

## Education

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- 2011–2015      **PhD** Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland  
Title : Activity choice modeling for pedestrian facilities.  
Thesis supervisor : Prof. Michel Bierlaire.  
[doi:10.5075/epfl-thesis-6806](https://doi.org/10.5075/epfl-thesis-6806)
- 2009            **Master Thesis** University of Waikato, New Zealand  
Title: [An Empirical Investigation of the Determinants of Attention to Attributes in Choice Experiments](#).  
Thesis supervisor: Prof. Riccardo Scarpa & Michel Bierlaire.  
*Grant of a Scholarship by the Zeno Karl Schindler Foundation.*
- 2003–2009      **BSc & MSc in Mathematical Sciences** EPFL, Switzerland

## Research projects

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- 2012–2015      **Pedestrian dynamics: flows and behavior** Swiss National Science Foundation (SNSF) grant  
*This project aims at developing mathematical models of pedestrian dynamics, both at aggregate and disaggregate levels.*
- 2011–2012      **Léman 2030: Flux piétons Gare de Lausanne** Swiss Federal Railways SBB-CFF-FFS  
*In the framework of a 9-month collaboration with CFF, pedestrian flows in Lausanne train station are estimated and modeled.*
- 2011–2012      **SIEU: Urban Energy Information System** CREM, The Ark Energy  
*In order to measure the effects of policies by local authorities, consolidated data about energy at the local scale is necessary, in particular statistics about mobility.*
- 2010–2011      **SURPRICE: Sustainable mobility through road user charging** KTH, ETHZ and EPFL  
*In particular on the IIVar project: Equity effects of congestion charges and intra-individual variation in preferences.*
- 2009–2012      **OPTIMA: Inferring Transport Mode Preferences From Attitudes** PostBus  
*A research project on combined mobility and factors influencing travelers in their choice of transport. Target group-specific new transport offerings and services are analyzed.*

## Publications

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### Papers in international journal

- A. Danalet, L. Tinguely, M. M. Cochon de Lapparent and M. Bierlaire. Location choice with longitudinal WiFi data, in *Journal of Choice Modelling*, vol. 18, p. 1-17, 2016. [doi:10.1016/j.jocm.2016.04.003](https://doi.org/10.1016/j.jocm.2016.04.003)
- A. C. Holzer, I. Vonèche Cardia, S. Bendahan, A. Berne and L. Bragazza et al. [Increasing the Perspectives of Engineering Undergraduates on Societal Issues through an Interdisciplinary Program](#), in *International Journal of Engineering Education*, vol. 32, num. 2A, p. 1-11, 2016.
- A. Danalet, B. Farooq and M. Bierlaire. A Bayesian Approach to Detect Pedestrian Destination-Sequences from WiFi Signatures, in *Transportation Research Part C: Emerging Technologies*, vol. 44, p. 146 - 170, 2014. [doi:10.1016/j.trc.2014.03.015](https://doi.org/10.1016/j.trc.2014.03.015)

## **Book chapter**

A. Danalet, M. Bierlaire and B. Farooq. Estimating Pedestrian Destinations Using Traces from WiFi Infrastructures, in Pedestrian and Evacuation Dynamics 2012, p. 1341-1352, 2014. doi:10.1007/978-3-319-02447-9\_111

## **Papers in conference proceedings**

L. Tinguely, A. Danalet, M. de Lapparent and M. Bierlaire. Destination Choice Model including a panel effect using WiFi localization in a pedestrian facility. 15th Swiss Transport Research Conference, Monte Verità, Ascona, Switzerland, 2015.

A. Danalet and M. Bierlaire. Importance sampling for activity path choice. 15th Swiss Transport Research Conference, Monte Verità, Ascona, Switzerland, 2015.

A. Danalet and M. Bierlaire. A path choice approach to activity modeling with a pedestrian case study. 14th Swiss Transport Research Conference, Monte Verità, Ascona, Switzerland, 2014.

