

Carmine Senatore

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- Education** **Ph.D. Engineering Mechanics,** 2005-2010
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia.
Thesis: "Prediction of mobility, handling, and tractive efficiency of wheeled off-road vehicles"
Advisors: Dr. Shane D. Ross and Dr. Corina Sandu. GPA: 3.95/4.0
- B.S. Mechanical Engineering** 2001-2004
Politecnico di Milano, Milan, Italy.
Graduated in the first session, July 2004, top of class. Equiv. GPA: 4.0/4.0
- Research Interests** Terramechanics, tire dynamics, vehicle dynamics, dynamical systems, nonlinear dynamics and chaos, vibrations, control, image processing, mathematical modeling.
- Experience** **Postdoctoral Associate,** MIT, Cambridge, MA June 2010 to date
- Robotic Mobility Laboratory
 - Analysis of mobility of small robots
- Research Assistant,** Virginia Tech, Blacksburg, VA 2007-2010
- Analyzed the energy efficiency of off-road tires and vehicles
 - Implemented a novel path-planning algorithm exploiting LCS concept
 - Developed an algorithm for ridge detection and characterization in digital images.
- Teaching Assistant,** Mechanical Behaviour of Materials, Virginia Tech 2005-2007
- Comprehensive management of the class
 - Lectured the class, assigned grades
 - Operated MTS and Instron testing machines.
- Languages**
- Italian (mother-tongue)
 - English (fluent written/oral)
 - French (intermediate writing/speaking)
 - German (basic level of writing/speaking).
- Selected Publications** Senatore C. and C. Sandu *Exit angle influence on energy efficiency of off-road tires* 11th European Regional Conference of the ISTVS, Bremen, Germany October, 2009
- S. D. Ross, M. L. Tanaka and C. Senatore, *Detecting dynamical boundaries from kinematic data in biomechanics* Chaos: an Interdisciplinary Journal of Nonlinear Science **20**, 017507, 2010
- Senatore C. and S. D. Ross, *Detection and characterization of transport barriers in complex flows via ridge extraction of the finite time Lyapunov exponent field* International Journal of Numerical Methods in Engineering, under review, June 2009
- Senatore C. and S. D. Ross, *Fuel-efficient navigation in complex flows* In Proceedings of 2008 American Control Conference, pages 12441248, 2008.