

Curriculum Vitae: Dr. rer. nat. **Martin Treiber** (*30.08.1961)

Scientific Background

Since 2000	Senior Research Scientist. Permanent position at the Institute for Transport and Economics, Dresden University of Technology
1996-2000	Research Scientist, University of Stuttgart
1996	Dissertation
1993-1995	Visiting Scientist, University of California Santa Barbara and University of Arizona Tucson
1992-1996	Research Assistant (PhD student), University of Bayreuth
1986-1992	Study of Physics, University of Bayreuth, finished with a Diploma
1982-1986	Study of High Precision Mechanics and Optics, Technical University "Georg Simon Ohm" of Nuremberg, finished with a Diploma

Research Projects (Selected)

SANDY - Verehrsanwendungen der Nichtlinearen Physik (BMBF, together with Daimler, Volkswagen, Siemens and other automotive-related companies)

Stauvermeidung durch intelligentes Fahrzeugverhalten (VW AG)

VASIS - Modellbasierte Verkehrszustandsschätzung unter Berücksichtigung verschiedener Datenquellen (ddg GmbH),

INVENT - Intelligenter Verkehr und nutzergerechte Technik (BMBF, together with Volkswagen, Daimler, BMW, and other automotive-related companies)

AKTIV – Adaptive and Cooperative Technologies for intelligent Traffic (BMBF, together with Volkswagen, MAN, and other automotive-related companies)

KOLINE – a Volkswagen project on eco-routing

DFG – Selbstheilende Straßennetze – Lichtsignalgestütztes Störfallmanagement auf Basis mesoskopischer nichtgleichgewichtiger Verkehrsmodelle

COOL – Cooperatively Organized Operations of Longitudinal driving, a small Volkswagen project

MOVSIM – Multi-model, open-source vehicular-traffic Simulator, a scientific software project, see www.movsim.org

IPBMNES – Integrated Pedestrian Behavior Modeling under Normal and Evacuation Situations

Consultancy

Various projects for Volkswagen, TomTom, Teledyne Inc, the German authorities for inland waterways, and others related to traffic flow, intelligent traffic, adaptive cruise control, autonomous driving, trajectories, and eco-routing

Editorship

Associate Editor at Transportation Research Part B, Transportmetrica A, and Physica A

Awards and Prizes

"Emil-Warburg-Forschungspreis" (Research Prize) for the best dissertation in Physics at the University of Bayreuth, 1996.

"Best Referee Award", The American Physical Society, 2009

"Top 1% Reviewer Award" Publons, 2017, 2018, 2019

"Certificate of Excellence in Reviewing" Transp. Research Part C, 2016

"Certificate of Outstanding Contribution in Reviewing" Transp. Research Part B, Physica A, Accident Analysis and Prevention, Engineering Structures, 2016-2018

Selected publications

(from about 150, see <http://scholar.google.de/citations?user=WCLdpbMAAAAJ&hl=en>)

M. Treiber and A. Kesting, Traffic Flow Dynamics: Data, Models, and Simulation, 503+XII pages, Springer (2013).

M. Treiber and A. Kesting, The Intelligent Driver Model with stochasticity - New insights into traffic flow oscillations. Transportation Research Part B, 117, 613-623 (2018)

M. Treiber and V. Kanagaraj Comparing Numerical Integration Schemes for Time-Continuous Car-Following Models Physica A 419C, 183-195 (2015)

M. Treiber and A. Kesting, Microscopic Calibration and Validation of Car-Following Models - A Systematic Approach. Procedia - Social and Behavioral Sciences 80, 922-939 (2013)

M. Treiber, and A. Kesting, Evidence of Convective Instability in Congested Traffic Flow: A Systematic Empirical and Theoretical Investigation. Transportation Research Part B: Methodological 45, Issue 9, 1362-1377 (2011).

M. Treiber, A. Kesting, R.E. Wilson, Reconstructing the traffic state by fusion of heterogeneous data, Comp. Aid. Civ. Infrastr. Eng. 26, 408-419 (2011)

A. Kesting, M. Treiber, D. Helbing, General lane-changing model MOBIL for car-following models, Transp. Res. Rec. 1999, 86-94 (2007)

M. Treiber, A. Kesting, D. Helbing, Delays, inaccuracies, and anticipation in microscopic traffic models, Physica A 360, 71-88 (2006)

M. Treiber, A. Hennecke, and D. Helbing. Congested Traffic States in Empirical Observations and Microscopic Simulation. Phys. Rev. E 62, 1805-1824 (2000)

M. Treiber, A. Hennecke, and D. Helbing, Derivation, Properties, and Simulation of a Gas-Kinetic-Based, Non-Local Traffic Model, Phys. Rev. E 59, 239-253 (1999)