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## Inside this Issue

Issue 21

Architecture

Cities

Healthcare

Technology

Transportation

# *The* Bulletin

## Local Warming: Spotlights of heat that follow you

Posting in Design



As an alternative to lavishly heating entire buildings, a new system called Local Warming creates personalized climates around individuals.

"Today, a huge amount of energy is wasted on heating empty offices, homes, and partially occupied buildings," Carlo Ratti of the MIT Senseable City Lab says. In the U.S., keeping indoor spaces at comfortable temperatures accounts for 16.5 percent of energy use. Why not just heat or cool yourself instead? Last year, MIT researchers unveiled Wristify, a thermoelectric bracelet that sends hot or cold pulses to help you maintain comfortable temps. Across the country, a UC Berkeley team designed the Personal Comfort System, which integrates a slew of low-wattage devices to tailor workstation temperatures.

Now, Ratti and colleagues have developed a way to synchronize climate control with individuals using ceiling-mounted heaters that can track a single person, keeping you comfortably warm even while the rest of the space may be cold.

It's hard for me to imagine needing a heater now that it's late June in New York, but here's how it works. When you enter a room, your location and trajectory are spotted using a WiFi-enabled location tracking technology. That information is transmitted in real time to an array of heating elements positioned in a grid by the ceiling. Each of those elements is comprised of a motor that changes direction, an LED bulb that emits infrared radiation, and a mirror and optics to focus the beams.

"Infrared heat is emitted to generate what are essentially spotlights of warmth centered on people a few meters away," Leigh Christie of MIT explains. "It's almost like having your personal sun," Ratti adds.

They envision Local Warming technology installed in outdoor and semi-covered spaces, or sparsely-populated large lobbies and airy industrial lofts. Basically wherever it doesn't make sense to

turn on central heating to warm a lot of people at once. The lights reduce energy consumption up to 90 percent when just two people are in a room, Wired reports.

"The earliest heating technology was the fire pit, a fixed domestic element that people gathered around. Since then, climate control has been unmoored, with the development of pipes and thermostats," MIT's Matthew Claudel says. "But today, man no longer needs to seek heat -- heat can seek man." Future versions could allow you to set the temperature on your personal spotlight using a smartphone app.



The project debuted at the 14th Venice Architecture Biennale earlier this month.

[MIT News Office]

*Images: Giulia Bruno (top, thumbnail) & Aaron Nevin (bottom) via MIT*

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