

CURRICULUM VITAE of Simonetta Boria

PERSONAL DATA

Full name Simonetta Boria
Date of birth October 23, 1981
Place of birth Ancona, Marches, Italy
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CURRENT POSITION

Apr 2014 – Today **Assistant Professor** of Mechanical Design and Machine Building at the School of Science and Technology, University of Camerino.

EDUCATION

Jan 2010 – Dec 2013 **Post doc** on “Mathematical models and simulations for crash problems”, University of Camerino.
Jan 2006 – Dec 2008 **Ph.D. Land Vehicle**, University of Pisa.
Oct 2003 – Oct 2005 **M.Sc. Mathematics and Applications**, University of Camerino.
 Final Grade: full marks (110/110) and *summa cum laude*.
 Thesis: Mathematics models for crash analysis.
 Advisors: Fabio Giannoni, Professor of Analysis.
May 2004 – May 2005 **Master Racing Car Engineering**, University of Camerino.
 Final Grade: full marks (100/100) and *summa cum laude*.
Oct 2000 – Oct 2003 **B.Sc. Mathematics**, University of Camerino.
 Final Grade: full marks (110/110) and *summa cum laude*.
 Thesis: Composite materials-Stress and strain in the sheets.
 Advisors: Fabio Giannoni, Professor of Analysis.
Sep 1995 – Jul 2000 **High School Scientific Lyceum**, Liceo scientifico G.Galilei, Ancona.

OTHER ACTIVITIES

Jan – Dec 2012 Collaboration in the crash homologation of the M1 Belumbury Dany.
Nov 2008 – Nov 2010 Collaboration in the crashworthiness design of the citycar Belumbury Dany.
Oct 2008 – Jul 2010 Collaboration on “Polypropylene Leichtbauteilen” project for Mercedes-Benz.
Mar – May 2009 Collaboration for safety analysis of a new reactors, CIRTEN.
Jan – Nov 2008 Collaboration with Energy Resources Srl for “Development of mathematical models” in the research project “Advanced systems of production for geothermics”.
Jan – Sep 2008 Collaboration with Formula SAE® 2008 of University of Pisa for the frontal impact structure design.
Jan – Mar 2008 Collaboration for SIM project, University of Pisa.

SCHOLARSHIPS

Jan – Mar 2014 Awarded a scholarship for research on “Energy models for crash boxes made of composite material”, University of Camerino.
Nov 2008 – Nov 2009 Awarded a scholarship for research on “Mathematical Methods for technological innovation”, University of Camerino.
Oct 2002 – Oct 2005 Awarded a scholarship “University of Camerino: Pleasure to know”.
Oct 2001 – Oct 2003 Awarded INDAM(National Institute of High Mathematic) scholarship.

Oct 2000 – Oct 2005 Awarded a scholarship from the University of Camerino.

TEACHING EXPERIENCE

Mar – Jun 2015 **Models and simulations** (ING-IND/14) in Undergraduate Degree Course in Computer Science, University of Camerino.

Oct – Jan 2015 **Design laboratory** (ING-IND/14) in Undergraduate Degree Course in Computer Science, University of Camerino.

Mar – Jun 2014 **Design laboratory and calculation methods** (ING-IND/14) in Undergraduate Degree Course in Computer Science, University of Camerino.

Sep 2013 – Jan 2014 **Statistics** (MAT/06) in Undergraduate Degree Course in Nutrition Biology, University of Camerino.

Feb – Jun 2013 **Models and simulations** (ING-IND/14) in Undergraduate Degree Course in Computer Science, University of Camerino.

Feb – Jun 2012 **Computer tools** (INF/01), **Models and simulations** (ING-IND/14) in Undergraduate Degree Course in Computer Science, University of Camerino.

Feb – Jun 2011 **Computer tools** (INF/01) in Undergraduate Degree Course in Computer Science, University of Camerino.

