

Maria Laura Delle Monache

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Education

- PhD in Applied Mathematics** 2014
Inria Sophia Antipolis - Méditerranée & University of Nice - Sophia Antipolis (France)
Grade: Très honorable. Title: "Traffic flow modeling by conservation laws". Advisor: Dr. Paola Goatin
- M.Sc. in Mathematical Modeling in Engineering** 2011
University of L'Aquila (Italy), University of Hamburg (Germany) - Erasmus Mundus Consortium MathMods
Italian grade: 110/110 summa cum laude, German grade: 1.24 sehr gut
- B. Sc. in Industrial Engineering** 2009
University of L'Aquila (Italy)
Grade: 110/110 summa cum laude

Academic positions

- Assistant Professor** Jul. 2021 - ongoing
University of California, Berkeley
Department of Civil and Environmental Engineering
- Research scientist - Chargée de recherche de classe normale** Oct 2017 - Jun. 2021
Inria Grenoble - Rhône Alpes (France),
Team **NeCS** (Networked Controlled Systems)
- Junior research scientist - Chargée de recherche de 2ème classe** Oct 2016 - Sept 2017
Inria Grenoble - Rhône Alpes (France)
Team **NeCS** (Networked Controlled Systems)
- Postdoctoral Fellow** Nov 2014 - Aug 2016
Rutgers University - Camden (USA)
Advisor: Prof. Benedetto Piccoli
- Visiting scholar researcher** Oct 2012 - Dec 2012 & May 2013
UC Berkeley (USA)
Department of Civil and Environmental engineering, UC Berkeley. Advisor: Prof. Alexandre M. Bayen
- Graduate research intern** Mar 2011 - Aug 2011
University of Genoa (Italy)
Title: Mathematical modeling of the liver circulation. Advisors: Prof. Rodolfo Repetto and Prof. Ingenuin Gasser

Research intern Mar 2010-Jul 2010
Inria Sophia Antipolis - Méditerranée (France)
Title: Vehicular traffic flow modeling. Advisor: Dr. Paola Goatin

Scholarships, Awards and Honors

France - Berkeley Fund Award Recipient June 2017
Collège de France

Research grant for young academics Oct 2010 - July 2011
DAAD - German Academic Exchange Service

Erasmus grant Feb 2010 - Sept 2011
University of L'Aquila

INFN Full Scholarship Jul 2006 - Aug 2006
Abruzzo government and Gran Sasso National Laboratory - National Institute of Nuclear Physics
Princeton physics summer school

Research grants

Mathematical models for interacting dynamics on networks 2019-2021
Management Committee substitute member
COST Action no. 18232 - European Grant

Mean field game models for traffic application 2019-2020
Principal Investigator
Rutgers Global Grant - International collaborative research grant with the group of Prof. Benedetto Piccoli at Rutgers University - Camden (USA)

MEMENTO 2018-2020
Principal Investigator
Inria associated team with the group of Prof. Dan Work at Vanderbilt University.
Website: <http://necs.inrialpes.fr/memento/index.html>

MAVIT - Modeling autonomous vehicles in traffic flow 2018-2019
Principal Investigator
IRS Accueil Nouveaux arrivant project

DATASAFE - Understanding data accidents for traffic safety 2018-2019
Principal Investigator
Grenoble Data Institute project

Scale-FreeBack 2016-2021
Member
ERC Advanced Grant. PI: Carlos Canudas-de-Wit

TramOpt 2017-2018
Member
ERC Proof of concept. PI: Paola Goatin

COMFORT - Control and forecasting in transportation networks 2016
Member
Inria associated team with UC Berkeley. PIs: Carlos Canudas-de-Wit and Roberto Horowitz

Control of vehicular traffic flow via low density autonomous vehicles Member NSF Award grant # 1837481. PI: Benedetto Piccoli	2015-2017
Ki-Net Member NSF Award grant # 1107444. Core Faculty: Benedetto Piccoli	2015-2016
TRAM 3 - Traffic management by macroscopic models Member ERC Starting grant. PI: Paola Goatin	2011-2014
ORESTE - Optimal reroute strategies for traffic management Member Inria associated team with UC Berkeley. PIs: Paola Goatin and Alexandre M. Bayen	2011-2016
Optimal Traffic Flow Management with GPS Enabled Smartphones Member France - Berkeley Fund. PIs: Paola Goatin and Alexandre M. Bayen	2012-2013

