

Making Wearable Apparel Accessible to People with Disabilities. **By Kathlyn Swantko**

## An Open Style Lab

In the summer of 2014, the Massachusetts Institute of Technology's Assistive Technology Club recognized a niche market need for wearable apparel for people with disabilities. The group's Open Style Lab, an operating non-profit organization housed in MIT's International Design Center, was created to focus on this category.

The Lab's team of designers, engineers, and health professionals uses an iterative process that includes interaction with the team's clients, who have disabilities (i.e. paraplegia, amputation, autism), and then designs specific clothing to meet these needs.

Lea Yoon, education director for MIT's Open Style Lab, states, "Our goal is being achieved through our summer education program, where our students are incorporated into an interdisciplinary team. We pair each of eight teams with a client that has a physical disability."

### Lab Background

The idea for the program came from Grace Teo, whose PhD program included an internship at hospitals, where she had the opportunity to question disabled patients regarding their daily difficulties. Teo learned that many of the patients missed being able to perform independent acts like dressing themselves, and wanted more aesthetically pleasing clothing.

Yoon notes, "Along the way, we realized that this opportunity also provided MIT the chance to create an inclusive and enriching experience. Rather than simply focusing on product development, we also developed the educational aspect of the program."

Last year's program involved 24 students that came from MIT, Harvard, Baypath, Boston University, Olin College of Engineering, RISD, and MassArt. Each student team is challenged to come up with a low-tech solution to their client issues.

In the development of the Open Style Lab's Adaptive Clothing



Designs, the student teams go through a constant feedback process with their respective clients, to better understand their problems and to identify proper solutions.

Yoon explains, "Hugely helpful in this process is having the occupational therapy students ask key questions regarding different body movements and lifestyle movements. The client-centered information is then explained to the engineers and designers."

The new designs go through multiple ideations and iterations to address the client's requests and needs. In addition, the teams receive weekly critiques from industry professional mentors.

### Fabric Choices

Since the design process is keyed to the individual needs of each client, the team doesn't go into the process with a fixed idea, regarding specific fabrics to be used.

"If we're creating a waterproof jacket for an active lifestyle client, we look for a sports-performance type fabric, typically a nylon or polyester," Yoon says. "We also take into consideration their bodily needs, such as thermal dynamics and skin sensitivities."

According to Yoon, the short-term goal is to develop a product that elevates the client's daily level of independence and related dressing needs. Over the long term, MIT hopes to scale the products up to a much broader market, beyond the specific population related to the client. During this process, the assistive design will be turned into

a universal design, so that a greater number of people can enjoy the product, while getting acquainted with the story behind the product.

Progress is being made through the scalability and commercialization for one of

**Student team deconstructs a dress shirt to rework the top into a thermal sensitive garment.**

Open Style Lab's most popular designs of 2014, the "Ryan Jacket". The Lab is currently working with Betabrand, a retail clothing company and crowdfunding platform that specializes in the manufacture and release of new apparel products that bring clothing concepts and prototypes into actual finished products. ●

*For more information on MIT's Open Style Lab program, contact Lea Yoon, education director, at [lea@openstylelab.org](mailto:lea@openstylelab.org).*

*Kathlyn Swantko is president of the FabricLink Network.*

The Networking Sites for the Textile Industry

**FabricLink**  
FabricLink.com Trade-to-Consumer

**The Technical Center**  
theTechnicalCenter.com Trade-to-Trade

*Check out the opportunities to effectively get your message out!*