

Lighted clothing that flashes to beat of music will hit runway

April 9 2015, by Blaine Friedlander



Madeleine Galvin '18 (left), Joel Lawson '16, Emily Roehr '16 and Lauren Cagnassola '15 model luminescent garments under the Milstein Hall breezeway. Credit: Jason Koski/University Photography

These clothes soon may be all the rave: Fiber science and physics students have teamed to create fashionable "smart" garments with vivid, luminescent panels that pulse to music.

Undergraduates will model "Irradiance" – a collection of electrogarments designed by Eric Beaudette '16, fiber science; Lina

Sanchez Botero, [graduate student](#) in the field of fiber science; and Neal Reynolds, graduate student in the field of physics – on the runway at the Cornell Fashion Collective, Saturday, April 11, at 8 p.m. at Barton Hall.

"This collection is inspired by the future – and present – of wearable technology being more and more integrated into [fashion](#) and daily life," explains Beaudette. "These garments depict our vision of fashion of the future, having increased function and compatibility with devices, such as smartphones."

The fabricated, fashionable clothes capture your attention. They shimmer with optical fiber cloth illuminated by controllable RGB LEDs (red-green-blue light-emitting diodes) and strips of electroluminescent tape. The lights react to the beat of the music thanks to an Arduino microcontroller integrated into each garment.

Beyond the sparkling shirts and pulsating pants, runway models will be wearing original, custom-made shoes, created using such techniques as 3-D printing and laser cutting.

The designer team explained that a big challenge is maintaining harmony between the materials, technologies and construction. "Garments with circuitry and other technologies add layers of complexity, especially since these technologies were not originally designed for use with clothing," Beaudette said.



Emily Roehr '16 shows a shirt made of optical fiber cloth. Credit: Jason Koski/University Photography

For the team's runway display, Natani Notah '14 will complete the hair and makeup for the models: Emily Roehr '16, majoring in operations research engineering with a Dyson School business minor; Lauren Cagnassola '15, environmental engineering; Joel Lawson '16, chemical engineering; and Madeleine Galvin '18, nutrition and pre-dental.

The team partnered with a division of Myant & Co., a wearable and embedded technology group; Architects of Intelligent Applications for electroluminescent tape; and Sensing Tex for fiber optics.

Provided by Cornell University

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