Academic Service

Service at Inria

Comité des études doctorales Committee for the admission of PhD students at the Grenoble - Rhône Alpes center	2018-2020
Commission de développement technologique Technological development commission for the examination of projects relating to the technological development and the application for the hiring of the engineers at Grenoble - Rhône Alpes center	2019-2021

Professional affiliations

IEEE Institute of Electrical and Electronics Engineers	current
SIAM Society of Industrial and Applied Mathematics	current

Editorial activities

Journals

Transportation Research Part C: Emerging Technologies Early Career Editorial Advisory Board	2021-present
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Conferences

European Control Conference (ECC) Associate Editor July 12 - July 15, 2022, London, UK	2022
European Control Conference (ECC) Associate Editor June 29 - July 2, 2021, Rotterdam, Netherlands	2021

Referee activities

Referee for: Automatica, SIAM Journal on Applied Mathematics, Journal of Differential Equations, IEEE Transactions for Intelligent Transportation Systems, Transportation Research: Part B and Part C, Journal of Intelligent Transportation Systems, IEEE Transactions on Automatic Control, IEEE Transaction on Vehicular Technology, IEEE Transactions on Control Systems Technology, Journal of Evolution Equations, Journal of Dynamic Systems, Measurement and Control, Mathematical Methods in the Applied Sciences, Networks and Heterogeneous Media, Physica A: Statistical Mechanics and its Applications, Physics Letters A, Journal of Mathematical Analysis and Applications, Journal of the Franklin Institute, IEEE Transaction on Control Network Systems, European Control Conference (ECC), IFAC Conference on Control for Transportation systems, Asian Journal of Control, American Control Conference (ACC), TRB Annual Meeting, IEEE Conference on Decision and Control (CDC), IEEE Intelligence Transportation Systems Conference (ITSC), IFAC World Congress, AMS Mathematical Reviews.

Supervision

Post-docs

Thibault Liard

Dec 2017-Mar 2019

Inria Grenoble - Rhône Alpes

Research topic: Modeling and control of mixed (human and driverless) traffic

PhD students

Han Wang

2021- present

Department of Civil and Environmental Engineering, UC Berkeley

Research topic: Traffic control. Co-supervised with A. Skabardonis and O. Grembek

Liudmila Tumash

Sept 2018-Sept 2021

Inria Grenoble - Rhône Alpes, University of Grenoble

Research topic: Traffic control in large-scale urban networks. Co-supervised with C. Canudas-de-Wit

Stéphane Mollier

Oct 2016-Feb 2020

Inria Grenoble - Rhône Alpes, University of Grenoble

Research topic: Aggregated scale-free models for 2D large-scale traffic systems. Co-supervised with C. Canudas-de-Wit and B. Seibold

Master Students

Dawson Do

2021 - present

Department of Civil and Environmental Engineering, UC Berkeley

Research topic: Large scale traffic flow models

Chiara Daini

May 2021- Oct 2021

Inria Sophia Antipolis

Research topic: Traffic flow control through fleets of Autonomous Vehicles. Co-supervised with P. Goatin and A. Ferrara

Ali Salame

Spring semester 2021

University of Grenoble-Alpes

Research topic: Stability analysis and control of vehicle platoons with connected and autonomous vehicles. Co-supervised with P. Frasca and F. Garin

Xiaochen Li Spring semester 2021

Inria Grenoble - Rhône Alpes

Research topic: The effect of COVID-19 on mobility. Co-supervised with P. Frasca

Mathilde de Jaureguiberry Fall semester 2020

University of Grenoble-Alpes

Research topic: Mobility at the time of COVID-19. Co-supervised with P. Frasca

Cristina Magnetti-Gisolo Sept 2020-Feb 2021

Inria Grenoble - Rhône Alpes

Research topic: Stability analysis of car-following models with mixed fleet. Co-supervised with P. Frasca and F. Ferrante

Dhannai Sepulveda Jan 2020-April 2020

Inria Grenoble - Rhône Alpes

Research topic: Control for coupled PDE-ODE systems. Co-supervised with C. Prieur

Tianyi Wei Feb 2019-June 2019

Inria Grenoble - Rhône Alpes, University of Grenoble

Research topic: Stabilizing traffic via autonomous vehicles. Co-supervised with P. Frasca

