

Carmine Senatore

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- OBJECTIVE** Full time job position in research, design and development area
- EDUCATION** **Ph.D. Engineering Mechanics**, expected May 2010
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia.
Research Interests: dynamical systems, tire dynamics, nonlinear dynamics and chaos, vibrations, control, vehicle dynamics, image processing, mathematical modelling.
GPA: 3.95/4.0 (ABD)
B.S. Mechanical Engineering, Politecnico di Milano, Milan, Italy, September 2001- July 2004
Graduated in the first session, July 2004, top of class.
Equiv. GPA: 4.0/4.0
- PUBLICATIONS** **Journal of Terramechanics, Publisher Elsevier Ltd**, in preparation, Oct 2009
"Tire parameters influence on lateral and longitudinal motion of off-road ground vehicles"
C. Senatore and C. Sandu
11th European Regional Conference of the ISTVS, Bremen, Germany October, 2009
"Exit angle influence on energy efficiency of off-road tires"
C. Senatore and C. Sandu.
Chaos, under review, Aug 2009
"Detecting dynamical boundaries from kinematic data in biomechanics",
S. D. Ross, M. L. Tanaka and C. Senatore,
International Journal of Numerical Methods in Engineering, under review, June 2009
"Detection and characterization of transport barriers in complex flows via ridge extraction of the finite time Lyapunov exponent field"
C. Senatore and S. D. Ross
In Proceedings of 2008 American Control Conference, pages 1244–1248, 2008.
"Fuel-efficient navigation in complex flows"
C. Senatore and S. D. Ross.
- TEACHING EXPERIENCE** **Teaching Assistant**, Mechanical Behaviour of Materials class, Virginia Tech, Blacksburg, VA, August 2005- May 2007
- Comprehensive management of the class of ~20 students
 - Lectured the class
 - Assigned grades
 - Operated MTS and Instron testing machines
- PROJECTS** **Multi Body analysis of a Piaggio Mp3 motorcycle front suspension** (*two front wheel scooter*)
Virginia Tech, Multi Body Dynamics, Fall 2006:
- Designed 4 degrees of freedom model of the suspension (6 bodies with different joints)
 - Used mixed coordinates
 - Derived the equations of motion of the system
- Quarter car semi-active suspension model**
Virginia Tech, Land Vehicles Dynamics, Spring 2006:
- Model of a 2 degrees of freedom active-suspension driven by an hydraulic actuator
 - Complete model of the dynamics of the hydraulic actuator
 - Simulated the system with Simulink
 - Analyzed the response in both the time and frequency domain

CAD design of a panic break-out automatic door

Politecnico di Milano, Senior CAD Design, Milan, Italy, Spring 2004.

Class project in partnership with *Manusa* (Spanish automatic door solutions manufacturer):

- CAD design (with *Autodesk Inventor*) of all the components of an assembled door
- FEM analysis of the most stressed components
- Creation of a configurator software: given the specifications of the door automatically produced the sketches of all the components.

Complete bottom up design of the gearbox shaft of a Fiat Punto (compact Italian car)

Politecnico di Milano, Junior Design/Manufacturing/Material, Milan, Italy, Spring 2003:

- Interdisciplinary class project
- Selected the suitable material
- Stress analysis and choice of the right ball bearings
- Chose of manufacturing process and procedures

SKILLS

Research/Technical/Communication Skills

- Great flexibility from both human and professional point of view
- Visually presenting and verbally communicating research findings
- Collecting, organizing, and analyzing data
- Computer/Electronics hardware expert

Computer Skills

- | | | |
|-------------------|-----------------|-----------------------|
| • Matlab | • Catia | • Truck/Carsim |
| • Mathematica | • Solid Edge | • Video&Audio editing |
| • Minitab | • Solid Works | • Windows OS |
| • C, C++, Fortran | • Inventor | • MS Office |
| • LabView | • Abaqus, Femap | • Apple MacOS |

LANGUAGES

- Italian (mother-tongue)
- English (fluent written/oral)
- French (intermediate writing/speaking)
- German (basic level of writing/speaking)

HONORS & OTHER

EU Socrates Programme, school partnerships between European education systems. Classes in Paris (1999) and Lisbon (2000).

EXPERIENCE

Wholesale and Retail Clothing Store, Salerno, Italy 1998-2001

- Connections with both wholesale and retail customers
- Sales
- Deliveries

ANAF "Associazione Nazionale Arti Fotografiche", Salerno, Italy 1996-2001

Italian photography association. Organization of international:

- Shows
- Contests
- Workshops
- Conferences