY: AT Around the World

Date: Friday, July 13, 2018

Time: 9:00 AM - 10:30 AM

Location: Regency CD CTR EF, Ballroom Level

Summary: This high powered international panel includes leaders from three continents who will share perspectives on AT service provision and policies, including trends and best practices from various parts of the world. Speakers include [Natasha Layton, PhD](#), the President of Australia Rehabilitation and Assistive Technology Association (ARATA), [Evandro Guimarães, PhD, MS, AT](#), Ministry of Human Rights, General Coordinator of Assistive Technology for the Secretariat of People with Disabilities Rights (Brazil), and [Lord Holmes of Richmond MBE](#) (United Kingdom) Co-Chair of the All-Party Parliamentary Groups on Assistive Technology.

This session will be moderated by RESNA's executive director, Michael Brogioli.

PLENARY: Perspectives from NIDILRR

Date: Saturday, July 14, 2018

Time: 9:00 AM - 10:30 AM

Location: Regency CD CTR EF, Ballroom Level

Summary: A keynote address from [Robert Jaeger, PhD](#), the Director of the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR) on the agency's plans and priorities.

This session will be moderated by Heidi Koester, PhD, Chair of RESNA's Research Committee.

CLOSING PLENARY: Colin McLaurin Memorial Lecture and RESNA Presidents' Remarks

Date: Sunday, July 15, 2018

Time: 10:30 AM - 12:00 PM

Location: Regency CD CTR EF, Ballroom Level

Summary: RESNA welcomes its past president, [Gregg Vanderheiden, PhD, RESNA Fellow](#) who will give the annual McLaurin Lecture. In addition, RESNA's current president, [Roger Smith, PhD, OT, FAOTA, RESNA Fellow](#), will make remarks to conclude the 2018 Conference.

This session will be moderated by RESNA's 2018 Conference Chair, John Anschutz

PAPER PLATFORMS

• Platform #1: Access and Communication Technology

- **Time:** Friday, July 13th, 11:00 am - 12:00 pm
- **Location:** Potomac Room III
- **Moderator:** Dennis Tomashek, University of Wisconsin-Milwaukee
- Design and Development of AT-Node: A Searchable Database of Text Entry Rates for Computer Users with Disabilities
 - *Heidi Koester, Sajay Arthanat, Koester Performance Research, Ann Arbor, MI*
- Measuring the Effect Assistive Technology has on the Quality of Life of Individuals with Amyotrophic Lateral Sclerosis
 - *Loren F. McMahon, Regina F. Doherty, Peggy Dellea, MGH Institute of Health Professions, Charlestown, MA*
- Participation Differences when Children with Physical Disabilities Control Robots to Perform Hands-on Activities Compared to their Peers
 - *K. Adams, B-L. David, L. McGarvey, K. Loshny, P. Esquivel, University of Alberta, Canada*
- Vibration Feedback for Prosthetic Hands
 - *Matthew Standard, Dianne T.V. Pawluk, Virginia Commonwealth University*

• Platform #2: Emerging Technology

- **Time:** Friday, July 13th, 1:15 pm - 2:15 pm
- **Location:** Potomac Room III
- **Moderator:** Carmen DiGiovine, Ohio State University
- Validation of the AccessPlace Personal Accessibility Information Review Sorting
 - *Dennis B. Tomashek, Nathan Spaeth, Nicole Latzig, Ariana Pelkey, Roger O. Smith, University of Wisconsin-Milwaukee*
- Assistive Robotic Device: Evaluation of Intelligent Algorithms
 - *Audrey Lebrasseur, Josiane Lettre, François Routhier, Philippe Archambault, Alexandre Campeau-Lecours, Université Laval, Quebec City, Canada*
- Using Design Thinking Method to Develop Co-exercise Mixed Reality System for Stroke Survivors
 - *Myung Joon Lim, Eun Rae Ro, Hyosun Kweon, National Rehabilitation Research Institute, Seoul, Korea*
- Introduction to Information Communication Technology Applications for Aging
 - *Leighanne M. Davis, Kevin Caves, Duke University*