Mar – Jun 2010 **Computer tools** (INF/01) in Undergraduate Degree Course in Computer Science, University of Camerino.

Sep 2007 **Programming C++** and **Cluster of PC** in *Open Source Master* organized by BicOmega Srl.

LANGUAGES

<i>Italian</i>	Mother tongue	
<i>English</i>	Certification B2	Jun 2007
	Cambridge PET	Dec 2002
	Regent School of London	Aug 1998

COMPUTER SKILLS

<i>Languages</i>	Fortran, C, C++, Java, HTML.
<i>Scientific software</i>	Matlab, ANSYS, LS-DYNA, Altair HyperWorks, PTC Creo, Simulink, LabView, Mathematica.

PROFESSIONAL EXPERIENCE

- Member of the editorial board of “International Journal of Automotive Composites”, edited by A.Elmarakbi.
- Member of the scientific committee of the “International Conference on Mechanics of Nano, Micro and Macro Composite Structures”, “5th International Conference on Innovative Natural Fibre Composites for Industrial Applications”, “International Conference on Automotive Composites”.
- Reviewer for the “Composite Structures”, “International Journal of Mechanical Sciences”, “Materials and Design”, “Journal of Reinforced Plastics and Composites”, “International Journal of Automotive Composites”, “International Journal of Vehicle Design”, “International Journal of Vehicle Structures & Systems”, “Steel & Composite Structures, An International Journal “, “10th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications”, “2015 Global Conference on Polymer and Composite Materials (PCM 2015)”, “Materials”.

PUBLICATIONS

JOURNAL PAPERS

1. S.Boria, A.Scattina, G.Belingardi, Experimental evaluation of a fully recyclable thermoplastic composite, *Composite Structures*, 140, 21-35, 2016.
2. S.Boria, S.Pettinari, F.Giannoni, G.Cosimi, Analytical and numerical analysis of composite impact attenuators, *Composite Structures*, in press.
3. S.Boria, A.Scattina, G.Belingardi, Axial energy absorption of CFRP truncated cones, *Composite Structures*, 130, 18-28, 2015.
4. S.Boria, J.Obradovic, G.Belingardi, Experimental and numerical investigations of the impact behaviour of composite frontal crash structures, *Composites Part B*, 79, 20-27, 2015.
5. S.Boria, S.Maccagnani, R.Giambò, F.Giannoni, Crashworthiness and lightweight design of an innovative microcar, *International Journal of Automotive Composites*, 1 (4), 313-332, 2015.
6. S.Boria, G.Belingardi, F.Giannoni, A crashworthy problem on composite structures using a mathematical approach, *Procedia Engineering*, 88, 125-132, 2014.
7. S.Boria, S.Pettinari, Energy absorbed by composite conical structures in axial crushing, *Advanced Composites Letters*, 23 (1), 11-16, 2014.
8. S.Boria, S.Pettinari, Mathematical design of electric vehicle impact attenuators: metallic vs composite material, *Composite Structures*, 115, 51-59, 2014.
9. S.Boria, S.Pettinari, F.Giannoni, Theoretical analysis on the collapse mechanisms of thin walled composite tubes, *Composite Structures*, 103, 43-49, 2013.
10. S.Boria, G.Belingardi, Numerical investigation of energy absorbers in composite materials for automotive applications, *International Journal of Crashworthiness*, 17 (4), 345-356, 2012, ISSN: 1358-8265.
11. J.Obradovic, S.Boria, G.Belingardi, Lightweight design and crash analysis of composite frontal impact energy absorbing structures, *Composite Structures*, 94 (2), 423-430, 2012, ISSN: 0263-8223.
12. S.Boria, Behaviour of an impact attenuator for Formula SAE car under dynamic loading, *International Journal of Vehicle Structures & Systems*, 2 (2), 45-53, 2010, ISSN: 0975-3540.