Aleksandra Malkova Feb 2018-July 2018

Inria Grenoble - Rhône Alpes, University of Grenoble

Research topic: Understanding data accidents for traffic safety. Co-supervised with J. Arbel

Victor Bailly Summer 2016

Visiting master student from University of Marseille at Rutgers University - Camden

Research topic: Modeling of roundabouts. Co-supervised with B. Piccoli

Mathieu Garcia Summer 2016

Visiting master student from University of Marseille at Rutgers University - Camden

Research topic: Numerical simulations for roundabouts models. Co-supervised with B. Piccoli

Jiheng Huang Fall semester 2015

New York University (NYU)

Research topic: Fundamental diagram from sensors around the world. Co-supervised with B. Piccoli and K. Ozbay

Undergraduate students

Kyra Jenkins Spring semester 2016

Rutgers University - Camden

Research topic: Monday syndrome. Co-supervised with B. Piccoli

Millicent Kipp Spring semester 2016

Rutgers University - Camden

Research topic: Fundamental diagrams around the world: the case study of Minneapolis. Co-supervised with B. Piccoli. Dean's undergraduate research prize

Hannah Pohlmann Summer 2015

Temple University

Research topic: Simple control options for an AV for the dissipation of traffic waves on a circular and open road. Co-supervised with B. Piccoli and B. Seibold

Teaching

At UC Berkeley

CE290

S22

Special Topics in Civil and Environmental Engineering

3 units

CE255

F21

Highway Traffic Operations

3 units

Prior to UC Berkeley

Traffic flow and crowd dynamics: modeling and computing

Spring semester 2018

University of Grenoble Alpes, Ecole doctorale MSTII

Lecturer for mathematics, computer science and engineering Master and PhD students, 18 hours

Linear Algebra

Fall semester 2015

Rutgers University - Camden

Lecturer for mathematics and computer science, 3 credits

Organization of conferences

CPS-IoT week

18-21 May 2021

Workshop Co-Chair

Vanderbilt University, Nashville, USA

Lagrangian control for traffic smoothing in mixed autonomy settings

10 Dec 2019

Workshop organizer

Full day workshop at the 58th Conference on Decision and control, Nice, France

Traffic flow control via PDE Techniques

16 Dec 2018

Workshop organizer

Full day workshop at the 57th Conference on Decision and control, Miami Beach, FL, USA

Analysis and control of large scale complex networks

10-11 Sept 2018

Scientific committee

Scale-FreeBack workshop, Grenoble, France

Modélisation et gestion du trafic routier

28 May-01 June 2018

Mini-symposium organizer

44e Congrès National d'Analyse Numérique, Cap d'Agde, France

Modeling reduction tools for large scale complex networks

21-22 Sept 2017

Scientific committee

Scale-FreeBack workshop, Grenoble, France

Traffic modeling and management: trends and perspectives

20-22 March 2013

Local organizer

VI Workshop on Mathematical Foundations of Traffic, Sophia Antipolis, France

Panels

Driving energy transition through electric mobility

Oct 2021

Festival dello sviluppo sostenibile. Panelist on mobility aspects.

Embassy of Italy, Washington DC, virtual

DF SRI: Career Advice Seminar

Jul 2021

Panelist on "Life as an Academic"

KTH, Stockholm, Sweden, virtual

Towards smart transportation systems

Sept 2015

New Jersey Big Data Alliance 2015 Symposium. Panelist on "Big Data and Aviation/Transportation"

Rowan University, Glassboro, NJ, USA

Conferences, seminars and outreach

Outreach

La mobilité et les véhicules autonomes

June 2021

Université Grenoble Alpes, France

Cérémonie de remise de prix des Olympiades de Mathématiques, talk to students of 8th grade (4ème) and 11th Grade (1ère)

Viaggio tra ingegneria e matematica

March 2021

Liceo scientifico "L. da Penne", Italy

Talk to senior high-school students about STEM careers

La mobilité et les véhicules autonomes

May 2019

Université Grenoble Alpes, France

Cérémonie de remise de prix des Olympiades de Mathématiques, talk to students of 8th grade (4ème) and 11th Grade (1ère)

