Progress in thermal comfort research over the last twenty years - DTU Orbit (20/03/2019)

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Climate change and the urgency of decarbonizing the built environment are driving technological innovation in the way we deliver thermal comfort to occupants. These changes, in turn, seem to be setting the directions for contemporary thermal comfort research. This article presents a literature review of major changes, developments, and trends in the field of thermal comfort research over the last 20 years. One of the main paradigm shift was the fundamental conceptual reorientation that has taken place in thermal comfort thinking over the last 20 years; a shift away from the physically based determinism of Fanger’s comfort model toward the mainstream and acceptance of the adaptive comfort model. Another noticeable shift has been from the undesirable toward the desirable qualities of air movement. Additionally, sophisticated models covering the physics and physiology of the human body were developed, driven by the continuous challenge to model thermal comfort at the same anatomical resolution and to combine these localized signals into a coherent, global thermal perception. Finally, the demand for ever increasing building energy efficiency is pushing technological innovation in the way we deliver comfortable indoor environments. These trends, in turn, continue setting the directions for contemporary thermal comfort research for the next decades.

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