A. Danalet, B. Farooq and M. Bierlaire. Towards an activity-based model for pedestrian facilities. 13th Swiss Transport Research Conference, Monte Verità, Ascona, Switzerland, 2013.

S. Sahaleh, M. Bierlaire, B. Farooq, A. Danalet and F. Hänseler. Scenario Analysis of Pedestrian Flow in Public Spaces. 12th Swiss Transport Research Conference, Monte Verità, Ascona, Switzerland, 2012.

## **Technical reports (selection)**

M. Schuler, P. Faure, S. Munafò, A. Danalet and P. Dessemontet. Amélioration de la qualité de service et évolution de la fréquentation de CarPostal, 2012 (also translated in German).

A. Danalet and S. Sahaleh. Projet de recherche sur la mobilité combinée : Rapport de l'enquête de préférences déclarées, 2012.

M. Bierlaire, A. Curchod, A. Danalet, E. Doyen and P. Faure et al. Projet de recherche sur la mobilité combinée, Rapport définitif de l'enquête de préférences révélées, 2011.

## **Posters (selection)**

A. Danalet, M. Bierlaire and B. Farooq. Estimating Pedestrian Destinations using Traces from WiFi Infrastructures. 6th International Conference on Pedestrian and Evacuation Dynamics, Zurich, Switzerland, 2012.

A. Danalet and P. Faure. Optima: When flexible transport is able to meet a dispersed demand throughout the whole territory. Marché de la recherche regiosuisse & Colloque sur le développement régional 2011, EPFL, 2011.

## **Seminars (selection)**

A. Danalet and M. Bierlaire. The activity path approach to activity pattern modeling. 14th International Conference on Travel Behaviour Research (IATBR), Beaumont Estate, Windsor, United Kingdom, 2015.

A. Danalet and M. Bierlaire. Activity choice modeling for pedestrian facilities: Validation on synthetic data. 3rd Symposium of the European Association for Research in Transportation (hEART) 2014, Institute for Transport Studies, University of Leeds, Leeds, United Kingdom, 2014.

M. Bierlaire, A. Danalet, F. Hänseler and M. Nikolic. Recent trends in pedestrian modeling at EPFL. Congreso Chileno de Ingeniería de Transporte, Instituto Sistemas Complejos de Ingeniería, Santiago, Chile, 2013.

A. Danalet. A path choice approach to activity modeling with a pedestrian case study. Workshop "Statistique, transport et activités", Laboratoire Jean Kuntzmann (équipe Mistis) & GAEL (Laboratoire d'Economie Appliquée de Grenoble), Grenoble, France, 2013.

A. Danalet, M. Bierlaire and B. Farooq. A Pedestrian Destination-Chain Choice Model from Bayesian Estimation of Pedestrian Activities using Sensors Data. 2nd Symposium of the European Association for Research in Transportation (hEART 2013), Stockholm, Sweden, 2013.

A. Danalet, B. Farooq and M. Bierlaire. A Bayesian Approach to Detect Pedestrian Destination-Sequences from WiFi Signatures. Eighth Triennial Symposium on Transportation Analysis (TRISTAN VIII), San Pedro de Atacama, Chile, 2013.

A. Danalet. Detecting pedestrian destinations from ubiquitous digital footprint. FCL-Talk, Future Cities Laboratory (FCL), ValueLab Asia, CREATE Tower, Singapore, 2013.

M. Thémans and A. Danalet. Interactions complexes entre infrastructures et piétons: tracking et modélisation comportementale des flux piétonniers dans les secteurs des gares. Planification et construction dans les secteurs ferroviaires, Association suisse pour l'aménagement national VLP-ASPAN, Genève, 2011.

