

Special Issue

Human-in-the-Loop Technologies for Occupant Centric Building Control

Message from the Guest Editors

While technology progress allows buildings to use more efficient mechanical and electrical devices, and to be constructed with improved insulation, the control of buildings becomes more complex and challenging for occupants, and as a result, comfort conditions are often not achieved. Not surprisingly, unsatisfied occupants are common even in new and retrofitted buildings. Finally, the integration of renewable energy sources for heating, cooling, and ventilation calls for advanced control approaches in buildings, e.g., predictive and learning-based, and the real needs of the occupants become even more important, while misuse of the system has to be avoided. One fundamental research question also addressed within the IEA EBC Annex 79 (occupant-centric building design and operation) is related to the integration of occupants and their actual needs into the control loop of buildings. How can we let occupants easily control the indoor environment, and reach the required comfort? How can occupants' actual needs be integrated into the control loop, while efficiently controlling and maximising the usage of renewable energy sources in buildings?

Guest Editors

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