BOOK CHAPTERS

1. S.Boria, Lightweight design and crash analysis of composites, In: *Lightweight composite structures in transport: design, manufacturing, analysis and performance*, Ed. J.Njuguna, Woodhead Publishing, 329-359, 2016, ISBN: 978-1-782-42325-6.
2. S.Boria, Design solutions to improve CFRP crash-box impact efficiency for racing applications, In: *Advanced composite materials for automotive applications: structural integrity and crashworthiness*, Ed. A.Elmarakbi, John Wiley & Sons, 205-226, 2013, ISBN: 978-1-118-42386-8.
3. G.Belingardi, S.Boria, J.Obradovic, Energy absorbing sacrificial structures made of composite materials for vehicle crash design, In: *Dynamic Failure of Composite and Sandwich Structures*, Solid Mechanics and Its Applications, Springer, 192, 577-609, 2013, ISBN: 978-94-007-5328-0.
4. A.Arteconi, M.Moglie, F.Polonara, S.Boria, M.L.Corradini, F.Giannoni, Sviluppo di un modello matematico per uno scambiatore geotermico a spirale, In: *Sistemi avanzati di produzione per geotermia - Risultati del progetto di ricerca I.S.SO.CO.RE e Regione Marche*, Energy Resources, 109-125, 2009.

CONFERENCE PAPERS

1. C.Santulli, F.Sarasini, S.Boria, J.Tirillò, A.Caruso, M.Infantino, Mechanical and impact characterization of glass/wool felts hybrid laminates, 5th International Conference on Innovative Natural Fibre Composites for Industrial Applications, October 2015, Roma.
2. S.Boria, A.Scattina, G.Belingardi, Characteristics of thermoplastic composite tube under axial loading, American Society for Composites 30th Technical Conference, September 2015, Michigan.
3. S.Boria, S.Pettinari, F.Giannoni, G.Cosimi, Analytical and numerical analysis of composite impact attenuators, International Conference on Shells, Plates and Beams, September 2015, Bologna.

