



# EXO QUARTERLY

Pursuing Safe & Reliable Exo Technologies for Humanity

www.etcoe.org

### **Upcoming Events**

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#### Exo Games, Here We Come!

An in-person exoskeleton competition between worldwide university student formed teams will be hosted at University of Central Lancashire (UCLan), Lancashire, UK from August 15 to August 17. Learn more and register.



#### ASTM International Committee F48 on Exoskeletons and Exosuits Meeting

Committee members and non-members welcomed to attend the in person technical meetings on developing and approved standards for Exoskeletons and Exosuits at University of Central Lancashire (UCLan), Lancashire, UK from September 13 to September 15. **Register here.** 

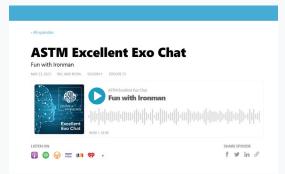


More

#### Excellent Exo Chat – Listen Now!

July 2023

The Excellent Exo Chat reached over 6,000 downloads and produced over 50 podcast episodes in the first year of production. Since March of 2022, hosts, William "Bill" Billotte and Nora Nimmerichter of ASTM International's ET CoE, discuss exoskeletons, robotics, and the future of technology. This podcast invites the audience from around the world to tune into the educational conversations as the hosts and featured guests lead the way into diverse topics. Listen to the podcast.



#### **Exo Games Approaching**

ASTM International's ET CoE will be sponsoring the first Exo Games, August 15 - 17, to improve student involvement and education in the exo technology industry. Seven university teams of S.T.E.M degree students will design, build, and test exoskeletons that satisfy the ASTM standards to compete for a grand prize. Each team will demonstrate their technical knowledge through four events: Main Competition of preforming physical tests, Design Competition, Poster Competition, and Presentation Competition. Alongside the competition, there will be guest presentations and networking opportunities for all to attend. Learn more and register.



#### Exoskeletons in the News

#### Put to The Test

Oshin Tyagi, a doctoral student at Texas A&M University, focuses her research on investigating the role of exoskeletons in healthcare environments. The project has progressed to conducting tests including giving CPR and carrying weights down steps while using a back exoskeleton for EMTs. **Full story.** 



#### College Grad Walks Across Stage

Reynolds Community College student, Khalil Watson, walked across the stage at his graduation with the aid of an exoskeleton. The advances of exoskeletons allow for individuals with spinal cord injuries, like Watson, able to make the impossible possible. **Full story.** 

#### **Texas Public Safety Robotics Summit**



In conjunction with National Institute of Standards and Technology (NIST), the ET CoE attended

the Texas Public Safety Robotics Summit 2023 that showcased the use of robotics in a variety of environments including in the air, in water and on the ground. The four days consisted of keynote presentations, live field demonstrations, training stations, and round table discussions. The sold-out event was filled with public safety,



emergency management, disaster relief, emergency response teams and more industry personnel, which allowed for the team to gather feedback about exoskeletons. Learn more.

#### **Roger Bostelman Receives Award of Merit**

ASTM International awarded Dr. Roger Bostelman the Award of Merit for his extraordinary productivity, outstanding contribution, and leadership in advancing the development of standards related to exoskeletons and exosuits. At the recent F48 Committee on Exoskeletons and Exosuits meetings in Denver, ASTM presented Bostelman with his award and an ASTM Fellow Pin. The Award of Merit, established by the ASTM Board of Directors in 1949, is the highest Society award granted to an individual for distinguished service and outstanding participation in ASTM International committee activities. Recipient also received the honorary title of Fellow. Learn more.

#### 125 Years of ASTM International

This year, ASTM International will be celebrating 125 years of overcoming obstacles, supporting safety, and promoting technological progression. This is a time to reflect and honor the foundation and the traditions that has led to present growth. As the era of today resembles the "fourth industrial revolution," innovations in exoskeletons, robotics, automation, machine learning, additive manufacturing, and other emerging industries continue to prosper through ASTM's communities. Learn more.



## Exoskeletons in the News

#### FDA Greenlights Exoskeleton for Stairs and Curbs

The FDA has approved ReWalk Robotics' exoskeleton to help users conquer stairs and curbs as the controls on the wrist or hips raises the legs higher. The 47 European user reports and more than 18,000 stairs surmounted ensured that the exoskeleton was safe and efficient for FDA to decide on authorization. **Full story.** 



#### Responsive Ankle Exoskeleton Algorithm

At the University of Michigan, a new control algorithm has amplified the ability to manage different speeds, as well as transitions between running and walking. With this development, advances of exoskeletons can take closer steps towards managing the uncertainties of the real world and enhance movements. **Full story.** 

#### I GOT LEGS with Adam Gorlitsky



ASTM's International's ET CoE had the opportunity to connect with Adam Gorlitsky, founder of I GOT LEGS, in April 2023. The organization drives to ReEnable athletes with paralysis to walk with the aid of exoskeletons and pursue innovative research. This non-profit started in 2016 after Adam Gorlitsky walked 17,932 steps to complete the Cooper River Bridge Run using a ReWalk robotic exoskeleton. Since then,

Adam broke the Guinness World Record for exoskeleton marathon walking and participated in over 50 road races. With the aid of the exoskeleton community, I GOT LEGS seeks to increase access to exo technology, empower individuals to take more steps with their exoskeletons, and advance technology and medicine. Learn more.

### Buy America: Domestic Preferences for Exoskeleton Procurements

The free webinar offered by ASTM International explains how sourcing and manufacturing components for company's Exo Technology could exclude it from potential customers. The webinar recognizes guest speaker Paul Hurst from Steptoe, who explained the country-of-origin requirements applicable to federal procurements of exoskeletons. Watch the recording.

#### **Unleash the Bots**

In April, South Carolina Research Authority (SCRA) and ASTM International hosted an actionpacked day where over 90 industry experts participated in an industry roundtable conversation to share common challenges and solutions within the manufacturing industry. Alongside the discussions, TECH Talks and demo technology solutions occurred from over 10 vendors that develop autonomous mobile robots, collaborative robots, and exoskeletons. Learn more.

