Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Cattabiani, Alessandro**
Address(es)	Rumfordstraße, 42 - 80469 Munich - Germany
Telephone(s)	+39 346 0085700 +49 1525 5627779
Email(s)	alessandro.cattabiani@gmail.com
Nationality(-ies)	Italian
Date of birth	November 11, 1987
Gender	Male

Work Experience

4/2016 - Present	**Post-Doc Fellow**
Name of Employer	TUM University Fellows
Address of Employer	Arcisstraße, 21 - 80333 Munich - Germany
9/2012 - 3/2016	**PhD Student**
Name of Employer	LMT ENS Cachan
Address of Employer	Avenue du Président Wilson, 61 - 94230 Cachan - France
9/2014 - 12/2014	**Assistant Professor - Signeaux et Systèmes Physiques**
Name of Employer	EPF Ecole d'ingénieurs
Address of Employer	Rue Lakanal, 3 bis - 92330 Sceaux - France
1/2014 - 5/2015	**Assistant Professor - Signeaux Électromagnétiques**
Name of Employer	EPF Ecole d'ingénieurs
Address of Employer	Rue Lakanal, 3 bis - 92330 Sceaux - France
1/3/2011 - 20/12/2011	**Internship Student**
Name of Employer	Astrium GmbH
Address of Employer	Claude-Dornier-Strasse - 88090 Immenstaad - Germany
26/6/2010 - 24/9/2010	**Summer Student**
Name of Employer	Fermilab
Address of Employer	Kirk Road & Pine Street - 60510 Batavia - Illinois
15/6/2005 - 31/7/2005	**Life Guard**
Name of Employer	Lucky S.r.l.
Address of Employer	Via dei Mille, 1 - 43036 Fidenza - Italy

Education and Training

9/2012 - 3/2016	**PhD Student at LMT-ENS Cachan**
Address	Avenue du President Wilson, 61 - 94230 Cachan - France
Thesis	Simulation of low- and medium-frequency impact response using a Frequency Approach. Supervisors: Pierre Ladevéze, Hervé Riou (LMT-ENS Cachan)
Level in International Classification	ISCED 6
10/2010 - 7/2013	**Student at Sant'Anna School of Advanced Studies. Holding a Full Scholarship**
Address	Piazza Martiri della Libertá, 33 - 56126 Pisa - Italy

Test Marks	Course of Introduction to Research A
Level in International Classification	ISCED 5
9/2009 - 7/2012	**Master's degree student in Aerospace Engineering (110/110 cum laude)**
University	UNIVERSITY OF PISA [http://www.unipi.it/]
Address	Via Diotisalvi, 2 - 56126 Pisa - Italy
Thesis	Limit Cycle Analysis for Spacecraft with Pulsed Thrusters. Supervisors: Giovanni Mengali (UNIPI), Nico Brandt, Tobias Ziegler (Astrium GmbH)
Principal subjects	Control engineering, Flight Dynamics, Aerodynamics, Flight Mechanics, Aircraft Structures and Machine Component Design

Flight Mechanics	28/30	Aerodynamics	28/30
Machine Design	28/30	Complements of Aircraft Structures	30/30
Aerospace Control Systems	30/30	Applied Aeroelasticity	29/30
Aircraft Structures	26/30	Aerospace Structures and Materials	30/30
Aircraft Construction	26/30		

Test Marks	
Average Mark	28.19/30
ECTS grade	A
Total Credits Done	180 (1 ECTS-credit is equal to 25 hours of courses and study)
Level in International Classification	ISCED 5
10/2006 - 10/2010	**Diploma in Engineering (100/100 cum laude)**
	Full scholarship awarded
University	SANT'ANNA SCHOOL OF ADVANCED STUDIES [http://www.sssup.it/]
Address	Piazza Martiri della Libertá, 33 - 56126 Pisa - Italy
Thesis	PGD and its applications on VTCR and LATIN. Supervisor: David Néron (LMT-ENS Cachan)

Advanced Mathematics (Differential Equations and Variational Calculus)	A
Advanced Physics (Celestial Mechanics and Statistical Thermodynamics)	A
Introduction to Neuro and Fuzzy Systems	A
C language Fundamental Programming	30/30
Introduction to LaTeX	A
Introduction to MATLAB SIMULINK	30/30
Electromagnetic Field and Propagation	A

