

Perception of thermal comfort and pain - are we assessing their dynamics right?

NOVEMBER 9 - 10, 2017
HEIDELBERG, GERMANY

Human perception is a research focus of a variety of disciplines in distinctive contexts. A common goal is to understand reactions of an individual (or a group of individuals) to internal or external influences.

The focus of this symposium is on human perception, more specific on two aspects of daily life – thermal comfort and pain. These topics and the disciplines dealing with them can be regarded in some aspects as representatives for the variety of disciplines dealing with human perception. On the one hand, both topics can be traced back to overlapping neurophysiological mechanisms and there are parallels in dynamic processes of thermal comfort and pain such as adaptation and alliesthesia. On the other hand, the background of researchers involved – engineers, architects, and building scientists vs. psychologists, physicians, and biologists diverges obviously.



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The objective of this symposium is to bring together researchers from different fields – not communicating much so far – in order to strengthen the interdisciplinary exchange highly needed for future challenges and to discuss methodological barriers and approaches used in their fields related to the assessment of human perception. When accepting human perception as a dynamic entity influenced by a huge variety of contextual and individual factors, is it correct to assume that it can be assessed by static means such as scales? Alternatively, is the perception of scales already a dynamic process to be considered? What other methods are there to assess the dynamics of human perception? These and other questions shall be addressed during this symposium.

Venue:

Heidelberg Academy of Sciences and Humanities
Karlstr. 4, Heidelberg, Germany

Registration:

<http://fbta.ieb.kit.edu/limesurvey/index.php/225519?lang-en>

Registration fees:

Symposium (incl. evening event)

60€



Day 1: Thursday, November 9

13:30 Reception and registration

14:00 Welcome address
Dr. Schallum Werner (Heidelberg Academy of Sciences and Humanities)

14:10 Welcome and introduction
Susanne Becker (ZI Mannheim) and Marcel Schweiker (KIT)

Session A. Mechanisms and effects of dynamic processes in human perception

14:30 The Alliesthesia Hypothesis of Human Perception of Non-Uniform Indoor Thermal Environments
Richard de Dear (University of Sydney)

15:15 Thermonociception and the human insula explored using intracerebral EEG
André Mouraux (Université catholique de Louvain)

16:00 Coffee break

16:30 Electroencephalogram (EEG) variations as associated with alliesthesia: thermal pleasure induced by temperature step-change
Jieun Han, Youngjoo Son, and Chungyoon Chun

16:45 Applying an approach-avoidance model to chronic back pain: mechanistic and clinical implications
Frauke Nees, Michaela Ruttorf, Xaver Fuchs¹ Mariela Rance

17:00 Human thermal comfort responses to transient metabolic rate and temperature changes
Yang Liu, Na Wei, Qinyun Xu, Yufeng Zhang, Hui Zhang,
Yongchao Zhai

17:15 Characteristics of the local cutaneous sensory thermoneutral zone
Edward Arens, Hui Zhang, Davide Filingen

- 17:30 Short presentations
The air comfort variations overtime
Minjung Kim, Chungyoon Chun
- Relationship between Human Thermal Comfort and Indoor Thermal Environment Parameters in Various Climatic Regions of China
Lin Duanmu, Xingwei, Quan Jin
- 17:45 Panel discussion with all presenters
- 18:30 End of session A
- 19:00 - 22:00 Evening event

Day 2: Friday, November 10

Session B. Methods to qualify, and/or quantify dynamic processes of human perception

- 09:00 Investigation of different subjective response scales for thermal comfort analysis: Likert-type and visual analogue scales
Giorgia Chinazzo, Jan Wienold, and Marilyne Andersen
- 09:30 Endogenous pain inhibition by pain relief as reward in a winning game
Simon Desch, Maximillian Burdach, Petra Schweinhardt, Herta Flor, Susanne Becker
- 09:30 Exploring the rhythms of thermal comfort adaptation
Stephanie Gauthier

- 09:45 Does "painful" or "hot" mean the same to different people? Qualitative analyses of single-item scales
Karin Schakib-Ekbatan, Susanne Becker., Marcel Schweiker
- 10:00 Short presentations
- Predicting Thermal Comfort in Mixed-mode Office Building in UK
Xiaoyan Luo, Mahroo Eftekhari, Faisal Durrani
- The local thermal sensation of personalised conditioning systems and their practicability in the UK's offices
Ziqiao Li, Dennis Loveday; Peter Demian
- Investigating the Applicability of Adaptive Comfort Model in office buildings in Amman/ Jordan
Farah Al-Atrash, Andreas Wagner, Runa Hellwig
- 10:15 Panel discussion with all presenters
- 10:45 Coffee break
- 11:15 „Cell-deep and world-sized“:
The challenge of perceiving pain from a humanities point of view
Stephanie Eichberg (Centre for Literary and Cultural Studies in Berlin)
- 12:00 Comfort: a perception or a behaviour?
Gary Raw (University College London)
- 12:45 Plenary debate with all key note speakers (moderated by **Fergus Nicol**)
- 13:30 End of session B and symposium, Small lunch available

Plan your trip

Airport information

The closest major airport to Heidelberg and Karlsruhe is Frankfurt Airport (FRA). It takes around 1 hour by train from FRA to Karlsruhe and Heidelberg.

An alternative airport for Europeans could be Stuttgart Airport (STR). It takes around 1.5 to 2 hours by train from STR to Karlsruhe and Heidelberg

Avoid Karlsruhe/Baden-Baden airport (FKB) and Frankfurt Hahn Airport (HHN), because both are connected only by taxi or seldom running buses.

Travel information

Information on long-distance and local trains can be found here:

<https://reiseauskunft.bahn.de/bin/query2.exe/en>

Information on buses and trams within Karlsruhe can be found here:

<http://kvv-efa.de/> (switch to English in the upper right corner)

Note that tram routes are changing frequently due to major constructions on the tram system. Therefore it is advisable to look up connections and timetables only short before travelling.

Information on buses and trams within Heidelberg can be found here:

<https://www.rnv-online.de/english.html>

Hotel information

More information soon. In general, it is more convenient to stay in Heidelberg, because the Wednesday dinner will end with an option to return to Heidelberg with the group.