4. S.Boria, A.Scattina, G.Belingardi, Analisi sperimentale di nuovi compositi termoplastici per l'assorbimento energetico, 44° Convegno Nazionale AIAS, September 2015, Messina.
5. S.Boria, A.Scattina, Investigation on the energy absorption capability of composite crash-box with recyclable thermoplastic material, 20th International Conference on Composite Materials, ICCM20, July 2015, Copenhagen.
6. S.Boria, G.Belingardi, F.Giannoni, A crashworthy problem on composite structures using a mathematical approach, International Symposium on Dynamic Response and Failure of Composite Materials, DRaF 2014, September 2014, Ischia.
7. S.Boria, Ricercare la sicurezza in una microcar elettrica, 43° Convegno Nazionale AIAS, September 2014, Rimini.
8. S.Boria, A.Scattina, G.Belingardi, Capacità di assorbimento assiale di strutture tronco coniche in materiale composito, 43° Convegno Nazionale AIAS, September 2014, Rimini.
9. S.Boria, G.Belingardi, Composite impact attenuator with shell and solid modelling, 11th World Congress on Computational Mechanics, WCCM XI-ECCM V-ECFD VI, July 2014, Barcelona.
10. G.Belingardi, S.Boria, J.Obradovic, Numerical and experimental dynamic analysis for a CFRP formula sae impact attenuator, The 19th International Conference on Composite Materials, ICCM19, July 2013, Montréal.
11. S.Boria, S.Pettinari, Mathematical and numerical approach for a crashworthy problem, V International Conference on Computational Methods for Coupled Problems in Science and Engineering, COUPLED PROBLEMS 2013, June 2013, Ibiza.
12. S.Boria, G.Belingardi, F.Giannoni, Choice of design solutions for improving road safety in a city car, International Crashworthiness Conference, ICRASH 2012, July 2012, Milano.
13. S.Boria, G.Belingardi, Investigation of the most efficient solution for a specific vehicle impact attenuator in CFRP material, 15th European Conference on Composite Materials, ECCM15, June 2012, Venezia.
14. S.Boria, CFRP automotive members with crash compatibility, International Conference on Mechanics of Nano, Micro and Macro Composite Structures, June 2012, Torino.
15. G.Belingardi, S.Boria, A.Scattina, Delaminazione sperimentale e numerica in laminati composito, 40° Convegno Nazionale AIAS, September 2011, Palermo, ISBN: 9788895272856.
16. J.Obradovic, S.Boria, G.Belingardi, Lightweight design and crash analysis of composite frontal impact energy absorbing structures, 16th International Conference on Composite Structures, ICCS16, June 2011, Porto.
17. G.Belingardi, S.Boria, J.Obradovic, Energy absorbing sacrificial structures made of composite material for vehicle crash design, Workshop "Dynamic failure of composites and sandwich structures", ICA, June 2011, Toulouse.
18. S.Boria, G.Belingardi, Numerical investigation of energy absorbers in composite materials for automotive applications, International Crashworthiness Conference, ICRASH 2010, September 2010, Washington DC.
19. S.Boria, G.Belingardi, F.Giannoni, Comportamento di strutture tubolari in CFRP in impatto assiale: analisi di risultati sperimentali, XXXIX Convegno Nazionale AIAS, September 2010, Maratea, ISBN: 978-88-6093-074-3.
20. S.Boria, G.Belingardi, Numerical and experimental methodology for the design of composite attenuator of vehicle impact, 14th European Conference on Composite Materials, ECCM14, June 2010, Budapest.
21. S.Boria, G.Forasassi, Impact attenuator for racing car with composite structure, 9th Seminar on Experimental Techniques and Design in Composite Materials, ETDCM9, September-October 2009, Vicenza.
22. S.Boria, G.Forasassi, Progressive crushing of a fiber reinforced composite crash-box for a racing car, 9th International Conference on the Mechanical and Physical Behaviour of Materials under Dynamic Loading, DYMAT 2009, September 2009, Brussels, 725-731, ISBN: 9782759804726.
23. S.Boria, G.Forasassi, Numerical simulation of crash-test for a Formula SAE car, 21th International Technical Conference on the Enhanced Safety of Vehicle, ESV 2009, June 2009, Stuttgart.
24. S.Boria, G.Forasassi, Dynamic behaviour of a crash-box in sandwich material, International conference on simulation based engineering and sciences, TCN CAE 2008, October 2008, Venezia.

25. S.Boria, G.Forasassi, Crushing behaviour of honeycomb structures – numerical simulation and experiment, 11th International conference on aluminium alloys, ICAA 11, September 2008, Aachen.
26. S.Boria, G.Forasassi, Crash analysis of an impact attenuator for racing car in sandwich material, 9th FISITA Student Congress, September 2008, München.
27. S.Boria, S.Cristofanelli, Progetto di un assorbitore d'urto per una monoposto di Formula SAE, XXXVII Convegno nazionale AIAS, September 2008, Roma, ISBN: 9788887965513.
28. S.Boria, G.Forasassi, Simulation of a crash-box for racing car based on sandwich material, 5th European congress on computational methods in applied sciences and engineering, ECCOMAS 2008, June 2008, Lido di Venezia, ISBN: 978-84-96736-55-9.
29. S.Boria, G.Forasassi, Impact analysis of a crash-box for racing car in sandwich material, 10th International LS-DYNA® Users Conference, June 2008, Dearborn, MI.
30. S.Boria, G.Forasassi, Honeycomb sandwich material modelling for dynamic simulations of a crash-box for racing car, 10th International conference on structures under shock and impact, SUSI - Structures Under Shock and Impact X, May 2008, The Algarve, 167-176, ISSN: 1743-3509.
31. G.Forasassi, A.Orsini, R.Bove, S.Boria, A Type b(u) package to store and transport medical sources, Proceedings of the 15th International Symposium on the Packaging and Transportation of radioactive Materials, PATRAM 2007, October 2007, Miami.