Test Marks	
Level in International Classification	ISCED 5
10/2006 - 3/2010	**Bachelor's degree in Aerospace Engineering (110/110 cum laude)**
University	UNIVERSITY OF PISA [http://www.unipi.it/]
Address	Via Diotisalvi, 2 - 56126 Pisa - Italy
Thesis	The postulate of Saint Venant: energetic considerations. Supervisors: Stefano Bennati, Riccardo Barsotti (UNIPI)

Geometry	30/30	Rational Mechanics I and II	28/30
General Physics	27/30	Aeronautical Systems	28/30
Chemistry and Materials	26/30	Mathematical Analysis II	30/30 (cum laude)
Technology of Aeronautical Constructions I	27/30	Aircraft Engines	28/30
Mathematical Analysis I	30/30	Fluid Dynamics	26/30
Applied Thermodynamics	28/30	Building Science I and II	29/30
Signal Theory	30/30	Technology of Aeronautical Constructions II	27/30
Physics and Electronics	25/30	Aerospace Structure Design II	27/30

Test Marks	
Average Mark	28.05/30
ECTS grade	A
Total Credits Done	180 (1 ECTS-credit is equal to 25 hours of courses and study)
Level in International Classification	ISCED 5
9/2001 - 7/2006	**High school diploma, majoring on scientific subjects (96/100)**
High school	LICEO SCIENTIFICO GIULIO MARCONI [http://www.lmarconi.pr.it/]
Address	Via Costituente, 4 - 43100 Parma - Italy
Principal subjects	Italian Literature, Physics, Chemistry, Biology, Astronomy, History, Geography, Philosophy, Latin, English Language, Law, Economy, Physical Education and Sports
Level in International Classification	ISCED 4

Publications

3/11/2015	**Journal Article**
Title	Variational Theory of Complex Rays applied to shell structures: in-plane inertia, quasi-symmetric ray distribution, and orthotropic materials
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze
Journal	Computational Mechanics
9/9/2015 (accepted for publication)	**Journal Article**
Title	Extension of the VTCR to orthotropic shallow shell structures
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze
Journal	Advances in Aircraft and Spacecraft Science
14/10/2015	**Conference**
Title	Simulation of the low- and medium- frequency response of pyrotechnic shocks with a frequency approach
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	CNES - JC2 - Toulouse - France
29/9/2015	**Conference**
Title	A predictive method to analyze shallow shell vibrational behavior in medium-frequency regime
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	Airbus DS - PhD Days - Les Mureaux - France
2/6/2015	**Conference**
Title	Extention of VTCR to orthotropic shell structures
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	International Conference on Dynamics of Composite Structures - Arles - France
19/5/2015	**Journal Article**
Title	The Variational Theory of Complex Rays applied to the shallow shell theory
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Journal	Computers and Structures
13/4/2015	**Conference**
Title	Extention of VTCR in the general shell theory framework
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	Conference on Noise and Vibration - Dubrovnik - Croatia
15/11/2014	**Conference**
Title	A predictive method to analyse shallow shell vibrational behaviour over a medium-frequency wide bandwidth
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze
Conference	International Conference on Noise and Vibration Engineering - Leuven - Belgium
15/11/2014	**Conference**
Title	Proper Generalized Decomposition, an useful tool to consider multi-parametric uncertainties over mid-frequency broad bands
Authors	A. Barbarulo, H. Riou, A. Cattabiani, G. Helluy, P. Ladevèze
Conference	International Conference on Noise and Vibration Engineering - Leuven - Belgium
12/10/2014	**Conference**
Title	Simulation of low- and medium-frequency response of pyrotechnic shocks with a frequency approach
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	CNES - JC2 - Toulouse - France
8/10/2014	**Conference**
Title	A predictive method to analyze shallow shell vibrational behavior in medium-frequency regime

Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	Airbus DS - PhD Days - Les Mureaux - France
20/7/2014	**Conference**
Title	A medium-frequency wide band analysis for shallow shell structures
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze
Conference	World Congress on Computational Mechanics - Barcellona - Spain
20/6/2014	**Conference**
Title	Study of low- and medium-frequency impact response in shells using VTCR and PGD
Authors	A. Cattabiani, H. Riou, A. Barbarulo, P. Ladevèze, G. Bézier, B. Troclet
Conference	CNES - J2C - Paris - France

