

# DATA SIM Summer School (14-17 July 2014)

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## DATA SIM Summer School 2014






The **Transportation Research Institute (IMOB)** of Hasselt University organizes the first DATA SIM Summer School on 'Mobility modeling and big data sources'. This Summer School will take place at **Hasselt University, Campus Diepenbeek** (Agoralaan Building D, 3590 Diepenbeek, Belgium) from **Monday July 14th to Thursday July 17th**.

## Topics

This Summer School will feature a series of lecturers by renowned researchers in the following topics:

	<p><b>Mobility modeling: basic principles and tools.</b></p> <ol style="list-style-type: none"> <li>1. Behavior modeling, activity based models (activity selection, planning, daily schedule generation)</li> <li>2. Multi-modal trips</li> <li>3. Modeling cooperation, cooperative scheduling (e.g. carpooling)</li> <li>4. Ontologies</li> <li>5. Traffic and transportation related models, travel demand prediction models</li> <li>6. Simulations in practice: what conclusions can be drawn?</li> </ol>
	<p><b>Special focus: Agent based modeling and simulation for mobility, travel behavior, mobility market, electro-mobility (including smart grid, etc.).</b></p> <ol style="list-style-type: none"> <li>1. Delimiting the domain of applicability: where can agent based modeling be useful?</li> <li>2. Models for cooperation, mutual influence, negotiation</li> <li>3. Computability issues, scalability</li> <li>4. Ontologies</li> <li>5. How to interpret results? What can be expected?</li> </ol>
	<p><b>Big data as source for modeling.</b></p> <ol style="list-style-type: none"> <li>1. Big data repositories</li> <li>2. Annotation, semantic enrichment of big data</li> <li>3. Data mining and process mining to extract information from big data</li> <li>4. Crowd sourcing and publicly available data: pitfalls and challenges</li> <li>5. Using data from different sources: how to align?</li> </ol>

	<p><b>Integrating big data and modeling.</b></p> <ol style="list-style-type: none"> <li>1. Using big data to feed models or to validate model execution results</li> <li>2. How to integrate semantically poor big data with small sets of semantically rich data as input for microsimulation or agent based modeling</li> </ol>
	<p><b>Applications</b></p> <ol style="list-style-type: none"> <li>1. Electric vehicles (including smart grid concepts)</li> <li>2. Carpooling (cooperation on trip traveling)</li> <li>3. Multi-modality and car-sharing (cooperation on resource usage)</li> <li>4. Markets based on big data related to traffic <ul style="list-style-type: none"> <li>• Business models for EV, multi-modal trips, car-sharing, carpooling</li> <li>• Online support systems (ride sharing advisors)</li> <li>• Traffic load prediction systems</li> </ul> </li> <li>5. Effect of EV characteristics (range anxiety, charging time, limited range) on household travel behavior</li> </ol>
	<p><b>Research topics in transportation behavior, traffic safety and logistics.</b></p>

## Target audience

The Summer School is suited for senior-researchers, early-stage researchers, practitioners and (PhD) students from the domain of transportation sciences, data mining, agent/activity based modeling and related topics.

Participants will have the opportunity to get feedback on their work during the graduate symposium sessions. Participants are strongly encouraged to present their work and to submit a 1 page (A4) abstract describing the main research objectives and methods used not later than 2014-jun-15.

## Participation Certificates

Participation Certificates will be issued to all participants of the Summer School.

## Contact

For more information please contact Luk Knapen ([luk.knapen@uhasselt.be](mailto:luk.knapen@uhasselt.be)) for questions about the program, Edith Donders ([edith.donders@uhasselt.be](mailto:edith.donders@uhasselt.be)) for questions about registration and accommodation or consult the DATASIM Summer School web pages (<http://www.uhasselt.be/UH/datasim/Summer-School-2014/About-Summer-School-2014.html>).