• Platform #3: Seating and Mobility

- **Time:** Friday, July 13th, 4:00 pm - 5:00 pm
- **Location:** Potomac Room III
- **Moderator:** Mary Ellen Buning, RESNA President-Elect
- Winter Mobility and Community Participation: A Scoping Review
 - *Jacquie Ripat, Kathryn M. Sibley, Ed Giesbrecht, Brittany Curtis, Alexie Touchette, Jaimie Borisoff, Ernest Morales, Karen Ethans, Yue Li, University of Manitoba*
- Applying ISO 16840-2: Literature Review
 - *Sandra Arias-Guzmán, Patricia E. Karg, David M. Brienza, University of Pittsburgh*
- Evaluation of Wheelchairs and Wheelchair Tie Downs, Occupant Restraint Systems and Occupant Protection on Transport Airplanes
 - *Michele Erwin, All Wheels Up, Inc.*
- Recent Assistive Technology Research at CARRT
 - *R. Mounir, U. Trivedi, A. Aguirrezabal, D. Ashley, S. Sundarrao, R. Alqasemi, R. Dubey, University of South Florida*

• Platform #4: Service Delivery and Outcome

- **Time:** Friday, July 13th, 4:00 pm - 5:00 pm
- **Location:** Potomac Room IV
- **Moderator:** Heidi Koester, Koester Performance Research
- CoA RATE Accreditation Process: A Case Report from the Program Perspective
 - *Michelle K. Silverman, Roger O. Smith, University of Wisconsin-Milwaukee*
- Creating an Evidence-based Training Protocol for Upper Limb Bypass Prostheses
 - *C. Bloomer, K. Kontson, U.S. FDA, Center for Devices and Radiological Health, Silver Spring, MD*
- An Emerging Assistive Technology Centre in India: From Baby Steps, Aiming at Giant Strides
 - *Akila Surendran, K G Satheesh Kumar, National University of Speech & Hearing, Kerala, India*
- Long-term Effects of a Wheelchair Skills Boot Camp on Clinicians' Capacity, Self-efficacy and Delivery of Wheelchair Skills Training
 - *Ed Giesbrecht University of Manitoba*

• **Platform #5: Student Scientific Paper Competition Winners**

- **Time:** Saturday, July 14th, 11:00 am - 12: 00 pm
- **Location:** Potomac Room III
- **Moderator:** Jennifer Boger, University of Waterloo
- "Real Time Transfer Technique Assessment Using the Kinect2 Sensor"
 - *Lin Wei, University of Pittsburgh; Nicholas Sallinger, University of Pittsburgh; Sarah Bass, University of Pittsburgh; Hyun-Wook Ka, Human Engineering Research Laboratories; Alicia Koontz, University of Pittsburgh*
- "Hand-Rim Biomechanics of Geared Manual Wheelchair Mobility"
 - *Omid Jahanian, University Of Wisconsin-Milwaukee; Alan Gaglio, University of Illinois at Urbana-Champaign; Scott Daigle, University of Illinois at Urbana-Champaign; Vaishnavi Muqeet, Medical College of Wisconsin; Alyssa Schnorenberg, University of Wisconsin Milwaukee; Elizabeth T. Hsiao-Wecksler, University of Illinois at Urbana-Champaign; Brooke Slavens, University of Wisconsin-Milwaukee*
- "Benchmarking Of Power-Assist Wheelchair Systems"
 - *Garrett Kryt, Simon Fraser University; Dr. Carolyn Sparrey, and Dr. Jaimie Borisoff*
- "Effects of Video Visual Scene Display Technology on the Symbolic Communicative Turns Taken by Preschoolers with ASD During a Shared Activity"
 - *Shelley Chapin, PSU, David McNaughton, Janice Light, Ashley McCoy, and Jessica Caron*

POSTER PLATFORMS

Friday Session

Date: July 13th

Time: 2:15 pm - 4:00 pm

Location: Independence Center, Independence Level



Paper IDs: 053, 056, 105, 113, 116, 122, 138, 141, 143, 146, 148, 152, 154, 157, 159, 164, 169, 171, 175, 179, 181, 183, 234, 235, 236, 237, 242, 244, 247, 249, 251, 252, 253, 255

Saturday Session

Date: July 14th

Time: 4:15 pm - 5:45 pm

Location: Independence Center, Independence Level



Paper IDs: 012, 039, 078, 118, 121, 127, 140, 142, 144, 149, 150, 151, 153, 155, 158, 160, 161, 163, 165, 167, 168, 170, 172, 173, 174, 176, 177, 178, 180, 182, 194, 232, 233, 238, 239, 241, 243, 245, 248, 250, 254, 257