

Roger Lloret-Batlle

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EDUCATION

PHD, Civil Engineering: Transportation Systems Engineering. September 2012 - August 2017
University of California, Irvine. Irvine, CA.

Thesis: Peer-to-peer exchange and collaborative consumption of supply in transportation systems.

MASTER OF SCIENCE, Transportation Engineering. September 2009 - June 2011
Ecole Nationale des Ponts et Chaussées (ENPC), Champs-sûr-Marne, France.

MASTER OF SCIENCE, Civil Engineering. September 2005 - February 2012
Universitat Politècnica de Catalunya (UPC), Barcelona, Spain.

CERTIFICATE IN INTERNATIONAL MANAGEMENT September 2009 - June 2010
International Business Specialization (mini-MBA)
ENPC School of International Management, Paris, France.

REFEREED PUBLICATIONS

- Lloret-Batlle, R. and Jayakrishnan, R. (2018) “Study of a dynamic cooperative trading queue routing control scheme for freeways and facilities with parallel queues”, *Proc. TRB 2018.*, Paper number: 18-06538.
- (under review) Lloret-Batlle, R. and Jayakrishnan, R. (2017) “Envy-free Pricing for Collaborative Consumption in Transportation Systems”. *Transportation Research Part A*.
- Lloret-Batlle, R. and Jayakrishnan, R. (2017) “Envy-free Pricing for Collaborative Consumption in Transportation Systems”. *The 22nd International Symposium on Transportation ISTTT22, July 24-26, 2017*.
- Lloret-Batlle, R., & Jayakrishnan, R. (2016), “Envy-minimizing pareto efficient intersection control with brokered utility exchanges under user heterogeneity”. *Transportation Research Part B: Methodological*, 94, 22-42.
- Masoud, N., Lloret-Batlle, R. and Jayakrishnan, R. (2017) “Using Bilateral Trading to Increase Ridership and User Permanence in Ridesharing Systems”. *Transportation Research Part E: Logistics and Transportation Review*, 102, 60-77.
- Lloret-Batlle, R., Masoud, N. and Nam, D. (2017) “P2P Ridesharing with Ride-back on HOV Lanes: Towards a Practical Alternative Mode for Daily Commuting”. *Transportation Research Record: The Journal of the Transportation Research Board*, 2668, 21-28.
- Lloret-Batlle, R., Masoud, N. and Nam, D. (2017) “P2P Ridesharing with Ride-back on HOV Lanes: Towards a Practical Alternative Mode for Daily Commuting”. *Proc. TRB 2017*, Paper number: 17-06253.
- Masoud, N., Lloret-Batlle, R. (2016), “Increasing ridership and user permanence in ridesharing systems using a novel peer-to-peer exchange mechanism”, *Proc. TRB 2016*, Paper number: 16-6425.
- Lloret-Batlle, R. and Combes, F. (2013) “Estimation of an inventory-theoretic model of mode choice in freight transport”. *Transportation Research Record: The Journal of the Transportation Research Board*, 2378, 13-21. (2nd best paper at the European Transport Conference 2012, Glasgow, UK).

OTHER PAPERS

- Lloret-Batlle, R., Jayakrishnan, R. “Illustrative study of price-based priority queues for isolated signalized intersections”, *Working paper: UCI-ITS-WP-17-1*.
- Lloret-Batlle, R., (2011) “Modal choice and shipment size models based on the French ECHO database”, *MSc Thesis*, Universitat Politècnica de Catalunya.

PRESENTATIONS

- Lloret-Batlle, R. and Jayakrishnan, R. (2017), “Core-stable Queue Routing Policies for Multiserver Queue Facilities and Highway Control”, *INFORMS Annual Meeting 2017, Houston, TX*.
- Lloret-Batlle, R. and Jayakrishnan, R. (2016), “Envy-free pricing in transportation systems”, *INFORMS Annual Meeting 2016, Nashville, TN*.
- Lloret-Batlle, R. and Jayakrishnan, R. (2015), “Envy-free pricing in signalized traffic control with value of time heterogeneity”, *INFORMS Annual Meeting 2015, Philadelphia, PA*.
- Lloret-Batlle, R. and Jayakrishnan, R. (2014), “Online Auction Designs for Traffic Intersection Operations”, *INFORMS Annual Meeting 2014, San Francisco, CA*.
- Lloret-Batlle, R. and Combes, F. (2013), “Estimation of an inventory-theoretic model of mode choice in freight transport”, *Proceedings of the 92th Annual Meeting Transportation Research Board, Washington DC*.