Seminars and Colloquia

Towards the next era of traffic control: from theory to applications

Nov 2021

C3.ai Digital Transformation Institute, UC Berkeley, USA

C3.AI DTI Colloquium

Coupled PDE-ODE systems: applications to traffic flow modeling and control

Jan 2019

Laboratoire Jean Kuntzmann, Université Grenoble Alpes, France

PDE Seminar

Control of traffic: from ramp metering to autonomous vehicles

May 2018

Institute for Software Integrated Systems, Vanderbilt University, USA

Pizza Lecture

Control of traffic flow: from ramp metering to autonomous vehicles

Apr 2018

University of Alabama, USA

Seminar of the department of mathematics

Les mathématiques cachées du trafic routier

Mar 2018

Académie de Grenoble, Inria Grenoble - Rhône Alpes, France

ISN Conference, video

Coupled PDE-ODE systems: applications to traffic flow modeling and control

Nov 2017

Institut de Mathématiques de Marseille, France

Groupe de travail EDP hyperboliques, conditions limites et méthodes numériques

Ramp-metering and optimal rerouting traffic assignment UC Berkeley, USA Traffic meeting	Dec 2016
Some control strategies for conservation laws with applications to traffic flow Université de Toulon, France Séminaire de théorie du contrôle de Toulon	Nov 2016
Coupled PDE-ODE models: applications to traffic flow Temple University, Philadelphia, USA Applied Mathematics and Scientific Computing Seminar	Feb 2016
Crowd dynamics and vehicular traffic: mathematical modeling Center for Urban Science and Progress, New York University (NYU) New York, USA CUSP "Research seminar series", with B. Piccoli	Nov 2015
Macroscopic models for traffic flow IFSTTAR, Paris, France IFSTTAR "Séminaire Modélisation des Réseaux de Transport"	Oct 2013
Traffic flow modeling by conservation laws Universität Basel, Switzerland Seminar Analysis	Apr 2013
Continuous, Junction-based Model for Ramp Metering PATH (Partners for Advanced Transportation Technology), UC Berkeley, USA Connected Corridors research seminar, with J. Reilly	Apr 2013
Invited talks	
Bridging modeling and control for mixed autonomy Circles workshop Rutgers University, USA - virtual	Sept 2021
Modeling for mixed autonomy traffic: a control-based approach Workshop on large scale autonomy: connectivity and mobility networks IPAM (UCLA), USA - virtual	Nov 2020
Coupled PDE-ODE systems: applications to traffic flow modeling, estimation and control 42 nd workshop of research center for complex systems and network sciences Southeastern University, China	Sept 2020
Coupled PDE-ODE systems: applications to traffic flow modeling, estimation and control Journée de l' équipe EMS Université d'Orléans, France	Jan 2020
Traffic modeling for mixed traffic Tutorial on "Autonomous vehicles and traffic control in mixed autonomy environment" at the Conference on Decision and Control Nice, France	Dec 2019
Overview of micro-macro models for mixed traffic Workshop "Lagrangian control for traffic control in mixed autonomy environment" at the Conference on Decision and Control	Dec 2019

Nice, France

- Traffic flow implications of autonomous and partially autonomous vehicles** Sept 2019
Workshop on "Connected and automated vehicles for energy efficient and environmental impact"
IFPEN, Rueil-Malmaison, France
- Modeling autonomous vehicles in traffic flow** July 2019
International congress on Industrial and Applied Mathematics (ICIAM) 2019
Valencia, Spain
- A decision support and planning mobility method for large scale traffic networks** June 2019
European Control Conference (ECC)
Naples, Italy
- Micro - macro models for traffic with autonomous vehicles** Feb 2019
IPAM Workshop on Autonomous Vehicles
IPAM (UCLA), USA
- Traffic control and estimation with autonomous vehicles** Jan 2019
Journée du groupe de travail en automatique et transports terrestres
Université Grenoble Alpes, France
- Traffic reconstruction using autonomous vehicles** Jan 2019
Sixth Chilean Workshop on Numerical Analysis of PDEs (WONAPDE)
Concepción, Chile
- Can big data help traffic control?** Dec 2018
Workshop on "Traffic control via PDE Techniques" at the Conference on Decision and Control
Miami Beach, USA
- Control and estimation of traffic flow using autonomous vehicles** Sept 2018
Joint meeting of the Italian Mathematical Union, the Italian Society of Industrial and Applied Mathematics
and the Polish Mathematical Society
Wrocław, Poland
- Micro-macro traffic modeling for estimation and control** Sept 2018
First SoPhy International Workshop on Societal-Scale Cyber-Physical Transport Systems Workshop
Stockholm, Sweden
- Riemann solver for a macroscopic double-lane roundabout model** June 2018
15th IFAC Symposium on Control in Transportation Systems
Savona, Italy
- Two-dimensional macroscopic model for large scale traffic network** Apr 2018
Incontro Scientifico su Modellizzazione ed Analisi di Problemi di Folle e Traffico
Politecnico di Torino, Italy
- Control of traffic: from ramp metering to autonomous vehicles** Nov 2017
The finite volumes schemes and traffic modeling workshop
Besançon, France
- Control of traffic via ramp metering and automated vehicles** June 2017
France-Berkeley Fund award ceremony
College de France, Paris, France
- Traffic regulation via controlled speed limit** May 2017
SIAM Conference on Optimization

