



VANDERBILT VENTURE LAUNCH

TURNING IDEAS INTO OPPORTUNITIES

VANDERBILT UNIVERSITY
Technology Transfer

SUMMER 2022 NEWSLETTER

VANDERBILT STARTUP CLOSING LATE SEED ROUND

HEROWEAR RAISING \$2M ROUND

HeroWear, a Nashville-based wearable technology company, is finishing up a late seed round of financing to expand its product sales and distribution capabilities in advance of a larger financing round planned for early 2023. The company sells a super light weight biomechanical exosuit – branded Apex™ - that reduces fatigue and musculoskeletal strain on workers while lifting and moving objects, and has eclipsed \$1M in revenue in its first full year of sales.

The base exosuit was developed in the Vanderbilt Center for Rehabilitation Engineering and Assistive Technology (“CREATE”) by Karl Zelik and a team of graduate students and colleagues. The CREATE lab’s mission is to improve health and mobility and to enhance human performance and well-being through advances in movement science and assistive technology.



Karl Zelik

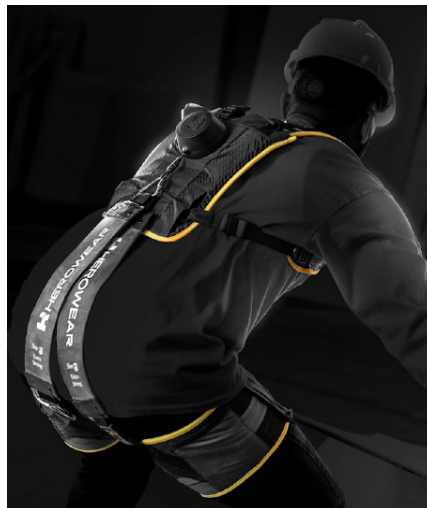


Mark Harris

With the assistance of our Entrepreneurship Advisory Council, CTTC engaged local entrepreneur Mark Harris (who also has a PhD and an MBA from Vanderbilt), just exiting from his previous company, to partner

with Zelik and former CREATE lab grad student Matt Yandell to co-found and build the company. The company is headquartered in the greater Nashville area, and has multiple ongoing development partnerships with the Vanderbilt CREATE lab.

Vanderbilt has a great deal of confidence in the growth potential of HeroWear, and in its management team, evidenced by Vanderbilt’s participation in the current financing round.



The Apex™ device (pictured above) is performing admirably. The company is expanding its customer base and Apex™ has received strong reviews from customers. HeroWear is also evaluating other assistive technologies that would expand the company’s product offerings.

NEW VENTURES TEAM

The mission of the CTTC new ventures team is to facilitate the formation of new ventures powered by Vanderbilt technology. Our objective is to be the principal partner for our faculty, staff, inventors and entrepreneurs who are exploring new venture opportunities. Our engagement model helps university inventors and entrepreneurs to better understand the new venture creation process - from ideation to formation.

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Center for Technology Transfer
& Commercialization



Karrie Dudek

ASPIRE to Innovate
Postdoctoral Fellowship Program



**FRIST CENTER FOR
AUTISM & INNOVATION
EYES STARTUP
OPPORTUNITIES**

The Frist Center for Autism and Innovation brings engineers, business scholars, and disabilities researchers together with experts in neuroscience and education to understand, maximize, and promote neurodiverse talent. One of the Center's intended outputs include new products and services that will improve the lives of individuals on the autism spectrum and their families.

Recently, the Center launched an adaptive driving simulator technology created by Dr. Nilanjan Sarkar and colleagues and are deploying this technology in partnership with a non-profit that will oversee the installation and use of driving simulator regionally. The driving simulator assists neurodiverse drivers to develop and focus on good driving practices.

This is one example of a Frist Center technology with both the potential to improve lives and represent an interesting market opportunity. The Center is developing other technologies consistent with its mission, and Vanderbilt is exploring how these technologies might be appropriate for a new startup company.

**ASPIRE TO INNOVATE PROGRAM DESIGNED TO
SPIN OUT HEALTHCARE COMPANIES**

A new collaborative initiative between CTTC and the Vanderbilt School of Medicine's BRET Office of Career Development provides a new model for launching healthcare-focused new ventures. The partners are training and supporting biomedical sciences postdoctoral fellows to plan and launch life science start-up companies around a promising Vanderbilt technologies. The goal of the program is twofold: (i) to provide a biomedical Ph.D. scientist with extensive mentorship, supplemental training, networking opportunities with investors, and other assistance to successfully launch a company, and (ii) to commercialize life science technologies discovered at Vanderbilt.

The first opportunity under development is focused on a biomaterial for use in regenerative medicine, developed by Ethan Lippmann, Vanderbilt assistant professor of chemical and biomolecular engineering. Although prior biomaterials technologies have been developed to grow capillaries, Lippmann's new biomaterial has been

shown to promote growth of arterioles, which are larger and can withstand higher-pressure outflows and thus may be more effective in combatting ischemia resulting from aging, disease, and surgeries.

The program officially commenced July 2021, with Karrie Dudek, selected as its first fellow following a competitive application & interview process. Dudek recently defended her dissertation after completing her Ph.D. research training as a graduate student in the Department of Cell and Developmental Biology. During her research training, Karrie was actively involved in multiple initiatives around campus to augment her research skills with business and management, leadership, and consulting experiences. Dudek kicked off her program with a summer internship with CTTC to conduct market research and learn about intellectual property and licensing, and is participating in the Vanderbilt "Builder" program, directed by the Wond'ry - Vanderbilt's center for innovation, design and entrepreneurship.



PULMONARY STARTUP IN THE MAKING

CTTC is working with VUMC pulmonologist Dr. Lisa Lancaster to develop technology that uses proprietary algorithms in analysis of biometric data to automatically regulate the flow of air to patients on oxygen treatment both in the clinic and in the home, and to evaluate its potential as an investible platform.

This collaboration has led Lancaster winning the "Air You Wear Challenge" award from the NHLBI, which includes \$50,000 to be used in the development and testing of the application as a minimal viable product for oxygen delivery.