

## Lecture Series – Children’s Environmental Health

Children’s health is significantly shaped by the environment they grow up in. Ensuring a healthy living environment to prevent childhood diseases is one of the essential tasks of our society. Currently, we observe dramatic change in social and physical disposition of our children and adolescents, often later affecting their adult life. From December 2018 to April 2019 monthly lectures with international guests, all leaders in the field, aim for a variety of scientific perspectives and lively discussions, to open up and nourish an important debate.



**Prof. Dr. Martin Dijst,**  
**LISER - Luxembourg Institute of Socio-Economic Research**

## Systems Approach in Urban Health Research

**Date: December 12, 2018, 13:00-15:00**

**Location: UFZ Leipzig, Lecture hall, Building 1.0, first floor**

### Abstract

Increasingly, in the academic community is recognized that urban research on the performance of urban areas is in need of complex systems approaches which are focused on mapping and analysing interacting flows of energy, materials, people, goods and information and the impact of societal and natural drivers of these flows. This urban metabolism perspective on cities recognizes that dynamic interrelations between various components of the urban system exist which can lead to causal effects but also positive or negative feedback loops. Due to the unbounded complexities, studies on complex systems are in need of new inter- and transdisciplinary alliances.

Also, debates on research on urban health emphasize the meaning of systems approaches and of developing comprehensive and integrative understandings of the effects of exposures to urban environments on health behaviours and health outcomes. In my lecture, I will present a relational theoretical framework to study experiences with and meaning for health of relationships between people and other agents in systems while they are participating in stationary activities or being mobile. This framework is a hybrid of Time-Geography and post-structuralist approaches, such as Actor

Network Theory, (Post-) Phenomenology, Emotional Geography and Assemblage Theory.

In addition, I want to explore the integration of the Exposome paradigm in this framework. This approach, which was introduced by epidemiologist Christopher Wild, encompasses life-course environmental exposures (including lifestyle factors), from the prenatal period onwards. The accumulated effects of being relational exposed to geographical environments along time-space paths can via the exposome be linked to internal processes in human beings. These can vary from biochemical processes, emotional experiences and attitude formation. This value can be strengthened when new sensor technologies in combination with smart phones are used to collect large volumes of real-time and high-resolution data on relations between actors and their space-time environments.

In my lecture, I will make reference to empirical studies carried out in the interdisciplinary Healthy Urban Living program of Utrecht University, The Netherlands. Besides, I will emphasize future data collection and inter- and transdisciplinary research in Luxemburg. As far as possible, I will pay attention to different population categories, like children.

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### Short bio

By discipline, Martin Dijst is an urban geographer and in 2009 was appointed as full professor of Urban Development and Spatial Mobility at Utrecht University, Netherlands. December 1, 2017, he has been appointed as director of the department Urban Development and Mobility at LISER, Esch-sur-Alzette, Luxembourg. His research on activity and travel behavior, accessibility, impact of Information and Communication Technologies, exposures to (un)healthy environments, social interactions with people and urban metabolism, is most often positioned in a time geographical framework supplemented with post-structuralist perspectives. In 2013, he initiated and managed till 2017 the Utrecht University interdisciplinary research program Healthy Urban Living. In this program, researchers from a large variety of medical, behavioral and GIS scientific disciplines started to work together to study issues related to healthy urban living. As part of the program, he initiated and developed together with Rick Grobbee (UMCU) the Global and Geo Health Data Center.

### Topic related publications

PP Groenewegen, JP Zock, P Spreeuwenberg, M Helbich, G Hoek, A Ruijsbroek, M Strak, R Verheij, B Volker, G Waverijn, **M Dijst** (2018): Neighbourhood social and physical environment and general practitioner assessed, *Health & place* **49**, p. 68-84

FM Jansen, DF Ettema, CBM Kamphuis, FH Pierik, **M Dijst** (2017): How do type and size of natural environments relate to physical activity behavior?, *Health & place* **46**, p. 73-81

M Helbich, MJ Zeylmans van Emmichoven, **M Dijst**, MP Kwan, FH Pierik, SI de Vries (2016): Natural and built environmental exposures on children's active school travel: a Dutch global positioning system-based cross-sectional study, *Health & place* **39**, p. 101-109

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