

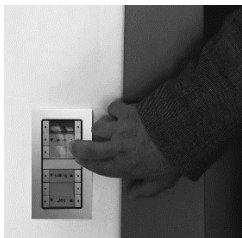
Professor Dr Runa T. Hellwig

(Full professor, PD (Privatdozent), Dr.-Ing., Dipl.-Ing.)

Projects, Grants (thematically arranged)

01_Human well-being, comfort and technology interaction

2019-2023



International Energy Agency EBC - Annex 79 project Occupant-Centric Building Design and Operation

Aalborg University

Funding: Obelske Familiefond Danmark

Subtask 1: Multi-aspect environmental exposure, building interfaces, and human behaviour

Participation in activities:

ST-1 A1.1.5 Occupants' willingness to share information

ST-1 A1.1.8 - Indoor environmental factors and human responses: a framework for multi-domain studies

ST-1 A1.11 Exploring IEQ standards' evidentiary basis

ST-1 A1-3.3 New research on multidomain influences: Occupant behaviour in residential buildings

ST-3 Book: Simulation-aided occupant-centric building design:

Theory, methods, and detailed case studies, contribution to Chapter 3:

Occupants in the building design decision-making process

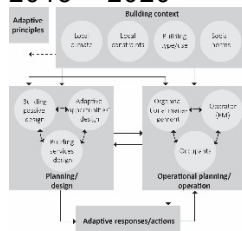
Cross task activities

C1. Accounting for occupants in building design and operation practice

C7. Stories about human interactions with building technology

C8. Dynamic Glossary / OB lexicon

2015 – 2020



IEA-EBC Annex 69: Strategy and Practice of Adaptive Thermal Comfort in Low Energy Buildings

Aalborg University/ Augsburg University of Applied Sciences/ National University of Singapore

Funding: Obelske Familiefond Danmark

International Energy Agency (IEA), Energy in Buildings and Communities Programme (EBC): project to force international expert exchange

Subtask B2, lead R.T. Hellwig: Provide design guidelines on how to use adaptive comfort for lowering energy in buildings

outcome:

- Technical report: Guidelines for low energy building design based on the adaptive thermal comfort concept

- Framework for adoption of adaptive comfort principles in low energy buildings

- Design process for adaptive opportunities

Subtask A1, participation: Standardize the description of field study data from various resources and make a uniform data format.

Subtask A4, participation: Integrating the mechanisms of thermal adaptation and the database to develop the revised grey box adaptive thermal comfort model.

Subtask C, participation: Case studies - Practical learnings from exemplary adaptive buildings, supporting Subtasks A & B

2013 – 2015



Pupils' and teachers' perception and acceptance of newly installed mechanical ventilation systems in renovated classrooms in the administrative district Swabia in Bavaria, Germany.

Funding: Technology Network Bavarian Swabia, Germany at Augsburg University of Applied Sciences

user perception and acceptance of newly installed mechanical ventilation systems, measurement of subjective and objective characteristics of the indoor climate in retrofitted classrooms with mechanical ventilation systems, statistical data collection on retrofitting measures in schools in the administrative district of Swabia, Bavaria

2009 - 2011



Heat Strain and Performance in Offices at Elevated Outside Temperatures

Project funded by the Federal Institute for Occupational Safety and Health, Germany at the Fraunhofer institute for Building Physics partly subcontracted later to Augsburg University of Applied Sciences

Investigations took place in the test facility VERU (Versuchseinrichtung für Raumklimatische und Energetische Untersuchungen) at the Fraunhofer Institute for Building Physics, 20 subjects, scope: impact of elevated temperature at the workplace under summer outside temperature conditions on the mental performance and the subjective state of persons

2008 – 2009

MCME - Maximal Comfort, Minimal Energy – Retrofitting High rise buildings

contracted by a Korean Construction Company at the Fraunhofer Institute for Building Physics

investigation in order to improve the indoor climate and to develop strategies for energetically retrofitting of residential high-rise buildings in South Korea

2008

Thermal Comfort, Well-Being and Performance - State of the Art and Suggestion of a Methodological Approach (ComForm)

financed by the Fraunhofer Institute for Building Physics

2005 - 2009

ComfSim - Comfort-Simulation

funded by the Bavarian Research Foundation, Germany co-operation project, co-ordination: University of Technology Munich

investigating the local thermal comfort of 24 subjects, tests in the climate chamber at the Fraunhofer Institute for Building Physics

2004 - 2006



Thermal Comfort in Office Buildings under Consideration of the Impact of Environmental Aspects

funded by Rud. Otto Meyer-Umwelt-Stiftung (Foundation for the environment) Hamburg, Germany at the University Hospital Jena, Indoor Climatology, PD Dr. med. Dr.-Ing. W. Bischof

analysis of subjective ratings from questionnaires and analysis of objective data from measurements with statistical methods, developing a multivariate logistic regression model to describe the impact of non-thermal factors on the thermal comfort rating of office workers first recognition of the importance of personal control