## Teaching

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### Lecturer

- ENAC week: Le piéton vecteur d'urbanité, au coeur de l'interdisciplinarité, 2015: Les comportements piétons, approches quantitatives  
*Interdisciplinary course for architecture, civil and environmental engineering students. Specifically: lecture on quantitative data and mathematical models.*
- Global issues: Mobility, 2014, 2015: Le péage urbain  
*Interdisciplinary course (urban sociology and mathematical modeling), Bachelor 1st year . Specifically: lecture on congestion charging and activity based modeling.*

### Teaching assistant for courses

- Discrete Choice Analysis: Predicting Demand and Market Shares, 2012, 2013, 2014, 2015  
*Course designed by Prof. Moshe Ben-Akiva, offered at the Massachusetts Institute of Technology (MIT). Organized in Europe by Prof. Michel Bierlaire at EPFL, with Prof. Joan Walker (University of California, Berkeley) and Prof. Daniel McFadden (University of California, Berkeley. Nobel Prize Laureate, 2000).*
- Optimization and simulation (Doctoral program in Civil and Environmental Engineering), 2013.
- Mathematical modeling of behavior (Mathematics, Master in Financial Engineering), 2011, 2012.

### Supervisor for Master theses

- Exploiting pedestrian WiFi traces for destination choice modeling, Master thesis, Loïc Tinguely (civil engineering), 2015
- Individual activity-travel analysis based on smartphone WiFi data, Amélie Buisson (civil engineering), 2014.
- Pedestrian flow simulation and optimization in transportation hubs (case study), Sohrab Sahaleh (civil engineering), 2011.

### Supervisor for semester projects

- A destination choice model for EPFL Campus, Loïc Tinguely (civil engineering), 2014.
- Identify User's Locations of Interest from Smartphone WiFi Data, Amélie Buisson (civil engineering), 2013.
- Activities in Paléo Music Festival from Bluetooth, Elisaveta Kondratieva (communication systems), 2013.
- Visualization of pedestrian demand in a 3D graph, Javier Lopez-Montenegro Ramil (computer science), 2013.
- Dynamic estimation of pedestrian origin-destination within train stations: Exploitation of pedestrian tracking data and comparison to travel surveys, Maëlle Zimmermann (mathematics), 2012.
- Tracking Pedestrians with WiFi Traces, Yusen Bian (mathematics), 2012.
- Analysis of bus frequency in Switzerland, Suzy Polka (communication systems), 2011.

## Reviewing

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- Transportation
- Journal of Choice Modelling
- IEEE Intelligent Transportation Systems Transactions and Magazine
- Computers, Environment and Urban Systems
- IET Intelligent Transport Systems
- Transportation Research Record (TRR)

## Popular science

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- About the publication of my PhD thesis, following a [press release](#) and a [video](#) by EPFL:
  - [Public Wi-Fi data can reveal why you really bought that sandwich](#), **Wired UK**, March 7, 2016
  - [Mapping Pedestrian Behavior With Wi-Fi](#), **CityLab**, March 8, 2016
  - [Is your phone's wifi giving away where you walk? Researchers secretly track pedestrian using wireless signals](#), **Daily Mail**, March 10, 2016
  - [Researchers analyze lunchtime habits using Wi-Fi connection data](#), **Digital Trends**, March 7, 2016
  - [WiFi will now reveal Pedestrian Behavior](#), **TecPhlie**, May 30, 2016
  - [Watch out: Wi-Fi can track your movements](#), **Digital Journal**, March 12, 2016
  - [Wi-Fi-tracing delivers vast insights into behavioral patterns](#), **Network World**, March 15, 2016
  - [WLAN-Daten verraten Verhaltensweisen](#), **Online PC Magazin**, March 14, 2016 (in German)
  - [Smartphone così lascia dappertutto le nostre tracce digitali](#), **Blitz quotidiano**, March 12, 2016 (in Italian)
  - [当心被手机出卖手机连入Wi-Fi可变追踪器](#), **Huanqiu Shibao**, March 14, 2016 (Global Times, in Chinese)
  - [Le déplacement des piétons analysé grâce aux antennes wifi](#), **RTS.ch**, March 7, 2016 (in French)
  - [Utiliser le Wi-Fi pour étudier les habitudes des piétons](#), **Tribune de Genève**, March 11, 2016 (in French)
  - [Radio: Le wifi est le moyen le plus facile pour vous traquer](#), On en parle, **RTS La 1ère**, April 7, 2016 (in French)
  - [Radio: La technologie au service de la mobilité piétonne](#), InterCités, **RTS La 1ère**, March 15, 2016 (in French)
  - [Activité piétonne analysée par l'EPFL](#), **Teletext**, March 7, 2016 (in French)
  - [Traqués comme leur ombre grâce au wi-fi](#), **20 Minutes**, March 8, 2016 (in French)
  - [Le wifi pour étudier les habitudes des piétons](#), **ICTjournal**, March 8, 2016 (in French)
  - [Video: Du neuf en bref](#), **Nouvo**, March 11, 2016 (in French)
  - [Vos données de connexion peuvent-elles révéler pourquoi vous allez acheter ce sandwich ? - Wired](#), **A lire ailleurs (la revue de web de InternetActu.net et de la Fing)**, March 9, 2016 (in French)
- [Le big data au coeur des villes](#), **La Liberté**, October 19, 2015 (in French)
- L'EPFL trace l'itinéraire des festivaliers du Paléo, **24 Heures**, July 29, 2013 (in French)
- L'EPFL a scruté les mouvements des festivaliers au Paléo, **Les News de Rouge FM et Yes FM**, July 22, 2013 (in French)
- [Quand le WiFi se met au service du réseau piétonnier](#), **Flash informatique**, No. 2, March 19, 2013 (in French)