Vancouver, Canada

Traffic flow modeling Nov 2016
Gipsa-Lab days
Grenoble, France

Traffic flow modeling and simulations with moving bottlenecks July 2016
The 11th AIMS conference on dynamical systems, differential equations and applications
Orlando, USA

Modeling of traffic flow on networks June 2016
BIS'2016 "Berkeley-Inria-Stanford Workshop 2016"
Inria Paris, France

Optimal control strategies for traffic flow Jan 2016
Workshop TRAM3 Terminus
Inria Sophia Antipolis - Méditerranée, France

Traffic flow control via variable speed limit Sept 2015
Mathematical foundations of traffic flow modeling (TRAWS1) Workshop
Institute of Pure and Applied Mathematics (IPAM), UCLA, USA

A junction model for flow optimization on highway corridors June 2014
CNAM, Paris, France
BIS'2014 "Berkeley-Inria-Stanford Workshop 2014"

A PDE-ODE model for a junction with ramp buffer July 2013
Tenth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives
L'Aquila, Italy

A junction model for ramp metering May 2013
BIS'2013 "Berkeley-Inria-Stanford Workshop 2013"
Stanford University, USA

Contributed talks

Big data and the fundamental diagram Mar 2017
INDAM Workshop: Transport Modeling and Management
Rome, Italy

Traffic flow control: avoiding shocks via variable speed limit Mar 2015
GAMM2015 "GAMM 86th Annual Scientific Conference"
Lecce, Italy

A conservative scheme for non-classical shocks arising in traffic flow modeling July 2014
HYP2014 "15th International Conference on Hyperbolic Problems: Theory, Numerics, Applications"
Rio de Janeiro, Brazil

Traffic flow optimization on networks Sept 2013
IperMib "15th Italian Meeting on Hyperbolic Equations"
Milan, Italy

Traffic flow optimization on roundabouts Sept 2013
EWGT2013 "16th Euro Working Group on Transportation"
Porto, Portugal

A PDE-ODE model for a junction with ramp buffer Mar 2013
TRAM2 "VI Workshop on Mathematical Foundations of Traffic (WMFT)"

Sophia Antipolis, France

Loi de conservation scalaire avec une contrainte mobile Feb 2013
RIDA²D 2013 "Rencontres Interdisciplinaires Doctorales de l'Architecture et de l'Aménagement Durables"
Lyon, France

Scalar conservation laws with moving density constraints arising in traffic flow modeling June 2012
HYP2012 "14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications"
Padova, Italy

Posters

Scalar conservation laws with moving density constraints arising in traffic flow modeling May 2013
Congrès SMAI 2013 "6e Biennale Française des Mathématiques Appliquées et Industrielles"
Seignosse, France

Publications

^a indicates students and post doctoral researchers advised.

Remark: The authorship convention in mathematics is alphabetical order.

