

# SiRoS: Simulation and Simulators to Study Road Safety

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# Short Bio

Imine received his Master Degree and his PhD in Robotics and Automation from Versailles University, France, respectively in 2000 and 2003. He received Accreditation to Supervise Research (Habilitation à Diriger des Recherches, HDR) on March 2012 from University of Valenciennes et du Hainaut Cambresis, France. In 2005, he joined IFSTTAR (Today University Gustave Eiffel), where he is currently Research Director. He is involved in different French and European projects. His research interests include Intelligent Transportation Systems, vehicle modeling and stability, diagnosis, nonlinear observation, nonlinear control. He published 2 books, over 80 technical papers, and several industrial technical reports.



Eng Claudio Lantieri, Ph.D. in Transportation Engineering, is researcher since 2016 at the University of Bologna. He has been teaching and Teaching Assistant in all courses of the DICAM - Roads area, with activities assistant supervisor in several dissertations. Member SIIV (Italian Society of Road Infrastructures) since 2006, has participated in several conferences and seminars and has authored publications in journals and national and international conferences on topics related to the subject area ICAR04



# Content

Driving simulators have gradually become a means of improving knowledge in the field of driving. The advantages linked to simulator studies are numerous: no real risk for users, reproducibility of situations, saving time and reducing experimental costs. Their flexibility also makes it possible to test situations that do not exist in reality or exist only rarely and randomly. Simulators also allow the evaluation of new driver assistance systems.

The purpose of this special track is to explore the latest research conducted in the use of simulators in the field of road safety. From the construction of the simulator to the tests carried out, the different methods used as well as the results obtained will be presented.

## **Topics include, but not limited to:**

- ✓ Simulators design (Bicycle, Motorcycle, Vehicle)
- ✓ Vehicle dynamics validation
- ✓ Accidents analysis
- ✓ Road users behavior study
- ✓ Impact of road characteristics on road safety
- ✓ Drivers behavior study

## Future challenges

We are convinced that in the near future, Further developments on simulators and their application to road safety will be presented.

Indeed, vehicle models improvements, development of the virtual environment and installation of new devices to simulate the interaction between the infrastructure and the simulator should help to better study the road safety. Conduct more additional experiments with more users will be useful to to validate the new models physically and subjectively.

The new challenge is to gather all these new developments and results in new special track.