

International Conference on Mobility Challenges

Timing : December 6-7 2018

Location : Ecole CentraleSupélec Université Paris Saclay

Version du 23 octobre 2018

Coordinators: Yannick Perez (Chair Armand Peugeot) and Jean-Pierre Ponsard (Chair Energy and Prosperity)

Scope of the workshop

Land transportation for passengers and merchandises is one of the major sources of CO2 emissions worldwide and urban toxic particles (NOx, fine particles...). Emissions are barely declining in OCDE countries and bound to grow in emerging countries due to the increase in standards of living and urbanization. This situation creates an important challenge for the mitigation of climate change and the preservation of human health: new technologies have been launched, a set of complementary policies has been designed both national and local, and consuming habits are changing.

Thursday 6th December Plenary Sessions

8h45-9h00 Welcome

9:00 10h30: Plenary session 1: Analyzing Demand for New mobility patterns.

Chairman: Eric Lalliard (PSA):(to be confirmed)

J. Anable (University of Leeds, United Kingdom), T. Chatterton, JS. Cairns, R.E. Wilson
Financial Implications of Car Ownership and Use: a distributional analysis based on observed spatial variance considering income and domestic energy costs

Hélène Bouscasse (GAEL, UGA, CNRS), Oana Ionescu
Uncertain travel time and the value of switching options between different travel modes

Jianwei Xing* (National School of Development, Beijing University), Benjamin Leard and Shanjun Li
What Does an Electric Vehicle Replace?

Coffee Break : 10h30-11h00

11:00 12:30 : Plenary session 2: Electromobility and local and/or national Policies

Chairman: (to be confirmed): Carlos Moreno (Sorbonne Business School)

Paal Brevik Wangsness* (Institute of Transport Economics – Norwegian Centre for Transport Research, Oslo), Stef Proost, Kenneth Løvold Rødseth
Vehicle choices and urban transport externalities. Are Norwegian policy makers getting it right?

Sarah Fluchs (School of Business and Economics, Research Unit International Economics, RWTH Aachen University), Garnet Kasperk
The Influence of Government Incentives on Electric Vehicle Adoption: Cross-national Comparison or Germany: Government

Incentives For Ev Adoption: A Classification Of Existing Incentives And Assessment Of Their Effectiveness

Juan-Pablo Montero* (Department of Economics of the Pontificia Universidad Católica de Chile), Leonardo Basso, and Felipe Sepulveda: **Efficiency and distributional implications of combining road pricing and driving restrictions**

Lunch Break: 12h30-14h00

14:00 15:30 Plenary session 3: Infrastructures developments for electromobility

Chairman: (to be confirmed) Dominique Lagarde - ENEDIS

Martin Robinius (Institute of Electrochemical Process Engineering, RWTH Aachen University), Jochen Linßen, Thomas Grube, Markus Reuß, Peter Stenzel, Konstantinos Syranidis, Patrick Kuckertz and Detlef Stolten **Comparative Analysis of Infrastructures: Hydrogen Fueling and Electric Charging of Vehicles**

Guy Meunier* (ALISS INRA and CREST Ecole Polytechnique) and Jean-Pierre Ponsard: **Optimal Policy and Network Effects for the Deployment of Zero Emission Vehicles**

Matthias Finger* (Ecole Polytechnique Fédérale de Lausanne and European University Institute, Florence), Juan J. Montero and Marcin Wolek, **Infrastructure funding challenges in the sharing economy**

Coffee Break: 15h30-16h00

16h00-18h00 Round Table Lessons from the Past and challenges for the Future

Chairman: Bernard Sahut (PSA)

- Willett Kempton (Delaware University)
What are the lessons from VtoG experiments?