Preprints

- [1] C. Daini^a, P. Goatin, **M. L. Delle Monache**, and A. Ferrara, "Centralized traffic control via small fleets of connected and automated vehicles," submitted.
- [2] P. Goatin, C. Daini^a, **M. L. Delle Monache**, and A. Ferrara, "Interacting moving bottlenecks in traffic flow," submitted, preprint: <https://hal.archives-ouvertes.fr/hal-03475355/document>.
- [3] T. Liard^a, R. E. Stern, and **M. L. Delle Monache**, "A PDE-ODE model for traffic control with autonomous vehicles," submitted, preprint: <https://hal.archives-ouvertes.fr/hal-02492796/document>.
- [4] C. Magnetti Gisolo^a, **M. L. Delle Monache**, F. Ferrante, and P. Frasca, "Nonlinear analysis of stability and safety of optimal velocity model vehicle groups on ring roads," submitted.
- [5] L. Tumash^a, C. Canudas-De-Wit, and **M. L. Delle Monache**, "Multi-directional continuous traffic model for large-scale traffic urban network," submitted, preprint: <https://hal.archives-ouvertes.fr/hal-03236552>.
- [6] L. Tumash^a, C. Canudas-de-Wit, and **M. L. Delle Monache**, "Boundary and vsl control for large-scale urban traffic networks," submitted, preprint: <https://hal.archives-ouvertes.fr/hal-03167733/document>.
- [7] H. Wang^a and **M. L. Delle Monache**, "Urban network resilience analysis and equity emphasized recovery based on reinforcement learning," submitted.

Journal papers

- [8] Y. Wang, **M. L. Delle Monache**, and D. B. Work, "Identifiability of car-following dynamics," *Physica D: Nonlinear Phenomena*, vol. 430, p. 133 090, Nov. 2022. DOI: <https://doi.org/10.1016/j.physd.2021.133090>. preprint: <https://arxiv.org/pdf/2103.08652.pdf>.
- [9] G. Gunter, D. Gludemans, R. E. Stern, S. McQuade, R. Bhadani, M. Bunting, **M. L. Delle Monache**, R. Lysecky, B. Seibold, J. Sprinkle, B. Piccoli, and D. B. Work, "Are commercially implemented adaptive cruise control systems string stable?" *IEEE Transactions on Intelligent Transportation Systems*, vol. 22, no. 11, pp. 6992–7003, Nov. 2021. DOI: [10.1109/TITS.2020.3000682](https://doi.org/10.1109/TITS.2020.3000682). preprint: <https://arxiv.org/pdf/1905.02108.pdf>.