RESEARCH AND PROFESSIONAL EXPERIENCE

UNIVERSITY OF MICHIGAN, Postdoctoral scholar. September 2017 - Present
Approximate mechanism design solutions for flexible demand transportation systems.

- Designing approximate mechanism design solutions for dynamic ridesharing systems: analytical bounds for efficiency and budget deficit.
- Writing of proposals for MCity, USDOT Center for Connected and Automated Transportation (CCAT) and Toyota Research Institute (TRI).

Funded by Prof. Neda Masoud, Civil and Environmental Engineering.

UCIRVINE, Research assistant. October 2016 - June 2017
Cooperative game-theoretical solution concepts for queue routing and freeway operations.

Research Project funded by the Civil and Environmental Engineering Department.

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY, Summer Visiting Researcher September 2016
Stability in two-sided market matching problem with complements.

Visiting Prof. Ron Lavi, Industrial Engineering and Management department.

- Search of Walrasian Equilibrium and core solution for matching problems with preferences with complementarities.
- Ascending primal-dual envy-free combinatorial auctions for ride-sharing problems.

NEW YORK UNIVERSITY, Summer Visiting Researcher June 2016 - August 2016
Stable matching of service tours to design cooperative policies for transport infrastructure systems.

Supported by NSF CMMI-CIS.

Visiting Prof. Joseph Chow, Civil Engineering Department.

CitySMART Laboratory. Tandon School of Engineering.

- Development of a stable and fair pricing mechanism for the two-sided (matching) Pick-up Delivery Problem.
- Network design for fare integration problem in transit networks.

UCIRVINE, Research assistant. March 2015 - December 2016
Promoting Peer-to-Peer Ridesharing Services as Transit Systems Feeders.
Research Project funded by UCConnect.

- Design of a distributed large-scale truthful efficient pricing mechanism to be implemented for a ridesharing program for Los Angeles County using OD data.
 - Its implementation is under consideration at Scoop Technologies, Inc; a ridesharing company located in San Francisco.
- Design of a real-time pricing scheme to increase ridership and user permanence in P2P Ridesharing.
 - It received attention from RideFlag, a Canadian carpooling startup company. They will implement the idea once they reach customer critical mass.

UCIRVINE, Research assistant. September 2014 – August 2015
Case studies of supply-use exchanges: Traffic control and Ride-sharing.
Balsells Foundation support.

- Design of traffic signal control algorithm with P2P exchanges in a connected vehicle environment (V2I)

UCIRVINE, Research assistant. September 2012 – August 2014
New paradigms for Supply-demand framework Under peer-to-peer exchanges in transportation.
Balsells Foundation support.

- Developing new versions of Florian-Gaudry supply-demand frameworks.
- Studying application cases for P2P utility exchanges. Application to traffic signal control.

UNIVERSITAT POLITÈCNICA DE CATALUNYA, Research intern. February – August 2012
STRAIGHTSOL and MEDUSA Projects: Freight Transport Demand Modeling and Logistics
CENIT (Center for the Innovation in Transport) Barcelona - UPC.

- Generation and Distribution models for Urban Consolidation Centers (UCCs) UCC socioeconomic evaluation.

ECOLE NATIONALE DES PONTS ET CHAUSSÉES, Research intern. March – August 2011
Research Internship in Freight Transport Demand Modeling (MSc Thesis)
LVMT: ENPC Transportation Laboratory.

- Resulted in a refereed journal publication (TRR): “Estimation of Inventory-Theoretic Model of Mode Choice in Freight Transport” and 2nd best paper price at the ETC 2012 Presentation.

RENCON D.O.O, Draughtsman July – September 2009
Road reconstruction - Surveying, Draughtsman (IAESTE Internship Program)
Rencon d.o.o 8, Vijenac Ivana Mažuranića St, 31000 Osijek, Croatia.

AREMA, Draughtsman June – September 2007/2008
Draughtsman for Waste Water Treatment Plants projects.
Surveying, Draughtsman, Budgeting, Accounting.
AREMA: 479, Carrer Muntaner, 08021 Barcelona.

