

Stay healthy under global warming: A review of wearable technology for thermoregulation

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Abstract

Global warming has been affecting human health, including direct mortality and morbidity from extreme heat, storms, drought and indirect infectious diseases. It is not only “global” but extremely “personal” – it is a matter of life and death for many of us. In this perspective, we propose the use of wearable technologies for localized personal thermoregulation as an innovative method to reduce the impact on health and enable wider adaptability to extreme thermal environments. The start-to-art thermoregulation methods and wearable sensing technology are summarized. In addition, the feasibility of thermoregulation technology in preventive medicine for promoting health under climate change is comprehensively discussed. Further, we provided an outlook on health-oriented closed loop that can be achieved based on parallel thermoregulation and multiple data inputs from the physiological, environmental, and psychological cues, which could promote individuals and the public to better adapt to global warming.

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