- Améliorer le déplacement des usagers dans les gares, CQFD, **RTS La 1ère**, November 15, 2012 (in French)
- Projet-pilote pour dompter la foule, **Touring, newspaper of the Touring Club Suisse**, No. 16, September 27, 2012 (in French)
- Une revanche des piétons grâce aux outils de simulation ?, Les temps modernes, **RTS La 1ère**, Monday June 11, 2012 (in French)
- CarPostal, un trait d'union entre la ville et la campagne ?, Prise de Terre, **RTS La 1ère**, August 27, 2011 (in French)
- To save 10 minutes on a bus journey, a Swiss traveler have to pay..., poll about value of time, Science Q&A, weekly poll about science, **EPFL homepage**, April 18, 2011

## Data visualization

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- Chemins pour Satellite, Atlas #1, Anie Gold, 2015
- Rolex Learning Center (RLC) Pedestrian Map, Fragments de l'inachevé, Le lieu unique, Nantes, October 11-November 9, 2014
- Rolex Learning Center (RLC) Pedestrian Map, dessin embryon, de l'inachevé, halles CFF à la gare, Lausanne, May 4-19, 2013

## Awards and distinctions

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- Second Prize in the Image category of the 2015 ACCES Visualization Contest  
*55 contributions were submitted within the School of Engineering (STI) and the School of Architecture, Civil & Environmental Engineering (ENAC) of EPFL, 35 in the Image category and 20 in the Animation category.*
- ENAC Research Day 2013 Doctoral poster award - 3rd prize  
*30 projects were selected based on abstracts. Accepted projects were exhibited at the Research Day and participated in the poster competition.*
- Invited participation in Global Young Scientist Summit, shortlisted for the Singapore Challenge  
*Invited to the 2013 Global Young Scientist Summit (GYSS) in Singapore. Shortlisted for the Singapore Challenge 2013 "Innovation for Future Cities" about envisioning opportunities for sustainable development in cities with dense populations and heavy demands on infrastructure, with a white paper on Walkable Future Cities.*

## Research data

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L. Tinguely and A. Danalet. Destination Choice Model including panel data using WiFi localization in a pedestrian facility. Zenodo, 2015. [doi:10.5281/zenodo.18528](https://doi.org/10.5281/zenodo.18528)

A. Danalet. A Bayesian Approach to Detect Pedestrian Destination-Sequences from WiFi Signatures: Data (Transp. Res. Part C, 2014). Zenodo, 2015. [doi:10.5281/zenodo.15798](https://doi.org/10.5281/zenodo.15798)