Description of project
The advancement of modern information and communication technology (ICT) such as broadband and mobile internet connection, mobile phone and laptop have an impact on the way in which individuals schedule activities and trips through substitution, modification or changes in constraints. Similarly, an individual’s range of optional activity patterns may be impacted by ICT. ICTs may change the demand for dwellings, facilities, stores, and workplaces with respect to their location, design, and functional specifications, and may lead to innovative forms of spatial organization, such as new combinations of functions or new types of facility. However, a comprehensive insight of the impacts of ICT on the total activity pattern and individuals’ options is currently lacking. Such insight is necessary to support urban and transport policies aimed at the development of new land-use concepts based on the integration of ICT into daily activity patterns.

Aim
The objective of this project is to examine the various impact of ICT on daily activity pattern and quality of the range of feasible activity pattern. There are several hypotheses that guide this project, including:
1. ICT will lead to a fragmentation of activities in time and space
2. The use of ICT will lead to new combination activities
3. The use of ICT will lead to an increased travel demand

Data
This project uses data from a survey conducted among one-earner and dual earner households residing in the central part of Netherlands (Utrecht-Amersfoort- Hilversum region). It consists of activity-travel-communication diary for two days and questionnaire about socio-demographic (age, gender and employment status etc) and ICT availability. In total, 740 respondents completed the questionnaire by online or in a mail-out/mail back paper-and-pencil format.

Ongoing research papers
1. Anything, anywhere, anytime? Developing measurement instruments to assess the spatial and temporal fragmentation of activities (joint paper, in progress)
   Objectives:
   • to develop the more sophisticated fragmentation measures (part C)
   • vto apply it existing travel diary data
2. Impacts of ICT on fragmentation of work activity (in progress, the abstract is submitted to ERSA 2008)
   Objective:
   • to investigate the fragmentation behaviour:
   • whether different classes of fragmentation pattern exist
   • if exist , the classes of representative pattern correlate with the ICT use, socio-demographic and location factors
   Methodology:
   • k-means clustering algorithm
   • Multiple discriminant function analysis

The following research questions will be addressed in coming papers;
• How do ICT blur boundary between work and non-work activities?
• How the concept of fragmentation of activity associated to travel?
• The use of ICT will lead to an increased travel demand
• What is the causal relationship among activity fragmentation, ICT and travel?