



## **Isabelle THOMAS**

### **Short curriculum vitae**

MA Geography, 1979, Ph.D. Geography, 1984, Thèse d'agrégation (AES), 2000, U.C.L., Louvain-la-Neuve, Belgium

*A full version of the curriculum vitae can be obtained on request*

**Isabelle Thomas** studied geography at the F.N.D.P (Namur) and U.C.L. (Louvain-la-Neuve, Belgium) where she also got her PhD in 1984. Most of her career is academical (National Fund for Scientific Research) at the exception of five years at the Headquarters of the Belgian Gendarmerie for studying the spatial structure of road accidents. In 1989, she got the “Prix Philippe Aydalot 1989 en Science Régionale”. Since 1991, she has a permanent research position at the N.F.S.R. (F.R.S-F.N.R.S.) and is nowadays Research Director at the F.S.R., member of the C.O.R.E. and professor at the Department of Geography of the U.C.L. In 2000, she wrote a new thesis (“thèse d’agrégation”) which was awarded in 2001 by the BMW Scientific Award and led to the publication of a book. Isabelle Thomas is particularly interested in (1) modelling the location of human activities and more particularly the sensitivity of the models to their inputs, but also understanding the spatial structure of human activities and transportation fluxes, and (2) quantitative analysis for spatial data. Topics such as scale, M.A.U.P., autocorrelation, mapping procedures, multivariate modeling etc. are of particular interest. Application domains are mainly periurbanisation, road accident analysis, housing, employment, health, accessibility and socio-economic data, and the studied areas are limited to urban and periurban areas in Europe. Her research has led to over 150 publications and to more than 200 presentations in conferences. She is and has been involved in several international research projects. She is member of the editorial board and referee for scientific journals in geography and spatial economics.

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#### **Affiliations**

- CORE : <http://www.uclouvain.be/en-core.html>
- Department of Geography : [http://www.geo.ucl.ac.be/Recherche/Spatial\\_urbain/index.html](http://www.geo.ucl.ac.be/Recherche/Spatial_urbain/index.html)

## **Selection of recent publications** (*full list on request*):

### **Books**

- DIJST M., SCHENKEL W., THOMAS I. (Eds.) (2002) *Governing Cities on the Move. Functional and management perspectives on transformations of European urban infrastructures.* Burlington, Ashgate 301p.
- THOMAS I. (2002). *Transportation Network and the Optimal Location of Human Activities. A numerical geography approach.* Cheltenham, Edward Elgar Publishing Ltd, 293 p.
- VANNESTE D., THOMAS I., GOOSSENS L. (2007) *Le logement en Belgique.* Bruxelles, SPF-Economie, P.M.E. , *Classes moyennes et énergie*, 211 p. (Also available in Flemish) [http://www.statbel.fgov.be/studies/mono\\_200102\\_fr.pdf](http://www.statbel.fgov.be/studies/mono_200102_fr.pdf)
- VERHETSEL A., I. THOMAS, E. VAN HECKE & M. BEELEN (2007), *Pendel in België. Deel I: de woonwerkverplaatsingen;* in *Statistics Belgium, Algemene Directie Statistiek en Economische Informatie (voormalig NIS), Brussel, nr 15, 166p.* [http://www.statbel.fgov.be/pub/d0/p009n015\\_nl.pdf](http://www.statbel.fgov.be/pub/d0/p009n015_nl.pdf)

### **Chapters of books**

- GOFFETTE-NAGOT F., THOMAS I., ZENOU Y. (2000) *Structure urbaine et revenu des ménages,* in *Economie géographique. Les théories à l'épreuve des faits.* Baumont C., Combes P.P., Derycke P.H. et Jayet H. (Eds.) Paris, Economica, pp. 276-302.
- PEETERS D., THOMAS I. (2007). *Location of Public Services: From Theory to Application,* in Sanders L. *Models in Spatial Analysis,* Iste, Hermes Science and Lavoisier Company, pp. 73-96
- VANDERSMISSEN M.-H., THOMAS I. et VERHETSEL A. (2008) *Navettes et genre : deux villes, une réalité ?* in : Thériault M., Des Rosiers F. *Information géographique et dynamiques urbaines 1 : analyse et simulation de la mobilité des personnes.* *Traité IGAT, série Aménagement et gestion du territoire,* pp 59 – 90.

