



The Indoor Chemical Human Emissions and Reactivity Project (ICHEAR): Methods

Wargocki, P.; Bekö, G.; Ernle, L.; Langer, S.; Li, M.; Licina, D.; Morrison, G.; Wang, N.; Weschler, C.; Williams, J.

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Title: The Indoor Chemical Human Emissions and Reactivity Project (ICHEAR): Methods

P. Wargocki¹, G. Bekö¹, L. Ernle², S. Langer³, M. Li², D. Licina⁴, G. Morrison⁵, N. Wang², C. Weschler^{1,6}, J. Williams², S. Yang⁴, N. Zannoni²

¹Technical University of Denmark, Lyngby, Denmark, ²Max Planck Institute for Chemistry, Mainz, Germany, ³IVLSwedish Environmental Research Institute, Gothenburg, Sweden, ⁴École Polytechnique Fédérale de Lausanne, Switzerland, ⁵University of North Carolina at Chapel Hill, NC, USA, ⁶Rutgers University, NJ, USA

Abstract (≤ 300 words)

Here we present the new project “Indoor Chemical Human Emissions and Reactivity” (ICHEAR), which is focused on examining the role of human emissions on indoor air chemistry. The specific goal of this project is to investigate the impact of exhaled and dermally emitted human bioeffluents on the chemical compounds present in indoor air, their chemical transformations and total OH reactivity (overall loss rate of OH radical) under different conditions comprising a variety of factors (temperature, relative humidity, ozone, clothing level, age of human participants). The measurements were conducted in stainless steel climate chambers at the Technical University of Denmark (DTU) using state-of-the-art instruments from the Max Planck Institute for Chemistry (MPIC), the Swedish Environmental Research Institute (IVL), and École Polytechnique Fédérale de Lausanne (EPFL). During April-May 2019, groups of four persons (two males and two females) occupied the chamber daily and their emissions were quantified. This poster describes the chambers, instrumentation and the overall experimental approach used in ICHEAR.

Keywords (≤ 5): indoor air, human emissions, VOC, OH reactivity, secondary organic aerosols

Contact name: Pawel Wargocki

Contact phone: +45 4525 4011

Contact email: paw@byg.dtu.dk