

EXO TECHNOLOGY

EXO QUARTERLY

Pursuing Safe & Reliable Exo Technologies for Humanity

www.etcoe.org

Recent Events



2023 ErgoX Symposium

On October 23, 2023, at Washington Hilton Hotel, Washington, DC, HFES will host a symposium featuring four educational tracks including Cybersecurity, Exoskeletons, Robotics, and Extended Reality. Register Here



Exoworkathlon

From October 24 to 27, Exoworkathlon will take place in Duesseldorf, Germany at the WearRAcon Confrence organized by the Fraunhofer IPA, the University of Stuttgart's IFF, and WearRA. Learn More.



Excellent Exo Chat Podcast

Hosts, William "Bill" Billotte and Nora Nimmerichter, have been continuously creating fresh episodes for their podcast. See the latest and Listen Here. October 2023

Exo Games Recap

The inaugural Exo Games, held at University of Central Lancashire (UCLan) from August 15 to August 17, featured five university student teams from the UK, United States, Belgium, and Brazil. The three-day event was comprised of the Poster Competition, Presentation Competitions, the Main Competition, and Guest Presentations. These teams competed in designing and constructing exoskeletons that met ASTM International standards while also presenting their technical knowledge to an audience of 65 attendees. The Main Competition included four physical tests: Timed Up and Go





(TUG), Bomb Squad Walk, Warehouse Palletizing and Cup Stacking. These tests evaluated aspects such as balance, repetitions, safety, and augmentation. The judging panel, consisting of Ann Virsts (NIST), Chris Reid (Boeing), Don Peterson (Northern Illinois University), Bill Billotte (ASTM International), and Matt Dickinson (UCLan), assessed the team's performance in both physical and design challenges, adhering to the Exo Games Specifications and the ASTM standards established by F48 Exoskeleton and Exosuit Committee.

The awards were presented as follows:

- → 1st Place Overall: University of Central Lancashire
- → 2nd Place Overall: Vrije Universiteit Brussel
- → 3rd Place Overall: Clemson University
- → Teams' Choice Award: Federal University of Technology Parana and Pontifícia Universidade Católica do Paraná
- → Poster Competition Award: University of Central Lancashire
- → Presentation Competition Award: Clemson University
- → **Design Competition Award:** Vrije Universiteit Brussel

The Exo Games was truly honored to have Hugh Herr and Adam Gorlitsky to share their stories and inspiration to the students and attendees. Hugh Herr's incredible speech on the new innovations at MIT and Adam Gorlitsky passion for an exoskeleton racing league left a lasting impression and sparked meaningful conversations among the future professionals of the industry. Learn More.

Quick Facts



25 Standards in Development



22 Standards Approved



65+ Podcast Episodes



Exoskeletons in the News

Tampa VA improves access to exoskeleton technology for Veterans

The Robotics and Advanced
Technology Center at James A. Haley
VA in Tampa is using cutting-edge
technology to improve the lives of
Veterans who have difficulty walking
due to other neurologic injuries or
illnesses. Read More.



Apogee+ exoskeleton helps nursing staff lift and move elderly patients

The robotics company German Bionic has introduced Apogee+, a powered exoskeleton that acts as a personal lift assist, specifically addressing the safety and job satisfaction issues of healthcare workers. Read More.



NEW ET CoE Bibliography

The Exo Technology Center of Excellence produced a bibliography for a comprehensive list of references focusing on exoskeletons and exo technology. It serves as a centralized library of information on the ET CoE website, providing details about books, articles, testing, and other relevant materials used for research and education. The bibliography includes the authors' name, publication date, title, and source information



that is accessible for the public. The ET CoE thrives to connect research, testing, and education to provide a wide range of learning opportunities for the fast-growing exoskeleton and exo technology industry. <u>Access</u> the Bibliography here.

ASTM Committee F45 & F48 Member Expertise Survey

ASTM International prides itself on its experts and the breadth of knowledge they provide our committees with standards development. Throughout recent meetings of Committee F45 and Committee F48, there have been requests for additional webinars, panel discussions, symposia, trainings, and workshops surrounding an extensive area currently covered between Committee F45 on Robotics, Automation, and Autonomous Systems and Committee F48 on Exoskeletons and Exosuits.

The ET CoE captured the expert skills and knowledge of ASTM International's technical committee members – specifically Committee F45 and/or Committee F48 through a voluntary survey. The information was utilized as input onto scheduling future webinars, panel discussions, symposia, trainings, and workshops that will help the ASTM community identify common topics and discussions to benefit the members, the industry, and the development of standards.



New Exoskeleton Report Electronic Magazine

After eight years of delivering articles on exoskeletons, exosuits and wearable robotics, the Exoskeleton Report is proud to introduce something new: The Exoskeleton Report Digital weekly eMagazine! All the relevant news and analysis over the week diligently curated in one place! You can find the first two issues:

Vol 1 Issue 1: Sept 13, 2023

Vol 1 Issue 2: Sept 22, 2023