TEACHING EXPERIENCE

UCIrvine, Teaching Assistant. Spring 2016, Spring 2017

CEE81A: Civil Engineering Practicum I

Instructor: Prof. R. Jayakrishnan

- Taught computer lab sessions: AutoCAD and Sketchup. Set up problems in examinations. Graded homeworks, projects and examinations.
- Complemented my lab lectures with video tutorials on Youtube.

UCIrvine, Co-Instructor. Fall 2015

CEE 220A: Travel Demand Analysis

Instructor: Prof. Will Recker

- Prepared and taught four lectures as an introduction to microeconomics for transportation engineers.
- Set up homework and examination problems.

UCIrvine, Co-organizer. Fall 2014, Winter 2015, Spring 2015.

CEE295: Transportation Engineering Seminar.

Instructor: Prof. Wenlong Jin

- Searched for presenters, managed the seminar schedule and prepared announcements and communications.

AWARDS

- \$2,500: ITS California Scholarship 2016 for Graduate Studies in Intelligent Transportation Systems.
- \$18,000: UCConnect Dissertation Grant 2015.
- 3×\$50,000: Balsells Graduate Fellowship 2012-13, 2013-14, 2014-15.
- 2nd Best podium presentation at UCConnect Student Conference 2016, UC Riverside.
- 2nd Best paper at the European Transport Conference 2012, Glasgow, UK.
- Marcel Bru i Turull 2010 Award for best Environmental Article in UPC-ETSECCPB.

LEADERSHIP ACTIVITIES

UCIRVINE Finalist team “Waytrade” in Butterworth and Beall Entrepreneurship competitions. November 2014 – June 2015

- Created and led a team of five students to:
 - Design a business plan, build a physical demonstration and develop a mobile application for my Priced EXchanges in Intersection Control system (PEXIC), corresponding to Lloret-Batlle and Jayakrishnan (2016).

UCIRVINE International Committee Chair

June 2013 – August 2014

UCIrvine’s Graduate Student Government (UCI AGS-ISC).

- Event planning and execution of:
 - Two welcoming ceremonies (500 attendees each), two professional workshops (70 attendees each),
 - Intercultural concert “One World Concert” (400 attendees) and a soccer tournament (100 players).
- Advocacy for international students.
- Representing the Graduate Student Government at UCIrvine’s Academic Senate: Subcommittee on International Education.
 - Writing of UCIrvine’s Exchange Program International Education Vision Statement.
- Cultural consultancy to student services providers: International Center, Graduate Division and Graduate Resource Center.

UCIRVINE Graduate Division Peer mentor

June – September 2013 and 2014

- Mentoring and welcoming incoming international students.

UNIVERSITAT POLITÈCNICA DE CATALUNYA, UPC Debating Team member. September 2011 – June 2012

- 3rd position in the 2nd “Economics and Business” debating league of University of Barcelona Business School.

UNIVERSITAT POLITÈCNICA DE CATALUNYA, IAESTE Barcelona’s Civil Engineering Secretary September 2007 – June 2009

- Internship management and scheduling.
- Promotion and communication activities on technical students’ international professional exchange.

PROFESSIONAL SERVICE

TRANSPORTATION RESEARCH RECORD, Reviewer 2015 – present
Under Artificial Intelligence and Advanced Computing Applications Committee ABJ70

INFORMS, Transportation Systems and Logistics member. Session Chair for topics in economics and networks.

TRANSPORTATION RESEARCH BOARD, member.

Committees: Network Modelling, Freight Transportation Planning and Logistics, Traffic Signal Control, Artificial Intelligence, Transportation Economics.

SKILLS AND INTERESTS

- Languages: English (fluent), French (Fluent), German (One year of study), Spanish (Native) and Catalan (Native).
- Programming languages and software: C++, R, MATLAB, Gurobi, CPLEX, AMPL, Paramics API, TransCAD, Google Maps API, Maple.
- Extracurricular activities: Cross-cultural management, alpinism, trail running, table tennis, weightlifting, wikipedist. PADI Scuba Diver.

REFEREES

Prof. R. Jayakrishnan
Department of Civil and
Environmental Engineering
Institute of Transportation
Studies AIRB Building 4th floor
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Irvine, CA 92697-3600, USA
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Department of Civil and
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Institute of Transportation
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