Invitation à la soutenance publique de thèse de
Arnaud ADAM
Master en Sciences géographiques, orientation générale à finalité approfondie
Pour l’obtention du grade de Docteur en sciences « Exploring new geographies of interactions in and around the metropolitan area of Brussels » qui se déroulera
le lundi 26 août 2019 à 15h
Auditoire A03
Place des Sciences
1348 Louvain-la-Neuve

Jury members :
Prof. Isabelle Thomas (UCLouvain), supervisor
Prof. Philippe Chevalier (UCLouvain), chairperson
Prof. Jean-Charles Delvenne (UCLouvain), secretary
Prof. Ann Verhetsel (UAntwerpen, Belgium)
Dr. Clémentine Cottineau (UMR8097, France)
Dr. Christophe Cloquet (My Poppy, Belgium)
Mr. Xavier Dehaibe (Perspective Brussels, Belgium)

In a global effort to achieve sustainable land management, regional and urban planning call for new adaptive datasets and methods to better grasp interactions between people and places. Understanding the individual movements of people, their communications within social networks and the relationships with the geographies of places are hence fundamental knowledges for land use policies. Conventional and unconventional large data sets are here analyzed to define ‘interaction fields’, their composition and their delineation as well as their polarization. Several quantitative methods are applied, among which the Louvain Method that detects mathematical communities. Analyses are here performed on Belgium and Brussels. The two first parts of this PhD draw the theoretical and methodological frameworks: urban models and interaction fields are presented, while sensitivity analyses of the Louvain Method are developed and performed. The third part analyses commuting, migration and train schedules requests. Results show that communities are much larger for commuting movements than those obtained by residential changes, and that administrative borders are serious constraints. The fourth part deals with mobile phone calls. The very fine scale of the data and their variation in time not only lead to the pulses of the city of Brussels but also to partitions varying in time and space highly associated to the characteristics of the places. Last but not least, the fifth part analyses the GPS traces of the trucks. Diverting such a dataset from its original fiscal objective is not an easy task: data pre-processing and conceptualization are time consuming. Communities are mapped and discussed, showing that this dataset is a real opportunity to model goods transportation. Unconventional data are a real opportunity to measure and understand space(s), but they need to be clearly understood and geographically/theoretically conceptualized.