

Arborlight: Hitting the switch on clean, high-quality fluorescent replacements

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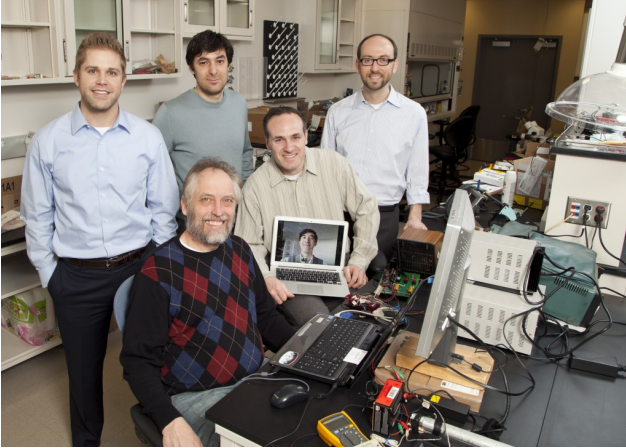
ANN ARBOR, Mich. -- – A University of Michigan clean energy start-up looks to turn on investors and future customers to a new lighting technology that offers a cleaner, longer lasting and higher quality alternative to today's florescent tubes.

Headquartered in the U-M's [Venture Accelerator](#), Arborlight LLC develops sophisticated lighting solutions for clients and leverages its patent-pending technology to develop a light-emitting diode (LED)-based, drop-in replacement for linear, fluorescent tubes. These replacements are mercury-free, last more than 50,000 hours, and provide a cost-effective source of uniform, bright light – desired features currently unmet in the LED lighting market.

“Our current designs suggest that our lamps will be considerably more efficient, more durable and robust than today's glass fluorescent tubes,” said [Max Shtein](#), a U-M materials science and engineering professor, who with U-M Electrical Engineering and Computer Science Professor [P.C. Ku](#), conceived of the lighting architecture at the heart of Arborlight. “The opportunity here is tremendous because there are hundreds of millions of these kinds of fluorescent tubes being replaced every year in the U.S.

“In addition to this being a commercial opportunity, we could improve energy efficiency in lighting and eliminate over five metric tons of mercury from the waste processing stream each year in the U.S. alone.”

Through its patent-pending, scalable designs, Arborlight sees the potential for lowering material and assembly costs while delivering quality, cost-effective lighting. Drawing on the experience gained through its current customers in the automotive and architecture fields, and developing its business model for future manufacturing and technology licensing, Arborlight looks to meet a wider range of consumer preferences for everything from overhead basement lighting to retail display cases. It will initially focus on retail, hospitality and commercial applications.



Standing from left, the Arborlight team includes Daniel Gerding, Max Shtein, and Adam Byrnes. Al Boehnlein, left, and Michael Forbis are seated. Jonathan Mapel appears on the computer via Skype. (Scott Soderberg, U-M Photo Services)

“Being able to work with customers who have specific needs has been very exciting for us,” Shtein said. “They want brightness, compactness and uniformity of light so that things appear just as bright over her as over there. No one’s been able to deliver that combination. We are.

“These relationships are also enabling us to build up the intellectual property of our company in all its forms. We’re building up our capabilities and tools to design and model our product’s behavior for a variety of applications.”



Arborlight's P.C. Ku

Arborlight shaped its business plan and put it to the test as a competitor in this year’s [Clean Energy Venture Challenge](#), which concluded on Feb. 17. The six-month competition enabled teams from colleges and universities in Michigan to go from an idea to venture launch. The annual CEVC is organized through the U-M’s [Center for Entrepreneurship \(CFE\)](#) in the College of Engineering and supported by such campus organizations as the [University of Michigan Energy Institute](#). The Arborlight team shared a CEVC prize for the “Most Disruptive Idea,” based on the judges’ belief that its concept had the most potential “to change the world.” [Read more](#) about competition.

In addition to Shtein and Ku, the Arborlight team includes Chief Technology Executive Officer Jonathan Mapel, Chief Executive Officer Michael Forbis, Senior Engineer Al Boehnlein, intern and recent U-M graduate Brian Chung, as well as [Erb Institute for Global Sustainable Enterprise](#) students Adam Byrnes (MBA/MS '14) and Daniel Gerding (MBA/MS '14). Byrnes, the company's business development manager, and Gerding, Arborlight's finance manager, were instrumental in shaping Arborlight's business plan through its participation in the Clean Energy Venture Challenge.

"The feedback we have received while participating in Clean Energy Venture Challenge was unbelievably important for us," Shtein said. "The opportunity for our technology to scale up is very good right now."

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