### **Papers**

- PEETERS D., THISSE J.-F., THOMAS I. (2000) *High Speed Connections and the Location of Human Activities.* *Environment and Planning A*, 32:12, 2097-2112.
- FLAHAUT B., LAURENT M., THOMAS I. (2002) *Locating a Community Recycling Centre within a Residential Area: a Belgian Case Study.* *The Professional Geographer*, 54(1), 67-82.
- FLAHAUT B., MOUCHART M., SAN MARTINO E., THOMAS I. (2003) *Identifying Black Zones with a Local Spatial Autocorrelation Index and a Kernel Method.* *Accident Analysis and Prevention*, 35, 991-1004.
- DE KEERSMAECKER M.-L., FRANKHAUSER, THOMAS I. (2003) *Using fractal dimensions to characterize intra-urban diversity. The example of Brussels.* *Geographical Analysis*, 35:4, 310-328
- THOMAS I., HERMIA J.-P., VANHELSLANDER T., VERHETSEL A. (2003), *Accessibility to Freight Transport Networks in Belgium. A geographical approach.* *Journal of Economic and Social Geography* (ex. TESSG), 94:4, pp. 424-438.
- ARNOLD P., PEETERS D., THOMAS I. (2004) *Modelling a rail/road intermodal transportation system,* *Transportation Research Part E: Logistics and Transportation Review*, 40, 255-270.
- CAVAILHES J., FRANKHAUSER P., PEETERS D., THOMAS I. (2004) *Where Alonso meets Sierpinski: an urban economic model of a fractal metropolitan area.* *Environment and Planning A* , 36:8, 1471-1498.
- LASSARRE S., THOMAS I. (2005) *Exploring road mortality ratios in Europe: national versus regional realities.* *Journal of the Royal Statistical Society A*, 168:1, 127-144
- RIGUELLE F., THOMAS I., VERHETSEL A. (2007) *Urban polycentrism : a measurable reality. The case of Brussels.* *Journal of Economic Geography*, 7, 193-215 .
- DUJARDIN C., THOMAS I., TULKENS H. (2007) *Quelles frontières pour Bruxelles ? Une mise à jour.* *Reflète et Perspectives de la Vie Economique.* Tome XLVI –2007/2-3, pp 155-176
- THISSE J.-F., THOMAS I. (2007) *Bruxelles et Wallonie : une lecture de la vie économique urbaine,* *Reflète et Perspectives de la Vie Economique*, XLVI, 2007/1, 75-93.

- THOMAS I., FRANKHAUSER, DE KEERSMAECKER M.-L. (2007), Fractal dimension versus density of the built-up surfaces in the periphery of Brussels. *Papers in Regional Science*, 86 :2, 287-307.
- DUJARDIN C., SELOD H., THOMAS I. (2008) Unemployment and urban structure for young adults. The case of Brussels. *Urban Studies*, 45(1), 89-113.
- LORANT V., VAN OYEN H., THOMAS I. (2008) Contextual factors and immigrants' health status: double jeopardy. *Health and Place*, 14, 678-692.
- THOMAS I., FRANKHAUSER P., BIERNACKI C. (2008) The morphology of built-up landscapes in Wallonia (Belgium): A classification using fractal indices. *Landscape and Urban Planning* 84, 99-115.
- EKSLER V., LASSARRE S., THOMAS I. (2008), The regional analysis of road mortality in Europe. *Public Health*, 122:9, 826-837
- VANNESTE D., THOMAS I., VANDERSTRAETEN L. (2008) The spatial structure(s) of the Belgian housing stock, *Journal of Housing and the Built Environment*, 23:3, 173-198.
- CAVAILHES, P. FRANKHAUSER, G. CARUSO, D. PEETERS, I. THOMAS, G. VUIDEL (2009). Morphological Similarities between DBM and an Economic Geography Model of City Growth *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, 4, 417-428
- THOMAS I., VERHETSEL A., LORANT V. (2009) Le recensement de la population : un requiem ? *Regards Economiques*, 67, 8p
- VANDENBULCKE G., STEENBERGHEN T., THOMAS I. (2009) Mapping accessibility in Belgium: a tool for land-use and transport planning? *Journal of Transport Geography*, 17, 39-59.
- VANDENBULCKE G., THOMAS I., DE GEUS B., DEGRAEUWE B., TORFS R., MEEUSEN R., INT PANIS L. (2009), Mapping the use of bicycles and the risk of accidents for commuters who cycle to work in Belgium, *Transport Policy*, 16:2, 77-87
- PEETERS D., THOMAS I. (2009), Network autocorrelation. *Geographical Analysis*, 41:4 (forthcoming)

### On going research projects

- **SHAPES** : The main objective is to analyze the risks and benefits of a modal shift from passenger cars to cycling. In this way SHAPES will enable policy makers to make clear and science-based choices related to commuter cycling and transport modal shift in cities.  
<http://www.belspo.be/belspo/fedra/proj.asp?l=en&COD=SD/HE/03A> ` <http://www.shapes-ssd.be/en/welcome.html>
- **ADICCT**: this project aims at Assessing and Developing Initiatives of Companies to control and reduce Commuter Traffic. To achieve this objective the efficiency of existing mobility policies will be evaluated considering various criterion: time and distance savings, potential of modal shifts, contribution to a fair division of costs, and level of employers and employees acceptance. The assessment of the level of success will next be analysed in models including both spatial and economic variables. Finally, the expected result is a guideline improving the decision process of companies in theirs invests for a sustainable mobility  
[http://193.191.208.76/belspo/ssd/science/finalreports/reports/adicct%20summary\\_en.def.pdf](http://193.191.208.76/belspo/ssd/science/finalreports/reports/adicct%20summary_en.def.pdf)
- **Ecdesup** (ANR-France) : évaluation, le choix et la décision dans l'usage des espaces urbains et périurbains. Une approche interdisciplinaire des mobilités quotidiennes et résidentielles  
<http://www.ecdesup.org/>
- **SustainCity** (European Commission projet 01-01-2010 to 31-12-2012) The main goal of this project is to address the modelling and computational issues of integrating modern mobility simulations with the latest micro-simulation land use models. The project intends to advance the state-of-the-art in the field of the micro-simulation of prospective integrated models of Land-

Use and Transport (LUTI). On the modelling side, the main challenges are to integrate a demographic evolution module, to add an environmental module, to improve the overall consistency and, last but not least, to deal with the multi-scale aspects of the problem: several time horizons and spatial resolutions are involved.