Projects and Competitions

9/2012 - 12/2015	**Project**
Description	Development of a program capable of simulating the vibrational response of a shell structure subject to pyrotechnic shocks
Reason	Project Developed for the PhD at LMT ENS-Cachan. Supervisors: Pierre Ladevèze, Hervé Riou
3/2011 - 12/2011	**Project**
Description	Limit cycle analysis for spacecraft with pulsed thrusters
Reason	Project Developed for the Master's degree at University of Pisa
1/2010 - 12/2010	**Project**
Description	Study and development of a robotized submarine with the task of controlling the pollution of the sea
Reason	Project Followed During the Course at Sant'Anna School of Advanced Studies on Introduction to Research held by Paolo Dario
6/2010 - 9/2010	**Project**
Description	Practical study and production of: – A new filament winding setup for superconductors coils of YBCO – Tests of electrical conduction of splice-free contacts
Reason	Project Followed While Working for Fermilab. Supervisors: Emanuela Barzi, Vito Lombardo
10/2009 - 6/2010	**Project**
Description	Orthogonal gear reducer implemented with a cyclodrive mechanism
Reason	Project Followed During the Course at University of Pisa on Machine Constructions held by Enrico Manfredi
3/2010 - 4/2010	**Project**
Description	Practical study of: – Proper Generalized Decomposition (PGD) – Variational Theory of Complex Rays (VTCR) – LArge Time INcrement (LATIN)
Reason	Project followed while visiting LMT - Cachan. Supervisors: Pierre Ladevéze, David Néron, Massimo Bergamasco

Technical skills

Operating systems	GNU/Linux, Windows Workstation
CAD software	Catia V5-R19, I-deas

Numerical Analysis	MATLAB, MATLAB-SIMULINK, ANSYS, MATHEMATICA, ABAQUS, COMSOL
Typesetting	LaTeX, WORD
Programming	C,C++, BASH, MATLAB, MATHEMATICA
Office	Knowledge of the majority of end-user applications
Mother tongue(s)	**Italian**

Self-assessment *European level*(*)	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2 Proficient user	C2 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user
Spanish	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user
French	C2 Proficient user	C2 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user
German	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user

(*) *Common European Framework of Reference (CEF) level*

Driving license: Italian and International car driver license

Awards and distinctions

- Recipient of a five-year full scholarship got by winning a national competition based on mathematics and physics tests with a winner/participants ratio of 1/20. Scholarship requires high academic results and attending additional courses to be maintained.
- Ex Member of Italian Bridge Team (under 20) and winner of many national championships

Other activities

Sports	Bridge, water polo, tennis
Other Skills and Competences	Modellism, video games, roleplaying games
Interests	Aircraft design and structural modeling, fluid Dynamics

References

- **Prof. Pierre Ladevéze**, Professor (classe exceptionnelle) at École Normale Supérieure de Cachan (Paris)
  EADS Foundation Chair *Advanced Computational Structural Mechanics*:
  [http://chaire-fondation-eads.ens-cachan.fr]
  Scientific head at *Structures & Systems* division at LMT-ENS Cachan (Paris)
- **Prof. Hervé Riou**, Professor at École Normale Supérieure de Cachan (Paris)
- **Prof. Paolo Dario**, full professor of Biomedical Robotics at Sant'Anna School of Advanced Studies (Pisa)
- **Prof. David Néron**, professor associated at École Normale Supérieure de Cachan (Paris)
- **Prof. Massimo Bergamasco**, full professor of Mechanic Applied on Machines at Sant'Anna School of Advanced Studies (Pisa)
- **Prof. Stefano Bennati**, full professor of Constructions Science at University of Pisa
- **Prof. Enrico Manfredi**, full professor of Machine Constructions at University of Pisa
- **Prof. Riccardo Barsotti**, professor associated of Constructions Science at University of Pisa
- **Dipl.-Ing Nico Brandt**, employee at Astrium GmbH (Immenstaad)
- **Dipl.-Ing Tobias Ziegler**, employee at Astrium GmbH (Immenstaad)