- [10] Y. Wang, G. Gunter, M. Nice, **M. L. Delle Monache**, and D. B. Work, "Online parameter estimation methods for adaptive cruise control systems," *IEEE Transactions on Intelligent Vehicles*, vol. 6, no. 2, pp. 288–298, Jun. 2021. DOI: 10.1109/TIV.2020.3023674. preprint: <https://hal.inria.fr/hal-03011790/document>.
- [11] V. Giammarino, S. Baldi, P. Frasca, and **M. L. Delle Monache**, "Traffic flow on a ring with a single autonomous vehicle: An interconnected stability perspective," *IEEE Transactions on Intelligent Transportation Systems*, vol. 22, no. 8, pp. 4998–5008, Apr. 2021. DOI: 10.1109/TITS.2020.2985680. preprint: <https://hal.inria.fr/hal-03011895/document>.
- [12] L. Tumash^a, C. Canudas-de-Wit, and **M. L. Delle Monache**, "Boundary control design for traffic with nonlinear dynamics," *IEEE Transactions on Automatic Control*, Mar. 2021. DOI: 10.1109/TAC.2021.3069394. preprint: <https://hal.archives-ouvertes.fr/hal-02955853/document>, in press.
- [13] **M. L. Delle Monache**, K. Chi, Y. Chen, P. Goatin, K. Han, J.-M. Qiu, and B. Piccoli, "A three-phase fundamental diagram from three-dimensional traffic data," *Axioms*, vol. 10, no. 1, pp. 1–20, Feb. 2021. DOI: 10.3390/axioms10010017. preprint: <https://hal.inria.fr/hal-01864628/document>.
- [14] **M. L. Delle Monache**, T. Liard^a, B. Piccoli, R. Stern, and D. B. Work, "Traffic reconstruction using autonomous vehicles," *SIAM Journal on Applied Mathematics*, vol. 79, no. 5, pp. 1748–1767, Sep. 2019. DOI: 10.1137/18M1217000. preprint: <https://hal.inria.fr/hal-01882309>.
- [15] S. Mollier^a, **M. L. Delle Monache**, C. Canudas-de-Wit, and B. Seibold, "Two-dimensional macroscopic model for large scale traffic networks," *Transportation Research Part B: Methodological*, vol. 122, pp. 309–326, Apr. 2019. DOI: 10.1016/j.trb.2019.02.016. preprint: <https://hal.inria.fr/hal-01819013v1>.
- [16] R. Stern, Y. Chen, M. Churchill, F. Wu, **M. L. Delle Monache**, B. Piccoli, B. Seibold, J. Sprinkle, and D. B. Work, "Quantifying air quality benefits resulting from few autonomous vehicles stabilizing traffic," *Transportation Research Part D: Transport and Environment*, vol. 67, pp. 351–365, Feb. 2019. DOI: 10.1016/j.trd.2018.12.008. preprint: <https://hal.inria.fr/hal-02022692>.
- [17] F. Wu, R. Stern, S. Cui, **M. L. Delle Monache**, R. Bhadani, M. Bunting, M. Churchill, N. Hamilton, R. Haulcy, B. Piccoli, B. Seibold, J. Sprinkle, and D. B. Work, "Tracking vehicle trajectories and fuel rates in phantom traffic jams: Methodology and data," *Transportation Research Part C: Emerging Technologies*, vol. 99, pp. 82–109, Feb. 2019. DOI: 10.1016/j.trc.2018.12.012. preprint: <https://hal.inria.fr/hal-01614665>.
- [18] S. Mollier^a, **M. L. Delle Monache**, and C. Canudas-de-Wit, "A simple example of two dimensional model for traffic: Discussion about assumptions and numerical methods," *Transportation Research Record: Journal of the Transportation Research Board*, vol. 2672, no. 20, pp. 249–261, Aug. 2018. DOI: 10.1177/0361198118791626. preprint: <https://hal.archives-ouvertes.fr/hal-01665285>.
- [19] S. Samaranayake, W. Krichene, J. Reilly, **M. L. Delle Monache**, P. Goatin, and A. Bayen, "Discrete-time system optimal dynamic traffic assignment (SO-DTA) with partial control for physical queuing networks," *Transportation Science*, vol. 52, no. 4, pp. 982–1001, Jun. 2018. DOI: 10.1287/trsc.2017.0800. preprint: <https://hal.inria.fr/hal-01095707>.
- [20] R. E. Stern, S. Cui, **M. L. Delle Monache**, R. Bhadani, M. Bunting, M. Churchill, N. Hamilton, H. Pohlmann, F. Wu, B. Piccoli, *et al.*, "Dissipation of stop-and-go waves via control of autonomous vehicles: Field experiments," *Transportation Research Part C: Emerging Technologies*, vol. 89, pp. 205–221, Apr. 2018. DOI: 10.1016/j.trc.2018.02.005. preprint: <https://arxiv.org/pdf/1705.01693.pdf>.
- [21] **M. L. Delle Monache**, P. Goatin, and B. Piccoli, "Priority-based Riemann solver for traffic flow on networks," *Communications in Mathematical Sciences*, vol. 16, no. 1, pp. 185–211, Mar. 2018. DOI: 10.4310/CMS.2018.v16.n1.a9. preprint: <https://hal.inria.fr/hal-01336823/document>.

- [22] **M. L. Delle Monache**, B. Piccoli, and F. Rossi, "Traffic regulation via controlled speed limit," *SIAM Journal on Control and Optimization*, vol. 55, no. 5, pp. 2936–2958, Sep. 2017. DOI: 10.1137/16M1066038. preprint: <https://arxiv.org/pdf/1603.04785v1.pdf>.
- [23] **M. L. Delle Monache** and P. Goatin, "Stability estimates for scalar conservation laws with moving flux constraints," *Networks and Heterogeneous Media*, vol. 12, no. 2, pp. 245–258, Jun. 2017. DOI: 10.3934/nhm.2017010. preprint: <https://hal.inria.fr/hal-01380368/document>.
- [24] S. Blandin, X. Litrico, **M. L. Delle Monache**, B. Piccoli, and A. Bayen, "Regularity and Lyapunov stabilization of weak entropy solutions to scalar conservation laws," *IEEE Transactions on Automatic Control*, vol. 62, no. 4, pp. 1620–1635, Apr. 2017. DOI: 10.1109/TAC.2016.2590598. preprint: <https://hal.inria.fr/hal-01267722/document>.
- [25] C. Chalons, **M. L. Delle Monache**, and P. Goatin, "A conservative scheme for non-classical solutions to a strongly coupled PDE-ODE problem," *Interfaces and Free Boundaries*, vol. 19, no. 4, pp. 553–570, Jan. 2017. DOI: 10.4171/IFB/392. preprint: <https://hal.inria.fr/hal-01070262>.
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