



Valerio Lorenzoni

Acoustics and Aeroacoustics
engineer

A Vlaamsesteenweg 198, Apt. 5
1000 Brussels

Place of birth

Terni, Italy

T +32 487 644 656

Date of birth

17 September 1983

E valeriolorenzoni@gmail.com

Work experience

- 12.2014 – present **Freelancer: musical acoustics design and testing at TUDelft, industrial design faculty.** (Delft, The Netherlands)
Responsible for design and testing of saxophone mouthpieces based on aerodynamic analysis;
Scanning, reconstruction and 3D printing of instrument parts; acoustic testing and user survey of the new designs.
- 03.2011 – 12-2014 **Acoustic and aerodynamic engineer at Siemens Wind Power** (Copenhagen, Denmark)
Responsible and coordinator for design and testing of Wind Turbine noise reduction devices (patent holder);
Programming: development and implementation of aeroacoustic codes (Matlab, Fortran);
Conducting aerodynamic experiments: wind tunnel tests on airfoils of wind turbine blades.
- 12.2008 – 08.2010 **Research engineer, TU Delft university** (Delft, The Netherlands)
Planning and performing aerodynamic and acoustic measurements on fluid-structure interaction problems;
Programming: design and implementation of aeroacoustic codes;
Teacher's assistant at the following courses: Experimental aerodynamics, Thermodynamics.
- 11.2007 – 02.2008 **Intern at LMS international** (Leuven, Belgium)
Computational aeroacoustics: Validation of an aeroacoustic code for in-duct flow noise.
Prediction based on the industrial acoustic software SYSNOISE® and aerodynamic simulations by FLUENT®

Education

- 09.2006 – 12.2008 **M.Sc. (Aerospace Engineering) Delft University of Technology** (Delft, The Netherlands). Final grade: 8.5/10
Major: Aerodynamics (Acoustics, Signal theory, Applied physics, Mathematics).
Master thesis topic: "Aeroacoustic Investigation of Rod-Airfoil Noise based on Time-Resolved PIV"
- 09.2002 – 07.2005 **B.Sc (Aerospace Engineering) "La Sapienza" University of Rome** (Rome, Italy). Final grade: 110/110
Bachelor thesis topic: "Simulation of the sound produced by woodwind instruments based on boundary integral method"

Publications

- 2012 [Lorenzoni V., Ragni D.](#), "Experimental investigation of the flow inside a saxophone mouthpiece by Particle Image Velocimetry",
Journal of the Acoustic Society of America
- 2011 [Lorenzoni V., Moore P., Tuinstra M., Scarano F.](#), "On the Use of Time-Resolved PIV for the Investigation of Rod-Airfoil Aeroacoustics",
Journal of Sound and Vibration
- 2009 Conference presenter: Lorenzoni V., Moore P., Tuinstra M., Scarano F. "Aeroacoustic analysis of a rod-airfoil flow
by means of time-resolved PIV" at 15th [AIAA/CAES Aeroacoustic conference](#), Miami, Florida (US)

2010 : Conference presenter: Lorenzoni V., Violato V., Scarano F. "Characterization of the noise sources in a rod-airfoil configuration by means of Time resolved Tomographic PIV" at 16th [AIAA/CAES Aeroacoustic conference](#), KTH Stockholm, Sweden

Skills

Software (Mac / PC)

++++ : Matlab, Fortran, Latex, NX
+++ : Rhino, Solidworks
++ : C++, Visual Basic

Languages

++++ : Italian (mother tongue), English and Spanish
+++ : Dutch
++ : Danish
+ : French

Other : Driver's license A & B;

Extracurricular

Scientific

(Musical acoustics)

08.2013 : Presenter at [SMAC conference](#), Stockholm 2013
"Embracing the Digital in Instrument Making: Towards a Musician-tailored Mouthpiece by 3D Printing"

08.2015 : Admitted paper and poster presentation at musical acoustic conference [ViennaTalk2015](#).
"On the influence of mouthpiece geometry on saxophone playing"

09.2015 : Assigned presenter at [COST conference](#) London 2015:
"3D emendatio : digital improvement and printing of musical instruments"

2014 : Participation in three day [Arduino workshop](#). Design / programming of an arduino based midi-controller glow for electronic music.

Volunteer

2014 : Social work with children and homeless people at [Cultureghem](#), Anderlecht.

Musician

2008 – present : Saxophone player and singer in [gipsy-klezmer band L'Chaim](#) (www.lchaim.eu); Tours in Europe, Russia, Taiwan (2012-2015)

06.2009 : Saxophone summer school at [Berklee College of Music](#) (Boston, USA);

I Like

sports (outdoor climbing, running, hiking); **people**, their cultures and languages; **music**, jamming with other musicians; **travelling**