

CALL FOR MASTER THESIS

Spatial patterns of senior's everyday mobility and their physical activity. A study using accelerometer and GPS tracking data in Barcelona.

Project framework:

This MSc thesis is offered within the [GEMOTT](#) (Grup d'Estudis en Mobilitat Transport i Territori) research group, within the UAB's Geography Department.

Research Background:

Everyday mobility is a key component of active ageing among seniors. Being able to independently access daily needs by walking, or public transport is important for both their physical and mental health. One key component of active ageing is the physical activity that they gain from active travel. However, active travel and everyday mobility are known to be highly dependent on the neighborhood characteristics on which seniors live, as some walkable neighborhoods support basic everyday mobility while sprawled and unwalkable neighborhoods discourage it. To date, not much is known on the relationship between the morphological characteristics of the built environment and the spatial patterns of their mobility.

Objectives:

Using data from the RecerCaixa (Ciudad, calidad de vida y movilidad activa en la tercera edad: Un análisis multimetodológico a través de Tracking Living Labs) project the student will analyze spatial mobility patterns of seniors living in BCN using their GPS tracking points, and the spatial distribution of their physical activity using the accelerometer values. This will allow to answer questions such as the extent of their daily activity space, their reliance on the proximity environment, and the existence of a tradeoff between distances travelled and energy expenditure.

Methods:

The student will use GIS methods to visualize the GPS and accelerometer data and quantitative methods to perform the analysis. Previous knowledge and familiarity with ArcMap or QGIS software is highly recommended

Technical details:

The thesis will be directed by Dr. Oriol Marquet. With the collaboration of the rest of the GEMOTT members. We expect that a revised version of the MSc Thesis will be submitted to a peer-reviewed journal for publication. The final document can be presented in Catalan, Spanish or English.

If you are interested on writing your MSc thesis on this topic, please contact oriol.marquet@uab.cat