Frances Sprei (Physical Resource Theory, Chalmers University, Göteborg)
Disrupting mobility
- Alena Fargere (Air Liquide)
Hydrogen Taxi in Paris and hydrogen refuelling infrastructure deployment challenges.
- Fawzi Nashashibi (INRIA)
Connected Autonomous Vehicles: Future research questions
- Dimitri Konstantas (Université de Genève)
A new concept of autonomous public transport - Avenue, European Project

18h15: cocktail and Conference diner in At Home

Friday 7th December Parallel Sessions

From 9h-10h30

Session 1: Electric Vehicles and Distribution Grids: Emilia Suomalainen

- Paper 1:** Felipe Gonzalez Venegas (Chaire PSA-CentraleSupélec): Electric Vehicles as flexibility providers for distribution systems. A techno-economical revue
- Paper 2:** Geert Deconinck* (KU Leuven) Combining Market-Based Control with Distribution Grid Constraints when Coordinating Electric Vehicle Charging.
- Paper 3:** Dirk Lauinger* (Vedecom-EPFL) Martha's Vineyard case study

Session 2: Infrastructures and investments: Jean-Pierre Ponssard

- Paper 1: Jean Hassler (CentraleSupélec-PSA): Fast charging infrastructures for EVs
- Paper 2: Olfa Tlili (CentraleSupélec-CEA): Modelling the Hydrogen infrastructure in France
- Paper 3: Olivier Borne (Chaire PSA-CentraleSupélec): Net-Present-Value Analysis for Bidirectional EV Chargers providing Frequency Containment Reserve

Session 3: Autonomous Electric Vehicle: Guy Fournier

- Paper 1: Lucile Buisson (U. de Lyon) Technico-economic of mobility provision service by autonomous vehicles
- Paper 2: Hendrik Schmitz: Preferences for Electric Vehicle charging and implications for charging infrastructure planning
- Paper 3: Carine Staropoli (PSE): Smart cities and mobility issues

Session 4: Business models and Vehicle to potential usages: Willett Kempton

- Paper 1: Andrew Thompson (Vedecom): Electricity Market Design for Electric Vehicle Integration.
- Paper 2: Quentin Hoarau (CEC- Université Paris-Sud) : Network tariff design with distributed energy resources and electric vehicles
- Paper 3: Alain Le Duigou (CEA): How to organise the interaction between PV, EV and buildings.

Coffee Break: 10h30-11h00
11h-12h30

Session 5: Autonomous Vehicles: Danielle Attias

- Paper 1: Guy Fournier (Pforzheim University): Mobility by shared autonomous Electric Vehicle fleets - Cost and CO2 comparison with Internal Combustion Engine Vehicles in Berlin, Germany
- Paper 2: Sylvie Mira-Bonnardel* (Centrale Lyon): The autonomous vehicle for urban collective transport: disrupting business models embedded in smart city revolution
- Paper 3: Stine Guldman et Pernille Lytzen sur Autonomous Mobility Services de ASMOBILITY

Session 6: Distribution System Operators and EVs: Marc Petit

- Paper 1: Enexis
- Paper 2: GERODIS – 2 Sevres
- Paper 3: Invade

Session 7: Incentives and Willingness to pay: Giulio Calabrese

- Paper 1:** Francisco Ramos Real (La Laguna University): Psychosocial Traits Characterizing EV Adopters' Profiles: The Case of Tenerife (Canary Islands)
- Paper 2:** Stephanie Wolff* (RWTH Aachen University): Elicitation of Preferences Regarding Electric Mobility Charging Behaviour
- Paper 3:** Joachim Geske* (Imperial college): Willing to participate in vehicle-to-grid (V2G)? Why not!

Session 8: Autonomous vehicles and transportation system: Jan Lepoutre

- Paper 1: David Keith (MIT): Unintended Consequences of Automated Vehicles and Pooling for Urban Transportation Systems
- Paper 2: Wilco Burghout (Vedecom): Efficient Uses of Electric and Autonomous Transportation
- Paper 3: Anne Guillemot (ENPC) : Lessons learned for EU-wide interoperability of electric vehicle recharging networks: the case of UNIT-E